



nuvoTon
Joy of innovation

**NuAudio
2025**

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Smart Toy

Smart Toy family contains PowerSpeech, BandDirector, ViewTalk, Peripheral and NuVoice series which with 4-bit, 8-bit or 32-bit uC based and/or embedded Flash to fulfill various applications.

PowerSpeech, the N589 families with embedded flash to implement up to 2000" voice duration. It equips 8-bit uC, ADC, IR wake up, Addressable LED, Cap Touch, SPI and ICE.

BandDirector, the N566 families provides both Mask ROM and embedded OTP with 4-ch to 8-ch high quality MIDI solution.

ViewTalk, the N539T families support up to 2K dot B/W or Grey LCD driver and high quality 8-ch MIDI solution.

NuVoice, 32-bit Cortex M0 based with embedded Flash. The N570 and N574 families provide high resolution ADC and flexible algorithms for MIC, voice changing and voice recognition applications.

Peripheral series contain various peripheral devices apply with Speech IC, such as I/O expander, PWM signal PA, MFID reader and tags, and Cap Touch.

Smart Toy

PowerSpeech® Series

• W584A 4-bit μ C Base, 1-ch Voice + Dual Tone Melody Synthesizer

Part No.	ROM (Kbits)	Duration (Sec.) @ 5-bit MDM		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (N)	GPIO	High Sink
		(6 KHz)	(8 KHz)					PWM	DAC			
W584A011	300	9	7	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584A016	460	15	11	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584A021	620	20	15	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584A031	1020	34	25	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584A041	1260	42	32	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584A052	1580	53	40	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584A062	1900	64	48	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584A017	460	15	11	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584A022	620	20	15	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584A032	1020	34	25	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584A042	1260	42	32	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584A051	1580	53	40	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584A061	1900	64	48	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584A071	2220	75	56	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584A081	2540	86	64	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584A025	620	20	15	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A035	1020	35	26	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A045	1260	42	32	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin

• W584A 4-bit μ C Base, 1-ch Voice + Dual Tone Melody Synthesizer

Part No.	ROM (Kbits)	Duration (Sec.) @ 5-bit MDM		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (N)	GPIO	High Sink
		(6 KHz)	(8 KHz)					PWM	DAC			
W584A065	1900	64	48	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A075	2220	75	56	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A085	2540	86	64	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A100	3180	108	81	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A120	3820	129	97	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A151	4460	151	113	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A171	5100	173	130	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A191	5740	195	146	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A300	9100	310	232	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A340	10220	348	261	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin

• W584B 4-bit μ C Base, 1-ch Voice Synthesizer

Part No.	ROM (Kbits)	Duration (Sec.) @ 5-bit MDM		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (N)	GPIO	High Sink
		(6 KHz)	(8 KHz)					PWM	DAC			
W584B010	300	9	7	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584B015	460	15	11	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584B020	620	20	15	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584B030	1020	34	25	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584B040	1260	42	32	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584B052	1580	53	40	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584B062	1900	64	48	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584B016	460	15	11	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584B021	620	20	15	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584B031	1020	34	25	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584B041	1260	42	32	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584B070	2220	75	56	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584B080	2540	86	64	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584B100	3180	108	81	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584B120	3820	129	97	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584B150	4460	151	113	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584B170	5100	173	130	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584B190	5740	195	146	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin

• W588L 8-bit μ C Base, 2 Batteries, 2-ch Voice + Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 5-bit MDM		V _{DD} (V)	CH	F _s _{ys} (MHz)	OSC	Audio		RAM (Bytes)	GPIO
		(6 KHz)	(8 KHz)					PWM	DAC		
W588L020	94	23	18	1.8~3.6	1	4, 6	Ring	12-bit	-	96	8 I/O
W588L030	126	32	24	1.8~3.6	1	4, 6	Ring	12-bit	-	96	8 I/O
W588L035	170	44	33	1.8~3.6	2	4, 6	Ring	12-bit	-	128	16 I/O
W588L040	192	50	37	1.8~3.6	2	4, 6	Ring	12-bit	-	128	16 I/O
W588L050	224	58	43	1.8~3.6	2	4, 6	Ring	12-bit	-	128	16 I/O
W588L060	254	66	49	1.8~3.6	2	4, 6	Ring	12-bit	-	128	16 I/O
W588L070	330	86	65	1.8~3.6	2	4, 6	Ring	12-bit	-	128	16 I/O
W588L080	382	100	75	1.8~3.6	2	4, 6	Ring	12-bit	-	128	16 I/O
W588L100	448	118	88	1.8~3.6	2	4, 6	Ring	12-bit	-	128	16 I/O

• W588C 8-bit μ C Base, 2-ch Voice + Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _s _{ys} (MHz)	OSC	Audio		RAM (Bytes)	GPIO
		(6 KHz)	(8 KHz)					PWM	DAC		
W588C003	20	5	4	2.2~5.5	2	4~8	Ring	12-bit	-	96	8 I/O
W588C006	30	8	6	2.2~5.5	2	4~8	Ring	12-bit	-	96	8 I/O
W588C009	50	14	11	2.2~5.5	2	4~8	Ring	12-bit	-	96	8 I/O
W588C012	62	18	14	2.2~5.5	2	4~8	Ring	12-bit	-	96	8 I/O
W588C015	78	23	17	2.2~5.5	2	4~8	Ring	12-bit	-	96	8 I/O
W588C020	98	29	22	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	12 I/O
W588C025	114	35	26	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	12 I/O
W588C030	126	38	29	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	12 I/O

• W588C 8-bit μ C Base, 2-ch Voice + Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	Fsys (MHz)	OSC	Audio		RAM (Bytes)	GPIO
		(6 KHz)	(8 KHz)					PWM	DAC		
*W588C036	170	52	39	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
*W588C041	192	59	44	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
*W588C046	205	63	48	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
*W588C051	224	69	52	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
*W588C056	240	74	56	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
*W588C061	254	79	59	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
*W588C071	330	103	77	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
*W588C081	382	119	90	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
*W588C101	448	140	105	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
*W588C121	510	160	120	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
W588C150	640	201	151	2.2~5.5	2	4~8	Ring	12-bit	13-bit	192	16 I/O
W588C170	768	242	181	2.2~5.5	2	4~8	Ring	12-bit	13-bit	192	16 I/O
W588C210	896	282	212	2.2~5.5	2	4~8	Ring	12-bit	13-bit	192	16 I/O
W588C260	1022	322	242	2.2~5.5	2	4~8	Ring	12-bit	13-bit	192	16 I/O
W588C300	1180	372	279	2.2~5.5	2	4~8	Ring	12-bit	13-bit	192	16 I/O

*DAC w/o Noise Shaping

• W588D 8-bit μ C Base, 3-ch Voice + Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Sub-Clock 32KHz	Audio		RAM (Bytes)	GPIO	SIM SPI
		(6 KHz)	(8 KHz)						PWM	DAC			
W588D003	20	5	4	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	192	16 I/O	✓
W588D006	30	8	6	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	192	16 I/O	✓
W588D009	50	14	11	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	✓
W588D012	62	18	14	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	✓
W588D015	78	23	17	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	✓
W588D020	98	29	22	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	✓
W588D025	114	35	26	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	✓
W588D030	126	38	29	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	✓
W588D035	170	52	39	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	✓
W588D040	192	59	44	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	✓
W588D045	205	63	48	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	✓
W588D050	224	69	52	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	✓
W588D055	240	74	56	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	✓
W588D060	254	79	59	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	✓
W588DF060 (MTP)	254	79	59	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	✓
W588D070	330	103	77	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	24 I/O	✓
W588D080	382	119	90	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	24 I/O	✓
W588D100	448	140	105	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	24 I/O	✓
W588D120	510	160	120	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	24 I/O	✓
W588D150	640	201	151	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	384	24 I/O	✓
W588D170	768	242	181	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	384	24 I/O	✓
W588D210	896	282	212	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	384	24 I/O	✓
W588D260	1022	322	242	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	384	24 I/O	✓
W588D300	1180	372	279	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	8I, 24 I/O	✓
W588D350	1348	425	319	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	8I, 24 I/O	✓
W588D400	1534	484	363	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	8I, 24 I/O	✓

• N584L 4-bit μ C Base, 1~2 Battery, 1-ch Voice + Dual Tone Melody Synthesizer

Part No.	ROM (Kbits)	Duration (Sec.) @ 5-bit MDM		V _{DD} (V)	Booster Output (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (N)	GPIO
		(6 KHz)	(8 KHz)						PWM	DAC		
N584L020	620	20	15	1.0~1.8	3	1 + DTM	4~8	Ring	9-bit	-	128	8 I/O
N584L030	1020	34	25	1.0~1.8	3	1 + DTM	4~8	Ring	9-bit	-	128	8 I/O
N584L040	1260	42	32	1.0~1.8	3	1 + DTM	4~8	Ring	9-bit	-	128	8 I/O
N584L080	2540	86	64	1.0~1.8	3	1 + DTM	4~8	Ring	9-bit	-	128	12 I/O
N584L120	3820	129	97	1.0~1.8	3	1 + DTM	4~8	Ring	9-bit	-	128	12 I/O
N584L031	1020	34	25	1.0~3.6	4	1 + DTM	4~8	Ring	9-bit	-	128	12 I/O
N584L041	1260	42	32	1.0~3.6	4	1 + DTM	4~8	Ring	9-bit	-	128	12 I/O
N584L061	1900	64	48	1.0~3.6	4	1 + DTM	4~8	Ring	9-bit	-	128	12 I/O
N584L081	2540	86	64	1.0~3.6	4	1 + DTM	4~8	Ring	9-bit	-	128	12 I/O
N584L121	3820	129	97	1.0~3.6	4	1 + DTM	4~8	Ring	9-bit	-	128	12 I/O

• N588L 1.0~3.6V, 8-bit μ C Base, 2-ch Voice Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD}	CH	F _{sys} (MHz)	OSC	Audio		V _p (V)	RAM (Bytes)	LVD	GPIO	PWM Output
		(6 KHz)	(8 KHz)					PWM	DAC					
N588L040	126	40	30	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	✓	16 I/O	3-pair
N588L080	254	80	60	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	✓	16 I/O	3-pair
N588L120	416	132	99	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	✓	16 I/O	3-pair
N588L160	528	167	125	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	✓	16 I/O	3-pair
N588L200	638	202	152	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	✓	16 I/O	3-pair
N588L240	768	243	182	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	✓	16 I/O	3-pair
N588L280	896	284	213	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	✓	16 I/O	3-pair
N588L330	1022	324	243	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	✓	16 I/O	3-pair

• N588LP (OTP), 1.0~3.6V, 8-bit μ C base, 2-ch Voice Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD}	CH	F _{sys} (MHz)	OSC	Audio		V _p (V)	RAM (Bytes)	LVD	GPIO	PWM Output
		(6 KHz)	(8 KHz)					PWM	DAC					
N588LP122	416	132	99	1.0~3.6V	2	4,6,8	TRIM	12-bit	-	3.3, 4.2	384	✓	16 I/O	2-pin
N588LP162	528	167	125	1.0~3.6V	2	4,6,8	TRIM	12-bit	-	3.3, 4.2	384	✓	16 I/O	2-pin
N588LP202	638	202	152	1.0~3.6V	2	4,6,8	TRIM	12-bit	-	3.3, 4.2	384	✓	16 I/O	2-pin
N588LP242	768	243	182	1.0~3.6V	2	4,6,8	TRIM	12-bit	-	3.3, 4.2	384	✓	16 I/O	2-pin
N588LP282	896	284	213	1.0~3.6V	2	4,6,8	TRIM	12-bit	-	3.3, 4.2	384	✓	16 I/O	2-pin
N588LP332	1022	324	243	1.0~3.6V	2	4,6,8	TRIM	12-bit	-	3.3, 4.2	384	✓	16 I/O	2-pin

• N584H High Sound Quality 1-ch Voice

Part No.	ROM (Kbits)	Duration (Sec.) @ 4-bit NM4		V _{DD} (4 MHz)	CH	F _{sys} (MHz)	OSC	Audio		Cap Sensor	RAM (N)	LVD	GPIO	High Sink
		(6 KHz)	(8 KHz)					PWM	DAC					
N584H009	300	12	9	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	4 I/O	4-pin
N584H019	620	24	18	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	4 I/O	4-pin
N584H029	940	37	28	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	4 I/O	4-pin
N584H039	1260	49	37	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	4 I/O	4-pin
N584H010	300	12	9	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	8 I/O	8-pin
N584H020	620	24	18	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	8 I/O	8-pin
N584H030	940	37	28	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	8 I/O	8-pin
N584H040	1260	49	37	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	8 I/O	8-pin
N584H060	1740	68	51	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	8 I/O	8-pin
N584H070	1900	74	56	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	√	8 I/O	8-pin
N584H120	3340	131	98	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	√	16 I/O	8-pin
N584H160	4070	159	119	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit		8-pin	224	√	16 I/O	8-pin
N584H170	4460	175	131	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	√	16 I/O	8-pin
N584H210	5740	225	169	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	√	16 I/O	8-pin
N584H260	7020	275	206	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	√	16 I/O	8-pin
N584H300	7980	312	234	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	√	16 I/O	8-pin

• N584P (OTP), High Sound Quality 1-ch Voice

Part No.	ROM (Kbits)	Duration (Sec.) @ 4-bit NM4		V _{DD} (8 MHz)	CH	OSC	Audio		Cap Sensor	RAM (N)	LVD	GPIO	High Sink
		(6 KHz)	(8 KHz)				PWM	DAC					
N584P040	1260	49	37	1.8~5.5V	1	TRIM	9-bit	-	-	96	√	8 I/O	8-pin
N584P070	1900	74	56	1.8~5.5V	1	TRIM	9-bit	-	-	96	√	8 I/O	8-pin
N584P120	3340	131	98	1.8~5.5V	1 + DTM	TRIM	9-bit	-	8-pin	224	√	16 I/O	8-pin
N584P170	4460	175	131	1.8~5.5V	1 + DTM	TRIM	9-bit	-	8-pin	224	√	16 I/O	8-pin
N584P210	5740	225	169	1.8~5.5V	1 + DTM	TRIM	9-bit	-	8-pin	224	√	16 I/O	8-pin
N584P260	7020	275	206	1.8~5.5V	1 + DTM	TRIM	9-bit	-	8-pin	224	√	16 I/O	8-pin
N584P300	7980	312	234	1.8~5.5V	1 + DTM	TRIM	9-bit	-	8-pin	224	√	16 I/O	8-pin

• N588J 8-bit μ C Base, 1-ch Voice Synthesizer w/ PWM Direct Driver

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD}	CH	F _s ys (MHz)	Audio		RAM (Bytes)	LVD	GPIO	PWM Output
		(6 KHz)	(8 KHz)				PWM	DAC				
N588J010	30	10	7	2.2~5.5V	1	4,6,8	12-bit	-	128	✓	16 I/O	3-pair
N588J040	126	40	30	2.2~5.5V	1	4,6,8	12-bit	-	128	✓	16 I/O	3-pair
N588J060	206	65	49	2.2~5.5V	1	4,6,8	12-bit	-	128	✓	16 I/O	3-pair
N588J080	254	80	60	2.2~5.5V	1	4,6,8	12-bit	-	128	✓	16 I/O	3-pair
N588J120	414	131	98	2.2~5.5V	1	4,6,8	12-bit	-	128	✓	16 I/O	3-pair
N588J170	510	162	121	2.2~5.5V	1	4,6,8	12-bit	-	128	✓	16 I/O	3-pair
N588J200	704	223	167	2.2~5.5V	1	4,6,8	12-bit	-	192	✓	24 I/O	3-pair
N588J250	830	263	197	2.2~5.5V	1	4,6,8	12-bit	-	192	✓	24 I/O	3-pair
N588J340	1020	324	243	2.2~5.5V	1	4,6,8	12-bit	-	192	✓	24 I/O	3-pair
N588J480	1534	486	364	2.2~5.5V	1	4,6,8	12-bit	-	192	✓	24 I/O	3-pair
N588J650	2044	648	486	2.2~5.5V	1	4,6,8	12-bit	-	192	✓	24 I/O	3-pair

• N588JP (OTP), 8-bit μ C Base, 1-ch Voice Synthesizer w/ PWM Direct Driver

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD}	CH	F _s ys (MHz)	Audio		RAM (Bytes)	LVD	GPIO	PWM Output
		(6 KHz)	(8 KHz)				PWM	DAC				
N588JP062	206	65	49	2.0~5.5V	1	4,6,8	12-bit	-	128	✓	16 I/O	3-pair
N588JP082	254	80	60	2.0~5.5V	1	4,6,8	12-bit	-	128	✓	16 I/O	3-pair
N588JP122	414	131	98	2.0~5.5V	1	4,6,8	12-bit	-	128	✓	16 I/O	3-pair
N588JP172	510	162	121	2.0~5.5V	1	4,6,8	12-bit	-	128	✓	16 I/O	3-pair
N588JP202	704	223	167	2.0~5.5V	1	4,6,8	12-bit	-	192	✓	24 I/O	3-pair
N588JP252	830	263	197	2.0~5.5V	1	4,6,8	12-bit	-	192	✓	24 I/O	3-pair
N588JP342	1020	324	243	2.0~5.5V	1	4,6,8	12-bit	-	192	✓	24 I/O	3-pair

• N588H 8-bit μ C Base, 3-ch Voice + Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	LVD	GPIO	PWM Output
		(6 KHz)	(8 KHz)					PWM	DAC				
N588H061	206	65	49	2.2~5.5	3	4,6,8	TRIM	12-bit	-	128	✓	16 I/O	3-pair
N588H081	254	80	60	2.2~5.5	3	4,6,8	TRIM	12-bit	-	128	✓	16 I/O	3-pair
N588H120	414	131	98	2.2~5.5	3	4,6,8	TRIM	12-bit	-	128	✓	16 I/O	3-pair
N588H170	510	162	121	2.2~5.5	3	4,6,8	TRIM	12-bit	-	128	✓	16 I/O	3-pair
N588H200	704	223	167	2.2~5.5	3	4,6,8	TRIM	12-bit	-	192	✓	24 I/O	3-pair
N588H250	830	263	197	2.2~5.5	3	4,6,8	TRIM	12-bit	-	192	✓	24 I/O	3-pair
N588H340	1022	324	243	2.2~5.5	3	4,6,8	TRIM	12-bit	-	192	✓	24 I/O	3-pair
N588H480	1534	486	364	2.2~5.5	3	4,6,8	TRIM	12-bit	-	192	✓	24 I/O	3-pair
N588H650	2044	648	486	2.2~5.5	3	4,6,8	TRIM	12-bit	-	192	✓	24 I/O	3-pair

• N588HP (OTP), 8-bit μ C Base, 3-ch Voice + Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	LVD	GPIO	PWM Output
		(6 KHz)	(8 KHz)					PWM	DAC				
N588HP062	206	65	49	2.0~5.5	3	4,6,8	TRIM	12-bit	-	128	✓	16 I/O	3-pair
N588HP082	254	80	60	2.0~5.5	3	4,6,8	TRIM	12-bit	-	128	✓	16 I/O	3-pair
N588HP122	414	131	98	2.0~5.5	3	4,6,8	TRIM	12-bit	-	128	✓	16 I/O	3-pair
N588HP172	510	162	121	2.0~5.5	3	4,6,8	TRIM	12-bit	-	128	✓	16 I/O	3-pair
N588HP202	704	223	167	2.0~5.5	3	4,6,8	TRIM	12-bit	-	192	✓	24 I/O	3-pair
N588HP252	830	263	197	2.0~5.5	3	4,6,8	TRIM	12-bit	-	192	✓	24 I/O	3-pair
N588HP342	1022	324	243	2.0~5.5	3	4,6,8	TRIM	12-bit	-	192	✓	24 I/O	3-pair

NuSpeech Series

• N589A, 8-bit μ C Base, 2-ch Voice or 8-ch MIDI, w/ SPIO, SPIM, ADC, IR Wake-up

Part No.	Duration (Sec)		V _{DD} (V)	LVR (V)	Speech/ MIDI CH	ADC	Audio	RAM (Bytes)	GPIO	Interface	PWM Output	Touch I/O	LVD	IR Wake up	LRC
	12KHz	16KHz					PWM								
N589A150	85	64	2.0~5.5	1.9	2/8	4ch, 6bit	13-bit	512	28 I/O	SPIO, SPIM	6 pin	6 pin	Yes	Yes	Yes
N589A200	126	94	2.0~5.5	1.9	2/8	4ch, 6bit	13-bit	512	28 I/O	SPIO, SPIM	6 pin	6 pin	Yes	Yes	Yes
N589A280	166	125	2.0~5.5	1.9	2/8	4ch, 6bit	13-bit	512	28 I/O	SPIO, SPIM	6 pin	6 pin	Yes	Yes	Yes
N589A400	247	185	2.0~5.5	1.9	2/8	4ch, 6bit	13-bit	512	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589A600	409	307	2.0~5.5	1.9	2/8	4ch, 6bit	13-bit	512	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589A900	571	428	2.0~5.5	1.9	2/8	4ch, 6bit	13-bit	512	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589A1K4	895	671	2.0~5.5	1.9	2/8	4ch, 6bit	13-bit	1K	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589A1K9	1218	914	2.0~5.5	1.9	2/8	4ch, 6bit	13-bit	1K	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes

• N589B, 8-bit μ C Base, 2-ch Voice, w/ SPIO, SPIM, ADC, IR Wake-up

Part No.	Duration (Sec)		V _{DD} (V)	LVR (V)	Voice CH	ADC	Audio	RAM (Bytes)	GPIO	Interface	PWM Output	Touch I/O	LVD	IR Wake up	LRC
	12KHz	16KHz					PWM								
N589B120	83	62	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	22 I/O	SPIO, SPIM	6 pin	6 pin	Yes	Yes	Yes
N589B170	103	77	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	22 I/O	SPIO, SPIM	6 pin	6 pin	Yes	Yes	Yes
N589B200	144	108	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	28 I/O	SPIO, SPIM	6 pin	6 pin	Yes	Yes	Yes
N589B250	184	138	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	28 I/O	SPIO, SPIM	6 pin	6 pin	Yes	Yes	Yes
N589B340	225	168	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	28 I/O	SPIO, SPIM	6 pin	6 pin	Yes	Yes	Yes
N589B480	305	229	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589B650	467	350	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589B960	629	472	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589B125	83	62	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	32 I/O	SPIO, SPIM	9 pin	8 pin	Yes	Yes	Yes
N589B175	103	77	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	32 I/O	SPIO, SPIM	9 pin	8 pin	Yes	Yes	Yes

• N589B, 8-bit μ C Base, 2-ch Voice, w/ SPIO, SPIM, ADC, IR Wake-up

Part No.	Duration (Sec)		V _{DD} (V)	LVR (V)	Voice CH	ADC	Audio	RAM (Bytes)	GPIO	Interface	PWM Output	Touch I/O	LVD	IR Wake up	LRC
	12KHz	16KHz					PWM								
N589B205	144	108	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	32 I/O	SPIO, SPIM	9 pin	8 pin	Yes	Yes	Yes
N589B255	184	138	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	32 I/O	SPIO, SPIM	9 pin	8 pin	Yes	Yes	Yes
N589B345	225	168	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	32 I/O	SPIO, SPIM	9 pin	8 pin	Yes	Yes	Yes
N589B485	305	229	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	32 I/O	SPIO, UART, Addr. LED	16 pin	12 pin	Yes	Yes	Yes
N589B655	467	350	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	32 I/O	SPIO, UART, Addr. LED	16 pin	12 pin	Yes	Yes	Yes
N589B965	629	472	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	32 I/O	SPIO, UART, Addr. LED	16 pin	12 pin	Yes	Yes	Yes
N589B1K5	953	714	2.0~5.5	1.9	2	4ch, 6bit	13-bit	1K	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589B2K0	1276	957	2.0~5.5	1.9	2	4ch, 6bit	13-bit	1K	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes

• N589C, 8-bit μ C Base, 2-ch Voice, with SPIO, IR Wake-up

Part No.	Duration (Sec)		V _{DD} (V)	LVR (V)	Voice CH	ADC	Audio	RAM (Bytes)	GPIO	Interface	PWM Output	Touch I/O	LVD	IR Wake up	LRC
	12KHz	16KHz					PWM								
N589C080	63	47	2.0~5.5	1.9	2	NO	13-bit	512	16 I/O	NO	3 pin	6 pin	Yes	Yes	Yes
N589C120	83	62	2.0~5.5	1.9	2	NO	13-bit	512	16 I/O	NO	3 pin	6 pin	Yes	Yes	Yes
N589C170	103	77	2.0~5.5	1.9	2	NO	13-bit	512	16 I/O	NO	3 pin	6 pin	Yes	Yes	Yes
N589C200	144	108	2.0~5.5	1.9	2	NO	13-bit	512	22 I/O	SPIO	6 pin	6 pin	Yes	Yes	Yes
N589C250	184	138	2.0~5.5	1.9	2	NO	13-bit	512	22 I/O	SPIO	6 pin	6 pin	Yes	Yes	Yes
N589C340	225	168	2.0~5.5	1.9	2	NO	13-bit	512	22 I/O	SPIO	6 pin	6 pin	Yes	Yes	Yes
N589C480	305	229	2.0~5.5	1.9	2	NO	13-bit	512	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589C650	467	350	2.0~5.5	1.9	2	NO	13-bit	512	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589C960	629	472	2.0~5.5	1.9	2	NO	13-bit	512	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589C1K5	953	714	2.0~5.5	1.9	2	NO	13-bit	1K	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589C2K0	1276	957	2.0~5.5	1.9	2	NO	13-bit	1K	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes

• N589D, 8-bit μ C Base, 1-ch Voice, with SPIO, IR Wake-up

Part No.	Duration (Sec)		V _{DD} (V)	LVR (V)	Speech CH	ADC	Audio	RAM (Bytes)	GPIO	Interface	PWM Output	Touch I/O	LVD	IR Wake up	LRC
	12KHz	16KHz					PWM								
N589D081	63	47	2.0~5.5	1.9	1	NO	13-bit	384	16 I/O	SPIO	3 pin	8 pin	Yes	Yes	Yes
N589D121	83	62	2.0~5.5	1.9	1	NO	13-bit	384	16 I/O	SPIO	3 pin	8 pin	Yes	Yes	Yes
N589D171	103	77	2.0~5.5	1.9	1	NO	13-bit	384	16 I/O	SPIO	3 pin	8 pin	Yes	Yes	Yes
N589D201	144	108	2.0~5.5	1.9	1	NO	13-bit	384	25 I/O	SPIO	3 pin	8 pin	Yes	Yes	Yes
N589D251	184	138	2.0~5.5	1.9	1	NO	13-bit	384	25 I/O	SPIO	3 pin	8 pin	Yes	Yes	Yes
N589D341	225	168	2.0~5.5	1.9	1	NO	13-bit	384	25 I/O	SPIO	3 pin	8 pin	Yes	Yes	Yes
N589D481	305	229	2.0~5.5	1.9	1	NO	13-bit	384	25 I/O	SPIO	3 pin	8 pin	Yes	Yes	Yes
N589D085	63	47	2.0~5.5	1.9	1	NO	13-bit	384	16 I/O	SPIO	9 pin	8 pin	Yes	Yes	Yes
N589D125	83	62	2.0~5.5	1.9	1	NO	13-bit	384	16 I/O	SPIO	9 pin	8 pin	Yes	Yes	Yes
N589D175	103	77	2.0~5.5	1.9	1	NO	13-bit	384	16 I/O	SPIO	9 pin	8 pin	Yes	Yes	Yes
N589D205	144	108	2.0~5.5	1.9	1	NO	13-bit	384	25 I/O	SPIO	12 pin	8 pin	Yes	Yes	Yes
N589D255	184	138	2.0~5.5	1.9	1	NO	13-bit	384	25 I/O	SPIO	12 pin	8 pin	Yes	Yes	Yes
N589D345	225	168	2.0~5.5	1.9	1	NO	13-bit	384	25 I/O	SPIO	12 pin	8 pin	Yes	Yes	Yes
N589D485	305	229	2.0~5.5	1.9	1	NO	13-bit	384	25 I/O	SPIO	12 pin	8 pin	Yes	Yes	Yes
N589D650	467	350	2.0~5.5	1.9	1	NO	13-bit	512	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes

• N589D, 8-bit μ C Base, 1-ch Voice, with SPIO, IR Wake-up

Part No.	Duration (Sec)		V _{DD} (V)	LVR (V)	Speech CH	ADC	Audio	RAM (Bytes)	GPIO	Interface	PWM Output	Touch I/O	LVD	IR Wake up	LRC
	12KHz	16KHz					PWM								
N589D960	629	472	2.0~5.5	1.9	1	NO	13-bit	512	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589D1K5	953	714	2.0~5.5	1.9	1	NO	13-bit	1K	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589D2K0	1276	957	2.0~5.5	1.9	1	NO	13-bit	1K	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes

• N589E, 8-bit μ C Base, 1-ch Voice Synthesizer

Part No.	Flash (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	Voice CH	Audio	RAM (Bytes)	GPIO	PWM Output	Cap Touch	LVD	IR Carrier	LVR (V)
		(8 KHz)	(12 KHz)			PWM							
N589E041	128	30	20	2.0~5.5	1	13-bit	384	8 I/O	3 pin	4 pin	Yes	Yes	1.9
N589E061	192	45	30	2.0~5.5	1	13-bit	384	8 I/O	3 pin	4 pin	Yes	Yes	1.9
N589E081	256	60	40	2.0~5.5	1	13-bit	384	8 I/O	3 pin	4 pin	Yes	Yes	1.9

• N589S, 8-bit μ C Base, 2-ch Voice w/ SPIO, SPIM, ADC, IR wake-up

Part No.	Duration (Sec.)		V _{DD} (V)	LVR (V)	Speech CH	ADC	Audio	RAM (Byte)	GPIO	Interface	PWM Output	Touch I/O	LVD	IR wake up	LRC
	12 KHz	16 KHz					PWM								
N589S080	63	47	2.0~5.5	1.9	2	4ch, 6bit	13-bit	768	24 I/O	SPIO, SPIM, I2C, Addr. LED	12 pin	12 pin	Yes	Yes	Yes

• N589L (Flash), 1.0~3.6V, 8-bit μ C Base, 1-ch Voice Synthesizer with IR Wake up and Cap Touch

Part No.	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	LVR (V)	Voice CH	Booster Output VP (V)	Audio PWM	RAM (Byte)	GPIO	LRC	PWM Output	Touch I/O	LVD	IR wake up
	12 KHz	16 KHz												
N589L120	83	62	1.0~3.6	2.2	1	2.4, 3.0, 3.3, 3.6, 4.2	13-bit	384	16 I/O	10 KHz	3 pin	4 pin	Yes	Yes
N589L170	103	77	1.0~3.6	2.2	1	2.4, 3.0, 3.3, 3.6, 4.2	13-bit	384	16 I/O	10 KHz	3 pin	4 pin	Yes	Yes
N589L200	144	108	1.0~3.6	2.2	1	2.4, 3.0, 3.3, 3.6, 4.2	13-bit	384	16 I/O	10 KHz	3 pin	4 pin	Yes	Yes
N589L250	184	138	1.0~3.6	2.2	1	2.4, 3.0, 3.3, 3.6, 4.2	13-bit	384	16 I/O	10 KHz	3 pin	4 pin	Yes	Yes
N589L340	225	168	1.0~3.6	2.2	1	2.4, 3.0, 3.3, 3.6, 4.2	13-bit	384	16 I/O	10 KHz	3 pin	4 pin	Yes	Yes

• N589LS (Flash), 1.0~3.6V, 8-bit μ C base, 1-ch Voice Synthesizer with IR Wake up and Cap Touch (MCP)

Part No.	Duration (Sec.) @ 4-bit NM4		Flash Mbit	V _{DD} (V)	LVR (V)	Voice CH	Booster Output VP (V)	Audio PWM	RAM (Byte)	Package, GPIO	LRC	PWM Output	Touch I/O	LVD	IR wake up
	12 KHz	16 KHz													
N589LS08	632	474	8	1.0~3.6	2.2	1	2.4, 3.0, 3.3, 3.6, 4.2	13-bit	384	TSSOP28, 12 I/O	10 KHz	3 pin	4 pin	Yes	Yes
N589LS16	1264	948	16	1.0~3.6	2.2	1	2.4, 3.0, 3.3, 3.6, 4.2	13-bit	384	TSSOP28, 12 I/O	10 KHz	3 pin	4 pin	Yes	Yes
N589LS32	2528	1896	32	1.0~3.6	2.2	1	2.4, 3.0, 3.3, 3.6, 4.2	13-bit	384	TSSOP28, 12 I/O	10 KHz	3 pin	4 pin	Yes	Yes
N589LS64	5057	3793	64	1.0~3.6	2.2	1	2.4, 3.0, 3.3, 3.6, 4.2	13-bit	384	TSSOP28, 12 I/O	10 KHz	3 pin	4 pin	Yes	Yes

BandDirector® Series

• W567C 8-bit μ C Base, 16-ch Voice + Wavetable Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		Channel		Fsys (MHz)	OSC	Sub-Clock 32 KHz	Audio		RAM (Bytes)	GPIO	PWM Output	SIM SPI	PAN Stereo
		(6 KHz)	(8 KHz)	Voice	WTM				PWM	DAC					
W567C070	336	99	74	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓	-
W567C080	416	124	93	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓	-
W567C100	464	139	104	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓	-
W567C120	508	152	114	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓	-
W567C151	640	193	145	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓	-
W567C171	768	233	174	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓	-
W567C210	896	272	204	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓	-
W567C260	1020	311	233	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓	-
W567C300	1232	376	282	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓	-
W567C340	1376	421	316	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓	-
W567C380	1532	469	352	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓	-
W567C126	508	152	114	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓	✓
W567C266	1020	311	233	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓	✓
W567C306	1232	376	282	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓	✓
W567C346	1376	421	316	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓	✓
W567C386	1532	469	352	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓	✓
W567CP260 (OTP)	1020	311	233	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓	-

• N567G 8-bit μ C Base, 4-ch Voice + Wavetable Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	GPIO	PWM Output	SIM SPI
		(6 KHz)	(8 KHz)					PWM	DAC				
N567G030	126	34	26	2.2~5.5	4	4,6,8	TRIM/X'tal	12-bit	13-bit	384	24 I/O	-	✓
N567G041	158	44	33	2.2~5.5	4	4,6,8	TRIM/X'tal	12-bit	13-bit	384	24 I/O	-	✓
N567G080	286	84	63	2.2~5.5	4	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	✓
N567G121	416	124	93	2.2~5.5	4	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	-
N567G161	528	158	119	2.2~5.5	4	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	-
N567G201	638	192	144	2.2~5.5	4	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	-
N567G240	768	233	174	2.2~5.5	4	4,6,8	TRIM/X'tal	12-bit	13-bit	384	8I, 24 I/O	3-pair	✓
N567G280	896	272	204	2.2~5.5	4	4,6,8	TRIM/X'tal	12-bit	13-bit	384	8I, 24 I/O	3-pair	✓
N567G330	1022	311	233	2.2~5.5	4	4,6,8	TRIM/X'tal	12-bit	13-bit	384	8I, 24 I/O	3-pair	✓

• N567K 8-bit μ C Base, 6-ch Voice + Wavetable Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	LVD	GPIO	PWM Output	SIM SPI
		(6 KHz)	(8 KHz)					PWM	DAC					
N567K030	126	34	26	2.2~5.5	6	4,6,8	TRIM/X'tal	12-bit	13-bit	384	-	24 I/O	-	✓
N567K041	158	44	33	2.2~5.5	6	4,6,8	TRIM/X'tal	12-bit	13-bit	384	-	24 I/O	-	✓
N567K080	286	84	63	2.2~5.5	6	4,6,8	TRIM	12-bit	13-bit	384	-	24 I/O	-	✓
N567K081	254	80	60	2.2~5.5	6	4,6,8	TRIM	12-bit	13-bit	384	✓	24 I/O	-	✓
N567K121	416	124	93	2.2~5.5	6	4,6,8	TRIM	12-bit	13-bit	384	-	24 I/O	-	-
N567K161	528	158	119	2.2~5.5	6	4,6,8	TRIM	12-bit	13-bit	384	-	24 I/O	-	-
N567K201	638	192	144	2.2~5.5	6	4,6,8	TRIM	12-bit	13-bit	384	-	24 I/O	-	-
N567K240	768	233	174	2.2~5.5	6	4,6,8	TRIM/X'tal	12-bit	13-bit	384	-	8I, 24 I/O	3-pair	✓
N567K280	896	272	204	2.2~5.5	6	4,6,8	TRIM/X'tal	12-bit	13-bit	384	-	8I, 24 I/O	3-pair	✓
N567K330	1022	311	233	2.2~5.5	6	4,6,8	TRIM/X'tal	12-bit	13-bit	384	-	8I, 24 I/O	3-pair	✓

• N567H 8-bit μ C Base, 8-ch Voice + Wavetable Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	GPIO	PWM Output	SIM SPI
		(6 KHz)	(8 KHz)					PWM	DAC				
N567H030	126	34	26	2.2~5.5	8	4,6,8	TRIM/X'tal	12-bit	13-bit	384	24 I/O	-	✓
N567H041	158	44	33	2.2~5.5	8	4,6,8	TRIM/X'tal	12-bit	13-bit	384	24 I/O	-	✓
N567H080	286	84	63	2.2~5.5	8	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	✓
N567H121	416	124	93	2.2~5.5	8	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	-
N567H161	528	158	119	2.2~5.5	8	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	-
N567H201	638	192	144	2.2~5.5	8	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	-
N567H240	768	233	174	2.2~5.5	8	4,6,8	TRIM/X'tal	12-bit	13-bit	384	8I, 24 I/O	3-pair	✓
N567H280	896	272	204	2.2~5.5	8	4,6,8	TRIM/X'tal	12-bit	13-bit	384	8I, 24 I/O	3-pair	✓
N567H330	1022	311	233	2.2~5.5	8	4,6,8	TRIM/X'tal	12-bit	13-bit	384	8I, 24 I/O	3-pair	✓
N567HP330 (OTP)	1022	311	233	2.2~5.5	8	4,6,8	TRIM/X'tal	12-bit	13-bit	384	8I, 24 I/O	3-pair	✓

• N567D 8-bit μ C Base, 14-ch Voice + Wavetable Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		Channel		Fsys (MHz)	OSC	Sub-Clock 32 KHz	Audio		RAM (Bytes)	GPIO	PWM Output	SIM SPI
		(6 KHz)	(8 KHz)	Voice	WTM				PWM	DAC				
N567D070	224	71	53	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓
N567D100	336	106	80	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓
N567D120	416	132	99	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓
N567D140	464	147	110	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓
N567D160	508	161	121	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓
N567D200	640	203	152	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓
N567D240	768	243	183	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓
N567D280	896	284	213	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓
N567D320	1020	323	242	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓
N567D380	1232	390	293	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓
N567D420	1376	436	327	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓
N567D470	1532	485	364	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓
N567DP320 (OTP)	1020	323	242	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	✓

• N567L 1.0~3.6V, 8-bit μ C Base, 8-ch Voice + Wavetable Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		Channel		V _{DD}	F _{sys} (MHz)	OSC	Audio		V _p (V)	RAM (Bytes)	LVD	GPIO	PWM Output
		(6 KHz)	(8 KHz)	Voice	WTM				PWM	DAC					
N567L080	254	80	60	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	✓	16 I/O	3-pair
N567L120	416	132	99	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	✓	16 I/O	3-pair
N567L160	528	167	125	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	✓	16 I/O	3-pair
N567L200	638	202	152	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	✓	16 I/O	3-pair
N567L240	768	243	182	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	✓	16 I/O	3-pair
N567L280	896	284	213	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	✓	16 I/O	3-pair
N567L330	1022	324	243	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	✓	16 I/O	3-pair
N567LP330 (OTP)	1022	324	243	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	✓	16 I/O	3-pair

• N566G 8-bit μ C Base, 4-ch Voice + Wavetable Melody Synthesizer, w/ LVD

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	LVD	GPIO	PWM Output	Constant Current
		(6 KHz)	(8 KHz)					PWM	DAC					
N566G120	416	124	93	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	✓	24 I/O	2-pin	✓
N566G160	528	158	119	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	✓	24 I/O	2-pin	✓
N566G200	638	192	144	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	✓	24 I/O	2-pin	✓
N566G240	768	233	174	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	✓	24 I/O	2-pin	✓
N566G280	896	272	204	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	✓	24 I/O	2-pin	✓
N566G320	1022	311	233	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	✓	24 I/O	2-pin	✓

• N566GP (OTP), 8-bit μ C Base, 4-ch Voice + Wavetable Melody Synthesizer, w/ LVD

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	LVD	GPIO	PWM Output	Constant Current
		(6 KHz)	(8 KHz)					PWM	DAC					
N566GP120	416	124	93	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	✓	24 I/O	2-pin	-
N566GP160	528	158	119	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	✓	24 I/O	2-pin	-
N566GP200	638	192	144	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	✓	24 I/O	2-pin	-
N566GP240	768	233	174	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	✓	24 I/O	2-pin	-
N566GP280	896	272	204	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	✓	24 I/O	2-pin	-
N566GP320	1022	311	233	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	✓	24 I/O	2-pin	-

• N566K 8-bit μ C Base, 6-ch Voice + Wavetable Melody Synthesizer, w/ LVD

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	LVD	SIM	GPIO	PWM Output	Constant Current
		(6 KHz)	(8 KHz)					PWM	DAC						
N566K080	254	74	55	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	✓	24 I/O	2-pin	✓
N566K120	416	124	93	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	✓
N566K160	528	158	119	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	✓
N566K200	638	192	144	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	✓
N566K240	768	233	174	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	✓
N566K280	896	272	204	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	✓
N566K320	1022	311	233	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	✓

• N566KP (OTP), 8-bit μ C Base, 6-ch Voice + Wavetable Melody Synthesizer, w/ LVD

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	LVD	SIM	GPIO	PWM Output	Constant Current
		(6 KHz)	(8 KHz)					PWM	DAC						
N566KP081	254	74	55	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	✓	24 I/O	2-pin	-
N566KP120	416	124	93	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	-
N566KP160	528	158	119	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	-
N566KP200	638	192	144	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	-
N566KP240	768	233	174	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	-
N566KP280	896	272	204	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	-
N566KP320	1022	311	233	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	-

• N566H 8-bit μ C Base, 8-ch Voice + Wavetable Melody Synthesizer, w/ LVD

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	LVD	SIM	GPIO	PWM Output	Constant Current
		(6 KHz)	(8 KHz)					PWM	DAC						
N566H080	254	74	55	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	✓	24 I/O	2-pin	✓
N566H120	416	124	93	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	✓
N566H160	528	158	119	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	✓
N566H200	638	192	144	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	✓
N566H240	768	233	174	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	✓
N566H280	896	272	204	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	✓
N566H320	1022	311	233	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	✓

• N566HP (OTP), 8-bit μ C Base, 8-ch Voice + Wavetable Melody Synthesizer, w/ LVD

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	LVD	SIM	GPIO	PWM Output	Constant Current
		(6 KHz)	(8 KHz)					PWM	DAC						
N566HP081	254	74	55	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	✓	24 I/O	2-pin	-
N566HP120	416	124	93	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	-
N566HP160	528	158	119	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	-
N566HP200	638	192	144	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	-
N566HP240	768	233	174	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	-
N566HP280	896	272	204	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	-
N566HP321	1022	311	233	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	-

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• N566LP (OTP), 1.0~3.6V, 8-bit μ C Base, 8-ch Voice/Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		Channel		V _{DD}	F _{sys} (MHz)	OSC	Audio		V _p (V)	RAM (Bytes)	LVD	PWM Output
		(6 KHz)	(8 KHz)	Voice	WTM				PWM	DAC				
N566LP120	416	124	93	2	8	1.0~3.6V	4,6,8	TRIM	12-bit	-	3.3, 4.2	384	✓	2-pin
N566LP160	528	158	119	2	8	1.0~3.6V	4,6,8	TRIM	12-bit	-	3.3, 4.2	384	✓	2-pin
N566LP200	638	192	144	2	8	1.0~3.6V	4,6,8	TRIM	12-bit	-	3.3, 4.2	384	✓	2-pin
N566LP240	768	233	174	2	8	1.0~3.6V	4,6,8	TRIM	12-bit	-	3.3, 4.2	384	✓	2-pin
N566LP280	896	272	204	2	8	1.0~3.6V	4,6,8	TRIM	12-bit	-	3.3, 4.2	384	✓	2-pin
N566LP320	1022	311	233	2	8	1.0~3.6V	4,6,8	TRIM	12-bit	-	3.3, 4.2	384	✓	2-pin

ViewTalk® Series

• N531A170 8-bit μ C Base, 2-ch Voice + Dual Tone Melody Synthesizer w/ B/W 1K-Dot LCD Driver

Part No.	ROM (Kbytes)	Working RAM (Bytes)	Duration (Sec.)	Dual Page LCD RAM (Bytes)	GPIO	Audio		LCD Resolution (SEGxCOM)	Bias	Duty
						PWM	DAC			
N531A170	509	1K	170	128x2	16 I/O	12-bit	-	64x16	1/4, 1/5	1/8, 1/16

• N539T 8-bit μ C Base, 8-ch Voice + Wavetable Melody Synthesizer w/ 4-Gray Level, 2K-Dot LCD Driver

Part No.	ROM (Kbytes)	Working RAM (Bytes)	Duration (Sec.)	Dual Page LCD RAM (Bytes)	GPIO	Audio		LCD Resolution (SEGxCOM)	PWM Output	SIM	Bias	Duty
						PWM	DAC					
N539T171	509	1K	120	256x2x2	24 I/O	12-bit	13-bit	64x32 or 72x24	6-pin	✓	1/4, 1/5, 1/6, 1/7	1/16, 1/24, 1/32
N539T261	765	1K	180	256x2x2	24 I/O	12-bit	13-bit	64x32 or 72x24	6-pin	✓	1/4, 1/5, 1/6, 1/7	1/16, 1/24, 1/32
N539T341	1021	1K	250	256x2x2	24 I/O	12-bit	13-bit	64x32 or 72x24	6-pin	✓	1/4, 1/5, 1/6, 1/7	1/16, 1/24, 1/32
N539TP340 (OTP)	1021	1K	250	256x2x2	24 I/O	12-bit	13-bit	64x32 or 72x24	-	✓	1/4, 1/5, 1/6, 1/7	1/16, 1/24, 1/32

NuVoice™ Series

• N570H, 32-bit Cortex-M0 with Embedded Flash, 10-bit ADC, Touch Wake-up

Part No.	CPU	APROM Flash	VDD(V)	SRAM	GPIO	I/O Interface	PWM Output	Audio		ADC	Touch Wakeup	Voice Recognition
								Mic.	Speaker			
N570H064	Cortex®-M0 49 MHz	64 KB	1.8~5.5	6 KB	28	SPI x 2, UART	8	√	DPWM	10-bit 5-ch	√	-
N570HC64	Cortex®-M0 49 MHz	64 KB	1.8~5.5	6 KB	28	SPI x 2, UART	8	√	DPWM	10-bit 5-ch	√	√

• N570J, 32-bit Cortex-M0 with Embedded Flash, 10-bit ADC, Touch Wake-up, Long Duration Solution

Part No.	CPU	APROM Flash	Flash Memory	VDD (V)	Duration(Sec)	SRAM	GPIO	I/O Interface	PWM Output	Audio		ADC	Touch Wakeup	Package
					8KHz					Mic.	Speaker			
N570J08AL	Cortex®-M0 49 MHz	64 KB	8Mbit	2.4~5.5	1,000	6 KB	24	SPI, UART	8	√	DPWM	10-bit 5-ch	√	LQFP48
N570J08DL	Cortex®-M0 49 MHz	64 KB	8Mbit	2.0~5.5	1,000	6 KB	24	SPI, UART	8	√	DPWM	10-bit 5-ch	√	LQFP48
N570J09DF	Cortex®-M0 49 MHz	64 KB	8Mbit	2.0~5.5	1,000	6 KB	11	UART	4	√	DPWM	10-bit 4-ch	√	TSSOP20
N570J16AL	Cortex®-M0 49 MHz	64 KB	16Mbit	2.4~5.5	2,000	6 KB	24	SPI, UART	8	√	DPWM	10-bit 5-ch	√	LQFP48
N570J16DL	Cortex®-M0 49 MHz	64 KB	16Mbit	2.0~5.5	2,000	6 KB	24	SPI, UART	8	√	DPWM	10-bit 5-ch	√	LQFP48
N570J32AL	Cortex®-M0 49 MHz	64 KB	32Mbit	2.4~5.5	4,000	6 KB	24	SPI, UART	8	√	DPWM	10-bit 5-ch	√	LQFP48
N570J32DL	Cortex®-M0 49 MHz	64 KB	32Mbit	2.0~5.5	4,000	6 KB	24	SPI, UART	8	√	DPWM	10-bit 5-ch	√	LQFP48
N570J64L	Cortex®-M0 49 MHz	64 KB	64Mbit	2.4~5.5	8,000	6 KB	24	SPI, UART	8	√	DPWM	10-bit 5-ch	√	LQFP48
N570J01GR	Cortex®-M0 49 MHz	64 KB	1Gbit	2.4~5.5	128,000	6 KB	24	SPI, UART	8	√	DPWM	10-bit 5-ch	√	LQFP64

• N572F/C, N572S, 32-bit Cortex-M0 with Embedded Flash and 12-bit ADC Solution

Part No.	CPU	APROM Flash	Flash Memory	V _{DD} (V)	Duration(Sec)	SRAM	I/O	I/O Interface	PWM Output	Audio		LDO	ADC	Other	Package
					8KHz					Mic.	Speaker				
N572F072	Cortex®-M0 48 MHz	72 KB	-	2.4~5.5	-	8 KB	32	SPI x 2	4	✓	Class-AB (400mW)	✓	12-bit 8-ch	-	LQFP64
N572C072	Cortex®-M0 48 MHz	72 KB	-	2.4~5.5	-	8 KB	32	SPI x 2	4	✓	Class-AB (400mW)	✓	12-bit 8-ch	Voice Recognition	LQFP64
N572S16A	Cortex®-M0 48 MHz	64 KB	16Mbit	2.4~5.5	2,000	8 KB	26	SPI	4	✓	Class-AB (400mW)	✓	12-bit 8-ch	-	LQFP64
N572S32A	Cortex®-M0 48 MHz	64 KB	32Mbit	2.4~5.5	4,000	8 KB	26	SPI	4	✓	Class-AB (400mW)	✓	12-bit 8-ch	-	LQFP64
N572S64A	Cortex®-M0 48 MHz	64 KB	64Mbit	2.4~5.5	8,000	8 KB	26	SPI	4	✓	Class-AB (400mW)	✓	12-bit 8-ch	-	LQFP64

• N572H, 32-bit Cortex-M0 with Embedded Flash and 12-bit ADC Solution

Part No.	CPU	APROM Flash	Flash Memory	V _{DD} (V)	Duration(Sec)	SRAM	I/O	I/O Interface	PWM Output	Audio		LDO	ADC	Other	Package
					8KHz					Mic.	Speaker				
N572H064	Cortex®-M0 48 MHz	64 KB	-	2.0~5.5	-	6 KB	32	SPI x 2	4	✓	Class-AB (400mW)	✓	12-bit 8-ch	-	
N572H064S	Cortex®-M0 48 MHz	64 KB	-	2.0~5.5	-	6 KB	32	SPI x 2	4	✓	Class-AB (400mW)	✓	12-bit 8-ch	-	LQFP64
N572H16A	Cortex®-M0 48 MHz	64 KB	16Mbit	2.0~5.5	2,000	6 KB	26	SPI	4	✓	Class-AB (400mW)	✓	12-bit 8-ch	-	LQFP64

• N574F, 32-bit Cortex-M0 with Embedded Flash, 10 bit ADC, Cap Touch

Part No.	CPU	APROM Flash	V _{DD} (V)	Duration (Sec.)		SRAM	GPIO	I/O Interface	PWM Output	Audio		ADC	Cap Touch	Voice Recognition	LDO33 for SPI Flash
				12KHz	16KHz					Mic.	Speaker				
N574F128	Cortex®-M0	128 KB	1.8~5.5	63	47	12 KB	40	SPI, UART, I2C, Addr. LED	12	✓	DPWM	10-bit 5-ch	16	-	✓
N574C128	Cortex®-M0	128 KB	1.8~5.5	63	47	12 KB	40	SPI, UART, I2C, Addr. LED	12	✓	DPWM	10-bit 5-ch	16	✓	✓
N574F256	Cortex®-M0	256 KB	1.8~5.5	142	106	12 KB	40	SPI, UART, I2C, Addr. LED	12	✓	DPWM	10-bit 5-ch	16	-	-
N574C256	Cortex®-M0	256 KB	1.8~5.5	142	106	12 KB	40	SPI, UART, I2C, Addr. LED	12	✓	DPWM	10-bit 5-ch	16	✓	-
N574F512	Cortex®-M0	512 KB	1.8~5.5	303	228	12 KB	40	SPI, UART, I2C, Addr. LED	12	✓	DPWM	10-bit 5-ch	16	-	-
N574C512	Cortex®-M0	512 KB	1.8~5.5	303	228	12 KB	40	SPI, UART, I2C, Addr. LED	12	✓	DPWM	10-bit 5-ch	16	✓	-
N574F1K0	Cortex®-M0	1024 KB	1.8~5.5	627	470	12 KB	40	SPI, UART, 2C, Addr. LED	12	✓	DPWM	10-bit 5-ch	16	-	-
N574C1K0	Cortex®-M0	1024 KB	1.8~5.5	627	470	12 KB	40	SPI, UART, I2C, Addr. LED	12	✓	DPWM	10-bit 5-ch	16	✓	-

• N574F, 32-bit Cortex-M0 with Embedded Flash, 10 bit ADC, Cap Touch

Part No.	CPU	APROM Flash	V _{DD} (V)	Duration (Sec.)		SRAM	GPIO	I/O Interface	PWM Output	Audio		ADC	Cap Touch	Voice Recognition	LDO33 for SPI Flash
				12KHz	16KHz					Mic.	Speaker				
N574F1K5	Cortex®-M0	1536 KB	1.8~5.5	951	713	12 KB	40	SPI, UART, I2C, Addr. LED	12	✓	DPWM	10-bit 5-ch	16	-	-
N574C1K5	Cortex®-M0	1536 KB	1.8~5.5	951	713	12 KB	40	SPI, UART, I2C, Addr. LED	12	✓	DPWM	10-bit 5-ch	16	✓	-

• N575, 32-bit Cortex-M0 with Embedded Flash and 16-bit ADC Solution

Part No.	CPU	APROM Flash	Flash Memory	V _{DD} (V)	Duration(Sec)	SRAM	I/O	I/O Interface	PWM Output	Audio		LDO	ADC	Other	Package
					8KHz					Mic.	Speaker				
N575F145	Cortex®-M0 48 MHz	145 KB	-	2.4~5.5	-	12 KB	24	UART, I²C, I²S, SPI	2	✓	DPWM (1W)	✓	16-bit, sigma delta	8-ch Touch Key, Temperature Alarm, PDMA, CRC	LQFP48
N575C145	Cortex®-M0 48 MHz	145 KB	-	2.4~5.5	-	12 KB	24	UART, I²C, I²S, SPI	2	✓	DPWM (1W)	✓	16-bit, sigma delta	8-ch Touch Key, Temperature Alarm, PDMA, CRC, Voice Recognition	LQFP48
N575S64A	Cortex®-M0 48 MHz	145 KB	64 Mbit	2.4~5.5	8,000	12 KB	20	UART, I²C, I²S, SPI	2	✓	DPWM (1W)	✓	16-bit, sigma delta	8-ch Touch Key, Temperature Alarm, PDMA, CRC	LQFP64

Peripheral Series

■ Nu-Touch

• N55T Capacitor Sensor Controller

Part No.	Input	Wake Up	V _{DD} (V)	Interface
N55T16	16	√	2.1~5.5	I ² C, SPI
N55T24	24	√	2.1~5.5	I ² C, SPI

■ ADC

• N55AD SAR ADC

Part No.	Channel	Resolution	V _{DD} (V)	Conversion Rate
N55AD808	8	8-bit	2.7~5.5	50 KHz

■ I/O Expander

• N55P, I/O Expander w/ 24 I/O Pins and SPI Interface

Part No.	Interface	GPIO	Wake Up	H/W PWM	Constant Current
N55P242	SPI	24 I/O	√	24-pin	24-pin
N55P243	SPI	24 I/O	√	24-pin	24-pin

■ MFID Family

• N55MID, 13.56MHz MFID w/ Single-Tag/Multi-Tag and Reader

Part No.	Category	Frequency (MHz)	ID type	ID No.	Anti-collision	μC Interface
N55MID16	Single-tag	13.56	Bonding-ID	729	-	-
N55MID36	Multi-tag	13.56	Bonding-ID	729	4~6 tags	-
N55MID51	Reader	13.56	-	-	-	Serial/Parallel

■ PA Family

N55PA, PWM Power Amplifier

Part No.	VDD (V)	Mute Function	Gain Control	MIC Line In	Output Power	Package
N55PA01A	2.0~5.5V	Yes	Ext. R	Yes	1W (@ 5.5V, 8Ω, THD + N =1%)	SOP8
N55PA03A	2.0~5.5V	Yes	Ext. R	Yes	3W (@ 5.5V, 4Ω, THD + N =10%)	SOP8

NSP Series

NSP series are advanced Voice IC with embedded Flash and equips with new algorithm to implement Voice Prompt applications with high-level of sound quality. It provides I2C, UART and GPIO interface to communicate with host MCU. NSP series also support ISP (In System Program) for content update, and support high resolution PWM output to drive speaker directly, which is suitable for all the voice assistance applications.

NSP2xxxA series with 0.5W output power by the SOP8 package form.

NSP2xxxA01G series with 1.0W output power by the SOP16 package form

NSP2xxxT06E series with 6 Cap Touch pads by TSSOP28 package form

NSP2xxxT16L series support up to 16 Cap Touch pads by LQFP48 package form

• NSPxxx, Embedded Flash, 1-ch Voice for Voice Assistance Application

Part No.	Package	Duration(Sec)		V _{DD} (V)	LVR (V)	Speech CH	Audio	Output Power (@VDD 5.5V)	Interface to MCU	ISP	Operation Temperature
		8KHz	12KHz				PWM				
NSP040A	SOP8	60	40	2.0~5.5	1.9	1	13-bit	0.5W	One-Wire, Two-Wire	No	-20°C~ 85°C
NSP082A	SOP8	94	63	2.0~5.5	1.9	1	13-bit	0.5W	One-Wire, Two-Wire	Yes	-20°C~ 85°C
NSP172A	SOP8	155	103	2.0~5.5	1.9	1	13-bit	0.5W	One-Wire, Two-Wire	Yes	-20°C~ 85°C
NSP342A	SOP8	337	225	2.0~5.5	1.9	1	13-bit	0.5W	One-Wire, Two-Wire	Yes	-20°C~ 85°C
NSP481A	SOP8	458	305	2.0~5.5	1.9	1	13-bit	0.5W	One-Wire, Two-Wire	Yes	-20°C~ 85°C
NSP650B	SOP14	701	467	2.0~5.5	1.9	1	13-bit	0.5W	One-Wire, Two-Wire, UART	Yes	-20°C~ 85°C
NSP960B	SOP14	944	629	2.0~5.5	1.9	1	13-bit	0.5W	One-Wire, Two-Wire, UART	Yes	-20°C~ 85°C
NSP2K0B	SOP14	1896	1264	2.0~5.5	1.9	1	13-bit	0.5W	One-Wire, Two-Wire, UART	Yes	-20°C~ 85°C

• NSP2xxx, Embedded Flash, 2-ch Voice for Voice Assistance Application w/ I2C and UART

Part No.	Package	Duration(Sec)		V _{DD} (V)	LVR (V)	Speech CH	Audio	Output Power (@VDD 5.5V)	Interface to MCU	ISP	Operation Temperature
		12KHz	16KHz				PWM				
NSP2080A	SOP8	96	72	2.0~5.5	1.9	2	13-bit	0.5W	One-Wire, Two-Wire, I2C, UART	Yes	-40°C~ 85°C
NSP2170A	SOP8	177	133	2.0~5.5	1.9	2	13-bit	0.5W	One-Wire, Two-Wire, I2C, UART	Yes	-40°C~ 85°C
NSP2340A	SOP8	420	315	2.0~5.5	1.9	2	13-bit	0.5W	One-Wire, Two-Wire, I2C, UART	Yes	-40°C~ 85°C
NSP2080A01G	SOP16	96	72	2.0~5.5	1.9	2	13-bit	1.0W	One-Wire, Two-Wire, I2C, UART	Yes	-40°C~ 85°C
NSP2170A01G	SOP16	177	133	2.0~5.5	1.9	2	13-bit	1.0W	One-Wire, Two-Wire, I2C, UART	Yes	-40°C~ 85°C
NSP2340A01G	SOP16	420	315	2.0~5.5	1.9	2	13-bit	1.0W	One-Wire, Two-Wire, I2C, UART	Yes	-40°C~ 85°C
NSP2080A03G	SOP16	96	72	2.0~5.5	1.9	2	13-bit	3.0W (@4Ω)	One-Wire, Two-Wire, I2C, UART	Yes	-40°C~ 85°C
NSP2170A03G	SOP16	177	133	2.0~5.5	1.9	2	13-bit	3.0W (@4Ω)	One-Wire, Two-Wire, I2C, UART	Yes	-40°C~ 85°C
NSP2340A03G	SOP16	420	315	2.0~5.5	1.9	2	13-bit	3.0W (@4Ω)	One-Wire, Two-Wire, I2C, UART	Yes	-40°C~ 85°C

• NSPxx, Embedded OTP, 1-ch Voice for Voice Prompt Application

Part No.	Package	Duration(Sec)		V _{DD} (V)	LVR (V)	Speech CH	Audio	Output Power (@VDD 5.5V)	Operation Temperature
		8KHz	12KHz				PWM		
NSP075A	SOP8	81	49	2.0~5.5	2.0	1	12-bit	0.5W	-20°C~ 70°C
NSP165A	SOP8	162	97	2.0~5.5	2.0	1	12-bit	0.5W	-20°C~ 70°C
NSP335A	SOP8	324	194	2.0~5.5	2.0	1	12-bit	0.5W	-20°C~ 70°C

- NSP2xxxT, Embedded Flash, 2-ch Voice for Voice Assistance Application w/ I2C, UART and Cap Touch

Part No.	Package	Duration(Sec)		V _{DD} (V)	LVR (V)	Speech CH	Audio	Output Power (@VDD 5.5V)	Interface to MCU	ISP	Cap Touch	Operation Temperature
		12KHz	16KHz				PWM					
NSP2080T06E	TSSOP28	96	72	2.1~5.5	1.9	2	13-bit	0.5W	Two-Wire, I2C, UART	Yes	6-pin	-40°C~ 85°C
NSP2170T06E	TSSOP28	177	133	2.1~5.5	1.9	2	13-bit	0.5W	Two-Wire, I2C, UART	Yes	6-pin	-40°C~ 85°C
NSP2340T06E	TSSOP28	420	315	2.1~5.5	1.9	2	13-bit	0.5W	Two-Wire, I2C, UART	Yes	6-pin	-40°C~ 85°C
NSP2080T16L	LQFP48	96	72	2.1~5.5	1.9	2	13-bit	0.5W	Two-Wire, I2C, UART	Yes	16-pin	-40°C~ 85°C
NSP2170T16L	LQFP48	177	133	2.1~5.5	1.9	2	13-bit	0.5W	Two-Wire, I2C, UART	Yes	16-pin	-40°C~ 85°C
NSP2340T16L	LQFP48	420	315	2.1~5.5	1.9	2	13-bit	0.5W	Two-Wire, I2C, UART	Yes	16-pin	-40°C~ 85°C

NSC Series

NSC74 series are powerful sound controller chip by using ARM® Cortex-M0 32-bit microcontroller core. NSC74 series embedded 256KB ~ 1,536 KB of non-volatile Flash memory with 6 KB boot loader, and 12 KB of SRAM. NSC74 provide peripheral devices including ADC, Timers, Peripheral Direct Memory Access (PDMA), IR carrier, Brown-Out Detector (BOD), Low Voltage Reset (LVR), MIC and up to 30 GPIO to share with SPI, UART, Addressable LED, I2C, IR, PWM output, and CapTouch keys.

NSC74xxxZ series support 19 GPIO by QFN32 Package

NSC74xxxL series support 30 GPIO by LQFP48 Package

• NSCxx, 32-bit Cortex M0 w/ Embedded Flash, GPIO, ADC, MIC, CapTouch

Part No.	Package	VDD (V)	Flash (KByte)	Duration (Sec)	GPIO	Interface	ADC (10 bit)	Cap Touch	MIC	Audio	ICE	BOD	LVR	Operation Temperature
				12KHz						Output				
NSC74256L	LQFP48	1.8 ~ 5.5	256	128	30	SPI, UART, I2C, Addr. LED	5-ch	12-pin	Yes	DPWM	Yes	Yes	Yes	-40°C~ 85°C
NSC74512L	LQFP48	1.8 ~ 5.5	512	286	30	SPI, UART, I2C, Addr. LED	5-ch	12-pin	Yes	DPWM	Yes	Yes	Yes	-40°C~ 85°C
NSC741K0L	LQFP48	1.8 ~ 5.5	1024	602	30	SPI, UART, I2C, Addr. LED	5-ch	12-pin	Yes	DPWM	Yes	Yes	Yes	-40°C~ 85°C
NSC741K5L	LQFP48	1.8 ~ 5.5	1536	919	30	SPI, UART, I2C, Addr. LED	5-ch	12-pin	Yes	DPWM	Yes	Yes	Yes	-40°C~ 85°C
NSC74256Z	QFN32	1.8 ~ 5.5	256	128	19	SPI, UART, I2C	-	5-pin	Yes	DPWM	Yes	Yes	Yes	-40°C~ 85°C
NSC74512Z	QFN32	1.8 ~ 5.5	512	286	19	SPI, UART, I2C	-	5-pin	Yes	DPWM	Yes	Yes	Yes	-40°C~ 85°C
NSC741K0Z	QFN32	1.8 ~ 5.5	1024	602	19	SPI, UART, I2C	-	5-pin	Yes	DPWM	Yes	Yes	Yes	-40°C~ 85°C
NSC741K5Z	QFN32	1.8 ~ 5.5	1536	919	19	SPI, UART, I2C	-	5-pin	Yes	DPWM	Yes	Yes	Yes	-40°C~ 85°C

Audio SoCs

Nuvoton 32-bit ARM Cortex-M0/M4F based Audio SoCs provide powerful and cost-effective single-chip MCU solution for voice/audio feature applications.

In addition to built-in flash and SRAM memory, Audio SoCs have a variety of MCU functions, audio features and control interfaces - GPIO, PDMA, RTC, SAR ADC, PWM, UART, SPI, I2C.

Running up to 49MHz, ARM Cortex-M0 Series support compact version of voice recognition engine for low-cost voice control applications.

Running up to 200MHz, ARM Cortex-M4F Series support DSP instruction set and floating-point microprocessor for handling high-quality noise reduction, echo cancellation algorithms or high-level speech recognition.

• ARM® Cortex®-M0

Part No.	CPU	APROM	SRAM	I/O	Timer	ADC	RTC	Audio		Development	Other	Package
								MIC.	Speaker			
ISD9130	Cortex®-M0 49 MHz	68 KB	12 KB	24	2	16-bit Sigma-Delta	✓	1	Class-D (1W)	NM-ISD9160	-	LQFP48 QFN33
ISD9160	Cortex®-M0 49 MHz	145 KB	12 KB	24	2	16-bit Sigma-Delta	✓	1	Class-D (1W)	NM-ISD9160	-	LQFP48 QFN33
ISD9160C	Cortex®-M0 49 MHz	145 KB	12 KB	24	2	16-bit Sigma-Delta	✓	1	Class-D (1W)	NM-ISD9160	Voice Recognition	LQFP48 QFN33
ISD91230	Cortex®-M0 49 MHz	64 KB	12 KB	32	2	12-bit SAR	✓	1	Class-D (0.45W)	NM-ISD91260	-	LQFP64 QFN33
ISD91230B	Cortex®-M0 49 MHz	64 KB	12 KB	32	2	12-bit SAR 24-bit BridgeSense	✓	-	Class-D (0.45W)	NM-ISD91260B	BridgeSensing	LQFP64
ISD91260	Cortex®-M0 49 MHz	128 KB	12 KB	32	2	12-bit SAR	✓	1	Class-D (0.45W)	NM-ISD91260	-	LQFP64 QFN33

• ARM® Cortex®-M0

Part No.	CPU	APROM	SRAM	I/O	Timer	ADC	RTC	Audio		Development	Other	Package
								MIC.	Speaker			
ISD91260B	Cortex®-M0 49 MHz	128 KB	12 KB	32	2	12-bit SAR 24-bit BridgeSense	√	-	Class-D (0.45W)	NM-ISD91260B	BridgeSensing	LQFP64
ISD91260C	Cortex®-M0 49 MHz	128 KB	12 KB	32	2	12-bit SAR	√	1	Class-D (0.45W)	NM-ISD91260	Voice Recognition	LQFP64 QFN33
ISD91530	Cortex®-M0 49 MHz	64 KB Flash	12KB	50	3	12-bit SAR 16-bit Sigma-Delta	-	1	Class-AB (0.02W)	NM-ISD91500	USB 2.0 FS	LQFP64 QFN48
ISD91535	Cortex®-M0 49 MHz	64 KB Flash	20KB	50	3	12-bit SAR 16-bit Sigma-Delta	-	1	Class-AB (0.02W)	NM-ISD91500	USB 2.0 FS	LQFP64 QFN48

• ARM® Cortex®-M4

Part No.	CPU	APROM	SRAM	I/O	Timer	ADC	RTC	Audio		Development	Other	Package
								MIC.	Speaker			
ISD94113A	Cortex®-M4 200 MHz	256 KB	128 KB	57	4	12-bit SAR	√	4x DMIC	DPWM/I2S to ext. amp	NM-I94100_AM NM-I94100_DM	USB 2.0 FS, VAD	LQFP64 QFN48
ISD94113B	Cortex®-M4 200 MHz Basic Feature	256 KB	128 KB	57	4	12-bit SAR	√	-	-	NM-I94100_AM NM-I94100_DM	USB 2.0 FS	LQFP64 QFN48
ISD94113S	Cortex®-M4 200 MHz	256 KB	128 KB	57	4	12-bit SAR	√	4x DMIC	DPWM/I2S to ext. amp	NM-I94100_AM NM-I94100_DM	USB 2.0 FS, VAD, AEC+NR	LQFP64 QFN48
ISD94123B	Cortex®-M4 200 MHz Basic Feature	512 KB	128 KB	57	4	12-bit SAR	√	-	-	NM-I94100_AM NM-I94100_DM	USB 2.0 FS	LQFP64 QFN48
ISD94123S	Cortex®-M4 200 MHz	512 KB	128 KB	41	4	12-bit SAR	√	4x DMIC	DPWM/I2S to ext. amp	NM-I94100_AM NM-I94100_DM	USB 2.0 FS, VAD, AEC+NR	QFN48

• ARM® Cortex®-M4

Part No.	CPU	APROM	SRAM	I/O	Timer	ADC	RTC	Audio		Development	Other	Package
								MIC.	Speaker			
ISD94124A	Cortex®-M4 200 MHz	512 KB	192 KB	57	4	12-bit SAR	√	4x DMIC	DPWM/I2S to ext. amp	NM-94100_AM NM-94100_DM	USB 2.0 FS, VAD	LQFP64 QFN48
ISD94124B	Cortex®-M4 200 MHz, Basic feature	512 KB	192 KB	57	4	12-bit SAR	√	-	-	NM-94100_AM NM-94100_DM	USB 2.0 FS	LQFP64 QFN48
ISD94124C	Cortex®-M4 200 MHz	512 KB	192 KB	57	4	12-bit SAR	√	4x DMIC	DPWM/I2S to ext. amp	NM-94100_AM NM-94100_DM	USB 2.0 FS, VAD, VR	LQFP64
ISD94124D	Cortex®-M4 200 MHz	512 KB	192 KB	57	4	12-bit SAR	√	4x DMIC	DPWM/I2S to ext. amp	NM-94100_AM NM-94100_DM	USB 2.0 FS, VAD, BF+NR	LQFP64
ISD94124P	Cortex®-M4 200 MHz	512 KB	192 KB	57	4	12-bit SAR	√	4x DMIC	DPWM/I2S to ext. amp	NM-94100_AM NM-94100_DM	USB 2.0 FS, VAD, VR, BF+NR	LQFP64
ISD94124S	Cortex®-M4 200 MHz	512 KB	192 KB	57	4	12-bit SAR	√	4x DMIC	DPWM/I2S to ext. amp	NM-94100_AM NM-94100_DM	USB 2.0 FS, VAD, AEC+NR	LQFP64
ISD941A24A	Cortex®-M4 200MHz Stereo CODEC MCP	512 KB	192 KB	29	4	12-bit SAR	√	4x DMIC	DPWM/I2S to ext. amp	NV-I941A24SQI NV-ISD941A24	USB 2.0 FS, VAD	LQFP64
ISD941A24S	Cortex®-M4 200MHz Stereo CODEC MCP	512 KB	192 KB	29	4	12-bit SAR	√	4x DMIC	DPWM/I2S to ext. amp	NV-I941A24SQI NV-ISD941A24	USB 2.0 FS, VAD, AEC+NR	LQFP64

Audio Converters

Nuvoton Audio Converters provide high-performance and cost-effective solution for general audio converting applications between analog & digital.

Nuvoton Audio CODEC Series support microphone input, speaker/headphone output with 5-Band Equalizer, ALC (Automatic Level Control), PGA (Programmable Gain Amplifier), on-chip PLL (Phase Lock Loop) and compatible with standard I2S or PCM audio Interface.

Nuvoton Audio ADC Series support microphone/line-level input with PGA (Programmable Gain Amplifier) and bypass sidetone line-level outputs.

Nuvoton Audio DAC Series support speaker driver/headphone output, 5-Band Equalizer, DRC (Dynamic Range Compressor) and on-chip PLL (Phase Lock Loop).

Nuvoton Precision ADC Series support high resolution measurement with 24-bit sigma-delta ADC designed for weight scales, industrial process control, data acquisition, portable Instrumentation and fluid/gas analyzers.

Nuvoton Voiceband CODEC Series (CoSlic Family) support one Foreign Exchange Station (FXS), combining programmable CODEC, SLIC (Subscriber Line Interface Circuit) and DCDC controller on a single CMOS circuit. With SPI bus for control command and PCM bus for voice from SoC, CoSlic Family supports VBAT as low as -100V under satisfactory BORSCHT characteristics designed for applications such as ONT (Optical Network Terminal), 4G/5G CPE, PBX (Private Branch Exchange), Telephone Fiber Optic Multiplexer, VoIP gateway, ATA (analog telephone adapter). We can fulfil any types of devices with RJ11 or FXS port which need connect external analog telephone.

• Audio CODEC Series - Mono CODEC

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	Control Interface	Analog/Digital (V)	Package
		ADC	DAC	ADC	DAC	ADC	DAC						
NAU8810 NAU88U10 (AEC-Q100)	Mono Audio CODEC	1	1	91	93	-79	-84	8~48	I2S PCM(TDM)	NL-NAU88C10	2-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN20 (4x4)
NAU88C10	Mono Audio CODEC	1	1	91	93	-79	-84	8~48	I2S PCM(TDM)	NL-NAU88C10	2-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN20 (4x4)

Contact us: AudioConverter@nuvoton.com

• Audio CODEC Series - Mono CODEC

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	Control Interface	Analog/Digital (V)	Package
		ADC	DAC	ADC	DAC	ADC	DAC						
NAU8812	Mono Audio CODEC with Speaker Driver	1	1	91	93	-79	-84	8~48	I2S PCM(TDM)	-	2-Wire 3-Wire 4-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN32 (5x5) SSOP-28
NAU8814 NAU88U14 (AEC-Q100)	Mono Audio CODEC with Speaker Driver, Equalizer	1	1	91	93	-79	-84	8~48	I2S PCM(TDM)	NL-NAU88C14	2-Wire 3-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN24 (4x4)
NAU88C14	Mono Audio CODEC with Speaker Driver, Equalizer	1	1	91	93	-79	-84	8~48	I2S PCM(TDM)	NL-NAU88C14	2-Wire 3-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN24 (4x4)

• Audio CODEC Series - Stereo CODEC

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	Control Interface	Analog/Digital (V)	Package
		ADC	DAC	ADC	DAC	ADC	DAC						
NAU8820	Stereo Audio CODEC	2	2	90	94	-80	-84	8 ~ 48	I2S PCM(TDM)	-	2-Wire 3-Wire 4-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN32 (5x5)
NAU8822A NAU88U22A (AEC-Q100)	Stereo Audio CODEC with Speaker Driver	2	2	90	94	-80	-84	8 ~ 48	I2S PCM(TDM)	NL-NAU88C22	2-Wire 3-Wire 4-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN32 (5x5)
NAU88C22	Stereo Audio CODEC with Speaker Driver	2	2	89	89	-78	-84	8 ~ 192	I2S PCM(TDM)	NL-NAU88C22	2-Wire 3-Wire 4-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN32 (4x4) QFN32 (5x5)

• Audio CODEC Series - ULP (Ultra Low Power) CODEC

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	Control Interface	Analog/Digital (V)	Package
		ADC	DAC	ADC	DAC	ADC	DAC						
NAU88L11	ULP Mono Audio CODEC with Class-G Headphone Driver	1	1	103	105	-93	-85	8 ~ 96	I2S PCM(TDM)	NL-NAU88L11	2-Wire	1.6 ~ 2.0 1.6 ~ 3.6	QFN20 (4x4)
NAU88L20	ULP Stereo CODEC with Stereo Differential Lineout Driver	2	2	98	100	-91	-85	8 ~ 96	I2S PCM(TDM)	NL-NAU88L20	2-Wire	2.5 ~ 3.6 2.5 ~ 3.6	QFN32 (4x4)
NAU88L21	ULP Stereo Audio CODEC with Class-G Headphone Driver	2	2	103	105	-91	-80	8 ~ 192	I2S PCM(TDM)	NL-NAU88L21	2-Wire	1.6 ~ 2.0 1.6 ~ 3.6	QFN32 (4x4) QFN32 (5x5)
NAU88L21C	ULP Stereo Audio CODEC with Class-G Headphone Driver	2	2	103	105	-93	-85	8 ~ 192	I2S PCM(TDM)	NL-NAU88L21C	2-Wire	1.6 ~ 2.0 1.6 ~ 3.6	QFN32 (5x5)
NAU88L24	ULP Stereo Audio CODEC with Advanced Headset Feature Class-D Amp	2	2	100	103	-85	-77	8 ~ 96	I2S PCM(TDM)	NL-NAU88L24I	2-Wire	1.6 ~ 2.0 1.6 ~ 3.6	QFN48 (6x6) QFN48 (7x7) WLCSP56
NAU88L25B	ULP Stereo Audio CODEC with Advanced Headset Feature & Detection Class-G Headphone Driver	1	2	101	124	-91	-89	8 ~ 192	I2S PCM(TDM)	NL-NAU88L25B	2-Wire	1.6 ~ 2.0 1.6 ~ 3.6	QFN32 (5x5) WLCSP42

• Audio ADC Series

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	Control Interface	Analog/Digital (V)	Package
		ADC	DAC	ADC	DAC	ADC	DAC						
NAU8501	Stereo Audio ADC with Line Input Differential Microphone Inputs	2	-	90	-	-80	-	8~48	I2S PCM(TDM)	-	2-Wire 3-Wire 4-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN32 (4x4)
NAU8502	Stereo Audio ADC with Differential Microphone Inputs	2	-	90	-	-80	-	8~48	I2S PCM(TDM)	-	2-Wire 3-Wire 4-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN32 (5x5)
NAU85L20B	ULP Stereo Audio ADC with Integrated FLL Microphone Preamplifier	2	-	101	-	-91	-	8~96	I2S PCM(TDM)	NL- NAU85L20B	2-Wire 3-Wire	1.6 ~ 2.0 1.6 ~ 3.6	QFN28 (4x4)
NAU85L40B	ULP Quad Audio ADC with Integrated FLL Microphone Preamplifier	4	-	101	-	-91	-	8~96	I2S PCM(TDM)	NL- NAU85L40B	2-Wire 3-Wire	1.6 ~ 2.0 1.6 ~ 3.6	QFN28 (4x4)

• Audio DAC Series

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	Control Interface	Analog/Digital (V)	Package
		ADC	DAC	ADC	DAC	ADC	DAC						
NAU8401	Stereo Audio DAC with Speaker Driver	-	2	-	94	-	-84	8 ~ 48	I2S PCM(TDM)	-	2-Wire 3-Wire 4-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN32 (5x5)
NAU8402	Stereo Audio DAC with 2Vrms Line Output	-	2	-	98	-	-82	24 ~ 96	I2S PCM(TDM)	-	-	3.0 ~ 3.6 1.6 ~ 3.6	TSSOP 16
*NAU8421	Stereo Audio DAC with 8Vpp Differential Output	-	2	-	122	-	-100	8 ~ 192	I2S PCM(TDM)	-	2-Wire	-	QFN32 (5x5)

* Under Development

• Precision ADC Series

Part No.	Description	# of		Resolution Bits	ADC Type	ENOB (Gain=1, 10SPS)	RMS Noise (PGA=128)	Sample Rate Max (Hz)	Gain	Development Tools	Control Interface	Analog/Digital (V)	Package
		ADC	DAC										
NAU7802	Precision Audio ADC	2	-	24	Sigma-Delta	23	50nV in 10 SPS 150nV in 80 SPS	10, 20, 40, 80 & 320	1x, 2x, 4x, 8x, 16x, 32x, 64x, 128x	NL-NAU7802SG NL-NAU7802QG	2-Wire	2.7 ~ 5.5 2.7 ~ 5.5	SOP16 PDIP16

• Voiceband CODEC Series

Part No.	Description	# FXS Channel	Battery Input Voltage	PCM	BORSCHT	DTMF Detection	Audio Format	Development Tools	Control Interface	Temp (°C)	Package
N681389	Single Channel CoSlic	1	-100 ~ -10	G.711 A-law, μ -law, 16 bit-linear	Yes	Yes	PCM	NE-N681389	SPI	-40 ~ 85	QFN44

Contact us: AudioConverter@nuvoton.com

Audio Amplifiers

Nuvoton Audio Amplifiers provide high-performance and cost-effective solution for general audio output amplifying applications.

Nuvoton 2Vrms Line Driver Series support analog input and output line driver. Operating at single 3.3V positive supply voltage, the integrated charge pump can provide full 5.5Vpp output level.

Nuvoton Class-AB Series support driving a resistive speaker load up to 2W output power. with extremely low standby current and excellent pop-and-click performance, Class-AB amplifiers have current limit and a chip-enable pin designed for toys and portable electronics.

Nuvoton Class-D Series support low operating current, fast start-up time, better THD+N and EMI performance targetting industry-leading sound quality for smart phones, tablet PC, docking stations, portable audio/video players, GPS/Navigators, LCD/LED TVs, and toys.

Nuvoton Smart Amp Series support safe operation of small speakers at the physical limits for more acoustical output, deeper bass, and better sound quality with reliable protection against thermal and mechanical overload.

• 2Vrms Line Driver Series

Part No.	Description	Output Performance		SNR (dB)	Output Noise (μ Vrms)	Gain (dB)	Standby Current (μ A)	Operating Voltage (V)	Development Tools	Package
		Power (W)	THD+N (%)							
NAU8220	2Vrms Line Driver	-	<0.1	108	-	-	-	3.0 ~ 3.6	NE-NAU8220	SOP14 TSSOP14

• Class-AB Series

Part No.	Description	Output Performance		SNR (dB)	Output Noise (μ Vrms)	Gain (dB)	Standby Current (μ A)	Operating Voltage (V)	Development Tools	Package
		Power (W)	THD+N (%)							
ISD8101	1.5W Class-AB Audio Amplifier with Chip Enable, Differential/ Single-Ended Inputs, Low Pop and Click	0.5 (5V,8 Ω)	<0.1	100	-	0 ~ 26	<1	2.4 ~ 5.5	NT-ISD8101	SOP8
		0.825 (5V,8 Ω)	<1							
		1.1 (5V,8 Ω)	<10							
ISD8102	2W Class-AB Audio Amplifier with Chip Enable, Single-Ended Inputs, Low Pop and Click	2 (5V,4 Ω)	<10	100	-	0 ~ 26	<1	2.0 ~ 5.5	NT-ISD8102	SOP8
ISD8104	2W Class-AB Audio Amplifier with Chip Enable, Differential Inputs, Low Pop and Click	2 (5V,4 Ω)	<10	100	-	0 ~ 26	<1	2.0 ~ 5.5	NT-ISD8104	SOP8

• Class D Series

Part No.	Description	Output Performance		SNR (dB)	Output Noise (μVrms)	Gain (dB)	Standby Current (μA)	Operating Voltage (V)	Development Tools	Package
		Power (W)	THD+N (%)							
NAU82011	2.9W Mono Class-D Audio Amplifier with Differential/Single-Ended Inputs	2.9 (5.0V,4 Ω)	<10	-	20	Variable	<1	2.5 ~ 5.5	NE-NAU82011V NE-NAU82011Y	QFN16 WLCSP9
NAU82039	3.2W Mono Class-D Audio Amplifier with Differential/Single-Ended Inputs	3.2 (5.0V,4 Ω)	<10	-	27	6, 12	<1	2.5 ~ 5.5	-	QFN16 WLCSP9
*NAU82106	6W Mono Class-D Audio Amplifier with Voltage Booster, Multi-Level AGC, Differential/Single-Ended Inputs	5.5 (5.0V,4 Ω)	<10	-	18	Variable	-	2.8 ~ 5.5	-	QFN20
NAU82110	10W Mono Class-D Audio Amplifier with Differential/Single-Ended Inputs	10 (5.0V,8 Ω)	<10	-	41	Variable	-	2.7 ~ 5.5	-	QFN20
NAU8223	3.1W Stereo Filer-Free Class-D Audio Amplifier with Differential/Single-Ended Inputs	3.1 (5.0V,4 Ω)	<10	-	20	0, 6, 12, 18, 24	<1	2.5 ~ 5.5	NE-NAU8223	QFN20
NAU8224	3.1W Stereo Filer-Free Class-D Audio Amplifier with 2-Wire Interface, Differential/Single-Ended Inputs	3.1 (5.0V,4 Ω)	<10	-	20	0, 6, 12, 18, 24	<1	2.5 ~ 5.5	NE-NAU8224	QFN20
NAU82250	50W Stereo Filer-Free Class-D Audio Amplifier with Heat Sink, Differential/Single-Ended Inputs	50 (22.5V,4 Ω)	10	103	70	14, 17, 20, 23, 26, 29, 32, 36	-	5 ~ 26	-	QFN56
NAU8315 *NAU83U15 (AEC-Q100)	3.1W Mono Filer-Free Class-D Audio Amplifier with I2S	3.1 (5.0V,4 Ω)	<10	-	12	3, 6, 9, 12	<1	2.5 ~ 5.5	NL-NAU8315 NL-NAU8315B	QFN20 WLCSP9 WLCSP12
NAU8318	3.2W Mono Filer-Free Class-D Audio Amplifier with I2S	3.1 (5.0V,4 Ω)	<10	-	9	3, 6, 9, 12	<1	2.5 ~ 5.5	NL-NAU8318 NL-NAU8318B	QFN20 WLCSP14
NAU8325 *NAU83U25 (AEC-Q100)	3.1W Mono Filer-Free Class-D Audio Amplifier with I2S, 2-Wire Interface	3.1 (5.0V,4 Ω)	<10	-	18	3, 6, 9, 12	<2	2.5 ~ 5.5	NL-NAU8325	QFN20

* Under Development

Contact us: AudioAmp@nuvoton.com

• Smart Amp Series

Part No.	Description	Output Performance		SNR (dB)	Output Noise (μ Vrms)	Speaker Protection	Standby Current (μ A)	Operating Voltage (V)	Development Tools	Package
		Power (W)	THD+N (%)							
NAU83G10	12W Mono Boosted Class-D Amplifier with Klippel Controlled Sound DSP	12 (5.0V,4 Ω) 8 (5.0V,8 Ω)	<10	101	55	Integrated DSP	<13	2.9 ~ 5.5	NV-NAU83G10S	WLCSP50
NAU83G20	20W Mono Boosted Class-D Amplifier with Klippel Controlled Sound DSP	20 (12.6V,4 Ω) 11 (12.6V,8 Ω)	<10	101	65	Integrated DSP	<16	2.9 ~ 14	NV-NAU83G20S	WLCSP50
*NAU83G60 *NAU83G60U (AEC-Q100)	30W Stereo / 60W Mono Boosted Class-D Amplifier with Klippel Controlled Sound DSP	30 (26V,4 Ω)	<10	-	-	Integrated DSP	-	8 ~ 26	-	QFN56

Audio Enhancement

Nuvoton Audio Enhancement MaxxAudio® based or DPS® based provide enriched sound reproduction, and remastering enhancing algorithm for superior audio performance.

Audio Enhancement - MaxxAudio Series support MaxxAudio® Waves patented algorithm of speaker correction, psycho-acoustic feature, and powerful amplification designed for smart TV, gaming monitor and gaming headset.

Audio Enhancement - Bongiovi Series support Bongiovi® DPS (Digital PowerStation) patented algorithm of Bongiovi AGC, psycho-acoustic feature, dynamic stereo enhancement designed for smart TV, gaming monitor and gaming headset.

Part No.	Description	HW Configuration					Algorithms									
		I²S Stereo Inputs	ADC Stereo Inputs	I²S Stereo Output	DAC Single Output	Power Output	Bass	Pro. Eq.	3D	Treble	Volume	Level	Dialog	DRC	V3D	Package
NPCA110B	MaxxAudio	1	2	1	2	-	Y	Y	-	-	Y	-	-	-	-	QFN32
NPCA110D	MaxxAudio	3	0	3	0	-	Y	Y	Y	Y	Y	Y	Y	-	-	QFN32
NPCA110P	MaxxAudio	2	3	3	4	-	Y	Y	Y	Y	Y	Y	Y	-	-	QFN40
NPCA110T	MaxxAudio	3	0	3	3	-	Y	Y	Y	Y	Y	Y	Y	-	-	QFN32
NPCA112D	MaxxAudio	4	0	3	0	-	Y	Y	Y	Y	Y	Y	Y	-	-	QFN32
NPCP215F	MaxxAudio	4	0	3	0	20W (8R)	Y	Y	Y	Y	Y	Y	Y	-	-	QFN48
NPCA120D	DPS	2	0	2	0	-	Y	Y	Y	Y	Y	Y	Y	Y	-	LQFP64
NPCA121D	DPS	3	0	3	0	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	LQFP64

ISD ChipCorder®

ISD ChipCorder® Family provide powerful and cost-effective single chip solution for general commercial or industrial applications of voice/audio recording and playback.

Digital ChipCorder Series support full management solution of multiple audio tracks. VPE software provides high flexibility of loading pre-recorded messages or general PC media files.

Two operation modes are available for development: SPI controlled by MCU or Button triggered as standalone device.

ISD ChipCorder®

• Digital ChipCorder® Series

Part No.	Description	Duration	Sample Rate (KHz)	Operating Voltage (V)	Development Tools	Temp (°C)	Package
ISD2115A	Multi-Message, Playback-Only with Int. Flash Memory, SPI	16 sec	Up to 32	2.7 ~ 3.6	NM-ISD2100S NM-ISD2100Q	-40 ~ 85	SOP14 QFN20
ISD2130		32 sec					
ISD2360	Multi-Message, 3-Channel Audio, Playback-Only with Int. Flash Memory	64 sec	Up to 32	2.4 ~ 5.5	NM-ISD2360S NM-ISD2360Q	-40 ~ 85	SOP16 QFN32
ISD2361	Multi-Message, 3-Channel Audio, Playback-Only with Int. Flash Memory, SPI	60 sec + Ext. Flash up to 1024 min	Up to 32	2.4 ~ 5.5	NM-ISD2361	-40 ~ 105	SOP16 QFN32
ISD3800 ISD15D00 (AEC-Q100)	Multi-Message, Playback-Only with Ext. Flash Memory, SPI	Ext. Flash up to 64 min	Up to 48	2.7 ~ 5.5	NM-ISD3800 NM-ISD15D00	-40 ~ 85	LQFP48 QFN32
*ISD3810	Multi-Message, Playback-Only with Ext. Flash Memory, SPI, I2C	Ext. Flash up to 1024 min	Up to 48	2.7 ~ 5.5	-	-40 ~ 105	LQFP48 QFN32
ISD15102	Multi-Message, Record/Playback with Int. Flash Memory, SPI	2 min	Up to 48	2.7 ~ 3.6	NM-ISD15100	-40 ~ 85	LQFP48
ISD15104		4 min					
ISD15108		8 min					
ISD3900 ISD15C00 (AEC-Q100)	Multi-Message, Record/Playback with Ext. Flash Memory, SPI	Ext. Flash up to 64 min	Up to 48	2.7 ~ 3.6	NM-ISD3900 NM-ISD15C00	-40 ~ 85	LQFP48

* Under Development

Contact us: ChipCorder@nuvoton.com

• MLS ChipCorder® Series

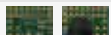
Part No.	Description	Duration	Sample Rate (KHz)	Operating Voltage (V)	Development Tools	Temp (°C)	Package
ISD1730	Multi-Message, Record/Playback with Int. Flash Memory, SPI	32 sec	Up to 12	2.4 ~ 5.5	NC-ISD1730	0 ~ 50 -40 ~ 85	DIE SOP28
ISD1760		64 sec			NC-ISD1760		
ISD4002	Multi-Message Record/Playback with Int. Flash Memory, SPI	2 ~ 16 min	Up to 8	2.7 ~ 3.3	-	0 ~ 50 0 ~ 70 -40 ~ 85	DIE PDIP28 SOP28
ISD4003							
ISD4004							

PowerSpeech Family

Ordering No.	Board Name	Content	Description	Picture
PowerSpeech (584, 588) ICE Development System				
ICE-N584H	NHS-584H-ICE	• N584H ICE System	• N584H (Mask) and N584HP/N584P (OTP) ICE Dev. Kit. Provide In-Circuit Emulation with Program, Execute, Verification & Debugging	
ICE-W588D-FS	WHS-588D-ICE	• WHS-MINI-USB-ICE System V1.1 • WHS-588D-ICE System V3.3	• W588C/D ICE Dev. Kit. Provide In-Circuit Emulation with Program, Execute, Verification & Debugging	
ICE-W584A-FS	WHS-584A-ICE	• WHS-584A-ICE-IL System V1.1 • WHS-584A-ICE System V1.2	• W584A ICE Dev. Kit. Provide In-Circuit Emulation with Program, Execute, Verification & Debugging	
ICE-N588H	NHS-588H-ICE	• WHS-MINI-USB-ICE System V1.1 • NHS-588H-ICE System V1.1	• N588H/J (Mask) and N588HP/J (OTP) ICE Dev. Kit. Provide In-Circuit Emulation w/ Program, Execute, Verification & Debugging.	
PowerSpeech (584, 588) Evaluation Board, Tiny Board, Writer				
NV-W584A-H	WHS-584AH-16M	• W584A/B/C Series EVB	• W584A/B/C Series Evaluation Board with 16Mbit Flash	
NV-W584AP20	NHS-584AP20	• W584AP065(W584AP20) OTP EVB	• W584AP065(W584AP20) One-Time Programmable (OTP) Evaluation Board (EVB)	
NV-W584AP05	NHS-584AP05	• W584AP017(W584AP05) OTP EVB	• W584AP017(W584AP05) One-Time Programmable (OTP) Evaluation Board (EVB)	
N584P070-TB	N584P070-TB	• N584P070 Tiny Board	• N584P070 Tiny Board to Cover N584P040, N584P070	
N584P170-TB	N584P170-TB	• N584P170 Tiny Board	• N584P170 Tiny Board to Cover N584P120, N584P170	
N584P300-TB	N584P300-TB	• N584P300 Tiny Board	• N584P300 Tiny Board to Cover N584P210, N584P260, N584P300	
NV-N584H	NHS-584H-16M	• N584H Series EVB	• N584H Series Evaluation Board w/ 16Mbit Flash	

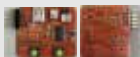
Contact us: Toy@nuvoton.com

Ordering No.	Board Name	Content	Description	Picture
PowerSpeech (584, 588) Evaluation Board, Tiny Board, Writer				
NV-N584HP300	NHS-584HP300	• N584HP300 OTP Demo Board	• N584HP300 (OTP) Demo Board (COB)	
NV-N584L-3V	NHS-584L-16M-3V	• N584L Series EVB with Vp=3V	• N584L Series Evaluation Board w/ 16Mbit Flash for Vp=3V	
NV-N584L-4V	NHS-584L-16M-4V	• N584L Series EVB with Vp=4V	• N584L Series Evaluation Board w/ 16Mbit Flash for Vp=4V	
NV-W588D	WHS-588C/D-16M	• W588C/D Series EVB	• W588C/D Series Evaluation Board with 16Mbit Flash	
NV-W588DF20B	WHS- W588DF20-H1	• W588DF060 (W588DF20) EVB	• W588DF060(W588DF20) Evaluation Board	
NV-N588H	NHS-588H-16M	• NHS-588H-16M EVB	• N588H/J Series Evaluation Board with 16Mbit Flash Support: N588H061~650/J010~650, and N588HP062~342/JP062~342 (OTP)	
NV-N588H-L	NHS-588H-08ML	• NHS-588H-08ML EVB	• N588H/J Series Evaluation Board w/ 8Mbit Low Voltage Flash Support: N588H061~340 /J010~340, and N588HP062~342/JP062~342 (OTP)	
NV-N588HP080	NHS-588HP080	• N588HP080 OTP EVB	• N588HP080 (OTP) Demo Board (COB)	
NV-N588HP170	NHS-588HP170	• N588HP170 OTP Demo Board	• N588HP170 (OTP) Demo Board (COB)	
NV-N588HP340	NHS-588HP340	• N588HP340 OTP Demo Board	• N588HP340 (OTP) Demo Board (COB)	
NV-N588HP650	NHS-N588HP650	• N588HP650 OTP Demo Board	• N588HP650 (OTP) Demo Board (COB)	
N588HP082-TB	N588HP082-TB	• N588HP082 Tiny Board	• N588HP082 (OTP) Tiny Demo Board (COB) Support: N588HP062/082, N588JP062/082	
N588HP172-TB	N588HP172-TB	• N588HP172 Tiny Board	• N588HP172 (OTP) Tiny Demo Board (COB) Support: N588HP122/172 and N588JP122/172	

Ordering No.	Board Name	Content	Description	Picture
PowerSpeech (584, 588) Evaluation Board, Tiny Board, Writer				
N588HP342-TB	N588HP342-TB	• N588HP342 Tiny Board	• N588HP342 (OTP) Tiny Demo Board (COB) Support: N588HP202/252/342 and N588JP202/252/342	
NV-N588L	NHS-N588L-16M	• N588L Series EVB	• N588L Series Evaluation Board (EVB) with 16Mbit Flash	
NV-N588LP330	NHS-588LP330	• N588LP330 OTP EVB	• N588LP330 (OTP) Demo Board (COB)	
NW-NUOTP-M	NuOTP Gang Writer	• NuOTP Gang Writer Main Board	• New OTP Series 1 to 8 Gang Writer. Support for: N566GP/KP-120/160/200/240/280/320 N566HP-120/160/200/240/280/321 N588HP/JP-062/082/122/172/202/252/342 N584P040/070/120/170/210/260/300 NSP075A/165A/335A	
NW-OTP	Nuvoton OTP Writer	• Old OTP Series Writer	• Old OTP Series 1 on 1 Writer Support: N588HPxx0, N588JPxx0, N567HP330, N566HP320, N584HPxxx	
NW-OTP-SP	NW-OTP-SP	• New OTP Writer	• New OTP Writer Dongle for: N566GP/KP-120/160/200/240/280/320 N566HP-120/160/200/240/280/321 N588HP/JP-062/082/122/172/202/252/342 N584P-030/040/070/120/170/210/260/300	
NW-USB	WHS-USB-Writer	• USB Writer	• EVB USB Writer to Cover PowerSpeech/ViewTalk/ BandDirectorEVB, and NSP-OTP-EVB	
PowerSpeech (N589) Evaluation Board, Tiny Board, Adaptor, Writer				
NV-N589EVB	NHS-589EVB	• N589A/B/C EVB	• N589A/B/C Series Evaluation Board Support: N589A080~280, B080~340, C080~340	
N589A1K9-EVB	N589A1K9-EVB	• N589A1K9 Evaluation Board	• N589A1K9 Evaluation Board to Cover N589A/B/C/D-1K4,1K5, 1K9,2K0	
N589A1K9-TB	N589A1K9-TB	• N589A1K9 Tiny Board	• N589A1K9 Tiny Board to Cover N589A/B/C/D-1K9,2K0,1K4,1K5	
N589A900-EVB	N589A900-EVB	• N589A900 EVB	• N589A/B/C/D Series Evaluation Board Support: N589A400/600/900, N589B342/480/650/960, N589C480/650/960, N589D342/480/650/960	
N589D171-EVB	N589D171-EVB	• N589D171 EVB	• N589D171 Evaluation Board Support: N589D081, N589D121 and N589D171	
N589D175-EVB	N589D175-EVB	• N589D175 Evaluation Board	• N589D175 Evaluation Board to Cover N589D085, N589D125 and N589D175	
N589D175-TB	N589D175-TB	• N589D175 Tiny Board	• N589D175 Tiny Board Supports N589D085, N589D125 and N589D175	

Ordering No.	Board Name	Content	Description	Picture
PowerSpeech (N589) Evaluation Board, Tiny Board, Adaptor, Writer				
N589D481-EVB	N589D481-EVB	• N589D481-EVB	• N589D481 Evaluation Board Support: N589D201, D251, D341 and D481	
N589D485-EVB	N589D485-EVB	• N589D485 Evaluation Board	• N589D485-EVB Support for N589D205, N589D255, N589D345 and N589D485	
N589D485-TB	N589D485-TB	• N589D485-TB	• N589D485 Tiny Board. It Supports on N589D345, N589D255 and N589D205	
N589A-TB	N589A Tboard	• N589A/B/C (COB) Tiny Board	• N589A/B/C Series Tiny Demo Board Support: N589A080~280, B080~340, C080~340	
N589A900-TB	N589A900-Tboard	• N589A900 (COB) Tiny Board	• N589A/B/C/D Series Tiny Demo Board Support: N589A400/600/900, N589B342/480/650/960, N589C480/650/960, N589D342/480/650/960	
N589B345-TB	N589B345-TB	• N589B345 Tiny Board	• N589B345 Tiny Board to Cover N589B085, N589B125, N589B175, N589B205, N589B255, N589B345	
N589D171-TB	N589D171TBoard	• N589D171 (COB) Tiny Board	• N589D171 (COB) Tiny Demo Board Support: N589D081/121/171	
N589D481-TB	N589D481-TB	• N589D481 Tiny Board	• N589D481 Tiny Demo Board Support: N589D201/251/341/481	
N589A-STB	N589A_TOP_BOARD	• N589A Dev Platform Standard Top Board	• N589A/B/C Series Dev. Platform Standard Top Board Support: N589A080~280/B080~340/C080~340	
N589D171-STB	N589D171_TOP_Board	• N589D171 Top Board	• N589D171 Standard Top Board w/ Passive Parts Support: N589D081/121/171	
N589E081-TB	N589E081-TB	• N589E Tiny Board	• N589E Tiny Board to Support N589E041/061/081	
N589-1-WTR	N589 1-1 Writer	• N589 1-1 Writer	• N589A/B/C/D Series USB Sngle, Supports 1 to 1 Writer and ICE Debug	
N589-8-WTR-M	N589 1-8 Writer	• N589 Gang Writer Main Board	• N589A/B/C/D 1 to 8 Gang Writer (Mother Board)	
N589-8-WTR-F	N589 GANG WRITER 20180724	• N589 1-8 Gang Writer Main Board, SOP14 Adaptor Board x 8, SOP14 Socket x 8	• N589 Gang Writer Full Set, Main Board x 1, Socket Adaptor SOP14 x 8 Support N589B/C-080B/120B/170B/200B/250B/340B (SOP14)	

NSP Family

Ordering No.	Board Name	Content	Description	Picture
NSP-Flash Evaluation Board, Tiny Board, Adaptor, Writer				
FS2323NB0808	FS2323NB0808	8Ω, 0.5W, speaker	8Ω, 0.5Watt, Speaker	
NSP040A-TB	NSP040A-TB	NSP040A Tiny Board	NSP040A (SOP8) Tiny Board	
NSP171A-TB1	NSP171A-TB1	• NSP171A (SOP8) Tiny Board	• NSP171A (SOP8) Tiny Demo Board Support: NSP081A, NSP171A	
NSP2340A-TB1	NSP2340A-TB1	• NSP2340A Tiny Board	• NSP2.0 Tiny Board to Support NSP2080A, NSP2170A, NSP2340A	
NSP2340A01GT	NSP2340A01G-TB	• NSP2340A01G-TB	• NSP2340A01G with 1W Output Power (@ 5.5V, 8 ohm) Tiny Board. It Is Suitable for The Part Number of NSP2080A01G, NSP2170A01G, and NSP2340A01G.	
NSP2340A03GT	NSP2340A03GT	NSP2340A03G Tiny Board	NSP2340A03G (3 Watt) SOP16 Tiny Board to Cover: NSP2080A03G, NSP2170A03G and NSP2340A03G	
NSP2340A1D1	NSP2340A1D1	NSP2340A1D1 Demo Board	The NSP2340A1D1 Demo Board Can Be Demo for (1) ISP Content Update via Bluetooth; (2) Dual Channels Sound Effect. This Demo Board Is Suitable for NSP2080A, NSP2170A and NSP2340A	
NSP2340A1EP1	NSP2340A1EP1	• NSP2340A EV Board with N55PA01A	• NSP2.0 Evaluation Board to Support NSP2080A, NSP2170A, NSP2340A	
NSP2340BTM	NSP2340BTM	NSP2340A and Bluetooth Module	NSP2340BTM Is an Ultra-Low-Power Bluetooth®5.0 Module for Low Energy Wireless Applications	

Ordering No.	Board Name	Content	Description	Picture
NSP-Flash Evaluation Board, Tiny Board, Adaptor, Writer				
NSP2340T06EE	NSP2340T06EE	NSP2340T06E EVB	The EVB Cover Part No.: NSP2080T06E, NSP2170T06E, NSP2340T06E	
NSP2340T16LE	NSP2340T16LE	NSP2340T16L EVB	The EVB Cover Part No.: NSP080T16L, NSP2170T16L, NSP2340T16L	
NSP2K0B1EP1	NSP2K0B1EP1	• NSP2K0B EVB	• NSP2K0B Evaluation Board. Support Part No: NSP2K0B.	
NSP340A-TB1	NSP340A-TB1	• NSP340A (SOP8) Tiny Board	• NSP340A (SOP8) Tiny Demo Board Support: NSP080A, NSP170A, NSP340A	
NSP340B-TB1	NSP340B-TB1	• NSP340B (SOP14) Tiny Board	• NSP340B (SOP14) Tiny Demo Board Support: NSP080B, NSP170B, NSP340B	
NSP342A-TB1	NSP342A-TB1	• NSP342A Tiny Board	• NSP342A Tiny Board to Support NSP082A, NSP172A, NSP342A	
NSP342A1EP1	NSP342A1EP1	• NSP342A EV Board with N55PA01A	• NSP342A EV Board with NSP082A, NSP172A, NSP342A	
NSP481A-TB3	NSP481A-TB3	• NSP481A-TB3 Tiny Board	• NSP481A with N55PA01A Tiny Board for Demo and Evaluation. It Is for NSP341A and NSP481A	
NSP960B-TB1	NSP960B-TB1	• NSP960B (SOP14) Tiny Board	• NSP960B (SOP14) Tiny Demo Board Support: NSP480B/650B/960B	
NSP960B-TB3	NSP960B-TB3	• NSP960B with N55PA01A Tiny Board	• NSP960B-TB3 Is Tiny Board with N55PA01A for NSP480B, NSP650B, NSP960B	

Ordering No.	Board Name	Content	Description	Picture
NSP-Flash Evaluation Board, Tiny Board, Adaptor, Writer				
NSP-1-WTR	NSP 1-1 Writer	• NSP-Flash 1 to 1 Writer	NSP-Flash 1 to 1 Writer to Support NSP080A/081A/170A/171A/340A/341A/481A, NSP080B/170B/340B/480B/650B/960B NSP2080A/NSP2170A/NSP2340A NSP2080A01G/NSP2170A01G/NSP2340A01G	
NSP-8-WTR-F	NSP-8-WTR-F	• NSP-Flash Gang Writer Main Board	NSP Series 1 to 8 Gang Writer Full Set Support: NSP040A, NSP080A/NSP081A/NSP082A, NSP170A/NSP171A/NSP172A, NSP340A/NSP341A, NSP481A NSP2080A/NSP2170A/NSP2340A NSP2080A01G/NSP2170A01G/NSP2340A01G	
NSP-AP-A-1	NSP-AP-A-1	• NSP-SOP8-1 (with Adapter) * 8	• For NSP SOP8 Chip	
NSP-AP-A-2	NSP-AP-A-2	• Adaptor Board with SOP8 Socket	• Adaptor Board with SOP8 Socket for NSP082A/172A/342A and NSP2080A/2170A/2340A Gang Writer	
NSP-SOP8	Adaptor of NSP-SOP8	• NSP-Flash SOP8 Adaptor	• NSP-Flash SOP8 Adaptor on NSP-8-WTR-M (Gang Writer) Support: NSP080A/081A/170A/171A/340A	
NSP-SOP8-2	NSP-SOP8-2	• Adaptor PCB	• NSP SOP8 Adaptor Board for NSP082A/172A/342A and NSP2080A/2170A/2340A Gang Writer	
NSP-SOP14	Adaptor of NSP-SOP14	• NSP-Flash SOP14 Adaptor	• NSP-Flash SOP14 Adaptor on NSP-8-WTR-M (Gang Writer) Support: NSP080B/170B/340B	
NSP-SOP14-2	Adaptor of NSP-SOP14-2	• NSP-Flash SOP14-2 Adaptor	• NSP-Flash SOP14 Adaptor on NSP-8-WTR-M (Gang Writer) Support: NSP480B/650B/960B	
NSP-SOP16-1	NSP-SOP16-1	NSP-SOP16-1 Socket Adaptor Board	Gang Writer Socket Adaptor Board for NSP2340A01G, NSP2170A01G and NSP2080A01G	
NSP-OTP Evaluation Board, Tiny Board, Adaptor, Writer				
NSP-OTP-EVB	NSP-OTP-EVB	• NSP-OTP Series EVB	• NSP-OTP Series Evaluation Board Support: NSP075A/165A/335A, NSP075B/165B/335B	
NSP165A-TB2	NSP165A-TB2	• NSP165A Tiny Board	• NSP165A OTP Tiny Board for NSP165A Chip.	
NW-OTP-SP	NW-OTP-SP	• New OTP Writer	• NSP-OTP 1 to 1 Writer (Dongle) Support: NSP075A/165A/335A, NSP075B/165B/335B	
NSP-OTP-D-S8	NSP-OTP-D-S8	• NSP-OTP SOP8 Adaptor	• NSP-OTP SOP8 Adaptor for NSP08-8-GW-M (Gang Writer) Support: NSP075A, NSP165A and NSP335A	

BandDirector® Family

Ordering No.	Board Name	Content	Description	Picture
BandDirector ICE Development Kit				
ICE-W567C	WHS-BD567C	• WHS-MINI-USB-ICE System V1.1 • WHS-567C-IC System V1.3	• W567C/J In-Circuit Emulation (ICE) Dev. Kit. Provide In-Circuit Emulation with Program, Execute, Step Through Features for Design Development, Verification & Debugging	
ICE-N566H	NHS-566H001-ICE	• WHS-MINI-USB-ICE System V1.1 • WHS-566H001-ICE System V1.0	• N566H/K/G In-Circuit Emulation (ICE) Dev. Kit. Provide In-Circuit Emulation with Program, Execute, Step Through Features for Design Development, Verification & Debugging	
ICE-N567H	WHS-N567H-ICE	• WHS-MINI-USB-ICE System V1.1 • WHS-N567H-ICE System V3.0	• N567G/H/K In-Circuit Emulation (ICE) Dev. Kit. Provide In-Circuit Emulation with Program, Execute, Step Through Features For Design Development, Verification & Debugging	
BandDirector Evaluation Board (EVB), Writer				
NV-W567C	WHS-567C-16M	• W567C/J Series EVB	• W567C/J Series Evaluation Board (EVB) with 16Mbit Flash	
N566H-EVB	NHS-566H001-16M	• N566H/K/G Series EVB	• N566H/K/G Evaluation Board (EVB) with 16M-bit Parallel Flash	
NV-N567H	WHS-N567-H1	• N567G/H/K Series EVB	• N567G/H/K Series Evaluation Board (EVB) with 16Mbit Flash	
NV-N567L	NHS-N567L-16M	• N567L Series EVB	• N567L Series Evaluation Board (EVB) with 16Mbit Flash	
NV-W567CP80	NHS-W567CP80	• W567CP260(W567CP80) OTP EVB	• W567CP260(W567CP80) One-Time Programmable (OTP) Evaluation Board (EVB)	

Ordering No.	Board Name	Content	Description	Picture
BandDirector Evaluation Board (EVB), Writer				
N566HP080EVB	NHS-566HP080	• N566HP080 EVB	• N566HP080 OTP EV Board w/ Components	
N566HP200EVB	NHS-566HP200	• N566HP200 EVB	• N566HP200 EVB Is for N566 Series Evaluation Board or Demo Board. It Supports: N566GP120/160/200, N566KP120/160/200 and N566HP120/160/200	
NV-N566HP320	NHS-N566HP320	• N566HP320 EVB	• N566HP320 COB with Passive Parts	
N566HP321EVB	N566HP321-EVB	• N566HP321 (New OTP) EVB	• N566HP/KP/GP (New OTP) Evaluation Board Support N566HP240/280/321, N566KP240/280/320, N566GP240/280/320	
NV-N567HP80	NHS-567HP80	• N567HP330(N567HP80) OTP EVB	• N567HP330(N567HP80) One-Time Programmable (OTP) Evaluation Board (EVB)	
NV-N567LP330	NHS-567LP330	• N567LP330 OTP EVB	• N567LP330 EVB One-Time Programmable (OTP) Evaluation Board (EVB)	

ViewTalk® Family

Ordering No.	Board Name	Content	Description	Picture
ViewTalk Development Kit				
ICE-N539T-FS	NHS-539-ICE	• WHS-MINI-USB-ICE System V1.1 • NHS-539-ICE System V1.2	• N539 In-Circuit Emulation (ICE) Dev. Kit. Provide In-Circuit Emulation with Program, Execute, Verification & Debugging Support: N539T170/171/260/261/340/341, N531A170	
ViewTalk Evaluation Board				
NV-N531-16M	NHS-531-16M	• N531A170 EVB	• N531A170 Evaluation Board with 16Mbit Flash Support: N531A170	
NV-N539T001	NHS-539001-16M	• N539Txx1 Series EVB	• N539Txx1 Series Evaluation Board with 16Mbit Flash Support: N539T171/261/341	
NV-N539T000	NHS-539-16M	• N539Txx0 Series EVB	• N539Txx0 Series Evaluation Board with 16Mbit Flash Support: N539T170/260/340	

NuVoice® Family

Ordering No.	Board Name	Content	Description	Picture
NuVoice® Family				
NuVoice Demo Board, Evaluation Board				
NV-N570C064	NHS-570C064-EVB	• N570F/C064 EVB	• N570F/C064 Evaluation Board (EVB) with I/O Interface & Microphone for Voice Recognition Application Support: N570F064, N570C064	
NV-N569S8K0	NHS-N569S8K0	• N569S8K0 (MCP) EVB	• N569S (w/ 64Mbit Flash) Evaluation Board (EVB) with I/O Interface Support: N569S502/1K0/2K0/4K0/8K0	
NV-N570SC64	NHS-570SC64	• N570SC64 (MCP) EVB	• N570SC64 (w/ 64Mbit Flash) Evaluation Board with I/O Interface & Microphone for Voice Recognition Application Support: N570S08A/16A/32A/64A, N570SC08/16/32/64	
N570HC64-EVB	NHS-570H064-EVB	• N570H064 EVB	• N570H064 and N570HC64 Evaluation Board (EVB) with Push Button for Demo	
N570J32A-EVB	NHS-N570J32A	• N570J32A (MCP) EVB VDD: 2.4~5.5V	• N570J32AL (w/ 32Mbit Spi-Flash) Evaluation Board Support: N570J08AL, N570J16AL and N570J32AL	
NV-N572F065	NHS-572F065-EVB	• N572F065 EVB	• N572F065 Evaluation Board (EVB) with I/O Interface	
NV-N572C072	NHS-572C072-EVB	• N572F/C072 EVB	• N572F/C072 Evaluation Board (EVB) with I/O Interface & Microphone for Voice Recognition Application Support: N572F072, N572C072	
N574F1K5-EVB	N574F1K5-EVB	N574F1K5 Evaluation Board	N574F1K5-EVB Supports N574F256, N574F512, N574F1K0, N574F1K5	
N574F128-EVB	N574F128-EVB	N574F128 Evaluation Board	N574F128-EVB Support N574F128	
NV-N575C145	NHS-575C145	• N575F/C145 EVB	• N575F/C145 Evaluation Board (EVB) with I/O Interface & Microphone for Voice Recognition Application Support: N575F145, N575C145	
NT-N575C145	NHS-575C145	• N575C145-EVB + Daughter Board	• N575F/C145 Evaluation Board (EVB) with I/O Interface & Microphone for Voice Recognition Application with Daughter Board	

Contact us: Toy@nuvoton.com

Ordering No.	Board name	Content	Description	Picture
NuVoice Dongle, Writer				
NW-NULINK2	Nu-Link2	• Nu-Link2 Dongle	• Nu-Link2 Dongle as NuVoice 1 to 1 Writer. Support to: N570F/C064, N570H064, N570HC64, N572F/C072, N572F065, N574F/C-256/512/1K0/1K5 MCP Series: N569S, N570S, N570J	
NW-570F064-F	NW-570F064-F	• NW-570F064-F 1-8 Gang Writer w/ LQFP48 Adaptor and Socket	• N570F064 LQFP48 1-8 Gang Writer. Support: N570F064L, N570FW64L	
NW-570F064-S	NW-570F064-S	N570F064 LQFP48 Adaptor with Socket	N570F064 LQFP48 Adaptor with Socket for N570F064 Gang Writer	
NW-570H574-F	Flash Gang Writer (Full Set)	• The 2 to 8 Gang Writer Full Set Includes NW-N570H574-M (Mother Board), 8 x LQFP48 Socket with Adaptor Board	• This 2 to 8 Gang Writer Full Set is for N570H064L (LQFP48)	
NW-570H574-M	Flash Gang Writer (Main Board)	• 2 to 8 Gang Writer Main Board (N570H/N574F)	• 2 to 8 Gang Writer Main Board for N570H064, N570J, N569J, N574F	
NW-N570J32-F	NW-N570J32-F	• NW-N570J32-M x 1 (2 to 8 Gang Writer Main Board) N570J32 adaptor board x 8 and LQFP48 Socket x 8	• N570J32AL/DL 2 to 8 Gang Writer Full Set. It Supports 570J08AL/16AL/32AL, N570J08DL/16DL/32DL, and N569J1K0/2K0	
NW-N570J32-M	NW-N570J32-M	• NW-N570J32-M (2 to 8 Gang Writer Main Board)	• N570J32AL/DL 2 to 8 Gang Writer Main Board. It Supports N570J08AL/16AL/32AL, N570J08DL/16DL/32DL, and N569J1K0/2K0/4K0	
NW-570S64A-F	Flash Gang Writer	• N569S/N570S 1-8 Gang Writer	• N569S/N570S (MCP) 1 to 8 Gang Writer Support: N569S502/1K0/2K0/4K0/8K0, and N570S08A/16A/32A/64A	

Ordering No.	Board name	Content	Description	Picture
NuVoice Dongle, Writer				
NW-569SAK2-F	NW-569SAK2-F	• N569SAK2/N570S130 1-8 Gang Writer	• N569SAK2/N570S130 (MCP) 1 to 8 Gang Writer • Support: N569SAK2 and N570S130 (w/ 128Mbit Spi-Flash)	
NW-572H16A-F	NW-572H16A-F	• N572H16A Gang Writer Main Board, Adaptor Board and LQFP64 Socket	• N572H16A 1 to 8 Gang Writer Full Set to Program N572H16A MCP (LQFP64, 7x7mm^2) Chip	
NW-572H064-F	NW-572H064-F	• N572H064S Gang Writer Main Board, Adaptor Board and LQFP64 Socket	• N572H064S 1 to 8 Gang Writer Full Set to Program N572H064S (LQFP64, 7x7mm^2) Chip	

Peripheral Family

Ordering No.	Board name	Content	Description	Picture
N55T Demo Board, Evaluation Board				
NV-N55T16	NHS-55T16-EV	• N55T16 EVB	• N55T16 Evaluation Board (EVB)	
N55T16-16KEY	NHS-55T16-KEY	• 16 Key Touch Pad Board	• N55T16 16 x Key Touch Pad Evaluation/Demo Board	
IO Expander Evaluation Board, Demo Board				
NV-N55P242	NHS-55P242	• N55P242 EVB	• N55P242 Evaluation Board (EVB)	
NV-N55P242-R	N55P242_RING_TYPE_DEMO_BOARD_V1.0	• N55P242 Demo Board (Circle)	• N55P242 Circle Demo Board w/ 16 RGB LEDs	
NV-N55P242-S	N55P242_SINGLE_STRIP_DEMO_BOARD_V1.0	• N55P242 Demo Board (Rectangle)	• N55P242 Rectangle Demo Board w/ 8 RGB LEDs	
MFID Evaluation Board, Demo Board				
N55MID16-EVB	NHS-55MID16.D3ANT2	• N55MID16 EVB	• N55MID16 MFID Single-Tag Tiny Board	
N55MID36-EVB	NHS-55MID36.D4	• N55MID36 EVB	• N55MID36 MFID Multi-Tag Tiny Board	
N55MID51-EVB	N55MID51-001	• N55MID51 EVB	• N55MID51 MFID Reader for N55MID16 and N55MID36	

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Development Tools for Audio SoCs

Ordering No. / Part No.	Content	Supported Devices	Description	Picture
NP-SPK1	• NP-SPK1	Differential Audio Output	• 8-Ohm Speaker	
NU-NULINKISD	• NU-NULINKISD	Audio SoCs products	• USB Dongle • Support ICP (In-Circuit Programming) • Support Debug Mode	
NU-NULINKPRO	NU-NULINKPRO	ISD91500 Series ISD941A24	• USB dongle • Adjustable Voltage Regulation @ 3V / 5V	
NM-ISD9160	• NT-ISD9160 • NU-NULINKISD • NP-ISD9160-T • NP-ISD9160-K • NP-SPK1	ISD9100 Series	• Evaluation and Demo Kit for ISD9100 Series	
NT-ISD9160	• NT-ISD9160	ISD9100 Series	• Demo Board for ISD9100 Series • USB Dongle Required for PC Connection (NU-NULINKISD)	
NP-ISD9160-T	• NP-ISD9160-T	ISD9100 Series	• 8-input Touch Pad for NT-ISD9160	
NP-ISD9160-K	• NP-ISD9160-K	ISD9100 Series	• 8-input Key Pad for NT-ISD9160	
NM-ISD91260	• NT-ISD91260 • NU-NULINKISD • NP-SPK1	ISD91200C Series	• Evaluation and Demo Kit for ISD91200C Series	
NM-ISD91260B	• NT-ISD91260B • NU-NULINKISD • NP-SPK1	ISD91200B Series	• Evaluation and Demo Kit for ISD91200B Series	
NT-ISD91260	• NT-ISD91260	ISD91200C Series	• Demo Board for ISD91200C Series • USB Dongle Required for PC Connection (NU-NULINKISD)	

Ordering No. / Part No.	Content	Supported Devices	Description	Picture
NT-ISD91260B	• NT-ISD91260B	ISD91200B Series	• Demo Board for ISD91200B Series • USB Dongle Required for PC Connection (NU-NULINKISD)	
NM-ISD91500	• NT-ISD91500 • NU-NULINKISD • NP-SPK1	ISD91500 Series	• Evaluation and Demo Kit for ISD91500 Series	
NT-ISD91500	• NT-ISD91500	ISD91500 Series	• Demo Board for ISD91500 Series • USB Dongle Required for PC Connection (NU-NULINKISD)	
NT-I91500UC	• NT-I91500UC	ISD91500 Series	• UC_HEADSET Demo Board for ISD91500 Series	
NM-I94100_AM	• NL-ISD94124A • NP-I94124_AM	ISD94100 Series	• Evaluation and Demo Kit for ISD94100 Series • Analog Microphone Adaptor	
NM-I94100_DM	• NL-ISD94124A • NP-I94124_DM	ISD94100 Series	• Evaluation and Demo Kit for ISD94100 Series • Digital Microphone Adaptor	
NL-ISD94124A	• NL-ISD94124A	ISD94100 Series	• Demo Board for ISD94100 Series • USB Dongle Required for PC Connection (NU-NULINKISD)	
NP-I94124_AM	• NP-I94124_AM	ISD94100 Series	• Analog Microphone Adaptor for NL-ISD94124A	
NP-I94124_DM	• NP-I94124_DM	ISD94100 Series	• Digital Microphone Adaptor for NL-ISD94124A	

Ordering No. / Part No.	Content	Supported Devices	Description	Picture
NV-ISD94100	• NV-ISD94100	ISD94100 Series	• Demo Board for ISD94100 with audio CODEC (NAU88C22) • USB Dongle Required for PC Connection (NU-NULINKISD)	
NV-I941A24SQI	• NV-I941A24SQI	ISD941A24SQI	• Demo board for ISD941A24SQI • USB Dongle Required for PC Connection (NU-NULINKISD)	
NV-ISD941A24	• NV-ISD941A24	ISD941A24SDI	• Demo Board for ISD941A24SDI	
NT-I941A24UC	• NT-I941A24UC	ISD941A24	• UC_HEADSET demo board for ISD941A24	
NW-ISD9160	• NW-ISD9160	ISD9160 LQFP	• ISD9160 LQFP Single Socket Programmer • USB Dongle Required for PC Connection (NU-NULINKISD)	
NG-ISD9160	• NG-ISD9160	ISD9160 LQFP	• ISD9160 LQFP Standalone Gang Programmer	

Development Tools for Audio Converters

Ordering No. / Part No.	Content	Supported Devices	Description	Picture
NU-NAUSB2I2C	• NU-NAUSB2I2C	Audio Converters products	• USB Control Board	
NL-NAU88C10	• NL-NAU88C10	NAU88C10	• Demo Board for NAU88C10YG • USB Control Board Required for PC Connection (NU-NAUSB2I2C)	
NL-NAU88C14	• NL-NAU88C14	NAU88C14	• Demo Board for NAU88C14YG • USB Control Board Required for PC Connection (NU-NAUSB2I2C)	
NL-NAU88L11	• NL-NAU88L11	NAU88L11	• Demo Board for NAU88L11YG • USB Control Board Required for PC Connection (NU-NAUSB2I2C)	
NL-NAU88L20	• NL-NAU88L20	NAU88L20	• Demo Board for NAU88L20YG • USB Control Board Required for PC Connection (NU-NAUSB2I2C)	
NL-NAU88L21	• NL-NAU88L21	NAU88L21	• Demo Board for NAU88L21YG • USB Control Board Required for PC Connection (NU-NAUSB2I2C)	
NL-NAU88L21C	• NL-NAU88L21C	NAU88L21C	• Demo Board for NAU88L21CYG • USB Control Board Required for PC Connection (NU-NAUSB2I2C)	
NL-NAU88C22	• NL-NAU88C22	NAU88C22	• Demo Board for NAU88C22YG • USB Control Board Required for PC Connection (NU-NAUSB2I2C)	
NL-NAU88L24I	• NL-NAU88L24I	NAU88L24I	" Demo Board for NAU88L24IG • USB Control Board Required for PC Connection (NU-NAUSB2I2C)	
NL-NAU88L25B	• NL-NAU88L25B	NAU88L25B	• Demo Board for NAU88L25YGB • USB Control Board Required for PC Connection (NU-NAUSB2I2C)	
NL-NAU85L20B	• NL-NAU85L20B	NAU85L20B	• Demo Board for NAU85L20YGB • USB Control Board Required for PC Connection (NU-NAUSB2I2C)	
NL-NAU85L40B	• NL-NAU85L40B	NAU85L40B	• Demo Board for NAU85L40YGB • USB Control Board Required for PC Connection (NU-NAUSB2I2C)	

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Ordering No. / Part No.	Content	Supported Devices	Description	Picture
NL-NAU85L40S	• NL-NAU85L40S	NAU85L40S	• Demo Board for NAU85L40SYG with single-ended microphone • USB Control Board Required for PC Connection (NU-NAUSB2I2C)	
NL-NAU7802	• NL-NAU7802	NAU7802	• Demo Board for NAU7802 • USB Control Board Required for PC Connection (NU-NAUSB2I2C)	
NL-NAU7802SG	• NL-NAU7802SG	NAU7802SGI	• Demo Board for NAU7802SGI • USB Control Board Required for PC Connection (NU-NAUSB2I2C)	
NL-NAU7802QG	• NL-NAU7802QG	NAU7802QGI	• Demo Board for NAU7802QGI • USB Control Board Required for PC Connection (NU-NAUSB2I2C)	
NE-N681389	• NE-PROXBASE • NT-N681389	MotherBoard+N681389-EVB	• Pro-X Motherboard + N681389 Evaluation Board	
NT-N681389	• NT-N681389	N681389-EVB	• Evaluation Board for N681389	
NE-NAU8220	• NE-NAU8220	NAU8220	• Demo Board for NAU8220WG	
NT-ISD8101	• NT-ISD8101	ISD8101	• Demo Board for I8101SYI	
NT-ISD8102	• NT-ISD8102	ISD8102	• Demo Board for I8102SYI	
NT-ISD8104	• NT-ISD8104	ISD8104	• Demo Board for I8104SYI	

Development Tools for Audio Amplifiers

Ordering No. / Part No.	Content	Supported Devices	Description	Picture
NE-NAU82011V	• NE-NAU82011V	NAU82011	• Demo Board for NAU82011VG	
NE-NAU82011Y	• NE-NAU82011Y	NAU82011	• Demo Board for NAU82011YG	
NE-NAU8223	• NE-NAU8223	NAU8223	• Demo Board for NAU8223YG	
NE-NAU8224	• NE-NAU8224	NAU8224	• Demo Board for NAU8224YG	
NL-NAU8315	• NL-NAU8315	NAU8315	• Demo Board for NAU8315YG	
NL-NAU8315B	• NL-NAU8315B	NAU8315	• Demo Board for NAU8315B31VG	
NL-NAU8318	• NL-NAU8318	NAU8318	• Demo Board for NAU8318YG	
NL-NAU8318B	• NL-NAU8318B	NAU8318	• Demo Board for NAU8318VG	
NL-NAU8325	• NL-NAU8325	NAU8325	• Demo Board for NAU8325YG	
NV-NADBASE	• NV-NADBASE	NAU83G10 NAU83G20	• Base Board of Smart Amp Series	
NT-NAU83G10	• NT-NAU83G10	NAU83G10	• NAU83G10 Daughter Card	

Ordering No. / Part No.	Content	Supported Devices	Description	Picture
NT-NAU83G20	• NT-NAU83G20	NAU83G20	• NAU83G20 Daughter Card	
NV-NAU83G10S	• NV-NADBASE • 2x NT-NAU83G10	NAU83G10	• Demo Board for NAU83G10 Stereo	
NV-NAU83G20S	• NV-NADBASE • 2x NT-NAU83G20	NAU83G20	• Demo Board for NAU83G20 Stereo	
NM-N83G10MA	• NV-NADBASE • BRS-161200	NAU83G10	• Demo Board for NAU83G10 Mono with Bujeon BRS-161200	
NM-N83G10SA	• NV-NADBASE • 2x BRS-161200	NAU83G10	• Demo Board for NAU83G10 Stereo with 2x Bujeon BRS-161200	
NM-N83G10MB	• NV-NADBASE • BRS-181300	NAU83G10	• Demo Board for NAU83G10 Mono with Bujeon BRS-181300	
NM-N83G10SB	• NV-NADBASE • 2x BRS-181300	NAU83G10	• Demo Board for NAU83G10 Stereo with 2x Bujeon BRS-181300	
NM-N83G20MA	• NV-NADBASE • BUF-4203	NAU83G20	• Demo Board for NAU83G20 Mono with Bujeon BUF-4203	
NM-N83G20MB	• NV-NADBASE • TEBM28C10	NAU83G20	• Demo Board for NAU83G20 Mono with Tecktonic TEBM28C10	
NM-N83G20SA	• NV-NADBASE • 2x BUF-4203	NAU83G20	• Demo Board for NAU83G20 Stereo with 2x Bujeon BUF-4203	
NM-N83G20SB	• NV-NADBASE • 2x TEBM28C10	NAU83G20	• Demo Board for NAU83G20 Stereo with 2x Tecktonic TEBM28C10	

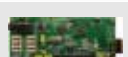
Development Tools for Audio Enhancement

Ordering No. Part No.	Content	Supported Devices		Picture
NU-NAUSB2I2C	• NU-NAUSB2I2C	NPCA120DD NPCA121DD NPCA120DY	• USB Control Board	
NU-NPUSB2I2C	• NU-NPUSB2I2C	NPCA110X NPCP215F	• USB Control Board for NPCA110X & NPCP215X	
NT-NPCA110PP	• NT-NPCA110PP	NPCA110P	• NPCA110P Piggy Board	
NE-NPCA110XB	• NE-NPCA110XB	NPCA110X	• NPCA110X 1 Watt Base Board	
NE-NPCP215F	• NE-NPCP215F	NPCP215F	• NPCP215F Demo Board	
NE-NPCA120	• NE-NPCA120	NPCA120DD	• NPCA120 Audio Enhancement, Bongiovi DPS, Standard Level Demo Board	
NL-NPCA120	• NL-NPCA120	NPCA120DD	• NPCA120DD LQFP-64 Audio Enhancement, Bongiovi DPS, Standard Level Demo Board	
NL-NPCA120DY	• NL-NPCA120DY	NPCA120DY	• NPCA120DY QFN-48 Audio Enhancement, Bongiovi DPS, Standard Level Demo Board	
NE-NPCA121	• NE-NPCA121	NPCA121DD	• NPCA121 Audio Enhancement, Bongiovi DPS, Premium Level Demo Board	
NL-NPCA121	• NL-NPCA121	NPCA121DD	• NPCA121DD LQFP-64 Audio Enhancement, Bongiovi DPS, Standard Level Demo Board	

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Development Tools for ISD ChipCorder®

Ordering No. / Part No.	Content	Supported Devices	Description	Picture
NP-SPK1	• NP-SPK1	Differential Audio Output	• 8-Ohm Speaker	
NU-ISDMINUSB	• NU-ISDMINUSB	ISD ChipCorder products	• USB Dongle • Support ISD VPE Software on PC	
NM-ISD2100S	• NT-ISD2100S • NU-ISDMINUSB • NP-SPK1	ISD2100 Series	• Evaluation and Demo Kit for ISD2100 Series	
NM-ISD2100Q	• NT-ISD2100Q • NU-ISDMINUSB • NP-SPK1	ISD2100 Series	• Evaluation and Demo Kit for ISD2100 Series	
NT-ISD2100S	• NT-ISD2100S	ISD2100 Series	• Demo Board for ISD2130SY1 • USB Dongle Required for PC Connection (NU-ISDMINUSB)	
NT-ISD2100Q	• NT-ISD2100Q	ISD2100 Series	• Demo Board for ISD2130YY1 • USB Dongle Required for PC Connection (NU-ISDMINUSB)	
NM-ISD2360S	• NT-ISD2360S • NU-ISDMINUSB • NP-SPK1	ISD2360	• Evaluation and Demo Kit for ISD2360	
NM-ISD2360Q	• NT-ISD2360Q • NU-ISDMINUSB • NP-SPK1	ISD2360	• Evaluation and Demo Kit for ISD2360	

Ordering No. / Part No.	Content	Supported Devices	Description	Picture
NT-ISD2360S	• NT-ISD2360S	ISD2360	• Demo Board for ISD2360SYI • USB Dongle Required for PC Connection (NU-ISDMINUSB)	
NT-ISD2360Q	• NT-ISD2360Q	ISD2360	• Demo Board for ISD2360YYI • USB Dongle Required for PC Connection (NU-ISDMINUSB)	
NM-ISD2361	• NT-ISD2361 • NU-ISDMINUSB • NP-SPK1	ISD2361	• Evaluation and Demo Kit for ISD2361	
NT-ISD2361	• NT-ISD2361	ISD2361	• Demo Board for ISD2361YYI • USB Dongle Required for PC Connection (NU-ISDMINUSB)	
NM-ISD3800	• NT-ISD3800 • NU-ISDMINUSB • NP-SPK1	ISD3800	• Evaluation and Demo Kit for ISD3800	
NT-ISD3800	• NT-ISD3800	ISD3800	• Demo Board for ISD3800FYI • USB Dongle Required for PC Connection (NU-ISDMINUSB)	
NM-ISD15D00	• NT-ISD15D00 • NU-ISDMINUSB • NP-SPK1	ISD15D00	• Evaluation and Demo Kit for ISD15D00	
NT-ISD15D00	• NT-ISD15D00	ISD15D00	• Demo Board for ISD15D00YYI • USB Dongle Required for PC Connection (NU-ISDMINUSB)	
NM-ISD3900	• NT-ISD3900 • NU-ISDMINUSB • NP-SPK1	ISD3900	• Evaluation and Demo Kit for ISD3900	
NT-ISD3900	• NT-ISD3900	ISD3900	• Demo Board for ISD3900FYI • USB Dongle Required for PC Connection (NU-ISDMINUSB)	

Ordering No. / Part No.	Content	Supported Devices	Description	Picture
NM-ISD15100	• NT-ISD15100 • NU-ISDMINUSB • NP-SPK1	ISD15100 Series	• Evaluation and Demo Kit for ISD15100 Series	
NT-ISD15100	• NT-ISD15100	ISD15100 Series	• Demo Board for ISD15100 Series • USB Dongle Required for PC Connection (NU-ISDMINUSB)	
NM-ISD15C00	• NT-ISD15C00 • NU-ISDMINUSB • NP-SPK1	ISD15C00	• Evaluation and Demo Kit for ISD15C00	
NT-ISD15C00	• NT-ISD15C00	ISD15C00	• Demo Board for ISD15C00FY1 • USB Dongle Required for PC Connection (NU-ISDMINUSB)	
NC-ISD1730	NC-ISD1730	ISD1730	• Demo Board for ISD1730	
NC-ISD1760	NC-ISD1760	ISD1760	• Demo Board for ISD1760	
NW-ISD2100S	• NW-ISD2100S	ISD2100 Series	• ISD2100 SOP Single Socket Programmer • USB Dongle Required for PC Connection (NU-ISDMINUSB)	
NW-ISD2100Q	• NW-ISD2100Q	ISD2100 Series	• ISD2100 QFN Single Socket Programmer • USB Dongle Required for PC Connection (NU-ISDMINUSB)	
NG-ISD2100S	• NG-ISD2100S	ISD2100 Series	• ISD2100 SOP Standalone Gang Programmer	
NG-ISD2100Q	• NG-ISD2100Q	ISD2100 Series	• ISD2100 QFN Standalone Gang Programmer	

Ordering No. / Part No.	Content	Supported Devices	Description	Picture
NW-ISD2360S	• NW-ISD2360S	ISD2360SYI	• ISD2360 SOP Single Socket Programmer • USB Dongle Required for PC Connection (NU-ISDMINUSB)	
NW-ISD2360Q	• NW-ISD2360Q	ISD2360YYI	• ISD2360 QFN Single Socket Programmer • USB Dongle Required for PC Connection (NU-ISDMINUSB)	
NG-ISD2360S	• NG-ISD2360S	ISD2360SYI	• ISD2360 SOP Standalone Gang Programmer	
NG-ISD2360Q	• NG-ISD2360Q	ISD2360YYI	• ISD2360 QFN Standalone Gang Programmer	
NW-ISD15100	• NW-ISD15100	ISD15100 Series	• ISD15100 LQFP Single Socket Programmer • USB Dongle Required for PC Connection (NU-ISDMINUSB)	
NW-ISDPROG	• NW-ISDPROG	ISD2100 Series ISD15100 Series ISD15D00 Series	• Digital ChipCorder Standalone Programmer • Support ISD2100/ISD15100/ISD15D00 Series	
NW-ISDIPROG1	• NW-ISDIPROG1	ISD4000 Series ISD1700 Series	• Digital ChipCorder Single-Chip Programmer • Support ISD4000/ISD1700 Series	
NW-P1700	• NW-P1700	ISD1700 Series	• Programmer Adapter of ISD-IPROG-1	

NOTE

NOTE



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