

**2018**

**nuvoTon**

**新唐科技**

World  
Headquarters

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## Consumer Speech

### PowerSpeech® Series

- W584Axxx 4-bit  $\mu$ C Base, 1-ch Voice + Dual Tone Melody Synthesizer

Part No.	ROM (Kbits)	Duration (Sec.) @ 5-bit MDM		VDD (V)	CH	Fsys (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

• W584Axxx 4-bit  $\mu$ C Base, 1-ch Voice + Dual Tone Melody Synthesizer

Part No.	ROM (Kbits)	Duration (Sec.) @ 5-bit MDM		VDD (V)	CH	Fsys (MHz)	OSC	Audio		RAM (N)	GPIO	High Sink
		(6 KHz)	(8 KHz)					PWM	DAC			
<b>W584A065</b>	1900	64	48	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
<b>W584A075</b>	2220	75	56	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
<b>W584A085</b>	2540	86	64	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
<b>W584A100</b>	3180	108	81	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
<b>W584A120</b>	3820	129	97	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
<b>W584A151</b>	4460	151	113	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
<b>W584A171</b>	5100	173	130	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
<b>W584A191</b>	5740	195	146	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
<b>W584A300</b>	9100	310	232	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
<b>W584A340</b>	10220	348	261	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
<b>W584AP017(OTP)</b>	460	15	11	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	12 I/O	-
<b>W584AP045 (OTP)</b>	1260	42	32	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	-
<b>W584AP065(OTP)</b>	1900	64	48	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	-

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- W584Bxxx 4-bit  $\mu$ C Base, 1-ch Voice Synthesizer

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

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• W588Lxxx 8-bit  $\mu$ C Base, 2 Batteries, 2-ch Voice + Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 5-bit MDM		VDD (V)	CH	Fsys (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

• W588Cxxx 8-bit  $\mu$ C Base, 2-ch Voice + Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		VDD (V)	CH	Fsys (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

- W588Cxxx 8-bit  $\mu$ C Base, 2-ch Voice + Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		VDD (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  
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- W588Dxxx 8-bit  $\mu$ C Base, 3-ch Voice + Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		VDD (V)	CH	Fsys (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	√



- N584Lxxx 4-bit  $\mu$ C Base, 1~2 Battery, 1-ch Voice + Dual Tone Melody Synthesizer

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

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- N588Lxxx 1.0~3.6V, 8-bit  $\mu$ C base, 2-ch Voice Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		VDD (6 MHz)	CH	Fsys (MHz)	OSC	Audio		Vp (V)	RAM (Bytes)	LVD	GPIO	H/W PWM
		(6 KHz)	(8 KHz)					PWM	DAC					
<b>N588L040</b>	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
<b>N588L080</b>	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
<b>N588L120</b>	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
<b>N588L160</b>	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
<b>N588L200</b>	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
<b>N588L240</b>	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
<b>N588L280</b>	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
<b>N588L330</b>	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
<b>N588LP080 (OTP)</b>	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
<b>N588LP200 (OTP)</b>	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
<b>N588LP330 (OTP)</b>	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

## • N584Hxxx High Sound Quality 1-ch Voice

Part No.	ROM (Kbits)	Duration (Sec.) @ 4-bit NM4		VDD (4 MHz)	CH	Fsys (MHz)	OSC	Audio		Cap Sensor	RAM (N)	LVD	GPIO	High Sink
		(6 KHz)	(8 KHz)					PWM	DAC					
<b>N584H009</b>	300	12	9	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	V	4 I/O	4-pin
<b>N584H019</b>	620	24	18	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	V	4 I/O	4-pin
<b>N584H029</b>	940	37	28	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	V	4 I/O	4-pin
<b>N584H039</b>	1260	49	37	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	V	4 I/O	4-pin
<b>N584H010</b>	300	12	9	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	V	8 I/O	8-pin
<b>N584H020</b>	620	24	18	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	V	8 I/O	8-pin
<b>N584H030</b>	940	37	28	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	V	8 I/O	8-pin
<b>N584H040</b>	1260	49	37	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	V	8 I/O	8-pin
<b>N584H060</b>	1740	68	51	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	V	8 I/O	8-pin
<b>N584H070</b>	1900	74	56	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	V	8 I/O	8-pin
<b>N584H120</b>	3340	131	98	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	V	16 I/O	8-pin
<b>N584H160</b>	4070	159	119	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	V	16 I/O	8-pin
<b>N584H170</b>	4460	175	131	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	V	16 I/O	8-pin
<b>N584H210</b>	5740	225	169	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	V	16 I/O	8-pin
<b>N584H260</b>	7020	275	206	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	V	16 I/O	8-pin
<b>N584H300</b>	7980	312	234	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	V	16 I/O	8-pin
<b>*N584HP030 (OTP)</b>	940	37	28	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	V	8 I/O	8-pin
<b>N584HP070 (OTP)</b>	1900	74	56	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	V	8 I/O	8-pin
<b>N584HP160 (OTP)</b>	4070	159	119	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	V	16 I/O	8-pin
<b>N584HP300 (OTP)</b>	7980	312	234	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	V	16 I/O	8-pin

\*under development  
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• N588Jxxx 8-bit  $\mu$ C Base, 1-ch Voice Synthesizer w/ PWM Direct Driver

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		VDD (6MHz)	CH	Fsys (MHz)	Audio		RAM (Bytes)	LVD	GPIO	H/W PWM
		(6 KHz)	(8 KHz)				PWM	DAC				
<b>N588J010</b>	30	10	7	2.2-5.5V	1	4,6,8	12-bit	-	128	√	16 I/O	3-pair
<b>N588J040</b>	126	40	30	2.2-5.5V	1	4,6,8	12-bit	-	128	√	16 I/O	3-pair
<b>N588J060</b>	206	65	49	2.2-5.5V	1	4,6,8	12-bit	-	128	√	16 I/O	3-pair
<b>N588J080</b>	254	80	60	2.2-5.5V	1	4,6,8	12-bit	-	128	√	16 I/O	3-pair
<b>N588J120</b>	414	131	98	2.2-5.5V	1	4,6,8	12-bit	-	128	√	16 I/O	3-pair
<b>N588J170</b>	510	162	121	2.2-5.5V	1	4,6,8	12-bit	-	128	√	16 I/O	3-pair
<b>N588J200</b>	704	223	167	2.2-5.5V	1	4,6,8	12-bit	-	192	√	24 I/O	3-pair
<b>N588J250</b>	830	263	197	2.2-5.5V	1	4,6,8	12-bit	-	192	√	24 I/O	3-pair
<b>N588J340</b>	1020	324	243	2.2-5.5V	1	4,6,8	12-bit	-	192	√	24 I/O	3-pair
<b>N588J480</b>	1534	486	364	2.2-5.5V	1	4,6,8	12-bit	-	192	√	24 I/O	3-pair
<b>N588J650</b>	2044	648	486	2.2-5.5V	1	4,6,8	12-bit	-	192	√	24 I/O	3-pair
<b>N588JP080 (OTP)</b>	254	80	60	2.2-5.5V	1	4,6,8	12-bit	-	128	√	16 I/O	3-pair
<b>N588JP170 (OTP)</b>	510	162	121	2.2-5.5V	1	4,6,8	12-bit	-	128	√	16 I/O	3-pair
<b>N588JP340 (OTP)</b>	1020	324	243	2.2-5.5V	1	4,6,8	12-bit	-	192	√	24 I/O	3-pair
<b>N588JP480 (OTP)</b>	1534	486	364	2.2-5.5V	1	4,6,8	12-bit	-	192	√	24 I/O	3-pair
<b>N588JP650 (OTP)</b>	2044	648	486	2.2-5.5V	1	4,6,8	12-bit	-	192	√	24 I/O	3-pair

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• N588Hxxx 8-bit  $\mu$ C Base, 3-ch Voice + Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		VDD (V)	CH	Fsys (MHz)	OSC	Audio		RAM (Bytes)	LVD	GPIO	H/W PWM
		(6 KHz)	(8 KHz)					PWM	DAC				
<b>N588H061</b>	206	65	49	2.2~5.5	3	4,6,8	TRIM	12-bit	-	128	√	16 I/O	3-pair
<b>N588H081</b>	254	80	60	2.2~5.5	3	4,6,8	TRIM	12-bit	-	128	√	16 I/O	3-pair
<b>N588H120</b>	414	131	98	2.2~5.5	3	4,6,8	TRIM	12-bit	-	128	√	16 I/O	3-pair
<b>N588H170</b>	510	162	121	2.2~5.5	3	4,6,8	TRIM	12-bit	-	128	√	16 I/O	3-pair
<b>N588H200</b>	704	223	167	2.2~5.5	3	4,6,8	TRIM	12-bit	-	192	√	24 I/O	3-pair
<b>N588H250</b>	830	263	197	2.2~5.5	3	4,6,8	TRIM	12-bit	-	192	√	24 I/O	3-pair
<b>N588H340</b>	1022	324	243	2.2~5.5	3	4,6,8	TRIM	12-bit	-	192	√	24 I/O	3-pair
<b>N588H480</b>	1534	486	364	2.2~5.5	3	4,6,8	TRIM	12-bit	-	192	√	24 I/O	3-pair
<b>N588H650</b>	2044	648	486	2.2~5.5	3	4,6,8	TRIM	12-bit	-	192	√	24 I/O	3-pair
<b>N588HP080 (OTP)</b>	254	80	60	2.2~5.5	3	4,6,8	TRIM	12-bit	-	128	√	16 I/O	3-pair
<b>N588HP170 (OTP)</b>	510	162	121	2.2~5.5	3	4,6,8	TRIM	12-bit	-	128	√	16 I/O	3-pair
<b>N588HP340 (OTP)</b>	1022	324	243	2.2~5.5	3	4,6,8	TRIM	12-bit	-	192	√	24 I/O	3-pair
<b>N588HP480 (OTP)</b>	1534	486	364	2.2~5.5	3	4,6,8	TRIM	12-bit	-	192	√	24 I/O	3-pair
<b>N588HP650 (OTP)</b>	2044	648	486	2.2~5.5	3	4,6,8	TRIM	12-bit	-	192	√	24 I/O	3-pair

● N589A 8-bit  $\mu$ C Base, 2-ch Voice + Melody Synthesizer, w/ ADC

Part No.	Duration (Sec)	V <sub>DD</sub> (V)	Voice CH	F <sub>sys</sub> (MHz)	OSC	ADC	Audio		RAM (Bytes)	GPIO	I/O Interface	PWM I/O	LVD	IR wake up
	(8 KHz)						PWM	DAC						
<b>N589A080</b>	98	1.8~5.5	2	20	TRIM	4ch, 8bit	13-bit	-	512	24 I/O	-	9 pin	√	√
<b>N589A120</b>	130	1.8~5.5	2	20	TRIM	4ch, 8bit	13-bit	-	512	24 I/O	-	9 pin	√	√
<b>N589A170</b>	162	1.8~5.5	2	20	TRIM	4ch, 8bit	13-bit	-	512	24 I/O	-	9 pin	√	√
<b>N589A200</b>	226	1.8~5.5	2	20	TRIM	4ch, 8bit	13-bit	-	512	32 I/O	SPI	9 pin	√	√
<b>N589A250</b>	290	1.8~5.5	2	20	TRIM	4ch, 8bit	13-bit	-	512	32 I/O	SPI	9 pin	√	√
<b>N589A340</b>	354	1.8~5.5	2	20	TRIM	4ch, 8bit	13-bit	-	512	32 I/O	SPI	9 pin	√	√
<b>N589A480</b>	482	1.8~5.5	2	20	TRIM	4ch, 8bit	13-bit	-	512	32 I/O	SPI	9 pin	√	√
<b>N589A680</b>	738	1.8~5.5	2	20	TRIM	4ch, 8bit	13-bit	-	512	32 I/O	SPI	9 pin	√	√

● N5132,N5162 1-ch Voice Synthesizer w/ CPU I/F

Part No.	V <sub>DD</sub> (V)	CH	F <sub>sys</sub> (MHz)	OSC	Audio		LVR	GPIO	CPU I/F
					PWM	DAC			
<b>N5132 (OTP)</b>	2.2~5.5	1	8	Ring	9-bit	-	√	6 I/O	√
<b>N5162S16(Flash)</b>	2.7~5.5	1	6,8	Ring	12-bit	13-bit	√	12 I/O	√

● N5160Sxx 8-bit  $\mu$ C Base, 1-ch Long Duration Voice Synthesizer

Part No.	Flash (Kbytes)	Duration (Sec.) @ 4-bit NM4		V <sub>DD</sub> (V)	CH	F <sub>sys</sub> (MHz)	OSC	Audio		LVR	GPIO	SIM SPI	Package
		(6 KHz)	(8 KHz)					PWM	DAC				
<b>N5160S16 (Flash)</b>	2048	635	476	2.7~5.5	1	6,8	Ring	12-bit	13-bit	√	12 I/O	√	LQFP48
<b>N5160S32 (Flash)</b>	4096	1270	953	2.7~5.5	1	6,8	Ring	12-bit	13-bit	√	12 I/O	√	LQFP48

• W567Cxxx 8-bit  $\mu$ 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	H/W PWM	SIM SPI	PAN Stereo
		(6 KHz)	(8 KHz)	Voice	WTM				PWM	DAC					
<b>W567C070</b>	336	99	74	2	16	4-8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
<b>W567C080</b>	416	124	93	2	16	4-8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
<b>W567C100</b>	464	139	104	2	16	4-8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
<b>W567C120</b>	508	152	114	2	16	4-8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
<b>W567C151</b>	640	193	145	2	16	4-8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
<b>W567C171</b>	768	233	174	2	16	4-8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
<b>W567C210</b>	896	272	204	2	16	4-8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
<b>W567C260</b>	1020	311	233	2	16	4-8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
<b>W567C300</b>	1232	376	282	2	16	4-8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
<b>W567C340</b>	1376	421	316	2	16	4-8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
<b>W567C380</b>	1532	469	352	2	16	4-8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
<b>W567C126</b>	508	152	114	2	16	4-8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	√
<b>W567C266</b>	1020	311	233	2	16	4-8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	√
<b>W567C306</b>	1232	376	282	2	16	4-8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	√
<b>W567C346</b>	1376	421	316	2	16	4-8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	√
<b>W567C386</b>	1532	469	352	2	16	4-8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	√
<b>W567CP260 (OTP)</b>	1020	311	233	2	16	4-8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-

### • N567Gxxx 8-bit $\mu$ C Base, 4-ch Voice + Wavetable Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		VDD (V)	CH	Fsys (MHz)	OSC	Audio		RAM (Bytes)	GPIO	H/W PWM	SIM SPI
		(6 KHz)	(8 KHz)					PWM	DAC				
<b>N567G030</b>	126	34	26	2.2~5.5	4	4,6,8	TRIM/X'tal	12-bit	13-bit	384	24 I/O	-	√
<b>N567G041</b>	158	44	33	2.2~5.5	4	4,6,8	TRIM/X'tal	12-bit	13-bit	384	24 I/O	-	√
<b>N567G080</b>	286	84	63	2.2~5.5	4	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	√
<b>N567G121</b>	416	124	93	2.2~5.5	4	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	-
<b>N567G161</b>	528	158	119	2.2~5.5	4	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	-
<b>N567G201</b>	638	192	144	2.2~5.5	4	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	-
<b>N567G240</b>	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	√
<b>N567G280</b>	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	√
<b>N567G330</b>	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	√

### • N567Kxxx 8-bit $\mu$ C Base, 6-ch Voice + Wavetable Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		VDD (V)	CH	Fsys (MHz)	OSC	Audio		RAM (Bytes)	LVD	GPIO	H/W PWM	SIM SPI
		(6 KHz)	(8 KHz)					PWM	DAC					
<b>N567K030</b>	126	34	26	2.2~5.5	6	4,6,8	TRIM/X'tal	12-bit	13-bit	384	-	24 I/O	-	√
<b>N567K041</b>	158	44	33	2.2~5.5	6	4,6,8	TRIM/X'tal	12-bit	13-bit	384	-	24 I/O	-	√
<b>N567K080</b>	286	84	63	2.2~5.5	6	4,6,8	TRIM	12-bit	13-bit	384	-	24 I/O	-	√
<b>N567K081</b>	254	80	60	2.2~5.5	6	4,6,8	TRIM	12-bit	13-bit	384	√	24 I/O	-	√
<b>N567K121</b>	416	124	93	2.2~5.5	6	4,6,8	TRIM	12-bit	13-bit	384	-	24 I/O	-	-
<b>N567K161</b>	528	158	119	2.2~5.5	6	4,6,8	TRIM	12-bit	13-bit	384	-	24 I/O	-	-
<b>N567K201</b>	638	192	144	2.2~5.5	6	4,6,8	TRIM	12-bit	13-bit	384	-	24 I/O	-	-
<b>N567K240</b>	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	√
<b>N567K280</b>	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	√
<b>N567K330</b>	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	√



• N567Hxxx 8-bit  $\mu$ C Base, 8-ch Voice + Wavetable Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		VDD (V)	CH	Fs <sub>sys</sub> (MHz)	OSC	Audio		RAM (Bytes)	GPIO	H/W PWM	SIM SPI
		(6 KHz)	(8 KHz)					PWM	DAC				
<b>N567H030</b>	126	34	26	2.2-5.5	8	4,6,8	TRIM/X'tal	12-bit	13-bit	384	24 I/O	-	√
<b>N567H041</b>	158	44	33	2.2-5.5	8	4,6,8	TRIM/X'tal	12-bit	13-bit	384	24 I/O	-	√
<b>N567H080</b>	286	84	63	2.2-5.5	8	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	√
<b>N567H121</b>	416	124	93	2.2-5.5	8	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	-
<b>N567H161</b>	528	158	119	2.2-5.5	8	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	-
<b>N567H201</b>	638	192	144	2.2-5.5	8	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	-
<b>N567H240</b>	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	√
<b>N567H280</b>	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	√
<b>N567H330</b>	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	√
<b>N567HP330 (OTP)</b>	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	√

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• N567Dxxx 8-bit  $\mu$ 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	H/W PWM	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	√

• N567Lxxx 1.0~3.6V, 8-bit  $\mu$ C base, 8-ch Voice + Wavetable Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		Channel		VDD (6 MHz)	Fsys (MHz)	OSC	Audio		Vp (V)	RAM (Bytes)	LVD	GPIO	H/W PWM
		(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

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• N566Gxxx 8-bit  $\mu$ C Base, 4-ch Voice + Wavetable Melody Synthesizer, w/ LVD

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		VDD (V)	CH	Fsys (MHz)	OSC	Audio		RAM (Bytes)	LVD	GPIO	H/W PWM	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	√

• N566Kxxx 8-bit  $\mu$ C Base, 6-ch Voice + Wavetable Melody Synthesizer, w/ LVD

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		VDD (V)	CH	Fsys (MHz)	OSC	Audio		RAM (Bytes)	LVD	GPIO	H/W PWM	Constant Current
		(6 KHz)	(8 KHz)					PWM	DAC					
*N566K080	286	84	63	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	√

• N566Hxxx 8-bit  $\mu$ C Base, 8-ch Voice + Wavetable Melody Synthesizer, w/ LVD

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		VDD (V)	CH	Fsys (MHz)	OSC	Audio		RAM (Bytes)	LVD	GPIO	H/W PWM	Constant Current
		(6 KHz)	(8 KHz)					PWM	DAC					
*N566H080	286	84	63	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	√
N566HP320 (OTP)	1022	311	233	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	√	24 I/O	2-pin	√

\*: under development

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## ViewTalk® Series

- N537A090 8-bit  $\mu$ 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.)	LCD RAM (Bytes)	GPIO	Audio		LCD Resolution (SEGxCOM)	Bias	Duty
						PWM	DAC			
<b>N537A090</b>	283	1K	90	128	12 I/O	9-bit	-	64x16	1/4, 1/5	1/8, 1/16

- N531A170 8-bit  $\mu$ 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			
<b>N531A170</b>	509	1K	170	128x2	16 I/O	12-bit	-	64x16	1/4, 1/5	1/8, 1/16

- N538Txxx 8-bit  $\mu$ C Base, 8-ch Voice + Wavetable Melody Synthesizer w/ B/W 2K-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			
<b>N538T080</b>	249	1K	60	256x2	24 I/O	9-bit	10-bit	64x32	1/4, 1/5	1/16, 1/32
<b>N538T170</b>	505	1K	120	256x2	24 I/O	9-bit	10-bit	64x32	1/4, 1/5	1/16, 1/32
<b>N538T260</b>	761	1K	180	256x2	24 I/O	9-bit	10-bit	64x32	1/4, 1/5	1/16, 1/32
<b>N538T340</b>	1017	1K	250	256x2	24 I/O	9-bit	10-bit	64x32	1/4, 1/5	1/16, 1/32

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• N538Axxx 8-bit  $\mu$ C Base, 8-ch Voice + Wavetable 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			
<b>N538A170</b>	505	1K	120	128x2	24 I/O	9-bit	10-bit	64x16	1/4, 1/5	1/6
<b>N538A260</b>	761	1K	180	128x2	24 I/O	9-bit	10-bit	64x16	1/4, 1/5	1/6
<b>N538A340</b>	1017	1K	250	128x2	24 I/O	9-bit	10-bit	64x16	1/4, 1/5	1/6

• W539Axxx 8-bit  $\mu$ C Base, 8-ch Voice + Wavetable 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			
<b>W539A804</b>	505	1K	120	128x2	24 I/O	12-bit	13-bit	64x16	1/4, 1/5	1/8, 1/16
<b>W539A806</b>	761	1K	180	128x2	24 I/O	12-bit	13-bit	64x16	1/4, 1/5	1/8, 1/16
<b>W539A808</b>	1017	1K	250	128x2	24 I/O	12-bit	13-bit	64x16	1/4, 1/5	1/8, 1/16

• N539Txxx 8-bit  $\mu$ 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)	H/W PWM	SIM	Bias	Duty
						PWM	DAC					
<b>N539T171</b>	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
<b>N539T261</b>	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
<b>N539T341</b>	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
<b>N539TP340 (OTP)</b>	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

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## NuVoice™ Series

### • N569Sxxx, 32-bit Cortex-M0 with embedded Flash, long duration solution

Part No.	CPU	APROM	Flash Memory	V <sub>DD</sub> (V)	Duration(Sec)	SRAM	GPIO	I/O Interface	PWM I/O	Audio		LDO	ADC	Other	Package
					8KHz					Mic.	Speaker				
<b>N569S502</b>	Cortex®-M0 49 MHz	64KB Flash	4Mbit	2.4~5.5	500	6 KB	18	SPI, UART	8	-	DPWM DAC	√	-	3-ch Voice 8-ch MIDI	LQFP48
<b>N569S1K0</b>	Cortex®-M0 49 MHz	64KB Flash	8Mbit	2.4~5.5	1,000	6 KB	18	SPI, UART	8	-	DPWM DAC	√	-	3-ch Voice 8-ch MIDI	LQFP48
<b>N569S1K1</b>	Cortex®-M0 49 MHz	64KB Flash	8Mbit	2.4~5.5	1,000	6 KB	18	SPI, UART	8	-	DPWM DAC	√	-	3-ch Voice 8-ch MIDI	LQFP48
<b>N569S2K0</b>	Cortex®-M0 49 MHz	64KB Flash	16Mbit	2.4~5.5	2,000	6 KB	18	SPI, UART	8	-	DPWM DAC	√	-	3-ch Voice 8-ch MIDI	LQFP48
<b>N569S4K0</b>	Cortex®-M0 49 MHz	64KB Flash	32Mbit	2.4~5.5	4,000	6 KB	18	SPI, UART	8	-	DPWM DAC	√	-	3-ch Voice 8-ch MIDI	LQFP48
<b>N569S8K0</b>	Cortex®-M0 49 MHz	64KB Flash	64Mbit	2.4~5.5	8,000	6 KB	18	SPI, UART	8	-	DPWM DAC	√	-	3-ch Voice 8-ch MIDI	LQFP48
<b>N569SAK2</b>	Cortex®-M0 49 MHz	64KB Flash	128Mbit	2.4~5.5	16,000	6 KB	18	SPI, UART	8	-	DPWM DAC	√	-	3-ch Voice 8-ch MIDI	LQFP48

### • N570XXXX, 32-bit Cortex M0 with embedded Flash and 10 bit ADC Solution

Part No.	CPU	APROM	Flash Memory	V <sub>DD</sub> (V)	Duration(Sec)	SRAM	GPIO	I/O Interface	PWM I/O	Audio		LDO	ADC	Other	Package
					8KHz					Mic.	Speaker				
<b>N570F064</b>	Cortex®-M0 49 MHz	64KB Flash	-	1.8~5.5	-	6 KB	22	SPI x 2, UART	8	√	DPWM DAC	√	10-bit 4-ch	-	LQFP48
<b>N570C064</b>	Cortex®-M0 49 MHz	64KB Flash	-	1.8~5.5	-	6 KB	22	SPI x 2, UART	8	√	DPWM DAC	√	10-bit 4-ch	Voice Recognition	LQFP48
<b>N570S08A</b>	Cortex®-M0 49 MHz	64KB Flash	8Mbit	2.4~5.5	1,000	6 KB	18	SPI, UART	8	√	DPWM DAC	√	10-bit 4-ch	-	LQFP48
<b>N570S08B</b>	Cortex®-M0 49 MHz	64KB Flash	8Mbit	2.4~5.5	1,000	6 KB	18	SPI, UART	8	√	DPWM DAC	√	10-bit 4-ch	-	LQFP48
<b>N570S16A</b>	Cortex®-M0 49 MHz	64KB Flash	16Mbit	2.4~5.5	2,000	6 KB	18	SPI, UART	8	√	DPWM DAC	√	10-bit 4-ch	-	LQFP48
<b>N570S32A</b>	Cortex®-M0 49 MHz	64KB Flash	32Mbit	2.4~5.5	4,000	6 KB	18	SPI, UART	8	√	DPWM DAC	√	10-bit 4-ch	-	LQFP48
<b>N570S64A</b>	Cortex®-M0 49 MHz	64KB Flash	64Mbit	2.4~5.5	8,000	6 KB	18	SPI, UART	8	√	DPWM DAC	√	10-bit 4-ch	-	LQFP48
<b>N570S130</b>	Cortex®-M0 49 MHz	64 KB Flash	128Mbit	2.4~5.5	16,000	6 KB	18	SPI, UART	8	√	DPWM DAC	√	10-bit 4-ch	-	LQFP48

Part No.	CPU	APROM	Flash Memory	V <sub>DD</sub> (V)	Duration(Sec)	SRAM	I/O	I/O Interface	PWM I/O	Audio		LDO	ADC	Other	Package
					8KHz					Mic.	Speaker				
<b>N570SC08</b>	Cortex®-M0 49 MHz	64 KB Flash	8Mbit	2.4-5.5	1,000	6 KB	18	SPI, UART	8	√	DPWM DAC	√	10-bit 4-ch	Voice Recognition	LQFP48
<b>N570SC16</b>	Cortex®-M0 49 MHz	64 KB Flash	16Mbit	2.4-5.5	2,000	6 KB	18	SPI, UART	8	√	DPWM DAC	√	10-bit 4-ch	Voice Recognition	LQFP48
<b>N570SC32</b>	Cortex®-M0 49 MHz	64 KB Flash	32Mbit	2.4-5.5	4,000	6 KB	18	SPI, UART	8	√	DPWM DAC	√	10-bit 4-ch	Voice Recognition	LQFP48
<b>N570SC64</b>	Cortex®-M0 49 MHz	64 KB Flash	64Mbit	2.4-5.5	8,000	6 KB	18	SPI, UART	8	√	DPWM DAC	√	10-bit 4-ch	Voice Recognition	LQFP48

• **N571PXXX, 32-bit Cortex M0 with embedded OTP and 10 bit ADC Solution**

Part No.	CPU	APROM	Flash Memory	V <sub>DD</sub> (V)	Duration(Sec)	SRAM	I/O	I/O Interface	PWM I/O	Audio		LDO	ADC	Other	Package
					8KHz					Mic.	Speaker				
<b>N571P032</b>	Cortex®-M0 23 MHz	32 KB OTP	-	2.4-5.5	-	4 KB	24	SPI	4	√	Class-AB (400mW)	√	10-bit 3-ch	-	LQFP48

• **N572XXXX, 32-bit Cortex M0 with embedded OTP/Flash and 12 bit ADC Solution**

Part No.	CPU	APROM	Flash Memory	V <sub>DD</sub> (V)	Duration(Sec)	SRAM	I/O	I/O Interface	PWM I/O	Audio		LDO	ADC	Other	Package
					8KHz					Mic.	Speaker				
<b>N572P072</b>	Cortex®-M0 48 MHz	64 KB OTP 8 KB Flash	-	2.4-5.5	-	8 KB	32	SPI x 2	4	√	Class-AB (400mW)	√	12-bit 8-ch	-	LQFP64
<b>N572F072</b>	Cortex®-M0 48 MHz	72 KB Flash	-	2.4-5.5	-	8 KB	32	SPI x 2	4	√	Class-AB (400mW)	√	12-bit 8-ch	-	LQFP64
<b>N572C072</b>	Cortex®-M0 48 MHz	72 KB Flash	-	2.4-5.5	-	8 KB	32	SPI x 2	4	√	Class-AB (400mW)	√	12-bit 8-ch	Voice Recognition	LQFP64
<b>N572F065</b>	Cortex®-M0 48 MHz	64 KB Flash	-	2.4-5.5	-	8 KB	32	SPI x 2	4	√	Class-AB (250mW)	√	12-bit 8-ch	USB 2.0 FS Device	LQFP64
<b>N572S08A</b>	Cortex®-M0 48 MHz	64 KB Flash	8Mbit	2.4-5.5	1,000	8 KB	26	SPI	4	√	Class-AB (400mW)	√	12-bit 8-ch	-	LQFP64
<b>N572S16A</b>	Cortex®-M0 48 MHz	64 KB Flash	16Mbit	2.4-5.5	2,000	8 KB	26	SPI	4	√	Class-AB (400mW)	√	12-bit 8-ch	-	LQFP64
<b>N572S32A</b>	Cortex®-M0 48 MHz	64 KB Flash	32Mbit	2.4-5.5	4,000	8 KB	26	SPI	4	√	Class-AB (400mW)	√	12-bit 8-ch	-	LQFP64
<b>N572S64A</b>	Cortex®-M0 48 MHz	64 KB Flash	64Mbit	2.4-5.5	8,000	8 KB	26	SPI	4	√	Class-AB (400mW)	√	12-bit 8-ch	-	LQFP64
<b>N572U130</b>	Cortex®-M0 48 MHz	64 KB Flash	128Mbit	2.4-5.5	16,000	8 KB	22	SPI	4	√	Class-AB (250mW)	√	12-bit 8-ch	USB 2.0 FS Device	LQFP64

• N573XXXX, 32-bit Cortex-M0 with embedded Flash and 16 bit ADC Solution

Part No.	CPU	APROM	Flash Memory	V <sub>DD</sub> (V)	Duration(Sec)		I/O	I/O Interface	PWM I/O	Audio		LDO	ADC	Other	Package
					8KHz	SRAM				Mic.	Speaker				
<b>N573F128</b>	Cortex®-M0 48 MHz	128 KB Flash	-	1.8~5.5	-	12 KB	32	UART, I <sup>2</sup> C, I <sup>2</sup> S, SPI	4	√	DPWM (1W)	√	16-bit sigma delta, 12-bit 10-ch SAR ADC	16-ch Touch Key, PDMA, CRC	LQFP64

• N575XXXX, 32-bit Cortex-M0 with embedded Flash and 16 bit ADC Solution

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



## Peripheral Series

## ■ Nu-Touch

## ● N55T10 10 Key Capacitor Sensor Controller

Part No.	Input	Wake Up	VDD (V)	Interface
<b>N55T10</b>	10	√	2.4~5.5	I <sup>2</sup> C

## ■ ADC

## ● N55AD SAR ADC

Part No.	Channel	Resolution	VDD (V)	Conversion Rate
<b>N55AD808</b>	8	8-bit	2.7~5.5	50 KHz

## ■ I/O Expander

## ● W55P241 I/O Expander w/ 24 I/O Pins and SPI Interface

Part No.	Interface	GPIO	Wake Up	H/W PWM	Internal OSC
<b>W55P241</b>	SPI	24 I/O	√	8-pin	8 MHz

## ● N55P242 I/O Expander w/ 24 I/O Pins and SPI Interface

Part No.	Interface	GPIO	Wake Up	H/W PWM	Constant Current	Internal OSC
<b>N55P242</b>	SPI	24 I/O	√	24-pin	24-pin	8 MHz

## ■ MFID and RF Family

## ● W55MIDxx 13.56MHz MFID w/ Single-tag/Multi-tag and Reader

Part No.	Category	Frequency (MHz)	ID type	ID No.	Anti-collision	TX power	μC Interface
<b>W55MID15</b>	Single-tag	13.56	Bonding-ID	243	-	-	-
<b>W55MID35</b>	Multi-tag	13.56	Bonding-ID	243	6~8 tags	-	-
<b>W55MID20</b>	Single-tag	13.56	Programmable	> 1K	-	-	-
<b>W55MID50</b>	Reader	13.56	-	-	-	4-level	Serial/Parallel

## ■ Serial ROM Family

### ● N551Cxxx Serial Mask ROM

Part No.	ROM (bits)	Access Time	VDD (V)	Interface
<b>N551C161</b>	16M	1us	2.4~5.5	SPI
<b>N551C321</b>	32M	1us	2.4~5.5	SPI

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## Consumer Series

### ● W541xxxx Low Power 4-bit $\mu$ C

Part No.	VDD (V)	ROM (bits)	RAM (bits)	GPIO	LCD	System Clock	Fast Working Frequency	Slow Working Frequency	Package
<b>W541L20x</b>	1.2~1.8	2Kx16	128x4	20 I/O	-	Single Crystal/RC	400K~1 MHz	32768 Hz	DIP:18/20/28 SOP:20/28
<b>W541C20x</b>	2.4~5.5	2Kx16	128x4	20 I/O	-	Single Crystal/RC	400K~1 MHz	32768 Hz	DIP:18/20/28 SOP:20/28
<b>W541E20x (MTP)</b>	2.4~5.5	2Kx16	128x4	20 I/O	-	Single Crystal/RC	400K~1 MHz	32768 Hz	DIP:18/20/28 SOP:20/28
<b>W541L23x</b>	1.2~3.6	1Kx16 1.5Kx16 2Kx16	64x4 96x4 128x4	12 I/O	4x16	Single/Dual Crystal/Internal RC	100K~800 KHz	32768 Hz	PLCC-44
<b>W541L240</b>	1.2~1.8	2Kx16	64x4	12 I/O	4x24	Single Crystal/RC	400K~1 MHz	32768 Hz	QFP64
<b>W541C240</b>	2.4~5.5	2Kx16	64x4	12 I/O	4x24	Single Crystal/RC	400K~1 MHz	32768 Hz	QFP64
<b>W541L250</b>	1.2~1.8	2Kx16	128x4	20 I/O	4x24	Single Crystal/RC	400K~1 MHz	32768 Hz	QFP64
<b>W541L261</b>	1.2~3.6	2Kx16	128x4	20 I/O	4x32	Single/Dual Crystal/RC	400K~4 MHz	32768 Hz	QFP80
<b>W541C261</b>	2.4~5.5	2Kx16	128x4	20 I/O	4x32	Single/Dual Crystal/RC	400K~4 MHz	32768 Hz	QFP80
<b>W541E261 (MTP)</b>	2.4~5.5	2Kx16	128x4	20 I/O	4x32	Single/Dual Crystal/RC	400K~4 MHz	32768 Hz	QFP80
<b>W541L480</b>	1.2~3.6	4Kx16	256x4	20 I/O	4x32	Single/Dual Crystal/RC	400K~4 MHz	32768 Hz	QFP80
<b>W541C480</b>	2.4~5.5	4Kx16	256x4	20 I/O	4x32	Single/Dual Crystal/RC	400K~4 MHz	32768 Hz	QFP80
<b>W541E480 (MTP)</b>	2.4~5.5	4Kx16	256x4	20 I/O	4x32	Single/Dual Crystal/RC	400K~4 MHz	32768 Hz	QFP80

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## ARM® Cortex®-M Audio SoCs

### AUI Enabler Series

Part No.	CPU	APROM	SRAM	I/O	Timer	SPI	PWM	ADC	RTC	Audio		Development Tools	Other	Package
										Mic.	Speaker			
<b>ISD91032</b>	Cortex®-M0 49 MHz	64 KB Flash	6 KB	22	3	1	8	10-bit SAR ADC	√	1	Class-D (0.45W)	-	13-bit DAC, UART	LQFP48
<b>ISD9130</b>	Cortex®-M0 49 MHz	68 KB Flash	12 KB	24	2	1	2	Sigma-Delta >92 dB	√	1	Class-D (1W)	ISD- DMK_9160	8-ch Touch Key, Temperature Alarm, UART, I²C, I²S, PDMA, CRC	LQFP48 QFN32
<b>ISD9160</b>	Cortex®-M0 49 MHz	145 KB Flash	12 KB	24	2	1	2	Sigma-Delta >92 dB	√	1	Class-D (1W)	ISD- DMK_9160	8-ch Touch Key, Temperature Alarm, UART, I²C, I²S, PDMA, CRC	LQFP48 QFN32
<b>ISD91230</b>	Cortex®-M0 49 MHz	64 KB Flash	12 KB	32	2	2 (Quad /Dual)	4	Sigma-Delta >92 dB	√	1	Class-D (0.45W)	-	8-ch Touch Key, Temperature Alarm, 2*UART, I²C, I²S, PDMA, CRC	LQFP64
<b>ISD91260</b>	Cortex®-M0 49 MHz	128 KB Flash	12 KB	32	2	2 (Quad /Dual)	4	Sigma-Delta >92 dB	√	1	Class-D (0.45W)	-	8-ch Touch Key, Temperature Alarm, 2*UART, I²C, I²S, PDMA, CRC	LQFP64
<b>ISD91331</b>	Cortex®-M0 98 MHz	68 KB Flash	16 KB	32	2	1 (Quad)	6	Sigma-Delta >90 dB	√	1	Class-D (1W)	ISD- DMK_9361	16-ch Touch Key, Temperature Alarm, UART, I²C, I²S, PDMA, CRC	LQFP64
<b>ISD91361</b>	Cortex®-M0 98 MHz	145 KB Flash	16 KB	32	2	1 (Quad)	6	Sigma-Delta >90 dB	√	1	Class-D (1W)	ISD- DMK_9361	16-ch Touch Key, Temperature Alarm, UART, I²C, I²S, PDMA, CRC	LQFP64
<b>ISD94124</b>	Cortex®-M4 180 MHz	512 KB Flash	192 KB	61	4	2 (Quad /Dual)	6	12-bit SAR ADC	√	4x DMIC	DPWM to external amp	ISD- DMK_94100	USB 2.0 FS VAO	LQFP64 LQFP100 (TBD)

## Audio CODECS

### • Mono Codec Series

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	CTRL IF	SPKVDD/ Analog/Digital/ Digital I/O (V)	Package (mm)
		ADC	DAC	ADC	DAC	ADC	DAC						
<b>NAU8810</b>	Mono Codec with 2-wire interface	1	1	91	93	-79	-84	8~48	I <sup>2</sup> S PCM (Timeslot)	NAU8810- EVB	2-Wire	2.50~5.50 2.50~3.60 1.71~3.60 1.71~3.60	QFN20 (4x4)
<b>NAU88C10</b>	Mono Codec with 2-wire interface	1	1	91	93	-79	-84	8~48	I <sup>2</sup> S PCM (Timeslot)	NAU88C10- EVB	2-Wire	2.50~5.50 2.50~3.60 1.71~3.60 1.71 ~ 3.60	QFN20 (4x4)
<b>NAU8811</b>	Mono Codec with SPI interface	1	1	91	93	-79	-84	8~48	I <sup>2</sup> S PCM (Timeslot)	NAU8811- EVB	3-Wire	2.50 ~ 5.50 2.50 ~ 3.60 1.71 ~ 3.60 1.71 ~ 3.60	QFN20 (4x4)
<b>NAU8812</b>	Mono Codec with speaker driver	1	1	91	93	-79	-84	8~48	I <sup>2</sup> S PCM (Timeslot)	NAU8812- EVB	2-Wire 3-Wire 4-Wire	2.50 ~ 5.50 2.50 ~ 3.60 1.71 ~ 3.60 1.71 ~ 3.60	QFN32 (5x5) SSOP-28
<b>NAU8814</b>	Mono Audio Codec with Equalizer, speaker driver	1	1	91	93	-79	-84	8~48	I <sup>2</sup> S PCM (Timeslot)	NAU8814- EVB	2-Wire 3-Wire	2.50 ~ 5.50 2.50 ~ 3.60 1.71 ~ 3.60 1.71 ~ 3.60	QFN24 (4x4)

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## • Stereo Codec Series

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	CTRL IF	SPKVDD/ Analog/Digital/ Digital I/O (V)	Package (mm)
		ADC	DAC	ADC	DAC	ADC	DAC						
<b>NAU8822A</b>	Stereo Codec with Speaker Drive	2	2	90	94	-80	-84	8~48	I <sup>2</sup> S PCM (Timeslot)	NAU8822- EVB	2-Wire 3-Wire 4-Wire	2.50 to 5.50 2.50 to 3.60 1.65 to 3.60 1.65 to 3.60	QFN32 (5x5)
<b>NAU8822L</b>	Stereo Codec with Speaker Drive	2	2	90	94	-80	-84	8~192	I <sup>2</sup> S PCM (Timeslot)	NAU8822L- EVB	2-Wire 3-Wire 4-Wire	2.50 to 5.50 2.50 to 3.60 1.65 to 3.60 1.65 to 3.60	QFN32 (5x5)
<b>NAU88C22</b>	Stereo Codec with Speaker Drive	2	2	89	89	-78	-84	8~192	I <sup>2</sup> S PCM (Timeslot)	NAU88C22- EVB	2-Wire 3-Wire 4-Wire	2.50 to 5.50 2.50 to 3.60 1.65 to 3.60 1.65 to 3.60	QFN32 (5x5) QFN32 (4x4)
<b>NAU8820</b>	Stereo Codec	2	2	90	94	-80	-84	8~48	I <sup>2</sup> S PCM (Timeslot)	NAU8820- EVB	2-Wire 3-Wire 4-Wire	2.50 to 5.50 2.50 to 3.60 1.65 to 3.60 1.65 to 3.60	QFN32 (5x5)

## • Ultra Low Power (ULP) Codec Series

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	CTRL IF	SPKVDD/ MICBIAS/Analog/ Digital/Digital I/O (V)	Package (mm)
		ADC	DAC	ADC	DAC	ADC	DAC						
<b>NAU88L24</b>	ULP Stereo CODEC With Advanced Headset Detection and Stereo Class D Amp	2	2	100	103	-85	-77	8~96	I <sup>2</sup> S (TDM) PCM (Timeslot)	NAU88L24- EVB	I <sup>2</sup> C	2.6 ~ 5.0 2.6 ~ 5.0 1.6 ~ 2.0 1.1 ~ 1.98 1.6 ~ 3.6	QFN48 (6x6)
<b>NAU88L25</b>	Ultra-Low Power Audio CODEC With Advanced Headset Features and 124dB Class G Headphone Drive	1	2	101	124	-91	-89	8~192	I <sup>2</sup> S / PCM	NAU88L25- EVB	I <sup>2</sup> C	NA 2.6 ~ 5.0 1.6 ~ 2.0 1.1 ~ 1.98 1.6 ~ 3.6	QFN32 (5x5)

## • Stereo ADC Series

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	CTRL IF	Analog/Digital/I/O (V)	Package (mm)
		ADC	DAC	ADC	DAC	ADC	DAC						
<b>NAU8501</b>	Stereo ADC with Input Mixer and Line Output	2	-	90	-	-80	-	8~48	I <sup>2</sup> S (TDM) PCM (Timeslot)	NAU8501-EVB	2-Wire 3-Wire 4-Wire	2.50 ~ 3.60 1.65 ~ 3.60 1.65 ~ 3.60	QFN28 (4x4)
<b>NAU8502</b>	Stereo ADC with Integrated LDO	2	-	90	-	-80	-	8~48	I <sup>2</sup> S (TDM) PCM (Timeslot)	NAU8502-EVB	2-Wire 3-Wire 4-Wire	2.70 ~ 3.60 1.71 ~ 3.60 1.71 ~ 3.60	QFN28 (4x4)

## • Ultra Low Power (ULP) ADC Series

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	CTRL IF	MICBIAS/Analog/Digital/Digital I/O (V)	Package (mm)
		ADC	DAC	ADC	DAC	ADC	DAC						
<b>NAU85L40</b>	ULP Quad Audio ADC with integrated FLL and Microphone Preamplifier	4	-	101	-	-91	-	8 to 96	I <sup>2</sup> S (TDM)	NAU85L40-EVB	I <sup>2</sup> S	2.50 ~ 5.50 1.62 ~ 1.98 1.20 ~ 1.98 1.62 ~ 3.60	QFN28 (4x4)
<b>NAU85L20</b>	ULP Stereo Audio ADC with integrated FLL and Microphone Preamplifier	2	-	101	-	-91	-	8 to 96	I <sup>2</sup> S (TDM)	NAU85L20-EVB	I <sup>2</sup> S	1.80 ~ 5.50 1.62 ~ 1.98 1.20 ~ 1.98 1.62 ~ 3.60	QFN28 (4x4)

## • Stereo DAC Series

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	CTRL IF	SPKVDD/Analog/Digital/I/O (V)	Package (mm)
		ADC	DAC	ADC	DAC	ADC	DAC						
<b>NAU8401</b>	Stereo DAC with Speaker Drive and Line Input	-	2	-	94	-	-84	8~48	I <sup>2</sup> S PCM (Timeslot)	NAU8401-EVB Check For availability	2-Wire 3-Wire 4-Wire	2.50 ~ 5.50 2.50 ~ 3.60 1.65 ~ 3.60 1.65 ~ 3.60	QFN32 (5x5)
<b>NAU8402</b>	Stereo DAC with 2Vrms Output	-	2	-	98	-	-82	8~96	I <sup>2</sup> S	NAU8402-EVB	-	NA 3.0 ~ 3.6 1.7 ~ 3.6 1.7 ~ 3.6	TSSOP 16

## Audio Amplifiers

### 2Vrms Line Driver and Class-AB Series

Part No.	Description	SNR (dB)	Output Power		Gain (dB)	Standby Current (μA)	Operating Voltage (V)	Temp (°C)	Development Tools	Package
			Power (W)	THD+N (%)						
<b>NAU8220</b>	2Vrms Line Driver	108	-	0.003	-	-	3.0~3.6	-40~85	NAU8220WG-EVB	SOP14 TSSOP14
<b>ISD8101</b>	1.5W Class-AB Audio Amplifier with Chip Enable, Differential/Single ended inputs, Low pop and Click	100	0.825 (5.0V)	<1	20	<1	2.4~6.8	-40~85	ISD-DEMO8101	8-pin SOP 8-pin PDIP
			1.1 (5.0V)	<10						
			1.5 (6.8V)	<10						
<b>ISD8102</b>	2W Class-AB Audio Amplifier with Head Phone Sense Input	100	2W into 4Ω at 5V	<10	20	<1	2.0~6.8	-40~85	ISD-DEMO8102	8-pin SOP (Thermal ex-pad)
<b>ISD8104</b>	2W Class-AB Audio Amplifier, Differential/Single ended inputs	100	2W into 4Ω at 5V	<10	20	<1	2.0~6.8	-40~85	ISD-DEMO8104	8-pin SOP (Thermal ex-pad)P

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## Class D Series

Part No.	Description	SNR (dB)	Output Power		Gain (dB)	Standby Current (uA)	Operating Voltage (V)	Temp (°C)	Development Tools	Package
			Power (W)	THD+N (%)						
<b>NAU82011VG</b>	3.1W Mono Class-D Audio Amplifier, variable gain with Differential / Single ended inputs	103	3.1W into 4Ω at 5V	<10	Variable	<1	2.5~5.5	-40~85	NAU82011VG-EVB	9-bump WCSP
<b>NAU82039VG</b>	3.2W Mono Class-D Audio Amplifier 12dB fixed gain with Differential / Single ended inputs	103	3.2W into 4Ω at 5V	<10	12	<1	2.5~5.5	-40~85	NAU82039VG-EVB	9-bump WCSP
<b>NAU8214</b>	2.9W Mono Filer-Free Class-D Audio Amplifier, 5 gain steps with Differential / Single ended inputs and with Speaker Protection / Max Power Limiting feature	103	2.9W into 4Ω at 5V	<10	0, 6, 12, 18, 24	<1	2.5~5.5	-40~85	NAU8214-EVB	QFN20/SOP8
<b>NAU8223</b>	3.1W Stereo Filer-Free Class-D Audio Amplifier, 5 gain steps with Differential / Single ended inputs	103	3.1W into 4Ω at 5V	<10	0, 6, 12, 18, 24	<1	2.5~5.5	-40~85	NAU8223-EVB	QFN20
<b>NAU8224</b>	3.1W Stereo Filer-Free Class-D Audio Amplifier, 2 wire interface gain control with Differential / Single ended inputs	101	3.1W into 4Ω at 5V	<10	24 to -62	<1	2.5~5.5	-40~85	NAU8224-EVB	QFN20
<b>*NAU83P20</b>	Class D power stage 2x20W into 8Ohms (1% THD)	102	10Wx4 20Wx2	<0.18	3BTL / 3SE	<1	7.0~24.0	-40~85	NAU83P20-EVB	QFN48

\* Under Development

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## Audio Enhancement

### MaxxAudio® Series

Part No.	HW Configuration					MaxxAudio® Algorithms							
	I²S Stereo Inputs	ADC Stereo Inputs	I²S Output 2 x Stereo	DAC Single Output	Power Output	Bass	Pro. Eq.	3D	Treble	Volume	Level	Dialog	Package
<b>NPCP215F</b>	4	0	3	0	20W (8R)	Y	Y	Y	Y	Y	Y	Y	QFN48
<b>NPCA110P</b>	2	3	3	4	-	Y	Y	Y	Y	Y	Y	Y	QFN40
<b>NPCA110T</b>	3	0	3	3	-	Y	Y	Y	Y	Y	Y	Y	QFN32
<b>NPCA110D</b>	3	0	3	0	-	Y	Y	Y	Y	Y	Y	Y	QFN32
<b>NPCA110B</b>	1	2	1	2	-	Y	Y	-	-	Y	-	-	QFN32

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## Audio Converters

### Precision ADC Series

Part No.	Description	Resolution Bits	Sample Rates (max)	Architecture	Gain	# of Input Channels	Development Tools	ENOB (Gain=1, 10SPS)	Package
<b>NAU7802</b>	Dual Channel 24-bit ADC	24	10, 20, 40, 80 & 320 Hz	Sigma-Delta	1x, 2x, 4x, 8x, 16x, 32x, 64x, 128x	2	NAU-DEMO7802	23	SOP-16, PDIP-16

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# ChipCorder® Family

## Digital ChipCorder® Series

Part No.	Description	Duration	Sample Rate (KHz)	Operating Voltage (V)	Package	Development Tools	Temp (°C)
<b>ISD15102</b>	Multi-message record/playback, Flash memory, I <sup>2</sup> S digital audio and SPI interfaces	2 min	Up to 48	2.7~3.6	LQFP48	ISD-DMK_15100	Industrial -40~85°C
<b>ISD15104</b>		4 min					
<b>ISD15108</b>		8 min					
<b>ISD15C00</b>	Multi-message record/playback with I <sup>2</sup> S digital audio and SPI interfaces	Ext. Flash up to 64 min	Up to 48	2.7~3.6	LQFP48	ISD-DMK_15C00	AEC-Q100
<b>ISD15D00</b>	Multi-message playback-only with I <sup>2</sup> S digital audio and SPI interfaces	Ext. Flash up to 64 min	Up to 48	2.7~5.5	QFN32	ISD-DMK_15D00	AEC-Q100
<b>ISD3900</b>	Multi-message record/playback with I <sup>2</sup> S digital audio and SPI interfaces	Ext. Flash up to 64 min	Up to 48	2.7~3.6	LQFP48	ISD-DMK_15100	Industrial -40~85°C
<b>ISD3800</b>	Multi-message playback-only with I <sup>2</sup> S digital audio and SPI interfaces	Ext. Flash up to 64 min	Up to 48	2.7~5.5	LQFP48	ISD-DMK_15D00	Industrial -40~85°C
<b>ISD2130</b>	Multi-message playback-only with embedded Flash memory	30 sec	Up to 32	2.7~3.6	QFN20	ISD-DMK_2100	Industrial -40~85°C
<b>ISD2115A</b>		15 sec				ISD-DMK_2100	
<b>ISD2360</b>	Multi-message, 3-channel audio, playback-only with embedded Flash memory	64 sec	Up to 32	2.4~5.5	QFN32 SOP16	ISD-DMK_2360	Industrial -40~85°C

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• MLS ChipCorder® Series

Part No.	Description	Duration	Sample Rate (KHz)	Operating Voltage (V)	Package	Development Tools	Temp (°C)
<b>ISD14B20</b>	Multi-message record/playback with internal Flash memory	10~128 sec	4~12	2.4~5.5	DIE	ISD-COB18B20	0~50°C
<b>ISD14B40</b>						ISD-COB18B24	
<b>ISD14B80</b>						ISD-COB18B80	
<b>ISD1916</b>	Multi-message record/playback with internal Flash memory	10~128 sec	4~12	2.4~5.5	SOIC 28	ISD-DEMO1916	Industrial
<b>ISD1932</b>						ISD-DEMO1932	
<b>ISD1964</b>						ISD-DEMO1964	
<b>ISD1610B</b>	Single-message record/playback with internal Flash memory	6~40 sec	4~12	2.4~5.5	SOIC 16 DIE	I16-COB20	Commercial Industrial
<b>ISD1616B</b>							
<b>ISD1620B</b>							
<b>ISD1730</b>	Multi-message record/playback, internal Flash memory and SPI interface	20~480 sec	4~12	2.4~5.5	SOIC 28 DIE	ISD-COB1730	Commercial Industrial
<b>ISD1760</b>						ISD-COB17160	
<b>ISD17120</b>						ISD-COB17120	
<b>ISD17240</b>						ISD-COB17240	
<b>ISD1806</b>	Single-message record/playback with internal Flash	6~16 sec	4~8	2.7~4.5	DIE	ISD-COB1810	0~50°C
<b>ISD1810</b>							










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## • MLS ChipCorder® Series









Part No.	Description	Duration	Sample Rate (KHz)	Operating Voltage (V)	Package	Development Tools	Temp (°C)
<b>ISD18A04</b>	Single-message record/playback with internal Flash memory	4~8 sec	4~8	2.4~5.5	DIE	ISD-COB18A04	0~50°C
<b>ISD18B12</b>	Single-message record/playback with internal Flash memory	6~24 sec	4~8	2.4~5.5	DIE	ISD-COB18B24	0~50°C
<b>ISD18B24</b>							
<b>ISD18C10</b>	Single-message record/playback with internal Flash memory	16 sec	4~8	2.7~4.5	DIE	ISD-COB18C10	0~50°C
<b>ISD4002</b>	Multi-message record/playback, internal Flash memory and SPI interface	2~16 min	4,5,3,6,4,8	2.7~3.3	DIP 28 SOIC 28 TSOP 28 DIE	IProg-1	Commercial Industrial
<b>ISD4003</b>							
<b>ISD4004</b>							
<b>ISD5102</b>	Multi-message record/playback, internal Flash memory and I <sup>2</sup> C interface	2~16 min	4,5,3,6,4,8	2.7~3.3	SOIC 28 TSOP 28 DIE	IProg-1	Industrial
<b>ISD5104</b>							
<b>ISD5108</b>							
<b>ISD5116</b>							

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## Development Tools for *PowerSpeech*<sup>®</sup> Family

Ordering No.	Board Name	Content	Description	Picture
<b>Development Kit</b>				
<b>ICE-W588D-FS</b>	WHS-588D-ICE	<ul style="list-style-type: none"> <li>• WHS-MINI-USB-ICE System V1.1</li> <li>• WHS-588D-ICE System V3.3</li> <li>• WHS-KEY + Cable • USB Cable</li> </ul>	<ul style="list-style-type: none"> <li>• W588C/D In-Circuit Emulation (ICE) Dev. Kit. Provide in-circuit emulation with program, execute, step through features for design development, verification &amp; debugging</li> </ul>	
<b>ICE-N588H-FS</b>	NHS-588H-ICE	<ul style="list-style-type: none"> <li>• WHS-MINI-USB-ICE System V1.1</li> <li>• NHS-588H-ICE System V1.1 2 layer boards</li> <li>• WHS-KEY + Cable • USB Cable</li> </ul>	<ul style="list-style-type: none"> <li>• N588H/J In-Circuit Emulation (ICE) Dev. Kit. Provide in-circuit emulation with program, execute, step through features for design development, verification &amp; debugging</li> </ul>	
<b>ICE-W584A</b>	WHS-584A-ICE	<ul style="list-style-type: none"> <li>• WHS-584A-ICE-IL System V1.1</li> <li>• WHS-584A-ICE System V1.2</li> <li>• WHS-KEY + Cable</li> <li>• Power Adaptor • USB Cable</li> </ul>	<ul style="list-style-type: none"> <li>• W584A In-Circuit Emulation (ICE) Dev. Kit. Provide in-circuit emulation with program, execute, step through features for design development, verification &amp; debugging</li> </ul>	
<b>ICE-N584H</b>	NHS-584H-ICE	<ul style="list-style-type: none"> <li>• N584H ICE System</li> </ul>	<ul style="list-style-type: none"> <li>• N584H In-Circuit Emulation (ICE) Dev. Kit. Provide in-circuit emulation with program, execute, step through features for design development, verification &amp; debugging</li> </ul>	
<b>Evaluation Board</b>				
<b>NV-W588D</b>	WHS-588C/D-16M	• W588C/D series EVB	• W588C/D Series Evaluation Board (EVB) with 16Mbit Flash	
<b>NV-W588DF20B</b>	WHS-W588DF20-H1	• W588DF060(W588DF20) EVB	• W588DF060(W588DF20) Evaluation Board (EVB) with 2Mbit Embedded Flash	
<b>NV-N588H</b>	NHS-588H-16M	• N588H/J Series EVB	• N588H/J Series Evaluation Board (EVB) with 16Mbit Flash	
<b>NV-N588H-L</b>	NHS-588H-08ML	• N588H/J Series EVB for Low Voltage	• N588H/J EVB Series Evaluation Board (EVB) with 8Mbit Low Voltage Flash	
<b>NV-N5160</b>	NHS-W588X006 (NV-N5160)	• N5160 EVB	• N5160 Evaluation Board (EVB) with 32M-bit SPI Flash	

## Development Tools for *PowerSpeech*<sup>®</sup> Family





Ordering No.	Board Name	Content	Description	Picture
Evaluation Board				
<b>NV-N5160S16</b>	NHS-N5160S16	• N5160S16 EVB	• N5160S16 Evaluation Board (EVB)	
<b>NV-N5160S32</b>	NHS-N5160S32	• N5160S32 EVB	• N5160S32 Evaluation Board (EVB)	
<b>NV-N5162S16</b>	NHS-N5162S16	• N5162S16 EVB	• N5162S16 Evaluation Board (EVB)	
<b>NV-N584H</b>	NHS-584H-16M	• N584H Series EVB	• N584H Series Evaluation Board (EVB) with 16Mbit Flash	
<b>NV-W584A-H</b>	WHS-584AH-16M	• W584A/B/C Series EVB	• W584A/B/C Series Evaluation Board (EVB) with 16Mbit Flash	
<b>NV-N584L-3V</b>	NHS-584L-16M-3V	• N584L Series EVB with Vp=3V	• N584L Series Evaluation Board (EVB) with 16Mbit Flash for Vp=3V	
<b>NV-N584L-4V</b>	NHS-584L-16M-4V	• N584L Series EVB with Vp=4V	• N584L Series Evaluation Board (EVB) with 16Mbit Flash for Vp=4V	
<b>NV-N588L</b>	NHS-N588L-16M	• N588L Series EVB	• N588L Series Evaluation Board (EVB) with 16Mbit Flash	

## Development Tools for *BandDirector*<sup>®</sup> Family





Ordering No.	Board Name	Content	Description	Picture
Development Kit				
<b>ICE-N566H-FS</b>	NHS-566H-ICE	<ul style="list-style-type: none"> <li>• WHS-MINI-USB-ICE System V1.1</li> <li>• WHS-566H-ICE System V1.1</li> <li>• WHS-KEY + Cable</li> <li>• USB Cable</li> </ul>	• N566H In-Circuit Emulation (ICE) Dev. Kit. Provide in-circuit emulation with program, execute, step through features for design development, verification & debugging	
<b>ICE-W567C-FS</b>	WHS-BD567C	<ul style="list-style-type: none"> <li>• WHS-MINI-USB-ICE System V1.1</li> <li>• WHS-567C-IC System V1.3</li> <li>• USB Cable</li> <li>• Power Adaptor</li> </ul>	• W567C/J In-Circuit Emulation (ICE) Dev. Kit. Provide in-circuit emulation with program, execute, step through features for design development, verification & debugging	
<b>ICE-N567H-FS</b>	WHS-N567H-ICE	<ul style="list-style-type: none"> <li>• WHS-MINI-USB-ICE System V1.1</li> <li>• WHS-N567H-ICE System V3.0</li> <li>• USB Cable</li> <li>• Power Adaptor</li> </ul>	• N567G/H/K In-Circuit Emulation (ICE) Dev. Kit. Provide in-circuit emulation with program, execute, step through features for design development, verification & debugging	

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









## Development Tools for *BandDirector*<sup>®</sup> Family

Ordering No.	Board Name	Content	Description	Picture
Evaluation Board				
<b>NV-N566H</b>	NHS-566H-16M	• N566H EVB	• N566H Evaluation Board (EVB) with 16M-bit Parallel Flash	
<b>NV-W567C</b>	WHS-567C-16M	• W567C/J series EVB	• W567C/J Series Evaluation Board (EVB) with 16Mbit Flash	
<b>NV-N567H</b>	WHS-N567-H1	• N567G/H/K series EVB	• N567G/H/K Series Evaluation Board (EVB) with 16Mbit Flash	
<b>NV-N567L</b>	NHS-N567L-16M	• N567L Series EVB	• N567L Series Evaluation Board (EVB) with 16Mbit Flash	

## Development Tools for *ViewTalk*<sup>®</sup> Family

Ordering No.	Board Name	Content	Description	Picture
Development Kit				
<b>ICE-N539T</b>	NHS-539-ICE	<ul style="list-style-type: none"> <li>• WHS-MINI-USB-ICE System V1.1</li> <li>• NHS-539-ICE System V1.2</li> <li>• USB Cable</li> </ul>	• N539 In-Circuit Emulation (ICE) Dev. Kit. Provide in-circuit emulation with program, execute, step through features for design development, verification & debugging	
Evaluation Board				
<b>NV-N531-16M</b>	NHS-531-16M	• N531 Series EVB	• N531 Series Evaluation Board (EVB) with 16Mbit Flash	
<b>NV-N539T001</b>	NHS-539001-16M	• N539T001 Series EVB	• N539T001 Series Evaluation Board (EVB) with 16Mbit Flash	
<b>NV-N539T000</b>	NHS-539-16M	• N539T000 Series EVB	• N539T000 Series Evaluation Board (EVB) with 16Mbit Flash	












## Development Tools for OTP Family

Ordering No.	Board Name	Content	Description	Picture
Evaluation Board				
<b>NV-W584AP20</b>	NHS-584AP20	• W584AP065(W584AP20) OTP EVB	• W584AP065(W584AP20) One-Time Programmable (OTP) Evaluation Board (EVB)	
<b>NV-W584AP05</b>	NHS-584AP05	• W584AP017(W584AP05) OTP EVB	• W584AP017(W584AP05) One-Time Programmable (OTP) Evaluation Board (EVB)	
<b>NV-N584HP300</b>	NHS-584HP300	• N584HP300 OTP EVB	• N584HP300 EVB One-Time Programmable (OTP) Evaluation Board (EVB)	
<b>NV-W567CP80</b>	NHS-W567CP80	• W567CP260(W567CP80) OTP EVB	• W567CP260(W567CP80) One-Time Programmable (OTP) Evaluation Board (EVB)	
<b>NV-N567HP80</b>	NHS-567HP80	• N567HP330(N567HP80) OTP EVB	• N567HP330(N567HP80) One-Time Programmable (OTP) Evaluation Board (EVB)	
<b>NV-N567LP330</b>	NHS-567LP330	• N567LP330 OTP EVB	• N567LP330 EVB One-Time Programmable (OTP) Evaluation Board (EVB)	
<b>NV-N588LP330</b>	NHS-588LP330	• N588LP330 OTP EVB	• N588LP330 EVB One-Time Programmable (OTP) Evaluation Board (EVB)	
<b>NV-N588HP340</b>	NHS-588HP340	• N588HP340 OTP EVB	• N588HP340 One-Time Programmable (OTP) Evaluation Board (EVB)	
<b>NV-N588HP170</b>	NHS-588HP170	• N588HP170 OTP EVB	• N588HP170 One-Time Programmable (OTP) Evaluation Board (EVB)	
<b>NV-N588HP080</b>	NHS-588HP080	• N588HP080 OTP EVB	• N588HP080 One-Time Programmable (OTP) Evaluation Board (EVB)	
Writer				
<b>NW-OTP</b>	Nuvoton OTP Writer	• Nu-Speech / Nu-Voice OTP chip Writer	• Nu-Speech / Nu-Voice OTP chip Writer	
<b>NW-OTP-Gang</b>	Nuvoton OTP Gang Writer	• Nu-Speech / Nu-Voice OTP chip Gang Writer	• Nu-Speech / Nu-Voice OTP chip Gang Writer - support to write 4 chips one time	
<b>NW-Flash-Gang</b>	MCP SPI Gang Writer	• Nu-Voice N569S, N57xS chip Gang Writer	• Nu-Voice N569S, N57xS chip Gang Writer - support to write 8 chips one time	






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## Development Tools for NuVoice™

Ordering No.	Board name	Content	Description	Picture
Evaluation Board				
<b>NU-NUVOICE</b>	NU-LINK	<ul style="list-style-type: none"> <li>Nu-Link Debug Adapter</li> <li>USB Cable</li> </ul>	Nu-Link Debug Adapter for Nu-Voice Series, supports online/offline In-Circuit Programming (ICP), development, and debug.	
<b>NV-N569S2K0</b>	NHS-N569S2K0	• NHS-N569S2K0 EVB	N569S (w/ 16Mbit Flash) Evaluation Board (EVB) with I/O Interface	
<b>NV-N569S8K0</b>	NHS-N569S8K0	• NHS-N569S8K0 EVB	N569S (w/ 64Mbit Flash) Evaluation Board (EVB) with I/O Interface	
<b>NV-N570C064</b>	NHS-570C064-EVB	• NHS-570C064 EVB	N570C064 Evaluation Board (EVB) with I/O Interface & Microphone for Voice Recognition Application	
<b>NV-N570S16A</b>	NHS-N570S16A	• NHS-N570S16A EVB	N570S16A (w/ 16Mbit Flash) Evaluation Board (EVB) with I/O Interface & Microphone for Voice Recognition Application	
<b>NV-N570S64A</b>	NHS-N570S64A	• NHS-N570S64A EVB	N570S64A (w/ 64Mbit Flash) Evaluation Board (EVB) with I/O Interface & Microphone for Voice Recognition Application	
<b>NV-N572F065</b>	NHS-572F065-EVB	• NHS-572F065 EVB	N572F065 Evaluation Board (EVB) with I/O Interface	
<b>NV-N572F072</b>	NHS-572F072-EVB	• NHS-572F072 EVB	N572F072 Evaluation Board (EVB) with I/O Interface & Microphone for Voice Recognition Application	
<b>NV-N572C072</b>	NHS-572C072-EVB	• NHS-572C072 EVB	N572C072 Evaluation Board (EVB) with I/O Interface & Microphone for Voice Recognition Application	
<b>NV-N571P032</b>	NHS-571P032-EVB	• NHS-571P032 EVB	N571P032 One-Time Programmable (OTP) Evaluation Board (EVB) with I/O Interface & Microphone for program verification	
<b>ICE-N571P032</b>	NHS-571E000-EVB	• N571P032 ICE Chip EVB	N571P032 In-Circuit Emulation (ICE) Chip with I/O interface & Microphone, Provide in-circuit emulation with program, execute, step through features for design development, verification & debugging	

## Development Tools for NuVoice™

Ordering No.	Board name	Content	Description	Picture
Evaluation Board				
<b>NV-N575C145</b>	NHS-575C145	•NHS-575C145 EVB	NHS-575C145 Evaluation Board (EVB) with I/O Interface & Microphone for Voice Recognition Application	
<b>NV-N575F145</b>	NHS-575F145	•NHS-575F145 EVB	NHS-575F145 Evaluation Board (EVB) with I/O Interface & Microphone	
<b>NK-N575CF145</b>	AU9110-DemoKit	•I/O Expansion Daughter Board for N575 EVB	NHS-575C/F145-Daughter Board expands N575 EVB with additional Push Button & Reserved SD Card Socket.	
<b>NT-N575C145</b>	NHS-575C145	•NHS-575C145-EVB + Daughter Board	NHS-575C145 Evaluation Board (EVB) with I/O Interface & Microphone for Voice Recognition Application with Daughter Board	
<b>NT-N575F145</b>	NHS-575F145	•NHS-575F145-EVB + Daughter Board	NHS-575F145 Evaluation Board (EVB) with I/O Interface & Microphone with Daughter Board	

## Development Tools for Nu-Touch

Ordering No.	Board Name	Content	Description	Picture
Evaluation Board				
<b>ICE-N55T10</b>	NHS-55T10 (TOUCH SYSTEM)	• N55T10 Evaluation Kit	• N55T10 Evaluation kits, it include NHS-55T-1, NHS-55T-2, NHS-55T10-COB, WHS-588L-8M	
<b>NV-N55T10</b>	NHS-55T10-COB EVB	• N55T10 EVB	• N55T10 Evaluation Board (EVB)	

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## IO expander Family

Ordering No.	Board Name	Content	Description	Picture
Evaluation Board				
<b>NV-N55P242</b>	NHS-55P242	• N55P242 EVB	• N55P242 Evaluation Board (EVB)	
Demo Board				
<b>NV-N55P242-R</b>	N55P242_RING_TYPE_DEMO_BOARD_V1.0	• N55P242 Demo Board (Circle)	• N55P242 Circle Demo Board	
<b>NV-N55P242-S</b>	N55P242_SINGLE_STRIP_DEMO_BOARD_V1.0	• N55P242 Demo Board (Rectangle)	• N55P242 Rectangle Demo Board	









## Development Tools for MFID Family

Ordering No.	Board Name	Content	Description	Picture
Evaluation Board				
<b>NV-MFID50</b>	WHS-55MID50-002	• W55MID50 EVB	• W55MID50 MFID Evaluation Board (EVB) with PCB Antenna (42mm*34.5mm)	
<b>NV-W55MID15</b>	WHS-55MID15	• W55MID15 MFID Tag EVB	• W55MID15 w/ ANT (20mm*20mm)	
<b>NV-W55MID35</b>	WHS-55MID35	• W55MID35 MFID Tag EVB	• W55MID35 w/ ANT (15mm*15mm)	

## Development Tools for Other



Ordering No.	Board Name	Content	Description	Picture
Accessory				
<b>NK-Keymatrix</b>	WHS-KEY MATRIX	• External Key-Matrix Board	• External Key-Matrix Board	
<b>NW-USB</b>	WHS-USB-Writer	• USB Writer	• PowerSpeech/ViewTalk/BandDirector/Others USB writer	

## Development Tools for AUI Enabler Series









Ordering No.	Part No.	Supported Devices	Content	Description	Picture
Development Kit					
NM-ISD91032C	ISD-DMK_91032C	ISD91032	<ul style="list-style-type: none"> <li>• ISD-DEMO91032C</li> <li>• ISD-NU-LINK</li> <li>• Speaker</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluation and demo kit for ISD91032CFI</li> </ul>	
NM-ISD9160	ISD-DMK_9160	ISD9160	<ul style="list-style-type: none"> <li>• ISD-DEMO9160</li> <li>• ISD-NU-LINK</li> <li>• ISD-9160-Touch</li> <li>• ISD-9160-KB</li> <li>• Speaker</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluation, debugging and demo kit for ISD9160</li> <li>• Keil RV/MDK available on Keil website</li> <li>• Supports ICP (In-Circuit Programming)</li> </ul>	
NV-ISD9160	ISD9160 IoT Eval board	ISD9160	ISD9160 IoT Eval board	ISD9160 IoT Eval module kits for IoT development	
NM-ISD91300	ISD-DMK_91300	ISD91300	<ul style="list-style-type: none"> <li>• ISD-DEMO91300</li> <li>• ISD-91300-Touch</li> <li>• Speaker</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluation, debugging and demo kit for ISD91300</li> <li>• Keil RV/MDK available on Keil website</li> <li>• Supports ICP (In-Circuit Programming)</li> </ul>	
Programmer/Writer					
NW-ISD9160	ISD-ES9160__Prog_F	ISD9160 Series LQFP package	• ISD-ES9160__Prog_F	<ul style="list-style-type: none"> <li>• ISD9160 LQFP single socket programmer</li> <li>• Connect to PC via ISD NU-LINK for programming and evaluation</li> </ul>	
NG-ISD9160	ISD-9160_GANG_Prog_F	ISD9160	• ISD-9160_GANG_Prog_F	• ISD9160 LQFP standalone gang programmer	
NW-ISD91300	ISD-ES19300_PROG_F	ISD91300	ISD-ES19300_PROG_F	• ISD91300 LQFP single socket programmer for programming and evaluation	
NG-ISD91300	ISD-91300_GANG_Prog_F	ISD91300	• ISD-91300_GANG_Prog_F	• ISD91300 LQFP standalone gang programmer	

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## Development Tools for Audio CODECs

Ordering No.	Part No.	Supported Devices	Content	Description	Picture
Evaluation Board					
<b>NE-NAU88C10</b>	NAU88C10-EVB	NAU88C10	<ul style="list-style-type: none"> <li>•NAU88C10-EVB</li> <li>•GUI Installation CD</li> </ul>	<ul style="list-style-type: none"> <li>•Audio base Board for NAU88XX + NAU88C10 daughter card</li> <li>•Installation CD kit</li> </ul>	
<b>NE-NAU8810</b>	NAU8810-EVB	NAU8810	<ul style="list-style-type: none"> <li>•NAU8810-EVB</li> <li>•GUI Installation CD</li> </ul>	<ul style="list-style-type: none"> <li>•Audio base Board for NAU88XX + NAU8810 daughter card</li> <li>•Installation CD kit</li> </ul>	
<b>NE-NAU8812</b>	NAU8812-EVB	NAU8812	<ul style="list-style-type: none"> <li>•NAU8812-EVB</li> <li>•GUI Installation CD</li> </ul>	<ul style="list-style-type: none"> <li>•Audio base Board for NAU88XX + NAU8812 daughter card</li> <li>•Installation CD kit</li> </ul>	
<b>NE-NAU8814</b>	NAU8814-EVB	NAU8814	<ul style="list-style-type: none"> <li>•NAU8814-EVB</li> <li>•GUI Installation CD</li> </ul>	<ul style="list-style-type: none"> <li>•Audio base Board for NAU88XX + NAU8814 daughter card</li> <li>•Installation CD kit</li> </ul>	
<b>NV-NAU88C10</b>	NAU88C10-DEMO	NAU88C10	<ul style="list-style-type: none"> <li>•NAU88C10-DEMO</li> <li>•GUI Installation CD</li> </ul>	<ul style="list-style-type: none"> <li>•Compact Audio Base Board + NAU88C10 daughter card</li> <li>•Installation CD kit</li> </ul>	
<b>NV-NAU8810</b>	NAU8810-DEMO	NAU8810	<ul style="list-style-type: none"> <li>•NAU8810-DEMO</li> <li>•GUI Installation CD</li> </ul>	<ul style="list-style-type: none"> <li>•Compact Audio Base Board + NAU8810 daughter card</li> <li>•Installation CD kit</li> </ul>	
<b>NV-NAU8812</b>	NAU8812-DEMO	NAU8812	<ul style="list-style-type: none"> <li>•NAU8812-DEMO</li> <li>•GUI Installation CD</li> </ul>	<ul style="list-style-type: none"> <li>•Compact Audio Base Board + NAU8812 daughter card</li> <li>•Installation CD kit</li> </ul>	
<b>NV-NAU8814</b>	NAU8814-DEMO	NAU8814	<ul style="list-style-type: none"> <li>•NAU8814-DEMO</li> <li>•GUI Installation CD</li> </ul>	<ul style="list-style-type: none"> <li>•Compact Audio Base Board + NAU8814 daughter card</li> <li>•Installation CD kit</li> </ul>	
<b>NE-NAU88L25</b>	NAU88L25-EVB	NAU88L25	<ul style="list-style-type: none"> <li>•NAU88L25-EVB</li> <li>•GUI Installation CD</li> </ul>	<ul style="list-style-type: none"> <li>•Evaluation Board for NAU88L25</li> <li>•Installation CD kit</li> </ul>	
<b>NE-NAU85L40</b>	NAU85L40-EVB	NAU85L40	<ul style="list-style-type: none"> <li>•NAU85L40-EVB</li> <li>•GUI Installation CD</li> </ul>	<ul style="list-style-type: none"> <li>•Evaluation Board for NAU85L40</li> <li>•Installation CD kit</li> </ul>	
<b>NE-NAU88L24</b>	NAU88L24-EVB	NAU88L24	<ul style="list-style-type: none"> <li>•NAU88L24-EVB</li> <li>•GUI Installation CD</li> </ul>	<ul style="list-style-type: none"> <li>•Evaluation Board for NAU88L24YG</li> <li>•Installation CD kit</li> </ul>	






# Development Tools for Audio CODECs

Ordering No.	Part No.	Supported Devices	Content	Description	Picture
Evaluation Board					
<b>NE-NAU88C22</b>	NAU88C22-EVB	NAU88C22	•NAU88C22-EVB •GUI Installation CD	•Audio base Board for NAU88XX + NAU88C22 daughter card •Installation CD kit	
<b>NE-NAU8822L</b>	NAU8822L-EVB	NAU8822L	•NAU8822L-EVB •GUI Installation CD	•Audio base Board for NAU88XX + NAU8822L daughter card •Installation CD kit	
<b>NE-NAU8820</b>	NAU8820-EVB	NAU8820	•NAU8820-EVB •GUI Installation CD	•Audio base Board for NAU88XX + NAU8820 daughter card •Installation CD kit	
<b>NE-NAU8401</b>	NAU8401-EVB	NAU8401	•NAU8401-EVB •GUI Installation CD	•Audio base Board for NAU88XX + NAU8401 daughter card •Installation CD kit	
<b>NE-NAU8501</b>	NAU8501-EVB	NAU8501	•NAU8501-EVB •GUI Installation CD	•Audio base Board for NAU88XX + NAU8501 daughter card •Installation CD kit	
<b>NE-NAU8402</b>	NAU8402-EVB	NAU8402	•NAU8402-EVB •GUI Installation CD	•Audio base Board for NAU88XX + NAU8402 daughter card •Installation CD kit	
<b>NV-NAU88L25</b>	NAU88L25-DEMO	NAU88L25	•NAU88L25-DEMO •GUI Installation CD	•Demo board for NAU88L25 •Installation CD kit	
<b>NL-NAU88L25</b>	NAU88L25-DEMO	NAU88L25	•NAU88L25-DEMO	•Demo board for NAU88L25YGB	
<b>NU-NAU88L25</b>	NAU-Audio_ Control_USB	NAU88L25 NAU88L24	•NAU-Audio_ Control_USB	•Micro USB Audio control board for connecting both NL-NAU88L25 and NL-NAU88L24I to PC	
<b>NV-NAU88L24Y</b>	NAU88L24Y-DEMO	NAU88L24	•NAU88L24Y-DEMO •GUI Installation CD	•Demo board for NAU88L24YG •Installation CD kit	
<b>NL-NAU88L24I</b>	NAU88L24I-DEMO	NAU88L24	•NAU88L24I-DEMO	•Demo board for NAU88L24IG	
<b>NV-NAU88L24I</b>	NAU88L24I-DEMO	NAU88L24	•NAU88L24I-DEMO •GUI Installation CD	•Demo board for NAU88L24IG •Installation CD kit	
<b>NV-NAU88C22</b>	NAU88C22-DEMO	NAU88C22	•NAU88C22-DEMO •GUI Installation CD	•Compact Audio Base Board + NAU88C22 daughter card •Installation CD kit	
<b>NV-NAU8822L</b>	NAU8822L-DEMO	NAU8822L	•NAU8822L-DEMO •GUI Installation CD	•Compact Audio Base Board + NAU8822L daughter card •Installation CD kit	
<b>NV-NAU8820</b>	NAU8820-DEMO	NAU8820	•NAU8820-DEMO •GUI Installation CD	•Compact Audio Base Board + NAU8820 daughter card •Installation CD kit	
<b>NV-NAU8401</b>	NAU8401-DEMO	NAU8401	•NAU8401-DEMO •GUI Installation CD	•Compact Audio Base Board + NAU8401 daughter card •Installation CD kit	
<b>NV-NAU8501</b>	NAU8501-DEMO	NAU8501	•NAU8501-DEMO •GUI Installation CD	•Compact Audio Base Board + NAU8501 daughter card •Installation CD kit	

## Development Tools for Audio Amplifiers

Ordering No.	Part No.	Supported Devices	Content	Description	Picture
Power Amplifier					
<b>NV-NAU83P20</b>	NAU83P20-DEMO	NAU83P20	•NAU83P20-DEMO	•Demo board for NAU83P20YG	
<b>NE-NAU82039V</b>	NAU82039V-EVB	NAU82039	•NAU82039V-EVB	•Evaluation Board for NAU82039VG	
<b>NE-NAU82011V</b>	NAU82011V-EVB	NAU82011	•NAU82011V-EVB	•Evaluation Board for NAU82011VG	
<b>NV-NAU82011W</b>	NAU82011W-DEMO	NAU82011	•NAU82011W-DEMO	•Demo Board for NAU82011WG	
<b>NT-ISD8101</b>	ISD-DEMO8101	ISD8101	•ISD8101-DEMO	•Demo Board for I8101SYI	
<b>NT-ISD8102</b>	ISD-DEMO8102	ISD8102	•ISD8102-DEMO	•Demo Board for I8102SYI	
<b>NT-ISD8104</b>	ISD-DEMO8104	ISD8104	•ISD8104-DEMO	•Demo Board for I8104SYI	











## Development Tools for Audio Amplifiers

Ordering No.	Part No.	Supported Devices	Content	Description	Picture
Power Amplifier					
<b>NE-NAU8223</b>	NAU8223-EVB	NAU8223	• NAU8223-EVB	• Evaluation Board for NAU8223SG	
<b>NV-NAU8223</b>	NAU8223-DEMO	NAU8223	• NAU8223-DEMO	• Demo Board for NAU8223SG	
<b>NE-NAU8224</b>	NAU8224-EVB	NAU8224	• NAU8224-EVB • GUI Installation CD	• Evaluation Board for NAU8224SG • Installation CD kit	
<b>NU-NAU8224</b>	NAU-ES_MINI_USB	NAU8224	• NAU-ES_MINI_USB	• USB to I <sup>2</sup> C bus dongle for NAU8224-EVB	
<b>NE-NAU8220</b>	NAU8220WG-EVB	NAU8220	• NAU8220WG-EVB	• Evaluation Board for NAU8220WG	







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## Development Tools for ChipCorder® Family




Ordering No.	Part No.	Supported Devices	Content	Description	Picture
Development Kit					
<b>NM-ISD15100</b>	ISD-DMK_15100	ISD15116/08/04/02	<ul style="list-style-type: none"> <li>• ISD-DEMO15100</li> <li>• ISD-ES_MINI_USB</li> <li>• Speaker</li> </ul>	• Evaluation and demo kit for ISD15102/4/8/16	
<b>NM-ISD15C00</b>	ISD-DMK_15C00	ISD15C00	<ul style="list-style-type: none"> <li>• ISD-DEMO15C00</li> <li>• ISD-ES_MINI_USB</li> <li>• Speaker</li> </ul>	• Evaluation and demo kit for ISD15C00	
<b>NM-ISD15D00</b>	ISD-DMK_15D00	ISD15D00	<ul style="list-style-type: none"> <li>• ISD-DEMO15D00</li> <li>• ISD-ES_MINI_USB</li> <li>• Speaker</li> </ul>	• Evaluation and demo kit for ISD15D00	
<b>NM-ISD2100Q</b>	ISD-DMK_2100	ISD2100 Series	<ul style="list-style-type: none"> <li>• ISD-DEMO2100_Q</li> <li>• ISD-ES_MINI_USB</li> <li>• Speaker</li> </ul>	• Evaluation and demo kit for ISD2100 Series	
<b>NM-ISD2360Q</b>	ISD-DMK_2360	ISD2360	<ul style="list-style-type: none"> <li>• ISD-DEMO2360_Q</li> <li>• ISD-ES_MINI_USB</li> <li>• Speaker</li> </ul>	• Evaluation and demo kit for ISD2360	
<b>NM-ISD3800</b>	ISD-DMK_3800	ISD3800	<ul style="list-style-type: none"> <li>• ISD-DEMO3800</li> <li>• ISD-ES_MINI_USB</li> <li>• Speaker</li> </ul>	• Evaluation and demo kit for ISD3800	
<b>NM-ISD3900</b>	ISD-DMK_3900	ISD3900	<ul style="list-style-type: none"> <li>• ISD-DEMO3900</li> <li>• ISD-ES_MINI_USB</li> <li>• Speaker</li> </ul>	• Evaluation and demo kit for ISD3900	
Evaluation/Demo/Development Board					
<b>NC-ISD18B24</b>	ISD-COB18B24	ISD18B12/24	• ISD-COB18B24	• ISD18B24/12 demo board	
<b>NC-ISD18C10</b>	ISD-COB18C10	ISD18C10	• ISD-COB18C10	• ISD18C10/18C06 demo board (SPK/MIC sharing)	
<b>NC-ISD1810</b>	ISD-COB1810	ISD1806/10	• ISD-COB1810	• ISD1810/1806 demo board	

# Development Tools for ChipCorder® Family

Ordering No.	Part No.	Supported Devices	Content	Description	Picture
Evaluation/Demo/Development Board					
<b>NC-ISD17240</b>	ISD-COB17240	ISD17240/210/180	• ISD-COB17240	• ISD17240/210/180 demo board	
<b>NC-ISD17150</b>	ISD-COB17150	ISD17150/120/90	• ISD-COB17150	• ISD17150/120/090 demo board	
<b>NC-ISD1760</b>	ISD-COB1760	ISD1760/50/40	• ISD-COB1760	• ISD1760/50/40 demo board	
<b>NC-ISD1730</b>	ISD-COB1730	ISD1730	• ISD-COB1730	• ISD1730 demo board	
<b>NC-ISD1620B</b>	I16-COB20	ISD1600 Series	• I16-COB20	• ISD1620/16/12/10 demo board	
<b>NE-ISD1700</b>	ISD-ES17XX_USB_PB	ISD1700 Series	• ISD-ES17XX_USB_PB	• Eval board for 1700 Series	
Programmer/Writer					
<b>NW-ISD15100</b>	ISD-ES15100_Mini_PROG_F	ISD15116/08/04/02	• ISD-ES15100_Mini_PROG	<ul style="list-style-type: none"> <li>• ISD15102/4/8/16 LQFP single socket programmer</li> <li>• Connect to PC via ISD-ES_Mini_USB for programming and evaluation</li> </ul>	
<b>NW-ISD2100Q</b>	ISD-ES2100_Mini_PROG_Q	ISD2100 Series QFN package	• ISD-ES2100_Mini_PROG_Q	<ul style="list-style-type: none"> <li>• ISD2100 QFN single socket programmer</li> <li>• Connect to PC via ISD-ES_Mini_USB for programming and evaluation</li> </ul>	
<b>NW-ISD2100S</b>	ISD-ES2100_Mini_PROG_S	ISD2100 Series SOP package	• ISD-ES2100_Mini_PROG_S	<ul style="list-style-type: none"> <li>• ISD2100 SOP single socket programmer</li> <li>• Connect to PC via ISD-ES_Mini_USB for programming and evaluation</li> </ul>	
<b>NG-ISD2100Q</b>	ISD-2100_GANG_Prog_Q	ISD2100 Series QFN package	• ISD-2100_GANG_Prog_Q	• ISD2100 QFN standalone gang programmer	

Contact us: [ChipCorder@nuvoton.com](mailto:ChipCorder@nuvoton.com)

## Development Tools for ChipCorder® Family

Ordering No.	Part No.	Supported Devices	Content	Description	Picture
Programmer/Writer					
<b>NG-ISD2100S</b>	ISD-2100_GANG_Prog_S	ISD2100 Series SOP package	• ISD-2100_GANG_Prog_S	• ISD2100 SOP standalone gang programmer	
<b>NW-ISD2360Q</b>	ISD-ES2360_MINI_PROG_Q	ISD2360	• ISD-ES2360_MINI_PROG_Q	• ISD2360 QFN single socket programmer, used with ISD-ES_Mini_USB • Connect to PC via ISD-ES_Mini_USB for programming and evaluation	
<b>NW-ISD2360S</b>	ISD-ES2360_MINI_PROG_S	ISD2360	• ISD-ES2360_MINI_PROG_S	• ISD2360 SOP single socket programmer • Connect to PC via ISD-ES_Mini_USB for programming and evaluation	
<b>NW-ISDPROG</b>	ISD-PROG	ISD2100 Series ISD15100 Series ISD15D00 Series Winbond SPI Flash	• ISD-PROG	• Stand alone Programmer for Digital ChipCorder	
<b>NG-ISD2360Q</b>	ISD-2360_GANG_PROG_Q	ISD2360 QFN package	• ISD-2360_GANG_PROG_Q	• ISD2360 QFN standalone gang programmer	
<b>NG-ISD2360S</b>	ISD-2360_GANG_PROG_S	ISD2360 SOP package	• ISD-2360_GANG_PROG_S	• ISD2360 SOP standalone gang programmer	
<b>NW-ISDIPROG1</b>	ISD-IPROG-1	ISD4000/5000/1700	• ISD-PROG-1	• Single chip programming board support ISD4000/5000/1700 Series	
<b>NE-ISD1700</b>	ISD-ES17XX_USB_PB	ISD1700 Series	• ISD-ES17XX_USB_PB	• Eval board for 1700 Series	
<b>NE-ISD1900</b>	ISD-ES1900_USB_PROG	ISD1900 Series	• ISD-ES1900_USB_PROG	• USB evaluation board for ISD1900 Series	
<b>NE-ISD1600</b>	ISD-ES1600_USB_PROG	ISD1600 Series	• ISD-ES1600_USB_PROG	• USB evaluation board for ISD1600 Series	

**NUVOTON**

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