2. Specification

2-1 General

Frequency Range		Digital Mode	Analog Mode
Transmitter		: 824.64 ~ 848.37 MHz	824.04 ~ 848.97 MHz
Receiver		: 869.64 ~ 893.37 MHz	869.04 ~ 893.97 MHz
Channel Spacing		: 1.23 MHz	30 kHz
Number of Channels		: 20 FA	832 CHs
Duplex Spacing		: 45 MHz	
Frequency Stability		: ± 2.5 ppm (− 30 ℃ ~ £ 60 ℃ : -22 °F ~ 140 °F)	
Operating Temperature		: − 20 ℃ ~ £ 50 ℃ (− 4 °F ~ 122 °F)	
Operating Voltage			
HHP		: 7.2V DC (± 10 %)	
Hands-free		: 13.7V DC (± 10 %)	
Size and Weight			
including standard battery		: 130 × 51 × 27.5 mm, 205 g (5.12 × 2 × 0.94 inch, 7.2 oz)	
including extended-life battery		: 130 × 51 × 37 mm, 207 g (5.12 × 2 × 1.46 inch, 7.4 oz)	
Operating Time			
Digital mode	Standby Time	: about 50 ~ 55 hours (with standard battery)	
		: about 85 ~ 90 hours (with extended-life battery)	
	Talk Time	: about 150 min (with standard battery)	
		: about 250 min (with extended-life battery)	
Analog	Standby Time	: about 10 ~ 12 hours (with standard battery)	
		: about 16 ~ 18 hours (with extended-life battery)	
	Talk Time	: about 100 min (with standard battery)	
		: about 170 min (with extended-life battery)	

2-2 Analog Mode

TRANSMITTER

RF output power	: 0.6 W (+2/−4 dB)
Carrier ON/OFF Conditions	
"ON" Condition	: within ± 3 dB of specification output (in 2mS)
"OFF" Condition	: below − 60 dBm (in 2mS)
Compressor	
Compression Rate	: 2:1
Attack Time	: 3 mS
Recovery Time	: 13.5 mS
Reference Input	: Input level for producing a nominal ± 2.9 kHz peak frequency deviation of transmitted carrier

Preamphasis	: 6 dB/OCT within 0.3 ~ 3 kHz
Maximum Frequency Deviation	
F3 of G3	: ± 12 kHz (± 10 %)
Supervisory Audio Tone	: ± 2 kHz (± 10 %)
Signaling Tone	: ± 8 kHz (± 10 %)
Wideband Data	: ± 8 kHz (± 10 %)
Post Deviation Limiter Filter	
3.0 kHz ~ 5.9 kHz	: above 40LOG (F/3000) dB
5.9 kHz ~ 6.1 kHz	: above 35 dB
6.1 kHz ~ 15 kHz	: above 40LOG (F/3000) dB
Over 15 kHz	: above 28 dB
Spectrum Noise Suppression	
For All Modulation	
f_0 + 20 kHz ~ f_0 + 45 kHz	: above 26 dB
For Modulation by Voice and SAT	
f_0 + 45 kHz	: above 63 + 10LOG (Py) dB
For Modulation by WBD (without SAT) and ST (with SAT)	
f_0 + 45 kHz ~ f_0 + 60 kHz	: above 45 dB
f_0 + 60 kHz ~ f_0 + 90 kHz	: above 65 dB
f_0 + 90 kHz ~ $2f_0$	: above 63 + 10LOG (Py) dB (where f_0= carrier frequency Py= mean output power in watts)
Harmonic and Conducted Spurious Emissions	: above 43 + 10LOG (Py) dB

RECEIVER

DE-Emphasis	: − 6 dB/OCT within 0.3 ~ 3 kHz
Expander	
Expansion Rate	: 1:2
Attack Time	: within 3 mS
Recovery Time	: within 13.5 mS
Reference Input	: Output level to a 1000 Hz tone from a carrier within ±2.9 kHz peak frequency deviation
Sensitivity	: 12 dB SINAD/ − 116 dBm
Intermodulation Spurious Response Attenuation	: above 65 dB
RSSI Range	: above 60 dB
Protection Against Spurious Response Interference	: above 60 dB
In Band Conducted Spurious Emissions	
Transmit Band	: below − 60 dBm
Receive Band	: below − 80 dBm
Out of Band Conducted Spurious Emissions	: below − 47 dBm

Radiated Spurious Emissions

Frequency Range	Maximum Allowable EIRP
25 ~ 70 MHz	− 45 dBm
70 ~ 130 MHz	− 41 dBm
130 ~ 174 MHz	− 41 ~ − 32 dBm
174 ~ 260 MHz	− 32 dBm
260 ~ 470 MHz	− 32 ~ − 26 dBm
470 ~ 1 GHz	− 21 dBm

2-3 Digital Mode

Waveform Quality	: above 0.944
Time Reference	: within ± 1uS
RX Sensitivity	: − 104 dBm, FER = within 0.5%
Dynamic Range	: − 104 dBm ~ − 25 dBm, FER = within 0.5%
TX Output Power	: Maximum 320 mW (25dBm)
TX Frequency Deviation	: within ± 300 Hz
Occupied Band Width	: 1.32 MHz
TX Conducted Spurious Emissions	: 900 kHz below − 42 dBc / 30 kHz : 1.98 MHz below − 54 dBc / 30 kHz
Minimum TX Power Control	: below − 50 dBm
Open Loop Power Control	: − 25 dBm − 57.0 dBm ~ − 38.5 dBm − 65 dBm − 17.5 dBm ~ £ 1.5 dBm − 104 dBm £ 18.0 dBm ~ £ 30.0 dBm
Standby Output Power	: below − 61 dBm
Closed Loop TX Power Control Range	: Test 1 beyond ± 24 dB Test 2 0 mS ~ 2.5 mS Test 3 beyond ± 24 dB Test 4 beyond ± 24 dB Test 5 beyond ± 24 dB

MSC Transmitter Frequency

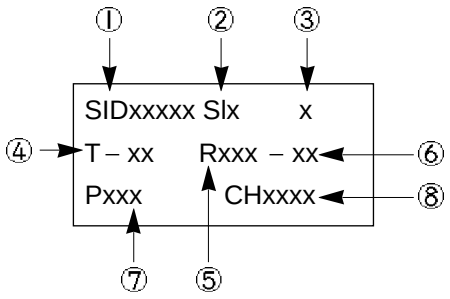
FA NO.	CH. NO.	CENTER FREQUENCY	FA NO.	CH. NO.	CENTER FREQUENCY
1	1011	824.640MHz	11	404	837.120MHz
2	29	825.870MHz	12	445	838.350MHz
3	70	827.100MHz	13	486	839.580MHz
4	111	828.330MHz	14	527	840.810MHz
5	152	829.560MHz	15	568	842.040MHz
6	193	830.790MHz	16	609	843.270MHz
7	234	832.020MHz	17	650	844.270MHz
8	275	833.250MHz	18	697	845.910MHz
9	316	834.480MHz	19	738	847.140MHz
10	363	835.890MHz	20	779	848.370MHz

MSC Receiver Frequency

FA NO.	CH. NO.	CENTER FREQUENCY	FA NO.	CH. NO.	CENTER FREQUENCY
1	1011	869.640MHz	11	404	882.120MHz
2	29	870.870MHz	12	445	883.350MHz
3	70	872.100MHz	13	486	884.580MHz
4	111	873.330MHz	14	527	885.810MHz
5	152	874.560MHz	15	568	887.040MHz
6	193	875.790MHz	16	609	888.270MHz
7	234	877.020MHz	17	650	889.270MHz
8	275	878.250MHz	18	697	890.910MHz
9	316	879.480MHz	19	738	892.140MHz
10	363	880.890MHz	20	779	893.370MHz

2-4 CDMA Debug Display Information (menu 8)

IN IDLE MODE



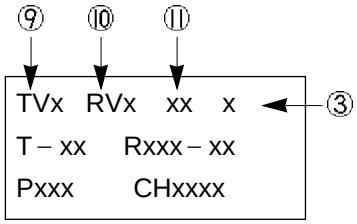
① Sxxxxx : SID (System Identification) toggle
Nxxxxx : NID (Network Identification) toggle

② Slx : Slot cycle index (lowest between the system and the phone will be used)

③ Handset Status : 0 - Acquisition
1 - Synchronization
2 - Paging (Idle)
3 - Traffic Initialization
4 - Traffic Mode
5 - Exit

④ T-xx : Tx adjust, Value ranges from +63 ~-63dB

IN CONVERSATION MODE



⑤ Dxxx or Rxxx : sector power in dBm

⑥ -xx : e_c/I_o

⑦ Pxxx : PN offset or Pilot #

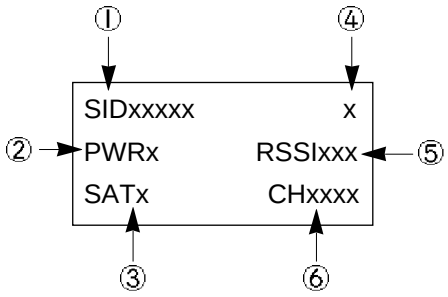
⑧ CHxxxx : channel number

⑨ TV : Tx vocoder rate (8 is full rate, 1 is 1/8th rate)

⑩ RV : Rx vocoder rate (8 is full rate, 1 is 1/8th rate)

⑪ xx : Walsh code used in traffic channel

2-5 FM Debug Display Information (menu 8)



① SIDxxxxx : FM Home System ID

② PWRx : Power Level 0~7

③ SATx : Supervisory Audio Tone code (0~3)

④ x (Using Frequency Band) : A Band or B Band

⑤ RSSIxxx : RSSI value

⑥ CHxxx : Using Channel

MEMO