

1.General

ITEM	PCS		AMPS
Tx Freq. range	1850 ~ 1910MHz		824 ~ 849MHz
Rx Freq. range	1930 ~ 1990MHz		869 ~ 894MHz
Channel Bandwidth	1.23MHz		30KHz
Channel Spacing	50KHz		30KHz
Number of Channel	1200		832
Duplex Separation	80MHz		45MHz
Type of Emission	1M25F9W		40K0F8W,40K0F1D
In/Output Impedance	50 Ω		50 Ω
Tx Intermediate Freq.	130.38MHz		130.38MHz
Rx Intermediate Freq.	210.38MHz		85.38MHz
Tx Local Freq.	1st(F_{TX} -130.38MHz) 2nd(260.76MHz)		1st(F_{TX} +130.38MHz) 2nd(260.76MHz)
Rx Local Freq	1st(420.76MHz) 2nd(F_{RX} -210.38MHz)		1st(170.76MHz) 2nd(F_{RX} +85.38MHz)
TCXO freq.	19.68MHz		19.68MHz
Freq. Stability	(F_{RX} -80MHz) $\pm$ 150Hz		$\pm$ 2.5ppm
Operating Temperature	-30 $^{\circ}$ C ~ +60 $^{\circ}$ C		-30 $^{\circ}$ C ~ +60 $^{\circ}$ C
Supply Voltage	3.6V		
Size and Weight	Slim : 88mm X 50mm X 23.5mm, 105 g, 500 mA STD : 88mm X 50mm X 25.7mm, 135 g, 1000 mA EXT : 88mm X 50mm X 27.5mm, 151 g, 1600 mA		

1. 1.9GHz CDMA(US PCS)

1). General

Frequency Range

.Transmitter : 1850-1910MHz

.Receiver : 1930-1990MHz

Channel Bandwidth : 1.23MHz

Channel Spacing : 50kHz

Number of Channels : 1200

Duplex Separation : 80 MHz

Type of Emission : 1M25F9W

Input/Output Impedance : 50 Ω

Intermediate Frequency

.Transmitter : 130.38MHz

.Receiver : 210.38MHz

Local Frequency

.Transmitter : 1st($F_{TX}-130.38$), 2nd(260.76MHz),

.Receiver : 1st($F_{RX}-210.38$ MHz), 2nd(420.76MHz),

TCXO Frequency : 19.68MHz

Frequency Stability : ($F_{RX}-80$ MHz) ± 150 Hz

Operation Temperature : -30°C~60°C

Supply Voltage : +3.6V

2).Transmitter

Waveform Quality :0.944 or more

Open Loop Power Control Range

. -25dBm : -60.5dBm i- -41.5dBm

. -65dBm : -20.5dBm i- +1.5dBm

. -104dBm : +15.0dBm i- +30dBm

Minimum Tx Power Control : below -50dBm

Closed Loop Power Control Range : i $\frac{3}{4}$ 24dB

Maximum RF Output Power : 330mW(+23dBm)

Occupied Bandwidth : 1.23MHz

Conducted Spurious Emission @1.25 MHz: -42dBc/30kHz

3). Receiver

Rx Sensitivity and Dynamic Range :-104dBm, FER=0.5% or less

: -25dBm, FER=0.5% or less

Conducted Spurious Emission

. 1930 i- 1990MHz : <-81dBm

. 1850 i- 1910MHz : <-61dBm

. All Other Frequencies : <-47dBm

Single Tone Desensitization : lower than 1 %

Rx power = -101dBm

Tone power =-30dBm

Tone offset from carrier =i $\frac{3}{4}$ 1.25 MHz

Intermodulation Spurious Response Attenuation : lower than 1 %

Rx power = -101dBm

Tone 1 power =-43dBm

Tone 2 power =-43dBm

Tone 1 : offset from carrier =i $\frac{3}{4}$ 1.25 MHz

Tone 2 : offset from carrier = i $\frac{3}{4}$ 2.05 MHz

3. 800MHz CELLULAR(AMPS)

1). General

Frequency Range

.Transmitter : 824-849 MHz

.Receiver : 869-894MHz

Channel Spacing :30kHz

Number of Channels : 832

Duplex Spacing : 45MHz

Frequency Stability : $\pm 2.5\text{ppm}$ (-30°C - 60°C, -22°F - 140°F)

Modulation/Demodulation

.Voice : PM

.Data : FM

Operating Temperature : -30°C - 60°C, -22°F - 140°F

Supply Voltage : 3.6V

2). Transmitter

RF output power : 0.6W(+2/-4dB)

Carrier ON/OFF conditions

"ON" Condition : within $\pm 3\text{dB}$ of specification output(in 2 ms)

"OFF" Condition : below -60dBm(in 2ms)

Compressor

Compression Rate : 2 : 1

Attack Time : 3ms

Recovery Time : 13.5ms

Reference Input : input power level for producing a nominal $\pm 2.9\text{kHz}$
: peak frequency deviation of transmitted carrier

Preamphasis : 6dB/OCT within 0.3 - 3 kHz

Maximum Frequency Deviation

F3 of G3 : $\pm 12\text{ kHz}$

Supervisory Audio Tone : $\pm 2\text{ kHz}$ ($\pm 10\%$)

Signaling Tone : $\pm 8\text{ kHz}$ ($\pm 10\%$)

Wideband Data : $\pm 8\text{ kHz}$ ($\pm 10\%$)

Post Deviation Limiter Filter

3.0 kHz - 5.9 kHz : above 40 LOG(F/3000)dB
5.9 kHz - 6.1 kHz : above 35dB
6.1 kHz - 15 kHz : above 40 LOG(F/3000)dB
Over 15 kHz : above 28 dB

Spectrum Noise Suppression

For all modulation

fo +20 kHz - fo + 45 kHz : above 26dB

For modulation by voice and SAT

fo + 45 kHz : above 63dB+10LOG(PY)dB

For modulation by WBD(without SAT) and ST(with SAT)

fo +45 kHz - fo + 60 kHz : above 45 dB

fo +60 kHz - fo + 90 kHz : above 65 dB

fo +90 kHz - 2 fo : above 63 dB + 10 LOG(PY) dB

(where fo = carrier frequency

PY=mean output power in watts)

Harmonic and conducted Spurious Emissions : below 43 + 10 LOG(PY) dB

3). Receiver

De-emphasis : -6dB/OCT within 0.3 - 3 kHz

Expander

Expander Rate : 1 : 2

Attack time : within 3 ms

Recovery Time : within 13.5 ms

Reference input : output power level to a 1000Hz tone from a carrier within ± 2.9 kHz
peak frequency deviation

Sensitivity : 12 dB SINAD/-116dBm

Intermodulation Spurious Response Attenuation : above 65dB

RSSI Range : above 60dB

Protection Against Spurious Response Interference : above 60dB

In Band Conducted Spurious Emission

Transmit Band : below -60 dBm

Receive Band : below -80 dBm

Out of Band Conducted Spurious Emissions : below -47dBm

Radiated Spurious Emission

Frequency Range : Maximum Allowable EIRP

25 i- 70MHz : -45dBm

70 i- 130MHz : -41dBm

130 i- 174 MHz : -41 i- -32dBm

174 i- 260 MHz : -32 dBm

260 i- 470 MHz : -32 i- -26 dBm

470 i- 1G MHz : -21 dBm