

1.General

ITEM	PCS	CDMA	AMPS
Tx Freq. range	1850 ~ 1910MHz	824 ~ 849MHz	824 ~ 849MHz
Rx Freq. range	1930 ~ 1990MHz	869 ~ 894MHz	869 ~ 894MHz
Channel Bandwidth	1.23MHz	1.23MHz	30KHz
Channel Spacing	50KHz	30KHz	30KHz
Number of Channel	1200	832	832
Duplex Separation	80MHz	45MHz	45MHz
Type of Emission	1M25F9W	40K0F8W,40K0F1D	40K0F8W,40K0F1D
In/Output Impedance	50 ohms	50 ohms	50 ohms
Tx Intermediate Freq.	130.38MHz	130.38MHz	130.38MHz
Rx Intermediate Freq.	210.38MHz	85.38MHz	85.38MHz
Tx Local Freq.	1st($F_{TX}-130.38\text{MHz}$) 2nd(260.76MHz)	1st($F_{TX}+130.38\text{MHz}$) 2nd(260.76MHz)	1st($F_{TX}+130.38\text{MHz}$) 2nd(260.76MHz)
Rx Local Freq	1st(420.76MHz) 2nd($F_{RX}-210.38\text{MHz}$)	1st(170.76MHz) 2nd($F_{RX}+85.38\text{MHz}$)	1st(170.76MHz) 2nd($F_{RX}+85.38\text{MHz}$)
TCXO freq.	19.68MHz	19.68MHz	19.68MHz
Freq. Stability	($F_{RX}-80\text{MHz}$) 150Hz	($F_{RX}-45\text{MHz}$) 300Hz	+/- 2.5ppm
Operating Temperature	-30~ +60	-30~ +60	-30~ +60
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 ohms

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) 150Hz

Operation Temperature : -30 60

Supply Voltage : +3.6V

2).Transmitter

Waveform Quality :0.944 or more

Open Loop Power Control Range

. -25dBm : -60.5dBm -41.5dBm

. -65dBm : -20.5dBm +1.5dBm

. -104dBm : +15.0dBm +30dBm

Minimum Tx Power Control : below -50dBm

Closed Loop Power Control Range : 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 1990MHz : <-81dBm

. 1850 1910MHz : <-61dBm

. All Other Frequencies : <-47dBm

Single Tone Desensitization : lower than 1 %

Rx power = -101dBm

Tone power =-30dBm

Tone offset from carrier = 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 = 1.25 MHz

Tone 2 : offset from carrier = 2.05 MHz

2. 800MHz CDMA

1). General

Frequency Range

.Transmitter : 824 849 MHz

.Receiver : 869 894MHz

Channel Bandwidth : 1.23MHz

Channel Spacing : 30kHz

Number of Channels : 832

Duplex Separation : 45 MHz

Type of Emission : 40K0F8W,40K0F1D

Input/Output Impedance : 50

Intermediate Frequency

.Transmitter : 130.38MHz

.Receiver : 85.38MHz

Local Frequency

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

.Receiver : 1st($F_{RX}+85.38\text{MHz}$), 2nd(170.76MHz)

TCXO Frequency : 19.68MHz

Frequency Stability : ($F_{RX}-45\text{MHz}$) 300Hz

Operation Temperature : -30 60

Supply Voltage : +3.6V

2).Transmitter

Waveform Quality :0.944 or more

Open Loop Power Control Range

. -25dBm : -57.5dBm -38.5dBm

. -65dBm : -17.5dBm +1.5dBm

. -104dBm : +18.0dBm +30dBm

Minimum Tx Power Control : below -50dBm

Closed Loop Power Control Range : 24dB

Maximum RF Output Power : 350mW(+23dBm)

Occupied Bandwidth : 1.23MHz

Conducted Spurious Emission @900 KHz : -42dBc/30kHz

@1.25 MHz : -54dBc/30kHz

3). Receiver

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

: -25dBm, FER=0.5% or less

Conducted Spurious Emission

. 869 894 MHz : <-81dBm

. 824 849 MHz : <-61dBm

. All Other Frequencies : <-47dBm

Single Tone Desensitization : lower than 1 %

Rx power level = -101dBm

Tone power level = -30dBm

Tone offset from carrier = 900 kHz

Intermodulation Spurious Response Attenuation : lower than 1 %

Rx power = -101dBm

Tone 1 power = -43dBm

Tone 2 power = -43dBm

Tone 1 offset from carrier = 900kHz

Tone 2 offset from carrier = 1.700MHz

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 : +/- 2.5ppm 60 , -22 F 140 F)

Modulation/Demodulation

.Voice : PM

.Data : FM

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

Supply Voltate : 3.6V

2). Transmitter

RF output power : 0.6W(+0.2/-4dB)

Carrier ON/OFF conditions

"ON" Condition : within 3dB 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 2.9kHz

: peak frequency deviation of transmitted carrier

Preamphasis : 6dB/OCT within 0.3 3 kHz

Maximum Frequency Deviation

F3 of G3 : 12 kHz

Supervisory Audio Tone : 2 kHz(10%)

Signaling Tone : 8 kHz(10%)

Wideband Data : 8 kHz(10%)

Post Deviation Limiter Filter

3.0	5.9 kHz	: above 40 LOG(F/3000)dB
5.9	6.1 kHz	: above 35dB
6.1	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 70MHz : -45dBm

70 130MHz : -41dBm

130 174 MHz : -41 -32dBm

174 260 MHz : -32 dBm

260 470 MHz : -32 -26 dBm

470 1G MHz : -21 dBm