

SC4812T @ 1.9 GHz CDMA BTS

TEST REPORT EXHIBIT

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MOTOROLA

Global Telecom Solutions Sector

FCC ID: IHET6BN1

SECTION A

Summary of RF Measurements

Summary of Radiated RF Measurements

Worst Case Radiated RF Spur Level for SC4812T @ 1.9GHz

Radiated Data			Substituted Power				Spec	Result
TX Channel	Spurious Frequency (MHz)	Antenna Polarity	Measured Radiated Field Strength (dBuV/m)	Measured Radiated Field Strength (dBm) (Note 1)	TX Antenna Terminal Voltage (dBm) (Note 2)	EDRP (dBm) (Note 3)	FCC Part 24 MAX LIMIT (dBm)	Pass/Fail
25	3862.5053	H	75.05	-20.17	-29	-23.35	-13	Pass

Notes:

1. Converting dBuV/M to dBm at 3 meters
 $(\text{dBuV/M}) + 9.542 - 104.77 \text{dB} = \text{dBm}$
 Converting dBuV/M to dBm at 10 meters
 $(\text{dBuV/M}) + 20 - 104.77 \text{dB} = \text{dBm}$
2. The same horn antenna and measurement system was used for EUT scan and during substitution method. After maximizing the receive antenna and adjusting signal generator power level to measure the same emission level with the spectrum analyzer as with the EUT. Signal generator output level was recorded for each of the spurious frequencies. Test cable was then disconnected from the transmit horn and was connected to the input of the S/A measuring the voltage at the terminals of the antenna.
3. This value was obtained by converting the Equivalent Isotropic Radiated Power (EIRP) to ideal half-wave dipole reference power - (Equivalent Di-Pole Radiated Power - EDRP) per (TIA-603, 2.2.12.2(i)(m))



Radiated Engineer

8/1/01

Date

Summary of Conducted RF Measurements

SC4812T @ 1.9 GHz

FCC Part 24

CHANNEL	FREQUENCY (MHz)	SPUR LEVEL MEASURED (dBμV)	SPUR LEVEL MEASURED (dBm)	FCC MAX LIMIT dBm
25	13772.108	89.26	-17.74	-13
1175	13792.082	87.91	-19.09	-13

FCC Max. Limit Per 47 CFR:

- “ =Transmitted Power (10 Log₁₀ (P_{watt})) - (43 + 10 Log₁₀ (P_{watt}))dBW
- “ =10 Log₁₀ (P_{watt}) - (43 + 10 Log₁₀ (P_{watt}))dBW
- “ =-43 dBW
- “ =-13 dBm

dBuV-107 = dBm

Engineer:  8/3/01
Date

SECTION B

Summary of Modulation Characteristics

SC4812T @1.9GHz worst cases

CHANNEL	TUNE FREQUENCY (MHz)	RHO measured	RHO specifications	Pass/Fail
25	1931.25	0.9962	>0.912	Pass
1175	1988.75	0.9957	>0.912	Pass

The BTS was configured for maximum power out of 46.0 dBm and minimum power out of 23.0 dBm respectively. The output power was set respectively to 40.0 Watts or 200 mWatts using an HP437B power meter.

Engineer: Francisco Ovaloz 8/3/01
Date

Channel 25

Maximum Power

CDMA ANALYZER

Rho **0.9974**

Time Offset **-0.07** us

Freq Err **0.2** Hz

-50 0.2 50

Carrier Feedthru **-40.9** dB

Tune Freq
1931.250000
MHz

Input Atten
Auto/Hold
0 dB

Input Port
RF In/Ant

Find PN
Auto/Manual

PN Offset
148

Even Sec In
Enable/Not

Meas Intvl
1.25
ms

Gain
Auto/Hold
18 dB

Anl Dir
Fwd/Rev
Anl Special
Normal

Analyzer
Arm Meas
Single/Cont
Disarm

Qual Event
80 ms
Tris Event
80 ms

CDMA ANALYZER

Rho

0.9971

Time Offset

-0.09

us

Freq Err

Hz

-50

-0.8

50

Carrier Feedthru

-36.6

dB

Tune Freq

1988.75000

MHz

Input Atten

Auto/Hold

0 dB

Input Port

RF In/Ant

Find PN

Auto/Manual

PN Offset

148

Even Sec In

Enable/Not

Meas Intvl

1.25

ms

Gain

Auto/Hold

24 dB

Anl Dir

Fwd/Rev

Anl Special

Normal

Analyzer

Arm Meas

Single/Cont

Disarm

Qual Event

80 ms

Tris Event

80 ms