

Test Report

TEST PROCEDURES AND TEST SITE DESCRIPTION

FCC ID: AMWUP033R

MODEL: EXAI7248(XX)

MEASUREMENT ITEMS

Section No.

5-1 Field Strength of Radiated Emissions

15.249(a)(b)
15.205 / 15.209

SUPPLEMENT DATA - BAND EDGE EMISSIONS

5-1 Field Strength of Radiated Emissions

15.249(a)(b)
15.205 / 15.209

The measurements were performed in accordance with the ANSI C63.4-1992. Field Strength measurements of radiated spurious emissions were made at the open test site of a 3 meter range maintained by Uniden Corporation in Japan. Complete description and measurement data of this test site have been placed on file with the Commission.

The radio frequency spectrum was scanned in the range of 30 MHz to the 10th harmonic in accordance with the section 15.33(a) of the FCC Rules. The frequency below 1 GHz, the measurement was carried out by using CISPR quasi-peak detector, AGILENT E7400A the Spectrum Analyzer in accordance with the sections 15.33(a) and 15.35(a). The frequency above 1 GHz, using the AGILENT E7400A Spectrum Analyzer in accordance with the section 15.35(b) carried out the measurement.

A bilog antenna CBL6112A was used to cover the range from 30 MHz to 1000 MHz. Narrowband tuned dipole antennas were used over the entire 30 to 1000 MHz range for precision measurements of field strength. Above 1000 MHz, a horn antenna EMC0 3115 was used.

For each spurious or harmonic frequency, the antenna was raised and lowered to obtain a maximum reading on the Spectrum Analyzer with antenna horizontally polarized. Then the turntable, on which the equipment under test was placed, was rotated a minimum of 360 degrees to further increase the reading on the Spectrum Analyzer.

For testing small and/or handheld product, the measurement was performed in 3 orthogonal planes(X, Y, Z). This procedure was repeated with the antenna vertically polarized. The equipment under test was placed in its normal operating position on a turntable approximately 1 meter in height.

In order to convert the measured emission levels into field strength in dBuV/m, the actual field strength (E_f) is determined by algebraically adding the measured emission level (E_m) and the antenna correction factor (ACF) including the cable loss at the appropriate frequency. E_f [dBuV/m] = E_m [dBuV/m] + ACF [dB]

FCC Limits:

- a) Fundamental emission: 94 dBuV/m (50,000 uV/m)
- b) Spurious emissions:

30 - 88 MHz	40 dBuV/m	(100 uV/m)
88 - 216 MHz	43.5 dBuV/m	(150 uV/m)
216 - 960 MHz	46 dBuV/m	(200 uV/m)
Above 960 MHz	54 dBuV/m	(500 uV/m)

Test Results: Refer to the attached test reports. All emissions

not reported were more than 20 dB below the limits.

NOTE:

For measurement of the handset, all of the testing were made with the internal battery that is fully charged.

For measurement of base unit, all of the testing were made with the AC Adapter which connected to a standard voltage source.

SUPPLEMENT DATA - BAND EDGE EMISSION

Attached data show the handset's transmission on lowest channel and base unit's transmission on highest channel.

At the outside of emission bands, those emissions are well reduced against the operational channel frequency of the units.

TEST CONDITIONS:

Modulation : 1000 Hz

Max. Deviation:

+/- 80 kHz Dev. for Handset (900MHz BAND)

+/- 100 kHz Dev. for Base unit (2.4GHz BAND)

5-1 Field Strength of Radiated Emissions (Test Result)

a) Handset: Fundamental Emissions

Emission (MHz)	FSM Reading (dBuV)	Amplifier Gain (dB)	Measured Level		ACF (dB)	Field Strength (dBuV/m)	FCC Limit (dBuV/m)	Margin (dB)
			(dBuV)	(V/H)				
924.715789	55.4	0.0	55.4	V	34.6	90.0	94.0	4.0
926.704425	55.8	0.0	55.8	V	34.6	90.4	94.0	3.6

b) Handset: Spurious Emissions

Transmitting Frequency: 926.008402MHz								
Emission (MHz)	FSM Reading (dBuV)	Amplifier Gain (dB)	Measured Level		ACF (dB)	Field Strength (dBuV/m)	FCC Limit (dBuV/m)	Margin (dB)
			(dBuV)	(V/H)				
1209.1900	43.2	29.0	14.2	V	24.8	39.0	54.0	15.0
1850.8240	49.1	29.0	20.1	V	26.9	47.0	54.0	7.0
2776.2350	51.5	28.5	23.0	H	27.7	50.7	54.0	3.3
3704.0336	47.3	28.5	18.8	V	31.2	50.0	54.0	4.0
4630.0420	44.5	27.5	17.0	H	32.5	49.5	54.0	4.5
5556.0504	43.0	26.0	17.0	V	33.0	50.0	54.0	4.0
6482.0588	41.1	25.6	15.5	H	35.5	51.0	54.0	3.0
7408.0672	39.0	26.0	13.0	H	37.0	50.0	54.0	4.0
8334.0756	37.4	26.6	10.8	H	37.7	48.5	54.0	5.5

NOTE: All emissions not reported were more than 20 dB below the FCC limit.

* Agilent 14:03:44 Jan 7, 2004

Ref -7.842 dBm Atten 10 dB

Mkr1 924.50 MHz

-13.32 dBm

Norm

Log

10

dB/

PORT 1ch

Band Edge Emissions

Max dev. 1kHz $\pm$ 90kHz dev.

Span

50.00000000 MHz

LgAv

FCC LIMIT -50dBc

V1 S2

V3 FC

AA

E(f):

FTun

Swp

Center 902.00 MHz

Span 50 MHz

*Res BW 3 kHz

VBW 3 kHz

Sweep 6.699 s (601 pts)

Trace

Trace

1

2

3

Clear Write

Max Hold

Min Hold

View

Blank

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Agilent 11:19:23 Jan 7, 2004

Ref -8.927 dBm

Atten 10 dB

Mkr1 926.700 MHz

-22.46 dBm

Norm

Log

10

dB/

Center
928.000000 MHz

PORT 20ch

Band Edge Emissions

Max dev. 1kHz $\pm$ 90kHz dev.

FCC LIMIT -50dBc

LgAv

V1 S2

V3 FC

AA

E(f):

f>50k

Swp

Center 928.000 MHz

#Res BW 3.6 kHz

VBW 3.6 kHz

Span 5 MHz

Sweep 465.2 ms (601 pts)

Trace

Trace

1

2

3

Clear Write

Max Hold

Min Hold

View

Blank

File exists

LIST OF MEASUREMENT EQUIPMENTS

ENG-NO	TEST EQUIPMENT	TYPE	MFR	SERIAL NO.	Last Calibratation
1287	AMPLIFIER	AFS30010040020	MITEQ	138315	N/A
1294	ANTENNA (BILOG)	CBL6112A	CHASE	2350	N/A
1602	ANTENNA (DIPOLE)	3120-B1	EMCO	0075	16-Jul-00
1603	ANTENNA (DIPOLE)	3120-B2	EMCO	0076	16-Jul-00
1604	ANTENNA (DIPOLE)	3120-B3	EMCO	0076	16-Jul-00
1560	ANTENNA (HORN)	3115	EMCO	2167	N/A
1388	LISN	KNW407	KYOURITSU	8-833-21	N/A
0682	POWER SUPPLY	AA300	TAKASAGO	31783013	N/A
0857	SPECTRUM ANALYZER	E7400A	AGILENT	US40240145	23-Apr-02
0205	SPECTRUM ANALYZER	R3265	ADVANTEST	25060158	N/A