Test Report

TEST PROCEDURES AND TEST SITE DESCRIPTION

DATE: May 31, 2004
Tested by: Uniden Corporation (Japan)

FCC ID: AMWUC435
MODEL: EWCI936(XX) - WX sensor section

MEASUREMENT ITEMS	Section No.
5-1 Field Strength of Radiated Emissions	15.249(a)(b) 15.205 / 15.209
5-2 Power Line Conducted Emissions	15.207

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 10 GHz 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 E7404A the Spectrum Analyzer in accordance with the sections 15.33(a) and 15.35(a). The frequency above 1 GHz, the measurement was also carried out by using the E7404A Spectrum Analyzer in accordance with the section 15.35(b).

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 EMCO 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. This procedure was repeated with the antenna vertically polarized. The equipment under test was placed in its normal operating position on a turntable approximately 0.8 meter in height.

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

5-2 Power Line Conducted Emissions 15.207

Test Procedure:

The measurements were performed in accordance with the ANSI C63.4-1992. During the measurements, a standard voltage source is fed into the unit under test through a power line impedance stabilization network.

FCC Limit:

The radio frequency voltage that is conducted back into the AC power line on any frequencies within the band from 150kHz to 30MHz shall not exceed the following limitation.

REQUIREMENTS:

FREQUENCY(MHz)	LEVEL (dBuV)	
0.150-0.50	66 to 56 QP	56 to 46 Ave
0.50-5.0	56 QP	46 Ave
5.0-30.0	60 QP	50 Ave

Test Results: Refer to the attached test reports. All emissions not reported were more than 20 dB below the limits.

NOTE:
Regarding the WX sensor, this FCC requirement is not applicable since the WX sensor is intended to use the battery only.

SUPPLEMENT DATA - BAND EDGE EMISSION

Attached data show the WX sensor’s transmission at the outside of emission bands, those emissions are well reduced against the operational channel frequency of the unit.

TEST CONDITIONS:

Modulation : 250 Hz square wave (corresponded to WX data)

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

a) Outdoor unit: Fundamental Emissions

Emission (MHz)	FSM Reading (dBuV)	Amplifier Gain (dB)	Measured Level (dBuV)	(V/H)	ACF (dB)	Field Strength (dBuV/m)	FCC Limit (dBuV/m)	Margin (dB)
902.244203	52.5	0.0	52.5	V	34.6	87.1	94.0	6.9
904.322710	52.5	0.0	52.5	V	34.6	87.1	94.0	6.9

b) Outdoor unit: Spurious Emissions

Transmitting Frequency: 903.139089MHz								
Emission (MHz)	FSM Reading (dBuV)	Amplifier Gain (dB)	Measured Level (dBuV)	(V/H)	ACF (dB)	Field Strength (dBuV/m)	FCC Limit (dBuV/m)	Margin (dB)
451.5695	46.6	29.2	17.4	V	21.9	39.3	46.0	6.7
2257.8475	33.8	28.6	5.2	H	40.0	45.2	54.0	8.8

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

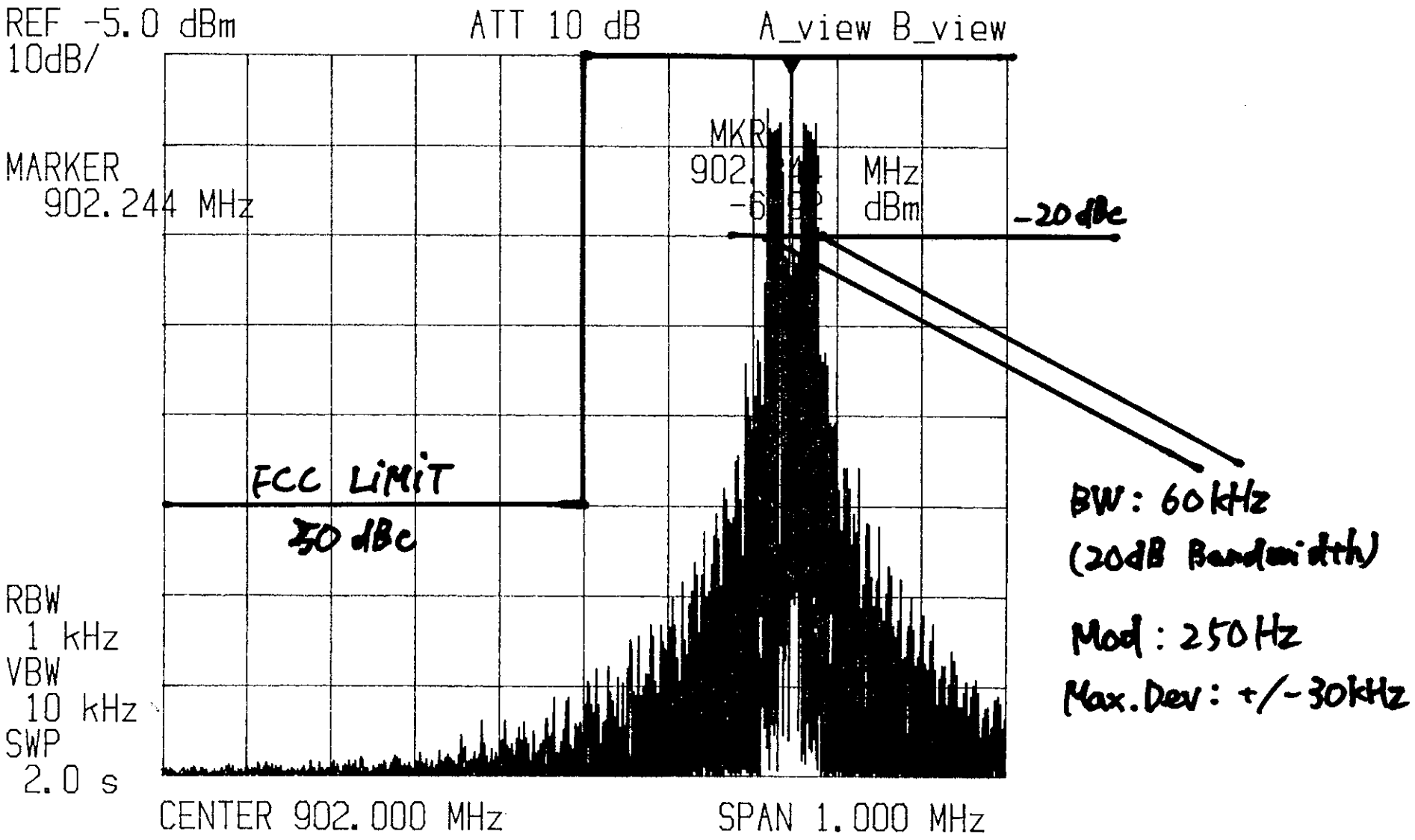
5-2 Power Line Conducted Emissions 15.207

Test Result

Transmitting frequency	Emissions Frequency	Measured Level
N/A	N/A	

NOTE: The FCC requirement do not apply to WX sensor since WX sensor is designed to operate with internal battery only.

BAND EDGE EMISSIONS (OUTDOOR UNIT)



LIST OF MEASUREMENT EQUIPMENTS

ENG-NO	TEST EQUIPMENT	TYPE	MFR	SERIAL NO.	Last Calibrtation
1287	AMPLIFIER	AFS30010040020	MITEQ	138315	N/A
2022	MICROWAVE PREAMPLIFIER	8349B	ADVANTEST	3205A04450	N/A
1294	ANTENNA(BILOG)	CBL6112A	CHASE	2350	N/A
1602	ANTENNA(DIPOLE)	3120-B1	EMCO	0075	11-Jul-03
1603	ANTENNA(DIPOLE)	3120-B2	EMCO	0076	11-Jul-03
1604	ANTENNA(DIPOLE)	3120-B3	EMCO	0076	11-Jul-03
1560	ANTENNA(HORN)(18GHz)	3115	EMCO	2167	N/A
N/A	ANTENNA(HORN)(24GHz)	94287.24	NIPPON KOSYUHA	60.1	N/A
1388	LISN	KNW407	KYOURITSU	8-833-21	N/A
0682	POWER SUPPLY	AA300	TAKASAGO	31783013	N/A
0857	SPECTRUM ANALYZER (13GHz)	E7400A	AGILENT	US40240145	27-May-04
0205	SPECTRUM ANALYZER (8.4GHz)	R3265	ADVANTEST	25060158	N/A
1008	SPECTRUM ANALYZER (40GHz)	8564E	ADVANTEST	3425A00182	02-May-04