

EXHIBIT - 5

MEASUREMENT DATA

MEASUREMENT ITEMS

- 5-1 Field Strength of Spurious Radiated Emission
- 5-2 Power Line Conducted Emissions

NOTE: Measurements in Scan Mode vs. Non-Scan Mode

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The measurement data reported in the original file represented a non-scan mode for both of power line conducted emission and spurious radiated emission because no emission level exceeded that of the levels in the scan mode.

In scan mode, the receiver only stays at a particular frequency for as short as 20 ms in certain channels as the scanning interval may change depending on the number of the memorized channels. This means that true emission levels may change along with the number of the memorized channels in the scanning mode due to changes in the duty cycle of the emission level.

Therefore, we measured the device where each memorized channel was scanned for 3 different points of frequencies in each receiver coverage range as shown in the original file and we confirm that no emission level exceeds the level reported from the ones measured in the non-scan mode.

**Test Procedure:**

The measurements were performed in accordance with the ANSI C63.4-1992. Field Strength measurements of radiated spurious emissions were made at 3 meter anechoic chamber maintained by Uniden Corporation in Japan. Complete description and measurement data of this test site have been placed on file with the Commission (file #: 31040/SIT 1300F2).

The radio frequency spectrum was scanned in the range of 25 MHz to 4 GHz in accordance with the section 15.33(b) of the FCC Rules.

For radiation measurement below 1 GHz, initially frequency band of 30 - 1000MHz was scanned by ADVANTEST R3265 Spectrum Analyzer with "BW: 3MHz, VBW: 30kHz, SWP: 30mS" to observe higher emissions. Then, these higher emissions are re-measured by using CISPR quasi-peak detector (BW: 120kHz) Spectrum Analyzer in accordance with the sections 15.33(a) and 15.35(a).

The frequency above 1 GHz, the measurement was carried out by using the Hewlett Packard 8566B Spectrum Analyzer (BW: 1MHz) in accordance with the section 15.35(b).

A bilog antenna CBL6111 was used to cover the range from 25 MHz to 1000 MHz. Narrow band tuned dipole antennas were used over the entire 25 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 unit under test was placed in its normal operating position on a turntable approximately 1 meter in height, with a normal power lead.

- to be continued -

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.

$$E_f \text{ [dBuV/m]} = E_m \text{ [dBuV/m]} + ACF \text{ [dB]}$$

FCC Limits:

Frequency	Field Strength at 100 feet	Field Strength at 3 meter
25 - 70 MHz	30 dBuV/m	50 dBuV/m
70 - 130 MHz	34 dBuV/m	54 dBuV/m
130 - 174 MHz	34 - 43.5 dBuV/m	54 - 63.5 dBuV/m
174 - 260 MHz	43.5 dBuV/m	63.5 dBuV/m
260 - 470 MHz	43.5 - 54 dBuV/m	63.5 - 74 dBuV/m

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

**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:**

Frequency	Emission Level
450 kHz - 9 MHz	100 uV
9 MHz - 10 MHz	100 uV - 1000 uV
10 MHz - 25 MHz	1000 uV

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

5-1 Test Result: Field Strength of Radiated Emissions

Tuned Frequency (MHz)	Emission Frequency (MHz)	Measured Level (dBuV)	Pol.	ACF (dB)	Field Strength (dBuV/m)	FCC Limit @3meter (dBuV/m)	MARGIN (dB)
(1) Test Results (29.000 - 54.000 MHz Band)							
29.000	NO EMISSIONS EXCEED 20dB BELOW THE FCC LIMIT.						
40.840	154.92	28.0	V	12.5	40.5	59.6	19.1
54.000	NO EMISSIONS EXCEED 20dB BELOW THE FCC LIMIT.						
(2) Test Results (180.000 - 136.975 MHz Band)							
108.000	NO EMISSIONS EXCEED 20dB BELOW THE FCC LIMIT.						
127.175	NO EMISSIONS EXCEED 20dB BELOW THE FCC LIMIT.						
136.975	NO EMISSIONS EXCEED 20dB BELOW THE FCC LIMIT.						
(3) Test Results (137.000 - 174.000 MHz Band)							
137.000	NO EMISSIONS EXCEED 20dB BELOW THE FCC LIMIT.						
162.400	151.60	31.0	V	12.5	43.5	59.5	16.0
174.000	NO EMISSIONS EXCEED 20dB BELOW THE FCC LIMIT.						
(4) Test Results (406.000 - 512.000 MHz Band)							
406.875	NO EMISSIONS EXCEED 20dB BELOW THE FCC LIMIT.						
453.250	NO EMISSIONS EXCEED 20dB BELOW THE FCC LIMIT.						
512.000	NO EMISSIONS EXCEED 20dB BELOW THE FCC LIMIT.						

Note: Other emissions not reported were more than 20dB below the FCC limits.

5-2 Test Result: Power Line Conducted Emissions

Tuned Frequency (MHz)	Emission Frequency (MHz)	Measured Level (dBuV)
NO EMISSIONS EXCEED 20dB BELOW THE FCC LIMIT. (See attached example, tuned at 29MHz.)		

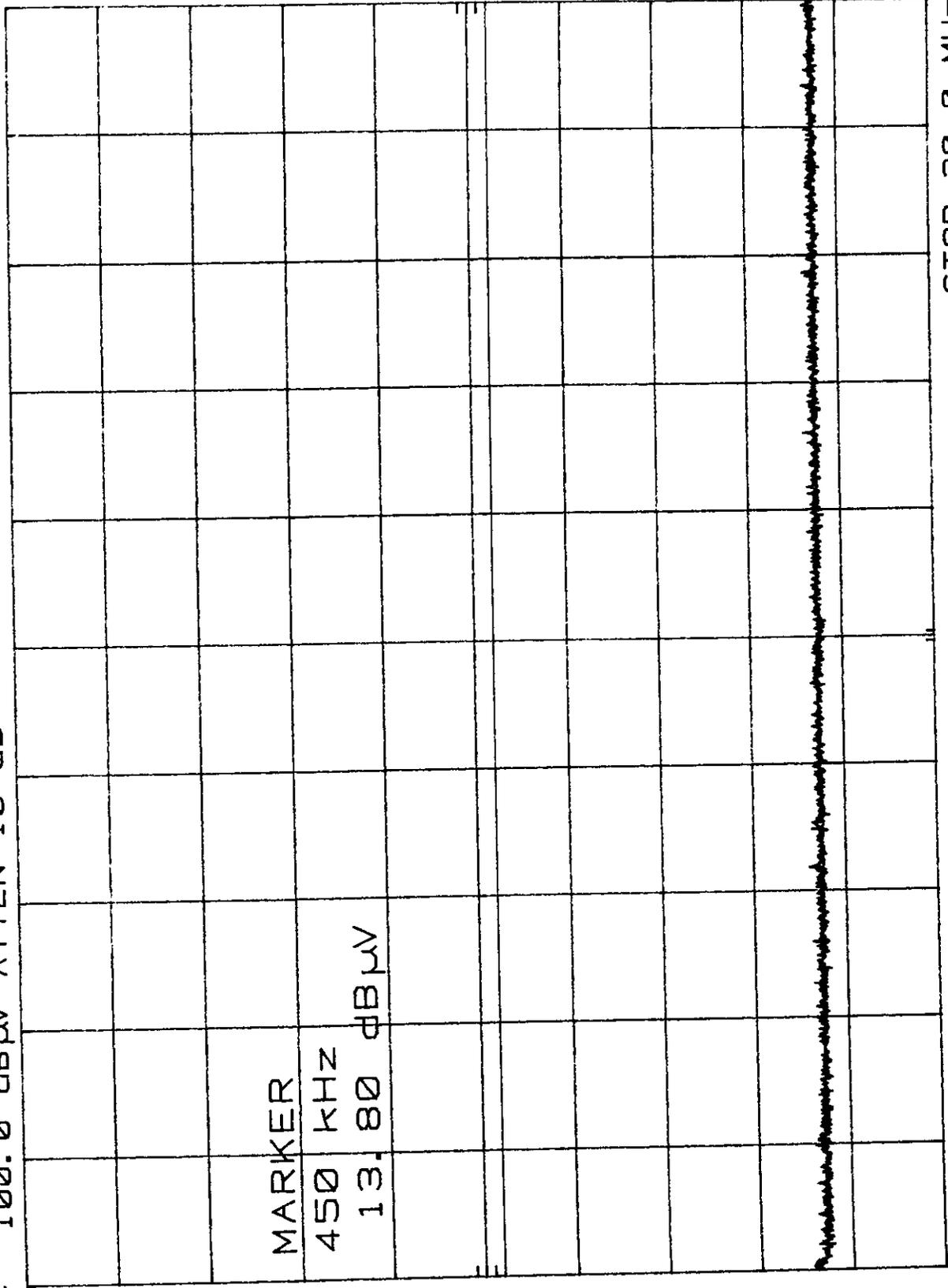
All emissions not reported were more than 20 dB below the limit.

MKR 450 KHZ  
13.80 dB $\mu$ V

4-2-1998 EUT: UB256C 29M VA  
REF 100.0 dB $\mu$ V ATTEN 10 dB

hp

10 dB/



STOP 30.0 MHz  
SWP 8.87 sec

START 450 KHZ  
RES BW 30 KHZ  
VBW 300 Hz

LIST OF MEASUREMENT EQUIPMENTS

ENG-NO	TEST EQUIPMENT	TYPE	MFR	SERIAL NO.	CATEGORY	CODE
0271	SPECTRUM ANALYZER	R3361A	ADVANTEST	91730373	2171	5
1388	LISN	KNW407	KYOURITSU	8-833-21		4
1287	AMPLIFIER	AFS30010040020	MITEQ	138315	2171	D
1294	ANTENNA (BILOG)	CBL6111	CHASE	1057	2121	D
1305	SPECTRUM ANALYZER	8566B	HP	2504A01433	2171	D
1306	SPECTRUM ANALYZER DISPLAY	85662A	HP	2403A09044	2171	D
1602	ANTENNA (DIPOLE)	3120-B1	EMCO	0075		D
1603	ANTENNA (DIPOLE)	3120-B2	EMCO	0076		D
1604	ANTENNA (DIPOLE)	3120-B3	EMCO	0076		D