

***MEASUREMENT REPORT  
of  
Portable Navigation Device  
for  
Class II permissive change***

**Applicant** : ASUSTek Computer Inc.  
**EUT** : Portable Navigation Device  
**Model** : R300  
**FCC ID** : MSQR300  
**Report No.** : A5415070223

Tested by :

***Training Research Co., Ltd.***

**TEL : 886-2-26935155**

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No. 255, Nanyang Street, Shijr, Taipei Hsien 221, Taiwan, R.O.C.

# CERTIFICATION

**We here by verify that:**

The test data, data evaluation, test procedures and equipment configurations shown in this report were made mainly in accordance with the procedures given in ANSI C63.4 (2003) as a reference. All test were conducted by *Training Research Co., Ltd.*, No. 255, Nanyang Street, Shijr, Taipei Hsien 221, Taiwan, R.O.C. Also, we attest to the accuracy of each.

We further submit that the energy emitted by the sample EUT tested as described in the report is **in compliance with** the technical requirements set forth in the FCC Rules Part 15 Subpart C Section 15.247.

**Applicant** : ASUSTek Computer Inc.  
**Applicant address** : 4Fl., No. 150, Li-Te Rd., Peitou, Taipei, Taiwan  
**Product Name** : Portable Navigation Device  
**Model Name** : R300  
**FCC ID** : MSQR300  
**Report No.** : A5415070223  
**Test Date** : November 6, 2007

Prepared by:

  
Jack Tsai

Approved by:

  
Frank Tsai

**Conditions of issue :**

- (1) **This test report shall not be reproduced except in full, without written approval of TRC. And the test result contained within this report only relate to the sample submitted for testing.**
- (2) **This report must not be used by the client to claim product endorsement by NVLAP or any agency of U.S. Government.**
- (3) **This test report, measurements made by TRC are traceable to the NIST only Conducted and Radiated Method.**



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## **I . GENERAL**

### **1.1 Introduction**

The following measurement report is submitted on behalf of applicant in support that the certification in accordance with Part 2 Subpart J and Part 15 Subpart A and C of the Commission's Rules and Regulations.

### **1.2 Description of EUT**

**FCC ID** : MSQR300

**Product Name** : Portable Navigation Device

**Model Name** : R300

**Frequency Range** : 2402MHz to 2480MHz

**Support Channel** : 79 Channels

**Channel Spacing** : 1 MHz

**Modulation Skill** : GFSK

**Power Type** : Car charger by vehicle battery  
I/P: 12 / 24 VAC  
O/P: 5VDC, 900mA  
190cm length, non-shielded, without ferrite core

### **1.3 Test method**

#### **EUT connected to Vehicle Battery by Car charger:**

1. The POWER jack (Mini USB) of EUT is connected with Vehicle Battery via a Car charger.
  - (1) The EUT could not use any audio device (ipod or MP3 player...etc), therefore test software provide by manufacture let EUT played the typical music file, and audio volume was adjusted to the worst case during the test.
  - (2) The tuning range has been manually verified and the device can work only within 88~108 MHz band.
  - (3) Using software provided by the applicant to linking EUT. The software is operated under the Windows to control the EUT in the intentional test.
  - (4) Set different channel <CH1/CH40/CH79/Co-location: BT and FM transmitter> being tested and repeat the procedures above.
    - (a) Conducted and radiated for intentional test:  
making EUT to the mode of continuous TX.

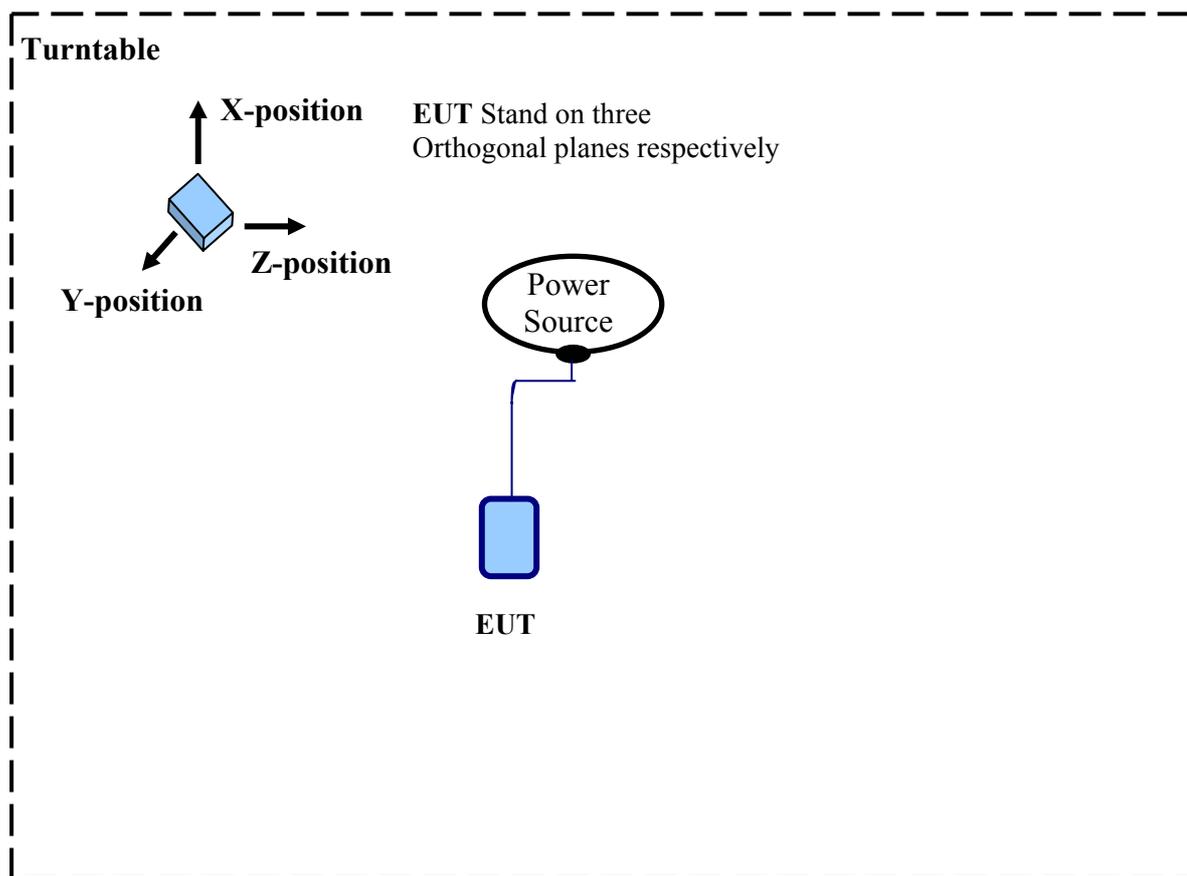
## 1.4 Description of Support Equipment

In order to construct the minimum testing, following equipment were used as the support units.

**Mini SD card:** Transcend  
Model No. : TS512MUSD-2  
Serial No. : 169856-2734  
FCC ID : Doc Approved  
BSMI : D33193  
Power type : By EUT

## 1.5 Configuration of System Under Test

### 1.5.1 Conducted and Radiated



**EUT:**

**Mini SD socket:** \*Mini SD Card

**1.6 Verify the Frequency and Channel**

CH	0	1	2	3	4	5	6	7	8	9
0		2402	2403	2404	2405	2406	2407	2408	2409	2410
1	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420
2	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430
3	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440
4	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450
5	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460
6	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470
7	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480

Note:

1. This is for confirming that all frequencies are in 2.402GHz to 2.480GHz.
2. Section 15.31(m): Measurements on intentional radiators or receivers shall be performed at three frequencies for operating frequency range over 10 MHz.  
(The locations of these frequencies one near the top, one near the middle and one near the bottom.)
3. After test, the EUT operating frequencies are in 2.402GHz to 2.480GHz. So all the items as followed in testing report are need to test these three frequencies:  
Top: Channel – 01; Middle: Channel – 40; Bottom: Channel – 79.

### **1.7 Test Procedure**

All measurements contained in this report were performed mainly according to the techniques described in ANSI C63.4 (2003) and the pre-setup was written on 1.3 test method, the detail setup was written on each test item.

### **1.8 Location of the Test Site**

The radiated emissions measurements required by the rules were performed on the **three-meter, Anechoic Chamber (FCC Registration Number: 93906)** maintained by *Training Research Co., Ltd.* 1F, No. 255 Nanyang Street, Shijr, Taipei Hsien 221, Taiwan, R.O.C. Complete description and measurement data have been placed on file with the commission. The conducted power line emissions tests and other test items were performed in a anechoic chamber also located at Training Research Co., Ltd.

No. 255 Nanyang Street, Shijr, Taipei Hsien 221, Taiwan, R.O.C. *Training Research Co., Ltd.* is listed by the FCC as a facility available to do measurement work for others on a contract basis.

### **1.9 General Test Condition**

The conditions under which the EUT operates were varied to determine their effect on the equipment's emission characteristics. The final configuration of the test system and the mode of operation used during these tests were chosen as that which produced the highest emission levels. However, only those conditions, which the EUT was considered likely to encounter in normal use were investigated.

There is a test condition apply in this test item, the test procedure description as <1.3 test method>. Three channels were tested, one in the top (CH1), one in the middle (CH40) and the other in bottom (CH79).

## II. Section 15.247(c) Band-edge Compliance

### 2.1 Test Condition

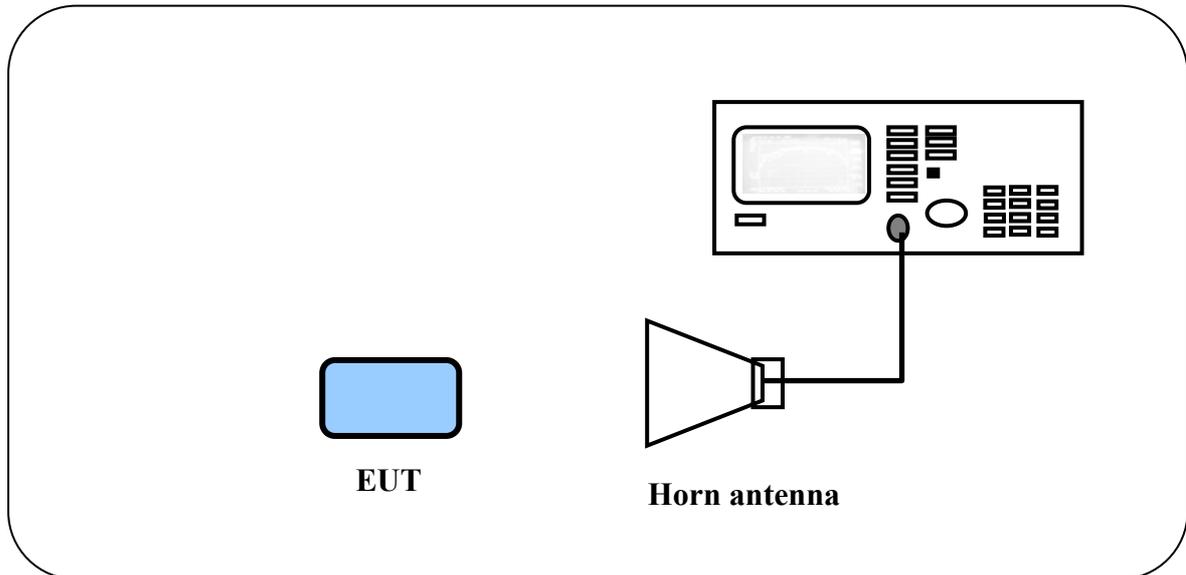
If any 100 kHz bandwidth outside these frequency bands, the radio frequency power that is produced by the modulation products of the spreading sequence, the information sequence and the carrier frequency shall be either *at least 20 dB below that in any 100 kHz bandwidth within the band that contains the highest level of the desired power or shall not exceed the general levels specified in §15.209(a)*,

We perform this section by the *radiated manner*, the RBW is set to 100kHz and VBW>RBW. We'd made the observation *up to 10<sup>th</sup> harmonics and the criterion is all the harmonic/spurious emissions must be 20dB below the highest emission level measured*. If the emissions fall in the restricted bands stated in the Part15.205(a) must also *comply with the radiated emission limits specified in Part15.209(a)*. (Peak mode: RBW=1MHz; VBW=10Hz, Average mode: RBW=1MHz; VBW=10Hz)

### 2.2 List of Test Instruments

Instrument Name	Model No	Brand	Serial No.	Next time
Spectrum Analyzer	8564E	H P	3720A00840	12/11/07
Spectrum Analyzer	MS2665C	ANRITSU	6200175476	12/11/07
Microwave Preamplifier	84125C	HP	US36433002	11/18/07
Horn Antenna	3115	EMCO	9704 – 5178	02/12/08

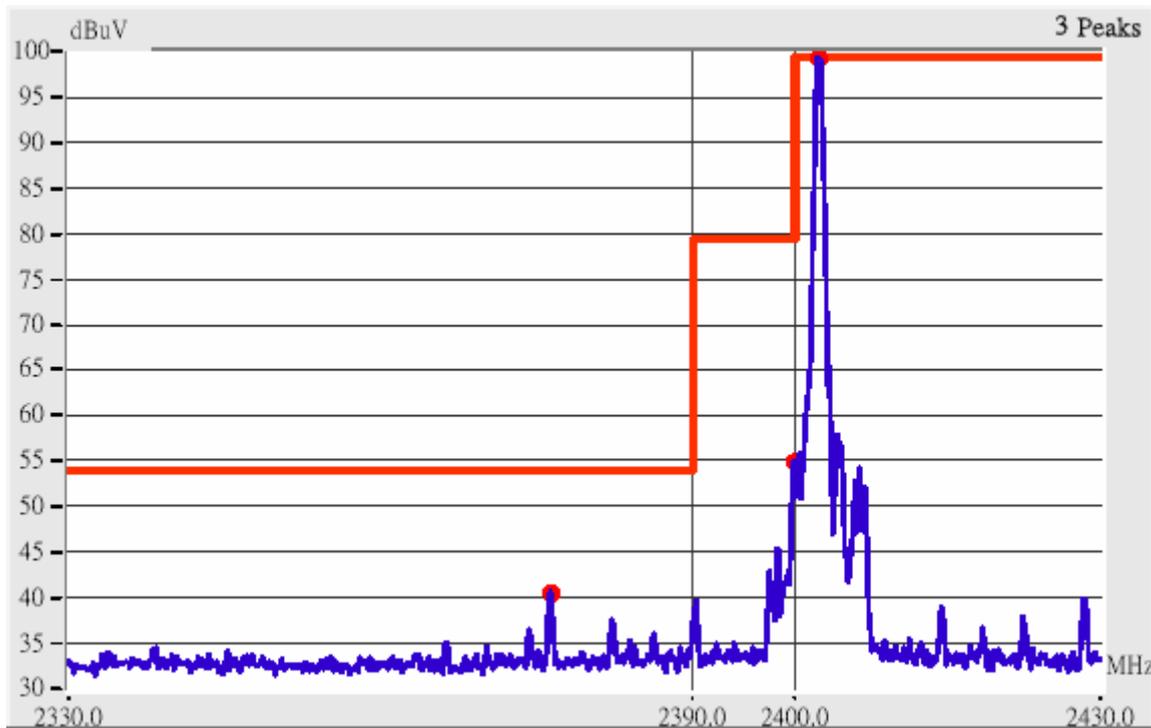
### 2.3 Test Instruments Configuration



### 2.4 Test Result of the Bandedge

The following pages show our observations referring to the channel 1 and 79 respectively.

**Bluetooth Channel 1**

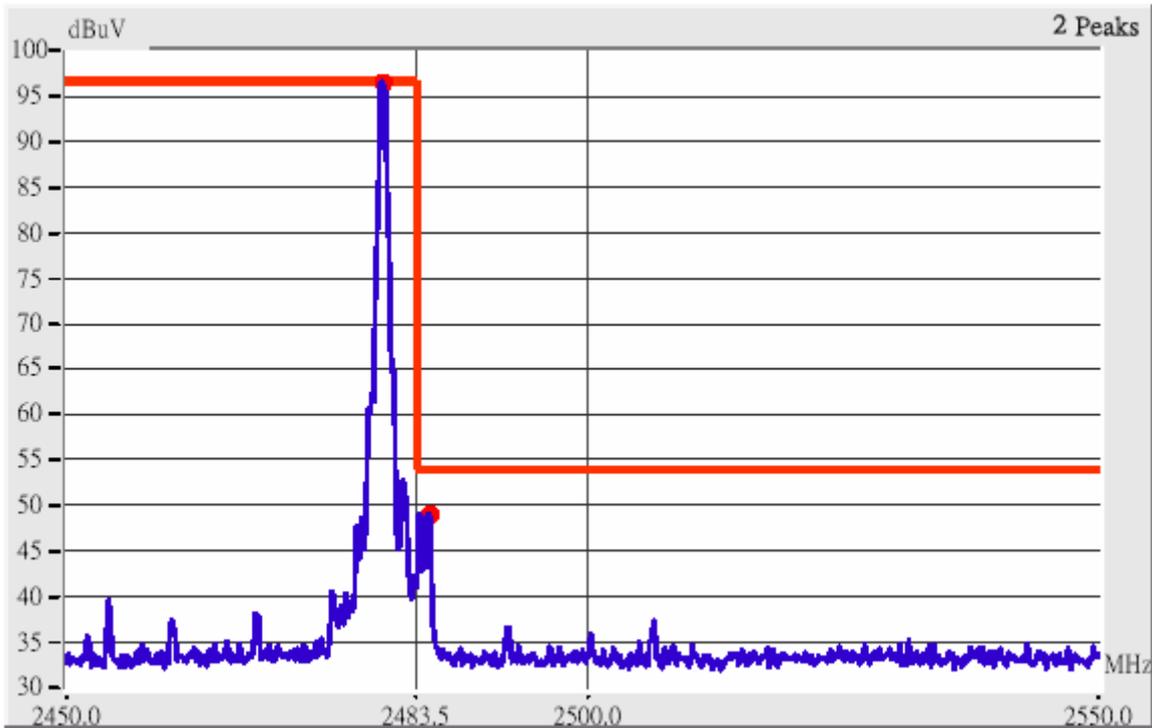


This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 1.

1. The lobe left by the fundamental side is already 20dB below the highest emission level.
2. The emissions recorded in the restricted band is do comply with the Part 15.209(a) – as below.

<i>Radiated Emission</i>					<i>Corrected Amplitude (dBμV/m)</i>		<i>Class B</i>		
<i>Frequency (MHz)</i>	<i>Ant. P.</i>	<i>Ant. H. (m)</i>	<i>Table ( )</i>	<i>Factors (dB)</i>	<i>(dBμV/m)</i>		<i>Limit (dBμV/m)</i>		<i>Margin (dB)</i>
					<i>Peak</i>	<i>Average</i>	<i>Peak</i>	<i>Ave.</i>	
2376.47	Hor	1.00	138	9.14	45.81	---	74.00	53.96	-8.15
2390.02	Hor	1.00	102	9.18	45.68	---	74.00	53.96	-8.28
2376.15	Ver	1.00	120	9.14	45.32	---	74.00	53.96	-8.64
2390.02	Ver	1.00	77	9.18	45.06	---	74.00	53.96	-8.90

Bluetooth Channel 79



This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 79.

3. The lobe left by the fundamental side is already 20dB below the highest emission level.
4. The emissions recorded in the restricted band is do comply with the Part 15.209(a) – as below.

<i>Radiated Emission</i>					<i>Corrected Amplitude (dBμV/m)</i>		<i>Class B</i>		
<i>Frequency (MHz)</i>	<i>Ant. P.</i>	<i>Ant. H. (m)</i>	<i>Table ( )</i>	<i>Factors (dB)</i>			<i>Limit (dBμV/m)</i>		<i>Margin (dB)</i>
					<i>Peak</i>	<i>Average</i>	<i>Peak</i>	<i>Ave.</i>	
2483.98	Hor	1.00	242	9.45	54.68	37.45	74.00	53.96	-16.51
2492.37	Hor	1.00	12	9.47	44.64	---	74.00	53.96	-9.32
2500.01	Hor	1.00	240	9.49	44.66	---	74.00	53.96	-9.30
2523.81	Hor	1.00	71	9.53	44.81	---	74.00	53.96	-9.15
2483.98	Ver	1.00	346	9.45	54.55	37.08	74.00	53.96	-16.88
2491.96	Ver	1.00	279	9.47	45.64	---	74.00	53.96	-8.32
2500.01	Ver	1.00	357	9.49	44.06	---	74.00	53.96	-9.90
2531.51	Ver	1.00	92	9.55	45.53	---	74.00	53.96	-8.43

### III. Section 15.247(c) Spurious Radiated Emissions

#### 3.1 Test Condition and Setup

We'd performed the test by the *radiated emission* skill: The EUT was placed in an anechoic chamber, and set the EUT transmitting continuously and scanned at 3-meter distance to determine its emission characteristics. The physical arrangement of the EUT was varied (within the scope of arrangements likely to be encountered in actual use) to determine the effect on the unit's emanations in amplitude, directivity, and frequency. The exact system configuration, which produced the highest emissions was noted so it could be reproduced later during the final tests. For the measurement above 1GHz, according to the guidance we'd set the spectrum analyzer's 6dB bandwidth RBW to 1MHz.

This was done to ensure that the final measurements would demonstrate the worst-case interference potential of the EUT. Final radiation measurements were made on a three-meter, anechoic chamber. The EUT system was placed on a nonconductive turntable, which is 0.8 meters height, top surface 1.0 x 1.5 meter.

The spectrum was examined from 30 MHz to 1000 MHz using an Hewlett Packard 85460A EMI Receiver, SCHWARZECK whole range Small Biconical Antenna (Model No.: UBAA9114 & BBVU9135) is used to measure frequency from 30 MHz to 1GHz. The final test is used the HP 85460A spectrum and 8564E spectrum was examined from 1GHz to 25GHz using an Hewlett Packard Spectrum Analyzer, EMCO/HP Horn Antenna (Model 3115 / 84125-80008) for 1G - 25GHz.

At each frequency, the EUT was rotated 360 degrees, stand on three orthogonal planes respectively and the antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization.

Appropriate preamplifiers were used for improving sensitivity and precautions were taken to avoid overloading or desensitizing the spectrum analyzer. There are two spectrum analyzers use on this testing, HP 85460A for frequency 30MHz to 1000MHz, and 8564E for frequency 1GHz to 25GHz. No post-detector video filters were used in the test. The spectrum analyzer's 6dB bandwidth was set to 120KHz (spectrum was examined from 30 MHz to 1000 MHz), the spectrum analyzer's 6 dB bandwidth was set to 1 MHz (spectrum was examined from 1GHz to 25GHz) and the analyzer was operated in the maximum hold mode. There is a test condition applies in this test item, the test procedure description as the following:

Three channels were tested, one in the top (CH1), one in the middle (CH40) and the other in bottom (CH79). The setting up procedure is recorded on <1.3 test method>

With the transmitter operating from a AC source and using the internal of EUT, radiates spurious emissions falling within the restricted bands of 15.209 were measured at operating frequencies corresponding to upper, middle and bottom channels in the 2400 ~ 2483.5 MHz band.

The actual field intensity in decibels referenced to 1 microvolt per meter (dB $\mu$ V/m) is determined by algebraically adding the measured reading in dB $\mu$ V, the antenna factor (dB), and cable loss (dB) at the appropriate frequency. Since the EUT was set to transmit continuously, no *duty cycle* is present.

**For frequency between 30MHz to 1000MHz**

$$F_{Ia} \text{ (dBuV/m)} = F_{Ir} \text{ (dB}\mu\text{V)} + \text{Correction Factors}$$

F<sub>Ia</sub> : Actual Field Intensity

F<sub>Ir</sub> : Reading of the Field Intensity

$$\text{Correction Factors} = \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

**For frequency between 1GHz to 25GHz**

$$F_{Ia} \text{ (dB}\mu\text{V/m)} = F_{Ir} \text{ (dB}\mu\text{V)} + \text{Correction Factor}$$

F<sub>Ia</sub> : Actual Field Intensity

F<sub>Ir</sub> : Reading of the Field Intensity

$$\text{Correction Factors} = \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

### 3.2 List of Test Instruments

Instrument Name	Model	Brand	Serial No.	Calibration Date
				Next time
EMI Receiver	8546A	HP	3520A00242	12/06/07
RF Filter Section	85460A	HP	3448A00217	12/06/07
Small Biconical Antenna	UBAA9114 & BBVU9135	SCHWARZECK	127	12/07/07
Pre-amplifier	PA1F	TRC	1FAC	04/10/08
Auto Switch Box (>30MHz)	ASB-01	TRC	9904-01	04/10/08
Coaxial Cable (Double shielded, 15 Meter)	A30A30-0058-50FS-15M	JYEBAO	SMA-01	04/10/08
Coaxial Cable (1.1 meter)	A30A30-0058-50FS-1M	JYEBAO	SMA-02	04/10/08
Spectrum Analyzer	8564E	HP	3720A00840	12/11/07
Microwave Preamplifier	84125C	HP	US36433002	11/07/07
Horn Antenna	3115	EMCO	9104-3668	02/05/08
Standard Guide Horn Antenna	84125-80008	HP	18-26.5GHz	12/12/07
Standard Guide Horn Antenna	84125-80001	HP	26.5-40GHz	12/12/07
Horn Antenna	1196E (3115)	HP (EMCO)	9704-5178	02/12/08
Pre-amplifier	PA2F	TRC	2F1GZ	04/10/08
Coaxial Cable (3 miter)	A30A30-0058-50FST118	JYEBAO	MSA-05	04/10/08
Coaxial Cable (1 meter)	A30A30-0058-50FST118	JYEBAO	MSA-04	04/10/08

**3.3 Test Result of Spurious Radiated Emissions**

The highest peak values of radiated emissions from the EUT at various antenna heights, antenna polarizations, EUT orientation, etc. are recorded on the following. (worst case)

Test Conditions: Temperature : 25.0 ° C Humidity : 73.0 % RH

*Test mode: Bluetooth CH01 for 30MHz to 1GHz [Horizontal]*

Radiated Emission				Correction Factors (dB)	Corrected Amplitude (dBµV/m)	Class B (3 m)	
Frequency (MHz)	Amplitude (dBµV)	Ant. H. (m)	Table ( )			Limit (dBµV/m)	Margin (dB)
158.52	40.04	1.00	233	-4.10	35.94	43.50	-7.56
198.54	40.07	1.00	63	-3.36	36.71	43.50	-6.79
305.24	37.57	1.00	257	-2.83	34.74	46.00	-11.26
359.80	46.25	1.00	107	-2.04	44.21	46.00	-1.79
370.71	46.11	1.00	117	-1.78	44.33	46.00	-1.67
393.75	46.37	1.00	257	-1.23	45.14	46.00	-0.86

*Test mode: Bluetooth CH01 for 30MHz to 1GHz [Vertical]*

Radiated Emission				Correction Factors (dB)	Corrected Amplitude (dBµV/m)	Class B (3 m)	
Frequency (MHz)	Amplitude (dBµV)	Ant. H. (m)	Table ( )			Limit (dBµV/m)	Margin (dB)
112.45	28.09	1.00	43	-1.99	26.10	43.50	-17.40
131.85	31.95	1.00	203	-3.11	28.84	43.50	-14.66
139.12	34.70	1.00	53	-3.42	31.28	43.50	-12.22
145.19	42.69	1.00	273	-3.94	38.75	43.50	-4.75
373.14	36.26	1.00	117	-1.72	34.54	46.00	-11.46
394.96	35.86	1.00	107	-1.20	34.66	46.00	-11.34

Note:

1. Margin = Amplitude – limit, if margin is minus means under limit.
2. Corrected Amplitude = Reading Amplitude + Correction Factors
3. Correction factor = Antenna factor + (Cable Loss – Amplitude gain) + Switching Box Loss

**Test mode: Bluetooth CH01 for 1GHz to 25GHz [Horizontal]**

<b>Frequency</b>	<b>Ant. H.</b>	<b>Table</b>	<b>Amplitude</b>		<b>Correction Factor</b>	<b>Corrected Amplitude</b>		<b>Limit</b>		<b>Margin</b>
			<b>Peak / Ave.</b>			<b>Peak / Ave.</b>		<b>Peak / Ave.</b>		
<b>MHz</b>	<b>m</b>	<b>degree</b>	<b>dBμV</b>		<b>dB/m</b>	<b>dBμV/m</b>		<b>dBμV/m</b>		<b>dB</b>
2666.67	1.00	26	34.50	---	9.80	44.30	---	73.96	53.96	-9.66
4804.00	1.00	199	55.55	35.78	3.68	59.23	39.46	73.96	53.96	-14.50
9608.12	1.00	212	35.82	---	11.47	47.29	---	73.96	53.96	-6.67
19214.79	1.00	102	45.97	---	1.60	47.57	---	73.96	53.96	-6.39
21619.58	1.00	33	45.63	---	2.79	48.42	---	73.96	53.96	-5.54
24020.83	1.00	120	45.58	---	3.14	48.72	---	73.96	53.96	-5.24

**Test mode: Bluetooth CH01 for 1GHz to 25GHz [Vertical]**

<b>Frequency</b>	<b>Ant. H.</b>	<b>Table</b>	<b>Amplitude</b>		<b>Correction Factor</b>	<b>Corrected Amplitude</b>		<b>Limit</b>		<b>Margin</b>
			<b>Peak / Ave.</b>			<b>Peak / Ave.</b>		<b>Peak / Ave.</b>		
<b>MHz</b>	<b>m</b>	<b>degree</b>	<b>dBμV</b>		<b>dB/m</b>	<b>dBμV/m</b>		<b>dBμV/m</b>		<b>dB</b>
2052.08	1.00	173	35.25	---	8.24	43.49	---	73.96	53.96	-10.47
4804.00	1.00	7	52.79	35.23	3.68	56.47	38.91	73.96	53.96	-15.05
9608.12	1.00	15	35.95	---	11.47	47.42	---	73.96	53.96	-6.54
19214.79	1.00	110	45.97	---	1.60	47.57	---	73.96	53.96	-6.39
21619.58	1.00	36	45.63	---	2.79	48.42	---	73.96	53.96	-5.54
24020.83	1.00	101	45.67	---	3.14	48.81	---	73.96	53.96	-5.15

Note:

1. Margin = Corrected - Limit.
2. The EUT utilizes a *permanently attached antenna*. In addition the spurious RF radiated emissions levels do comply with the *20dBc limit* both at its bandedges and other spurious emissions.
3. As stated in Section 15.35(b), for any frequencies above 1000MHz, radiated limits shown are based upon the use of measurement instrumentation employing an average detector function. As the results of our test, the peak amplitudes are already below the FCC limit. Thus the average amplitudes of the rest are omitted.

*Test mode: Bluetooth CH40 for 30MHz to 1GHz [Horizontal]*

<b>Radiated Emission</b>				<b>Correction Factors</b>	<b>Corrected Amplitude</b>	<b>Class B (3 m)</b>	
<b>Frequency (MHz)</b>	<b>Amplitude (dBμV)</b>	<b>Ant. H. (m)</b>	<b>Table ( )</b>			<b>Limit (dBμV/m)</b>	<b>Margin (dB)</b>
118.51	36.58	1.00	113	-2.31	34.27	43.50	-9.23
145.19	38.22	1.00	133	-3.94	34.28	43.50	-9.22
152.46	42.67	1.00	113	-4.31	38.36	43.50	-5.14
367.07	43.44	1.00	267	-1.86	41.58	46.00	-4.42
385.26	44.25	1.00	147	-1.43	42.82	46.00	-3.18
407.09	40.76	1.00	157	-0.76	40.00	46.00	-6.00

*Test mode: Bluetooth CH40 for 30MHz to 1GHz [Vertical]*

<b>Radiated Emission</b>				<b>Correction Factors</b>	<b>Corrected Amplitude</b>	<b>Class B (3 m)</b>	
<b>Frequency (MHz)</b>	<b>Amplitude (dBμV)</b>	<b>Ant. H. (m)</b>	<b>Table ( )</b>			<b>Limit (dBμV/m)</b>	<b>Margin (dB)</b>
105.17	30.43	1.00	43	-1.22	29.21	43.50	-14.29
139.12	36.05	1.00	203	-3.42	32.63	43.50	-10.87
146.40	37.28	1.00	183	-4.05	33.23	43.50	-10.27
152.46	38.70	1.00	153	-4.31	34.39	43.50	-9.11
368.29	31.71	1.00	227	-1.83	29.88	46.00	-16.12
407.09	32.37	1.00	297	-0.76	31.61	46.00	-14.39

*Test mode: Bluetooth CH40 for 1GHz to 25GHz [Horizontal]*

<i>Frequency</i>	<i>Ant. H.</i>	<i>Table</i>	<i>Amplitude</i>		<i>Correction Factor</i>	<i>Corrected Amplitude</i>		<i>Limit</i>		<i>Margin</i>
			<i>Peak / Ave.</i>			<i>Peak / Ave.</i>		<i>Peak / Ave.</i>		
<i>MHz</i>	<i>m</i>	<i>degree</i>	<i>dBμV</i>		<i>dB/m</i>	<i>dBμV/m</i>		<i>dBμV/m</i>		<i>dB</i>
2754.17	1.00	205	34.57	---	9.97	44.54	---	73.96	53.96	-9.42
4883.54	1.00	200	47.44	---	3.99	51.43	---	73.96	53.96	-2.53
12206.04	1.00	160	38.56	---	9.79	48.35	---	73.96	53.96	-5.61
19526.46	1.00	311	46.43	---	1.70	48.13	---	73.96	53.96	-5.83
21970.21	1.00	196	45.42	---	2.95	48.37	---	73.96	53.96	-5.59
24410.42	1.00	115	46.41	---	3.10	49.51	---	73.96	53.96	-4.45

*Test mode: Bluetooth CH40 for 1GHz to 25GHz [Vertical]*

<i>Frequency</i>	<i>Ant. H.</i>	<i>Table</i>	<i>Amplitude</i>		<i>Correction Factor</i>	<i>Corrected Amplitude</i>		<i>Limit</i>		<i>Margin</i>
			<i>Peak / Ave.</i>			<i>Peak / Ave.</i>		<i>Peak / Ave.</i>		
<i>MHz</i>	<i>m</i>	<i>degree</i>	<i>dBμV</i>		<i>dB/m</i>	<i>dBμV/m</i>		<i>dBμV/m</i>		<i>dB</i>
2150.00	1.00	249	35.44	---	8.51	43.95	---	73.96	53.96	-10.01
4883.54	1.00	339	45.07	---	3.99	49.06	---	73.96	53.96	-4.90
12206.04	1.00	290	38.66	---	9.79	48.45	---	73.96	53.96	-5.51
19526.46	1.00	310	46.00	---	1.70	47.70	---	73.96	53.96	-6.26
21970.21	1.00	206	45.71	---	2.95	48.66	---	73.96	53.96	-5.30
24410.42	1.00	130	46.49	---	3.10	49.59	---	73.96	53.96	-4.37

*Test mode: Bluetooth CH79 for 30MHz to 1GHz [Horizontal]*

<b>Radiated Emission</b>				<b>Correction Factors</b>	<b>Corrected Amplitude</b>	<b>Class B (3 m)</b>	
<b>Frequency (MHz)</b>	<b>Amplitude (dBμV)</b>	<b>Ant. H. (m)</b>	<b>Table ( )</b>			<b>Limit (dBμV/m)</b>	<b>Margin (dB)</b>
152.46	42.27	1.00	103	-4.31	37.96	43.50	-5.54
158.52	39.37	1.00	253	-4.10	35.27	43.50	-8.23
207.02	36.37	1.89	353	-3.59	32.78	43.50	-10.72
339.19	41.52	1.00	67	-2.41	39.11	46.00	-6.89
358.59	45.10	1.00	197	-2.07	43.03	46.00	-2.97
405.87	43.38	1.00	167	-0.81	42.57	46.00	-3.43

*Test mode: Bluetooth CH79 for 30MHz to 1GHz [Vertical]*

<b>Radiated Emission</b>				<b>Correction Factors</b>	<b>Corrected Amplitude</b>	<b>Class B (3 m)</b>	
<b>Frequency (MHz)</b>	<b>Amplitude (dBμV)</b>	<b>Ant. H. (m)</b>	<b>Table ( )</b>			<b>Limit (dBμV/m)</b>	<b>Margin (dB)</b>
152.46	30.27	1.00	357	-4.31	25.96	43.50	-17.54
158.52	29.93	1.00	205	-4.10	25.83	43.50	-17.67
249.46	22.35	1.00	219	-3.18	19.17	46.00	-26.83
330.70	25.16	1.00	87	-2.51	22.65	46.00	-23.35
358.59	27.82	1.00	219	-2.07	25.75	46.00	-20.25
373.14	28.15	1.00	229	-1.72	26.43	46.00	-19.57

*Test mode: Bluetooth CH79 for 1GHz to 25GHz [Horizontal]*

<i>Frequency</i>	<i>Ant. H.</i>	<i>Table</i>	<i>Amplitude</i>		<i>Correction Factor</i>	<i>Corrected Amplitude</i>		<i>Limit</i>		<i>Margin</i>
			<i>Peak / Ave.</i>			<i>Peak / Ave.</i>		<i>Peak / Ave.</i>		
<i>MHz</i>	<i>m</i>	<i>degree</i>	<i>dBμV</i>		<i>dB/m</i>	<i>dBμV/m</i>		<i>dBμV/m</i>		<i>dB</i>
2877.08	1.00	213	35.33	---	10.20	45.53	---	73.96	53.96	-8.43
4962.08	1.00	222	44.12	---	4.25	48.37	---	73.96	53.96	-5.59
9922.29	1.00	149	36.87	---	11.66	48.53	---	73.96	53.96	-5.43
19799.17	1.00	326	46.95	---	1.90	48.85	---	73.96	53.96	-5.11
22320.83	1.00	67	45.43	---	3.33	48.76	---	73.96	53.96	-5.20
24800.00	1.00	23	46.97	---	2.22	49.19	---	73.96	53.96	-4.77

*Test mode: Bluetooth CH79 for 1GHz to 25GHz [Vertical]*

<i>Frequency</i>	<i>Ant. H.</i>	<i>Table</i>	<i>Amplitude</i>		<i>Correction Factor</i>	<i>Corrected Amplitude</i>		<i>Limit</i>		<i>Margin</i>
			<i>Peak / Ave.</i>			<i>Peak / Ave.</i>		<i>Peak / Ave.</i>		
<i>MHz</i>	<i>m</i>	<i>degree</i>	<i>dBμV</i>		<i>dB/m</i>	<i>dBμV/m</i>		<i>dBμV/m</i>		<i>dB</i>
2658.33	1.00	50	35.19	---	9.79	44.98	---	73.96	53.96	-8.98
9922.29	1.00	97	36.57	---	11.66	48.23	---	73.96	53.96	-5.73
12399.37	1.00	319	38.15	---	9.02	47.17	---	73.96	53.96	-6.79
19799.17	1.00	341	46.46	---	1.90	48.36	---	73.96	53.96	-5.60
22320.83	1.00	80	45.12	---	3.33	48.45	---	73.96	53.96	-5.51
24800.00	1.00	28	47.02	---	2.22	49.24	---	73.96	53.96	-4.72

*Test mode: FM 88.1 MHz + Bluetooth CH01 for 30MHz to 1GHz [Horizontal]*

<b>Radiated Emission</b>				<b>Correction Factors</b>	<b>Corrected Amplitude</b>	<b>Class B (3 m)</b>	
<b>Frequency (MHz)</b>	<b>Amplitude (dBμV)</b>	<b>Ant. H. (m)</b>	<b>Table ( )</b>			<b>Limit (dBμV/m)</b>	<b>Margin (dB)</b>
157.31	33.71	1.00	120	-4.14	29.57	43.50	-13.93
179.14	33.65	1.00	260	-3.99	29.66	43.50	-13.84
285.84	36.71	1.00	320	-3.48	33.23	46.00	-12.77
311.30	45.55	1.00	17	-2.76	42.79	46.00	-3.21
333.12	47.82	1.00	27	-2.48	45.34	46.00	-0.66
373.14	45.05	1.00	27	-1.72	43.33	46.00	-2.67

*Test mode: FM 88.1 MHz + Bluetooth CH01 for 30MHz to 1GHz [Vertical]*

<b>Radiated Emission</b>				<b>Correction Factors</b>	<b>Corrected Amplitude</b>	<b>Class B (3 m)</b>	
<b>Frequency (MHz)</b>	<b>Amplitude (dBμV)</b>	<b>Ant. H. (m)</b>	<b>Table ( )</b>			<b>Limit (dBμV/m)</b>	<b>Margin (dB)</b>
152.46	31.31	1.00	220	-4.31	27.00	43.50	-16.50
192.47	27.70	1.00	350	-3.63	24.07	43.50	-19.43
305.24	36.34	1.00	263	-2.83	33.51	46.00	-12.49
339.19	35.81	1.00	83	-2.41	33.40	46.00	-12.60
353.74	37.55	1.00	73	-2.18	35.37	46.00	-10.63

**Test mode: FM 88.1 MHz + Bluetooth CH01 for 1GHz to 25GHz [Horizontal]**

<b>Frequency</b>	<b>Ant. H.</b>	<b>Table</b>	<b>Amplitude</b>		<b>Correction Factor</b>	<b>Corrected Amplitude</b>		<b>Limit</b>		<b>Margin</b>
			<b>Peak / Ave.</b>			<b>Peak / Ave.</b>		<b>Peak / Ave.</b>		
<b>MHz</b>	<b>m</b>	<b>degree</b>	<b>dBμV</b>		<b>dB/m</b>	<b>dBμV/m</b>		<b>dBμV/m</b>		<b>dB</b>
2656.25	1.00	92	35.12	---	9.78	44.90	---	73.96	53.96	-9.06
4803.99	1.00	128	52.12	36.27	3.68	55.80	40.04	73.96	53.96	-13.92
19608.12	1.00	14	35.70	---	11.47	47.17	---	73.96	53.96	-6.79
12012.71	1.00	118	39.45	---	10.01	49.46	---	73.96	53.96	-4.50
21619.58	1.00	123	46.00	---	1.60	47.60	---	73.96	53.96	-6.36
24020.83	1.00	264	44.91	---	3.14	48.05	---	73.96	53.96	-5.91

**Test mode: FM 88.1 MHz + Bluetooth CH01 for 1GHz to 25GHz [Vertical]**

<b>Frequency</b>	<b>Ant. H.</b>	<b>Table</b>	<b>Amplitude</b>		<b>Correction Factor</b>	<b>Corrected Amplitude</b>		<b>Limit</b>		<b>Margin</b>
			<b>Peak / Ave.</b>			<b>Peak / Ave.</b>		<b>Peak / Ave.</b>		
<b>MHz</b>	<b>m</b>	<b>degree</b>	<b>dBμV</b>		<b>dB/m</b>	<b>dBμV/m</b>		<b>dBμV/m</b>		<b>dB</b>
2150.00	1.00	183	36.60	---	8.51	45.11	---	73.96	53.96	-8.85
4804.00	1.00	201	50.99	35.27	3.68	54.67	39.22	73.96	53.96	-14.74
9608.12	1.00	111	36.66	---	11.47	48.13	---	73.96	53.96	-5.83
12012.71	1.00	215	39.02	---	10.01	49.03	---	73.96	53.96	-4.93
19214.79	1.00	118	46.06	---	1.60	47.66	---	73.96	53.96	-6.30
24020.83	1.00	288	44.97	---	3.14	48.11	---	73.96	53.96	-5.85

**Test mode: FM 98 MHz + Bluetooth CH40 for 30MHz to 1GHz [Horizontal]**

<b>Radiated Emission</b>				<b>Correction Factors</b>	<b>Corrected Amplitude</b>	<b>Class B (3 m)</b>	
<b>Frequency (MHz)</b>	<b>Amplitude (dBμV)</b>	<b>Ant. H. (m)</b>	<b>Table ( )</b>			<b>Limit (dBμV/m)</b>	<b>Margin (dB)</b>
103.96	28.14	1.00	208	-1.06	27.08	43.50	-16.42
188.84	28.72	1.00	109	-3.77	24.95	43.50	-18.55
316.15	38.83	1.00	320	-2.70	36.13	46.00	-9.87
339.19	40.40	1.00	0	-2.41	37.99	46.00	-8.01
357.37	40.09	1.00	7	-2.09	38.00	46.00	-8.00
369.50	37.36	1.00	46	-1.81	35.55	46.00	-10.45

**Test mode: FM 98 MHz + Bluetooth CH40 for 30MHz to 1GHz [Vertical]**

<b>Radiated Emission</b>				<b>Correction Factors</b>	<b>Corrected Amplitude</b>	<b>Class B (3 m)</b>	
<b>Frequency (MHz)</b>	<b>Amplitude (dBμV)</b>	<b>Ant. H. (m)</b>	<b>Table ( )</b>			<b>Limit (dBμV/m)</b>	<b>Margin (dB)</b>
100.32	27.20	1.00	310	-0.57	26.63	43.50	-16.87
103.96	25.52	1.00	261	-1.06	24.46	43.50	-19.04
153.68	25.37	1.00	241	-4.27	21.10	43.50	-22.40
329.49	28.90	1.00	46	-2.53	26.37	46.00	-19.63
356.16	29.94	1.00	66	-2.12	27.82	46.00	-18.18
382.84	25.25	1.00	76	-1.49	23.76	46.00	-22.24

**Test mode: FM 98 MHz + Bluetooth CH40 for 1GHz to 25GHz [Horizontal]**

<b>Frequency</b>	<b>Ant. H.</b>	<b>Table</b>	<b>Amplitude</b>		<b>Correction Factor</b>	<b>Corrected Amplitude</b>		<b>Limit</b>		<b>Margin</b>
			<i>Peak / Ave.</i>			<i>Peak / Ave.</i>		<i>Peak / Ave.</i>		
<b>MHz</b>	<b>m</b>	<b>degree</b>	<b>dBμV</b>		<b>dB/m</b>	<b>dBμV/m</b>		<b>dBμV/m</b>		<b>dB</b>
2687.50	1.00	80	34.92	---	9.84	44.76	---	73.96	53.96	-9.20
9765.21	1.00	267	36.66	---	11.90	48.56	---	73.96	53.96	-5.40
12206.04	1.00	236	38.95	---	9.79	48.74	---	73.96	53.96	-5.22
19526.46	1.00	269	46.25	---	1.70	47.95	---	73.96	53.96	-6.01
21970.21	1.00	265	45.62	---	2.95	48.57	---	73.96	53.96	-5.39
24410.42	1.00	31	45.68	---	3.10	48.78	---	73.96	53.96	-5.18

**Test mode: FM 98 MHz + Bluetooth CH40 for 1GHz to 25GHz [Vertical]**

<b>Frequency</b>	<b>Ant. H.</b>	<b>Table</b>	<b>Amplitude</b>		<b>Correction Factor</b>	<b>Corrected Amplitude</b>		<b>Limit</b>		<b>Margin</b>
			<i>Peak / Ave.</i>			<i>Peak / Ave.</i>		<i>Peak / Ave.</i>		
<b>MHz</b>	<b>m</b>	<b>degree</b>	<b>dBμV</b>		<b>dB/m</b>	<b>dBμV/m</b>		<b>dBμV/m</b>		<b>dB</b>
2156.25	1.00	341	36.77	---	8.53	45.30	---	73.96	53.96	-8.66
9765.21	1.00	77	35.64	---	11.90	47.54	---	73.96	53.96	-6.42
12206.04	1.00	341	39.53	---	9.79	49.32	---	73.96	53.96	-4.64
19526.46	1.00	283	46.29	---	1.70	47.99	---	73.96	53.96	-5.97
21970.21	1.00	285	46.09	---	2.95	49.04	---	73.96	53.96	-4.92
24410.42	1.00	29	45.80	---	3.10	48.90	---	73.96	53.96	-5.06

**Test mode: FM 107.9 MHz + Bluetooth CH79 for 30MHz to 1GHz [Horizontal]**

<b>Radiated Emission</b>				<b>Correction Factors</b>	<b>Corrected Amplitude</b>	<b>Class B (3 m)</b>	
<b>Frequency (MHz)</b>	<b>Amplitude (dBμV)</b>	<b>Ant. H. (m)</b>	<b>Table ( )</b>			<b>Limit (dBμV/m)</b>	<b>Margin (dB)</b>
100.32	32.87	1.00	93	-0.57	32.30	43.50	-11.20
290.69	34.20	1.00	313	-3.34	30.86	46.00	-15.14
342.82	40.92	1.89	37	-2.36	38.56	46.00	-7.44
356.16	40.74	1.00	7	-2.12	38.62	46.00	-7.38
370.71	37.77	1.00	47	-1.78	35.99	46.00	-10.01
403.45	31.82	1.00	307	-0.92	30.90	46.00	-15.10

**Test mode: FM 107.9 MHz + Bluetooth CH79 for 30MHz to 1GHz [Vertical]**

<b>Radiated Emission</b>				<b>Correction Factors</b>	<b>Corrected Amplitude</b>	<b>Class B (3 m)</b>	
<b>Frequency (MHz)</b>	<b>Amplitude (dBμV)</b>	<b>Ant. H. (m)</b>	<b>Table ( )</b>			<b>Limit (dBμV/m)</b>	<b>Margin (dB)</b>
110.02	37.12	1.00	251	-1.86	35.26	43.50	-8.24
154.89	29.16	1.00	132	-4.22	24.94	43.50	-18.56
328.27	31.54	1.00	205	-2.54	29.00	46.00	-17.00
356.16	33.05	1.00	254	-2.12	30.93	46.00	-15.07
370.71	29.66	1.00	264	-1.78	27.88	46.00	-18.12
403.45	26.09	1.00	225	-0.92	25.17	46.00	-20.83

*Test mode: FM 107.9 MHz + Bluetooth CH79 for 1GHz to 25GHz [Horizontal]*

<i>Frequency</i>	<i>Ant. H.</i>	<i>Table</i>	<i>Amplitude</i>		<i>Correction Factor</i>	<i>Corrected Amplitude</i>		<i>Limit</i>		<i>Margin</i>
			<i>Peak / Ave.</i>			<i>Peak / Ave.</i>		<i>Peak / Ave.</i>		
<i>MHz</i>	<i>m</i>	<i>degree</i>	<i>dBμV</i>		<i>dB/m</i>	<i>dBμV/m</i>		<i>dBμV/m</i>		<i>dB</i>
1079.17	1.00	256	31.54	---	17.34	48.88	---	73.96	53.96	-5.08
9922.29	1.00	110	34.85	---	11.66	46.51	---	73.96	53.96	-7.45
12399.37	1.00	335	37.92	---	9.02	46.94	---	73.96	53.96	-7.02
19799.17	1.00	227	45.79	---	1.90	47.69	---	73.96	53.96	-6.27
22320.83	1.00	349	44.24	---	3.33	47.57	---	73.96	53.96	-6.39
24800.00	1.00	323	45.99	---	2.22	48.21	---	73.96	53.96	-5.75

*Test mode: FM 107.9 MHz + Bluetooth CH79 for 1GHz to 25GHz [Vertical]*

<i>Frequency</i>	<i>Ant. H.</i>	<i>Table</i>	<i>Amplitude</i>		<i>Correction Factor</i>	<i>Corrected Amplitude</i>		<i>Limit</i>		<i>Margin</i>
			<i>Peak / Ave.</i>			<i>Peak / Ave.</i>		<i>Peak / Ave.</i>		
<i>MHz</i>	<i>m</i>	<i>degree</i>	<i>dBμV</i>		<i>dB/m</i>	<i>dBμV/m</i>		<i>dBμV/m</i>		<i>dB</i>
1079.17	1.00	78	30.90	---	17.34	48.24	---	73.96	53.96	-5.72
9922.29	1.00	173	35.21	---	11.66	46.87	---	73.96	53.96	-7.09
12399.37	1.00	218	37.20	---	9.02	46.22	---	73.96	53.96	-7.74
19799.17	1.00	237	46.22	---	1.90	48.12	---	73.96	53.96	-5.84
22320.83	1.00	357	44.28	---	3.33	47.61	---	73.96	53.96	-6.35
24800.00	1.00	317	45.87	---	2.22	48.09	---	73.96	53.96	-5.87