Partial FCC RF Test Report

APPLICANT	**:**	**Acer Inc.**
EQUIPMENT	**:**	**WLAN Module**
BRAND NAME	**:**	**Acer, Gateway, PackardBell**
MODEL NAME	**:**	**AR5B95**
FCC ID	**:**	**HLZ-AR5B95**
STANDARD	**:**	**FCC Part 15 Subpart C §15.247**
CLASSIFICATION	**:**	**Digital Transmission System (DTS)**

This is a partial report which is only valid combined with the WLAN Module report (Brand Name: Atheros / Model Name: AR5B95, FCC ID: PPD-AR5B95).

The product was installed into Acer Laptop Computer (Brand Name: Acer, Gateway, PackardBell, Model Name: ZH6, Marketing Name: FerrariFO 200 series) during test.

The product was received on Aug. 31, 2009 and completely tested on Oct. 10, 2009. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.4-2003 and shown the compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by:

Roy Wu / Manager

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR983104-03	Rev. 01	Initial issue of report	Oct. 16, 2009
FR983104-03	Rev. 02	Update information of Bluetooth module	Oct. 22, 2009

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.247(d)	A8.5	Frequency Band Edges	≤ 20dBc	Pass	-
3.2	15.207	Gen 7.2.2	AC Conducted Emission	15.207(a)	Pass	Under limit 17.7 dB at 0.190 MHz
3.3	15.247(d)	A8.5	Transmitter Radiated Emission	15.209(a) & 15.247(d)	Pass	Under limit 5.65 dB at 2486.66 MHz
3.4	15.203 & 15.247(b)	A8.4	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

Acer Inc.
8F., No. 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

1.2 Manufacturer

Quanta Computer Inc.

1. No. 2, Lane 58, Sanzhuang Road, Songjiang Export Processing Zone, Shanghai, P.R. China
2. No. 4, Wen Ming 1st Street, Kuei Shan Hsiang, Taoyuan Shien 333, Taiwan, R.O.C.
3. No. 8, Dongjing Rd., Songjiang Industrial Zone, Shanghai, P.R. China
4. No. 4, Lane 58 Sanzhuang Road, Songjiang Export Processing Zone, Shanghai, P.R. China
5. North to Songsheng. Road, Songjiang Industrial Zone, Shanghai, P.R. China
6. B#, No. 1 South Rongteng Road, Songjiang Export Processing Zone, Shanghai, P.R. China
7. Standard Factory, South to Valqua, Rongxin Road, Songjiang Export Processing Zone, Shanghai, P.R. China
8. C#, No. 1 South Rongteng Road, Songhjang Export Processing Zone, Shanghai, P.R. China
9. No. 6, Lane 66 Sanzhuang Road, Songjiang Export Processing Zone, Shanghai, P.R. China
10. No. 6, Lane 58 Sanzhuang Road, Songjiang Export Processing Zone, Shanghai, P.R. China
11. Huade Building, No. 18 ChuangYe Rd., ShandDi Zone, HaiDian District, Beijing, P.R.C.
12. No. 68 Sanzhuang Road, Songjiang Export Processing Zone, Shanghai, P.R. China
13. 2F., C Building, XinYe Rd, Export Processing District In Torch, Zhongshan, Guangdong, P.R.C.

1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	WLAN Module
Brand Name	Acer, Gateway, PackardBell
Model Name	AR5B95
FCC ID	HLZ-AR5B95
Host (Laptop Computer)	Brand Name : Acer, Gateway, PackardBell Model Name : ZH6 Marketing Name: FerrariFO 200 series Antenna Type: <Main> PIFA Antenna with gain -2.10 dBi <Aux.> PIFA Antenna with gain 0.85 dBi HW Version : E3A (MB) SW Version : v1.3105 (BIOS)
Tx/Rx Frequency Range	2400 MHz ~ 2483.5 MHz
Type of Modulation	802.11b : DSSS (BPSK / QPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)
EUT Stage	Production Unit

Remark:

1. For other wireless features of this EUT, test report will be issued separately.

2. This test report recorded only product characteristics and test results of Digital Transmission System (DTS).

3. The conducted test result can be referred to WLAN module report (brand name: Atheros / model name: AR5B95, FCC ID: PPD-AR5B95).

List of Accessory for Host (Laptop Computer):

Specification of Accessory		
AC Adapter	**Brand Name**	Liteon
	Model Name	PA-1650-22
	Power Rating	I/P:100-240Vac, 50-60Hz, 1.6A; O/P: 19Vdc, 3.42A
	DC Power Cord Type	1.8 meter shielded cable with ferrite core
Battery	**Brand Name**	Simplo
	Model Name	UM09E71
	Power Rating	11.1Vdc, 4400mAh, 48Wh
	Type	Li-ion
WWAN Module	**Brand Name**	Qualcomm
	Model Name	UNDP-1
Bluetooth Module	**Brand Name**	Foxconn
	Model Name	BCM92046

Remark: Please refer to the user's manual for more detailed information of host laptop computer (Brand Name: Acer, Gateway, PackardBell / Model Name: ZH6 / Marketing Name: FerrariFO 200 series).

1.4 Testing Site

Test Site	SPORTON INTERNATIONAL INC.		
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-3273456 / FAX: +886-3-3284978		
Test Site No.	**Sporton Site No.**		**FCC/IC Registration No.**
	CO05-HY	03CH07HY	TW1022/4086B-1

1.5 Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart C §15.247
- FCC KDB Publication No. 558074 (Measurement Guidelines of DTS)
- ANSI C63.4-2003
- IC RSS-210 Issue 7

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.

2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B (DoC), recorded in a separate test report.

1.6 Ancillary Equipment List

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	Earphone	Sampo	EK-Y652CS	FCC DoC	Shielded, 1.8 m	N/A
3.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
4.	Notebook	DELL	Vostro 1510	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
5.	LCD Monitor	Lenovo	6135-AB1	FCC DoC	Shielded, 1.6 m	Unshielded, 1.8 m
6.	Bluetooth Earphone	Nokia	BH-102	PYAHS-107W	N/A	N/A
7.	Earphone	Ergotech	ET-E200	FCC DoC	Unshielded, 1.8 m	N/A
8.	USB Cable	Apple	N/A	N/A	Shielded, 1.0 m	N/A

2 Test Configuration of Equipment Under Test

2.1 Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 kHz to 30 MHz), radiated emission (30 MHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

The following table is showing the total pre-scanned test modes, and the worst modes are recorded in this report only.

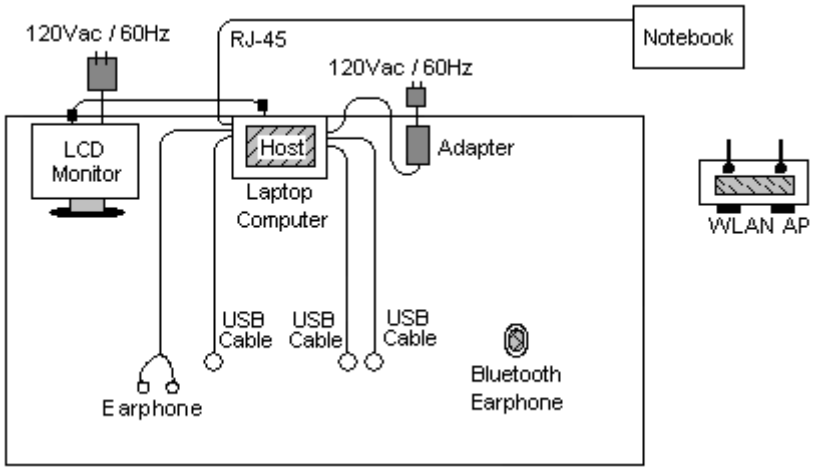
Test Cases	
Test Item	**802.11b (Modulation : DSSS)** **802.11g/n (Modulation : OFDM)**
Radiated TCs	Mode 1 : 802.11b_CH01_2412 MHz Mode 2 : 802.11b_CH06_2437 MHz Mode 3 : 802.11b_CH11_2462 MHz Mode 4 : 802.11g_CH01_2412 MHz Mode 5 : 802.11g_CH06_2437 MHz Mode 6 : 802.11g_CH11_2462 MHz Mode 7 : 802.11n_CH01_2412 MHz (BW 20M) Mode 8 : 802.11n_CH06_2437 MHz (BW 20M) Mode 9 : 802.11n_CH11_2462 MHz (BW 20M) Mode 10 : 802.11n_CH03_2422 MHz (BW 40M) Mode 11 : 802.11n_CH06_2437 MHz (BW 40M) Mode 12 : 802.11n_CH09_2452 MHz (BW 40M)
AC Conducted Emission	Mode 1 : Bluetooth Link + WLAN Link + TC

Remark:

1. TC stands for Test Configuration, and consists of monitor, earphone, USB cable, and RJ-45.

2. Only the radiated emission and conducted emission of the WLAN module on the host laptop computer was performed in this report, and the conducted test cases can be referred to Atheros module report (FCC ID: PPD-AR5B95).

2.2 Connection Diagram of Test System



Note: The EUT is a WLAN Module which was installed in the host laptop computer (Brand Name: Acer, Gateway, PackardBell / Model Name: ZH6 / Marketing Name: FerrariFO 200 series).

2.3 RF Utility

The programmed RF utility “Art” is installed in host laptop computer to provide channel selection, power level, data rate and the application type. RF Utility can send transmitting signal for all testing. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

3 Test Result

3.1 Band Edges Measurement

3.1.1 Limit of Band Edges

In any 100 kHz bandwidth outside the intentional radiation frequency band, the radio frequency power shall be at least 20 dB below the highest level of the radiated power. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB.

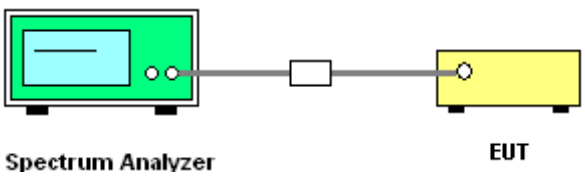
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

1. The testing follows the guidelines in ANSI C63.4-2003 and FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. Conducted emission test: Set RBW = 1 MHz, Video bandwidth (VBW) > RBW. Band edge emissions must be at least 20 dB below the highest emission level within the authorized band as measured with a 1 MHz RBW. Note: If the output power of this device was measured by power meter, the attenuation under this paragraph shall be 30 dB instead of 20 dB.
3. Radiated emission test: Apply to band edge emissions that fall in the restricted bands listed in FCC Section 15.205. The maximum permitted average field strength is listed in FCC Section 15.209. A pre-amp is necessary for this measurement. For measurements above 1 GHz, set RBW = 1MHz, VBW = 10 Hz, Sweep=Auto. If the emission is pulsed, modify the unit for continuous operation; use the settings shown above, then correct the reading by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation as in FCC Section 15.35(b) and (c).

3.1.4 Test Setup



3.1.5 Test Result of Radiated Band Edges

Test Mode :	Mode 1	**Temperature :**	23~24°C
Test Band :	802.11b	**Relative Humidity :**	42~43%
Test Channel :	01	**Test Engineer :**	Kay Wang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	**Level (dBuV/m)**	**Over Limit (dB)**	**Limit Line (dBuV/m)**	**Read Level (dBuV)**	**Antenna Factor (dB)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Ant Pos (cm)**	**Table Pos (deg)**	**Remark**
2378.02	50.08	-23.92	74.00	46.88	32.11	5.47	34.38	100	319	Peak
2378.02	37.42	-16.58	54.00	34.22	32.11	5.47	34.38	100	319	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	**Level (dBuV/m)**	**Over Limit (dB)**	**Limit Line (dBuV/m)**	**Read Level (dBuV)**	**Antenna Factor (dB)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Ant Pos (cm)**	**Table Pos (deg)**	**Remark**
2389.61	52.68	-21.32	74.00	49.47	32.13	5.46	34.38	105	320	Peak
2389.61	39.57	-14.43	54.00	36.36	32.13	5.46	34.38	105	320	Average

Test Mode :	Mode 3	**Temperature :**	23~24°C
Test Band :	802.11b	**Relative Humidity :**	42~43%
Test Channel :	11	**Test Engineer :**	Kay Wang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	**Level (dBuV/m)**	**Over Limit (dB)**	**Limit Line (dBuV/m)**	**Read Level (dBuV)**	**Antenna Factor (dB)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Ant Pos (cm)**	**Table Pos (deg)**	**Remark**
2483.5	49.32	-24.68	74.00	46.06	32.27	5.38	34.4	119	316	Peak
2483.5	37.22	-16.78	54.00	33.96	32.27	5.38	34.4	119	316	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	**Level (dBuV/m)**	**Over Limit (dB)**	**Limit Line (dBuV/m)**	**Read Level (dBuV)**	**Antenna Factor (dB)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Ant Pos (cm)**	**Table Pos (deg)**	**Remark**
2483.5	52.77	-21.23	74.00	49.51	32.27	5.38	34.4	105	313	Peak
2483.5	41.51	-12.49	54.00	38.25	32.27	5.38	34.4	105	313	Average

Test Mode :	Mode 4	Temperature :	23~24°C
Test Band :	802.11g	Relative Humidity :	42~43%
Test Channel :	01	Test Engineer :	Kay Wang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.61	58.00	-16.00	74.00	54.79	32.13	5.46	34.38	100	328	Peak
2389.61	40.67	-13.33	54.00	37.46	32.13	5.46	34.38	100	328	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.99	62.64	-11.36	74.00	59.43	32.13	5.46	34.38	108	320	Peak
2389.99	42.98	-11.02	54.00	39.77	32.13	5.46	34.38	108	320	Average

Test Mode :	Mode 6	Temperature :	23~24°C
Test Band :	802.11g	Relative Humidity :	42~43%
Test Channel :	11	Test Engineer :	Kay Wang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2484.42	61.58	-12.42	74.00	58.32	32.27	5.38	34.40	119	317	Peak
2484.42	42.19	-11.81	54.00	38.93	32.27	5.38	34.40	119	317	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	61.93	-12.07	74	58.67	32.27	5.38	34.40	105	318	Peak
2483.5	44.72	-9.28	54	41.46	32.27	5.38	34.40	105	318	Average

Test Mode :	Mode 7	Temperature :	23~24°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	42~43%
Test Channel :	01	Test Engineer :	Kay Wang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.99	57.28	-16.72	74.00	54.07	32.13	5.46	34.38	100	328	Peak
2389.99	42.10	-11.90	54.00	38.89	32.13	5.46	34.38	100	328	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.99	62.22	-11.78	74.00	59.01	32.13	5.46	34.38	107	319	Peak
2389.99	45.75	-8.25	54.00	42.54	32.13	5.46	34.38	107	319	Average

Test Mode :	Mode 9	Temperature :	23~24°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	42~43%
Test Channel :	11	Test Engineer :	Kay Wang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2484.42	53.62	-20.38	74.00	50.36	32.27	5.38	34.40	100	316	Peak
2484.42	37.22	-16.78	54.00	33.96	32.27	5.38	34.40	100	316	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	61.24	-12.76	74.00	57.98	32.27	5.38	34.40	104	318	Peak
2483.5	43.38	-10.62	54.00	40.12	32.27	5.38	34.40	104	318	Average

Test Mode :	Mode 10	Temperature :	23~24°C
Test Band :	802.11n (BW 40MHz)	Relative Humidity :	42~43%
Test Channel :	03	Test Engineer :	Kay Wang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.99	60.31	-13.69	74.00	57.10	32.13	5.46	34.38	100	329	Peak
2389.99	43.36	-10.64	54.00	40.15	32.13	5.46	34.38	100	329	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.42	64.28	-9.72	74.00	61.07	32.13	5.46	34.38	106	314	Peak
2389.42	46.88	-7.12	54.00	43.67	32.13	5.46	34.38	106	314	Average

Test Mode :	Mode 12	Temperature :	23~24°C
Test Band :	802.11n (BW 40MHz)	Relative Humidity :	42~43%
Test Channel :	09	Test Engineer :	Kay Wang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.85	65.26	-8.74	74.00	62.05	32.13	5.46	34.38	122	328	Peak
2483.85	46.46	-7.54	54.00	43.25	32.13	5.46	34.38	122	328	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2486.66	66.40	-7.60	74.00	63.14	32.27	5.38	34.40	105	320	Peak
2486.66	48.35	-5.65	54.00	45.09	32.27	5.38	34.40	105	320	Average

3.2 AC Conducted Emission Measurement

3.2.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-Peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

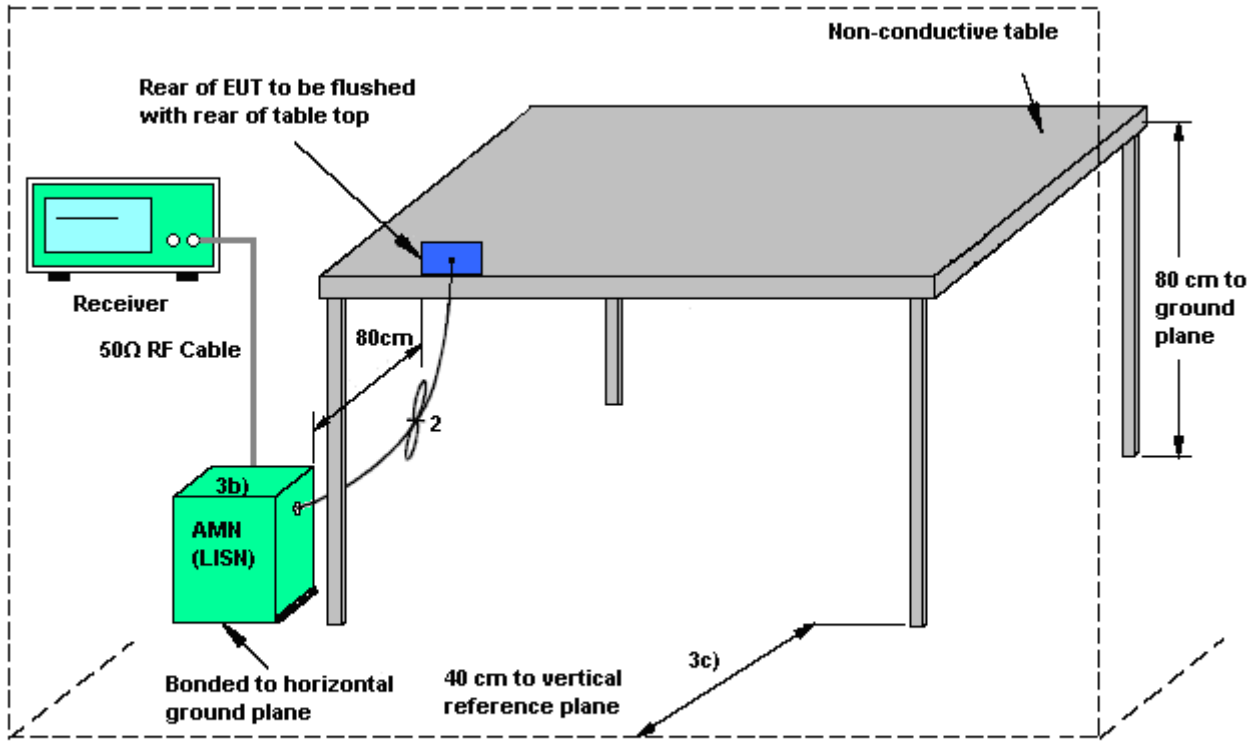
3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.2.3 Test Procedures

1. The testing follows the guidelines in ANSI C63.4-2003.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance stabilization network (LISN).
4. All the support units are connecting to the other LISN.
5. The LISN provides 50 ohm coupling impedance for the measuring instrument.
6. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
7. Both sides of AC line were checked for maximum conducted interference.
8. The frequency range from 150 kHz to 30 MHz was searched.
9. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

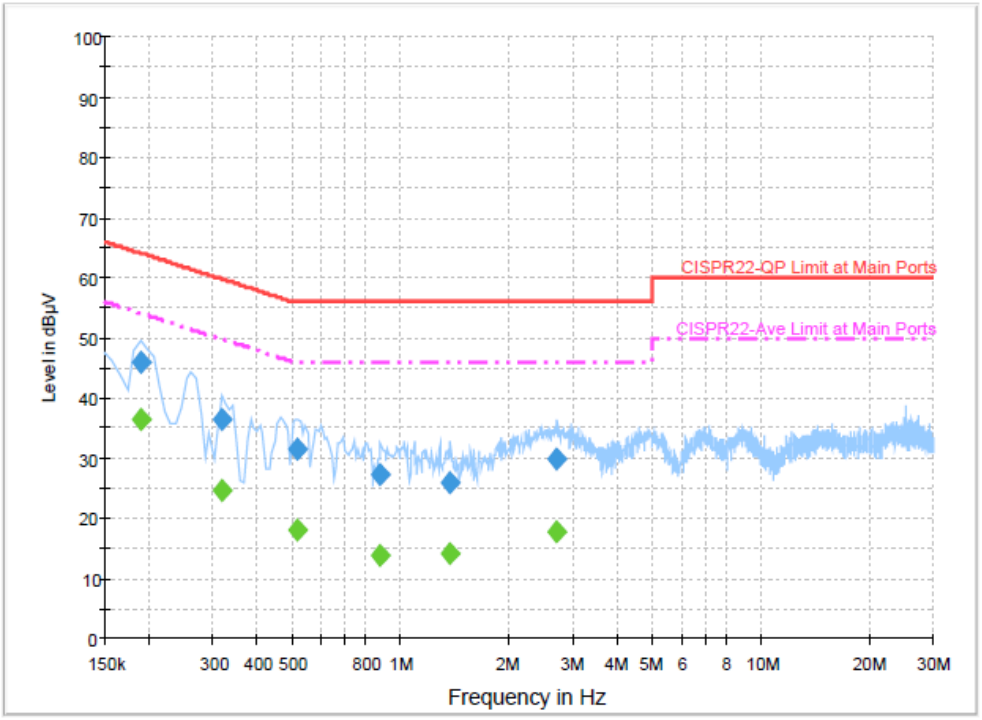
3.2.4 Test Setup



AMN = Artificial mains network (LISN)
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabilization network

3.2.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	23~24℃
Test Engineer :	Cona Huang	Relative Humidity :	52~56%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	Bluetooth Link + WLAN Link + TC		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



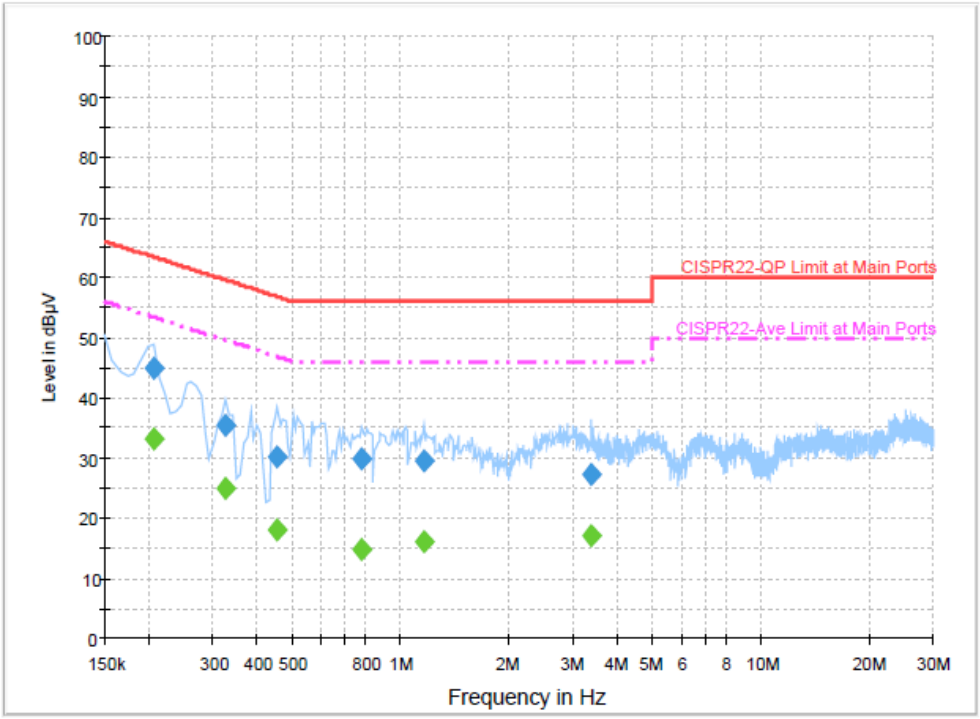
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.190000	45.8	Off	L1	19.5	18.2	64.0
0.318000	36.3	Off	L1	19.4	23.5	59.8
0.518000	31.6	Off	L1	19.5	24.4	56.0
0.878000	27.2	Off	L1	19.4	28.8	56.0
1.366000	25.8	Off	L1	19.5	30.2	56.0
2.694000	29.8	Off	L1	19.5	26.2	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.190000	36.3	Off	L1	19.5	17.7	54.0
0.318000	24.6	Off	L1	19.4	25.2	49.8
0.518000	18.0	Off	L1	19.5	28.0	46.0
0.878000	13.9	Off	L1	19.4	32.1	46.0
1.366000	14.1	Off	L1	19.5	31.9	46.0
2.694000	17.7	Off	L1	19.5	28.3	46.0

Test Mode :	Mode 1	**Temperature :**	23~24℃
Test Engineer :	Cona Huang	**Relative Humidity :**	52~56%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral
Function Type :	Bluetooth Link + WLAN Link + TC		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.206000	44.9	Off	N	19.5	18.5	63.4
0.326000	35.4	Off	N	19.5	24.2	59.6
0.454000	30.1	Off	N	19.4	26.7	56.8
0.774000	29.7	Off	N	19.5	26.3	56.0
1.158000	29.6	Off	N	19.5	26.4	56.0
3.382000	27.1	Off	N	19.5	28.9	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.206000	33.1	Off	N	19.5	20.3	53.4
0.326000	24.8	Off	N	19.5	24.8	49.6
0.454000	18.1	Off	N	19.4	28.7	46.8
0.774000	14.7	Off	N	19.5	31.3	46.0
1.158000	15.9	Off	N	19.5	30.1	46.0
3.382000	16.9	Off	N	19.5	29.1	46.0

3.3 Radiated Emission Measurement

3.3.1 Limit of Radiated Emission

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the FCC section 15.209 limits as below.

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.3.2 Measuring Instruments

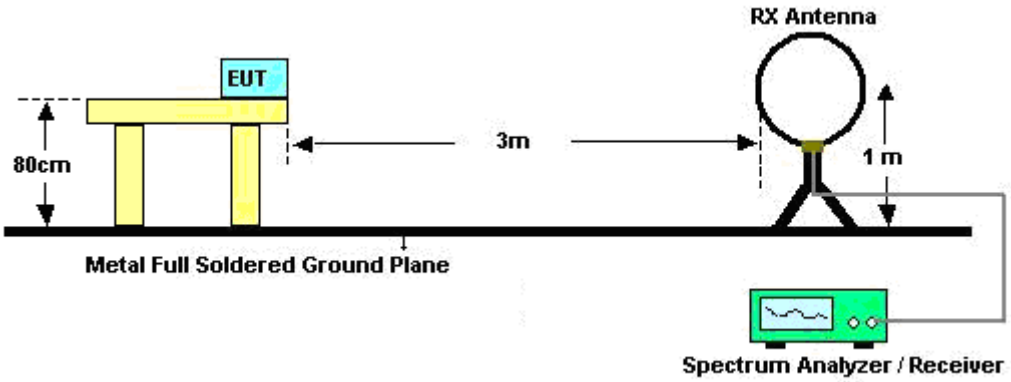
See list of measuring instruments of this test report.

3.3.3 Test Procedures

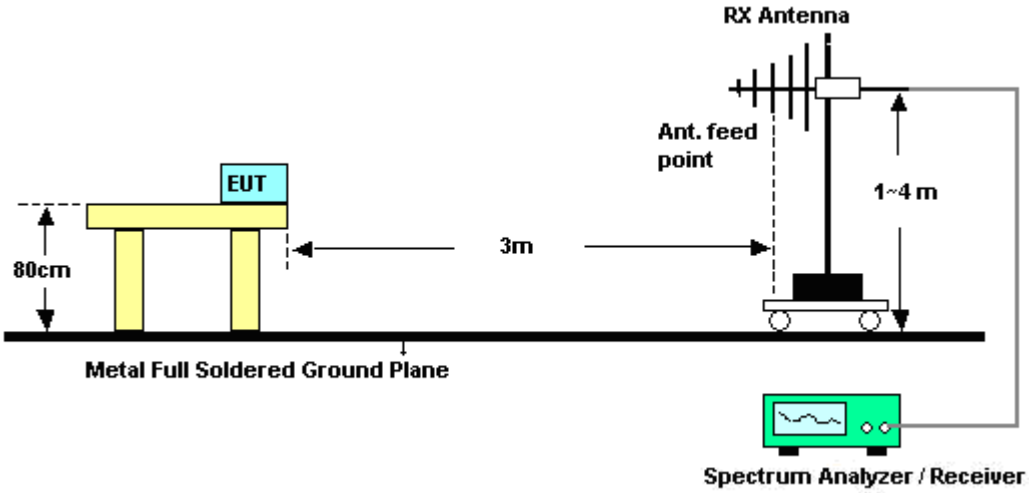
1. The testing follows the guidelines in FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. Use the following spectrum analyzer settings:
   Span = wide enough to fully capture the emission being measured; RBW = 1 MHz for f ≥ 1 GHz, 100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold.
3. Follow the guidelines in ANSI C63.4-2003 with respect to maximizing the emission by rotating the EUT, measuring the emission for three EUT orthogonal planes, and adjusting the measurement antenna height and polarization. A pre-amp and a high pass filter are used for this test in order to get the good signal level.

3.3.4 Test Setup

For radiated emissions below 30MHz



For radiated emissions above 30MHz



3.3.5 Test Results of Radiated Emissions (9kHz ~ 30MHz)

Test Engineer :	Kay Wang	Temperature :	23~24°C
		Relative Humidity :	42~43%

Frequency (MHz)	Level (dBuV)	Over Limit (dB)	Limit Line (dBuV)	Remark
-	-	-	-	See Note

Note:

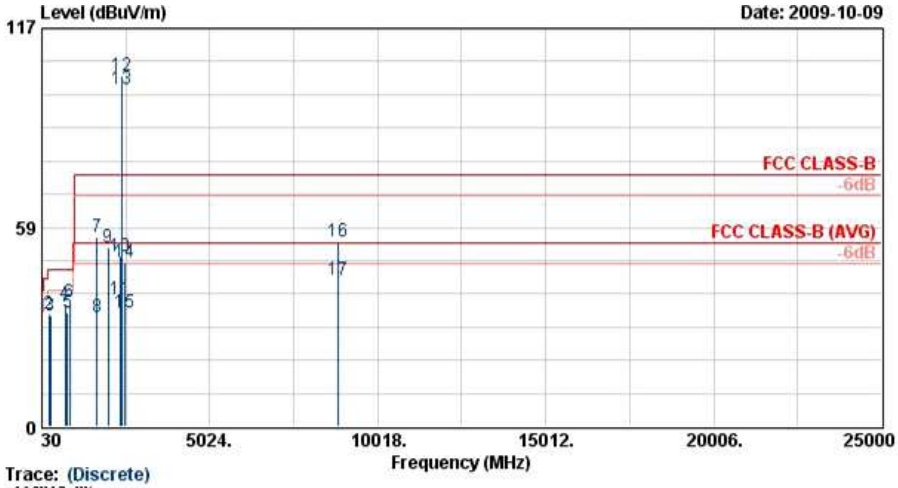
The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor = 40 log (specific distance / test distance) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor.

3.3.6 Test Result of Radiated Emission (30MHz ~ 10th Harmonic)

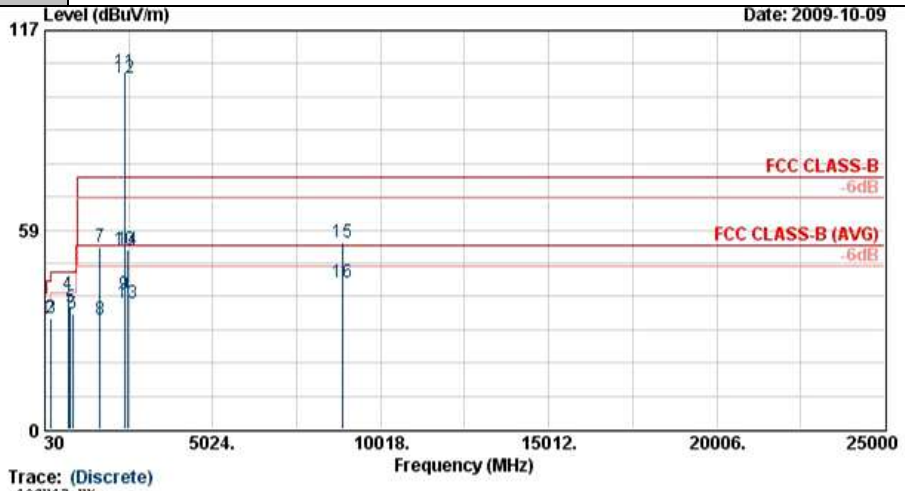
Test Mode :	Mode 1	Temperature :	23~24°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Kay Wang	Polarization :	Horizontal
Remark :	#12 and #13 are Fundamental Signals which can be ignored.		



Site : 03CH07-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
Project : FR 983104-03
Mode : Mode 1

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.81	30.12	-9.88	40.00	41.82	19.36	0.65	31.70	---	---	Peak
2	237.90	33.22	-12.78	46.00	51.16	11.72	1.87	31.52	---	---	Peak
3	286.77	32.51	-13.49	46.00	48.36	13.51	2.06	31.43	---	---	Peak
4	721.40	35.90	-10.10	46.00	41.85	21.29	3.61	30.86	---	---	Peak
5	799.80	33.54	-12.46	46.00	38.49	21.90	3.85	30.70	---	---	Peak
6	862.10	36.57	-9.43	46.00	40.28	22.98	4.01	30.70	100	151	Peak
7	1676.00	55.69	-18.31	74.00	56.08	29.22	4.75	34.36	100	40	Peak
8	1676.00	32.05	-21.95	54.00	32.45	29.22	4.75	34.36	100	40	Average
9	1998.00	52.78	-21.22	74.00	49.79	31.50	5.79	34.30	100	0	Peak
10	2378.02	50.08	-23.92	74.00	46.88	32.11	5.47	34.38	100	319	Peak
11	2378.02	37.42	-16.58	54.00	34.22	32.11	5.47	34.38	100	319	Average
12 X	2412.00	103.28			100.06	32.16	5.44	34.38	100	319	Peak
13 X	2412.00	99.21			95.99	32.16	5.44	34.38	100	319	Average
14	2500.00	48.24	-25.76	74.00	44.97	32.30	5.37	34.40	100	319	Peak
15	2500.00	33.65	-20.35	54.00	30.38	32.30	5.37	34.40	100	319	Average
16	8826.00	54.38	-19.62	74.00	43.27	36.19	10.28	35.36	100	0	Peak
17	8826.00	42.86	-11.14	54.00	31.75	36.19	10.28	35.36	100	0	Average

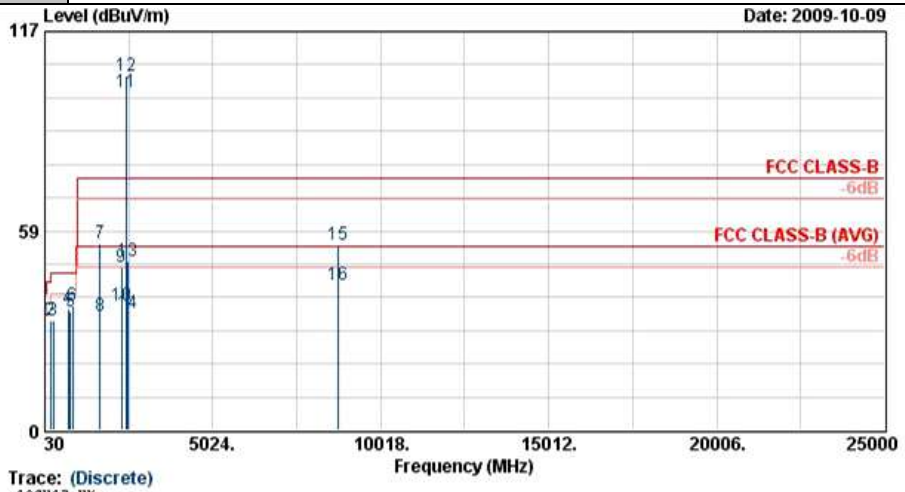
Test Mode :	Mode 1	Temperature :	23~24°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Kay Wang	Polarization :	Vertical
Remark :	#11 and #12 are Fundamental Signals which can be ignored.		



Site : 03CH07-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
Project : FR 983104-03
Mode : Mode 1

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		35.13	28.37	-11.63	40.00	42.19	17.20	0.68	31.70	---	---	Peak
2		196.86	32.80	-10.70	43.50	52.76	9.96	1.69	31.60	---	---	Peak
3		224.13	32.71	-13.29	46.00	51.75	10.70	1.82	31.55	---	---	Peak
4		718.60	39.46	-6.54	46.00	45.48	21.24	3.61	30.86	100	312	Peak
5		797.70	35.66	-10.34	46.00	40.63	21.89	3.84	30.71	---	---	Peak
6		861.40	33.87	-12.13	46.00	37.59	22.98	4.01	30.70	---	---	Peak
7		1676.00	53.32	-20.68	74.00	53.72	29.22	4.75	34.36	100	130	Peak
8		1676.00	32.01	-21.99	54.00	32.41	29.22	4.75	34.36	100	130	Average
9		2389.61	39.57	-14.43	54.00	36.36	32.13	5.46	34.38	105	320	Average
10		2389.61	52.68	-21.32	74.00	49.47	32.13	5.46	34.38	105	320	Peak
11	X	2412.00	104.89			101.67	32.16	5.44	34.38	105	320	Peak
12	@	2412.00	103.21			99.99	32.16	5.44	34.38	105	320	Average
13		2500.00	36.89	-17.11	54.00	33.62	32.30	5.37	34.40	105	320	Average
14		2500.00	52.59	-21.41	74.00	49.32	32.30	5.37	34.40	105	320	Peak
15		8862.00	54.74	-19.26	74.00	43.61	36.21	10.29	35.37	100	174	Peak
16		8862.00	42.98	-11.02	54.00	31.85	36.21	10.29	35.37	100	174	Average

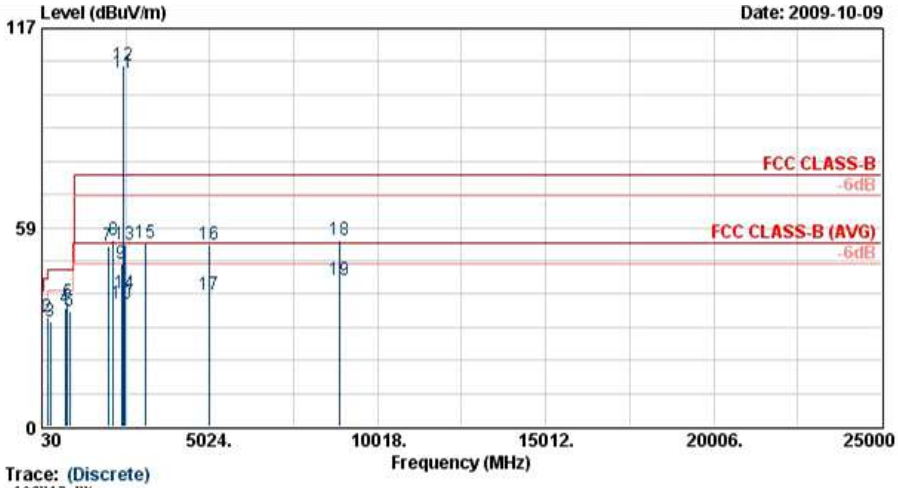
Test Mode :	Mode 2	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Kay Wang	Polarization :	Horizontal
Remark :	#11 and #12 are Fundamental Signals which can be ignored.		



Site : 03CH07-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
Project : FR 983104-03
Mode : Mode 2

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		30.54	29.67	-10.33	40.00	41.37	19.36	0.65	31.70	---	---	Peak
2		205.77	32.23	-11.27	43.50	51.78	10.31	1.73	31.59	---	---	Peak
3		287.85	32.37	-13.63	46.00	48.19	13.54	2.07	31.42	---	---	Peak
4		719.30	35.46	-10.54	46.00	41.46	21.25	3.61	30.86	---	---	Peak
5		797.70	34.59	-11.41	46.00	39.56	21.89	3.84	30.71	---	---	Peak
6		864.20	36.47	-9.53	46.00	40.18	22.97	4.02	30.70	100	318	Peak
7		1678.00	54.80	-19.20	74.00	55.20	29.22	4.75	34.36	100	30	Peak
8		1678.00	33.34	-20.66	54.00	33.74	29.22	4.75	34.36	100	30	Average
9		2316.00	47.83	-26.17	74.00	44.67	32.00	5.53	34.36	100	327	Peak
10		2316.00	36.53	-17.47	54.00	33.37	32.00	5.53	34.36	100	327	Average
11	X	2437.00	99.35			96.11	32.22	5.41	34.39	100	327	Average
12	X	2437.00	104.06			100.82	32.22	5.41	34.39	100	327	Peak
13		2494.00	49.50	-24.50	74.00	46.23	32.30	5.37	34.40	100	327	Peak
14		2494.00	34.46	-19.54	54.00	31.19	32.30	5.37	34.40	100	327	Average
15		8730.00	54.41	-19.59	74.00	43.36	36.14	10.25	35.35	100	282	Peak
16		8730.00	42.59	-11.41	54.00	31.54	36.14	10.25	35.35	100	282	Average

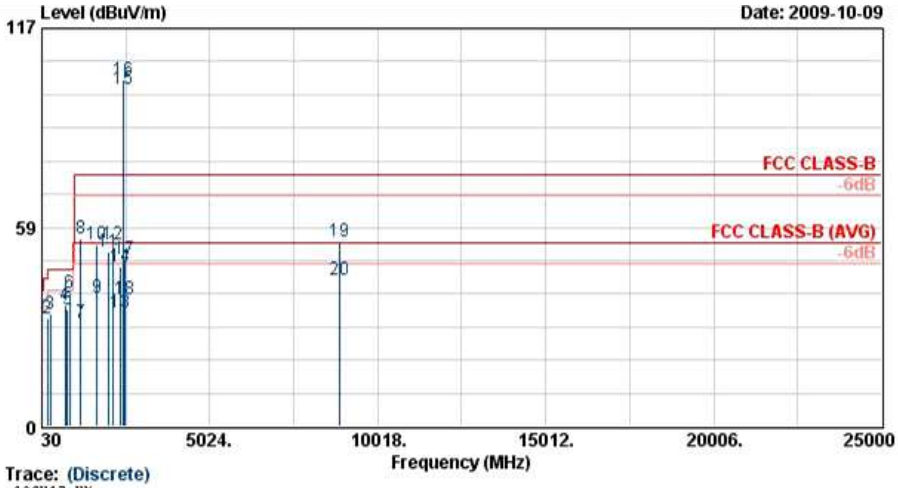
Test Mode :	Mode 2	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Kay Wang	Polarization :	Vertical
Remark :	#11 and #12 are Fundamental Signals which can be ignored.		



Site : 03CH07-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
Project : FR 983104-03
Mode : Mode 2

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.00	31.04	-8.96	40.00	42.20	19.90	0.64	31.70	100	212	Peak
2	203.34	32.36	-11.14	43.50	51.96	10.27	1.72	31.59	---	---	Peak
3	287.58	30.87	-15.13	46.00	46.69	13.54	2.07	31.42	---	---	Peak
4	713.70	34.81	-11.19	46.00	40.95	21.15	3.59	30.87	---	---	Peak
5	797.70	36.54	-9.46	46.00	41.51	21.89	3.84	30.71	---	---	Peak
6	859.30	34.00	-12.00	46.00	37.72	22.98	4.00	30.70	---	---	Peak
7	2004.00	53.10	-20.90	74.00	50.11	31.50	5.79	34.30	100	0	Peak
8	2164.00	54.89	-19.11	74.00	51.81	31.75	5.66	34.33	100	0	Peak
9	2390.00	48.02	-25.98	74.00	44.81	32.13	5.46	34.38	105	319	Peak
10	2390.00	36.30	-17.70	54.00	33.09	32.13	5.46	34.38	105	319	Average
11 @	2437.00	104.12			100.88	32.22	5.41	34.39	105	319	Average
12 X	2437.00	106.21			102.98	32.19	5.43	34.39	105	319	Peak
13	2500.00	53.35	-20.65	74.00	50.08	32.30	5.37	34.40	105	319	Peak
14	2500.00	39.11	-14.89	54.00	35.84	32.30	5.37	34.40	105	319	Average
15	3126.00	53.94	-20.06	74.00	49.46	33.00	6.10	34.62	100	0	Peak
16	4998.00	53.58	-20.42	74.00	46.03	34.40	7.95	34.80	100	157	Peak
17	4998.00	38.63	-15.37	54.00	31.08	34.40	7.95	34.80	100	157	Average
18	8889.00	54.68	-19.32	74.00	43.52	36.23	10.30	35.38	100	87	Peak
19	8889.00	43.28	-10.72	54.00	32.12	36.23	10.30	35.38	100	87	Average

Test Mode :	Mode 3	Temperature :	23~24°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Kay Wang	Polarization :	Horizontal
Remark :	#15 and #16 are Fundamental Signals which can be ignored.		

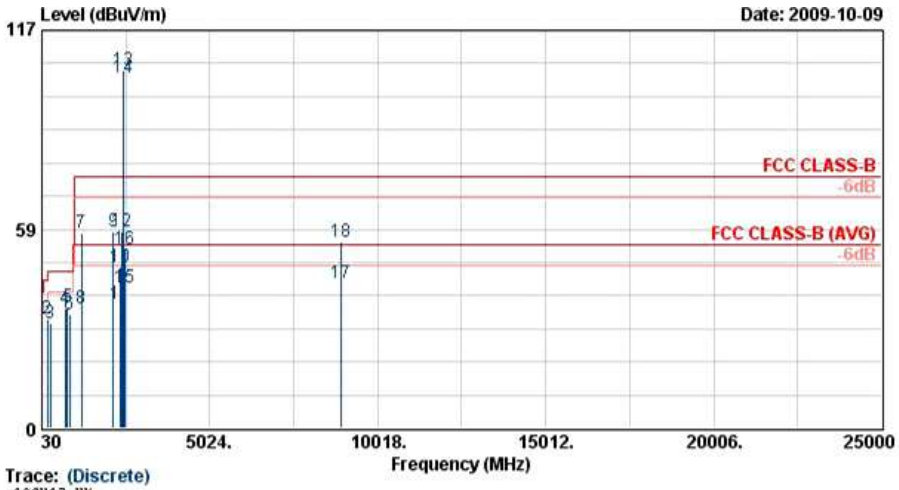


Trace: (Discrete)

Site : 03CH07-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
Project : FR 983104-03
Mode : Mode 3

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		30.00	30.26	-9.74	40.00	41.42	19.90	0.64	31.70	---	---	Peak
2		204.69	31.59	-11.91	43.50	51.17	10.29	1.72	31.59	---	---	Peak
3		287.85	33.26	-12.74	46.00	49.08	13.54	2.07	31.42	---	---	Peak
4		719.30	35.46	-10.54	46.00	41.46	21.25	3.61	30.86	---	---	Peak
5		800.50	34.38	-11.62	46.00	39.33	21.90	3.85	30.70	---	---	Peak
6		861.40	38.98	-7.02	46.00	42.70	22.98	4.01	30.70	100	154	Peak
7		1196.00	30.64	-23.36	54.00	33.93	27.78	3.68	34.75	100	113	Average
8		1196.00	55.41	-18.59	74.00	58.69	27.78	3.68	34.75	100	113	Peak
9		1676.00	37.70	-16.30	54.00	38.10	29.22	4.75	34.36	100	35	Average
10		1676.00	53.57	-20.43	74.00	53.96	29.22	4.75	34.36	100	35	Peak
11		1996.00	51.35	-22.65	74.00	48.36	31.50	5.79	34.30	100	0	Peak
12		2158.00	53.42	-20.58	74.00	50.34	31.75	5.66	34.33	100	0	Peak
13		2374.00	33.66	-20.34	54.00	30.46	32.11	5.47	34.38	119	316	Average
14		2374.00	46.99	-27.01	74.00	43.78	32.11	5.47	34.38	119	316	Peak
15	X	2462.00	99.06			95.81	32.24	5.40	34.39	119	316	Average
16	X	2462.00	101.77			98.52	32.24	5.40	34.39	119	316	Peak
17		2483.50	49.32	-24.68	74.00	46.06	32.27	5.38	34.40	119	316	Peak
18		2483.50	37.22	-16.78	54.00	33.96	32.27	5.38	34.40	119	316	Average
19		8886.00	54.18	-19.82	74.00	43.03	36.23	10.30	35.38	100	121	Peak
20		8886.00	42.90	-11.10	54.00	31.74	36.23	10.30	35.38	100	121	Average

Test Mode :	Mode 3	Temperature :	23~24°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Kay Wang	Polarization :	Vertical
Remark :	#13 and #14 are Fundamental Signals which can be ignored.		

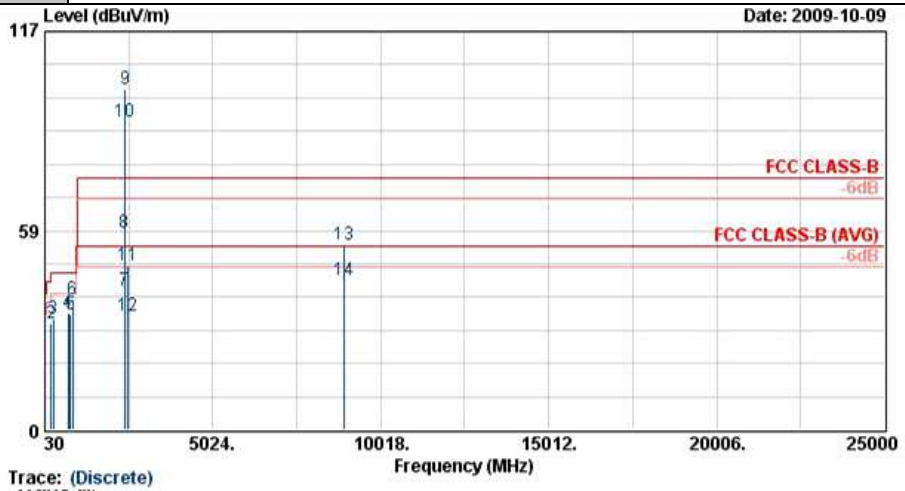


Trace: (Discrete)

Site : 03CH07-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
Project : FR 983104-03
Mode : Mode 3

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		42.69	27.02	-12.98	40.00	45.32	12.68	0.72	31.70	---	---	Peak
2		201.45	32.27	-11.23	43.50	51.92	10.24	1.71	31.60	---	---	Peak
3		287.85	30.72	-15.28	46.00	46.54	13.54	2.07	31.42	---	---	Peak
4		721.40	35.11	-10.89	46.00	41.06	21.29	3.61	30.86	---	---	Peak
5		800.50	35.81	-10.19	46.00	40.76	21.90	3.85	30.70	100	101	Peak
6		861.40	33.43	-12.57	46.00	37.15	22.98	4.01	30.70	---	---	Peak
7		1198.00	57.40	-16.60	74.00	60.68	27.78	3.68	34.75	100	322	Peak
8		1198.00	35.12	-18.88	54.00	38.41	27.78	3.68	34.75	100	322	Average
9		2156.00	57.98	-16.02	74.00	54.90	31.75	5.66	34.33	100	0	Peak
10		2372.00	47.52	-26.48	74.00	44.32	32.11	5.47	34.38	105	313	Peak
11		2372.00	36.68	-17.32	54.00	33.48	32.11	5.47	34.38	105	313	Average
12		2396.00	57.94	-16.06	74.00	54.73	32.13	5.46	34.38	100	0	Peak
13	X	2462.00	105.09			101.84	32.24	5.40	34.39	105	313	Peak
14	@	2462.00	103.25			100.00	32.24	5.40	34.39	105	313	Average
15		2483.50	41.51	-12.49	54.00	38.25	32.27	5.38	34.40	105	313	Average
16		2483.50	52.77	-21.23	74.00	49.51	32.27	5.38	34.40	105	313	Peak
17		8910.00	42.72	-11.28	54.00	31.55	36.24	10.31	35.38	100	107	Average
18		8910.00	54.84	-19.16	74.00	43.67	36.24	10.31	35.38	100	107	Peak

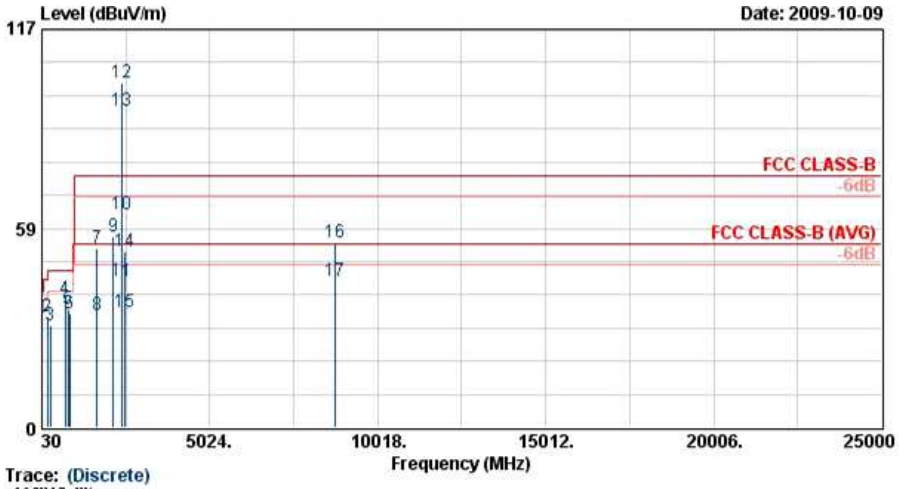
Test Mode :	Mode 4	Temperature :	23~24°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Kay Wang	Polarization :	Horizontal
Remark :	#9 and #10 are Fundamental Signals which can be ignored.		



Site : 03CH07-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
Project : FR 983104-03
Mode : Mode 4

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		30.00	25.01	-14.99	40.00	36.17	19.90	0.64	31.70	---	---	Peak
2		215.22	31.28	-12.22	43.50	50.63	10.45	1.77	31.57	---	---	Peak
3		286.77	32.47	-13.53	46.00	48.33	13.51	2.06	31.43	---	---	Peak
4		718.60	34.26	-11.74	46.00	40.28	21.24	3.61	30.86	---	---	Peak
5		797.70	33.76	-12.24	46.00	38.73	21.89	3.84	30.71	---	---	Peak
6		864.20	38.32	-7.68	46.00	42.03	22.97	4.02	30.70	100	214	Peak
7		2389.61	40.67	-13.33	54.00	37.46	32.13	5.46	34.38	100	328	Average
8		2389.61	58.00	-16.00	74.00	54.79	32.13	5.46	34.38	100	328	Peak
9	X	2412.00	100.20			96.98	32.16	5.44	34.38	100	328	Peak
10	@	2412.00	90.63			87.41	32.16	5.44	34.38	100	328	Average
11		2500.00	48.47	-25.53	74.00	45.20	32.30	5.37	34.40	100	328	Peak
12		2500.00	33.31	-20.69	54.00	30.04	32.30	5.37	34.40	100	328	Average
13		8934.00	54.48	-19.52	74.00	43.29	36.26	10.32	35.39	100	21	Peak
14		8934.00	43.73	-10.27	54.00	32.54	36.26	10.32	35.39	100	21	Average

Test Mode :	Mode 4	Temperature :	23~24°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Kay Wang	Polarization :	Vertical
Remark :	#12 and #13 are Fundamental Signals which can be ignored.		

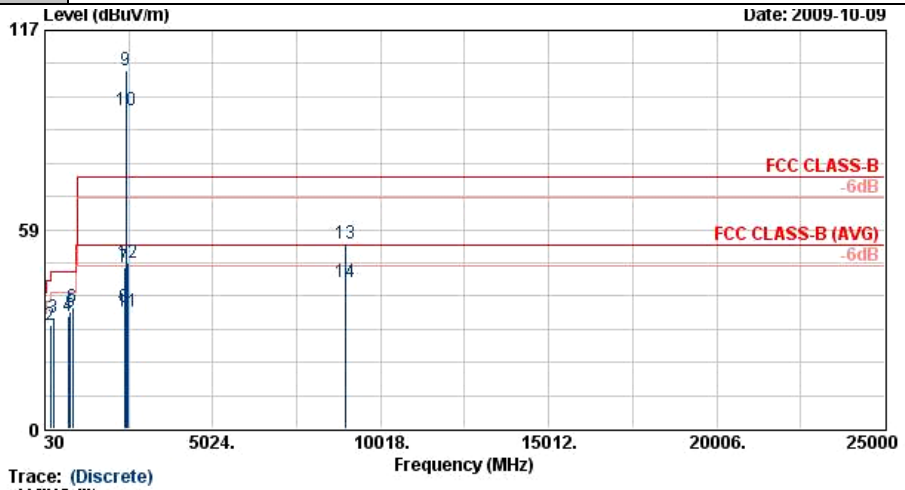


Trace: (Discrete)

Site : 03CH07-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
Project : FR 983104-03
Mode : Mode 4

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	39.18	25.26	-14.74	40.00	41.36	14.88	0.72	31.70	---	---	Peak
2	197.94	32.44	-11.06	43.50	52.31	10.04	1.69	31.60	---	---	Peak
3	287.58	30.19	-15.81	46.00	46.00	13.54	2.07	31.42	---	---	Peak
4	721.40	38.04	-7.96	46.00	44.00	21.29	3.61	30.86	100	217	Peak
5	802.60	34.88	-11.12	46.00	39.78	21.94	3.85	30.70	---	---	Peak
6	864.20	33.46	-12.54	46.00	37.17	22.97	4.02	30.70	---	---	Peak
7	1678.00	52.82	-21.18	74.00	53.22	29.22	4.75	34.36	100	133	Peak
8	1678.00	33.03	-20.97	54.00	33.43	29.22	4.75	34.36	100	133	Average
9	2164.00	56.00	-18.00	74.00	52.92	31.75	5.66	34.33	100	0	Peak
10	2389.99	62.64	-11.36	74.00	59.43	32.13	5.46	34.38	108	320	Peak
11	2389.99	42.98	-11.02	54.00	39.77	32.13	5.46	34.38	108	320	Average
12 X	2412.00	101.53			98.31	32.16	5.44	34.38	108	320	Peak
13 @	2412.00	93.26			90.04	32.16	5.44	34.38	108	320	Average
14	2494.00	51.72	-22.28	74.00	48.45	32.30	5.37	34.40	108	320	Peak
15	2494.00	33.75	-20.25	54.00	30.48	32.30	5.37	34.40	108	320	Average
16	8757.00	54.49	-19.51	74.00	43.43	36.15	10.26	35.35	100	114	Peak
17	8757.00	43.17	-10.83	54.00	32.11	36.15	10.26	35.35	100	114	Average

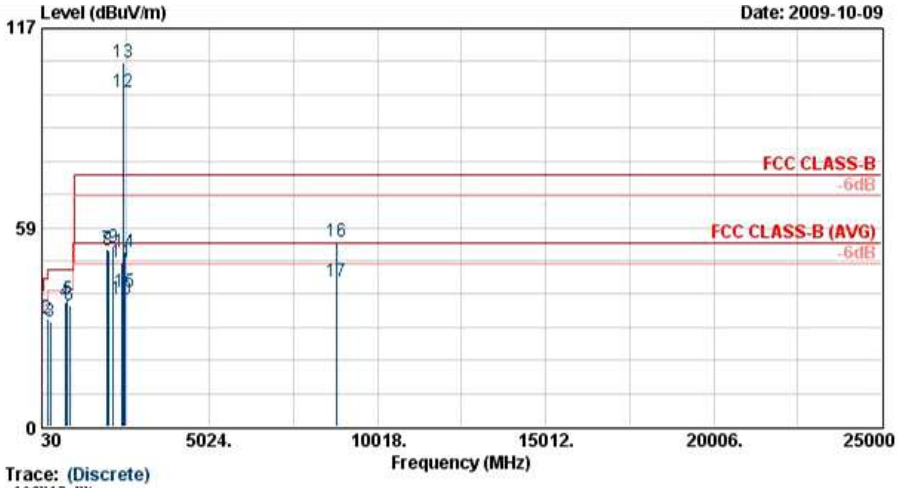
Test Mode :	Mode 5	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Kay Wang	Polarization :	Horizontal
Remark :	#9 and #10 are Fundamental Signals which can be ignored.		



Site : 03CH07-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
Project : FR 983104-03
Mode : Mode 5

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.00	25.88	-14.12	40.00	37.04	19.90	0.64	31.70	---	---	Peak
2	200.10	30.63	-12.87	43.50	50.33	10.20	1.70	31.60	---	---	Peak
3	287.85	32.68	-13.32	46.00	48.50	13.54	2.07	31.42	---	---	Peak
4	721.40	32.98	-13.02	46.00	38.94	21.29	3.61	30.86	---	---	Peak
5	800.50	34.30	-11.70	46.00	39.25	21.90	3.85	30.70	---	---	Peak
6	864.20	35.86	-10.14	46.00	39.57	22.97	4.02	30.70	100	87	Peak
7	2390.00	47.20	-26.80	74.00	43.98	32.13	5.46	34.38	100	328	Peak
8	2390.00	35.69	-18.31	54.00	32.48	32.13	5.46	34.38	100	328	Average
9 X	2437.00	105.15			101.91	32.19	5.43	34.39	100	328	Peak
10 X	2437.00	93.60			90.36	32.22	5.41	34.39	100	328	Average
11	2486.00	34.27	-19.73	54.00	31.01	32.27	5.38	34.40	100	328	Average
12	2486.00	48.77	-25.23	74.00	45.51	32.27	5.38	34.40	100	328	Peak
13	8958.00	54.19	-19.81	74.00	42.99	36.27	10.32	35.39	100	114	Peak
14	8958.00	42.94	-11.06	54.00	31.74	36.27	10.32	35.39	100	114	Average

Test Mode :	Mode 5	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Kay Wang	Polarization :	Vertical
Remark :	#12 and #13 are Fundamental Signals which can be ignored.		

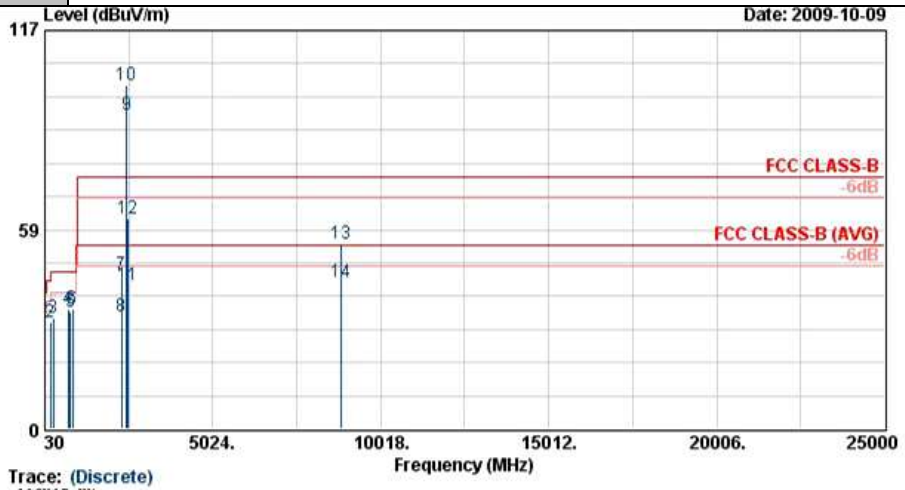


Trace: (Discrete)

Site : 03CH07-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
Project : FR 983104-03
Mode : Mode 5

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.00	26.69	-13.31	40.00	37.85	19.90	0.64	31.70	---	---	Peak
2	197.94	31.86	-11.64	43.50	51.73	10.04	1.69	31.60	---	---	Peak
3	286.77	30.87	-15.13	46.00	46.73	13.51	2.06	31.43	---	---	Peak
4	718.60	36.74	-9.26	46.00	42.76	21.24	3.61	30.86	---	---	Peak
5	800.50	37.24	-8.76	46.00	42.19	21.90	3.85	30.70	100	27	Peak
6	862.10	35.57	-10.43	46.00	39.29	22.98	4.01	30.70	---	---	Peak
7	1966.00	52.21	-21.79	74.00	49.58	31.26	5.68	34.31	100	0	Peak
8	1998.00	51.90	-22.10	74.00	48.91	31.50	5.79	34.30	100	0	Peak
9	2158.00	52.60	-21.40	74.00	49.52	31.75	5.66	34.33	100	0	Peak
10	2390.00	37.25	-16.75	54.00	34.04	32.13	5.46	34.38	104	319	Average
11	2390.00	48.47	-25.53	74.00	45.26	32.13	5.46	34.38	104	319	Peak
12 @	2437.00			54.00	95.13	32.22	5.41	34.39	104	319	Average
13 X	2437.00			74.00	103.87	32.22	5.41	34.39	104	319	Peak
14	2500.00	51.49	-22.51	74.00	48.22	32.30	5.37	34.40	104	319	Peak
15	2500.00	39.44	-14.56	54.00	36.17	32.30	5.37	34.40	104	319	Average
16	8778.00	54.22	-19.78	74.00	43.14	36.17	10.27	35.36	100	310	Peak
17	8778.00	42.82	-11.18	54.00	31.74	36.17	10.27	35.36	100	310	Average

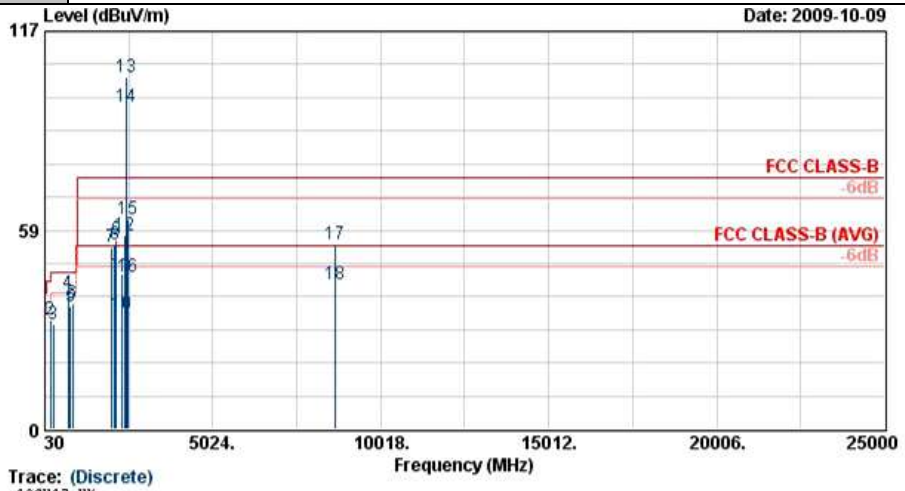
Test Mode :	Mode 6	Temperature :	23~24°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Kay Wang	Polarization :	Horizontal
Remark :	#9 and #10 are Fundamental Signals which can be ignored.		



Site : 03CH07-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
Project : FR 983104-03
Mode : Mode 6

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		44.85	24.21	-15.79	40.00	43.59	11.60	0.72	31.70	---	---	Peak
2		200.10	31.14	-12.36	43.50	50.84	10.20	1.70	31.60	---	---	Peak
3		287.85	32.82	-13.18	46.00	48.64	13.54	2.07	31.42	---	---	Peak
4		719.30	35.37	-10.63	46.00	41.36	21.25	3.61	30.86	100	21	Peak
5		797.70	34.18	-11.82	46.00	39.15	21.89	3.84	30.71	---	---	Peak
6		864.20	35.29	-10.71	46.00	39.01	22.97	4.02	30.70	---	---	Peak
7		2318.00	45.36	-28.64	74.00	42.19	32.02	5.51	34.37	119	317	Peak
8		2318.00	32.95	-21.05	54.00	29.78	32.02	5.51	34.37	119	317	Average
9	X	2462.00	92.13			88.88	32.24	5.40	34.39	119	317	Average
10	X	2462.00	100.76			97.51	32.24	5.40	34.39	119	317	Peak
11		2484.42	42.19	-11.81	54.00	38.93	32.27	5.38	34.40	119	317	Average
12		2484.42	61.58	-12.42	74.00	58.32	32.27	5.38	34.40	119	317	Peak
13		8853.00	54.20	-19.80	74.00	43.07	36.21	10.29	35.37	100	311	Peak
14		8853.00	42.87	-11.13	54.00	31.74	36.21	10.29	35.37	100	311	Average

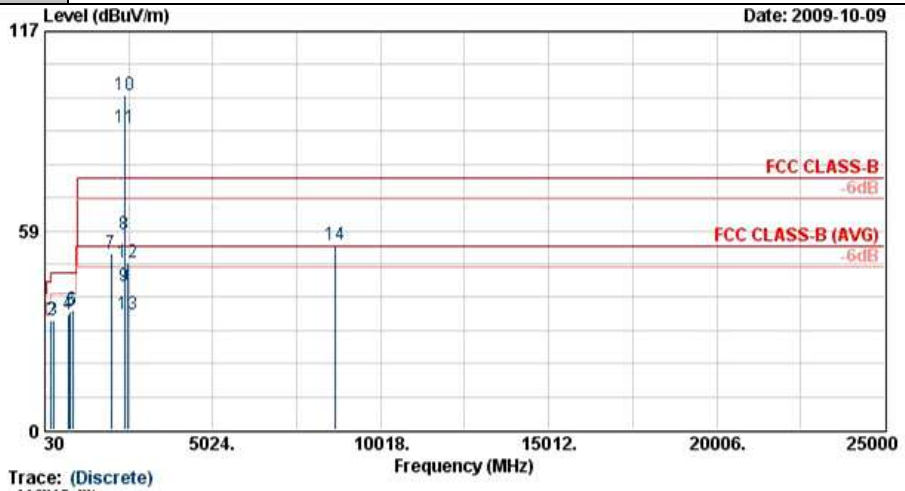
Test Mode :	Mode 6	Temperature :	23~24°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Kay Wang	Polarization :	Vertical
Remark :	#13 and #14 are Fundamental Signals which can be ignored.		



Site : 03CH07-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
Project : FR 983104-03
Mode : Mode 6

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.81	24.97	-15.03	40.00	36.66	19.36	0.65	31.70	---	---	Peak
2	200.10	32.32	-11.18	43.50	52.02	10.20	1.70	31.60	---	---	Peak
3	287.85	30.87	-15.13	46.00	46.68	13.54	2.07	31.42	---	---	Peak
4	719.30	39.94	-6.06	46.00	45.94	21.25	3.61	30.86	100	58	Peak
5	800.50	36.19	-9.81	46.00	41.14	21.90	3.85	30.70	---	---	Peak
6	861.40	37.00	-9.00	46.00	40.72	22.98	4.01	30.70	---	---	Peak
7	1996.00	53.34	-20.66	74.00	50.35	31.50	5.79	34.30	100	0	Peak
8	2108.00	54.26	-19.74	74.00	51.21	31.67	5.70	34.32	100	0	Peak
9	2164.00	55.62	-18.38	74.00	52.54	31.75	5.66	34.33	100	0	Peak
10	2326.00	33.88	-20.12	54.00	30.71	32.02	5.51	34.37	105	318	Average
11	2326.00	45.50	-28.50	74.00	42.33	32.02	5.51	34.37	105	318	Peak
12	2396.00	57.09	-16.91	74.00	53.87	32.13	5.46	34.38	100	0	Peak
13 X	2462.00	103.54			100.29	32.24	5.40	34.39	105	318	Peak
14 @	2462.00	94.63			91.38	32.24	5.40	34.39	105	318	Average
15	2483.50	61.93	-12.07	74.00	58.67	32.27	5.38	34.40	105	318	Peak
16	2483.50	44.72	-9.28	54.00	41.46	32.27	5.38	34.40	105	318	Average
17	8673.00	54.38	-19.62	74.00	43.38	36.10	10.23	35.33	100	111	Peak
18	8673.00	42.66	-11.34	54.00	31.66	36.10	10.23	35.33	100	111	Average

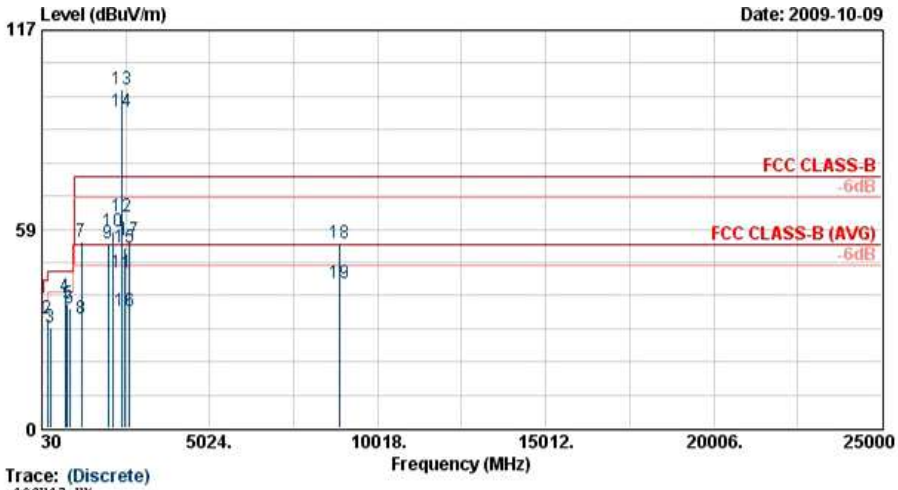
Test Mode :	Mode 7	Temperature :	23~24°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Kay Wang	Polarization :	Horizontal
Remark :	#10 and #11 are Fundamental Signals which can be ignored.		



Site : 03CH07-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
Project : FR 983104-03
Mode : Mode 7

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	31.89	27.46	-12.54	40.00	39.68	18.82	0.66	31.70	---	---	Peak
2	215.22	32.11	-11.39	43.50	51.45	10.45	1.77	31.57	---	---	Peak
3	286.77	32.34	-13.66	46.00	48.20	13.51	2.06	31.43	---	---	Peak
4	719.30	33.95	-12.05	46.00	39.95	21.25	3.61	30.86	---	---	Peak
5	797.70	34.85	-11.15	46.00	39.82	21.89	3.84	30.71	---	---	Peak
6	859.30	35.33	-10.67	46.00	39.05	22.98	4.00	30.70	100	154	Peak
7	1998.00	51.75	-22.25	74.00	48.76	31.50	5.79	34.30	100	0	Peak
8	2389.99	57.28	-16.72	74.00	54.07	32.13	5.46	34.38	100	328	Peak
9	2389.99	42.10	-11.90	54.00	38.89	32.13	5.46	34.38	100	328	Average
10 X	2412.00	98.33			95.10	32.19	5.43	34.39	100	328	Peak
11 X	2412.00	88.56			85.34	32.16	5.44	34.38	100	328	Average
12	2500.00	49.29	-24.71	74.00	46.02	32.30	5.37	34.40	100	328	Peak
13	2500.00	33.75	-20.25	54.00	30.48	32.30	5.37	34.40	100	328	Average
14	8673.00	54.47	-19.53	74.00	43.47	36.10	10.23	35.33	100	84	Peak

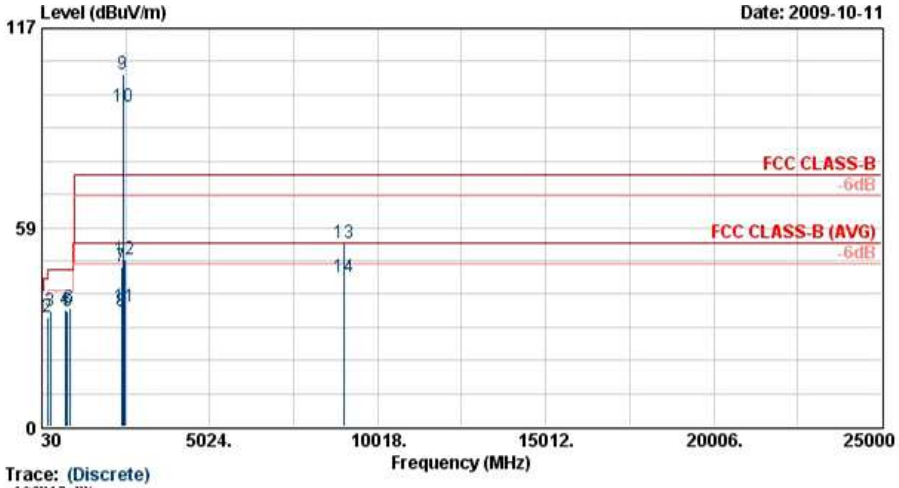
Test Mode :	Mode 7	Temperature :	23~24°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Kay Wang	Polarization :	Vertical
Remark :	#13 and #14 are Fundamental Signals which can be ignored.		



Site : 03CH07-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
Project : FR 983104-03
Mode : Mode 7

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		34.05	27.43	-12.57	40.00	40.72	17.74	0.67	31.70	---	---	Peak
2		198.21	32.28	-11.22	43.50	52.15	10.04	1.69	31.60	---	---	Peak
3		287.58	29.76	-16.24	46.00	45.57	13.54	2.07	31.42	---	---	Peak
4		719.30	38.86	-7.14	46.00	44.86	21.25	3.61	30.86	100	211	Peak
5		800.50	36.65	-9.35	46.00	41.60	21.90	3.85	30.70	---	---	Peak
6		862.10	35.29	-10.71	46.00	39.01	22.98	4.01	30.70	---	---	Peak
7		1198.00	54.76	-19.24	74.00	58.05	27.78	3.68	34.75	100	310	Peak
8		1198.00	32.36	-21.64	54.00	35.65	27.78	3.68	34.75	100	310	Average
9		1996.00	54.24	-19.76	74.00	51.25	31.50	5.79	34.30	100	0	Peak
10		2158.00	57.71	-16.29	74.00	54.63	31.75	5.66	34.33	100	0	Peak
11		2389.99	45.75	-8.25	54.00	42.54	32.13	5.46	34.38	107	319	Average
12		2389.99	62.22	-11.78	74.00	59.01	32.13	5.46	34.38	107	319	Peak
13	X	2412.00	99.43			96.21	32.16	5.44	34.38	107	319	Peak
14	@	2412.00	93.08			89.86	32.16	5.44	34.38	107	319	Average
15		2500.00	53.26	-20.74	74.00	49.99	32.30	5.37	34.40	107	319	Peak
16		2500.00	34.39	-19.61	54.00	31.12	32.30	5.37	34.40	107	319	Average
17		2638.00	55.22	-18.78	74.00	51.65	32.49	5.54	34.45	100	0	Peak
18		8877.00	54.53	-19.47	74.00	43.38	36.22	10.30	35.37	100	74	Peak
19		8877.00	42.69	-11.31	54.00	31.55	36.22	10.30	35.37	100	74	Average

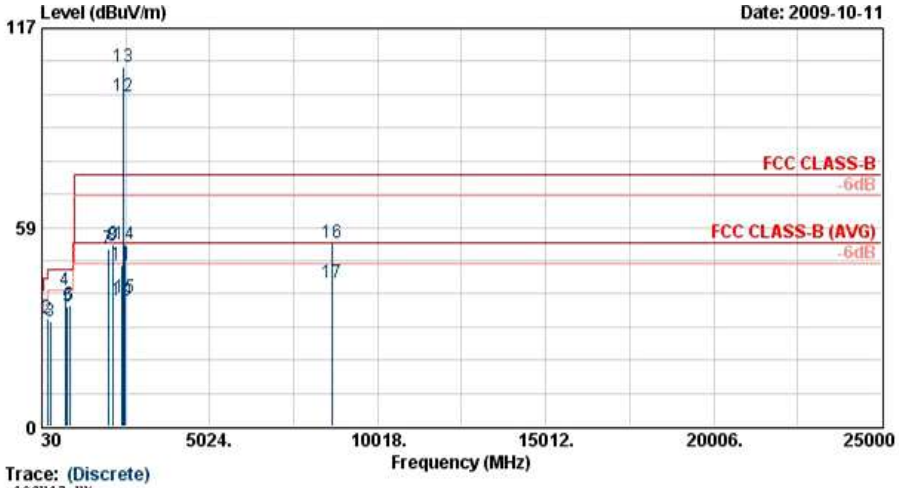
Test Mode :	Mode 8	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Kay Wang	Polarization :	Horizontal
Remark :	#9 and #10 are Fundamental Signals which can be ignored.		



Site : 03CH07-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
Project : FR 983104-03
Mode : Mode 8

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.54	31.30	-8.70	40.00	43.00	19.36	0.65	31.70	100	132	Peak
2	202.26	32.22	-11.28	43.50	51.84	10.25	1.71	31.59	---	---	Peak
3	287.85	33.81	-12.19	46.00	49.63	13.54	2.07	31.42	---	---	Peak
4	719.30	34.32	-11.68	46.00	40.32	21.25	3.61	30.86	---	---	Peak
5	799.80	33.72	-12.28	46.00	38.67	21.90	3.85	30.70	---	---	Peak
6	864.20	34.89	-11.11	46.00	38.60	22.97	4.02	30.70	---	---	Peak
7	2390.00	46.87	-27.13	74.00	43.66	32.13	5.46	34.38	123	319	Peak
8	2390.00	33.75	-20.25	54.00	30.54	32.13	5.46	34.38	123	319	Average
9 X	2437.00	103.70			100.47	32.19	5.43	34.39	123	319	Peak
10 X	2437.00	93.94			90.70	32.22	5.41	34.39	123	319	Average
11	2494.00	35.28	-18.72	54.00	32.01	32.30	5.37	34.40	123	319	Average
12	2494.00	49.27	-24.73	74.00	46.00	32.30	5.37	34.40	123	319	Peak
13	9000.00	53.88	-20.12	74.00	42.64	36.30	10.34	35.40	100	18	Peak
14	9000.00	43.98	-10.02	54.00	32.74	36.30	10.34	35.40	100	18	Average

Test Mode :	Mode 8	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Kay Wang	Polarization :	Vertical
Remark :	#12 and #13 are Fundamental Signals which can be ignored.		

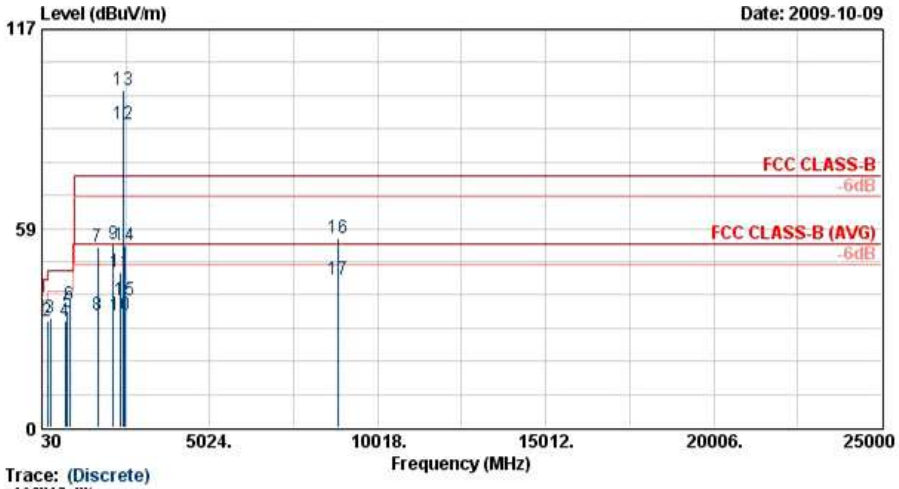


Trace: (Discrete)

Site : 03CH07-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
Project : FR 983104-03
Mode : Mode 8

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		30.00	26.60	-13.40	40.00	37.76	19.90	0.64	31.70	---	---	Peak
2		197.94	31.76	-11.74	43.50	51.63	10.04	1.69	31.60	---	---	Peak
3		286.77	31.06	-14.94	46.00	46.92	13.51	2.06	31.43	---	---	Peak
4	!	718.60	40.05	-5.95	46.00	46.07	21.24	3.61	30.86	100	195	Peak
5		797.70	35.36	-10.64	46.00	40.33	21.89	3.84	30.71	---	---	Peak
6		861.40	35.79	-10.21	46.00	39.51	22.98	4.01	30.70	---	---	Peak
7		1996.00	52.05	-21.95	74.00	49.06	31.50	5.79	34.30	100	0	Peak
8		2134.00	53.00	-21.00	74.00	49.94	31.72	5.67	34.33	100	0	Peak
9		2158.00	53.31	-20.69	74.00	50.23	31.75	5.66	34.33	100	0	Peak
10		2390.00	37.12	-16.88	54.00	33.91	32.13	5.46	34.38	106	319	Average
11		2390.00	47.20	-26.80	74.00	43.99	32.13	5.46	34.38	106	319	Peak
12	@	2437.00	97.01			93.77	32.22	5.41	34.39	106	319	Average
13	X	2437.00	105.61			102.37	32.22	5.41	34.39	106	319	Peak
14		2494.00	53.35	-20.65	74.00	50.08	32.30	5.37	34.40	106	319	Peak
15		2494.00	37.82	-16.18	54.00	34.55	32.30	5.37	34.40	106	319	Average
16		8670.00	53.99	-20.01	74.00	42.99	36.10	10.23	35.33	100	47	Peak
17		8670.00	42.11	-11.89	54.00	31.11	36.10	10.23	35.33	100	47	Average

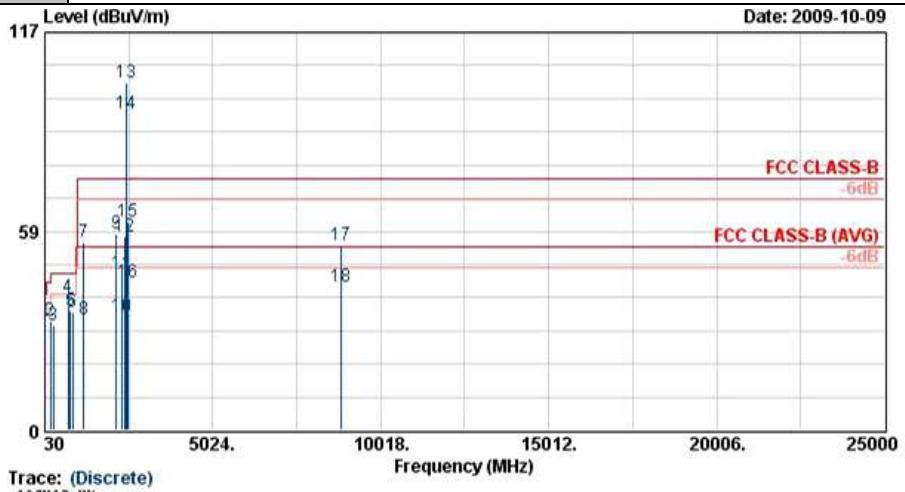
Test Mode :	Mode 9	Temperature :	23~24°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Kay Wang	Polarization :	Horizontal
Remark :	#12 and #13 are Fundamental Signals which can be ignored.		



Site : 03CH07-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
Project : FR 983104-03
Mode : Mode 9

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.54	29.84	-10.16	40.00	41.53	19.36	0.65	31.70	---	---	Peak
2	201.18	31.21	-12.29	43.50	50.89	10.22	1.70	31.60	---	---	Peak
3	286.77	32.13	-13.87	46.00	47.99	13.51	2.06	31.43	---	---	Peak
4	718.60	31.46	-14.54	46.00	37.48	21.24	3.61	30.86	---	---	Peak
5	800.50	33.83	-12.17	46.00	38.78	21.90	3.85	30.70	---	---	Peak
6	864.20	36.15	-9.85	46.00	39.86	22.97	4.02	30.70	100	111	Peak
7	1684.00	53.03	-20.97	74.00	53.43	29.22	4.75	34.36	100	45	Peak
8	1684.00	33.02	-20.98	54.00	33.42	29.22	4.75	34.36	100	45	Average
9	2158.00	53.83	-20.17	74.00	50.75	31.75	5.66	34.33	100	0	Peak
10	2366.00	33.22	-20.78	54.00	30.03	32.08	5.49	34.37	100	316	Average
11	2366.00	45.84	-28.16	74.00	42.65	32.08	5.49	34.37	100	316	Peak
12 X	2462.00	89.24			85.99	32.24	5.40	34.39	100	316	Average
13 X	2462.00	99.33			96.08	32.24	5.40	34.39	100	316	Peak
14	2484.42	53.62	-20.38	74.00	50.36	32.27	5.38	34.40	100	316	Peak
15	2484.42	37.22	-16.78	54.00	33.96	32.27	5.38	34.40	100	316	Average
16	8853.00	55.53	-18.47	74.00	44.40	36.21	10.29	35.37	100	121	Peak
17	8853.00	43.57	-10.43	54.00	32.44	36.21	10.29	35.37	100	121	Average

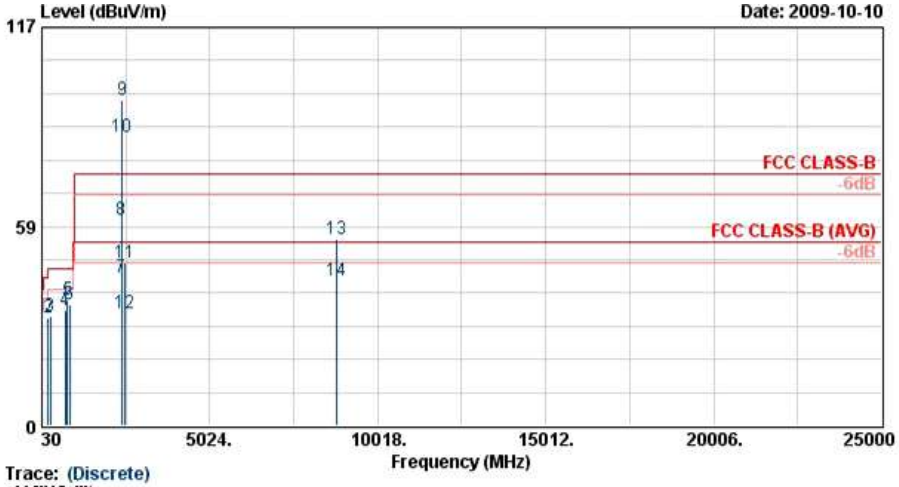
Test Mode :	Mode 9	Temperature :	23~24°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Kay Wang	Polarization :	Vertical
Remark :	#13 and #14 are Fundamental Signals which can be ignored.		



Site : 03CH07-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
Project : FR 983104-03
Mode : Mode 9

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		30.00	24.06	-15.94	40.00	35.22	19.90	0.64	31.70	---	---	Peak
2		197.94	32.33	-11.17	43.50	52.20	10.04	1.69	31.60	---	---	Peak
3		287.85	31.07	-14.93	46.00	46.89	13.54	2.07	31.42	---	---	Peak
4		718.60	39.19	-6.81	46.00	45.21	21.24	3.61	30.86	100	221	Peak
5		800.50	35.18	-10.82	46.00	40.13	21.90	3.85	30.70	---	---	Peak
6		864.20	34.78	-11.22	46.00	38.49	22.97	4.02	30.70	---	---	Peak
7		1196.00	55.31	-18.69	74.00	58.60	27.78	3.68	34.75	100	333	Peak
8		1196.00	32.57	-21.43	54.00	35.86	27.78	3.68	34.75	100	333	Average
9		2164.00	57.86	-16.14	74.00	54.79	31.75	5.66	34.33	100	0	Peak
10		2318.00	33.68	-20.32	54.00	30.51	32.02	5.51	34.37	104	318	Average
11		2318.00	46.17	-27.83	74.00	43.00	32.02	5.51	34.37	104	318	Peak
12		2398.00	57.07	-16.93	74.00	53.86	32.13	5.46	34.38	100	0	Peak
13	X	2462.00	102.07			98.82	32.24	5.40	34.39	104	318	Peak
14	@	2462.00	93.18			89.93	32.24	5.40	34.39	104	318	Average
15		2483.50	61.24	-12.76	74.00	57.98	32.27	5.38	34.40	104	318	Peak
16		2483.50	43.38	-10.62	54.00	40.12	32.27	5.38	34.40	104	318	Average
17		8829.00	54.22	-19.78	74.00	43.10	36.20	10.29	35.37	100	85	Peak
18		8829.00	42.17	-11.83	54.00	31.05	36.20	10.29	35.37	100	85	Average

Test Mode :	Mode 10	Temperature :	23~24°C
Test Channel :	03	Relative Humidity :	42~43%
Test Engineer :	Kay Wang	Polarization :	Horizontal
Remark :	#9 and #10 are Fundamental Signals which can be ignored.		

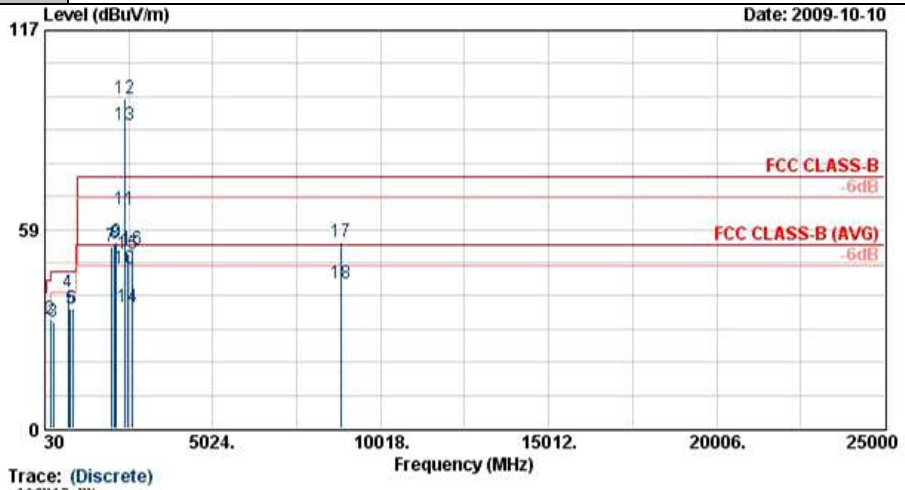


Trace: (Discrete)

Site : 03CH07-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
Project : FR 983104-03
Mode : Mode 10

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		30.00	30.93	-9.07	40.00	42.09	19.90	0.64	31.70	---	---	Peak
2		215.49	31.60	-11.90	43.50	50.95	10.45	1.77	31.57	---	---	Peak
3		286.77	32.00	-14.00	46.00	47.85	13.51	2.06	31.43	---	---	Peak
4		718.60	33.80	-12.20	46.00	39.83	21.24	3.61	30.86	---	---	Peak
5		800.50	37.10	-8.90	46.00	42.05	21.90	3.85	30.70	100	31	Peak
6		862.10	35.71	-10.29	46.00	39.42	22.98	4.01	30.70	---	---	Peak
7		2389.99	43.36	-10.64	54.00	40.15	32.13	5.46	34.38	100	329	Average
8		2389.99	60.31	-13.69	74.00	57.10	32.13	5.46	34.38	100	329	Peak
9	X	2422.00	95.59			92.36	32.16	5.44	34.38	100	329	Peak
10	X	2422.00	85.00			81.77	32.19	5.43	34.39	100	329	Average
11		2500.00	48.00	-26.00	74.00	44.73	32.30	5.37	34.40	100	329	Peak
12		2500.00	33.01	-20.99	54.00	29.74	32.30	5.37	34.40	100	329	Average
13		8790.00	54.67	-19.33	74.00	43.59	36.17	10.27	35.36	100	211	Peak
14		8790.00	42.52	-11.48	54.00	31.44	36.17	10.27	35.36	100	211	Average

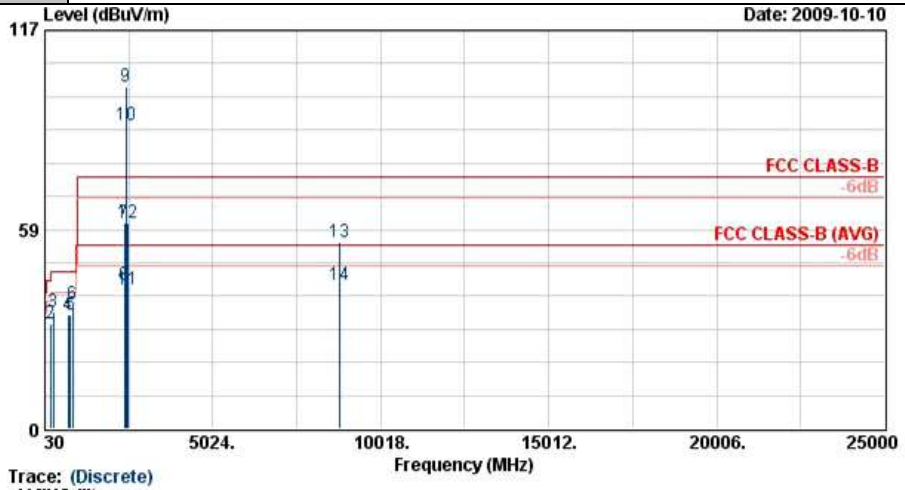
Test Mode :	Mode 10	Temperature :	23~24°C
Test Channel :	03	Relative Humidity :	42~43%
Test Engineer :	Kay Wang	Polarization :	Vertical
Remark :	#12 and #13 are Fundamental Signals which can be ignored.		



Site : 03CH07-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
Project : FR 983104-03
Mode : Mode 10

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		30.00	25.10	-14.90	40.00	36.26	19.90	0.64	31.70	---	---	Peak
2		196.05	32.10	-11.40	43.50	52.14	9.88	1.68	31.60	---	---	Peak
3		287.58	31.37	-14.63	46.00	47.19	13.54	2.07	31.42	---	---	Peak
4		720.00	39.82	-6.18	46.00	45.82	21.25	3.61	30.86	100	111	Peak
5		800.50	35.35	-10.65	46.00	40.30	21.90	3.85	30.70	---	---	Peak
6		859.30	35.10	-10.90	46.00	38.82	22.98	4.00	30.70	---	---	Peak
7		2004.00	53.65	-20.35	74.00	50.66	31.50	5.79	34.30	100	0	Peak
8		2102.00	54.52	-19.48	74.00	51.47	31.67	5.70	34.32	100	0	Peak
9		2154.00	54.72	-19.28	74.00	51.64	31.75	5.66	34.33	100	0	Peak
10		2389.42	46.88	-7.12	54.00	43.67	32.13	5.46	34.38	106	314	Average
11		2389.42	64.28	-9.72	74.00	61.07	32.13	5.46	34.38	106	314	Peak
12	X	2422.00	96.94			93.71	32.19	5.43	34.39	106	314	Peak
13	@	2422.00	89.14			85.91	32.19	5.43	34.39	106	314	Average
14		2500.00	35.62	-18.38	54.00	32.35	32.30	5.37	34.40	106	314	Average
15		2500.00	51.51	-22.49	74.00	48.24	32.30	5.37	34.40	106	314	Peak
16		2644.00	52.46	-21.54	74.00	48.85	32.51	5.56	34.46	100	0	Peak
17		8829.00	54.86	-19.14	74.00	43.74	36.20	10.29	35.37	100	152	Peak
18		8829.00	42.56	-11.44	54.00	31.44	36.20	10.29	35.37	100	152	Average

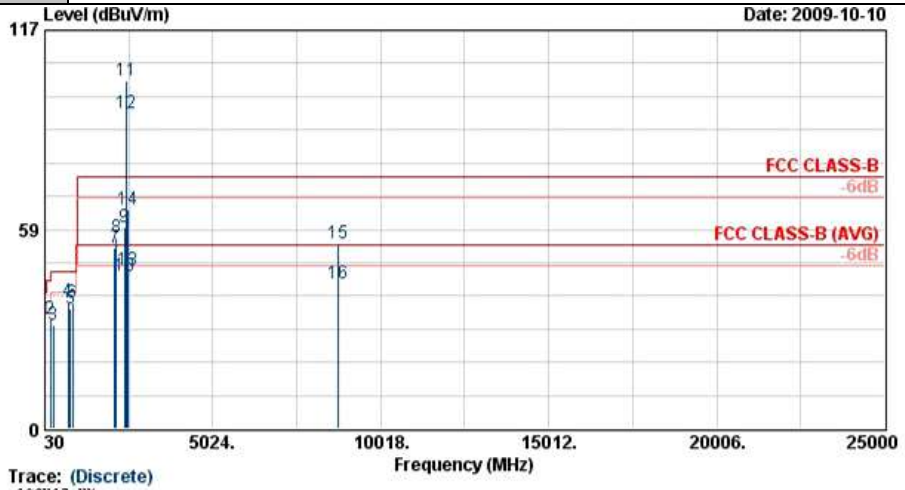
Test Mode :	Mode 11	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Kay Wang	Polarization :	Horizontal
Remark :	#9 and #10 are Fundamental Signals which can be ignored.		



Site : 03CH07-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
Project : FR 983104-03
Mode : Mode 11

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		30.00	31.42	-8.58	40.00	42.58	19.90	0.64	31.70	100	107	Peak
2		201.18	30.94	-12.56	43.50	50.62	10.22	1.70	31.60	---	---	Peak
3		287.85	34.17	-11.83	46.00	49.99	13.54	2.07	31.42	---	---	Peak
4		719.30	33.28	-12.72	46.00	39.28	21.25	3.61	30.86	---	---	Peak
5		797.70	33.34	-12.66	46.00	38.31	21.89	3.84	30.71	---	---	Peak
6		862.10	36.37	-9.63	46.00	40.09	22.98	4.01	30.70	---	---	Peak
7		2390.00	60.35	-13.65	74.00	57.14	32.13	5.46	34.38	100	328	Peak
8		2390.00	42.18	-11.82	54.00	38.97	32.13	5.46	34.38	100	328	Average
9	X	2437.00	100.55			97.32	32.19	5.43	34.39	100	328	Peak
10	X	2437.00	89.27			86.03	32.22	5.41	34.39	100	328	Average
11		2484.00	40.98	-13.02	54.00	37.72	32.27	5.38	34.40	100	328	Average
12		2484.00	60.49	-13.51	74.00	57.23	32.27	5.38	34.40	100	328	Peak
13		8814.00	54.79	-19.21	74.00	43.68	36.19	10.28	35.36	100	157	Peak
14		8814.00	42.36	-11.64	54.00	31.25	36.19	10.28	35.36	100	157	Average

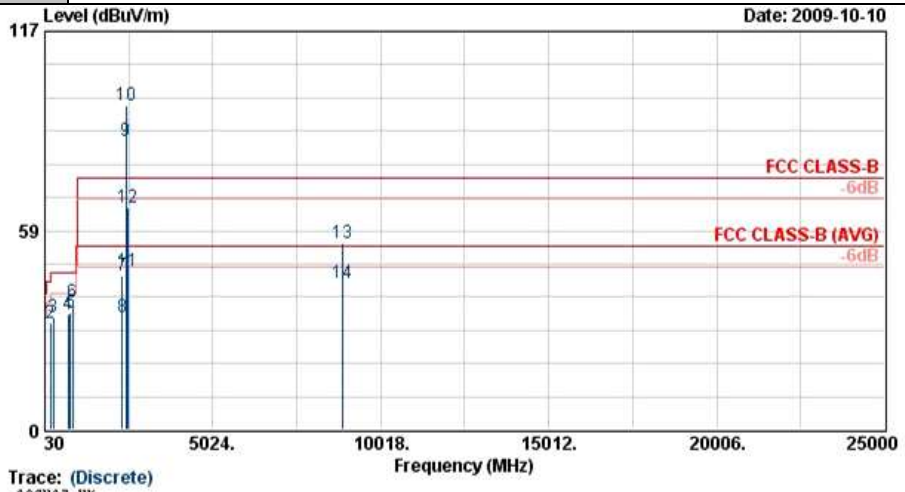
Test Mode :	Mode 11	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Kay Wang	Polarization :	Vertical
Remark :	#11 and #12 are Fundamental Signals which can be ignored.		



Site : 03CH07-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
Project : FR 983104-03
Mode : Mode 11

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		30.00	25.24	-14.76	40.00	36.40	19.90	0.64	31.70	---	---	Peak
2		197.94	32.16	-11.34	43.50	52.03	10.04	1.69	31.60	---	---	Peak
3		287.58	30.60	-15.40	46.00	46.41	13.54	2.07	31.42	---	---	Peak
4		718.60	37.26	-8.74	46.00	43.28	21.24	3.61	30.86	100	195	Peak
5		800.50	35.19	-10.81	46.00	40.14	21.90	3.85	30.70	---	---	Peak
6		864.20	36.92	-9.08	46.00	40.63	22.97	4.02	30.70	---	---	Peak
7		2108.00	53.16	-20.84	74.00	50.11	31.67	5.70	34.32	100	0	Peak
8		2156.00	56.11	-17.89	74.00	53.03	31.75	5.66	34.33	100	0	Peak
9		2390.00	59.30	-14.70	74.00	56.09	32.13	5.46	34.38	105	320	Peak
10		2390.00	44.80	-9.20	54.00	41.59	32.13	5.46	34.38	105	320	Average
11	X	2437.00	102.31			99.06	32.22	5.41	34.39	105	320	Peak
12	@	2437.00	92.72			89.48	32.22	5.41	34.39	105	320	Average
13		2484.00	46.65	-7.35	54.00	43.39	32.27	5.38	34.40	105	320	Average
14		2484.00	64.16	-9.84	74.00	60.90	32.27	5.38	34.40	105	320	Peak
15		8742.00	54.34	-19.66	74.00	43.29	36.14	10.25	35.35	100	222	Peak
16		8742.00	42.82	-11.18	54.00	31.77	36.14	10.25	35.35	100	222	Average

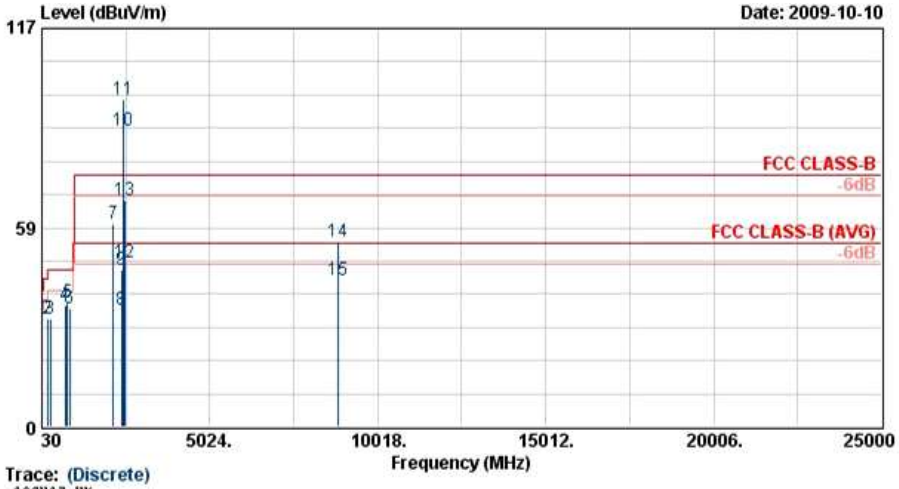
Test Mode :	Mode 12	Temperature :	23~24°C
Test Channel :	09	Relative Humidity :	42~43%
Test Engineer :	Kay Wang	Polarization :	Horizontal
Remark :	#9 and #10 are Fundamental Signals which can be ignored.		



Site : 03CH07-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
Project : FR 983104-03
Mode : Mode 12

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		30.54	28.86	-11.14	40.00	40.55	19.36	0.65	31.70	---	---	Peak
2		201.18	31.52	-11.98	43.50	51.19	10.22	1.70	31.60	---	---	Peak
3		287.58	32.91	-13.09	46.00	48.73	13.54	2.07	31.42	---	---	Peak
4		719.30	33.84	-12.16	46.00	39.84	21.25	3.61	30.86	---	---	Peak
5		800.50	34.14	-11.86	46.00	39.09	21.90	3.85	30.70	---	---	Peak
6		862.10	37.62	-8.38	46.00	41.33	22.98	4.01	30.70	100	132	Peak
7		2334.00	45.41	-28.59	74.00	42.23	32.02	5.51	34.37	122	328	Peak
8		2334.00	33.25	-20.75	54.00	30.08	32.02	5.51	34.37	122	328	Average
9	X	2452.00	84.88			81.64	32.22	5.41	34.39	122	328	Average
10	X	2452.00	95.41			92.16	32.24	5.40	34.39	122	328	Peak
11		2483.85	46.46	-7.54	54.00	43.25	32.13	5.46	34.38	122	328	Average
12		2483.85	65.26	-8.74	74.00	62.05	32.13	5.46	34.38	122	328	Peak
13		8865.00	54.74	-19.26	74.00	43.59	36.22	10.30	35.37	100	212	Peak
14		8865.00	42.88	-11.12	54.00	31.74	36.22	10.30	35.37	100	212	Average

Test Mode :	Mode 12	Temperature :	23~24°C
Test Channel :	09	Relative Humidity :	42~43%
Test Engineer :	Kay Wang	Polarization :	Vertical
Remark :	#10 and #11 are Fundamental Signals which can be ignored.		



Site : 03CH07-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
Project : FR 983104-03
Mode : Mode 12

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.00	29.26	-10.74	40.00	40.42	19.90	0.64	31.70	---	---	Peak
2	196.86	31.56	-11.94	43.50	51.51	9.96	1.69	31.60	---	---	Peak
3	286.77	31.65	-14.35	46.00	47.50	13.51	2.06	31.43	---	---	Peak
4	721.40	35.48	-10.52	46.00	41.43	21.29	3.61	30.86	---	---	Peak
5	797.70	36.39	-9.61	46.00	41.36	21.89	3.84	30.71	100	132	Peak
6	862.10	34.70	-11.30	46.00	38.42	22.98	4.01	30.70	---	---	Peak
7	2158.00	59.58	-14.42	74.00	56.50	31.75	5.66	34.33	100	0	Peak
8	2388.00	34.19	-19.81	54.00	30.98	32.13	5.46	34.38	105	320	Average
9	2388.00	46.08	-27.92	74.00	42.87	32.13	5.46	34.38	105	320	Peak
10 @	2452.00	86.89			83.65	32.22	5.41	34.39	105	320	Average
11 X	2452.00	96.32			93.07	32.24	5.40	34.39	105	320	Peak
12 !	2486.66	48.35	-5.65	54.00	45.09	32.27	5.38	34.40	105	320	Average
13	2486.66	66.40	-7.60	74.00	63.14	32.27	5.38	34.40	105	320	Peak
14	8850.00	54.34	-19.66	74.00	43.21	36.21	10.29	35.37	100	132	Peak
15	8850.00	42.98	-11.02	54.00	31.85	36.21	10.29	35.37	100	132	Average

3.4 Antenna Requirements

3.4.1 Standard Applicable

If directional gain of transmitting antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the FCC rule.

3.4.2 Antenna Connected Construction

The antennas type used in this product is PIFA Antenna and it is considered to meet antenna requirement.

3.4.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
EMI Test Receive	R&S	ESCS 30	100356	9KHz – 2.75GHz	Aug. 05, 2009	Aug. 04, 2010	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100081	9kHz~30MHz	Nov. 26, 2008	Nov. 25, 2009	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100080	9kHz~30MHz	Nov. 26, 2008	Nov. 25, 2009	Conduction (CO05-HY)
AC Power Source	APC	APC-1000W	N/A	N/A	N/A	N/A	Conduction (CO05-HY)
Bilog Antenna	SCHAFFNER	CBL6111C	2726	30MHz ~ 1GHz	Nov. 20, 2008	Nov. 19, 2009	Radiation (03CH07-HY)
Spectrum Analyzer	R&S	FSP	101067	9KHz ~ 30GHz	Dec. 02, 2008	Dec. 01, 2009	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Aug. 20, 2009	Aug. 19, 2010	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz- 40GHz	Oct. 16, 2008	Oct. 15, 2009	Radiation (03CH07-HY)
Pre Amplifier	Agilent	8449B	3008A02362	1GHz~ 26.5GHz	Dec. 17, 2008	Dec. 16, 2009	Radiation (03CH07-HY)
Pre Amplifier	COM-POWER	PA-103A	161241	10-1000MHz.32 dB.GAIN	Mar. 27, 2009	Mar. 26, 2010	Radiation (03CH07-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 KHz~30 MHz	May 22, 2008	May 21, 2010	Radiation (03CH07-HY)

5 Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)

Contribution	Uncertainty of X_i		$u(X_i)$
	dB	Probability Distribution	
Receiver Reading	0.10	Normal (k=2)	0.05
Cable Loss	0.10	Normal (k=2)	0.05
AMN Insertion Loss	2.50	Rectangular	0.63
Receiver Specification	1.50	Rectangular	0.43
Site Imperfection	1.39	Rectangular	0.80
Mismatch	+0.34 / -0.35	U-Shape	0.24
Combined Standard Uncertainty Uc(y)	**1.13**		
Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.26**		

Uncertainty of Radiated Emission Measurement (30MHz ~ 1000MHz)

Contribution	Uncertainty of X_i		$u(X_i)$
	dB	Probability Distribution	
Receiver Reading	0.41	Normal (k=2)	0.21
Antenna Factor Calibration	0.83	Normal (k=2)	0.42
Cable Loss Calibration	0.25	Normal (k=2)	0.13
Pre-Amplifier Gain Calibration	0.27	Normal (k=2)	0.14
RCV/SPA Specification	2.50	Rectangular	0.72
Antenna Factor Interpolation for Frequency	1.00	Rectangular	0.29
Site Imperfection	1.43	Rectangular	0.83
Mismatch	+0.39 / -0.41	U-Shape	0.28
Combined Standard Uncertainty Uc(y)	**1.27**		
Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.54**		

Uncertainty of Radiated Emission Measurement (1GHz ~ 40GHz)

Contribution	Uncertainty of X_i		$u(X_i)$	C_i	$C_i * u(X_i)$
	dB	Probability Distribution			
Receiver Reading	±0.10	Normal (k=2)	0.10	1	0.10
Antenna Factor Calibration	±1.70	Normal (k=2)	0.85	1	0.85
Cable Loss Calibration	±0.50	Normal (k=2)	0.25	1	0.25
Receiver Correction	±2.00	Rectangular	1.15	1	1.15
Antenna Factor Directional	±1.50	Rectangular	0.87	1	0.87
Site Imperfection	±2.80	Triangular	1.14	1	1.14
Mismatch Receiver VSWR Γ1 = 0.197 Antenna VSWR Γ2 = 0.194 Uncertainty = 20Log(1-Γ1*Γ2)	+0.34 / -0.35	U-Shape	0.244	1	0.244
Combined Standard Uncertainty Uc(y)	**2.36**				
Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.72**				

6 Certification of TAF Accreditation

Certificate No. : L1190-090417

財團法人全國認證基金會
Taiwan Accreditation Foundation

Certificate of Accreditation

This is to certify that

Sporton International Inc.
EMC & Wireless Communications Laboratory
No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

is accredited in respect of laboratory

Accreditation Criteria	:	ISO/IEC 17025:2005
Accreditation Number	:	1190
Originally Accredited	:	December 15, 2003
Effective Period	:	January 10, 2007 to January 09, 2010
Accredited Scope	:	Testing Field, see described in the Appendix
Specific Accreditation Program	:	Accreditation Program for Designated Testing Laboratory for Commodities Inspection Accreditation Program for Telecommunication Equipment Testing Laboratory Accreditation Program for BSMI Mutual Recognition Arrangment with Foreign Authorities

Jay-San Chen
President, Taiwan Accreditation Foundation
Date : April 17, 2009

P1, total 20 pages

The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix

Appendix A. Photographs of EUT

Please refer to Sporton report number EP983104-03 as below.