



# FCC Test Report

**APPLICANT** : Sony Mobile Communications Inc.  
**EQUIPMENT** : GSM/WCDMA/LTE Phone+Bluetooth, DTS/UNII  
a/b/g/n/ac and NFC  
**BRAND NAME** : Sony  
**FCC ID** : PY7-57442Z  
**STANDARD** : FCC 47 CFR FCC Part 15 Subpart B  
**CLASSIFICATION** : FCC Class B personal computers and peripherals

The product was received on Jun. 07, 2017 and testing was completed on Oct. 27, 2017. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI C63.4-2014 and has been in 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: Louis Wu / Manager

Approved by: Jones Tsai / Manager



## **SPORTON INTERNATIONAL INC.**

**No. 52, Hwa Ya 1<sup>st</sup> Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.**

SPORTON INTERNATIONAL INC.

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FCC ID : PY7-57442Z

Page Number : 1 of 26

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### SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.107	AC Conducted Emission	< 15.107 limits	PASS	Under limit 10.10 dB at 0.158 MHz
3.2	15.109	Radiated Emission	< 15.109 limits	PASS	Under limit 6.40 dB at 151.770 MHz



# 1. General Description

## 1.1. Applicant

**Sony Mobile Communications Inc.**

4-12-3 Higashi-Shinagawa, Shinagawa-ku, Tokyo, 140-0002, Japan

## 1.2. Manufacturer

**Sony Mobile Communications Inc.**

4-12-3 Higashi-Shinagawa, Shinagawa-ku, Tokyo, 140-0002, Japan

## 1.3. Product Feature of Equipment Under Test

GSM/WCDMA/LTE, Bluetooth, DTS/UNII a/b/g/n/ac, FM Receiver, NFC, and GPS.

Product Specification subjective to this standard	
<b>Antenna Type</b>	WWAN Antenna Main: PIFA Antenna Aux. : C-feed Antenna WLAN: PIFA Antenna Bluetooth: PIFA Antenna GPS / Glonass: PIFA Antenna NFC: Loop Antenna

EUT Information List			
HW Version	SW Version	S/N	Performed Test Item
A	1.14	CQ300004RB	Conducted Emission Radiated Emission



Accessory List	
Earphone 1	Model No. : MH410c
	S/N : N/A
Earphone 2	Model No. : MH410c
	S/N : N/A
USB Cable	Model No. : UCB20
	S/N : N/A

**Note:**

1. Above EUT list and accessory list used are electrically identical per declared by manufacturer.
2. Above the accessories list are used to exercise the EUT during test.
3. For other wireless features of this EUT, test report will be issued separately.

### 1.4. Modification of EUT

No modifications are made to the EUT during all test items.

### 1.5. Test Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1190 and TW1098 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

<b>Test Site</b>	SPORTON INTERNATIONAL INC.
<b>Test Site Location</b>	No. 52, Hwa Ya 1 <sup>st</sup> Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978
<b>Test Site No.</b>	<b>Sporton Site No.</b>
	CO05-HY

<b>Test Site</b>	SPORTON INTERNATIONAL INC.
<b>Test Site Location</b>	No.58, Aly. 75, Ln. 564, Wenhua 3rd Rd. Guishan Dist, Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
<b>Test Site No.</b>	<b>Sporton Site No.</b>
	03CH10-HY



## 1.6. Applicable Standards

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

- ♦ FCC 47 CFR FCC Part 15 Subpart B
- ♦ ANSI C63.4-2014

### **Remark:**

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. For FCC 15 Subpart B - Unintentional Radiators, device supporting USB interface or similar peripherals (defined as the Section 15.3 (r) Peripheral device) acting as a peripheral for personal computers shall be authorized as “The Class B personal computers and peripherals” per the Section 15.101 (a) Equipment authorization of unintentional radiators.
3. For other Unintentional Radiators features of this EUT, test reports are be issued separately.  
Per the Note of the Section 15.101, when device supports features (USB, FM Radio, digital devices...etc) more than one category of authorization, type of authorization shall be appropriately chosen for FCC 15B compliance rule, and the Section 15.101 (b), only those receivers that operate (tune) within the frequency range of 30-960 MHz, CB receivers and radar detectors are subject to the authorizations shown in paragraph (a) of the Section 15.101. However, receivers indicated as being subject to Declaration of Conformity that are contained within a transceiver, the transmitter portion of which is subject to certification, shall be authorized under the verification procedure.



## 2. Test Configuration of Equipment Under Test

### 2.1. Test Mode

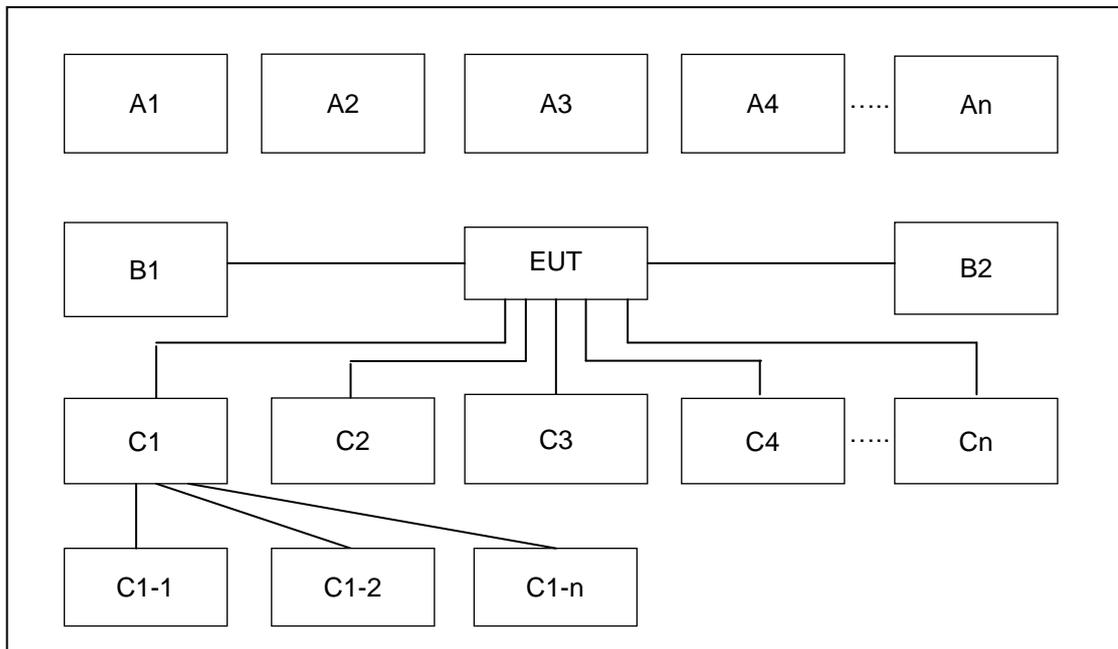
The EUT has been associated with peripherals pursuant to ANSI C63.4-2014 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

Frequency range investigated: conduction (150 kHz to 30 MHz), radiation (30MHz to the 5th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

Test Items	Function Type
AC Conducted Emission	Mode 1: Flight Mode + USB Cable (Data Link with Notebook) + Battery 1 + Earphone 1
	Mode 2: Flight Mode + USB Cable (Data Link with Notebook) + Battery 2 + Earphone 2
Radiated Emissions	Mode 1: Flight Mode + USB Cable (Data Link with Notebook) + Battery 1 + Earphone 1
	Mode 2: Flight Mode + USB Cable (Data Link with Notebook) + Battery 2 + Earphone 2

**Remark:** Data Link with Notebook means data application transferred mode between EUT and Notebook.

## 2.2.Connection Diagram of Test System



Test Setup									
No.	Setup Peripherals	Connection Type	Test Mode						
			1	2	3	4	5	6	7
C1	Notebook	USB Cable	X	X					
C1-1	Music Player	USB Cable to C1	X	X					
C1-2	AP router	RJ-45 Cable to C1	X	X					
C2	Earphone	Earphone jack	X	X					
C3	SD card	SD I/O interface without Cable	X	X					



### 2.3. Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded,1.8m
2.	Notebook	DELL	Latitude E6320	FCC DoC/ Contains FCC ID: QDS-BRCM1054	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
3.	Music Player	Apple	A1285	FCC DoC	Shielded, 1.0 m	N/A
4.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A
5.	SD Card	SanDisk	microSDHC 16GB Class 10 UHS-I	FCC DoC	N/A	N/A

### 2.4. EUT Operation Test Setup

The data application (each file size is greater than 30Mbytes) is continuously transferred between the EUT and Notebook connected via USB cable, while Flight mode.



### 3. Test Result

#### 3.1. Test of AC Conducted Emission Measurement

##### 3.1.1 Limits 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.

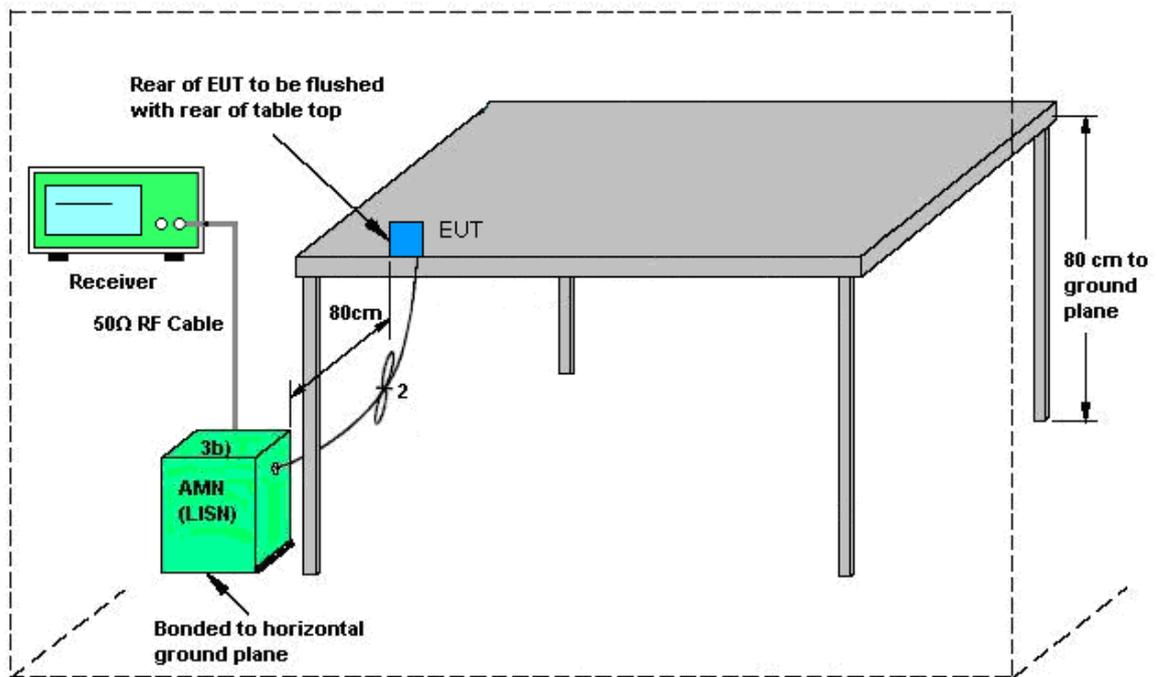
##### 3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

##### 3.1.3 Test Procedure

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

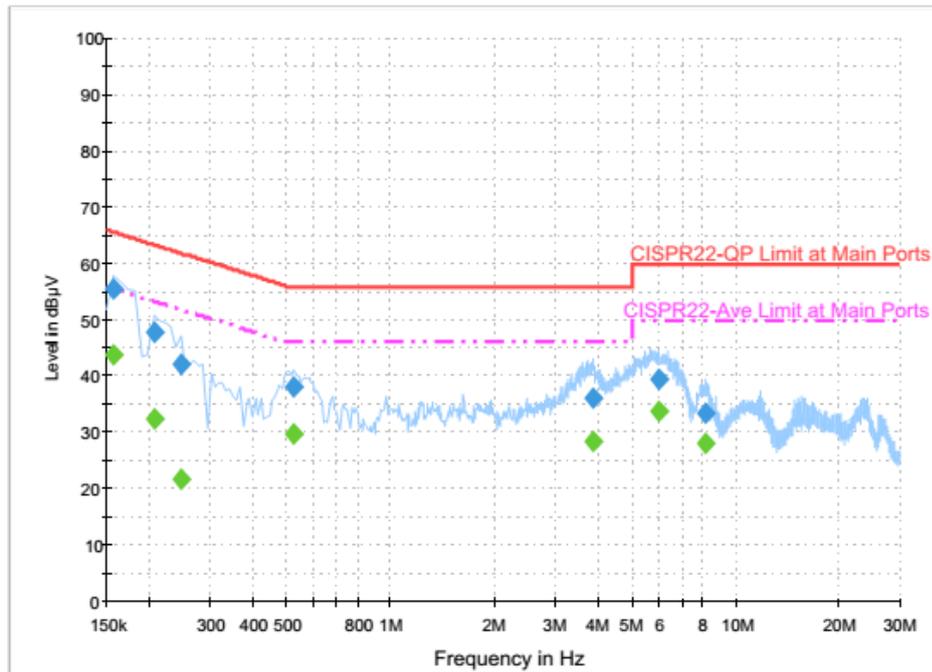
### 3.1.4 Test Setup



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

### 3.1.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	26~27°C
Test Engineer :	Shareef Yu	Relative Humidity :	58~62%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	Flight Mode + USB Cable (Data Link with Notebook) + Battery 1 + Earphone 1		



**Final Result : Quasi-Peak**

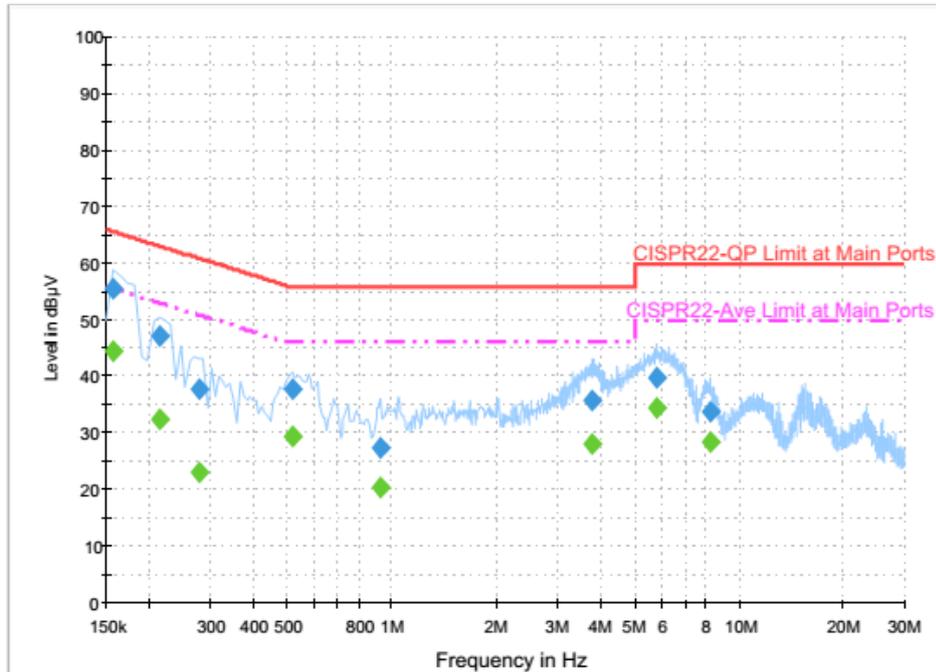
Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	55.5	Off	L1	19.5	10.1	65.6
0.206000	47.8	Off	L1	19.5	15.6	63.4
0.246000	42.2	Off	L1	19.5	19.7	61.9
0.526000	38.0	Off	L1	19.5	18.0	56.0
3.870000	36.0	Off	L1	19.6	20.0	56.0
6.006000	39.5	Off	L1	19.6	20.5	60.0
8.198000	33.4	Off	L1	19.6	26.6	60.0

**Final Result : Average**

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	43.7	Off	L1	19.5	11.9	55.6
0.206000	32.6	Off	L1	19.5	20.8	53.4
0.246000	21.8	Off	L1	19.5	30.1	51.9
0.526000	29.7	Off	L1	19.5	16.3	46.0
3.870000	28.4	Off	L1	19.6	17.6	46.0
6.006000	33.9	Off	L1	19.6	16.1	50.0
8.198000	28.0	Off	L1	19.6	22.0	50.0



Test Mode :	Mode 1	Temperature :	26~27°C
Test Engineer :	Shareef Yu	Relative Humidity :	58~62%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	Flight Mode + USB Cable (Data Link with Notebook) + Battery 1 + Earphone 1		



**Final Result : Quasi-Peak**

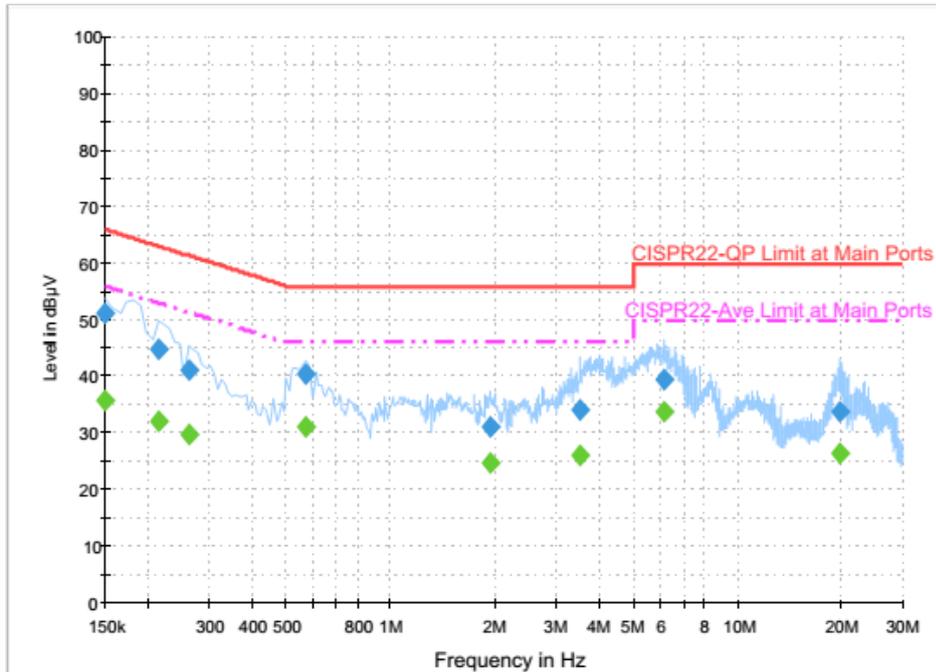
Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	55.5	Off	N	19.5	10.1	65.6
0.214000	47.2	Off	N	19.5	15.8	63.0
0.278000	38.0	Off	N	19.5	22.9	60.9
0.518000	37.8	Off	N	19.5	18.2	56.0
0.926000	27.5	Off	N	19.5	28.5	56.0
3.782000	35.9	Off	N	19.6	20.1	56.0
5.774000	39.7	Off	N	19.6	20.3	60.0
8.246000	33.7	Off	N	19.7	26.3	60.0

**Final Result : Average**

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	44.5	Off	N	19.5	11.1	55.6
0.214000	32.5	Off	N	19.5	20.5	53.0
0.278000	22.9	Off	N	19.5	28.0	50.9
0.518000	29.5	Off	N	19.5	16.5	46.0
0.926000	20.4	Off	N	19.5	25.6	46.0
3.782000	28.2	Off	N	19.6	17.8	46.0
5.774000	34.3	Off	N	19.6	15.7	50.0
8.246000	28.4	Off	N	19.7	21.6	50.0



Test Mode :	Mode 2	Temperature :	26~27°C
Test Engineer :	Shareef Yu	Relative Humidity :	58~62%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	Flight Mode + USB Cable (Data Link with Notebook) + Battery 2 + Earphone 2		



**Final Result : Quasi-Peak**

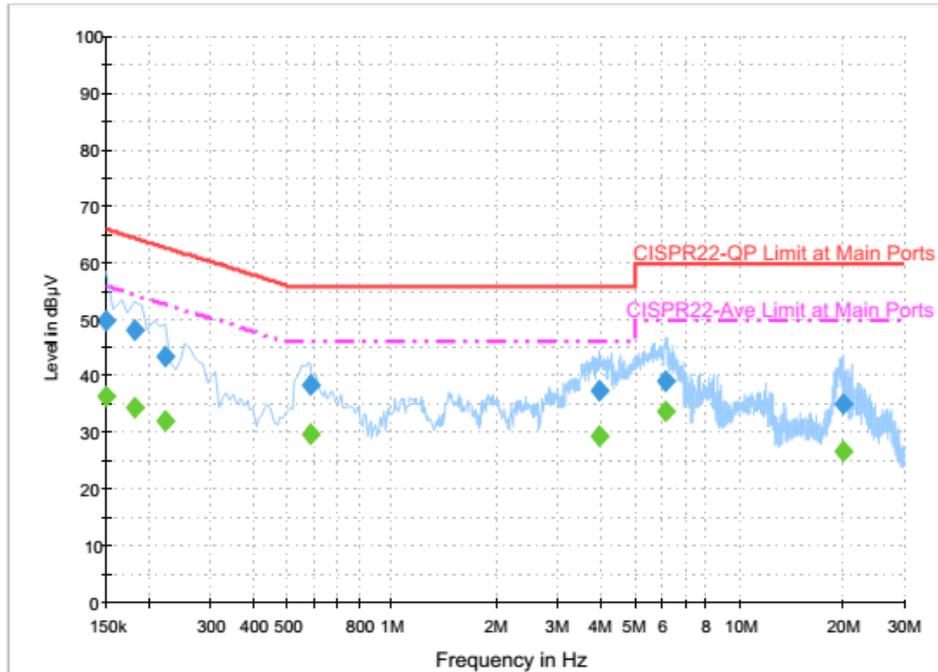
Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	51.1	Off	L1	19.6	14.9	66.0
0.214000	44.9	Off	L1	19.5	18.1	63.0
0.262000	41.3	Off	L1	19.5	20.1	61.4
0.566000	40.4	Off	L1	19.5	15.6	56.0
1.934000	31.1	Off	L1	19.6	24.9	56.0
3.510000	34.2	Off	L1	19.5	21.8	56.0
6.174000	39.5	Off	L1	19.6	20.5	60.0
19.806000	33.7	Off	L1	19.8	26.3	60.0

**Final Result : Average**

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	35.7	Off	L1	19.6	20.3	56.0
0.214000	32.2	Off	L1	19.5	20.8	53.0
0.262000	29.7	Off	L1	19.5	21.7	51.4
0.566000	31.1	Off	L1	19.5	14.9	46.0
1.934000	24.9	Off	L1	19.6	21.1	46.0
3.510000	26.2	Off	L1	19.5	19.8	46.0
6.174000	33.9	Off	L1	19.6	16.1	50.0
19.806000	26.4	Off	L1	19.8	23.6	50.0



Test Mode :	Mode 2	Temperature :	26~27°C
Test Engineer :	Shareef Yu	Relative Humidity :	58~62%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	Flight Mode + USB Cable (Data Link with Notebook) + Battery 2 + Earphone 2		



**Final Result : Quasi-Peak**

Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	49.7	Off	N	19.5	16.3	66.0
0.182000	48.0	Off	N	19.5	16.4	64.4
0.222000	43.6	Off	N	19.5	19.1	62.7
0.582000	38.4	Off	N	19.5	17.6	56.0
3.950000	37.3	Off	N	19.6	18.7	56.0
6.190000	39.2	Off	N	19.6	20.8	60.0
19.902000	35.0	Off	N	19.9	25.0	60.0

**Final Result : Average**

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	36.3	Off	N	19.5	19.7	56.0
0.182000	34.5	Off	N	19.5	19.9	54.4
0.222000	32.1	Off	N	19.5	20.6	52.7
0.582000	29.8	Off	N	19.5	16.2	46.0
3.950000	29.4	Off	N	19.6	16.6	46.0
6.190000	33.9	Off	N	19.6	16.1	50.0
19.902000	26.7	Off	N	19.9	23.3	50.0



### 3.2. Test of Radiated Emission Measurement

#### 3.2.1. Limit of Radiated Emission

The emissions from an unintentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

#### 3.2.2. Measuring Instruments

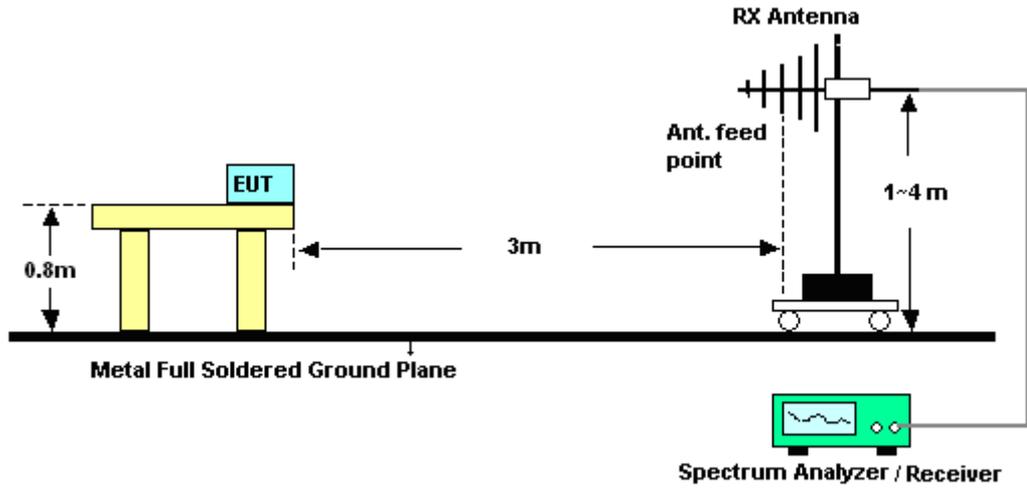
The measuring equipment is listed in the section 4 of this test report.

#### 3.2.3. Test Procedures

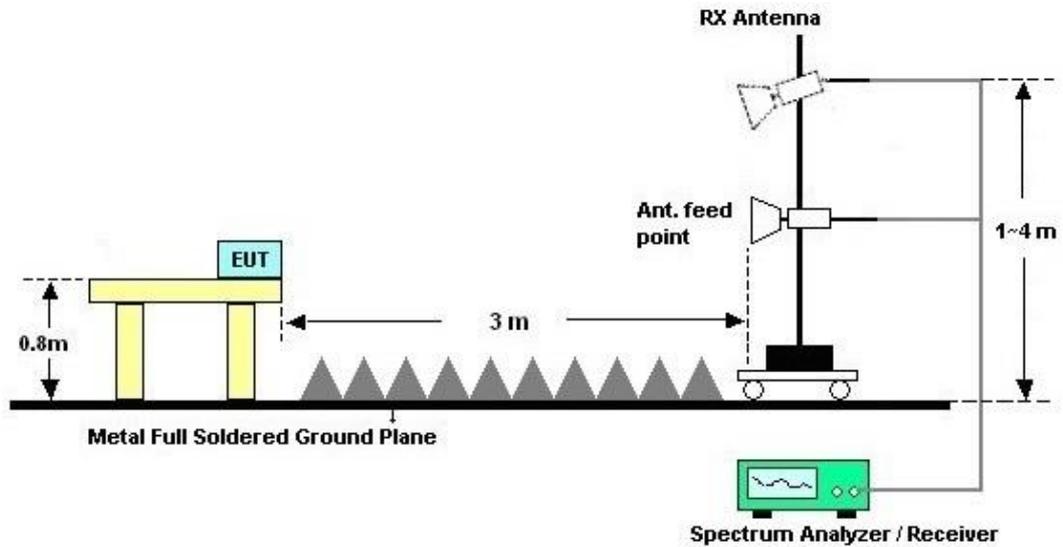
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna is a Bi-Log antenna and its height is adjusted between one to four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode (RBW=120kHz/VBW=300kHz for frequency below 1GHz; RBW=1MHz VBW=3MHz (Peak), RBW=1MHz/VBW=10Hz (Average) for frequency above 1GHz).
7. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, peak values of EUT will be reported. Otherwise, the emission will be repeated by using the quasi-peak method and reported.
8. Emission level (dBµV/m) = 20 log Emission level (µV/m)
9. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

### 3.2.4. Test Setup of Radiated Emission

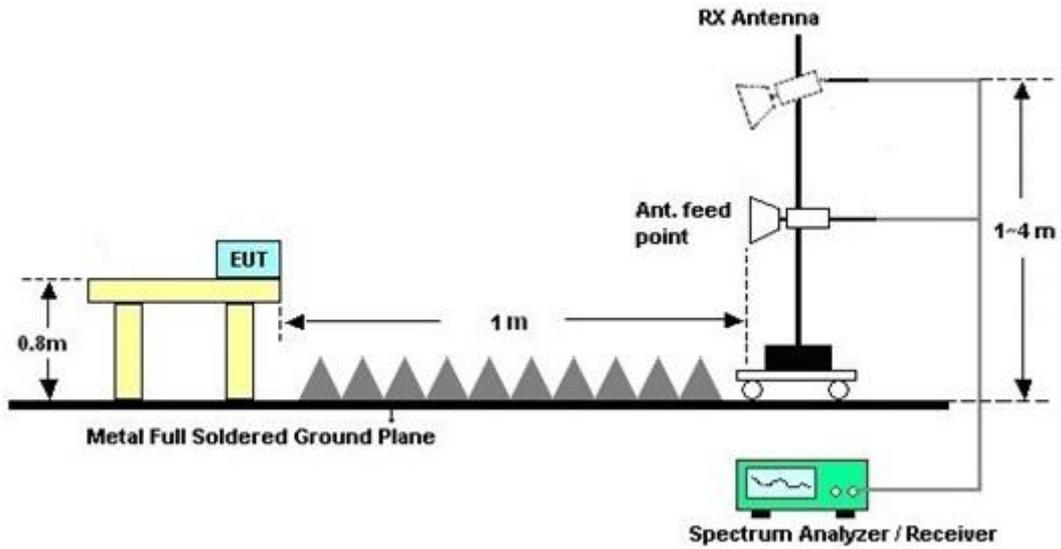
For radiated emissions from 30MHz to 1GHz



For radiated emissions from 1GHz to 18GHz



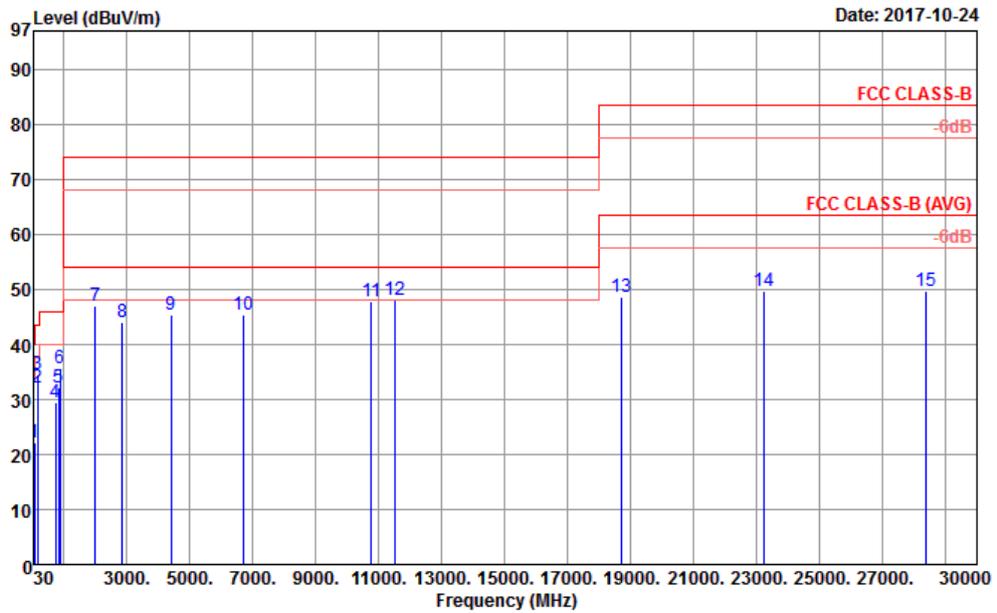
For radiated emissions above 18GHz





3.2.5. Test Result of Radiated Emission

Test Mode :	Mode 1	Temperature :	20~23°C
Test Engineer :	Daniel Lee	Relative Humidity :	50~53%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	Flight Mode + USB Cable (Data Link with Notebook) + Battery 1 + Earphone 1		

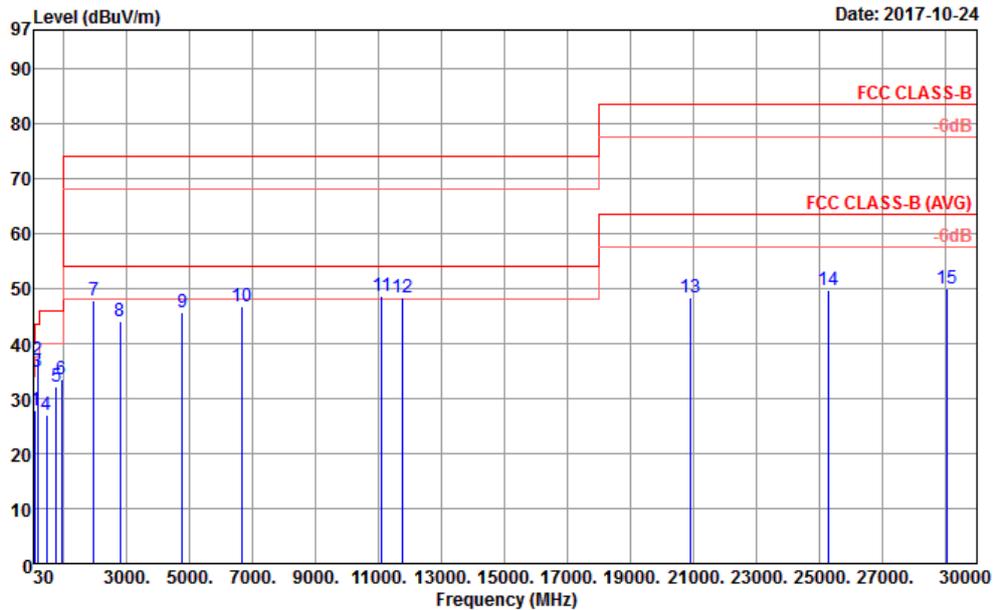


Site : 03CH10-HY  
 Condition : FCC CLASS-B 1m HORN BBHA9170 40G HORIZONTAL  
 Project : 760712-01  
 Power : From System  
 Mode : 1  
 : SD to NB

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	65.91	22.15	-17.85	40.00	41.84	11.98	0.77	32.44	---	---	Peak
2	150.42	32.27	-11.23	43.50	46.33	17.16	1.20	32.42	---	---	Peak
3	172.56	34.59	-8.91	43.50	50.27	15.48	1.26	32.42	100	250	Peak
4	729.80	29.42	-16.58	46.00	31.83	27.70	2.48	32.59	---	---	Peak
5	829.90	32.21	-13.79	46.00	33.15	28.66	2.65	32.25	---	---	Peak
6	885.90	35.58	-10.42	46.00	35.66	29.13	2.74	31.95	---	---	Peak
7	1984.00	46.91	-27.09	74.00	50.29	25.98	4.03	33.39	---	---	Peak
8	2858.00	44.06	-29.94	74.00	44.09	28.17	4.86	33.06	---	---	Peak
9	4396.00	45.29	-28.71	74.00	41.40	30.42	6.10	32.63	---	---	Peak
10	6718.00	45.30	-28.70	74.00	36.09	34.74	7.65	33.18	---	---	Peak
11	10760.00	47.91	-26.09	74.00	64.25	39.91	9.62	66.40	---	---	Peak
12	11495.00	48.12	-25.88	74.00	64.00	39.81	10.01	66.21	100	0	Peak
13	18696.00	48.74	-34.80	83.54	43.03	38.02	18.35	50.66	---	---	Peak
14	23220.00	49.75	-33.79	83.54	42.22	38.66	19.08	50.21	---	---	Peak
15	28368.00	49.79	-33.75	83.54	37.28	39.77	23.17	50.43	---	---	Peak



Test Mode :	Mode 1	Temperature :	20~23°C
Test Engineer :	Daniel Lee	Relative Humidity :	50~53%
Test Distance :	3m	Polarization :	Vertical
Function Type :	Flight Mode + USB Cable (Data Link with Notebook) + Battery 1 + Earphone 1		

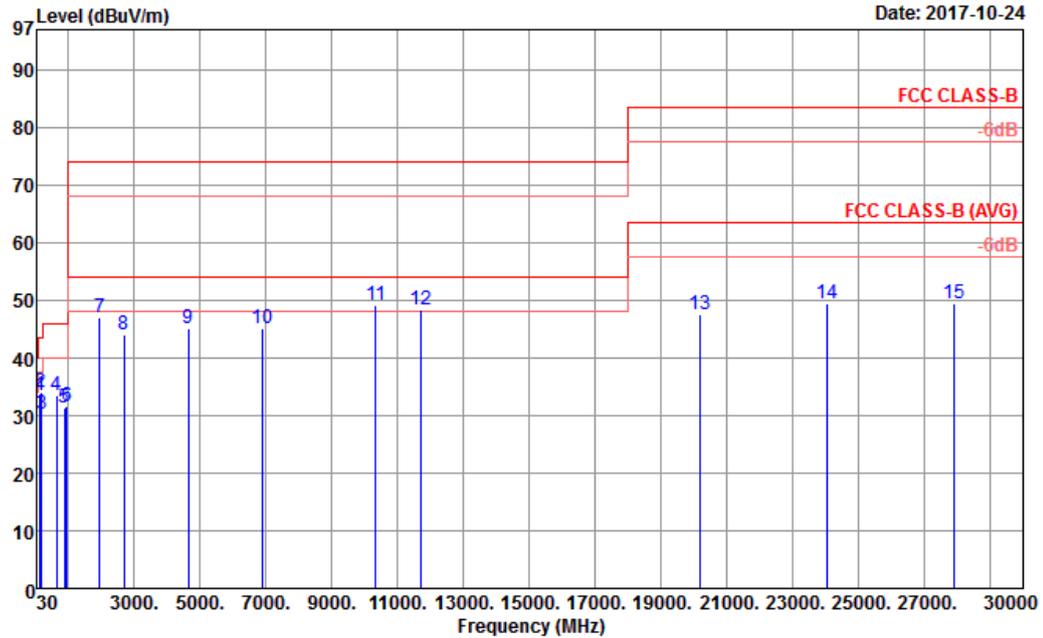


Site : 03CH10-HY  
 Condition : FCC CLASS-B 1m HORN BBHA9170 40G VERTICAL  
 Project : 760712-01  
 Power : From System  
 Mode : 1  
 : SD to NB

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	80.22	27.70	-12.30	40.00	45.85	13.43	0.86	32.44	---	---	Peak
2	151.77	37.10	-6.40	43.50	51.30	17.02	1.20	32.42	100	130	Peak
3	171.48	34.79	-8.71	43.50	50.38	15.57	1.26	32.42	---	---	Peak
4	449.10	27.10	-18.90	46.00	34.63	23.06	1.98	32.57	---	---	Peak
5	745.90	32.12	-13.88	46.00	33.95	28.21	2.51	32.55	---	---	Peak
6	917.40	33.59	-12.41	46.00	33.15	29.40	2.75	31.71	---	---	Peak
7	1954.00	47.79	-26.21	74.00	51.30	25.95	4.00	33.46	---	---	Peak
8	2784.00	44.11	-29.89	74.00	44.37	28.02	4.80	33.08	---	---	Peak
9	4752.00	45.54	-28.46	74.00	40.73	31.07	6.31	32.57	---	---	Peak
10	6660.00	46.77	-27.23	74.00	37.75	34.60	7.56	33.14	---	---	Peak
11	11090.00	48.57	-25.43	74.00	64.69	40.04	9.76	66.44	100	0	Peak
12	11740.00	48.30	-25.70	74.00	64.38	39.41	10.15	66.15	---	---	Peak
13	20916.00	48.32	-35.22	83.54	42.68	38.28	17.59	50.23	---	---	Peak
14	25284.00	49.69	-33.85	83.54	40.92	39.33	19.98	50.54	---	---	Peak
15	29028.00	49.98	-33.56	83.54	37.19	40.19	23.20	50.60	---	---	Peak



Test Mode :	Mode 2	Temperature :	20~23°C
Test Engineer :	Daniel Lee	Relative Humidity :	50~53%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	Flight Mode + USB Cable (Data Link with Notebook) + Battery 2 + Earphone 2		

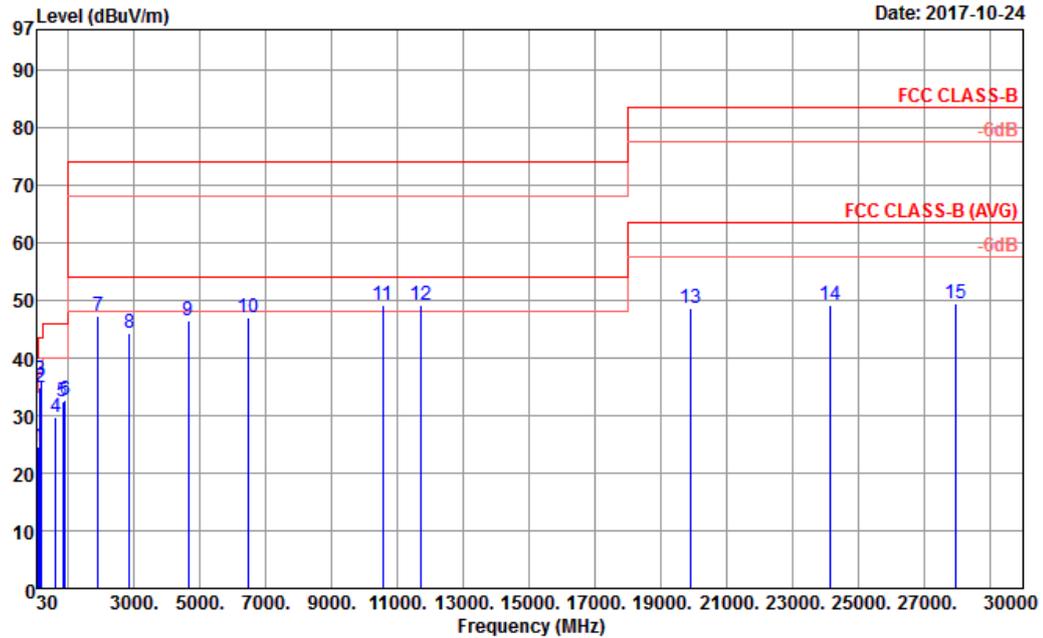


Site : 03CH10-HY  
 Condition : FCC CLASS-B 1m HORN BBHA9170 40G HORIZONTAL  
 Project : 760712-01  
 Power : From System  
 Mode : 2  
 : SD to NB

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	140.16	33.38	-10.12	43.50	47.37	17.31	1.12	32.42	---	---	Peak
2	166.89	33.93	-9.57	43.50	49.14	15.95	1.26	32.42	100	0	Peak
3	190.11	30.38	-13.12	43.50	46.62	14.78	1.39	32.41	---	---	Peak
4	645.10	33.44	-12.56	46.00	37.27	26.55	2.32	32.70	---	---	Peak
5	884.50	31.40	-14.60	46.00	31.49	29.13	2.74	31.96	---	---	Peak
6	941.20	31.74	-14.26	46.00	30.05	30.40	2.78	31.49	---	---	Peak
7	1942.00	47.04	-26.96	74.00	50.59	25.93	3.98	33.46	---	---	Peak
8	2684.00	44.00	-30.00	74.00	44.60	27.80	4.71	33.11	---	---	Peak
9	4636.00	45.25	-28.75	74.00	40.77	30.85	6.22	32.59	---	---	Peak
10	6884.00	45.20	-28.80	74.00	35.54	35.19	7.76	33.29	---	---	Peak
11	10335.00	49.11	-24.89	74.00	66.22	39.43	9.45	66.53	100	0	Peak
12	11700.00	48.36	-25.64	74.00	64.39	39.50	10.12	66.16	---	---	Peak
13	20184.00	47.67	-35.87	83.54	42.44	38.02	17.67	50.46	---	---	Peak
14	24060.00	49.36	-34.18	83.54	42.43	38.67	18.68	50.42	---	---	Peak
15	27912.00	49.49	-34.05	83.54	37.29	39.65	23.00	50.45	---	---	Peak



Test Mode :	Mode 2	Temperature :	20~23°C
Test Engineer :	Daniel Lee	Relative Humidity :	50~53%
Test Distance :	3m	Polarization :	Vertical
Function Type :	Flight Mode + USB Cable (Data Link with Notebook) + Battery 2 + Earphone 2		



Site : 03CH10-HY  
 Condition : FCC CLASS-B 1m HORN BBHA9170 40G VERTICAL  
 Project : 760712-01  
 Power : From System  
 Mode : 2  
       : SD to NB

	Freq	Level	Over Limit	Limit Line	ReadAntenna	Cable	Preamp	A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	81.57	24.61	-15.39	40.00	42.65	13.54	0.86	32.44	---	---	Peak
2	148.53	34.96	-8.54	43.50	48.99	17.19	1.20	32.42	---	---	Peak
3	166.62	36.18	-7.32	43.50	51.39	15.95	1.26	32.42	100	0	Peak
4	608.00	29.82	-16.18	46.00	34.48	25.80	2.26	32.72	---	---	Peak
5	824.30	32.32	-13.68	46.00	33.55	28.43	2.63	32.29	---	---	Peak
6	889.40	32.64	-13.36	46.00	32.72	29.11	2.74	31.93	---	---	Peak
7	1894.00	47.21	-26.79	74.00	50.90	25.90	3.94	33.53	---	---	Peak
8	2862.00	44.33	-29.67	74.00	44.30	28.21	4.88	33.06	---	---	Peak
9	4632.00	46.35	-27.65	74.00	41.87	30.85	6.22	32.59	---	---	Peak
10	6450.00	47.10	-26.90	74.00	38.66	34.04	7.42	33.02	---	---	Peak
11	10540.00	49.07	-24.93	74.00	65.58	39.73	9.53	66.31	---	---	Peak
12	11700.00	49.12	-24.88	74.00	65.15	39.50	10.12	66.16	100	0	Peak
13	19884.00	48.71	-34.83	83.54	43.17	38.20	17.84	50.50	---	---	Peak
14	24132.00	49.26	-34.28	83.54	42.20	38.76	18.75	50.45	---	---	Peak
15	27972.00	49.38	-34.16	83.54	37.07	39.69	23.11	50.49	---	---	Peak



## 4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Oct. 26, 2017~ Oct. 27, 2017	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Sep. 20, 2017	Oct. 26, 2017~ Oct. 27, 2017	Sep. 19, 2018	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	Mar. 20, 2017	Oct. 26, 2017~ Oct. 27, 2017	Mar. 19, 2018	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 29, 2016	Oct. 26, 2017~ Oct. 27, 2017	Nov. 28, 2017	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Dec. 06, 2016	Oct. 26, 2017~ Oct. 27, 2017	Dec. 05, 2017	Conduction (CO05-HY)
LF Cable	HUBER + SUHNER	RG-214/U	LF01	N/A	Jan. 05, 2017	Oct. 26, 2017~ Oct. 27, 2017	Jan. 04, 2018	Conduction (CO05-HY)
Test Software	N/A	EMC32	8.40.0	N/A	N/A	Oct. 26, 2017~ Oct. 27, 2017	N/A	Conduction (CO05-HY)
Bilog Antenna	TESEQ	CBL 6111D&00800 N1D01N-06	35413&02	30MHz~1GHz	Jan. 07, 2017	Oct. 24, 2017	Jan. 06, 2018	Radiation (03CH10-HY)
EMI Test Receiver	Agilent	N9038A(MXE)	MY53290053	20Hz to 26.5GHz	Jan. 12, 2017	Oct. 24, 2017	Jan. 11, 2018	Radiation (03CH10-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz ~ 44GHz	Oct. 20, 2017	Oct. 24, 2017	Oct. 19, 2018	Radiation (03CH10-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1325	1GHz ~ 18GHz	Sep. 27, 2017	Oct. 24, 2017	Sep. 26, 2018	Radiation (03CH10-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170576	18GHz ~ 40GHz	Apr. 27, 2017	Oct. 24, 2017	Apr. 26, 2018	Radiation (03CH10-HY)
Amplifier	SONOMA	310N	187311	9kHz~1GHz	Oct. 26, 2016	Oct. 24, 2017	Oct. 25, 2017	Radiation (03CH10-HY)
Amplifier	MITEQ	TTA1840-35-H G	1871923	18GHz~40GHz	Jul. 18, 2017	Oct. 24, 2017	Jul. 17, 2018	Radiation (03CH10-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800	2025787	1GHZ~18GHZ	Feb. 13, 2017	Oct. 24, 2017	Feb. 12, 2018	Radiation (03CH10-HY)



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY249564 MY249524 MY283184	30MHz~1GHz	Sep. 30, 2017	Oct. 24, 2017	Sep. 29, 2018	Radiation (03CH10-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY249564 MY249524 MY283184	1GHz~25GHz	Sep. 30, 2017	Oct. 24, 2017	Sep. 29, 2018	Radiation (03CH10-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY249564 MY249524 MY283184	25GHz~40GHz	Sep. 30, 2017	Oct. 24, 2017	Sep. 29, 2018	Radiation (03CH10-HY)
Controller	EMEC	EM 1000	N/A	Control Turn table & Ant Mast	N/A	Oct. 24, 2017	N/A	Radiation (03CH10-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Oct. 24, 2017	N/A	Radiation (03CH10-HY)
Turn Table	EMEC	TT 2200	N/A	0~360 Degree	N/A	Oct. 24, 2017	N/A	Radiation (03CH10-HY)
Hygrometer	TECPEL	DTM-303B	TP140320	N/A	Nov. 14, 2016	Oct. 24, 2017	Nov. 13, 2017	Radiation (03CH10-HY)
Test Software	Audix	E3	6.2009-8-24	N/A	N/A	Oct. 24, 2017	N/A	Radiation (03CH10-HY)



## 5. Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	2.70
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### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	5.60
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### Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	5.90
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