FCC Part15, Subpart B
ICES-003

TEST REPORT

For

Customer Display (Square Register)

MODEL NUMBER: SPS4-01, SPS4-01-A

FCC ID: 2AF3K-SPS4

IC: 21827-SPS4

REPORT NUMBER: 4789598114-12

ISSUE DATE: December 24, 2020

Prepared for

Square, Inc.
1455 Market St, Suite 600, San Francisco, California, United States 94103

Prepared by

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Revision History

Rev.	Issue Date	Revisions	Revised By
V0	12/24/2020	Initial Issue	

Summary of Test Results				
Standard	**Test Item**	**Limit**	**Result**	**Remark**
FCC Part15, Subpart B ANSI C63.4-2014 ICES-003 Issue 7	Conducted Disturbance	Class B	PASS	**NOTE (2)**
	Radiated Disturbance below 1 GHz	Class B	PASS	
	Radiated Disturbance above 1 GHz	Class B	PASS	**NOTE (3)**

Note:
(1) “N/A” denotes test is not applicable in this test report.
(2) This test is only applicable for devices which can be charged or powered by AC power cable.
(3) If the highest frequency of the internal sources of the EUT is less than 108 MHz, the measurement shall only be made up to 1 GHz. If the highest frequency of the internal sources of the EUT is between 108 MHz and 500 MHz, the measurement shall only be made up to 2 GHz. If the highest frequency of the internal sources of the EUT is between 500 MHz and 1 GHz, measurement shall only be made up to 5 GHz. If the highest frequency of the internal sources of the EUT is above 1 GHz, the measurement shall be made up to 5 times the highest frequency or 40 GHz, whichever is less.
(4) This test report is only published to and used by the applicant, and it is not for evidence purpose in China.
(5) The measurement result for the sample received is <Pass> according to < FCC Part15, Subpart B and ICES-003 Issue 7 > when <Accuracy Method> decision rule is applied.

CONTENTS

1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name:	Square, Inc.
Address:	1455 Market St, Suite 600, San Francisco, California, United States 94103

Manufacturer Information

Company Name:	Square, Inc.
Address:	1455 Market St, Suite 600, San Francisco, California, United States 94103

EUT Information

EUT Name:	Customer Display (Square Register)
Model:	Model for US: SPS4-01 Model for Canada: SPS4-01-A
Brand:	SQUARE
Sample Received Date:	September 9, 2020
Sample Status:	Normal
Sample ID:	3260208
Date of Tested:	September 1, 2020 ~ October 21, 2020

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC Part15, Subpart B	PASS
ICES-003 Issue 7	PASS

Prepared By:

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Checked By:

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Approved By:

Stephen Guo
Laboratory Manager

2. TEST METHODOLOGY

All tests were performed in accordance with the standard FCC Part15 Subpart B & ICES-003 Issue 7 & ANSI C63.4-2014.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	**A2LA (Certificate No.: 4102.01)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA. **FCC (FCC Recognized No.: CN1187)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules **ISED (Company No.: 21320)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with Industry Canada. The Company Number is 21320. **VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the Membership No. is 3793. Facility Name: Chamber D, the VCCI registration No. is G-20019 and R-20004 Shielding Room B , the VCCI registration No. is C-20012 and T-20011

Note: All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, No. 1, Li Bin Road, Song Shan Lake Hi-Tech Development Zone Dongguan, 523808, People's Republic of China

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Item	Measurement Frequency Range	K	U(dB)
Conducted emissions from the AC mains power ports	0.009 MHz ~ 0.15 MHz	2	4.00
Conducted emissions from the AC mains power ports	0.15 MHz ~ 30 MHz	2	3.62
Radiated emissions	30 MHz ~ 1 GHz	2	4.00
Radiated emissions	1 GHz ~ 18 GHz	2	5.78
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level using a coverage factor of k=2.			

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

EUT Name	Customer Display (Square Register)
EUT Description	The EUT is a customer display for the Square Register System.
EUT Model	Model for US: SPS4-01
	Model for Canada: SPS4-01-A
Hubs	SHB3-01, SHF3-01
Hubs difference	There designs are difference
Input Rating	12V dc 1.4A

Note: The product input rating it is by plugging into the Square Register or connecting Square Register via micro USB Cable.

5.2. TEST MODE

Test Mode	Description
Mode 1	Dock Mode(WiFi 2.4G data transfer+BT data transfer+Wired network data transfer+run scrolling H character+play audio+NFC)
Mode 2	Dock Mode(WiFi 5G data transfer+BT data transfer+Wired network data transfer+run scrolling H character+play audio+NFC)
Mode 3	Undock Mode+long usb cable(WiFi 2.4G data transfer+BT data transfer+Wired network data transfer+run scrolling H character+play audio+NFC)
Mode 4	Undock Mode+long usb cable(WiFi 5G data transfer+BT data transfer+Wired network data transfer+run scrolling H character+play audio+NFC)
Mode 5	Undock Mode+short usb cable(WiFi 2.4G data transfer+BT data transfer+Wired network data transfer+run scrolling H character+play audio+NFC)
Mode 6	Undock Mode+short usb cable(WiFi 5G data transfer+BT data transfer+Wired network data transfer+run scrolling H character+play audio+NFC)
Mode 7	Standby

Note: Two Hubs had been tested, but only the worst data (SHF3-01) recorded in the report.

5.3. EUT ACCESSORY

Item	Accessory	Brand Name	Model Name	Description
1	Switching Power Adapter	SQUARE	SWB2-01	Input: 100-240V, 50/60Hz 1.2A Output: 12Vdc,4A
2	Square Register	SQUARE	SPS1-01	Input: 12Vdc, 2.3A Output: 12Vdc, 1.4A
3	HUB	SQUARE	SHB3-01	Hub Output: 5V, 2.5A Register Output: 12V2.3A
4	HUB	SQUARE	SHF3-01	Hub Output: x5:5V,2.5A Max Output for Register: 12V2.3A

5	AC Cable	N/A	N/A	1.3m
6	Long USB Cable	N/A	N/A	2m
7	Short USB Cable	N/A	N/A	1m

5.4. SUPPORT UNITS FOR SYSTEM TEST

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Specification	Series No.
1	Mouse	Lenovo	MO28UOB	USB port	8SSM50G459 18FCCC1545
2	Keyboard	Lenovo	LXH-JME2209U	USB port	60804634
3	Printer	Mc-print3	MCP31LB	N/A	N/A
4	Brush gun	CIPI-ER LAB	BKH005630	N/A	N/A
5	Brush gun	CIPI-ER LAB	BKH005074	N/A	N/A
6	Headphone	Sony	N/A	N/A	N/A
7	Headphone	Philips	N/A	N/A	N/A
8	BT speaker	sinGbox	P10	N/A	N/A
9	Router	D-Link	DIR-809	2.4G wifi 5G wifi	RZMP2G4000 780
10	Laptop	Lenovo	E42-80	N/A	R303U5EC

The following cables were used to form a representative test configuration during the tests.

Item	Type of cable	Shielded Type	Ferrite Core	Specification
1	USB Cable	YES	NO	1.5m
2	USB Cable	YES	NO	1.5m
3	USB Cable	YES	YES	1.5m
4	USB Cable	YES	YES	2m
5	USB Cable	YES	YES	2m
6	DC Cable	NO	NO	1.2m
7	USB Cable	YES	NO	1.2m
8	Audio Cable	NO	YES	1.5m
9	Audio Cable	NO	NO	1m

6. MEASURING EQUIPMENT AND SOFTWARE USED

Conducted Emissions					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
EMI Test Receiver	R&S	ESR3	101961	Dec. 5, 2019	Dec. 5, 2020
Two-Line V-Network	R&S	ENV216	101983	Dec. 5, 2019	Dec. 5, 2020
Artificial Mains Networks	Schwarzbeck	NSLK 8126	8126465	Dec. 5, 2019	Dec. 5, 2020
Current Probe	SOLAR	9123-1N	9123150804	Dec. 5, 2019	Dec. 5, 2020
8 Wire ISN	R&S	ENY81-CA6	101724	Dec. 5, 2019	Dec. 5, 2020
Software					
Description			Manufacturer	Name	Version
Test Software for Conducted Emissions			Farad	EZ-EMC	Ver. UL-3A1
Radiated Emissions					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
MXE EMI Receiver	KESIGHT	N9038A	MY56400036	Dec. 6, 2019	Dec. 6, 2020
Hybrid Log Periodic Antenna	TDK	HLP-3003C	130959	Sept. 17, 2018	Sept. 17, 2021
Hybrid Log Periodic Antenna	TDK	HLP-3003C	130960	Aug. 11, 2018	Aug. 11, 2021
Preamplifier	HP	8447D	2944A09099	Dec. 5, 2019	Dec. 5, 2020
EMI Measurement Receiver	R&S	ESR26	101377	Dec. 05, 2019	Dec. 05, 2020
Horn Antenna	TDK	HRN-0118	130939	Sept. 17, 2018	Sept. 17, 2021
Preamplifier	TDK	PA-02-0118	TRS-305-00067	Dec. 05, 2019	Dec. 05, 2020
Horn Antenna	Schwarzbeck	BBHA9170	#691	Aug. 11, 2018	Aug. 11, 2021
Preamplifier	TDK	PA-02-2	TRS-307-00003	Dec. 05, 2019	Dec. 05, 2020
Preamplifier	TDK	PA-02-3	TRS-308-00002	Dec. 05, 2019	Dec. 05, 2020
Loop antenna	Schwarzbeck	1519B	00008	Jan.17, 2019	Jan.17,2022
Preamplifier	TDK	PA-02-001-3000	TRS-302-00050	Dec. 05, 2019	Dec. 05, 2020
Software					
Description			Manufacturer	Name	Version
Test Software for Radiated Emissions			Farad	EZ-EMC	Ver. UL-3A1

7. EMISSION TEST

7.1. CONDUCTED EMISSIONS MEASUREMENT

LIMITS

CFR 47 FCC Part15 Subpart B ICES-003 Issue 7				
FREQUENCY (MHz)	Class A (dBµV)		Class B (dBµV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46*
0.50 -5.0	73.00	60.00	56.00	46.00
5.0 -30.0	73.00	60.00	60.00	50.00

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

TEST PROCEDURE

1. The testing follows the guidelines in ANSI C63.4-2014.

2. The EUT was placed on the top of a rotating table 0.8 meters above the horizontal ground plane and being connected to the power mains through a line impedance stabilization network (LISN). All other support equipment powered from additional LISN(s). The LISN provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

3. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

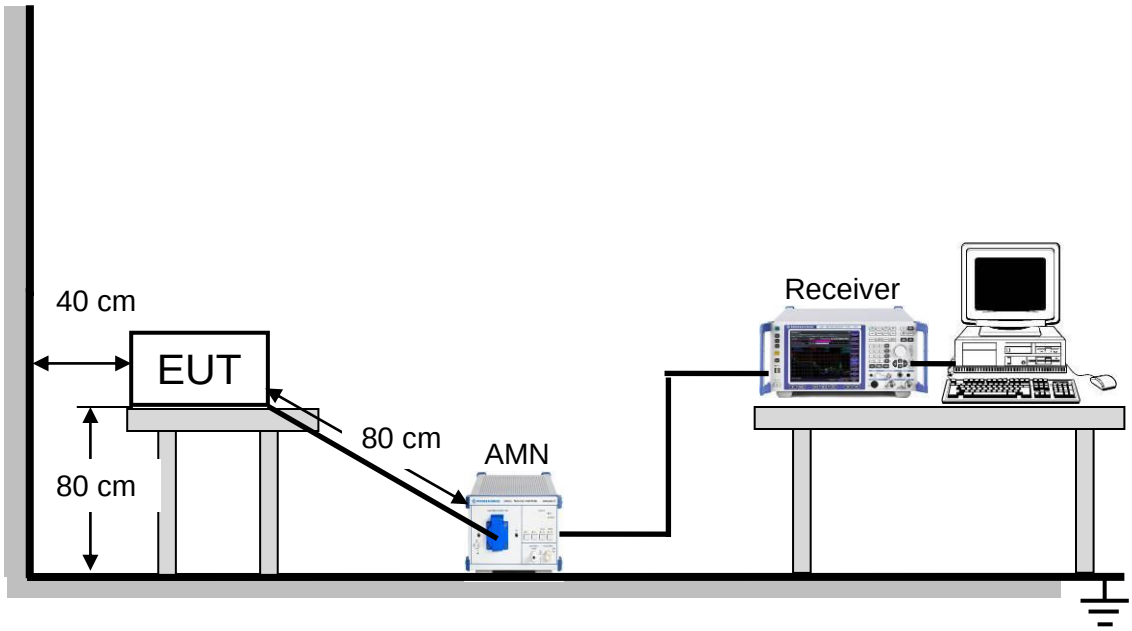
4. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

5. Cables of hand-operated devices, such as keyboards and mice, shall be placed as for normal used.

6. LISN at least 80 cm from nearest part of EUT chassis.

7. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-Peak and average detector mode.

TEST SETUP



For the actual test configuration, please refer to Appendix I: Photographs of Test Configuration.

TEST ENVIRONMENT

Temperature	25.6 °C	Relative Humidity	63.4 %
Atmosphere Pressure	101 kPa		

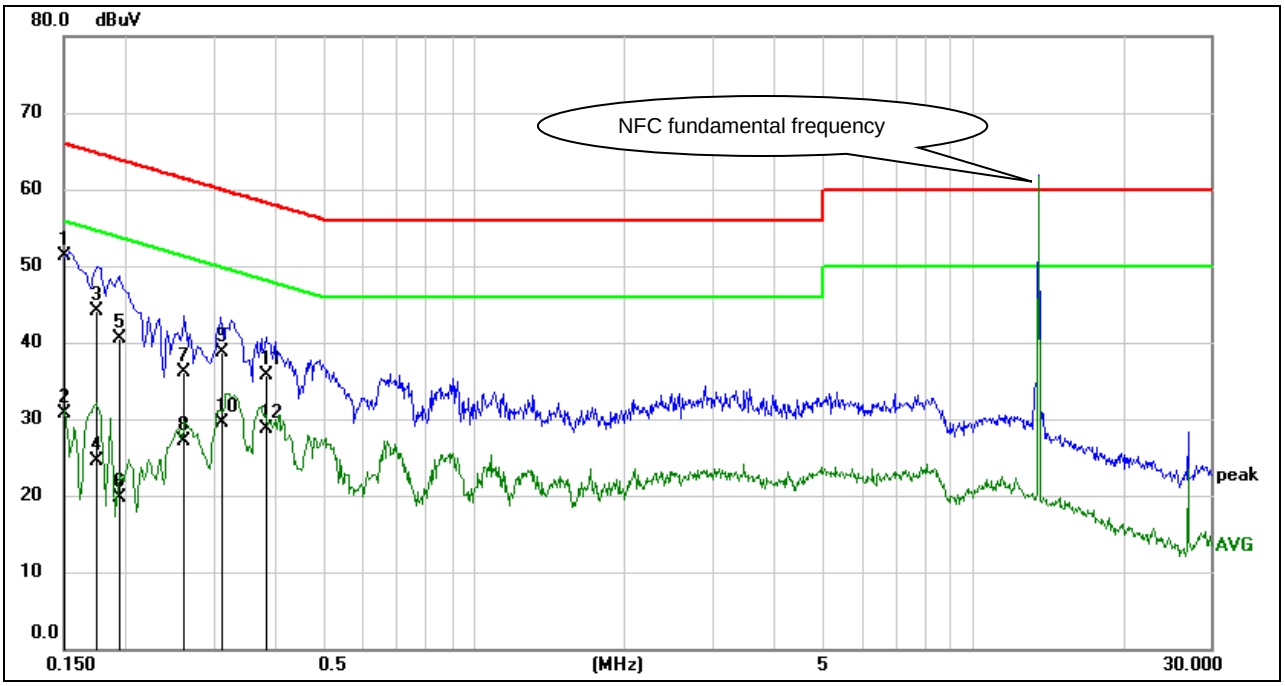
TEST MODE

Pre-test Mode:	Mode 1 ~ Mode 7
Final Test Mode:	Mode 4

Note: All test modes had been tested, but only the worst data recorded in the report.

TEST RESULTS

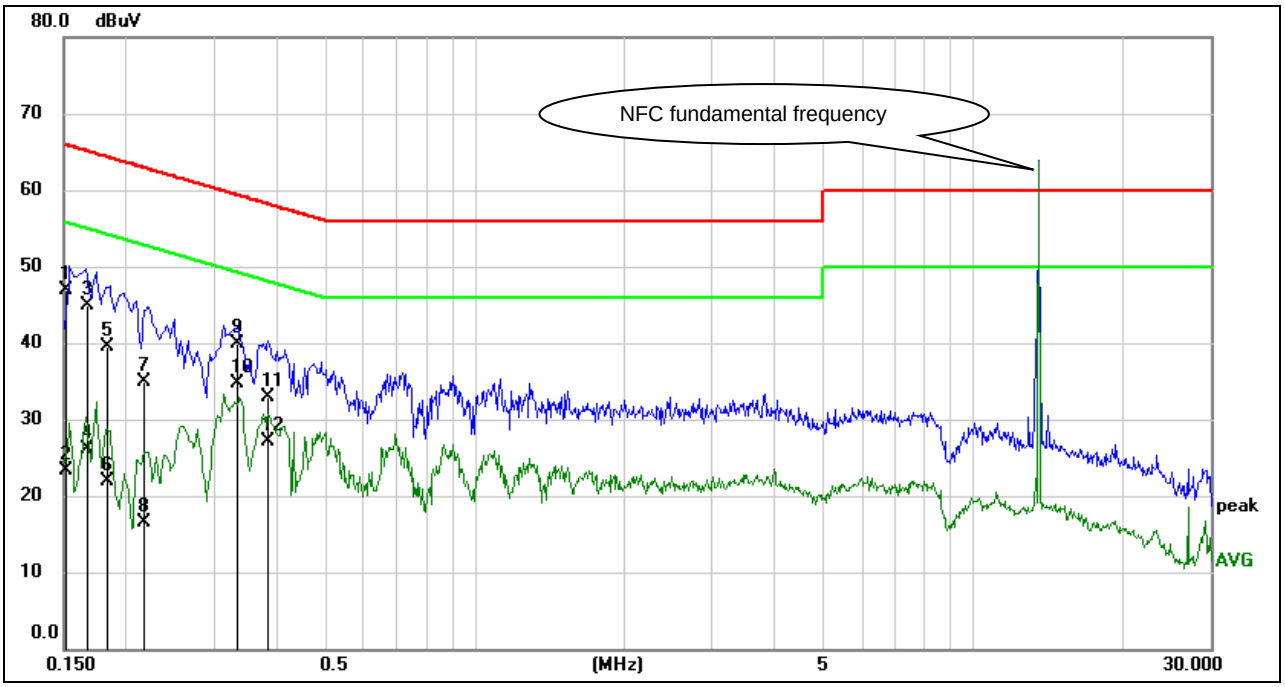
Conducted Emissions			
Test Mode:	Mode 4	Phase:	Line
Test Voltage	AC 120 V/60 Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1500	41.62	9.61	51.23	66.00	-14.77	QP
2	0.1500	21.09	9.61	30.70	56.00	-25.30	AVG
3	0.1734	34.52	9.61	44.13	64.80	-20.67	QP
4	0.1734	14.89	9.61	24.50	54.80	-30.30	AVG
5	0.1938	30.88	9.60	40.48	63.87	-23.39	QP
6	0.1938	10.09	9.60	19.69	53.87	-34.18	AVG
7	0.2615	26.51	9.60	36.11	61.38	-25.27	QP
8	0.2615	17.52	9.60	27.12	51.38	-24.26	AVG
9	0.3124	29.15	9.60	38.75	59.91	-21.16	QP
10	0.3124	19.92	9.60	29.52	49.91	-20.39	AVG
11	0.3840	26.11	9.60	35.71	58.19	-22.48	QP
12	0.3840	19.14	9.60	28.74	48.19	-19.45	AVG

Note: 1. Result = Reading +Correct (Insertion Loss + Cable Loss + Attenuator Factor)
2. Margin = Result - Limit
3. The frequency over the limit is NFC fundamental frequency 13.56MHz which were transmitted by wireless module from EUT, which can be ignore for result checking.

Conducted Emissions			
Test Mode:	Mode 1	Phase:	Neutral
Test Voltage	AC 120 V/60 Hz		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1508	37.32	9.61	46.93	65.96	-19.03	QP
2	0.1508	13.69	9.61	23.30	55.96	-32.66	AVG
3	0.1669	35.20	9.61	44.81	65.11	-20.30	QP
4	0.1669	16.51	9.61	26.12	55.11	-28.99	AVG
5	0.1833	29.98	9.61	39.59	64.33	-24.74	QP
6	0.1833	12.32	9.61	21.93	54.33	-32.40	AVG
7	0.2171	25.31	9.60	34.91	62.93	-28.02	QP
8	0.2171	6.92	9.60	16.52	52.93	-36.41	AVG
9	0.3327	30.35	9.60	39.95	59.38	-19.43	QP
10	0.3327	25.01	9.60	34.61	49.38	-14.77	AVG
11	0.3861	23.21	9.60	32.81	58.15	-25.34	QP
12	0.3861	17.49	9.60	27.09	48.15	-21.06	AVG

Note: 1. Result = Reading +Correct (Insertion Loss + Cable Loss + Attenuator Factor)
2. Margin = Result - Limit
3. The frequency over the limit is NFC fundamental frequency 13.56MHz which were transmitted by wireless module from EUT, which can be ignore for result checking.

7.2. RADIATED EMISSIONS MEASUREMENT

LIMITS

Below 1 GHz

CFR 47 FCC Part 15 Subpart B		
Frequency (MHz)	Class A	Class B
	Field strength (dBuV/m) (at 3 m)	Field strength (dBuV/m) (at 3 m)
30 - 88	49.5	40
88 - 216	53.9	43.5
216 - 960	56.9	46
Above 960	60	54

ICES-003 Issue 7		
Frequency (MHz)	Class A	Class B
	Field strength (dBuV/m) (at 3 m)	Field strength (dBuV/m) (at 3 m)
30 - 88	50	40
88 - 216	54	43.5
216 - 230	56.9	46
230 - 960	57	47
Above 960	60	54

Note: The different between FCC Part 15 Subpart B limit and ICES-003 Issue 7 limit is only in frequency band 230 MHz to 960 MHz, the limit of FCC Part 15 Subpart B is 1 dB smaller than the limit of ICES-003 Issue 7, if the test result complies with FCC Part 15 Subpart B limit, it deemed to comply with ICES-003 Issue 7 limit.

Above 1 GHz

CFR 47 FCC Part 15 Subpart B ICES-003 Issue 7				
Frequency (MHz)	Class A		Class B	
	(dBuV/m) (at 3 m)		(dBuV/m) (at 3 m)	
	Peak	Average	Peak	Average
Above 1000	80	60	74	54

Test Frequency Range of Radiated Disturbance Measurement

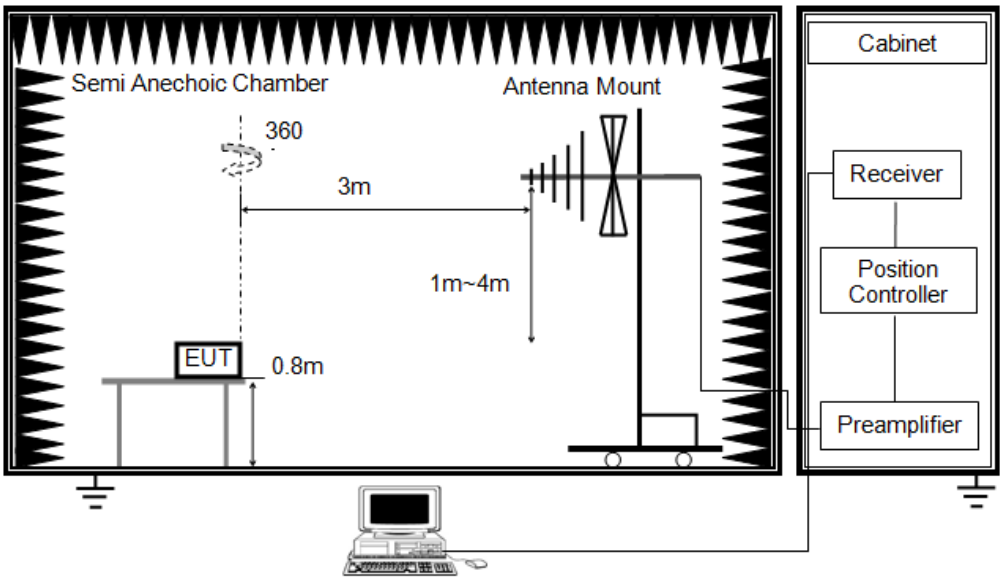
Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 - 108	1000
108 - 500	2000
500 - 1000	5000
Above 1000	5^{th} harmonic of the highest frequency or 40 GHz, whichever is lower

NOTE:

(1) The limit for radiated test was performed according to FCC Part 15, Subpart B;
(2) The tighter limit applies at the band edges;
(3) Emission level (dBuV/m) = 20log Emission level (uV/m),
3m Emission level = 10 m Emission level + 20log(10 m/3 m);

TEST SETUP AND PROCEDURE

Below 1 GHz and above 30 MHz



The setting of the spectrum analyser

RBW	120 kHz
VBW	300 kHz
Sweep	Auto
Detector	Peak and QP
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.4-2014.

2. 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. A pre-amp was used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 80 cm above ground.

4. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

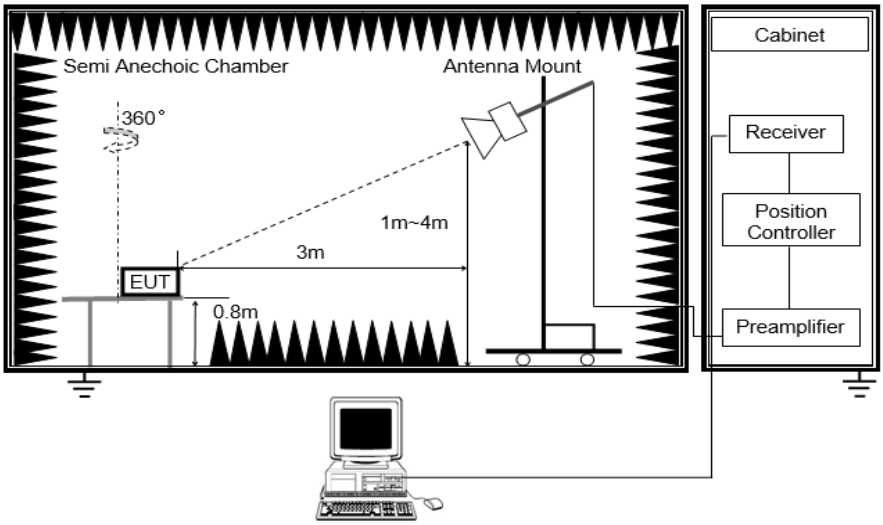
5. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

6. Cables of hand-operated devices, such as keyboards and mice, shall be placed as for normal used.

7. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

8. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.

Above 1 GHz



The setting of the spectrum analyser

RBW	1 MHz
VBW	3 MHz
Sweep	Auto
Detector	Peak: Peak AVG: RMS
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.4-2014.

2. 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. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 80 cm above ground.

4. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

5. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

6. Cables of hand-operated devices, such as keyboards and mice, shall be placed as for normal used.

7. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

8. For measurement above 1 GHz, the peak emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the peak limit specified in Section 15.109. If peak result complies with average limit, average result is deemed to comply with average limit.

9. The average emission measurement will be measured by the RMS detector and must comply with the average limit specified in Section 15.109.

TEST ENVIRONMENT

Radiated Emissions - Below 1 GHz		Radiated Emissions - Above 1 GHz	
Temperature:	22.5 °C	Temperature:	22.3 °C
Humidity:	63.7 %	Humidity:	56 %
Atmosphere Pressure	101 kPa	Atmosphere Pressure	101 kPa

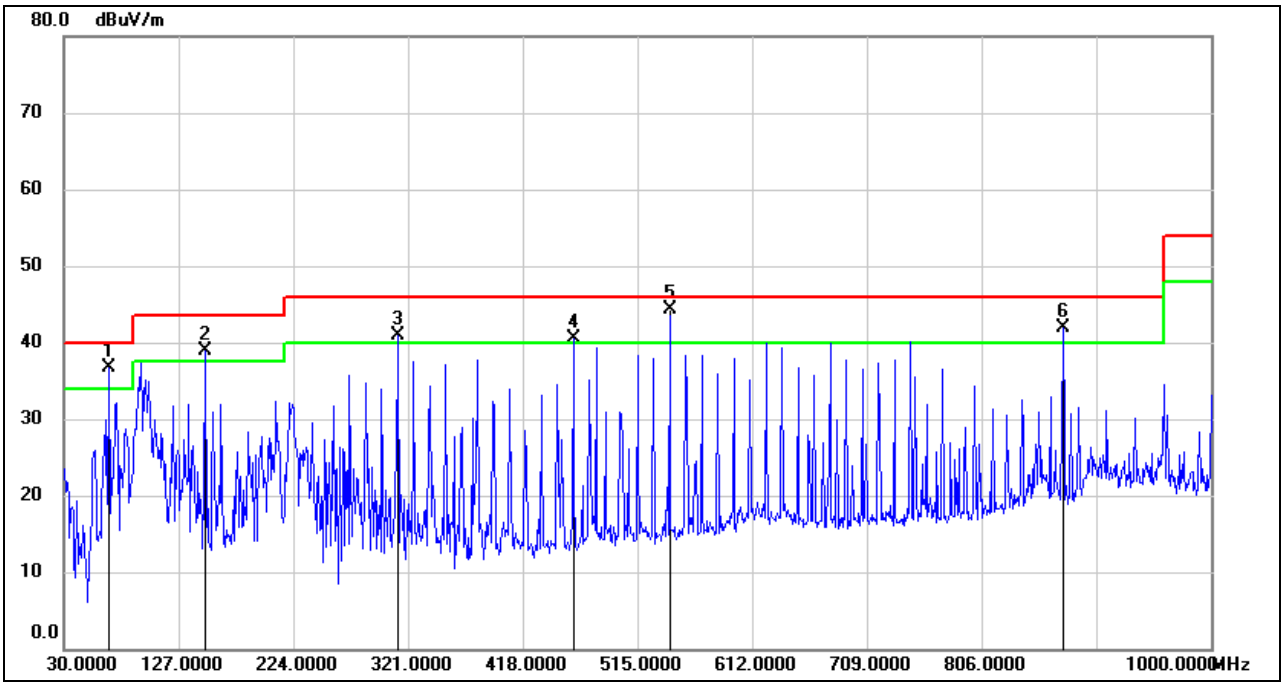
TEST MODE

Radiated Emissions - Below 1 GHz		Radiated Emissions - Above 1 GHz	
Pre-test Mode:	Mode 1 ~ Mode 7	Pre-test Mode:	Mode 1 ~ Mode 7
Final Test Mode:	Mode 3	Final Test Mode:	Mode 1

Note: All test modes had been tested, but only the worst data recorded in the report.

TEST RESULTS

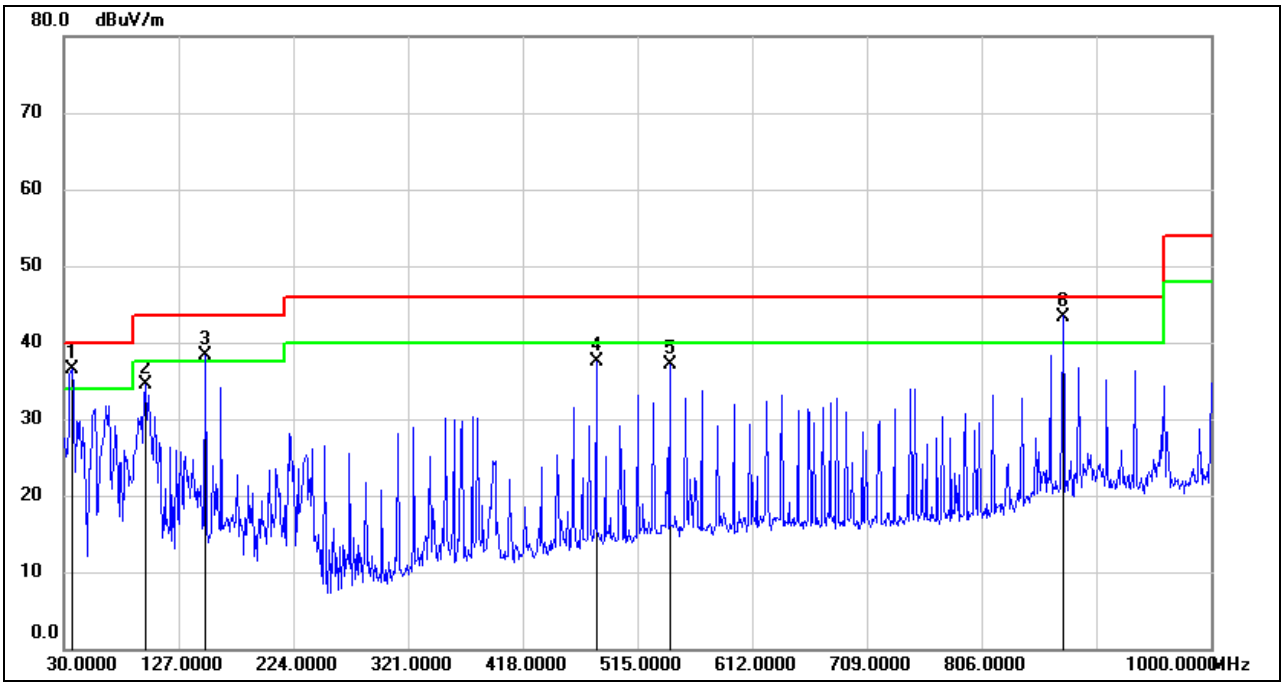
Radiated Emissions – Below 1 GHz			
Measurement Method	Radiated	Polar:	Horizontal
Test Mode:	Mode 3	Test Voltage:	AC 120 V/60 Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	67.8300	57.34	-20.61	36.73	40.00	-3.27	QP
2	149.3100	57.49	-18.53	38.96	43.50	-4.54	QP
3	312.2700	56.22	-15.33	40.89	46.00	-5.11	QP
4	460.6800	52.96	-12.38	40.58	46.00	-5.42	QP
5	542.1599	55.25	-10.92	44.33	46.00	-1.67	QP
6	874.8700	48.05	-6.17	41.88	46.00	-4.12	QP

Note: 1. Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result - Limit

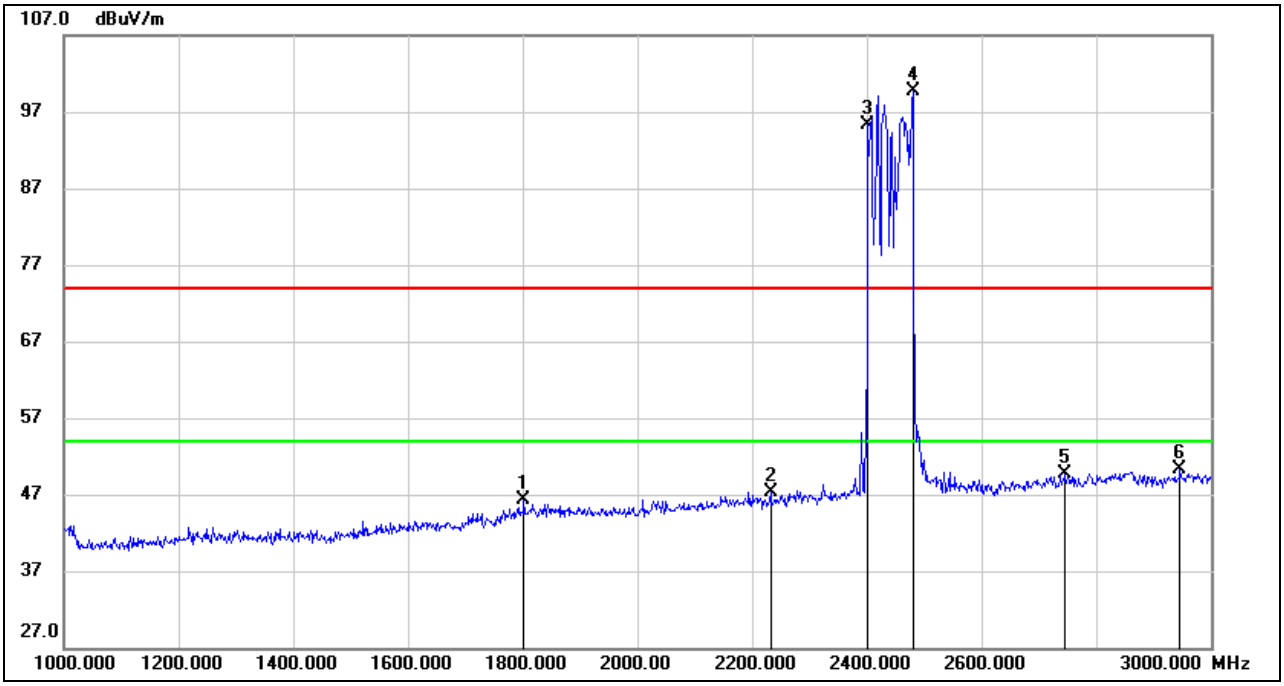
Radiated Emissions – Below 1 GHz			
Measurement Method	Radiated	Polar:	Vertical
Test Mode:	Mode 3	Test Voltage:	AC 120 V/60 Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	36.7900	56.19	-19.72	36.47	40.00	-3.53	QP
2	98.8700	55.91	-21.33	34.58	43.50	-8.92	QP
3	149.3100	56.87	-18.53	38.34	43.50	-5.16	QP
4	480.0800	49.52	-11.98	37.54	46.00	-8.46	QP
5	542.1599	48.07	-10.92	37.15	46.00	-8.85	QP
6	874.8700	49.53	-6.17	43.36	46.00	-2.64	QP

Note: 1. Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result - Limit

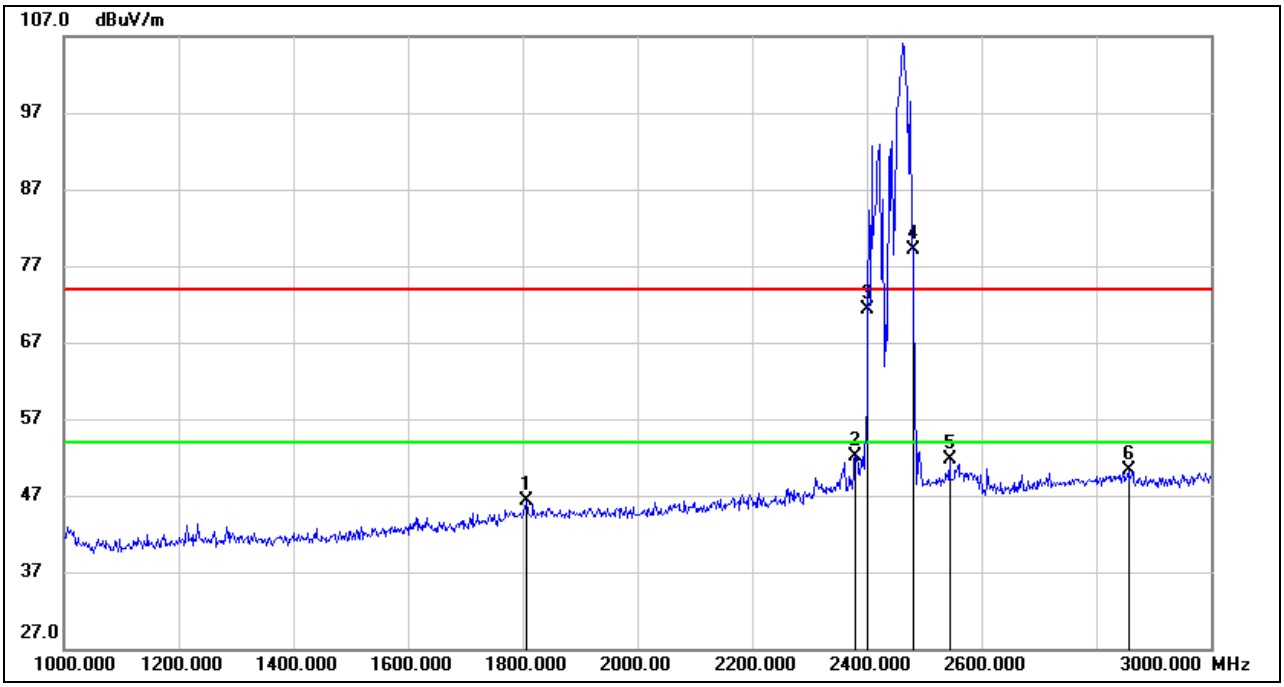
Radiated Emissions – Above 1 GHz and Below 3 GHz			
Measurement Method	Radiated	Polar:	Horizontal
Test Mode:	Mode 1	Test Voltage:	AC 120 V/60 Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	1802.000	15.08	31.28	46.36	74.00	-27.64	peak
2	2232.000	14.79	32.42	47.21	74.00	-26.79	peak
3	2402.000	62.30	32.99	95.29	/	/	Note 5
4	2480.000	66.09	33.55	99.64	/	/	Note 5
5	2746.000	15.64	34.03	49.67	74.00	-24.33	peak
6	2946.000	15.42	34.93	50.35	74.00	-23.65	peak

Note: 1. Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result - Limit
3. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
4. Peak: Peak detector.
5. All the frequencies between mark 3 and mark 4 are the fundamental frequency which were transmitted by wireless module from EUT.

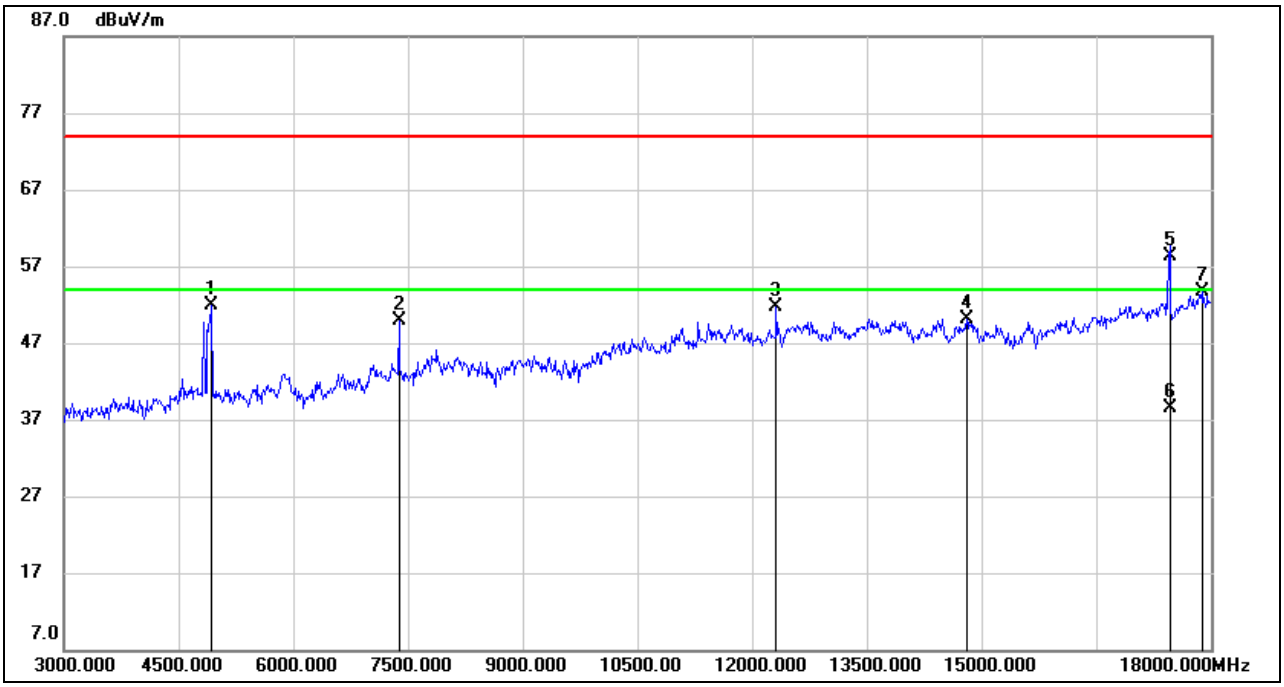
Radiated Emissions – Above 1 GHz and Below 3 GHz			
Measurement Method	Radiated	Polar:	Vertical
Test Mode:	Mode 1	Test Voltage:	AC 120 V/60 Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	1806.000	15.05	31.28	46.33	74.00	-27.67	peak
2	2380.000	19.11	32.91	52.02	74.00	-21.98	peak
3	2402.000	38.26	32.99	71.25	/	/	Note 6
4	2480.000	45.46	33.55	79.01	/	/	Note 6
5	2544.000	18.28	33.47	51.75	74.00	-22.25	peak
6	2856.000	15.67	34.58	50.25	74.00	-23.75	peak

Note: 1. Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
2. Margin = Result - Limit
3. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
4. Peak: Peak detector.
5. AVG: RMS detector.
6. All the frequencies between mark 3 and mark 4 are the fundamental frequency which were transmitted by wireless module from EUT.

Radiated Emissions – Above 3 GHz			
Measurement Method	Radiated	Polar:	Horizontal
Test Mode:	Mode 1	Test Voltage:	AC 120 V/60 Hz

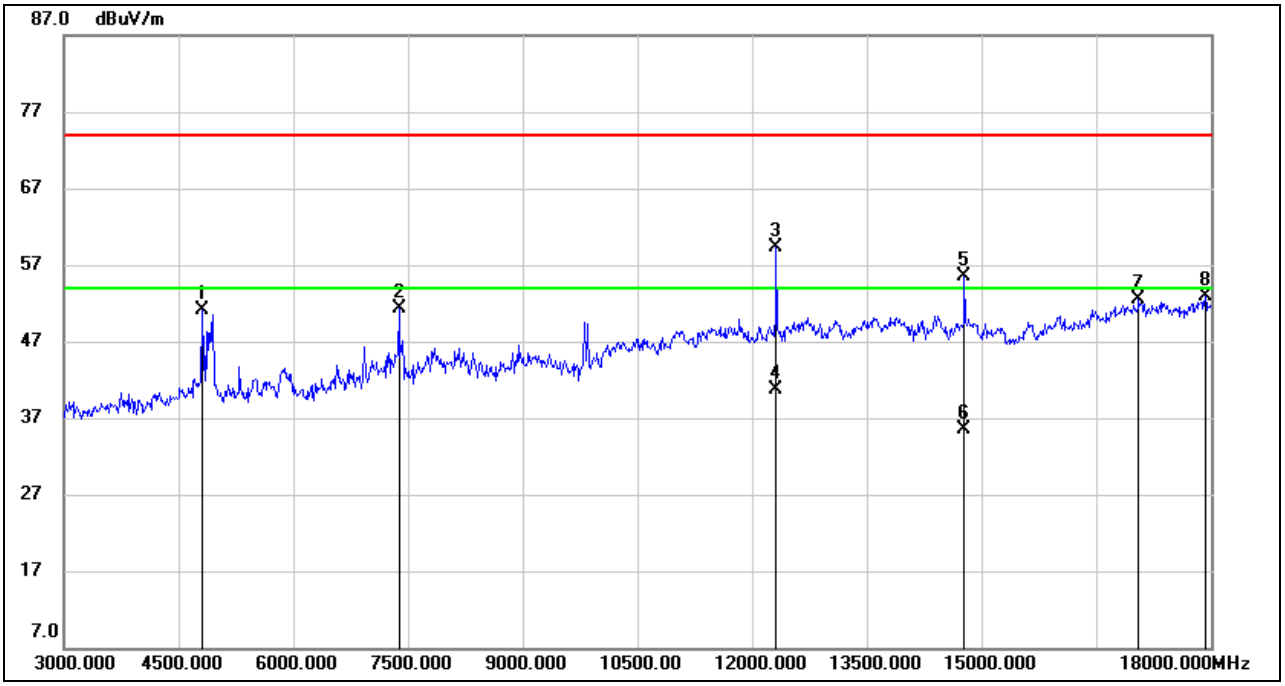


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4935.000	50.83	1.05	51.88	74.00	-22.12	peak
2	7380.000	43.58	6.41	49.99	74.00	-24.01	peak
3	12315.000	37.64	14.05	51.69	74.00	-22.31	peak
4	14805.000	34.22	15.92	50.14	74.00	-23.86	peak
5	17460.000	36.91	21.38	58.29	74.00	-15.71	peak
6	17460.000	17.08	21.38	38.46	54.00	-15.54	AVG
7	17880.000	30.30	23.34	53.64	74.00	-20.36	peak

Note: 1. Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor + High Pass Filter Loss Factor)

2. Margin = Result - Limit
3. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
4. Peak: Peak detector.
5. AVG: RMS detector.
6. The high pass filter loss factor already add into the correct factor.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

Radiated Emissions – Above 3 GHz			
Measurement Method	Radiated	Polar:	Vertical
Test Mode:	Mode 1	Test Voltage:	AC 120 V/60 Hz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4815.000	50.56	0.51	51.07	74.00	-22.93	peak
2	7380.000	44.91	6.41	51.32	74.00	-22.68	peak
3	12315.000	45.29	14.05	59.34	74.00	-14.66	peak
4	12315.000	26.60	14.05	40.65	54.00	-13.35	AVG
5	14775.000	39.57	15.95	55.52	74.00	-18.48	peak
6	14775.000	19.58	15.95	35.53	54.00	-18.47	AVG
7	17055.000	31.92	20.53	52.45	74.00	-21.55	peak
8	17925.000	29.55	23.37	52.92	74.00	-21.08	peak

Note: 1. Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor + High Pass Filter Loss Factor)

2. Margin = Result - Limit
3. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
4. Peak: Peak detector.
5. AVG: RMS detector.
6. The high pass filter loss factor already add into the correct factor.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

Note: the frequency, which started from 18 GHz to 30 GHz, was pre-scanned and the result which was 20 dB lower than the limit line was not reported.

END OF REPORT