FCC 47 CFR PART 15 SUBPART C

TEST REPORT

FOR

Cyber Motions Power Meter Hub

Model : R1,R Series,PRS1

Issued to

SOARING TECHNOLOGY CO., LTD.
1F, No.34 , Chung-Hsing Road, Hsichih City, Taipei Hsien 22161, Taiwan (R.O.C.)

Issued by
WH Technology Corp.

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EMC Test Site	**Xizhi Office and Lab**	**7F., No.262, Sec. 3, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan (R.O.C.)**

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APPENDIX 1 PHOTOS OF TEST CONFIGURATION

APPENDIX 2 PHOTOS OF EUT

1. GENERAL INFORMATION

Applicant	:	**SOARING TECHNOLOGY CO., LTD.**
Address	:	**1F, No.34 , Chung-Hsing Road, Hsichih City, Taipei Hsien 22161,Taiwan (R.O.C.)**
Manufacturer	:	**SOARING TECHNOLOGY CO., LTD.**
Address	:	**1F, No.34 , Chung-Hsing Road, Hsichih City, Taipei Hsien 22161, Taiwan, R.O.C.**
EUT	:	**Cyber Motions Power Meter Hub**
Model Name	:	**R1,R Series,PRS1**
Model Differences	:	**N/A**

Is here with confirmed to comply with the requirements set out in the FCC Rules and Regulations Part 15 Subpart C and the measurement procedures were according to ANSI C63.10-2013. The said equipment in the configuration described in this report shows the maximum emission levels emanating from equipment are within the compliance requirements.

FCC part 15 subpart C

Receipt Date : 05/26/2017 Final Test Date : 06/13/2017

Taipei, Taiwan	JUN. 13, 2017	***Manager***
(Place)	(Date)	(Signature) Designation Number: TW1083

2. REPORT OF MEASUREMENTS AND EXAMINATIONS

2.1 LIST OF MEASUREMENTS AND EXAMINATIONS

FCC Rule	Description of Test	Result
15.207	. Conducted Emission	Pass
15.205 15.209 15.249	. Radiated Emission	Pass
15.215(c)	. 20dB Bandwidth	Pass
1.1307 1.1310 2.1091 2.1093	. RF Exposure Compliance	Pass

2.2 DESCRIPTION OF THE TESTED SAMPLES

EUT Name	:	Cyber Motions Power Meter Hub
Model Number	::	R1,R Series,PRS1
FCCID Number		MXCR1
Receipt Date	:	05/26/2017
Input Voltage	:	3.7Vdc From Li-ion Battery or 5Vdc From USB Port
Power From		☑Inside ☑Outside ☐Adaptor ☑BATTERY ☐AC Power Source ☐DC Power Source ☑Support Unit PC or NB
Operate Frequency	:	Refer to the channel list as described below
Modulation Technique	:	GFSK
Number of Channels	:	1
Channel spacing	:	☑N/A ☐_____MHz
Operating Mode	:	☐Simplex ☑ Half Duplex
Antenna Type	:	2.4GHz antenna
Antenna gain		-0.46 dBi

3. TEST METHODOLOGY

All testing as described bellowed were performed in accordance with ANSI C63.4:2009 and FCC CFR 47 Part 15 Subpart C.

3.1 GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on a wood table, which is at 0.8 m above ground plane acceding to clause 15.207 and requirements of ANSI C63.4:2017. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz are using CISPR Quasi-Peak / Average detectors.

Radiated Emissions

The EUT is a placed on a turn table, which is 0.8 m above ground plane. The turntable was rotated through 360 degrees to determine the position of maximum emission level. The EUT is placed at 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.

3.2 FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110 10.495 - 0.505 2.1735 - 2.1905 4.125 - 4.128 4.17725 - 4.17775 4.20725 - 4.20775 6.215 - 6.218 6.26775 - 6.26825 6.31175 - 6.31225 8.291 - 8.294 8.362 - 8.366 8.37625 - 8.38675 8.41425 - 8.41475 12.29 - 12.293 12.51975 - 12.52025 12.57675 - 12.57725 13.36 - 13.41	16.42 - 16.423 16.69475 - 16.69525 16.80425 - 16.80475 25.5 - 25.67 37.5 - 38.25 73 - 74.6 74.8 - 75.2 108 - 121.94 123 - 138 149.9 - 150.05 156.52475 - 156.52525 156.7 - 156.9 162.0125 - 167.17 167.72 - 173.2 240 - 285 322 - 335.4	399.9 - 410 608 - 614 960 - 1240 1300 - 1427 1435 - 1626.5 1645.5 - 1646.5 1660 - 1710 1718.8 - 1722.2 2200 - 2300 2310 - 2390 2483.5 - 2500 2655 - 2900 3260 - 3267 3332 - 3339 3345.8 - 3358 3600 - 4400	4.5 - 5.15 5.35 - 5.46 7.25 - 7.75 8.025 - 8.5 9.0 - 9.2 9.3 - 9.5 10.6 - 12.7 13.25 - 13.4 14.47 - 14.5 15.35 - 16.2 17.7 - 21.4 22.01 - 23.12 23.6 - 24.0 31.2 - 31.8 36.43 - 36.5 (2)

1 Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.
2 Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

3.3 DESCRIPTION OF TEST MODES

New Battery was used for all testing and the worst radiated emission case from X,Y and Z axis evaluation was selected for testing

The EUT was tested under following modes:

Modes:

1. **Continuous transmitting**

Channels:

1. **2.457 GHz**

3.4 DESCRIPTION OF THE SUPPORT EQUIPMENTS

Setup Diagram

See test photographs attached in appendix 1 for the actual connections between EUT and support equipment.

EUT

Support Equipment

Peripherals Devices:

OUTSIDE SUPPORT EQUIPMENT							
No.	Equipment	Model	Serial No.	FCC ID/ BSMI ID	Trade name	Data Cable	Power Cord
1.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INSIDE SUPPORT EQUIPMENT							
No.	Equipment	Model	Serial No.	FCC ID/ BSMI ID	Trade name	Data Cable	Power Cord
1.	Li-ion Battery	IP401330	N/A	N/A	N/A	N/A	N/A

Note: All the above equipment /cable were placed in worse case position to maximize emission signals during emission test

Grounding: Grounding was in accordance with the manufacturer's requirement and conditions for the intended use.

4. TEST AND MEASUREMENT EQUIPMENT

4.1 CALIBRATION

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

4.2 EQUIPMENT

The following list contains measurement equipment used for testing. The equipment conforms to the requirement of CISPR 16-1, ANSI C63.2 and. Other required standards.

Calibration of all test and measurement, including any accessories that may effect such calibration, is checked frequently to ensure the accuracy. Adjustments are made and correction factors are applied in accordance with the instructions contained in the respective.

List of Test and Measurement Equipment

Test Site	Instrument	Manufacturer	Model No.	S/N	Next Cal. Date
Conduction	Spectrum (9K--3GHz)	R&S	FSP3	833387/010	2017/09/20
	EMI Receiver	R&S	ESHS10	830223/008	2018/05/22
	LISN	Rolf Heine Hochfrequenztechnik	NNB-2/16z	98062	2018/05/25
	ISN	Schwarzbeck	8-Wire ISN CAT5	CAT5-8158-0094	2017/09/21
	RF Cable	N/A	N/A	EMI-3	2017/10/19
Radiation	Bilog antenna(30M-1G)	ETC	MCTD2786B	BLB16M04004/JB-5-004	2018/05/18
	Double Ridged Guide Horn antenna(1G-18G)	ETC	MCTD 1209	DRH15N02009	2017/11/23
	Horn antenna (18G-26G)	com-power	AH-826	81000	2017/08/15
	LOOP Antenna (Below 30M)	com-power	AL-130	17117	2017/10/04
	Pre amplifier (30M-1G)	EMC INSTRUMENT	EMC9135	980334	2018/05/03
	Microwave Preamplifier (1G-18G)	EMC INSTRUMENT	EMC051845	980108&AT -18001	2017/10/23
	Pre amplifier (18G~26G)	MITEQ	JS4-18002600-30-5A	808329	2017/08/10
	EMI Test Receiver	R&S	ESVS30 (20M-1000MHz)	826006/002	2017/11/28

	RF Cable (open site)	EMCI	N male on end of both sides (EMI4)	30m	2017/10/19
	RF CABLE (1~26.5G)	HARBOUT INDUSTRIES	LL142MI(4M+4M)	NA	2017/04/17
	RF CABLE (1~26.5G)	HARBOUR INDUSTRIES	LL142MI(7M)	NA	2017/08/11
	Spectrum (9K--7GHz)	R&S	FSP7	830180/006	2018/04/14
	Spectrum (9K--40GHz)	AGILENT	8564EC	4046A0032	2018/03/01
Software	e3	AUDIX	N/A	N/A	N/A
SG	SINGAL GENTERATOR (100k-1GHz)	HP	8648A	3619U00426	N/A

- **CALIBRATION INTERVAL OF INSTRUMENTS LISTED ABOVE IS ONE YEAR**

5. SECTION 15.249 REQUIREMENTS (FUNDAMENTAL/ HARMONICS)

5.1 TEST SETUP

Refer to paragraph 7.1.

5.2 LIMIT

Fundamental Frequency (MHz)	Field Strength of Fundamental (dBµV/m at 3-meter)	Detector
902 - 928 2400 – 2483 5725 - 5875	114	Peak
902 - 928 2400 – 2483 5725 - 5875	94	AV

Fundamental Frequency (MHz)	Field Strength of Harmonics (dBµV/m at 3-meter)	Detector
902 - 928 2400 – 2483 5725 - 5875	74	Peak
902 - 928 2400 – 2483 5725 - 5875	54	AV

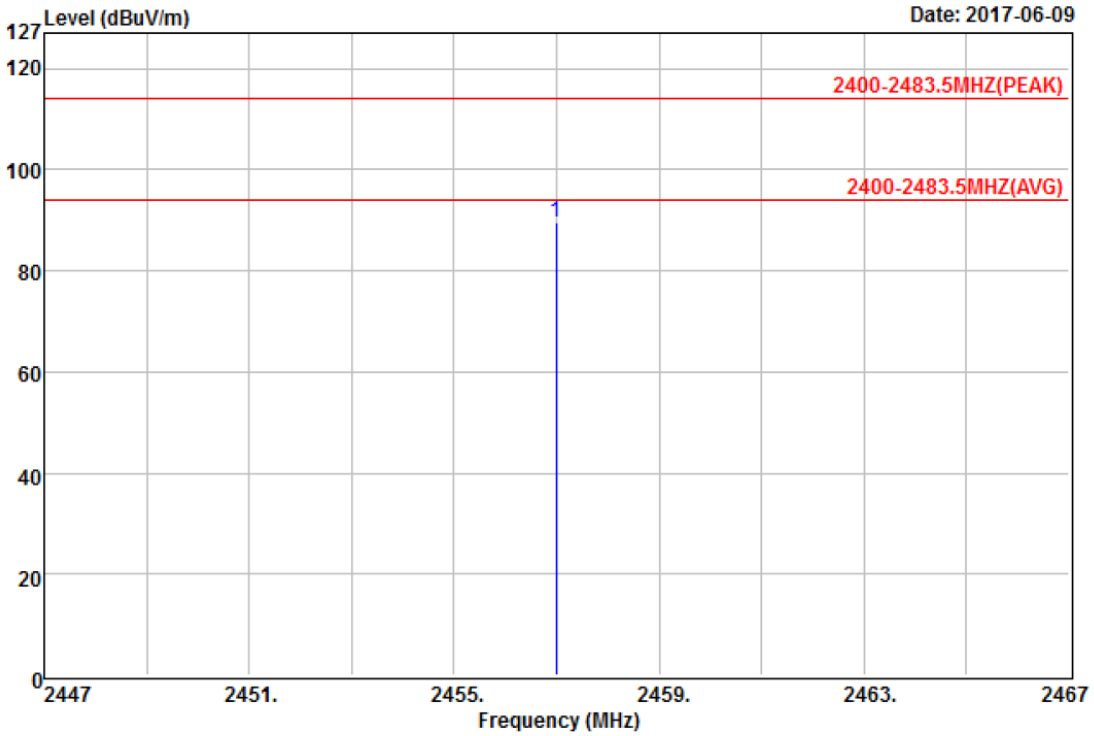
5.3 RESULT: PASSED

5.4 TEST DATA:

Fundamental

Vertical

X axis



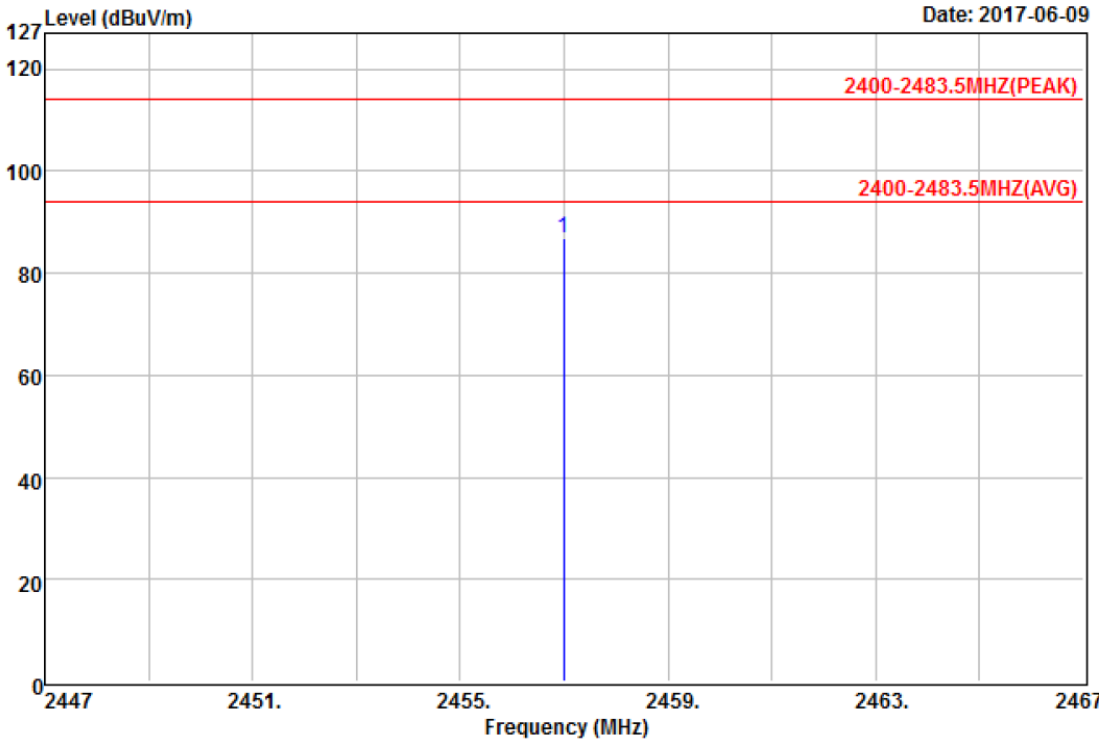
Site : open site
Condition : 2400-2483.5MHZ(PEAK) 3m MCTD-1209(1-18G)-105 HORIZONTAL
EUT : Cyber Motions Power Meter Hub
Power : DC 5V
Mode : TX 2457MHz
Temperature : 30
Humidity : 59
----------: ----------
Remarks: : 1.Result=Read Value+Factor
: 2.Factor=Antenna Factor+Cable loss-
: Amplifier Factor

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1 @	2457.00	103.40	-13.81	89.59	114.00	-24.41	Peak

Fundamental

Horizontal

X axis



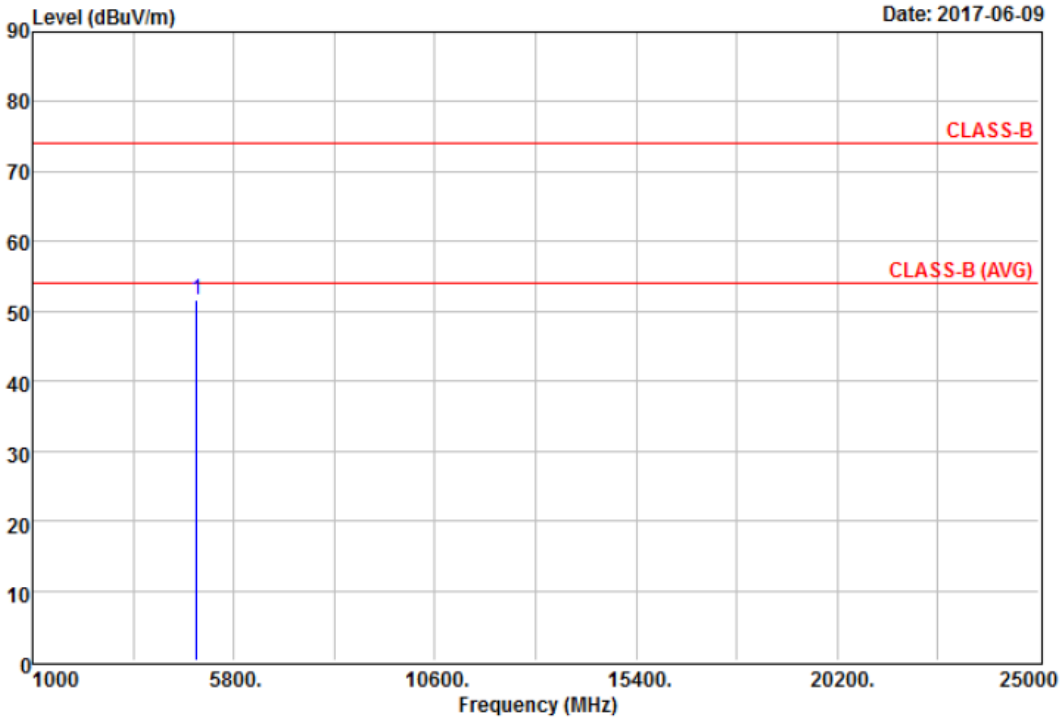
Site : open site
Condition : 2400-2483.5MHZ(PEAK) 3m MCTD-1209(1-18G)-105 VERTICAL
EUT : Cyber Motions Power Meter Hub
Power : DC 5V
Mode : TX 2457MHz
Temperature : 30
Humidity : 59
----------: ----------
Remarks : 1.Result=Read Value+Factor
: 2.Factor=Antenna Factor+Cable loss-
: Amplifier Factor

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1 @	2457.00	100.74	-13.81	86.93	114.00	-27.07	Peak

Harmonics

Vertical

X axis



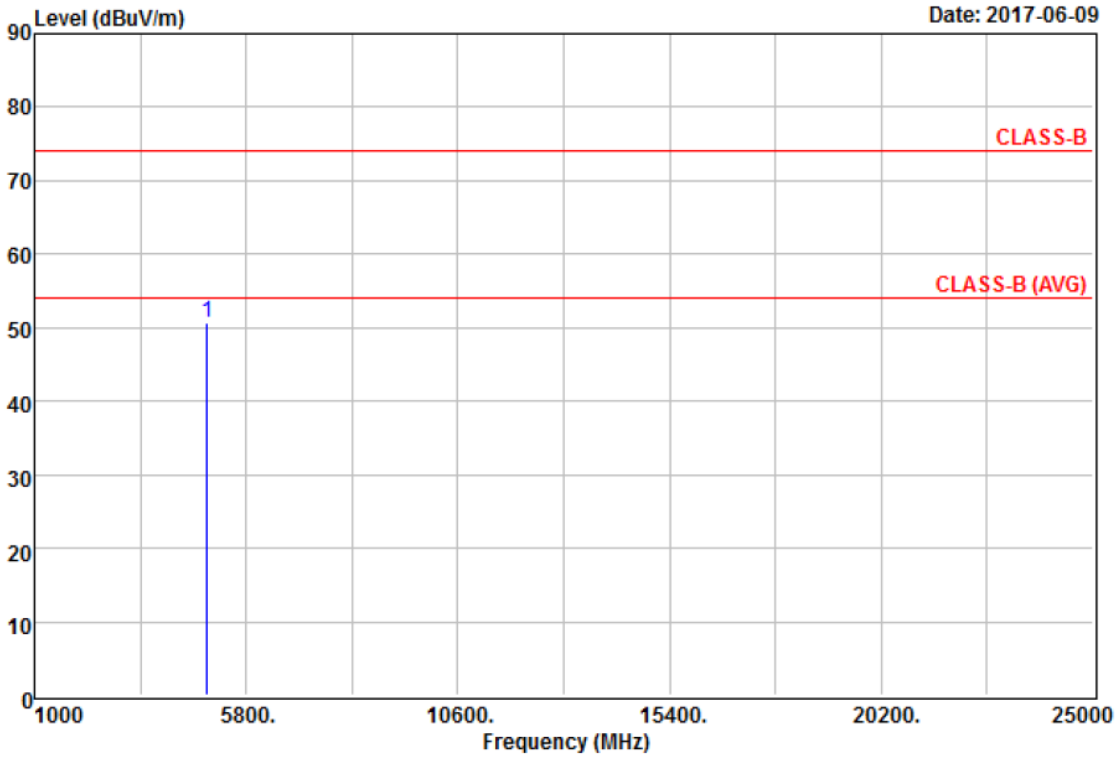
Site : open site
Condition : CLASS-B 3m MCTD-1209(1-18G)-105 HORIZONTAL
EUT : 17052601
Power : DC 5V
Mode : TX 2457MHz
Temperature : 30
Humidity : 59
----------: ----------
Remarks: : 1.Result=Read Value+Factor
: 2.Factor=Antenna Factor+Cable loss-
: Amplifier Factor

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1 @	4914.00	57.50	-5.81	51.69	74.00	-22.31	Peak

Harmonics

Horizontal

X axis



Site : open site
Condition : CLASS-B 3m MCTD-1209(1-18G)-105 VERTICAL
EUT : 17052601
Power : DC 5V
Mode : TX 2457MHz
Temperature : 30
Humidity : 59
----------: ----------
Remarks : 1.Result=Read Value+Factor
: 2.Factor=Antenna Factor+Cable loss-
: Amplifier Factor

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1 @	4914.00	56.44	-5.81	50.63	74.00	-23.37	Peak

Note:

1. Emission level = Reading level + Correction factor
2. Correction factor : Antenna factor, Cable loss, Pre-Amp, etc.
3. All emissions as described above were determining by rotating the EUT through three orthogonal axes to maximizing the emissions if the EUT belongs to hand-held or body-worn devices.
4. Measurements above 1000 MHz, Peak detector setting:

   1 MHz RBW with 1 MHz VBW (Peak Detector).
5. Measurements above 1000 MHz, Average detector setting:

   1 MHz RBW with 1 MHz VBW (RMS Detector).
6. Peak detector measurement data will represent the worst case results.
7. "---" denotes the data which is not available.
8. Where limits are specified for both average and peak detector functions, if the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.

6. SECTION 15.205 REQUIREMENTS (BAND EDGE)

6.1 TEST SETUP

Refer to paragraph 7.1.

6.2 LIMIT

Restricted Bands:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])
13.36 - 13.41			

Operation within the bands:
902 - 928 MHz, 2400 - 2483.5 MHz, 5725 - 5875 MHz, and 24.0 - 24.25 GHz.

Frequency (Hz)	Field Strength (μV/m at 3-meter)	Field Strength (dBμV/m at 3-meter)
1.705-30	30 (at 30-meter)	49.5
30-88	100	40
88-216	150	43
216-960	200	46
Above 960	500	54

6.3 RESULT: PASSED

6.4 TEST DATA:

<2400 MHz										Fundamental Frequency: 2457 MHz
Frequency (MHz)	Ant-Pol H/V	Meter Reading (dBuV)	Corrected Factor (dB)	Result (dBuV/m)	Remark	Limit (dBuV/m)		Margin (dB)	Table Deg.	Ant High (m)
						Peak	Ave			
2386.40	H	53.67	-13.99	39.68	Peak	74	54	-34.32	179	1.50
---	H	---	---	---	Ave	74	54	---	---	---
2383.40	V	52.19	-14.00	38.22	Peak	74	54	-35.78	192	1.50
---	V	---	---	---	Ave	74	54	---	---	---
>2483.5 MHz										Fundamental Frequency: 2457 MHz
Frequency (MHz)	Ant-Pol H/V	Meter Reading (dBuV)	Corrected Factor (dB)	Result (dBuV/m)	Remark	Limit (dBuV/m)		Margin (dB)	Table Deg.	Ant High (m)
						Peak	Ave			
2489.50	H	53.01	-13.74	39.27	Peak	74	54	-34.73	162	1.50
---	H	---	---	---	Ave	74	54	---	---	---
2488.70	V	52.19	-13.74	38.45	Peak	74	54	-35.55	188	1.50
---	V	---	---	---	Ave	74	54	---	---	---

Note:

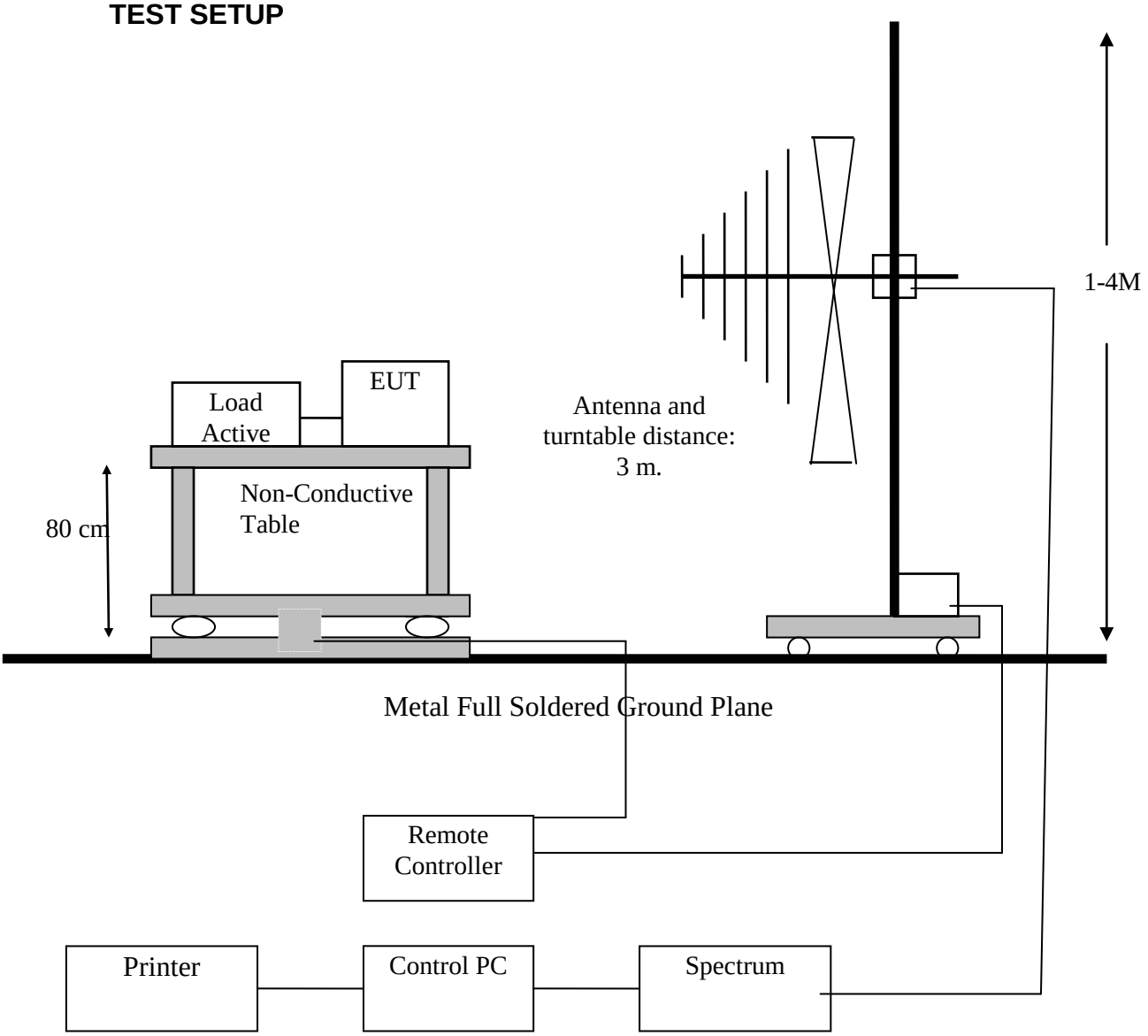
1. Emission level = Reading level + Correction factor
2. Correction factor : Antenna factor, Cable loss, Pre-Amp, etc.
3. All emissions as described above were determining by rotating the EUT through three orthogonal axes to maximizing the emissions if the EUT belongs to hand-held or body-worn devices.
4. Measurements above 1000 MHz, Peak detector setting:

   1 MHz RBW with 1 MHz VBW (Peak Detector).
5. Measurements above 1000 MHz, Average detector setting:

   1 MHz RBW with 1 MHz VBW (RMS Detector).
6. Peak detector measurement data will represent the worst case results.
7. Where limits are specified for both average and peak detector functions, if the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.

7. SECTION 15.209 REQUIREMENTS (GENERAL RADIATED EMISSION)

7.1 TEST SETUP



7.2 LIMIT

The field strength of any emissions which appear outside of this band shall not exceed the general radiated emission limits in section 15.209 as below.

Frequency (MHz)	Field Strength (mV/m)	Measurement Distance (m)
1.705-30	30	30
30-88	100*	3
88-216	150*	3
216-960	200*	3
Above 960	500*	3

**Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz,*
174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

In the above emission table, the tighter limit applies at the band edges.

Frequency (Hz)	Field Strength (μV/m at 3-meter)	Field Strength (dBμV/m at 3-meter)
1.705-30	30 (at 30-meter)	49.5
30-88	100	40
88-216	150	43
216-960	200	46
Above 960	500	54

7.3 TEST PROCEDURE

1. The EUT was placed on a turntable, which was 0.8m above ground plane.
2. The turntable was rotated for 360 degrees to determine the position of maximum emission level.
3. EUT was set at 3m away from the receiving antenna, which was varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was maximized by changing the polarization of receiving antenna, both horizontal and vertical.
6. Repeated above procedures until the measurements for all frequencies are completed.

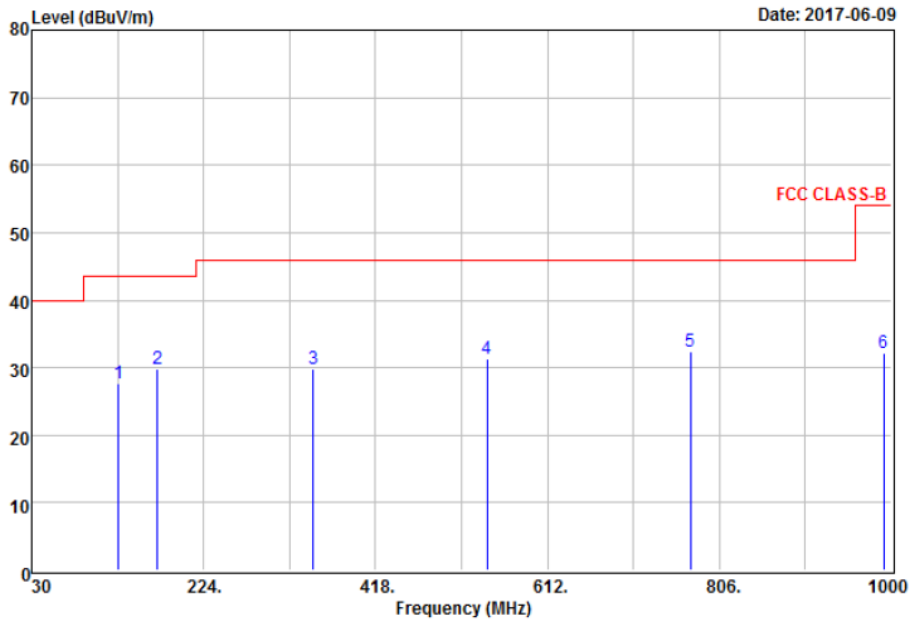
7.4 RESULT: PASSED

7.5 TEST DATA:

All frequencies not described in this test report and within the range of the general radiated emission limits are not detectable significantly. The table as below is representing worst emissions found.

Vertical

X axis

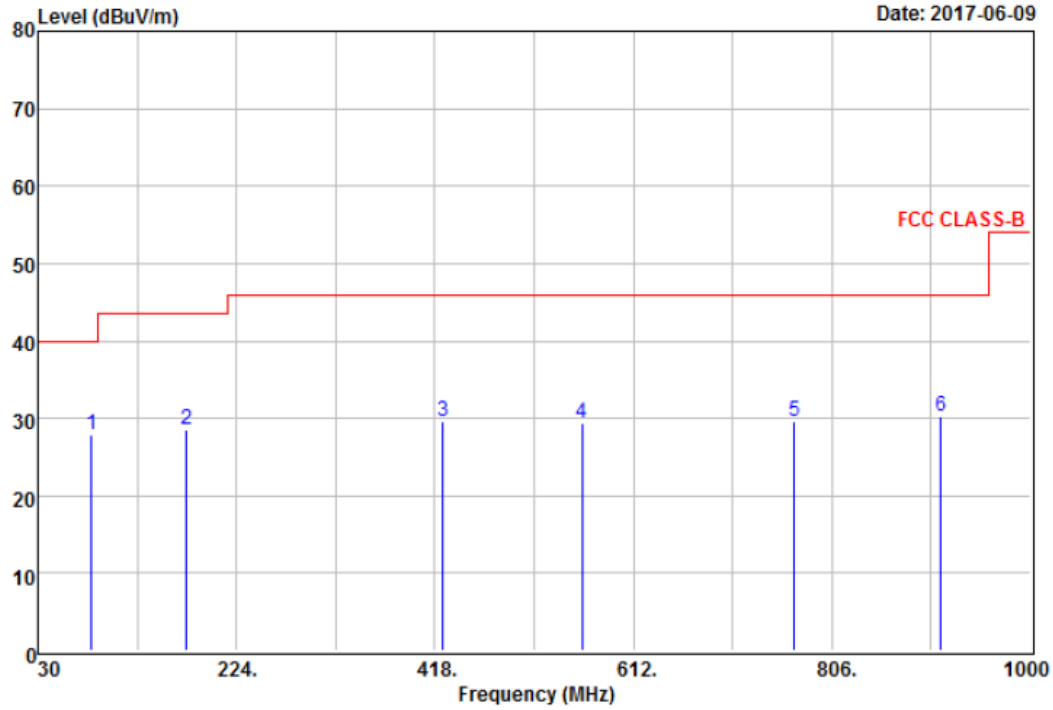


Site : open site
Condition : FCC CLASS-B 3m MCTD2786B(30-1G)-106 HORIZONTAL
EUT : 17052601
Power : DC 5V
Mode : TX 2457MHz
Temperature : 30
Humidity : 59
----------: ----------
Remarks : 1.Result=Read Value+Factor
: 2.Factor=Antenna Factor+Cable loss-
: Amplifier Factor

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	127.97	42.58	-14.89	27.69	43.50	-15.81	QP
2	171.62	48.25	-18.48	29.77	43.50	-13.73	QP
3	348.16	42.20	-12.44	29.76	46.00	-16.24	QP
4	544.10	40.14	-8.84	31.30	46.00	-14.70	QP
5 @	773.02	38.26	-5.78	32.48	46.00	-13.52	QP
6	991.27	33.61	-1.36	32.25	54.00	-21.75	QP

Horizontal

X axis



Site : open site
Condition : FCC CLASS-B 3m MCTD2786B(30-1G)-106 VERTICAL
EUT : 17052601
Power : DC 5V
Mode : TX 2457MHz
Temperature : 30
Humidity : 59
----------: ----------
Remarks : 1.Result=Read Value+Factor
: 2.Factor=Antenna Factor+Cable loss-
: Amplifier Factor

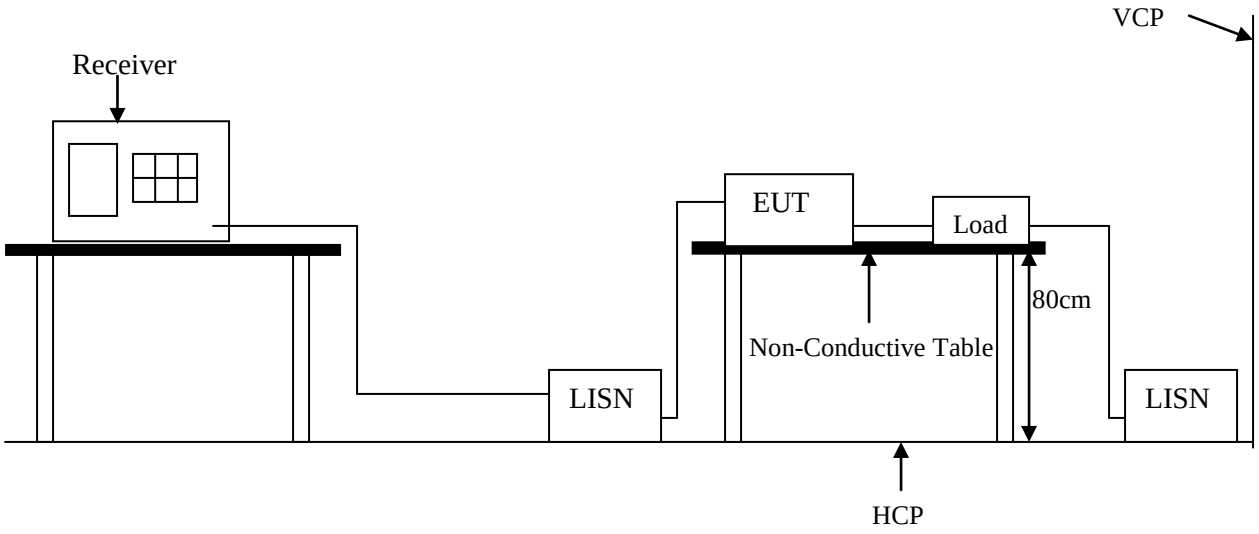
		Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	@	82.38	50.65	-22.74	27.91	40.00	-12.09	QP
2		175.50	47.33	-18.83	28.50	43.50	-15.00	QP
3		425.76	40.16	-10.58	29.58	46.00	-16.42	QP
4		561.56	38.18	-8.77	29.41	46.00	-16.59	QP
5		769.14	35.48	-5.86	29.62	46.00	-16.38	QP
6		912.70	33.56	-3.37	30.19	46.00	-15.81	QP

Note:

1. Emission level = Reading level + Correction factor
2. Correction factor : Antenna factor, Cable loss, Pre-Amp, etc.
3. All emissions as described above were determining by rotating the EUT through three orthogonal axes to maximizing the emissions if the EUT belongs to hand-held or body-worn devices.
4. Measurements from 9 kHz to 150 kHz, Peak detector setting: 100 Hz RBW
5. Measurements from 150 kHz to 30MHz, Peak detector setting: 10 kHz RBW
6. Measurements from 30 MHz to 1000 MHz, Peak detector setting: 100 kHz RBW
7. Measurements from 9 kHz to 150 kHz, CISPR Quasi-Peak detector: 200 Hz RBW
8. Measurements from 150 kHz to 30MHz, CISPR Quasi-Peak detector: 9 kHz RBW
9. Measurements from 30 MHz to 1000 MHz, CISPR Quasi-Peak detector: 120 kHz RBW
10. Peak detector measurement data will represent the worst case results.

8. SECTION 15.207 REQUIREMENTS (POWERLINE CONDUCTED EMISSIONS)

8.1 TEST SETUP



8.2 LIMIT

Frequency range (MHz)	CLASS B	
	QP dB(uV)	Average dB(uV)
0.15-0.5	66 - 56 dBuV	56 - 46 dBuV
0.5-5.0	56 dBuV	46 dBuV
5.0-30.0	60 dBuV	50 dBuV

Remark: In the above table, the tighter limit applies at the band edges.

8.3 TEST PROCEDURE

The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). It provides a 50 ohm / 50 μH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50 ohm / 50 μH coupling impedance with 50 ohm termination. (Please refer to the block diagram of the test setup and photograph.)

Both sides of AC line are checked for the maximum conducted emission interference. In order to find the maximum emissions, the relating positions of equipment and all of the interference cables must be changed according to EN 55022 regulations: The measurement procedure on conducted emission interference.

The resolution bandwidth of the field strength meter is set at 9 KHz.

8.4 TEST SPECIFICATION

According to PART15.207

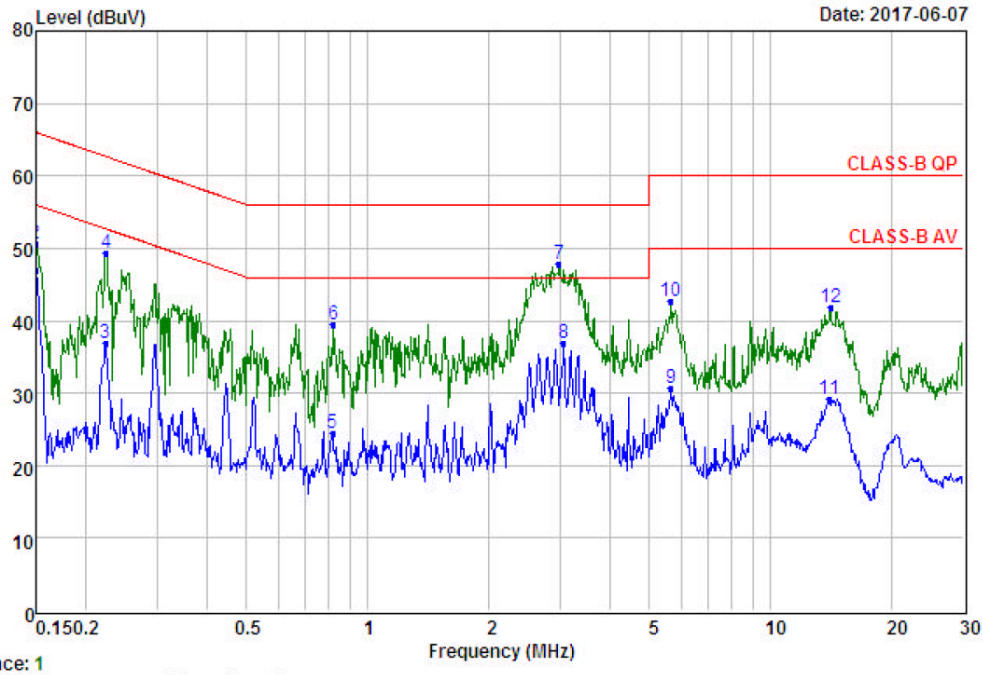
8.5 RESULT: PASSED

EMI Receiver/Spectrum Analyzer Configuration (for the frequencies tested)

Frequency Range:	150KHz--30MHz
Detector Function:	Quasi-Peak / Average Mode
Resolution Bandwidth:	9KHz

8.6 TEST DATA:

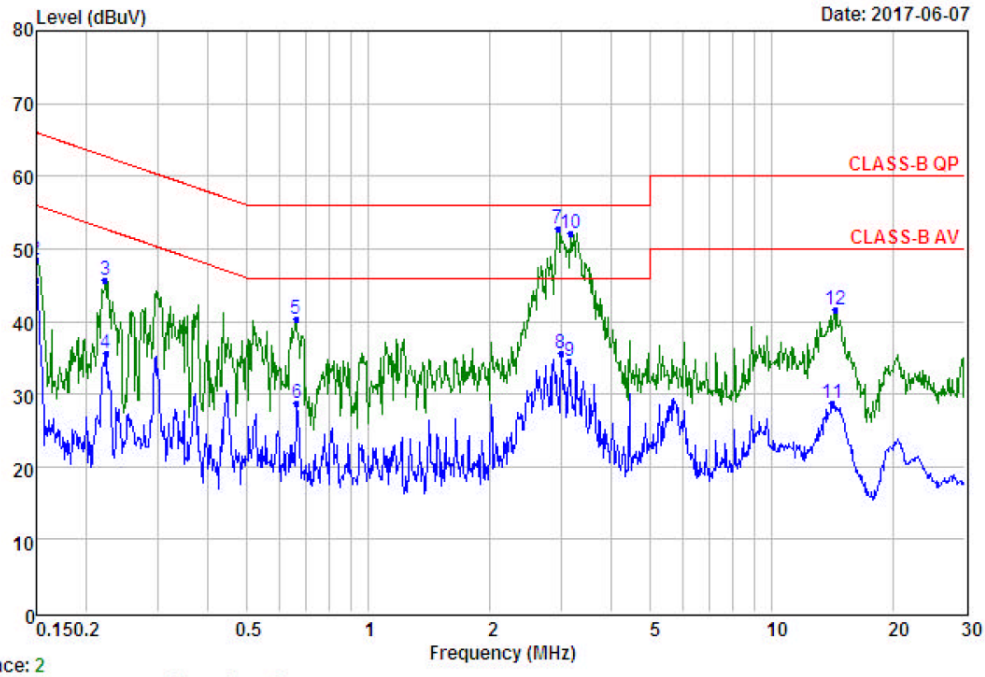
Power :	DC5V from PC supply	Pol/Phase :	LINE
Test Mode 1 :	TX 2457 MHz	Temperature :	24 °C
Test Date :	Jun. 07, 2017	Humidity :	52 %



Site : Conduction
Condition : CLASS-B QP CON-LISN-105 LINE
EUT : Cyber Motions Power Meter Hub
Power : PC Supply
Mode : **TX 2457MHz**
Temperature : 24
Humidity : 52
Memo :
---: ---
Remarks: : Factor=Insertion loss+Cable loss

	Freq	Read Level	Level	Factor	Over Limit	Limit Line	Remark
	MHz	dBuV	dBuV	dB	dB	dBuV	
1	0.15	36.97	47.07	10.10	-8.93	56.00	Average
2	0.15	40.61	50.71	10.10	-15.29	66.00	QP
3	0.22	26.71	36.85	10.14	-15.85	52.70	Average
4	0.22	39.24	49.38	10.14	-13.28	62.66	QP
5	0.82	14.23	24.39	10.16	-21.61	46.00	Average
6	0.82	29.34	39.50	10.16	-16.50	56.00	QP
7 @	2.98	37.53	47.80	10.27	-8.20	56.00	QP
8	3.06	26.56	36.83	10.27	-9.17	46.00	Average
9	5.65	20.40	30.76	10.36	-19.24	50.00	Average
10	5.65	32.35	42.71	10.36	-17.29	60.00	QP
11	13.91	18.70	29.27	10.57	-20.73	50.00	Average
12	14.06	31.30	41.87	10.57	-18.13	60.00	QP

Power :	DC5V from PC supply	Pol/Phase :	NEUTRAL
Test Mode 1 :	TX 2457 MHz	Temperature :	24 °C
Test Date :	Jun. 07, 2017	Humidity :	52 %



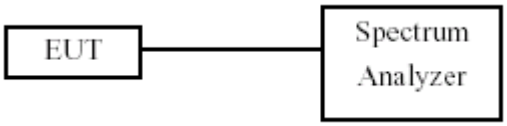
Site : Conduction
Condition : CLASS-B QP CON-LISN-105 NEUTRAL
EUT : Cyber Motions Power Meter Hub
Power : PC Supply
Mode : **TX 2457MHz**
Temperature : 24
Humidity : 52
Memo :

Remarks: : Factor=Insertion loss+Cable loss

	Freq	Read Level	Level	Factor	Over Limit	Limit Line	Remark
	MHz	dBuV	dBuV	dB	dB	dBuV	
1	0.15	35.61	45.69	10.08	-10.31	56.00	Average
2	0.15	38.33	48.41	10.08	-17.59	66.00	QP
3	0.22	35.55	45.66	10.11	-17.08	62.74	QP
4	0.22	25.40	35.51	10.11	-17.19	52.70	Average
5	0.66	30.04	40.22	10.18	-15.78	56.00	QP
6	0.66	18.52	28.70	10.18	-17.30	46.00	Average
7 @	2.95	42.47	52.70	10.23	-3.30	56.00	QP
8	2.99	25.40	35.63	10.23	-10.37	46.00	Average
9	3.14	24.36	34.59	10.23	-11.41	46.00	Average
10	3.16	41.91	52.14	10.23	-3.86	56.00	QP
11	14.06	18.17	28.69	10.52	-21.31	50.00	Average
12	14.29	31.01	41.55	10.54	-18.45	60.00	QP

9. 20DB BANDWIDTH MEASUREMENT

9.1 TEST SETUP



9.2 LIMIT

N/A

9.3 TEST PROCEDURE

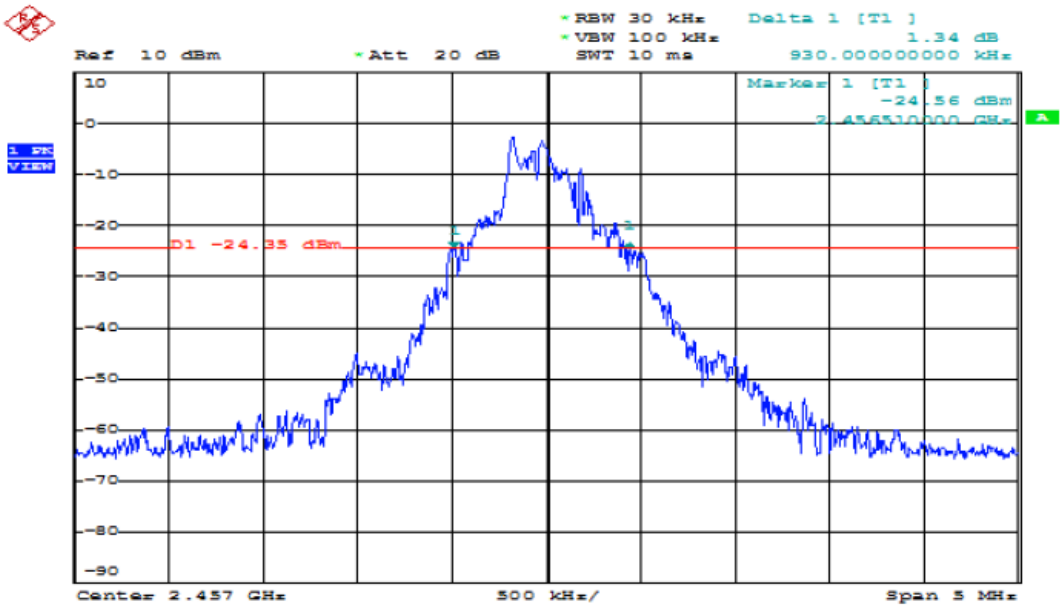
a. The transmitter output was connected to the spectrum analyzer.
b. Set RBW=30KHz and VBW=100KHz.
c. The 20 dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20 dB.
d. The 20 dB Bandwidth was measured and recorded.

9.4 RESULT: PASSED

9.5 TEST DATA

Test Date: JUN. 09, 2017 Temperature: 26℃

Atmospheric pressure: 1000 hPa Humidity: 55%

Modulation Standard	Channel	Frequency (MHz)	20dB Bandwidth (MHz)
GFSK	1	2457	0.93

Modulation Standard: GFSK
Channel: 1