



Test Report No:
23A0228R-RFUSV03S-A

TEST REPORT

FCC Rules&Regulations

Product Name	Communication Module
Brand Name	muRata
Model No.	LBEE5XV1YM
FCC ID	QHQLB1YM
Applicant's Name / Address	Laerdal Medical AS P.O. Box 377, Tanke Svilandsgate 30 Stavanger 4002 Norway
Manufacturer's Name / Address	Murata Manufacturing Co., Ltd. 1-10-1, Higashikotari, Nagaokakyo-shi, Kyoto 617-8555 Japan
Test Method Requested, Standard	FCC CFR Title 47 Part 15 Subpart E Section 15.407 ANSI C63.10-2013
Verdict Summary	IN COMPLIANCE
Documented By	<i>Amelia Wu</i> Amelia Wu
Approved By	<i>Rueyyan Lin</i> Rueyyan Lin
Date of Receipt	Oct. 11, 2023
Date of Issue	Dec. 19, 2023
Report Version	V1.0

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Competences and Guarantees

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

IMPORTANT: No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of DEKRA.

General Conditions

1. The test results relate only to the samples tested.
2. The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.
3. This report must not be used to claim product endorsement by TAF or any agency of the government.
t be reproduced without the written approval of DEKRA Testing and Certification Co., Ltd.
5. Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Revision History

Version	Description	Issued Date
V1.0	Initial issue of report	Dec. 19, 2023

Permissive Change

Permissive Change	Modifications
Class II Permissive Change (C2PC)	1. Additional platform added (Product: CAN CPU Module 2, Brand: Laerdal Medical AS, Model: 20-19560). 2. Add two same type antennas (Type: dipole, model: 2118909-13) but the gain lower than the original certificate. After evaluating, it was verified for AC power line conducted emission and radiated spurious emission were re-tested.

Summary of Test Result

Report Clause	Test Items	Result (PASS/FAIL)	Remark
3	AC Power Line Conducted Emission	PASS	-
4	Transmitter Radiated Spurious Emission	PASS	-

Note: The EUT was installed into the host (brand name: Laerdal Medical AS, model: 204-00250) to perform all the tests.

Comments and Explanations

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Comments and Remarks

The product specification and testing instructions for the EUT declared in the report are provided by the manufacturer who will take all responsibilities for the accuracy.

1. General Information

1.1. EUT Description

Frequency Range	5150 ~ 5250 MHz 5250 ~ 5350 MHz 5470 ~ 5725 MHz 5725 ~ 5850 MHz	
Operating Frequency / Channel Number	IEEE 802.11a IEEE 802.11n/ac (20 MHz)	5180 ~ 5240 MHz / 4 Channels 5260 ~ 5320 MHz / 4 Channels 5500 ~ 5720 MHz / 12 Channels 5745 ~ 5825 MHz / 5 Channels
	IEEE 802.11n/ac (40 MHz)	5190 ~ 5230 MHz / 2 Channels 5270 ~ 5310 MHz / 2 Channels 5510 ~ 5710 MHz / 6 Channels 5755 ~ 5795 MHz / 2 Channels
	IEEE 802.11ac (80 MHz)	5210 MHz / 1 Channel 5290 MHz / 1 Channel 5530 ~ 5690 MHz / 3 Channels 5775 MHz / 1 Channel
Type of Modulation	IEEE 802.11a/n	OFDM-BPSK, QPSK, 16QAM, 64QAM
	IEEE 802.11ac	OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM

The difference between EUT 1 and EUT 2 is shown as below (please refer to EUT Photograph):

EUT	Shape	Length of antenna cable (mm)
1	Circle	150+50
2	Square	150+100

The cable length of EUT 1 is shorter and evaluated as worst case.

EUT 1 Antenna Information				
Ant.	Brand Name	Model No.	Type	Gain (dBi)
0	TE connectivity	2118909-1	Dipole	4.3
1	TE connectivity	2118909-1	Dipole	4.3

EUT 2 Antenna Information				
Ant.	Brand Name	Model No.	Type	Gain (dBi)
0	TE connectivity	2118909-1	Dipole	4.3
1	TE connectivity	2118909-1	Dipole	4.3

For IEEE 802.11b/g/n Mode: (2TX, 2RX)

Both Ant. 0 and Ant. 1 can be used as transmitting/receiving antennas, and they can transmit/receive signal simultaneously.

1.2. EUT Information

EUT Power Type	From Adapter			
EUT Function	<input checked="" type="checkbox"/>	Point-to-multipoint	<input type="checkbox"/>	Point-to-point
TPC Function	<input type="checkbox"/>	With TPC Function	<input checked="" type="checkbox"/>	Without TPC Function
Weather Band (5600 ~ 5650 MHz)	<input checked="" type="checkbox"/>	With 5600 ~ 5650 MHz	<input type="checkbox"/>	Without 5600 ~ 5650 MHz
Beamforming Function	<input type="checkbox"/>	With beamforming	<input checked="" type="checkbox"/>	Without beamforming
Product Type	<input type="checkbox"/>	Outdoor AP	<input type="checkbox"/>	Indoor AP
	<input type="checkbox"/>	Fixed P2P AP	<input checked="" type="checkbox"/>	Client

1.3. Applicable Standards

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

- ◆ 47 CFR FCC Part 15
- ◆ ANSI C63.10-2013
- ◆ KDB 789033 D02 v02r01

The following reference test guidance is not within the scope of accreditation of TAF.

- ◆ KDB 662911 D01 v02r01
- ◆ KDB 412172 D01 v01r01
- ◆ KDB 414788 D01 v01r01

1.4. Testing Location Information

Testing Location Information	
Test Laboratory : DEKRA Testing and Certification Co., Ltd.	
1 (TAF: 3024)	ADD: No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C. TEL: +886-3-582-8001 FAX: +886-3-582-8958
2 (TAF: 3024)	ADD: No.372, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C. TEL: +886-3-582-8001 FAX: +886-3-582-8958
Test site number for address 1 includes HC-SR02. Test site number for address 2 includes HC-CB02, HC-CB03, HC-CB04, HC-SR10 and HC-SR12.	

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
AC Conduction Emission	HC-SR02	Igor Tseng	20.2 / 57	2023/12/05
Radiated Emission	HC-CB02	Gary Liao	24 / 61	2023/11/10

1.5. Measurement Uncertainty

Uncertainties have been calculated according to the DEKRA internal document with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)).

Test Item	Uncertainty
AC Power Line Conducted Emission	± 2.34 dB
Transmitter Radiated Spurious Emission	± 3.52 dB below 1 GHz ± 3.56 dB above 1 GHz

1.6. List of Test Equipment

HC-SR02

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Cal. Date	Next Cal. Date
Artificial Mains Network	R&S	ENV4200	848411/010	9kHz-30MHz, 4line/100A	2022/12/19	2023/12/18
EMI Test Receiver	R&S	ESR3	102608	9 kHz - 3.6 GHz	2023/09/19	2024/09/18
Two-Line V-Network	R&S	ENV216	100096	9kHz-30MHz	2023/06/02	2024/06/01
Coaxial Cable(9 m)	Harbour	RG-400	HC-SR02	9 kHz-2500 MHz	2023/08/04	2024/08/03
EMI Testing System	AUDIX	e3 210616 dekra V9	HC-SR02	N/A	N/A	N/A

HC-CB02

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Cal. Date	Next Cal. Date
Signal Analyzer	R&S	FSVA40	101455	10 Hz-40 GHz	2023/10/03	2024/10/02
Trilog Broadband Antenna	Schwarzbeck	VULB 9168	1272	30 MHz-2 GHz	2023/04/13	2024/04/12
Double Ridged Horn Antenna	RF SPIN	DRH18-E	211211A18EN	1G-18GHz	2023/11/09	2024/11/08
Horn Antenna	Schwarzbeck	BBHA 9170	203	18G-40GHz	2023/02/13	2024/02/12
Pre-Amplifier	EMCI	EMC01820I	980365	30M-8 GHz,20 dB	2023/04/07	2024/04/06
Pre-Amplifier	EMEC	EM01G18GA	060741	1G-18 GHz,50 dB	2023/05/05	2024/05/04
Pre-Amplifier	DEKRA	AP-400C	201801231	18G-40 GHz,48 dB	2023/10/03	2024/10/02
EMI Test Receiver	R&S	ESR7	102260	10 Hz-7 GHz	2022/12/01	2023/11/30
Magnetic Loop Antenna	Teseq	HLA 6121	44287	0.01-30 MHz	2023/10/13	2024/10/12
Coaxial Cable(13m)	Suhner	SF104	HC-CB02	30M-18 GHz	2023/08/14	2024/08/13
Coaxial Cable(3m)	Suhner,Rosnol	SF102_UP0264	HC-CB02-1	18G-40 GHz 3 m	2023/08/14	2024/08/13
Radiated Software	AUDIX	e3 V9	HC-CB02_1	N/A	N/A	N/A

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

2. Test Configuration of EUT

2.1. Test Condition

EUT Operational Condition	
Testing Voltage	AC 120V/60Hz

2.2. Test Software Version

Test Software Version	Putty v 0.78
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2.3. The Worst Case Measurement Configuration

Tests Item	AC Power Line Conducted Emission
Test Condition	AC power line conducted measurement for line and neutral
Operating Mode	Transmit

Tests Item	Transmitter Radiated Spurious Emission
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	Transmit
Operating Mode > 1GHz	Transmit
The EUT was performed at X axis, Y axis and Z axis position for transmitter radiated spurious emission test. The worst case was found at X axis, so the measurement will follow this same test configuration.	

Tests Item	Simultaneous Transmission Analysis - Radiated Emission Co-location
Test Condition	Radiated measurement
Operating Mode	Transmit
1	WiFi 2.4 GHz + Bluetooth
2	WiFi 5 GHz + Bluetooth
Refer to Appendix C for Radiated Emission Co-location.	

Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	Transmit
1	WiFi 2.4 GHz + Bluetooth
2	WiFi 5 GHz + Bluetooth
Refer to DEKRA Test Report No.: 23A0228R-RFUSV17S-A for Co-location RF Exposure Evaluation.	

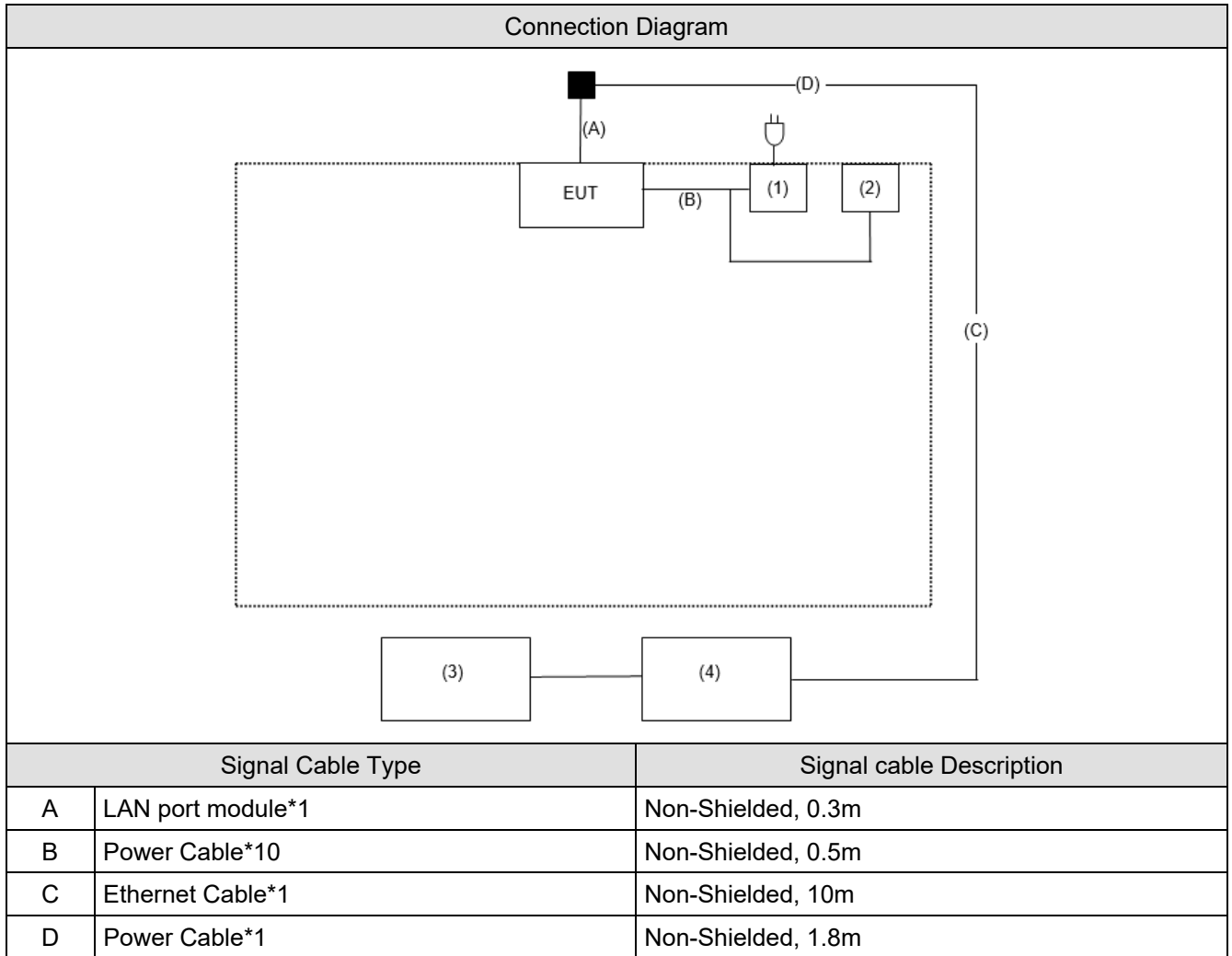
Note:

- Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
- For radiated spurious emission below 1 GHz and AC power line conducted emission have performed all modes of operation were investigated and the worst-case emissions are reported.
- The modulation and bandwidth are similar for 802.11n mode for HT20/HT40 and 802.11ac mode for VHT20/VHT40/VHT80, therefore investigated worst case to representative mode in test report.

2.4. Tested System Details

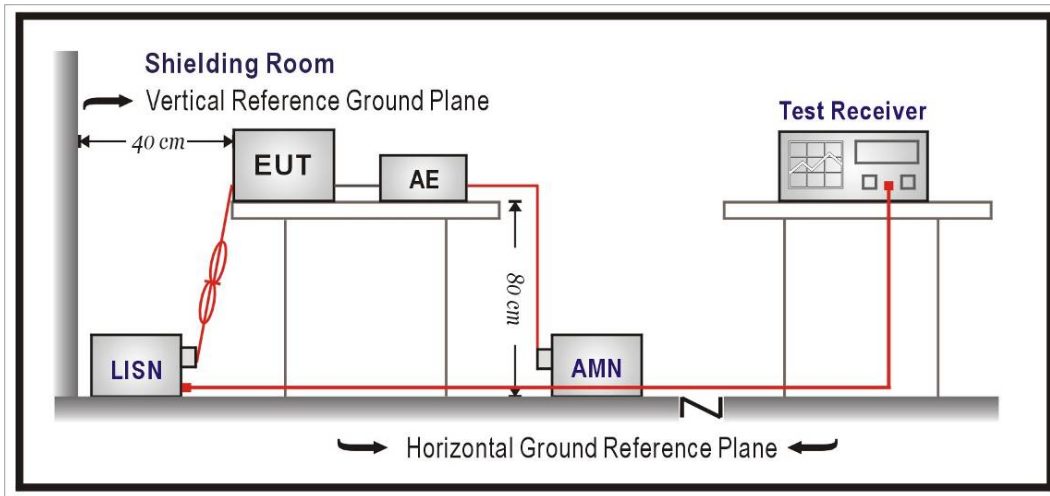
No.	Equipment	Brand Name	Model No.	Serial No.
1	Adapter	FSP	FSP040-RHAN3	N/A
2	Countermeasure board	N/A	N/A	N/A
3	Notebook	DELL	Latitude E6320	8611271467
4	Router	ASUS	RT-AX88U	JCITHP000040

2.5. Configuration of tested System



3. AC Power Line Conducted Emission

3.1. Test Setup



3.2. Test Limit

Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

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

3.3. Test Procedure

The EUT was setup according to ANSI C63.10: 2013. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs.)

Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.

The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.

Conducted emissions were investigated over the frequency range from 0.15 MHz to 30 MHz using a receiver bandwidth of 9 kHz.

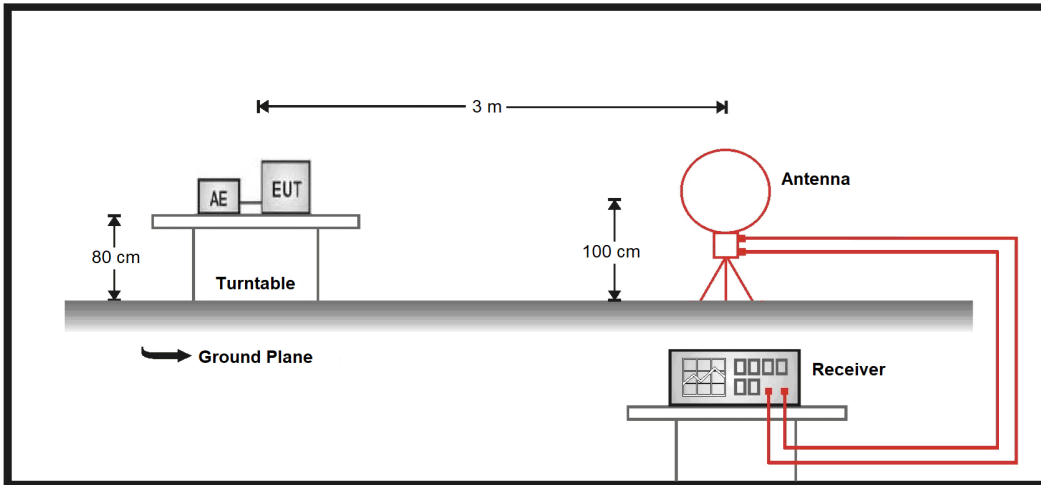
3.4. Test Result of AC Power Line Conducted Emission

Refer as Appendix A

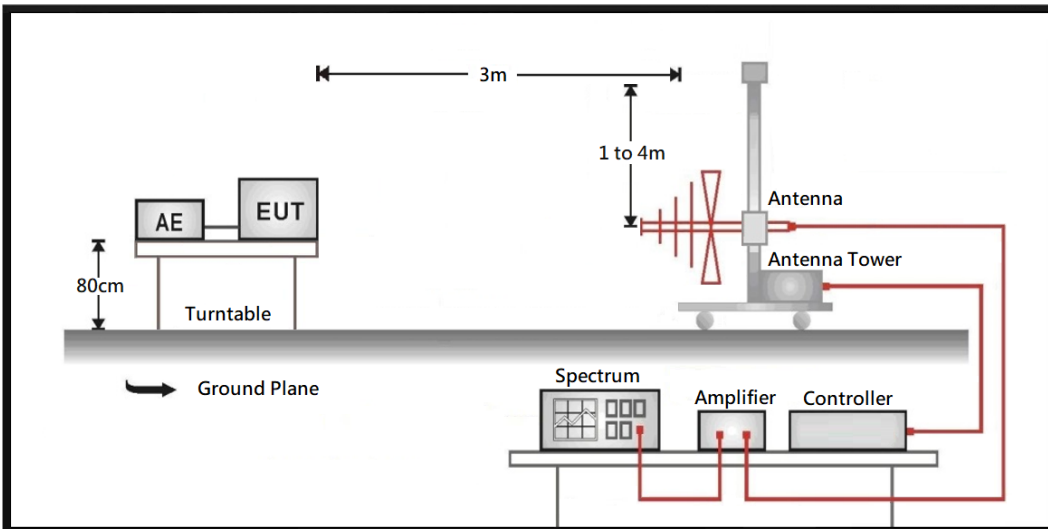
4. Transmitter Radiated Spurious Emission

4.1. Test Setup

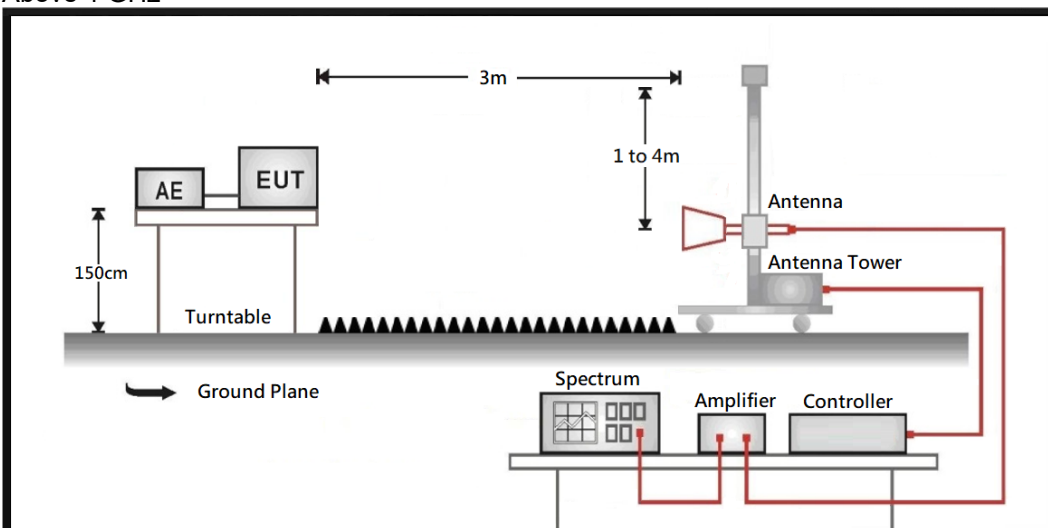
9 kHz ~ 30 MHz



30 MHz ~ 1 GHz



Above 1 GHz



4.2. Test Limit

Frequency (MHz)	Field strength (uV/m)	Field strength (dBuV/m)	Measurement distance (m)
0.009 – 0.490	2400/F(kHz)	20 log (2400/F(kHz))	300
0.490 – 1.705	24000/F(kHz)	20 log (24000/F(kHz))	30
1.705 - 30	30	29.5	30
30 - 88	100	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
Above 960	500	54	3

Remarks:

1. Field strength (dBuV/m) = 20 log Field strength (uV/m)
2. In the Above Table, the tighter limit applies at the band edges.
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system

Unwanted Emission out of the restricted bands Test Limit

Frequency (MHz)	EIRP Limit (dBm/MHz)	Equivalent Field Strength (dBuV/m@3m)
5150 – 5250	-27	68.2
5250 – 5350	-27	68.2
5470 – 5725	-27	68.2
5725 – 5850	-27 ^{*1}	68.2 ^{*1}
	10 ^{*2}	105.2 ^{*2}
	15.6 ^{*3}	110.8 ^{*3}
	27 ^{*4}	122.2 ^{*4}
5850 – 5895	(i) For an indoor access point or subordinate device, all emissions at or above 5.895 GHz shall not exceed an e.i.r.p. of 15 dBm/MHz and shall decrease linearly to an e.i.r.p. of -7 dBm/MHz at or above 5.925 GHz. (ii) For a client device, all emissions at or above 5.895 GHz shall not exceed an e.i.r.p. of -5 dBm/MHz and shall decrease linearly to an e.i.r.p. of -27 dBm/MHz at or above 5.925 GHz. (iii) For a client device or indoor access point or subordinate device, all emissions below 5.725 GHz shall not exceed an e.i.r.p. of -27 dBm/MHz at 5.65 GHz increasing linearly to 10 dBm/MHz at 5.7 GHz, and from 5.7 GHz increasing linearly to a level of 15.6 dBm/MHz at 5.72 GHz, and from 5.72 GHz increasing linearly to a level of 27 dBm/MHz at 5.725 GHz.	
^{*1} beyond 75 MHz or more above of the band edge. ^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above. ^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above. ^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.		

Remark:

The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3} \text{ uV/m, where P is the eirp (Watts).}$$

4.3. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 or 1.5 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated measurement.

The additional latch filter below 1 GHz was used to measure the level of harmonics radiated emission during field strength of harmonics measurement.

The bandwidth below 1 GHz setting on the field strength meter is 120 kHz, above 1 GHz are 1 MHz.

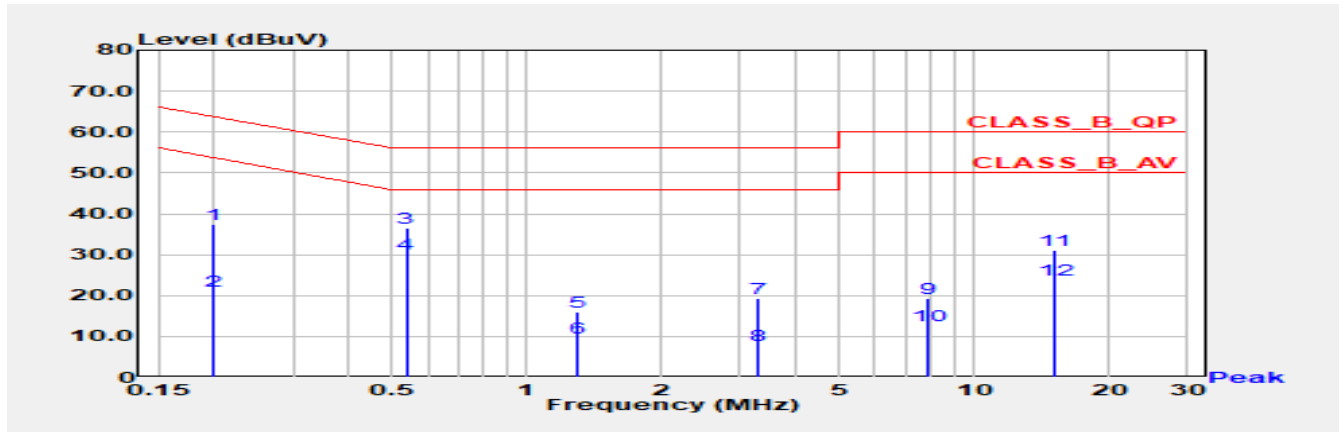
The frequency range from 9 kHz to 10th harmonics and included The frequency range from the lowest oscillator frequency generated within the device up to the 10th harmonic was checked is checked.

4.4. Test Result of Transmitter Radiated Spurious Emission

Refer as Appendix B

Appendix A. Test Result of AC Power Line Conducted Emission

Test Mode	Transmit	Phase	Line
Test Condition	802.11ac (20 MHz) / Ant. 0 + Ant. 1 / 5320 MHz		

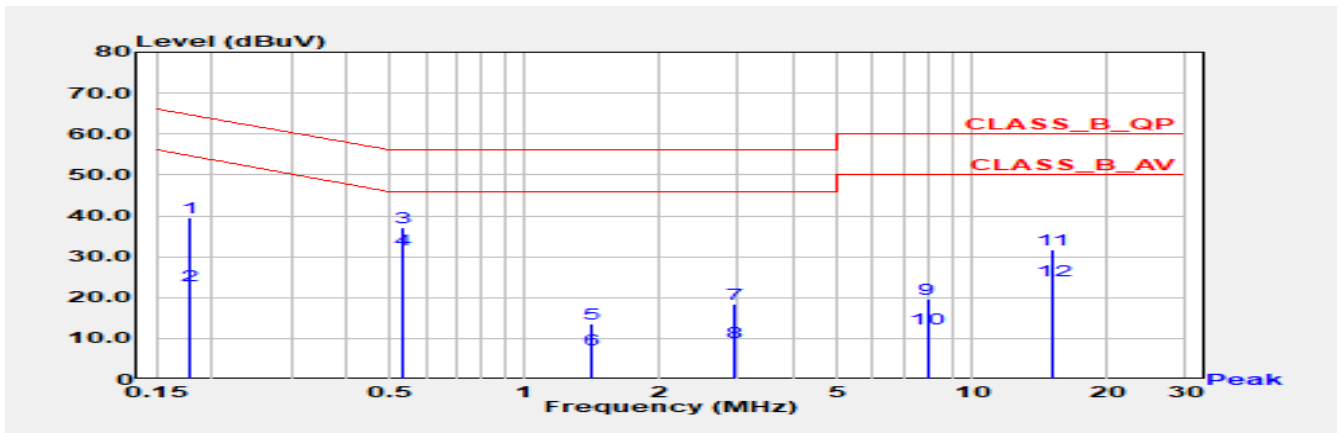


No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.199	37.28	63.63	-26.35	27.67	9.61	QP
2	0.199	21.25	53.63	-32.38	11.64	9.61	AV
*3	0.537	36.44	56.00	-19.56	26.79	9.66	QP
*4	0.537	30.16	46.00	-15.84	20.51	9.66	AV
5	1.300	15.92	56.00	-40.08	6.20	9.71	QP
6	1.300	9.58	46.00	-36.42	-0.14	9.71	AV
7	3.271	19.30	56.00	-36.70	9.49	9.81	QP
8	3.271	7.72	46.00	-38.28	-2.09	9.81	AV
9	7.867	19.30	60.00	-40.70	9.29	10.01	QP
10	7.867	12.70	50.00	-37.30	2.70	10.01	AV
11	15.056	31.11	60.00	-28.89	20.88	10.23	QP
12	15.056	23.97	50.00	-26.03	13.74	10.23	AV

Remark:

1. "*" means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor (Correct Factor = LISN Insertion Loss + Cable Loss).
3. Margin = Emission Level - Limit.

Test Mode	Mode 1	Phase	Neutral
Test Condition	802.11ac (20 MHz) / Ant. 0 + Ant. 1 / 5320 MHz		



No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.179	39.61	64.52	-24.91	29.99	9.62	QP
2	0.179	22.98	54.52	-31.54	13.36	9.62	AV
*3	0.535	37.07	56.00	-18.93	27.42	9.65	QP
*4	0.535	31.82	46.00	-14.18	22.17	9.65	AV
5	1.401	13.52	56.00	-42.48	3.80	9.72	QP
6	1.401	7.21	46.00	-38.79	-2.51	9.72	AV
7	2.949	18.40	56.00	-37.60	8.60	9.80	QP
8	2.949	9.19	46.00	-36.81	-0.61	9.80	AV
9	7.933	19.72	60.00	-40.28	9.69	10.03	QP
10	7.933	12.47	50.00	-37.53	2.43	10.03	AV
11	15.047	31.60	60.00	-28.40	21.27	10.34	QP
12	15.047	24.03	50.00	-25.97	13.69	10.34	AV

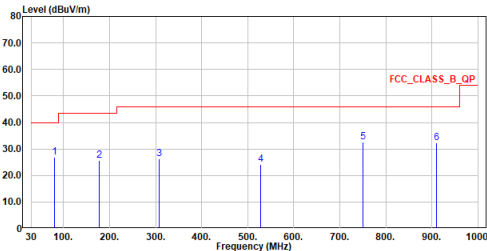
Remark:

1. "*" means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor (Correct Factor = LISN Insertion Loss + Cable Loss).
3. Margin = Emission Level - Limit.

Appendix B. Test Result of Transmitter Radiated Spurious Emission

30 MHz ~ 1 GHz

Site :HC-CB02
 Condition :3m Horizontal
 Mode :LF_ac20_TX_5320MHz
 Test By :Gary

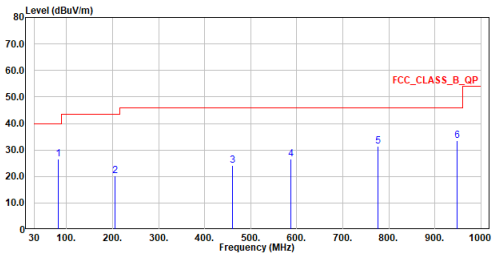


No.	Frequency MHz	Level dBuV/m	Limit Line dBuV/m	Over Limit dB	Read Level dBuV	Factor dB	Remark
1	80.803	26.84	40.00	-13.16	33.67	-6.83	QP
2	176.515	25.59	43.50	-17.91	29.12	-3.53	QP
3	306.785	26.37	46.00	-19.63	28.25	-1.88	QP
4	528.217	24.14	46.00	-21.86	20.67	3.47	QP
5	750.358	32.53	46.00	-13.47	24.61	7.92	QP
6	910.365	32.15	46.00	-13.85	22.28	9.87	QP

Note:

1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.
5. The other emission levels were very low against the limit.

Site :HC-CB02
 Condition :3m Vertical
 Mode :LF_ac20_TX_5320MHz
 Test By :Gary



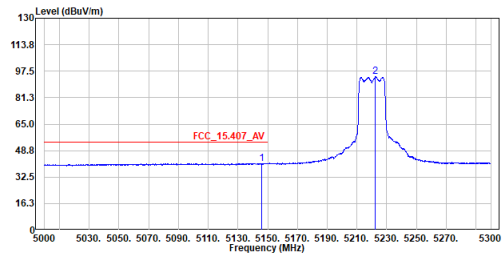
No.	Frequency MHz	Level dBuV/m	Limit Line dBuV/m	Over Limit dB	Read Level dBuV	Factor dB	Remark
1	81.736	26.57	40.00	-13.43	33.92	-7.35	QP
2	205.259	20.32	43.50	-23.18	26.41	-6.09	QP
3	460.952	24.11	46.00	-21.89	21.78	2.33	QP
4	586.355	26.56	46.00	-19.44	21.70	4.86	QP
5	776.852	31.53	46.00	-14.47	23.18	8.35	QP
6	948.993	33.62	46.00	-12.38	22.95	10.67	QP

Note:

1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.
5. The other emission levels were very low against the limit.

Above 1 GHz

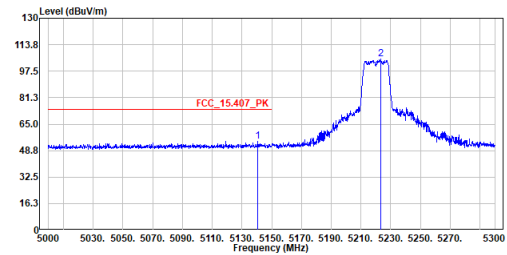
Site :HC-CB02
 Condition :3m Horizontal
 Mode :a_TX_5220MHz
 Test By :Gary



No.	Frequency MHz	Level dBuV/m	Limit Line dBuV/m	Over Limit dB	Read Level dBuV	Factor dB	Remark
1	5145.800	40.94	54.00	-13.06	17.47	23.47	Average
2	5222.450	94.12	-----	-----	70.60	23.52	Average

Note:
 1. Level = Read Level + Factor
 2. Factor = Antenna Factor + Cable Loss - Preamp Factor
 3. Over Limit = Level - Limit Line
 4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
 5. The other emission levels were very low against the limit.

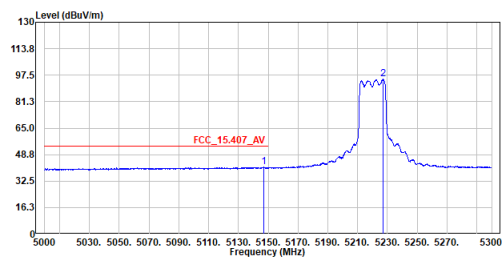
Site :HC-CB02
 Condition :3m Horizontal
 Mode :a_TX_5220MHz
 Test By :Gary



No.	Frequency MHz	Level dBuV/m	Limit Line dBuV/m	Over Limit dB	Read Level dBuV	Factor dB	Remark
1	5140.850	54.33	74.00	-19.67	30.87	23.46	Peak
2	5223.500	105.14	-----	-----	81.61	23.53	Peak

Note:
 1. Level = Read Level + Factor
 2. Factor = Antenna Factor + Cable Loss - Preamp Factor
 3. Over Limit = Level - Limit Line
 4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
 5. The other emission levels were very low against the limit.

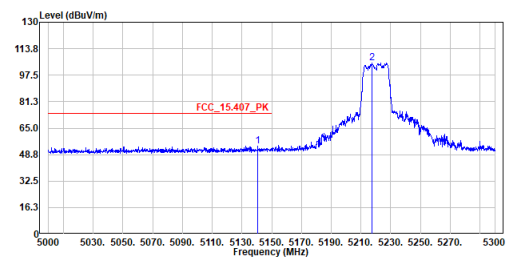
Site :HC-CB02
 Condition :3m Vertical
 Mode :a_TX_5220MHz
 Test By :Gary



No.	Frequency MHz	Level dBuV/m	Limit Line dBuV/m	Over Limit dB	Read Level dBuV	Factor dB	Remark
1	5146.850	41.00	54.00	-13.00	17.53	23.47	Average
2	5227.250	95.13	-----	-----	71.60	23.53	Average

Note:
 1. Level = Read Level + Factor
 2. Factor = Antenna Factor + Cable Loss - Preamp Factor
 3. Over Limit = Level - Limit Line
 4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
 5. The other emission levels were very low against the limit.

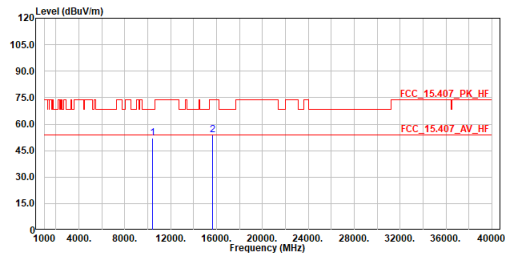
Site :HC-CB02
 Condition :3m Vertical
 Mode :a_TX_5220MHz
 Test By :Gary



No.	Frequency MHz	Level dBuV/m	Limit Line dBuV/m	Over Limit dB	Read Level dBuV	Factor dB	Remark
1	5140.550	53.99	74.00	-20.01	30.53	23.46	Peak
2	5217.350	105.11	-----	-----	81.59	23.52	Peak

Note:
 1. Level = Read Level + Factor
 2. Factor = Antenna Factor + Cable Loss - Preamp Factor
 3. Over Limit = Level - Limit Line
 4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
 5. The other emission levels were very low against the limit.

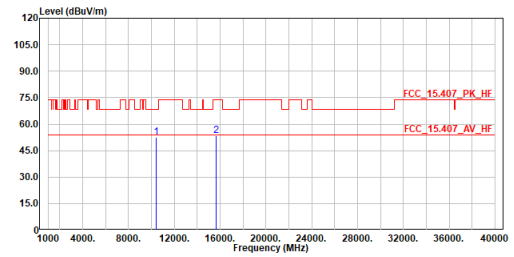
Site :HC-CB02
 Condition :3m Horizontal
 Mode :a_TX_5220MHz
 Test By :Gary



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	10440.000	52.04	68.20	-16.16	55.45	-3.41	Peak
2	15660.000	53.89	74.00	-20.11	50.99	2.90	Peak

Note:
 1. Level = Read Level + Factor
 2. Factor = Antenna Factor + Cable Loss - Preamp Factor
 3. Over Limit = Level - Limit Line
 4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
 5. The other emission levels were very low against the limit.

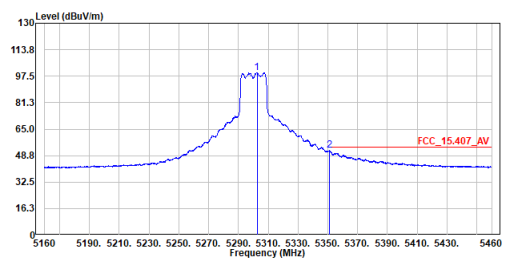
Site :HC-CB02
 Condition :3m Vertical
 Mode :a_TX_5220MHz
 Test By :Gary



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	10440.000	52.33	68.20	-15.87	55.74	-3.41	Peak
2	15660.000	53.65	74.00	-20.35	50.75	2.90	Peak

Note:
 1. Level = Read Level + Factor
 2. Factor = Antenna Factor + Cable Loss - Preamp Factor
 3. Over Limit = Level - Limit Line
 4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
 5. The other emission levels were very low against the limit.

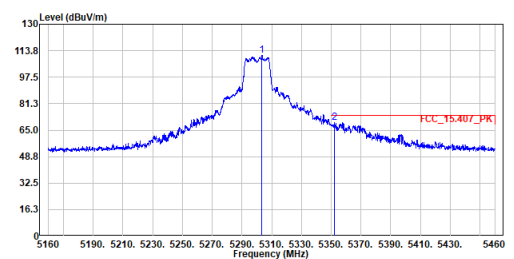
Site :HC-CB02
 Condition :3m Horizontal
 Mode :a_TX_5300MHz
 Test By :Gary



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	5302.500	99.77	-----	-----	76.20	23.57	Average
2	5351.100	51.79	54.00	-2.21	28.18	23.61	Average

Note:
 1. Level = Read Level + Factor
 2. Factor = Antenna Factor + Cable Loss - Preamp Factor
 3. Over Limit = Level - Limit Line
 4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
 5. The other emission levels were very low against the limit.

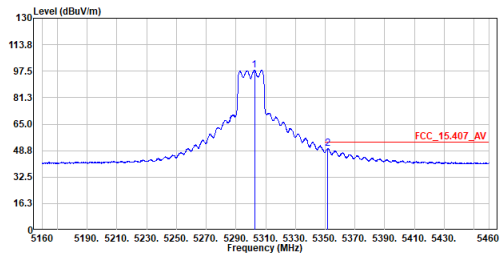
Site :HC-CB02
 Condition :3m Horizontal
 Mode :a_TX_5300MHz
 Test By :Gary



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	5303.550	110.85	-----	-----	87.28	23.57	Peak
2	5352.150	69.71	74.00	-4.29	46.10	23.61	Peak

Note:
 1. Level = Read Level + Factor
 2. Factor = Antenna Factor + Cable Loss - Preamp Factor
 3. Over Limit = Level - Limit Line
 4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
 5. The other emission levels were very low against the limit.

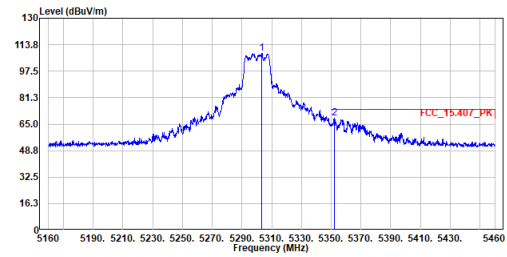
Site :HC-CB02
 Condition :3m Vertical
 Mode :a_TX_5300MHz
 Test By :Gary



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	5302.500	98.20	-----	-----	74.63	23.57	Average
2	5351.850	49.82	54.00	-4.18	26.21	23.61	Average

Note:
 1. Level = Read Level + Factor
 2. Factor = Antenna Factor + Cable Loss - Preamp Factor
 3. Over Limit = Level - Limit Line
 4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
 5. The other emission levels were very low against the limit.

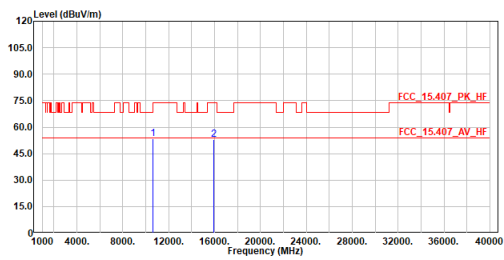
Site :HC-CB02
 Condition :3m Vertical
 Mode :a_TX_5300MHz
 Test By :Gary



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	5303.550	108.65	-----	-----	85.08	23.57	Peak
2	5352.000	68.70	74.00	-5.30	45.09	23.61	Peak

Note:
 1. Level = Read Level + Factor
 2. Factor = Antenna Factor + Cable Loss - Preamp Factor
 3. Over Limit = Level - Limit Line
 4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
 5. The other emission levels were very low against the limit.

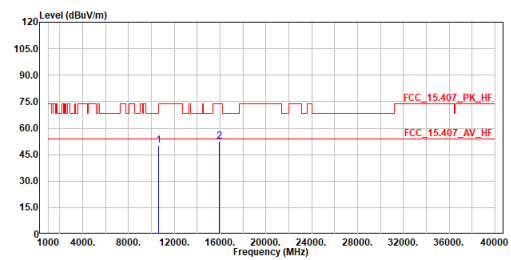
Site :HC-CB02
 Condition :3m Horizontal
 Mode :a_TX_5300MHz
 Test By :Gary



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	10600.000	53.43	74.00	-20.57	56.64	-3.21	Peak
2	15900.000	52.83	74.00	-21.17	49.97	2.86	Peak

Note:
 1. Level = Read Level + Factor
 2. Factor = Antenna Factor + Cable Loss - Preamp Factor
 3. Over Limit = Level - Limit Line
 4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
 5. The other emission levels were very low against the limit.

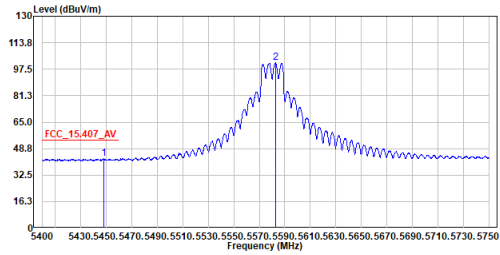
Site :HC-CB02
 Condition :3m Vertical
 Mode :a_TX_5300MHz
 Test By :Gary



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	10600.000	50.33	74.00	-23.67	53.54	-3.21	Peak
2	15900.000	52.47	74.00	-21.53	49.61	2.86	Peak

Note:
 1. Level = Read Level + Factor
 2. Factor = Antenna Factor + Cable Loss - Preamp Factor
 3. Over Limit = Level - Limit Line
 4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
 5. The other emission levels were very low against the limit.

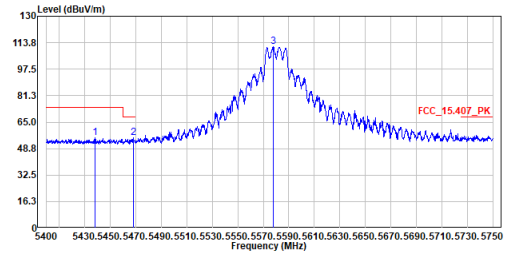
Site :HC-CB02
 Condition :3m Horizontal
 Mode :a_TX_5580MHz
 Test By :Gary



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	Mhz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	5447.950	42.50	54.00	-11.50	18.84	23.66	Average
2	5582.700	101.49	-----	-----	77.53	23.96	Average

Note:
 1. Level = Read Level + Factor
 2. Factor = Antenna Factor + Cable Loss - Preamp Factor
 3. Over Limit = Level - Limit Line
 4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
 5. The other emission levels were very low against the limit.

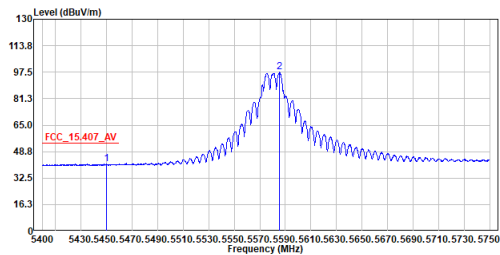
Site :HC-CB02
 Condition :3m Horizontal
 Mode :a_TX_5580MHz
 Test By :Gary



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	Mhz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	5437.975	55.24	74.00	-18.76	31.59	23.65	Peak
2	5468.075	55.65	68.20	-12.55	31.97	23.68	Peak
3	5577.800	111.40	-----	-----	87.45	23.95	Peak

Note:
 1. Level = Read Level + Factor
 2. Factor = Antenna Factor + Cable Loss - Preamp Factor
 3. Over Limit = Level - Limit Line
 4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
 5. The other emission levels were very low against the limit.

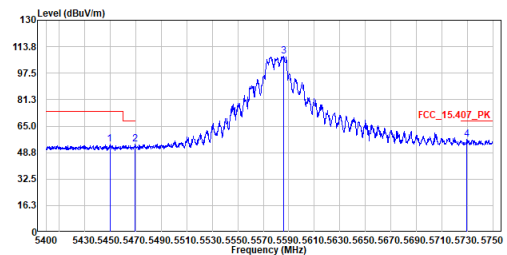
Site :HC-CB02
 Condition :3m Vertical
 Mode :a_TX_5580MHz
 Test By :Gary



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	Mhz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	5450.050	41.03	54.00	-12.97	17.36	23.67	Average
2	5585.500	97.58	-----	-----	73.61	23.97	Average

Note:
 1. Level = Read Level + Factor
 2. Factor = Antenna Factor + Cable Loss - Preamp Factor
 3. Over Limit = Level - Limit Line
 4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
 5. The other emission levels were very low against the limit.

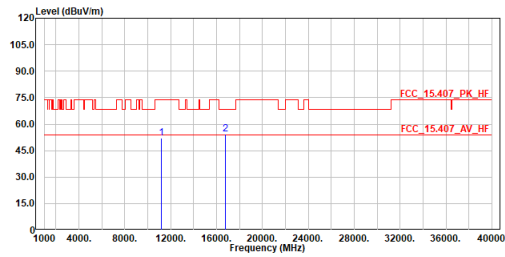
Site :HC-CB02
 Condition :3m Vertical
 Mode :a_TX_5580MHz
 Test By :Gary



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	Mhz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	5449.700	53.87	74.00	-20.13	30.21	23.66	Peak
2	5469.650	53.72	68.20	-14.48	30.04	23.68	Peak
3	5586.200	107.84	-----	-----	83.87	23.97	Peak
4	5729.350	57.05	68.20	-11.15	32.63	24.42	Peak

Note:
 1. Level = Read Level + Factor
 2. Factor = Antenna Factor + Cable Loss - Preamp Factor
 3. Over Limit = Level - Limit Line
 4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
 5. The other emission levels were very low against the limit.

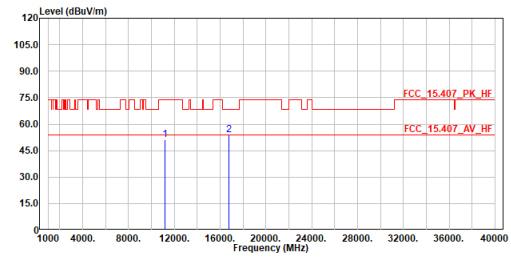
Site :HC-CB02
 Condition :3m Horizontal
 Mode :a_TX_5580MHz
 Test By :Gary



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	11160.000	52.03	74.00	-21.97	54.34	-2.31	Peak
2	16740.000	54.34	68.20	-13.86	52.62	1.72	Peak

Note:
 1. Level = Read Level + Factor
 2. Factor = Antenna Factor + Cable Loss - Preamp Factor
 3. Over Limit = Level - Limit Line
 4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
 5. The other emission levels were very low against the limit.

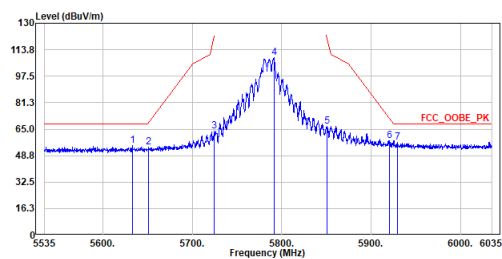
Site :HC-CB02
 Condition :3m Vertical
 Mode :a_TX_5580MHz
 Test By :Gary



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	11160.000	51.33	74.00	-22.67	53.64	-2.31	Peak
2	16740.000	54.06	68.20	-14.14	52.34	1.72	Peak

Note:
 1. Level = Read Level + Factor
 2. Factor = Antenna Factor + Cable Loss - Preamp Factor
 3. Over Limit = Level - Limit Line
 4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
 5. The other emission levels were very low against the limit.

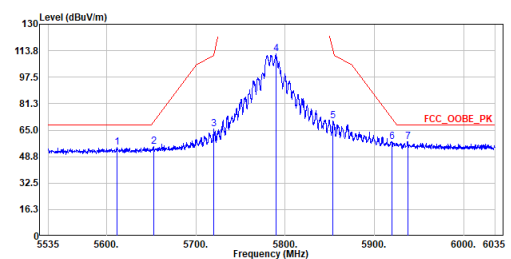
Site :HC-CB02
 Condition :3m Horizontal
 Mode :a_TX_5785MHz
 Test By :Gary



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	5633.250	54.81	68.20	-13.39	30.69	24.12	Peak
2	5651.000	53.80	68.95	-15.15	29.63	24.17	Peak
3	5724.250	63.56	120.49	-56.93	39.16	24.40	Peak
4	5791.500	108.84	-----	-----	84.23	24.61	Peak
5	5850.750	66.77	120.49	-53.72	41.96	24.81	Peak
6	5920.500	57.84	71.54	-13.70	32.81	25.03	Peak
7	5929.250	57.14	68.20	-11.06	32.09	25.05	Peak

Note:
 1. Level = Read Level + Factor
 2. Factor = Antenna Factor + Cable Loss - Preamp Factor
 3. Over Limit = Level - Limit Line
 4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
 5. The other emission levels were very low against the limit.

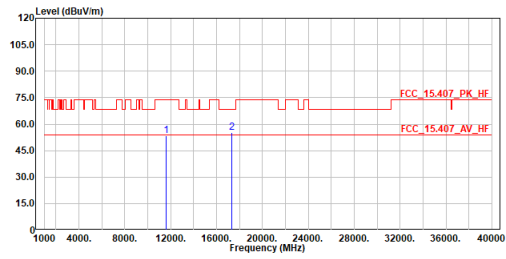
Site :HC-CB02
 Condition :3m Vertical
 Mode :a_TX_5785MHz
 Test By :Gary



No.	Frequency	Level	Limit	Over	Read	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	5612.250	54.47	68.20	-13.73	30.41	24.06	Peak
2	5653.000	54.78	70.43	-15.65	30.59	24.19	Peak
3	5720.250	65.60	111.37	-45.77	41.21	24.39	Peak
4	5789.750	111.72	-----	-----	87.11	24.61	Peak
5	5853.500	70.56	114.22	-43.66	45.74	24.82	Peak
6	5920.000	57.74	71.91	-14.17	32.72	25.02	Peak
7	5937.250	57.99	68.20	-10.21	32.91	25.08	Peak

Note:
 1. Level = Read Level + Factor
 2. Factor = Antenna Factor + Cable Loss - Preamp Factor
 3. Over Limit = Level - Limit Line
 4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
 5. The other emission levels were very low against the limit.

Site :HC-CB02
 Condition :3m Horizontal
 Mode :a_TX_5785MHz
 Test By :Gary

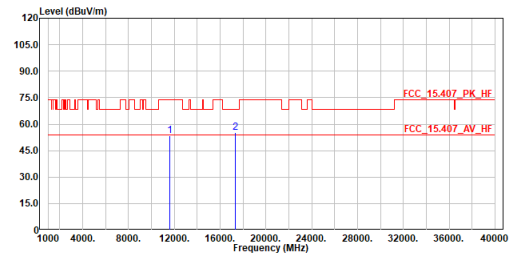


No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	Mhz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	11570.000	53.44	74.00	-20.56	55.13	-1.69	Peak
2	17355.000	55.05	68.20	-13.15	53.42	1.63	Peak

Note:

1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

Site :HC-CB02
 Condition :3m Vertical
 Mode :a_TX_5785MHz
 Test By :Gary



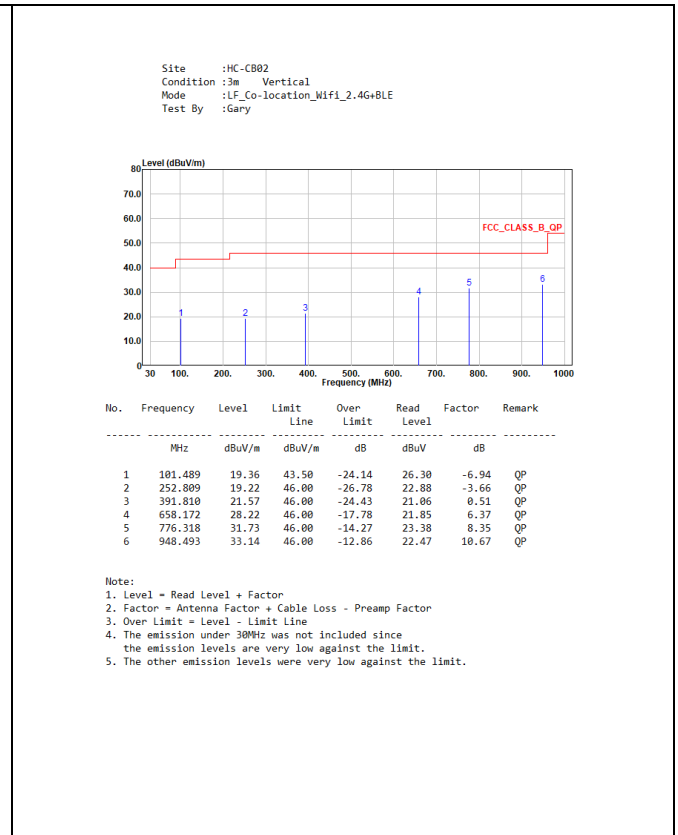
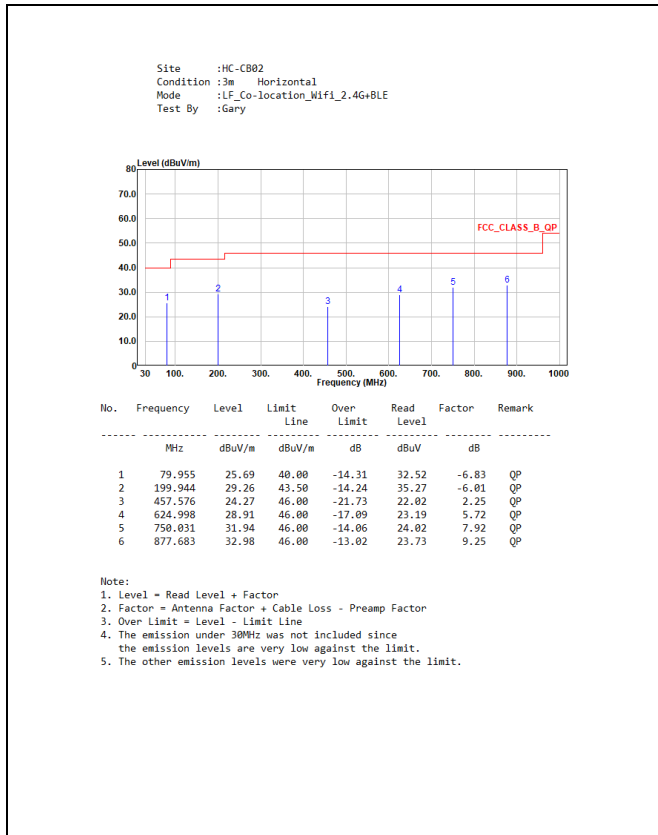
No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	Mhz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	11570.000	53.28	74.00	-20.72	54.97	-1.69	Peak
2	17355.000	55.26	68.20	-12.94	53.63	1.63	Peak

Note:

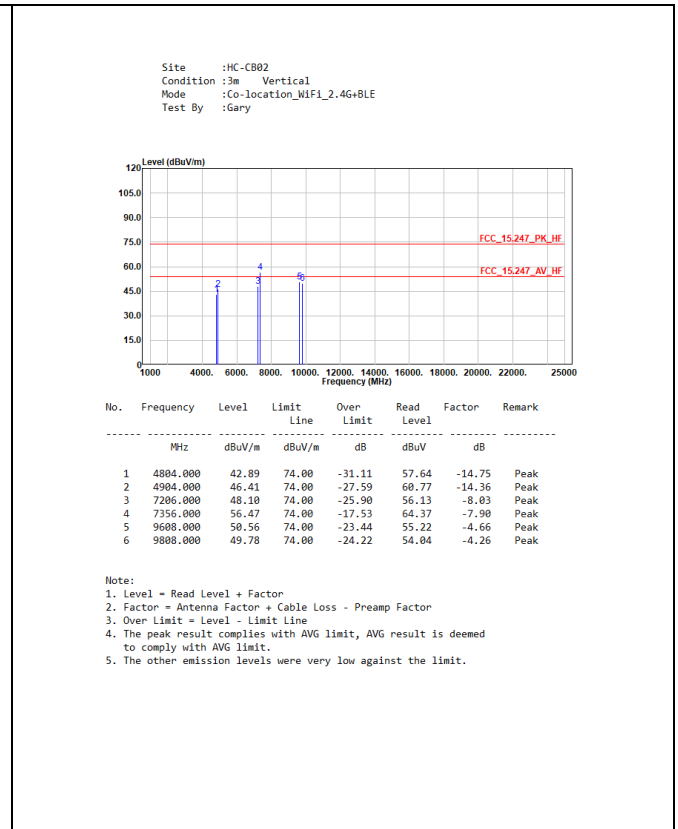
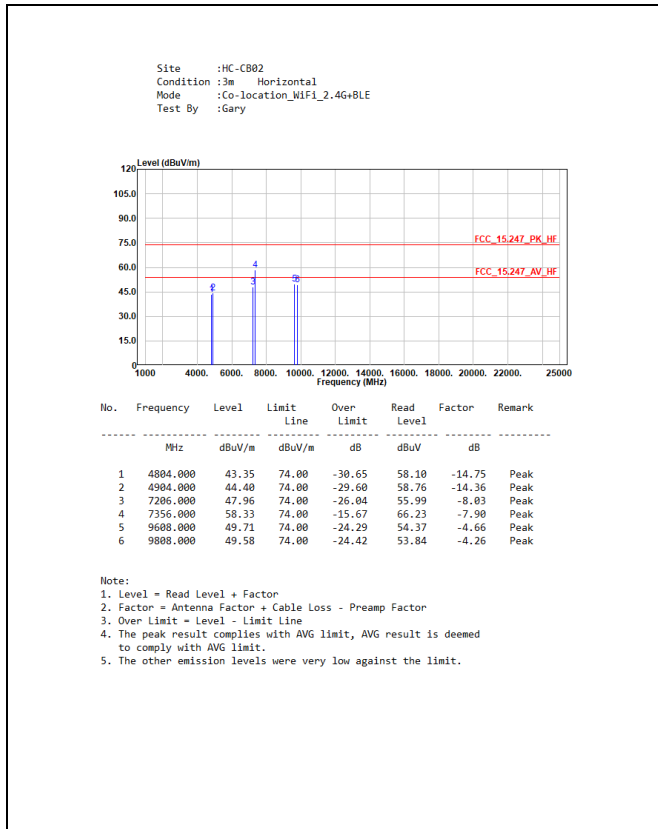
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

Appendix C. Test Result of Radiated Emissions Co-location

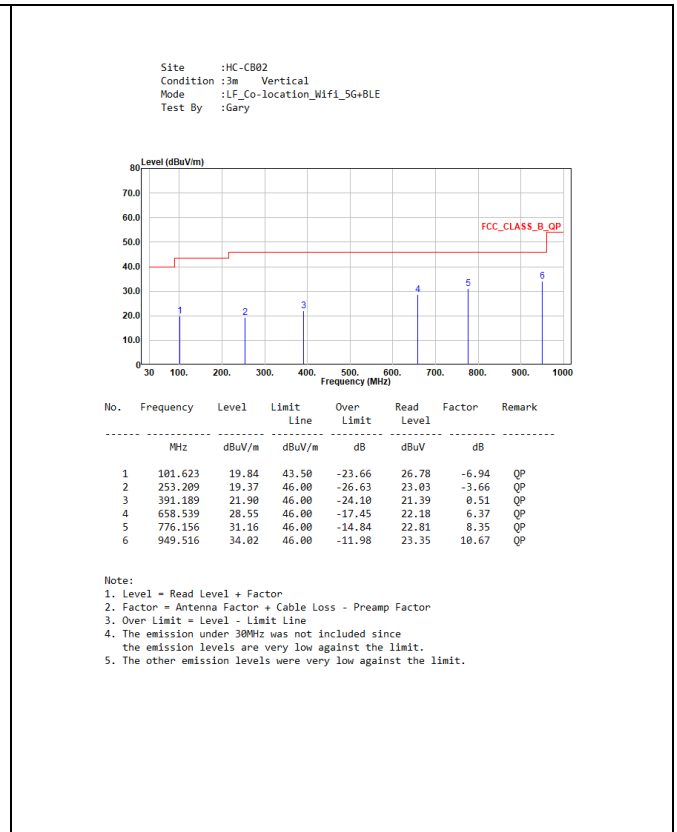
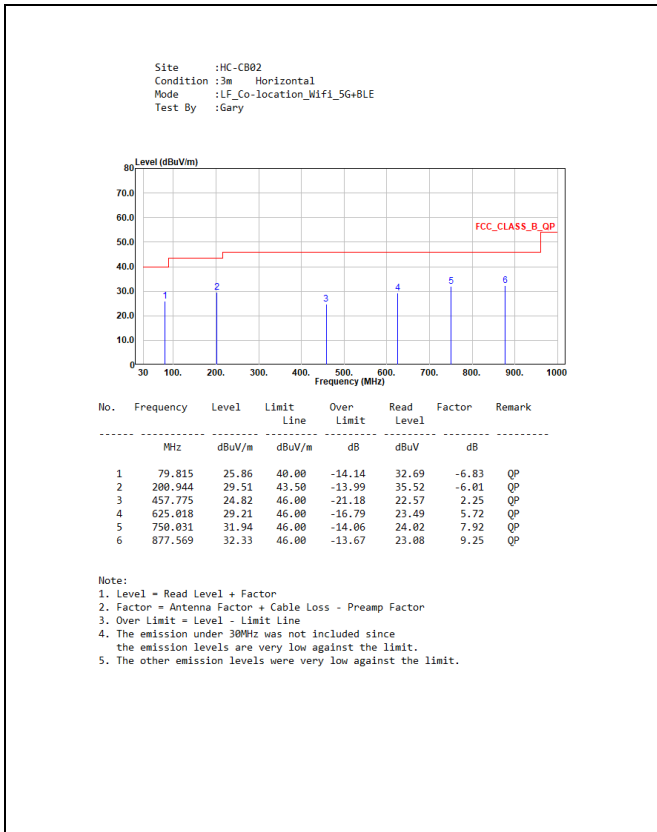
1. WiFi 2.4 GHz + Bluetooth 30 MHz ~ 1 GHz:



Above 1 GHz:



2. WiFi 5 GHz + Bluetooth 30 MHz ~ 1 GHz:



Above 1 GHz:

