



FCC CO-LOCATION RADIO TEST REPORT

FCC ID : 2AQIQ-6247
Equipment : HDMI Digital Media Receiver
Model Name : E9L29Y
Applicant : MX Processing LLC
309 Fellowship Road East Gate Center, Suite
200 Mount Laurel, New Jersey 08054
Standard : FCC Part 15 Subpart E §15.407

The testing was completed on Aug. 04, 2018. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

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

Approved by: Jones Tsai

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



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History of this test report

Report No.	Version	Description	Issued Date
FR832126-02F	01	Initial issue of report	Aug. 17, 2018
FR832126-02F	02	Add the output power test description and test data.	Aug. 21, 2018

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)
3.1	15.247(b) 15.247(b)(1) 15.247(b)(3) 15.407(a)	Power Output Measurement	Pass
3.2	15.407(b)	Unwanted Emissions	Pass
3.3	15.203 15.407(a)	Antenna Requirement	Pass

Reviewed by: Joseph Lin

Report Producer: Polly Tsai

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	HDMI Digital Media Receiver
Model Name	E9L29Y
FCC ID	2AQIQ-6247
EUT supports Radios application	WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE

1.2 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency Range	2400 MHz ~ 2483.5 MHz 5180 MHz ~ 5240 MHz 5260 MHz ~ 5320 MHz 5500 MHz ~ 5720 MHz
Maximum Output Power to Antenna <CDD Modes>	<Ant. 1> <2400 MHz ~ 2483.5 MHz> 802.11b : 19.50 dBm (0.0891 W) 802.11g : 23.31 dBm (0.2143 W) 802.11n HT20 : 23.60 dBm (0.2291 W) <5180 MHz ~ 5240 MHz> 802.11n HT20 : 18.63 dBm / 0.0729 W 802.11ac VHT20 : 18.47 dBm / 0.0703 W 802.11ac VHT80 : 10.62 dBm / 0.0115 W <5260 MHz ~ 5320 MHz> 802.11n HT20 : 17.92 dBm / 0.0619 W 802.11ac VHT20: 17.60 dBm / 0.0575 W <5500 MHz ~ 5720 MHz> 802.11n HT20 : 13.84 dBm / 0.0242 W 802.11n HT40 : 14.56 dBm / 0.0286 W 802.11ac VHT20: 13.70 dBm / 0.0234 W 802.11ac VHT40: 14.44 dBm / 0.0278 W <Ant. 2> <2400 MHz ~ 2483.5 MHz> Bluetooth LE 2Mbps: 5.95 dBm (0.0039 W) 802.11b : 24.45 dBm (0.2789 W) 802.11g : 24.39 dBm (0.2748 W) 802.11n HT20 : 24.07 dBm (0.2553 W) <5180 MHz ~ 5240 MHz> 802.11n HT20 : 14.91 dBm / 0.0310 W 802.11ac VHT20 : 14.71 dBm / 0.0296 W 802.11ac VHT80 : 8.10 dBm / 0.0065 W <5260 MHz ~ 5320 MHz> 802.11n HT20 : 15.76 dBm / 0.0377 W 802.11ac VHT20: 15.55 dBm / 0.0359 W

Standards-related Product Specification	
Maximum Output Power to Antenna <CDD Modes>	<5500 MHz ~ 5720 MHz> 802.11n HT20 : 15.00 dBm / 0.0316 W 802.11n HT40 : 14.65 dBm / 0.0292 W 802.11ac VHT20: 14.80 dBm / 0.0302 W 802.11ac VHT40: 14.47 dBm / 0.0280 W MIMO <Ant. 1+2> <5500 MHz ~ 5720 MHz> 802.11n HT20 : 17.64 dBm / 0.0581 W 802.11n HT40 : 16.77 dBm / 0.0475 W
Antenna Type / Gain	<Bluetooth> Fixed Internal Antenna type with gain 1.10 dBi <2400 MHz ~ 2483.5 MHz> Ant. 1 : Fixed Internal Antenna type with gain 3.21 dBi Ant. 2 : Fixed Internal Antenna type with gain 1.10 dBi <5180 MHz ~ 5240 MHz> Ant. 1 : Fixed Internal Antenna type with gain 1.90 dBi Ant. 2 : Fixed Internal Antenna type with gain 5.70 dBi <5260 MHz ~ 5320 MHz> Ant. 1 : Fixed Internal Antenna type with gain 2.45 dBi Ant. 2 : Fixed Internal Antenna type with gain 6.17 dBi <5500 MHz ~ 5720 MHz> Ant. 1 : Fixed Internal Antenna type with gain 2.12 dBi Ant. 2 : Fixed Internal Antenna type with gain 6.40 dBi
Type of Modulation	Bluetooth LE : GFSK 802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)

1.3 Modification of EUT

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

1.4 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1190 and TW0007 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978
Test Site No.	Sporton Site No.
	TH05-HY

Note: The test site complies with ANSI C63.4 2014 requirement.

Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	Sporton Site No.
	03CH11-HY

Note: The test site complies with ANSI C63.4 2014 requirement.

1.5 Applicable Standards

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

- ♦ FCC Part 15 Subpart E
- ♦ FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- ♦ FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04
- ♦ FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ♦ ANSI C63.10-2013

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

2 Test Configuration of Equipment Under Test

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

2.1 Carrier Frequency and Channel

2400-2483.5 MHz 802.11b		2400-2483.5 MHz 802.11b		2400-2483.5 MHz 802.11b	
Channel	Channel	Channel	Freq. (MHz)	Channel	Freq. (MHz)
01	2412	06	2437	11	2462

2400-2483.5 MHz 802.11g		2400-2483.5 MHz 802.11g		2400-2483.5 MHz 802.11g	
Channel	Channel	Channel	Freq. (MHz)	Channel	Freq. (MHz)
01	2412	06	2437	11	2462

2400-2483.5 MHz 802.11n HT20		2400-2483.5 MHz 802.11 n HT20		2400-2483.5 MHz 802.11 n HT20	
Channel	Channel	Channel	Freq. (MHz)	Channel	Freq. (MHz)
01	2412	06	2437	11	2462

5150-5250 MHz 802.11n HT20		5150-5250 MHz 802.11ac VHT80	
Channel	Channel	Channel	Freq. (MHz)
36	5180	42	5210

5250-5350 MHz 802.11n HT20	
Channel	Freq. (MHz)
64	5320

5470-5725 MHz 802.11n HT20		5470-5725 MHz 802.11n HT40	
Channel	Freq. (MHz)	Channel	Freq. (MHz)
140	5700	102	5510

2400-2483.5 MHz Bluetooth - LE	
Channel	Freq. (MHz)
39	2480

2.2 Test Mode

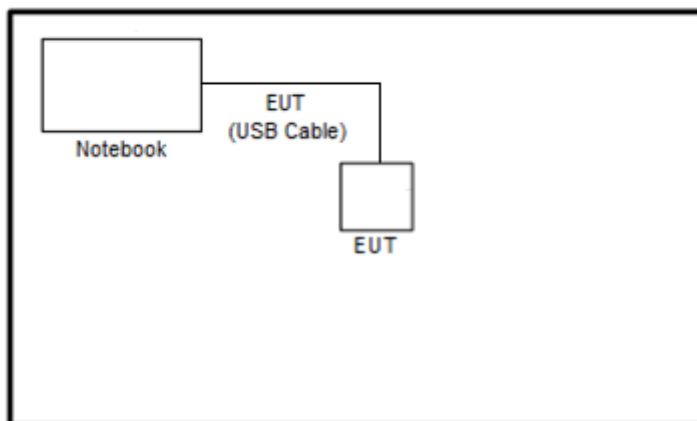
Final test modes are considering the modulation and worse data rates as below table.

<Co-Location>

Modulation	Data Rate
802.11b + Bluetooth LE	1 Mbps + 2 Mbps
802.11g + Bluetooth LE	6 Mbps + 2 Mbps
802.11n HT20 + Bluetooth LE	MCS0 + 2 Mbps
802.11n HT40 + Bluetooth LE	MCS0 + 2 Mbps
802.11ac VHT80 + Bluetooth LE	MCS0 + 2 Mbps

2.3 Connection Diagram of Test System

<Co-location Mode>



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Notebook	Lenovo	G480	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m

2.5 EUT Operation Test Setup

The RF test items, utility "Compliance.exe" was installed in Notebook which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.

3 Test Result

3.1 Output Power Measurement

3.1.1 Limit of Output Power

For Bluetooth LE and 2.4G WLAN

For systems using digital modulation in the 2400-2483.5MHz, the limit for peak output power is 30dBm. If transmitting antenna of directional gain greater than 6dBi is used, the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

For 5G WLAN

For the 5.15–5.25 GHz bands:

- For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW. For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

For the 5.25–5.725 GHz bands:

- The maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz.

For Straddle Channel, according to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, if the power and PSD of the devices are uniform and comply with the lower limits specified for the U-NII-2 bands, a single measurement over the entire emission bandwidth can be performed to show compliance.

Note that U-NII-2 band, devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

3.1.2 Measuring Instruments

See list of measuring equipment of this test report.

3.1.3 Test Procedures

For Bluetooth LE and 2.4G WLAN

1. For Peak Power, the testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v04 section 9.1.3 PKPM1 Peak power meter method.
2. For Average Power, the testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v04 section 9.2.3.1 Method AVGPM.
3. The RF output of EUT was connected to the power meter by RF cable and attenuator.
4. The path loss was compensated to the results for each measurement.
5. Set to the maximum power setting and enable the EUT transmit continuously.
6. Measure the conducted output power and record the results in the test report.

For 5G WLAN

The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

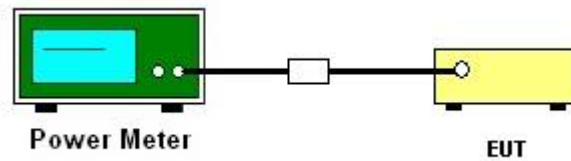
Method PM (Measurement using an RF average power meter):

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit continuously with a consistent duty cycle at its maximum power control level.
3. Measure the average power of the transmitter, and the average power is corrected with duty factor, $10 \log(1/x)$, where x is the duty cycle.

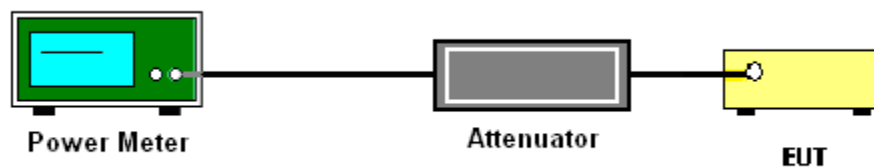
For Straddle Channel, according to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, if the power and PSD of the devices are uniform and comply with the lower limits specified for the U-NII-2 bands, a single measurement over the entire emission bandwidth can be performed to show compliance.

3.1.4 Test Setup

For Bluetooth LE and 2.4G WLAN



For 5G WLAN



3.1.5 Test Result of Peak Output Power

Please refer to Appendix A.

3.1.6 Test Result of Average Output Power

Please refer to Appendix A.

3.2 Unwanted Emissions Measurement

3.2.1 Limit of Unwanted Emissions

- (1) Unwanted spurious emissions fallen in restricted bands shall comply with the general field strength limits as below table,

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

Note: The following formula is used to convert the EIRP to field strength.

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

EIRP (dBm)	Field Strength at 3m (dBμV/m)
- 27	68.3

- (2) KDB789033 D02 v02r01 G)2)c)

- (i) Section 15.407(b)(1) to (b)(3) specify the unwanted emission limits for the U-NII-1 and U-NII-2 bands. As specified, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz.³
- (ii) Section 15.407(b)(4) specifies the unwanted emission limit for the U-NII-3 band. A band emissions mask is specified in Section 15.407(b)(4)(i). The emission limits are in terms of a Peak detector. An alternative to the band emissions mask is specified in Section 15.407(b)(4)(ii). The alternative limits are based on the highest antenna gain specified in the filing. There are also marketing and importation restrictions for the devices using the alternative limit.⁴

Note 3: An out-of-band emission that complies with both the average and peak limits of Section 15.209 is not required to satisfy the -27 dBm/MHz peak emission limit.

Note 4: Only devices with antenna gains of 10 dBi or less may be approved using the emission limits specified in Section 15.247(d) till March 2, 2018; all other devices operating in this band must use the mask specified in Section 15.407(b)(4)(i).

3.2.2 Measuring Instruments

See list of measuring equipment of this test report.

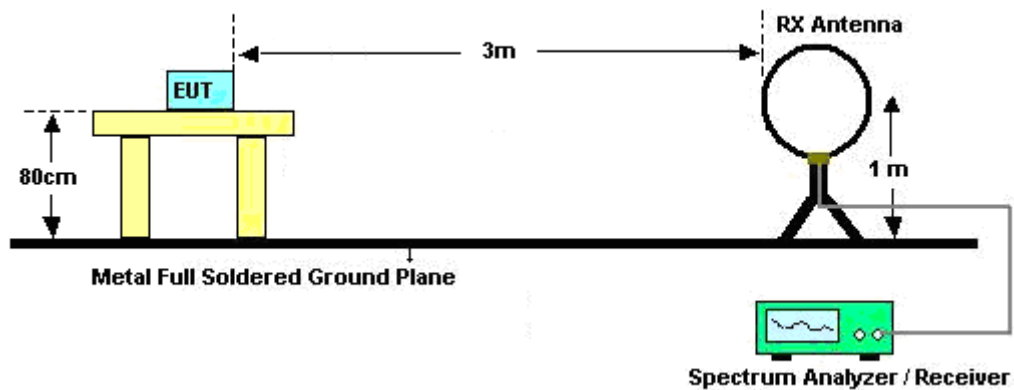
3.2.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
Section G) Unwanted emissions measurement.
(1) Procedure for Unwanted Emissions Measurements Below 1000MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold
(2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz
 - RBW = 1 MHz
 - VBW $\geq$ 3 MHz
 - Detector = Peak
 - Sweep time = auto
 - Trace mode = max hold
(3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz
 - RBW = 1 MHz
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW $\geq$ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.

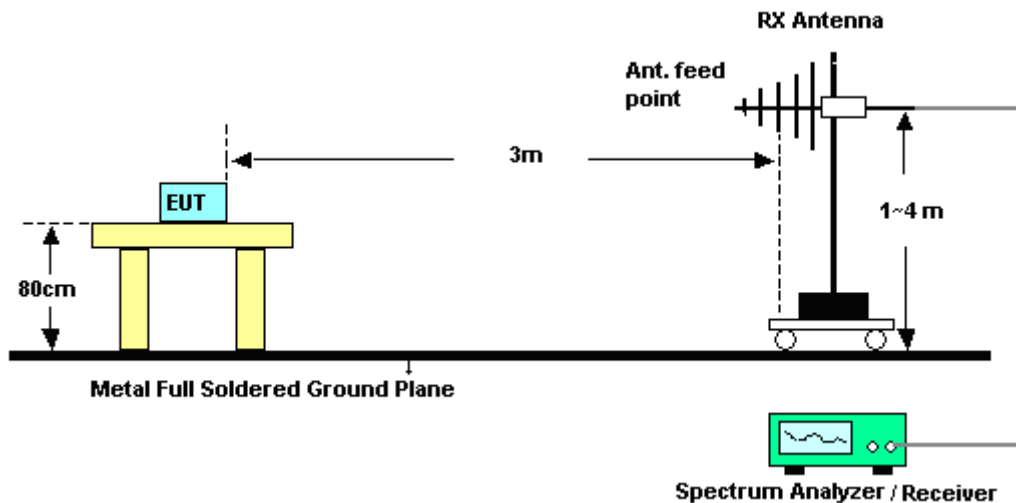
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

3.2.4 Test Setup

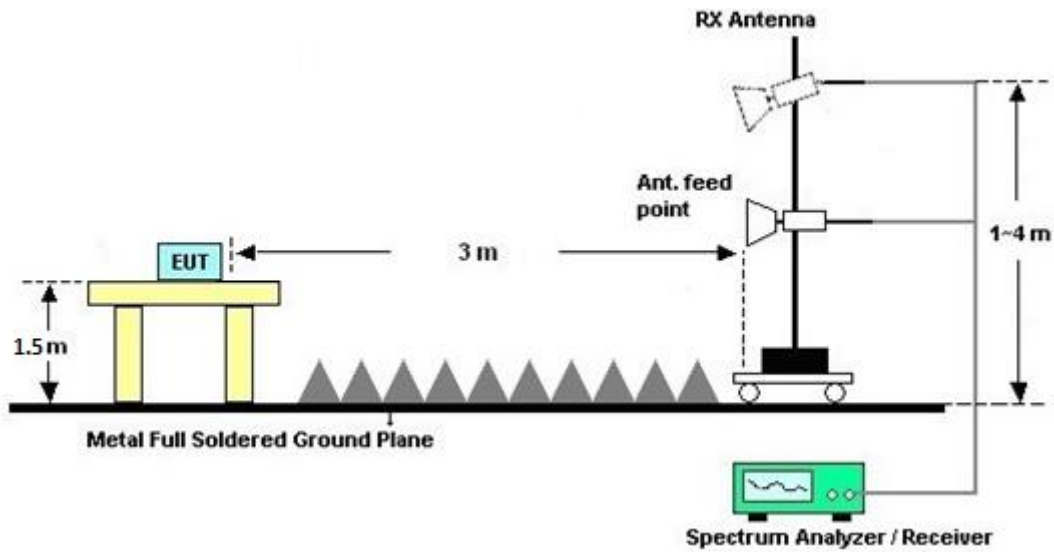
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

3.2.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix B and C.

3.2.7 Duty Cycle

Please refer to Appendix D.

3.2.8 Test Result of Radiated Spurious Emissions (30MHz ~ 10th Harmonic)

Please refer to Appendix B and C.

3.3 Antenna Requirements

3.3.1 Standard Applicable

If transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.3.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.3.3 Antenna Gain

<CDD Modes >

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

Directional gain = GANT + Array Gain, where Array Gain is as follows.

For power spectral density (PSD) measurements on all devices,

Array Gain = $10 \log(\text{NANT}/\text{NSS}=1)$ dB.

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $\text{NANT} \leq 4$.

Directional gain may be calculated by using the formulas applicable to equal gain antennas with GANT set equal to the gain of the antenna having the highest gain;

The EUT supports CDD mode.

For power, the directional gain GANT is set equal to the antenna having the highest gain, i.e., F)2)f)i).

For PSD, the directional gain calculation is following F)2)f)ii) of KDB 662911 D01 v02r01.

The power and PSD limit should be modified if the directional gain of EUT is over 6 dBi,

The directional gain "DG" is calculated as following table.

<CDD Modes>						
			DG	DG	Power	PSD
			for	for	Limit	Limit
	Ant. 1	Ant. 2	Power	PSD	Reduction	Reduction
	(dBi)	(dBi)	(dBi)	(dBi)	(dB)	(dB)
2.4 GHz	3.21	1.10	3.21	5.23	0.00	0.00
Band I	1.90	5.70	5.70	7.02	0.00	1.02
Band II	2.45	6.17	6.17	7.52	0.17	1.52
Band III	2.12	6.40	6.40	7.53	0.40	1.53

Power limit reduction = Composite gain – 6dBi, (min = 0)

PSD limit reduction = Composite gain + PSD Array gain – 6dBi, (min = 0)



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Power Meter	Anritsu	ML2495A	0932001	N/A	Sep. 26, 2017	Jun. 25, 2018~ Jul. 29, 2018	Sep. 25, 2018	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	0846202	300MHz~40GHz	Sep. 26, 2017	Jun. 25, 2018~ Jul. 29, 2018	Sep. 25, 2018	Conducted (TH05-HY)
Amplifier	MITEQ	TTA1840-35-H G	1871923	18GHz~40GHz, VSWR : 2.5:1 max	Jul. 18, 2017	Jun. 21, 2018~ Jul. 16, 2018	Jul. 17, 2018	Radiation (03CH11-HY)
Amplifier	MITEQ	TTA1840-35-H G	1871923	18GHz~40GHz, VSWR : 2.5:1 max	Jul. 16, 2018	Jul. 17, 2018~ Aug. 04, 2018	Jul. 15, 2019	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-1326	1GHz ~ 18GHz	Oct. 16, 2017	Jun. 21, 2018~ Aug. 04, 2018	Oct. 15, 2018	Radiation (03CH11-HY)
Preamplifier	Keysight	83017A	MY53270080	1GHz~26.5GHz	Jan. 16, 2018	Jun. 21, 2018~ Aug. 04, 2018	Jan. 15, 2020	Radiation (03CH11-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz ~ 44GHz	Oct. 19, 2017	Jun. 21, 2018~ Aug. 04, 2018	Oct. 18, 2018	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Jun. 21, 2018~ Aug. 04, 2018	N/A	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0~360 Degree	N/A	Jun. 21, 2018~ Aug. 04, 2018	N/A	Radiation (03CH11-HY)
Preamplifier	Jet-Power	JPA0118-55-30 3K	17100018000 54002	1GHz~18GHz	Apr. 17, 2018	Jun. 21, 2018~ Aug. 04, 2018	Apr. 16, 2019	Radiation (03CH11-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA917058 4	18GHz- 40GHz	Nov. 27, 2017	Jun. 21, 2018~ Aug. 04, 2018	Nov. 26, 2018	Radiation (03CH11-HY)
Software	Audix	E3 6.2009-8-24	RK-001042	N/A	N/A	Jun. 21, 2018~ Aug. 04, 2018	N/A	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4PE	9kHz-30MHz	Mar. 14, 2018	Jun. 21, 2018~ Aug. 04, 2018	Mar. 13, 2019	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2859/2	30MHz-40GHz	Mar. 14, 2018	Jun. 21, 2018~ Aug. 04, 2018	Mar. 13, 2019	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4PE	30M-18G	Mar. 14, 2018	Jun. 21, 2018~ Aug. 04, 2018	Mar. 13, 2019	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY4274/2	30MHz-40GHz	Mar. 14, 2018	Jun. 21, 2018~ Aug. 04, 2018	Mar. 13, 2019	Radiation (03CH11-HY)
Filter	Wainwright	WHKX8-5872.5 -6750-18000-4 OST	SN3	6.75GHz High Pass	Sep. 18, 2017	Jun. 21, 2018~ Aug. 04, 2018	Sep. 17, 2018	Radiation (03CH11-HY)
Filter	Wainwright	WLK4-1000-15 30-8000-40SS	SN11	1G Low Pass	Sep. 18, 2017	Jun. 21, 2018~ Aug. 04, 2018	Sep. 17, 2018	Radiation (03CH11-HY)



5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.20
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.50
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.20
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Appendix A. Test Result of Conducted Test Items

<For Bluetooth LE>

<2Mbps>

Test Engineer:	Allen Lin/Shiming Liu	Temperature:	21~25	°C
Test Date:	2018/6/25~2018/7/7	Relative Humidity:	51~54	%

TEST RESULTS DATA**Peak Power Table**

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)	Conducted Power Limit (dBm)
BLE	2Mbps	1	39	2480	5.95	30.00

TEST RESULTS DATA**Average Power Table****(Reporting Only)**

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)
BLE	2Mbps	1	39	2480	2.48	5.70

<For 2.4G WLAN>

Test Engineer:	Allen Lin / Rebecca Li	Temperature:	21~25	°C
Test Date:	2018/6/25 ~ 2018/7/25	Relative Humidity:	51~54	%

TEST RESULTS DATA
Peak Output Power

2.4GHz Band																
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Peak Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11b	1Mbps	1	1	2412	18.55	22.76	-	30.00	30.00	3.21	1.10	21.76	23.86	36.00	36.00	Pass
11b	1Mbps	1	6	2437	19.50	24.45	-	30.00	30.00	3.21	1.10	22.71	25.55	36.00	36.00	Pass
11b	1Mbps	1	11	2462	19.10	24.40	-	30.00	30.00	3.21	1.10	22.31	25.50	36.00	36.00	Pass
11g	6Mbps	1	1	2412	22.58	23.99	-	30.00	30.00	3.21	1.10	25.79	25.09	36.00	36.00	Pass
11g	6Mbps	1	6	2437	23.31	24.39	-	30.00	30.00	3.21	1.10	26.52	25.49	36.00	36.00	Pass
11g	6Mbps	1	11	2462	22.75	24.01	-	30.00	30.00	3.21	1.10	25.96	25.11	36.00	36.00	Pass
HT20	MCS0	1	1	2412	23.17	23.84	-	30.00	30.00	3.21	1.10	26.38	24.94	36.00	36.00	Pass
HT20	MCS0	1	6	2437	23.60	24.07	-	30.00	30.00	3.21	1.10	26.81	25.17	36.00	36.00	Pass
HT20	MCS0	1	11	2462	22.82	23.98	-	30.00	30.00	3.21	1.10	26.03	25.08	36.00	36.00	Pass

Note: Measured power (dBm) has offset with cable loss.

TEST RESULTS DATA
Average Output Power

2.4GHz Band									
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)		
					Ant 1	Ant 2	Ant 1	Ant 2	SUM
11b	1Mbps	1	1	2412	0.06	0.06	16.48	20.81	-
11b	1Mbps	1	6	2437	0.06	0.06	17.26	22.91	
11b	1Mbps	1	11	2462	0.06	0.06	16.77	22.88	
11g	6Mbps	1	1	2412	0.33	0.33	13.95	17.33	
11g	6Mbps	1	6	2437	0.33	0.33	15.78	20.18	
11g	6Mbps	1	11	2462	0.33	0.33	14.12	18.20	
HT20	MCS0	1	1	2412	0.35	0.35	13.88	16.30	
HT20	MCS0	1	6	2437	0.35	0.35	15.52	19.81	
HT20	MCS0	1	11	2462	0.35	0.35	12.95	17.46	

Note: Measured power (dBm) has offset with cable loss.

<For 5G WLAN Band 1~3>

<CDD Mode>

Test Engineer:	Shiming Liu / Rebecca Li	Temperature:	21~25	°C
Test Date:	2018/6/25 ~ 2018/7/26	Relative Humidity:	51~54	%

TEST RESULTS DATA
Average Power Table

FCC Band I														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
HT20	MCS0	1	36	5180	0.35	0.35	18.63	14.91		24.00	24.00	1.90	5.70	Pass
VHT20	MCS0	1	36	5180	0.32	0.32	18.47	14.71		24.00	24.00	1.90	5.70	Pass
VHT80	MCS0	1	42	5210	1.18	1.18	10.62	8.10		24.00	24.00	1.90	5.70	Pass

TEST RESULTS DATA
Average Power Table

FCC Band II															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
HT20	MCS0	1	64	5320	0.35	0.35	17.92	15.76		23.98	23.81	2.45	6.17	26.99	Pass
VHT20	MCS0	1	64	5320	0.32	0.32	17.60	15.55		23.98	23.81	2.45	6.17	26.99	Pass

TEST RESULTS DATA
Average Power Table

FCC Band III															
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
HT20	MCS0	1	140	5700	0.35	0.35	13.84	15.00		23.98	23.58	2.12	6.40	26.99	Pass
HT40	MCS0	1	102	5510	0.62	0.68	14.56	14.65		23.98	23.58	2.12	6.40	26.99	Pass
VHT20	MCS0	1	140	5700	0.32	0.32	13.70	14.80		23.98	23.58	2.12	6.40	26.99	Pass
VHT40	MCS0	1	102	5510	0.61	0.63	14.44	14.47		23.98	23.58	2.12	6.40	26.99	Pass
HT20	MCS0	2	140	5700	0.35	0.35	14.20	15.01	17.64	23.58		6.40		26.99	Pass
HT40	MCS0	2	102	5510	0.63	0.63	14.22	13.24	16.77	23.58		6.40		26.99	Pass



Appendix B. Radiated Spurious Emission

Test Engineer :	Hao Hsu, Chuan Zhu, and Ken Wu	Temperature :	21~26°C
		Relative Humidity :	52~57%

Co-location Mode

Bluetooth LE (2Mbps) and WIFI 802.11b (Band edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 2 + 802.11b CH01 2412 MHz Ant 1		2344.38	52.8	-21.2	74	43.25	27	16.15	33.6	113	220	P	H
		2344.02	43.73	-10.27	54	34.18	27	16.15	33.6	113	220	A	H
	*	2412	107.09	-	-	97.2	27.18	16.3	33.59	113	220	P	H
	*	2412	104.11	-	-	94.22	27.18	16.3	33.59	113	220	A	H
		2483.6	59.32	-14.68	74	49.23	27.36	16.31	33.58	113	220	P	H
		2483.5	52.16	-1.84	54	42.07	27.36	16.31	33.58	113	220	A	H
		2343.84	54.21	-19.79	74	44.66	27	16.15	33.6	246	355	P	V
		2344.02	43.7	-10.3	54	34.15	27	16.15	33.6	246	355	A	V
	*	2412	107.05	-	-	97.16	27.18	16.3	33.59	246	355	P	V
	*	2412	104.07	-	-	94.18	27.18	16.3	33.59	246	355	A	V
		2483.5	55.12	-18.88	74	45.03	27.36	16.31	33.58	246	355	P	V
		2483.5	46.76	-7.24	54	36.67	27.36	16.31	33.58	246	355	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Bluetooth LE (2Mbps) and WIFI 802.11b (Band edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 2 + 802.11b CH06 2437 MHz Ant 1		2389.92	52.35	-21.65	74	42.52	27.13	16.29	33.59	100	216	P	H
		2389.92	42.82	-11.18	54	32.99	27.13	16.29	33.59	100	216	A	H
	*	2437	110.18	-	-	100.19	27.27	16.31	33.59	100	216	P	H
	*	2437	107.09	-	-	97.1	27.27	16.31	33.59	100	216	A	H
		2483.5	57.32	-16.68	74	47.23	27.36	16.31	33.58	100	216	P	H
		2483.5	49.33	-4.67	54	39.24	27.36	16.31	33.58	100	216	A	H
		2351.22	51.45	-22.55	74	41.9	27	16.15	33.6	211	344	P	V
		2389.92	41.76	-12.24	54	31.93	27.13	16.29	33.59	211	344	A	V
	*	2437	107.79	-	-	97.8	27.27	16.31	33.59	211	344	P	V
	*	2437	104.7	-	-	94.71	27.27	16.31	33.59	211	344	A	V
		2483.5	53.35	-20.65	74	43.26	27.36	16.31	33.58	211	344	P	V
		2483.5	43.89	-10.11	54	33.8	27.36	16.31	33.58	211	344	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Bluetooth LE (2Mbps) and WIFI 802.11b (Band edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 2 + 802.11b CH11 2462 MHz Ant 1		2345.28	51.62	-22.38	74	42.07	27	16.15	33.6	107	310	P	H
		2383.8	41.72	-12.28	54	31.94	27.09	16.29	33.6	107	310	A	H
	*	2480	96.37	-	-	86.28	27.36	16.31	33.58	107	310	P	H
	*	2480	94.58	-	-	84.49	27.36	16.31	33.58	107	310	A	H
		2483.5	56.44	-17.56	74	46.35	27.36	16.31	33.58	107	310	P	H
		2483.5	48.95	-5.05	54	38.86	27.36	16.31	33.58	107	310	A	H
		2365.08	51.39	-22.61	74	41.73	27.04	16.22	33.6	283	163	P	V
		2375.34	41.83	-12.17	54	32.12	27.09	16.22	33.6	283	163	A	V
	*	2480	98.86	-	-	88.77	27.36	16.31	33.58	283	163	P	V
	*	2480	97.22	-	-	87.13	27.36	16.31	33.58	283	163	A	V
		2495.5	57.46	-16.54	74	47.31	27.4	16.32	33.57	283	163	P	V
		2496.2	51.62	-2.38	54	41.47	27.4	16.32	33.57	283	163	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Bluetooth LE (2Mbps) and WIFI 802.11g (Band edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 2 + 802.11g CH01 2412 MHz Ant 1		2389.2	56.7	-17.3	74	46.88	27.13	16.29	33.6	138	221	P	H
		2389.92	44.94	-9.06	54	35.11	27.13	16.29	33.59	138	221	A	H
	*	2412	107.25	-	-	97.36	27.18	16.3	33.59	138	221	P	H
	*	2412	99.55	-	-	89.66	27.18	16.3	33.59	138	221	A	H
		2484.7	62.71	-11.29	74	52.61	27.36	16.32	33.58	138	221	P	H
		2483.7	52.39	-1.61	54	42.3	27.36	16.31	33.58	138	221	A	H
		2389.56	58.09	-15.91	74	48.27	27.13	16.29	33.6	246	354	P	V
		2389.92	45.81	-8.19	54	35.98	27.13	16.29	33.59	246	354	A	V
	*	2412	107.03	-	-	97.14	27.18	16.3	33.59	246	354	P	V
	*	2412	99.45	-	-	89.56	27.18	16.3	33.59	246	354	A	V
		2483.6	56.95	-17.05	74	46.86	27.36	16.31	33.58	246	354	P	V
		2483.5	47.31	-6.69	54	37.22	27.36	16.31	33.58	246	354	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Bluetooth LE (2Mbps) and WIFI 802.11g (Band edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 2 + 802.11g CH06 2437 MHz Ant 1		2389.2	58.89	-15.11	74	49.07	27.13	16.29	33.6	100	214	P	H
		2389.92	48.25	-5.75	54	38.42	27.13	16.29	33.59	100	214	A	H
	*	2437	111.98	-	-	101.99	27.27	16.31	33.59	100	214	P	H
	*	2437	103.49	-	-	93.5	27.27	16.31	33.59	100	214	A	H
		2484.9	62.44	-11.56	74	52.34	27.36	16.32	33.58	100	214	P	H
		2483.5	52.42	-1.58	54	42.33	27.36	16.31	33.58	100	214	A	H
		2389.02	57.49	-16.51	74	47.67	27.13	16.29	33.6	208	353	P	V
		2389.38	46.73	-7.27	54	36.91	27.13	16.29	33.6	208	353	A	V
	*	2437	108.68	-	-	98.69	27.27	16.31	33.59	208	353	P	V
	*	2437	101.01	-	-	91.02	27.27	16.31	33.59	208	353	A	V
		2484.7	55.51	-18.49	74	45.41	27.36	16.32	33.58	208	353	P	V
		2483.6	45.61	-8.39	54	35.52	27.36	16.31	33.58	208	353	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Bluetooth LE (2Mbps) and WIFI 802.11g (Band edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 2 + 802.11g CH11 2462 MHz Ant 1		2358.96	51.69	-22.31	74	42.03	27.04	16.22	33.6	400	230	P	H
		2385.6	41.84	-12.16	54	32.02	27.13	16.29	33.6	400	230	A	H
	*	2462	109.26	-	-	99.22	27.31	16.31	33.58	400	230	P	H
	*	2462	101.8	-	-	91.76	27.31	16.31	33.58	400	230	A	H
		2484.1	64.67	-9.33	74	54.58	27.36	16.31	33.58	400	230	P	H
		2483.5	52.64	-1.36	54	42.55	27.36	16.31	33.58	400	230	A	H
		2373.72	51.72	-22.28	74	42.01	27.09	16.22	33.6	200	343	P	V
		2389.56	41.82	-12.18	54	32	27.13	16.29	33.6	200	343	A	V
	*	2462	105.11	-	-	95.07	27.31	16.31	33.58	200	343	P	V
	*	2462	97.51	-	-	87.47	27.31	16.31	33.58	200	343	A	V
		2484.4	58.74	-15.26	74	48.64	27.36	16.32	33.58	200	343	P	V
		2483.5	47.31	-6.69	54	37.22	27.36	16.31	33.58	200	343	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Band edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH01 2412 MHz Ant 1		2389.38	59	-15	74	49.18	27.13	16.29	33.6	138	219	P	H
		2389.92	44.83	-9.17	54	35	27.13	16.29	33.59	138	219	A	H
	*	2412	106.45	-	-	96.56	27.18	16.3	33.59	138	219	P	H
	*	2412	98.85	-	-	88.96	27.18	16.3	33.59	138	219	A	H
		2486.3	63.69	-10.31	74	53.59	27.36	16.32	33.58	138	219	P	H
		2483.5	52.39	-1.61	54	42.3	27.36	16.31	33.58	138	219	A	H
		2389.56	60.82	-13.18	74	51	27.13	16.29	33.6	246	355	P	V
		2389.92	46.03	-7.97	54	36.2	27.13	16.29	33.59	246	355	A	V
	*	2412	106.54	-	-	96.65	27.18	16.3	33.59	246	355	P	V
	*	2412	98.98	-	-	89.09	27.18	16.3	33.59	246	355	A	V
		2484.1	58.53	-15.47	74	48.44	27.36	16.31	33.58	246	355	P	V
		2484.1	47.11	-6.89	54	37.02	27.36	16.31	33.58	246	355	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Band edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH06 2437 MHz Ant 1		2389.74	61.72	-12.28	74	51.9	27.13	16.29	33.6	100	215	P	H
		2389.74	48.75	-5.25	54	38.93	27.13	16.29	33.6	100	215	A	H
	*	2437	110.99	-	-	101	27.27	16.31	33.59	100	215	P	H
	*	2437	103.33	-	-	93.34	27.27	16.31	33.59	100	215	A	H
		2486.3	62.93	-11.07	74	52.83	27.36	16.32	33.58	100	215	P	H
		2483.6	52.19	-1.81	54	42.1	27.36	16.31	33.58	100	215	A	H
		2389.56	59.16	-14.84	74	49.34	27.13	16.29	33.6	211	344	P	V
		2389.02	46.21	-7.79	54	36.39	27.13	16.29	33.6	211	344	A	V
	*	2437	108.59	-	-	98.6	27.27	16.31	33.59	211	344	P	V
	*	2437	101.12	-	-	91.13	27.27	16.31	33.59	211	344	A	V
		2483.9	58.11	-15.89	74	48.02	27.36	16.31	33.58	211	344	P	V
		2483.5	45.96	-8.04	54	35.87	27.36	16.31	33.58	211	344	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Band edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH11 2462 MHz Ant 1		2349.6	52.19	-21.81	74	42.64	27	33.6	16.15	277	219	P	H
		2384.16	42	-12	54	32.22	27.09	33.6	16.29	277	219	A	H
	*	2462	108.81	-	-	98.77	27.31	33.58	16.31	277	219	P	H
	*	2462	101.06	-	-	91.02	27.31	33.58	16.31	277	219	A	H
		2483.5	65.39	-8.61	74	55.3	27.36	33.58	16.31	277	219	P	H
		2483.5	51.61	-2.39	54	41.52	27.36	33.58	16.31	277	219	A	H
		2326.74	52.25	-21.75	74	42.83	26.95	33.61	16.08	201	345	P	V
		2385.6	42	-12	54	32.18	27.13	33.6	16.29	201	345	A	V
	*	2462	104.78	-	-	94.74	27.31	33.58	16.31	201	345	P	V
	*	2462	96.85	-	-	86.81	27.31	33.58	16.31	201	345	A	V
		2483.6	59.96	-14.04	74	49.87	27.36	33.58	16.31	201	345	P	V
		2495.3	47.18	-6.82	54	37.03	27.4	33.57	16.32	201	345	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Band edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH140 5700 MHz Ant 1	*	5700	111.75	-	-	102.68	32.44	9.75	33.12	100	115	P	H
	*	5700	103.77	-	-	94.7	32.44	9.75	33.12	100	115	A	H
		5727.24	67.67	-0.53	68.2	58.49	32.5	9.81	33.13	100	115	P	H
	*	5700	103.84	-	-	94.77	32.44	9.75	33.12	106	37	P	V
	*	5700	96.17	-	-	87.1	32.44	9.75	33.12	106	37	A	V
		5726.2	60.78	-7.42	68.2	51.6	32.5	9.81	33.13	106	37	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												


Bluetooth LE (2Mbps) and WIFI 802.11n HT40 (Band edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT40 CH102 5510 MHz Ant 1		5459.68	57.7	-16.3	74	49.38	32.05	9.29	33.02	100	115	P	H
		5464.72	64.35	-3.85	68.2	56.01	32.07	9.29	33.02	100	115	P	H
		5458.72	52.33	-1.67	54	44.01	32.05	9.29	33.02	100	115	A	H
	*	5510	106.49	-	-	98.05	32.1	9.37	33.03	100	115	P	H
	*	5510	98.61	-	-	90.17	32.1	9.37	33.03	100	115	A	H
		5749.88	49.64	-18.56	68.2	40.38	32.53	9.88	33.15	100	115	P	H
		5459.68	53.37	-20.63	74	45.05	32.05	9.29	33.02	100	37	P	V
		5468.8	58.44	-9.76	68.2	50.1	32.07	9.29	33.02	100	37	P	V
		5458.24	46.56	-7.44	54	38.24	32.05	9.29	33.02	100	37	A	V
	*	5510	99.74	-	-	91.3	32.1	9.37	33.03	100	37	P	V
	*	5510	91.84	-	-	83.4	32.1	9.37	33.03	100	37	A	V
		5764.685	48.9	-19.3	68.2	39.54	32.57	9.95	33.16	100	37	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Band edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH36 5180 MHz Ant 2		5147.94	60.19	-13.81	74	52.42	31.75	9.05	33.03	100	240	P	H
		5149.24	53.12	-0.88	54	45.35	31.75	9.05	33.03	100	240	A	H
	*	5180	116.64	-	-	108.82	31.78	9.07	33.03	100	240	P	H
	*	5180	108.62	-	-	100.8	31.78	9.07	33.03	100	240	A	H
		5148.2	56.69	-17.31	74	48.92	31.75	9.05	33.03	389	278	P	V
		5149.76	46.88	-7.12	54	39.11	31.75	9.05	33.03	389	278	A	V
	*	5180	110.52	-	-	102.7	31.78	9.07	33.03	389	278	P	V
	*	5180	102.81	-	-	94.99	31.78	9.07	33.03	389	278	A	V
Remark	1. No other spurious found.												
	2. All results are PASS against Peak and Average limit line.												



Bluetooth LE (2Mbps) and WIFI 802.11ac VHT80 (Band edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 2 + 802.11ac VHT80 CH42 5210 MHz Ant 2		5131.82	58.3	-15.7	74	50.57	31.73	9.03	33.03	100	299	P	H
		5149.5	52.34	-1.66	54	44.57	31.75	9.05	33.03	100	299	A	H
	*	5210	102.78	-	-	94.9	31.82	9.09	33.03	100	299	P	H
	*	5210	94.98	-	-	87.1	31.82	9.09	33.03	100	299	A	H
		5406.18	48.7	-25.3	74	40.5	32	9.22	33.02	100	299	P	H
		5367.7	42.01	-11.99	54	33.87	31.97	9.2	33.03	100	299	A	H
		5142.22	52.53	-21.47	74	44.76	31.75	9.05	33.03	388	266	P	V
		5149.24	45.73	-8.27	54	37.96	31.75	9.05	33.03	388	266	A	V
	*	5210	97.46	-	-	89.58	31.82	9.09	33.03	388	266	P	V
	*	5210	89.58	-	-	81.7	31.82	9.09	33.03	388	266	A	V
		5421.26	47.74	-26.26	74	39.48	32.02	9.26	33.02	388	266	P	V
		5432.18	41.57	-12.43	54	33.3	32.03	9.26	33.02	388	266	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												


Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Band edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH64 5320 MHz Ant 1+2	*	5320	116.58	-	-	108.52	31.92	9.17	33.03	100	296	P	H
	*	5320	109.29	-	-	101.23	31.92	9.17	33.03	100	296	A	H
		5351.52	59.05	-14.95	74	50.94	31.95	9.19	33.03	100	296	P	H
		5351.84	50.68	-3.32	54	42.57	31.95	9.19	33.03	100	296	A	H
	*	5320	111.96	-	-	103.9	31.92	9.17	33.03	372	268	P	V
	*	5320	104.21	-	-	96.15	31.92	9.17	33.03	372	268	A	V
		5351.04	55.98	-18.02	74	47.87	31.95	9.19	33.03	372	268	P	V
		5351.2	45.74	-8.26	54	37.63	31.95	9.19	33.03	372	268	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Band edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 1 + 802.11n HT20 CH140 5700 MHz Ant 1+2	*	5700	114.97	-	-	105.9	32.44	9.75	33.12	100	298	P	H
	*	5700	107.02	-	-	97.95	32.44	9.75	33.12	100	298	A	H
		5725.56	66.32	-1.88	68.2	57.14	32.5	9.81	33.13	100	298	P	H
	*	5700	111.42	-	-	102.35	32.44	9.75	33.12	400	269	P	V
	*	5700	103.57	-	-	94.5	32.44	9.75	33.12	400	269	A	V
		5725	65.46	-2.74	68.2	56.28	32.5	9.81	33.13	400	269	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Bluetooth LE (2Mbps) and WIFI 802.11b (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 2 + 802.11b CH01 2412 MHz Ant 1		4824	53.28	-20.72	74	70.54	31.29	10.02	58.57	239	302	P	H
		4824	51.97	-2.03	54	69.23	31.29	10.02	58.57	239	302	A	H
		4960	38.95	-35.05	74	55.95	31.54	9.97	58.51	100	0	P	H
		7440	42.79	-31.21	74	53.14	36.59	11.72	58.66	100	0	P	H
		4824	53.04	-20.96	74	70.3	31.29	10.02	58.57	318	263	P	V
		4824	51.58	-2.42	54	68.84	31.29	10.02	58.57	318	263	A	V
		4960	38.7	-35.3	74	55.7	31.54	9.97	58.51	100	0	P	V
		7440	43.51	-30.49	74	53.86	36.59	11.72	58.66	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Bluetooth LE (2Mbps) and WIFI 802.11b (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 2 + 802.11b CH06 2437 MHz Ant 1		4874	53.58	-20.42	74	70.76	31.38	9.99	58.55	238	310	P	H
		4874	51.62	-2.38	54	68.8	31.38	9.99	58.55	238	310	A	H
		4960	39.01	-34.99	74	56.01	31.54	9.97	58.51	100	0	P	H
		7311	48.56	-25.44	74	59.34	36.28	11.77	58.83	100	0	P	H
		7440	41.86	-32.14	74	52.21	36.59	11.72	58.66	100	0	P	H
		4874	52.77	-21.23	74	69.95	31.38	9.99	58.55	335	283	P	V
		4874	50.62	-3.38	54	67.8	31.38	9.99	58.55	335	283	A	V
		4960	39.24	-34.76	74	56.24	31.54	9.97	58.51	100	0	P	V
		7311	48.78	-25.22	74	59.56	36.28	11.77	58.83	100	0	P	V
		7440	41.82	-32.18	74	52.17	36.59	11.72	58.66	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Bluetooth LE (2Mbps) and WIFI 802.11b (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 2 + 802.11b CH11 2462 MHz Ant 1		4924	54.01	-19.99	74	71.07	31.48	9.99	58.53	243	301	P	H
		4924	52.62	-1.38	54	69.68	31.48	9.99	58.53	243	301	A	H
		4960	39.04	-34.96	74	56.04	31.54	9.97	58.51	100	0	P	H
		7386	45.48	-28.52	74	56.05	36.47	11.68	58.72	100	0	P	H
		7440	42.49	-31.51	74	52.84	36.59	11.72	58.66	100	0	P	H
		4924	54.29	-19.71	74	71.35	31.48	9.99	58.53	324	263	A	V
		4924	52.98	-1.02	54	70.04	31.48	9.99	58.53	324	263	P	V
		4960	39.53	-34.47	74	56.53	31.54	9.97	58.51	100	0	P	V
		7386	45.48	-28.52	74	56.05	36.47	11.68	58.72	100	0	P	V
		7440	43.04	-30.96	74	53.39	36.59	11.72	58.66	100	0	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**Bluetooth LE (2Mbps) and WIFI 802.11g (Harmonic @ 3m)**

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 2 + 802.11g CH01 2412 MHz Ant 1		4824	45.34	-28.66	74	62.6	31.29	10.02	58.57	100	0	P	H
		4960	39.01	-34.99	74	56.01	31.54	9.97	58.51	100	0	P	H
		7440	42.56	-31.44	74	52.91	36.59	11.72	58.66	100	0	P	H
		4824	48.76	-25.24	74	66.02	31.29	10.02	58.57	100	0	P	V
		4960	39.03	-34.97	74	56.03	31.54	9.97	58.51	100	0	P	V
		7440	42.49	-31.51	74	52.84	36.59	11.72	58.66	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Bluetooth LE (2Mbps) and WIFI 802.11g (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 2 + 802.11g CH06 2437 MHz Ant 1		4874	54.79	-19.21	74	71.97	31.38	9.99	58.55	236	239	P	H
		4874	43.82	-10.18	54	61	31.38	9.99	58.55	236	239	A	H
		4960	39.18	-34.82	74	56.18	31.54	9.97	58.51	100	0	P	H
		7311	56.46	-17.54	74	67.24	36.28	11.77	58.83	202	295	P	H
		7311	43.33	-10.67	54	54.11	36.28	11.77	58.83	202	295	A	H
		7440	41.29	-32.71	74	51.64	36.59	11.72	58.66	100	0	P	H
		4874	53.52	-20.48	74	70.7	31.38	9.99	58.55	225	297	P	V
		4874	42.59	-11.41	54	59.77	31.38	9.99	58.55	225	297	A	V
		4960	39.07	-34.93	74	56.07	31.54	9.97	58.51	100	0	P	V
		7311	56.56	-17.44	74	67.34	36.28	11.77	58.83	208	264	P	V
		7311	43.2	-10.8	54	53.98	36.28	11.77	58.83	208	264	A	V
		7440	41.37	-32.63	74	51.72	36.59	11.72	58.66	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Bluetooth LE (2Mbps) and WIFI 802.11g (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M)		4924	47.76	-26.24	74	64.82	31.48	9.99	58.53	100	0	P	H
CH39		4960	39.6	-34.4	74	56.6	31.54	9.97	58.51	100	0	P	H
2480 MHz		7386	45.65	-28.35	74	56.22	36.47	11.68	58.72	100	0	P	H
Ant 2		7440	42.85	-31.15	74	53.2	36.59	11.72	58.66	100	0	P	H
+		4924	48.61	-25.39	74	65.67	31.48	9.99	58.53	100	0	P	V
802.11g		4960	39.54	-34.46	74	56.54	31.54	9.97	58.51	100	0	P	V
CH11		7386	44.88	-29.12	74	55.45	36.47	11.68	58.72	100	0	P	V
2462 MHz		7440	42.58	-31.42	74	52.93	36.59	11.72	58.66	100	0	P	V
Ant 1													
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH01 2412 MHz Ant 1		4824	47.03	-26.97	74	64.29	31.29	10.02	58.57	100	0	P	H
		4960	38.95	-35.05	74	55.95	31.54	9.97	58.51	100	0	P	H
		7440	41.93	-32.07	74	52.28	36.59	11.72	58.66	100	0	P	H
		4824	49.41	-24.59	74	66.67	31.29	10.02	58.57	100	0	P	V
		4960	39.67	-34.33	74	56.67	31.54	9.97	58.51	100	0	P	V
		7440	42.39	-31.61	74	52.74	36.59	11.72	58.66	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH06 2437 MHz Ant 1		4874	56.17	-17.83	74	73.35	31.38	9.99	58.55	229	297	P	H
		4874	43.85	-10.15	54	61.03	31.38	9.99	58.55	229	297	A	H
		4960	38.91	-35.09	74	55.91	31.54	9.97	58.51	100	0	P	H
		7311	57.4	-16.6	74	68.18	36.28	11.77	58.83	208	297	P	H
		7311	42.77	-11.23	54	53.55	36.28	11.77	58.83	208	297	A	H
		7440	42.03	-31.97	74	52.38	36.59	11.72	58.66	100	0	P	H
		4874	54.6	-19.4	74	71.78	31.38	9.99	58.55	228	292	P	V
		4874	42.38	-11.62	54	59.56	31.38	9.99	58.55	228	292	A	V
		4960	39.61	-34.39	74	56.61	31.54	9.97	58.51	100	0	P	V
		7311	56.48	-17.52	74	67.26	36.28	11.77	58.83	212	267	P	V
		7311	42.48	-11.52	54	53.26	36.28	11.77	58.83	212	267	A	V
		7440	42.22	-31.78	74	52.57	36.59	11.72	58.66	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH11 2462 MHz Ant 1		4924	47.07	-26.93	74	64.13	31.48	9.99	58.53	100	0	P	H
		4960	39.24	-34.76	74	56.24	31.54	9.97	58.51	100	0	P	H
		7386	42.22	-31.78	74	52.79	36.47	11.68	58.72	100	0	P	H
		7440	42.36	-31.64	74	52.71	36.59	11.72	58.66	100	0	P	H
		4924	47.53	-26.47	74	64.59	31.48	9.99	58.53	100	0	P	V
		4960	38.97	-35.03	74	55.97	31.54	9.97	58.51	100	0	P	V
		7386	42.14	-31.86	74	52.71	36.47	11.68	58.72	100	0	P	V
		7440	43.08	-30.92	74	53.43	36.59	11.72	58.66	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH140 5700 MHz Ant 1		4960	50.34	-23.66	74	42.9	31.54	8.95	33.05	100	0	P	H
		4960	43.18	-10.82	54	35.74	31.54	8.95	33.05	100	0	A	H
		7440	42.53	-31.47	74	49.84	36.59	12.16	56.06	100	0	P	H
		11400	48.68	-25.32	74	54.58	40.02	15.66	61.58	100	0	P	H
		17100	47.27	-20.93	68.2	43.76	40.06	19.53	56.08	100	0	P	H
		4960	49.3	-24.7	74	41.86	31.54	8.95	33.05	100	0	P	V
		7440	42.65	-31.35	74	49.96	36.59	12.16	56.06	100	0	P	V
		11400	48.98	-25.02	74	54.88	40.02	15.66	61.58	100	0	P	V
		17100	47.78	-20.42	68.2	44.27	40.06	19.53	56.08	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Bluetooth LE (2Mbps) and WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT40 CH102 5510 MHz Ant 1		4960	51.09	-22.91	74	43.65	31.54	8.95	33.05	100	0	P	H
		4960	41.2	-12.8	54	33.76	31.54	8.95	33.05	100	0	A	H
		7440	42.6	-31.4	74	49.91	36.59	12.16	56.06	100	0	P	H
		11020	47.3	-26.7	74	53.3	40.1	15.4	61.5	100	0	P	H
		16530	45.22	-22.98	68.2	44.81	38.58	19.06	57.23	100	0	P	H
		4960	50.73	-23.27	74	43.29	31.54	8.95	33.05	100	0	P	V
		4960	40.98	-13.02	54	33.54	31.54	8.95	33.05	100	0	A	V
		7440	43.32	-30.68	74	50.63	36.59	12.16	56.06	100	0	P	V
		11020	47.46	-26.54	74	53.46	40.1	15.4	61.5	100	0	P	V
		16530	44.88	-23.32	68.2	44.47	38.58	19.06	57.23	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH36 5180 MHz Ant 2		4960	52.71	-21.29	74	45.27	31.54	8.95	33.05	100	0	P	H
		4960	42.77	-11.23	54	35.33	31.54	8.95	33.05	100	0	A	H
		7440	42.74	-31.26	74	50.05	36.59	12.16	56.06	100	0	P	H
		10360	56.53	-11.67	68.2	62.09	39.51	14.94	60.01	100	0	P	H
		15540	47.22	-26.78	74	48.93	38	18.34	58.05	100	0	P	H
		4960	51.99	-22.01	74	44.55	31.54	8.95	33.05	100	0	P	V
		4960	41.9	-12.1	54	34.46	31.54	8.95	33.05	100	0	A	V
		7440	42.52	-31.48	74	49.83	36.59	12.16	56.06	100	0	P	V
		10360	56.6	-11.6	68.2	62.16	39.51	14.94	60.01	100	0	P	V
		15540	49.15	-24.85	74	50.86	38	18.34	58.05	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Bluetooth LE (2Mbps) and WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 2 + 802.11ac VHT80 CH42 5210 MHz Ant 2		4960	50.95	-23.05	74	43.51	31.54	8.95	33.05	100	0	P	H
		4960	41.47	-12.53	54	34.03	31.54	8.95	33.05	100	0	A	H
		7440	43.01	-30.99	74	50.32	36.59	12.16	56.06	100	0	P	H
		10420	46.07	-22.13	68.2	51.63	39.58	14.98	60.12	100	0	P	H
		15630	42.86	-31.14	74	44.67	37.71	18.39	57.91	100	0	P	H
		4960	50.45	-23.55	74	43.01	31.54	8.95	33.05	100	0	P	V
		4960	41.11	-12.89	54	33.67	31.54	8.95	33.05	100	0	A	V
		7440	42.85	-31.15	74	50.16	36.59	12.16	56.06	100	0	P	V
		10420	44.42	-23.78	68.2	49.98	39.58	14.98	60.12	100	0	P	V
		15630	44.8	-29.2	74	46.61	37.71	18.39	57.91	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH64 5320 MHz Ant 1+2		4960	51.91	-22.09	74	44.47	31.54	8.95	33.05	100	0	P	H
		4960	42.33	-11.67	54	34.89	31.54	8.95	33.05	100	0	A	H
		7440	42.26	-31.74	74	49.57	36.59	12.16	56.06	100	0	P	H
		10640	60.27	-13.73	74	65.97	39.81	15.12	60.63	100	276	P	H
		10640	49.34	-4.66	54	55.04	39.81	15.12	60.63	100	276	A	H
		15960	48.97	-25.03	74	51.06	36.8	18.56	57.45	100	0	P	H
		4960	50.23	-23.77	74	42.79	31.54	8.95	33.05	100	0	P	V
		4960	40.59	-13.41	54	33.15	31.54	8.95	33.05	100	0	A	V
		7440	41.97	-32.03	74	49.28	36.59	12.16	56.06	100	0	P	V
		10640	58.45	-15.55	74	64.15	39.81	15.12	60.63	389	326	P	V
		10640	46.39	-7.61	54	52.09	39.81	15.12	60.63	389	326	A	V
		15960	48.91	-25.09	74	51	36.8	18.56	57.45	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE(2M) CH39 2480 MHz Ant 1 + 802.11n HT20 CH140 5700 MHz Ant 1+2		4960	51.54	-22.46	74	44.1	31.54	8.95	33.05	100	0	P	H
		4960	41.24	-12.76	54	33.8	31.54	8.95	33.05	100	0	A	H
		7440	41.91	-32.09	74	49.22	36.59	12.16	56.06	100	0	P	H
		11400	59	-15	74	64.9	40.02	15.66	61.58	100	55	P	H
		11400	46.84	-7.16	54	52.74	40.02	15.66	61.58	100	55	A	H
		17100	50.76	-17.44	68.2	47.25	40.06	19.53	56.08	100	0	P	H
		4960	53.11	-20.89	74	45.67	31.54	8.95	33.05	100	0	P	V
		4960	42.27	-11.73	54	34.83	31.54	8.95	33.05	100	0	A	V
		7440	41.93	-32.07	74	49.24	36.59	12.16	56.06	100	0	P	V
		11400	54.87	-19.13	74	60.77	40.02	15.66	61.58	100	27	P	V
		11400	43.56	-10.44	54	49.46	40.02	15.66	61.58	100	27	A	V
		17100	47.34	-20.86	68.2	43.83	40.06	19.53	56.08	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Note symbol

*	Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
-	The signal is Unintentional Radiators .
P/A	Peak or Average
H/V	Horizontal or Vertical

A calculation example for radiated spurious emission is shown as below:

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
2412MHz		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)
2. Level(dBμV/m) = Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
3. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)
 = Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
 = 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)
 = 55.45 (dBμV/m)
2. Over Limit(dB)
 = Level(dBμV/m) – Limit Line(dBμV/m)
 = 55.45(dBμV/m) – 74(dBμV/m)
 = -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)
 = Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
 = 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)
 = 43.54 (dBμV/m)
2. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)
 = 43.54(dBμV/m) – 54(dBμV/m)
 = -10.46(dB)

Both peak and average measured complies with the limit line, so test result is “PASS”.

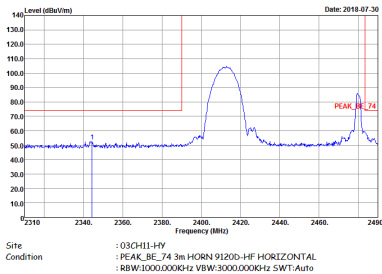
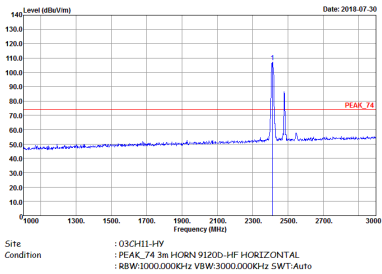
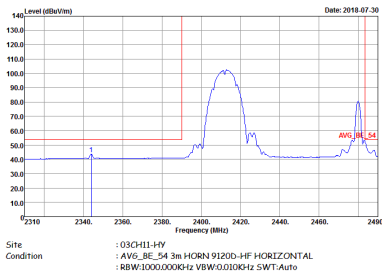
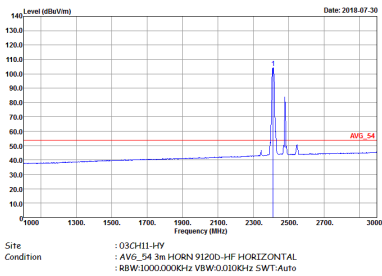


Appendix C. Radiated Spurious Emission Plots

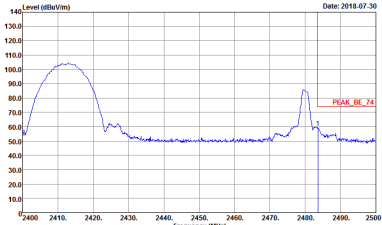
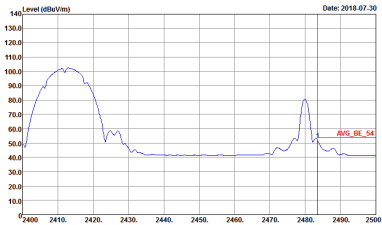
Test Engineer :	Hao Hsu, Chuan Zhu, and Ken Wu	Temperature :	21~26°C
		Relative Humidity :	52~57%

Co-location Mode

Bluetooth LE (2Mbps) and WIFI 802.11b (Band Edge @ 3m)

ANT	BLE (2M) CH39 2480 MHz Ant 2 + 802.11b CH01 2412 MHz Ant 1	
Simultaneously	Horizontal	Fundamental
Peak		
Avg.		

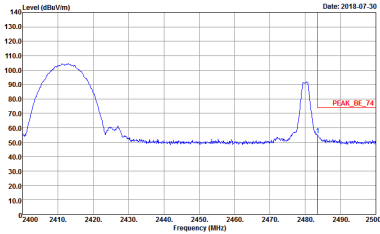
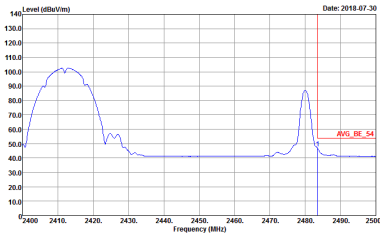


ANT	BLE (2M) CH39 2480 MHz Ant 2 + 802.11b CH01 2412 MHz Ant 1	
Simultaneously	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	Left blank



ANT	BLE (2M) CH39 2480 MHz Ant 2 + 802.11b CH01 2412 MHz Ant 1	
Simultaneously	Vertical	Fundamental
Peak	Site Condition : 03CH11-HY : PEAK_BE_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site Condition : 03CH11-HY : PEAK_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Site Condition : 03CH11-HY : AVG_BE_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	Site Condition : 03CH11-HY : AVG_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto



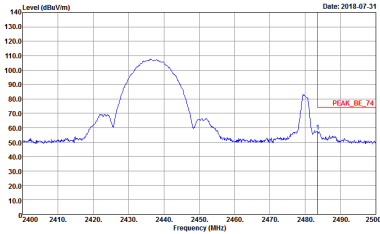
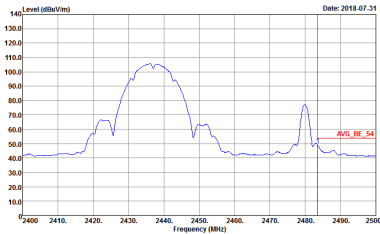
ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11b CH01 2412 MHz Ant 1	
Simultaneously	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	Left blank



Bluetooth LE (2Mbps) and WIFI 802.11b (Band Edge @ 3m)

ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11b CH06 2437 MHz Ant 1	
Simultaneously	Horizontal	Fundamental
Peak	Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:0.010KHz SWT:Auto	Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:0.010KHz SWT:Auto

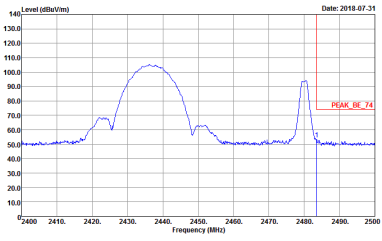
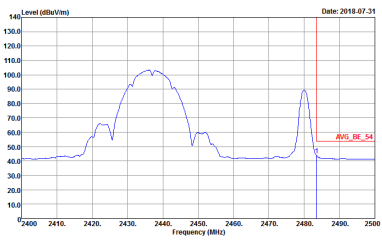


ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11b CH06 2437 MHz Ant 1	
Simultaneously	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 91200-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 91200-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	Left blank



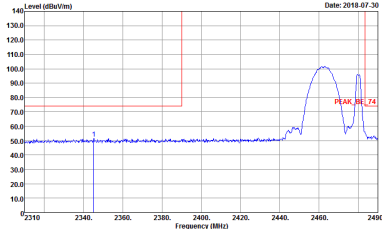
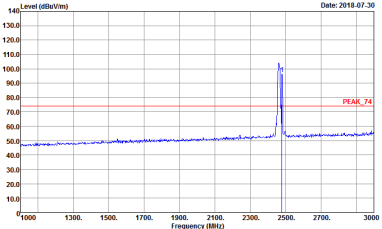
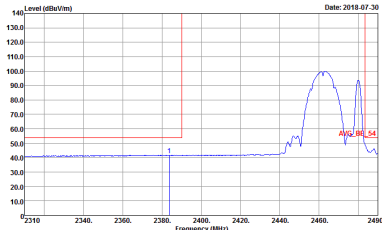
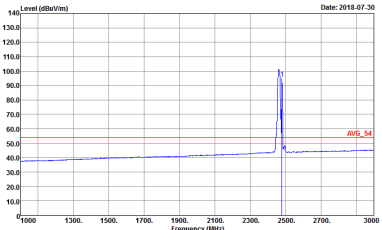
ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11b CH06 2437 MHz Ant 1	
Simultaneously	Vertical	Fundamental
Peak		
Avg.		



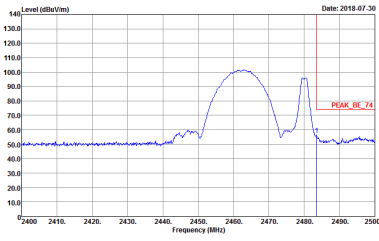
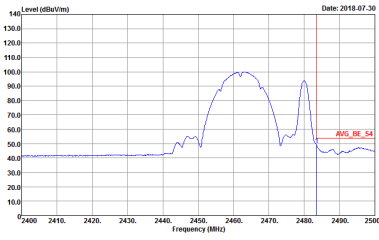
ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11b CH06 2437 MHz Ant 1	
Simultaneously	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	Left blank

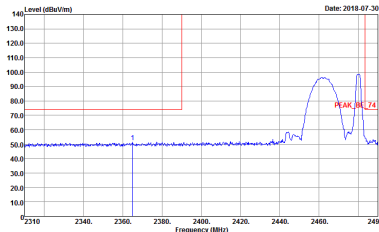
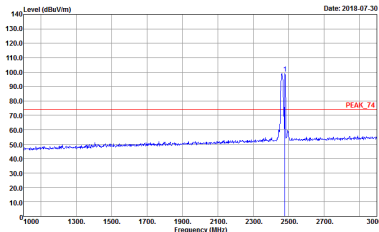
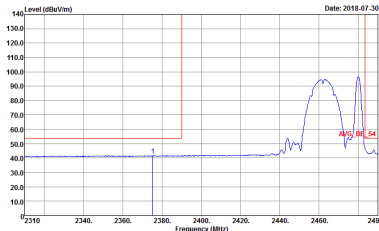
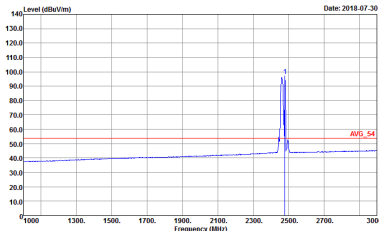


Bluetooth LE (2Mbps) and WIFI 802.11b (Band Edge @ 3m)

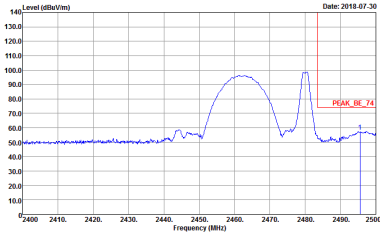
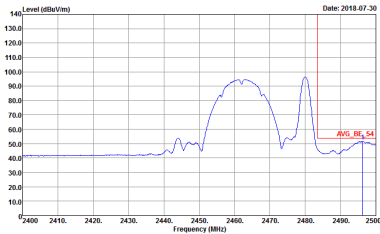
ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11b CH11 2462 MHz Ant 1	
Simultaneously	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH11-HY Condition : PEAK_F4 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:1000KHz SWT:Auto	 Site : 03CH11-HY Condition : AVG_F4 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:1000KHz SWT:Auto



ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11b CH11 2462 MHz Ant 1	
Simultaneously	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 91200-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 91200-HF HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank

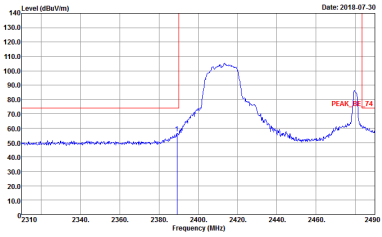
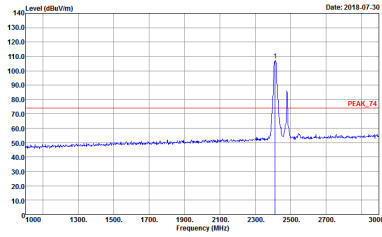
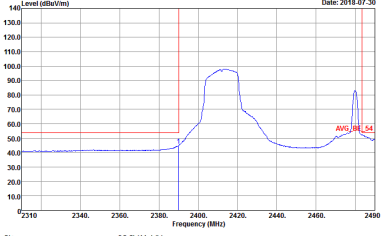
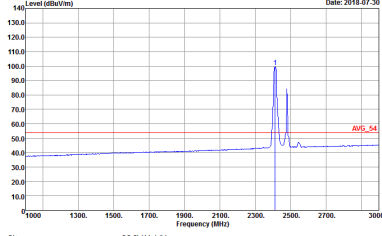
ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11b CH11 2462 MHz Ant 1	
Simultaneously	Vertical	Fundamental
Peak	 Date: 2018-07-30 Site Condition : 03CH11-HY : PEAK_BE_74 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Date: 2018-07-30 Site Condition : 03CH11-HY : PEAK_74 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
	 Date: 2018-07-30 Site Condition : 03CH11-HY : AVG_BE_54 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	 Date: 2018-07-30 Site Condition : 03CH11-HY : AVG_54 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto
Avg.		



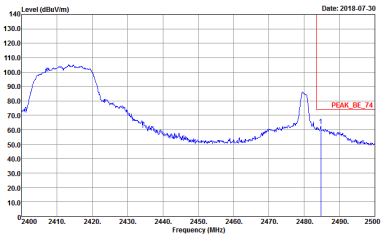
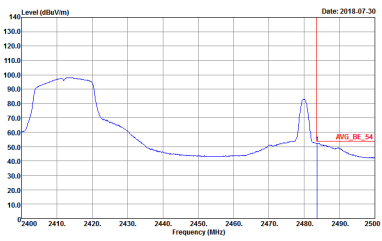
ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11b CH11 2462 MHz Ant 1	
Simultaneously	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank



Bluetooth LE (2Mbps) and WIFI 802.11g (Band Edge @ 3m)

ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11g CH01 2412 MHz Ant 1	
Simultaneously	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VSW:3000.000KHz SWT:Auto	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VSW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VSW:1000KHz SWT:Auto	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VSW:1000KHz SWT:Auto

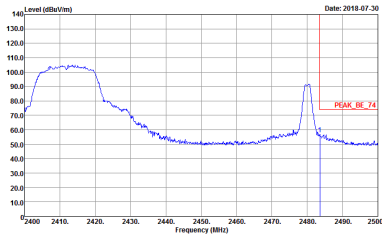
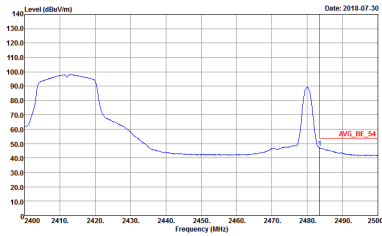


ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11g CH01 2412 MHz Ant 1	
Simultaneously	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 91200-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 91200-HF HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank

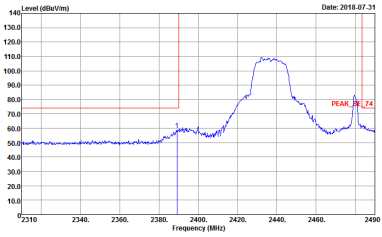
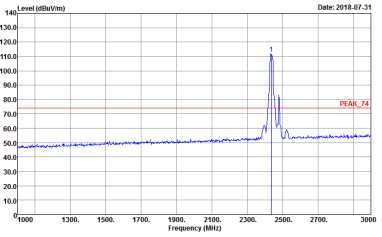
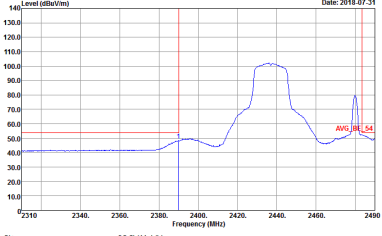
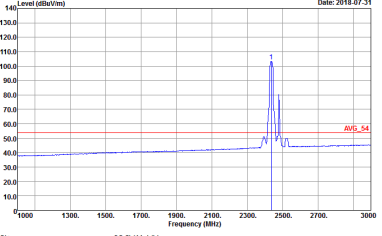


ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11g CH01 2412 MHz Ant 1	
Simultaneously	Vertical	Fundamental
Peak	Site Condition : 03CH11-HY : PEAK_BE_74 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site Condition : 03CH11-HY : PEAK_74 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
	Site Condition : 03CH11-HY : AVG_BE_54 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Site Condition : 03CH11-HY : AVG_54 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto

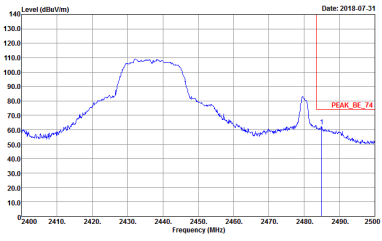
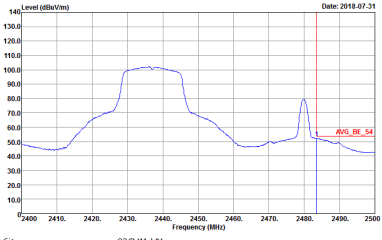


ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11g CH01 2412 MHz Ant 1	
Simultaneously	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank

Bluetooth LE (2Mbps) and WIFI 802.11g (Band Edge @ 3m)

ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11g CH06 2437 MHz Ant 1	
Simultaneously	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto
	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:1000KHz SWT:Auto	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:1000KHz SWT:Auto

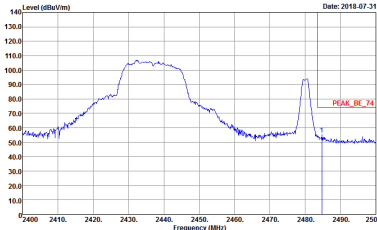
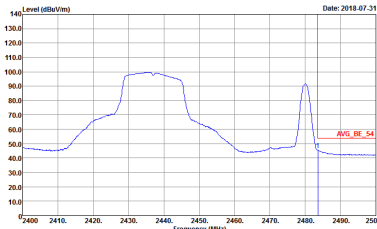


ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11g CH06 2437 MHz Ant 1	
Simultaneously	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 91200-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 91200-HF HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank

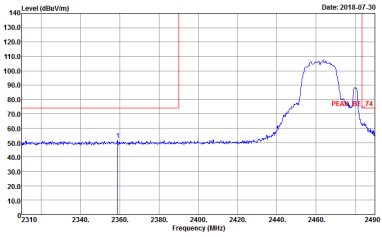
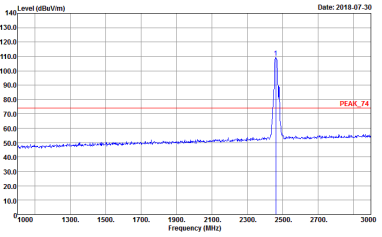
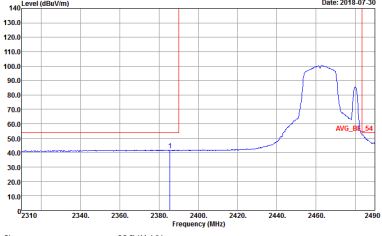
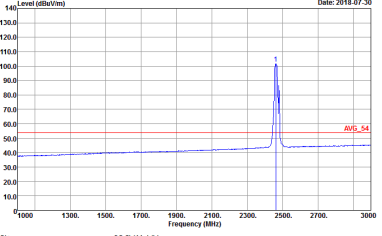


ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11g CH06 2437 MHz Ant 1	
Simultaneously	Vertical	Fundamental
Peak	Site Condition : 03CH11-HY : PEAK_BE_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site Condition : 03CH11-HY : PEAK_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
	Site Condition : 03CH11-HY : AVG_BE_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Site Condition : 03CH11-HY : AVG_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto

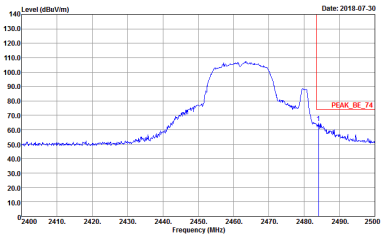
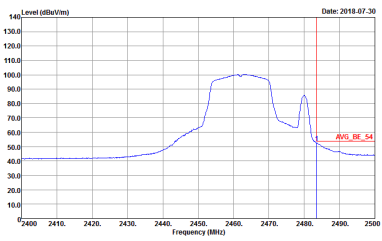


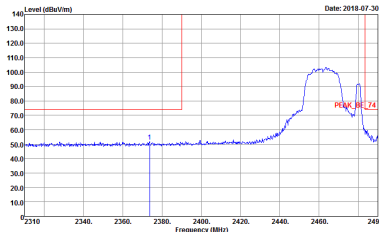
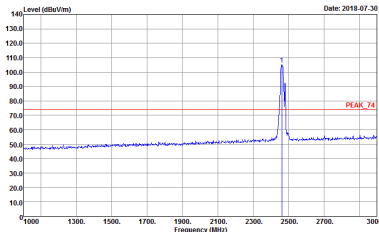
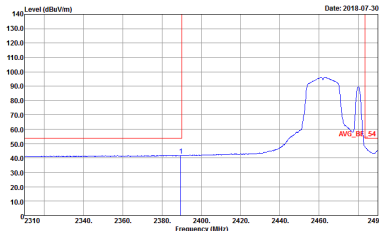
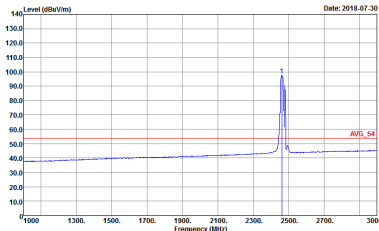
ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11g CH06 2437 MHz Ant 1	
Simultaneously	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank

Bluetooth LE (2Mbps) and WIFI 802.11g (Band Edge @ 3m)

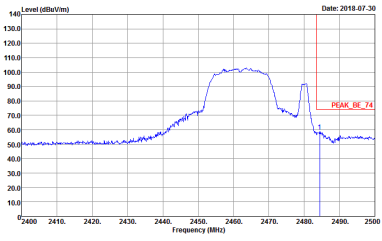
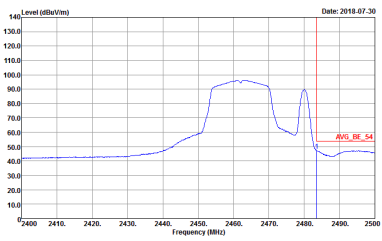
ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11g CH11 2462 MHz Ant 1	
Simultaneously	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto
	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:1000KHz SWT:Auto	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:1000KHz SWT:Auto



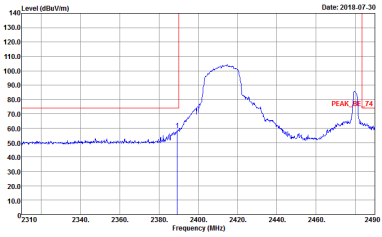
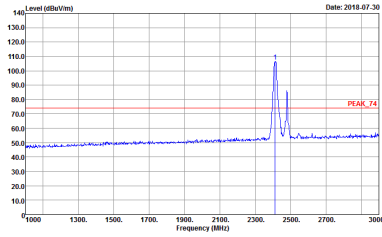
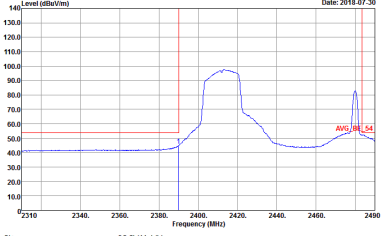
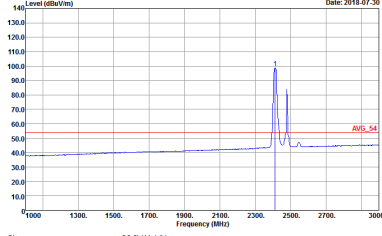
ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11g CH11 2462 MHz Ant 1	
Simultaneously	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 91200-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 91200-HF HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank

ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11g CH11 2462 MHz Ant 1	
Simultaneously	Vertical	Fundamental
Peak	 Site Condition : 03CH11-HY : PEAK_BE_74 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site Condition : 03CH11-HY : PEAK_74 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
	 Site Condition : 03CH11-HY : AVG_BE_54 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto	 Site Condition : 03CH11-HY : AVG_54 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto

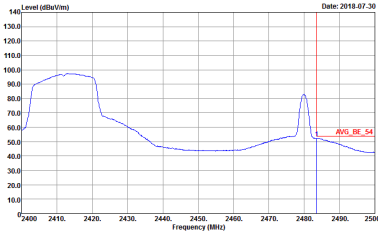


ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11g CH11 2462 MHz Ant 1	
Simultaneously	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank

Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Band Edge @ 3m)

ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH01 2412 MHz Ant 1	
Simultaneously	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VSW:3000.000KHz SWT:Auto	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VSW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VSW:1000KHz SWT:Auto	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VSW:1000KHz SWT:Auto

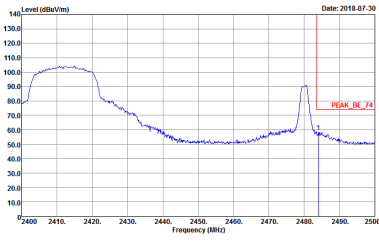
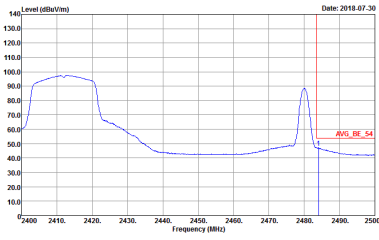


ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH01 2412 MHz Ant 1	
Simultaneously	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 91200-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 91200-HF HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank

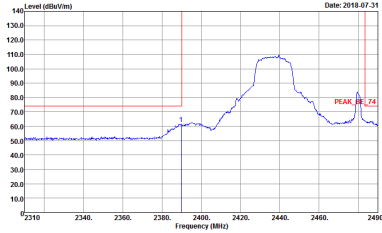
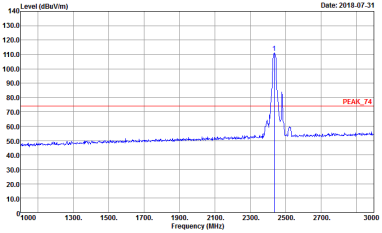
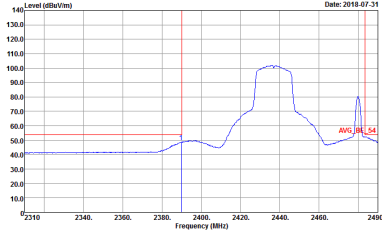
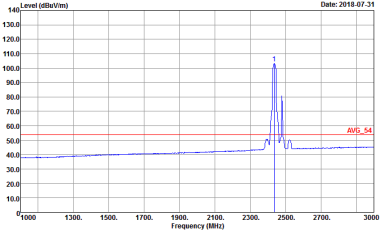


ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH01 2412 MHz Ant 1	
Simultaneously	Vertical	Fundamental
Peak	Site Condition : 03CH11-HY : PEAK_BE_74 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site Condition : 03CH11-HY : PEAK_74 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
	Site Condition : 03CH11-HY : AVG_BE_54 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Site Condition : 03CH11-HY : AVG_54 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto

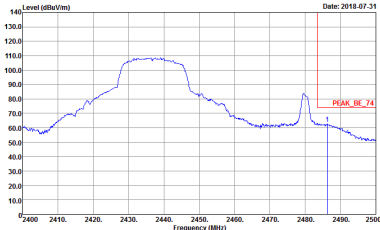
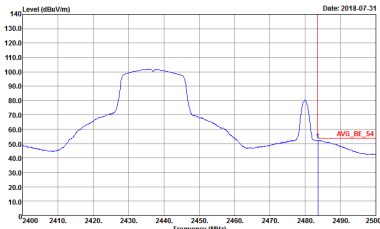


ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH01 2412 MHz Ant 1	
Simultaneously	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank

Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Band Edge @ 3m)

ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH06 2437 MHz Ant 1	
Simultaneously	Horizontal	Fundamental
Peak	 Site Condition : 03CH11-HY : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto	 Site Condition : 03CH11-HY : PEAK_74 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto
	 Site Condition : 03CH11-HY : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:1000KHz SWT:Auto	 Site Condition : 03CH11-HY : AVG_54 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:1000KHz SWT:Auto

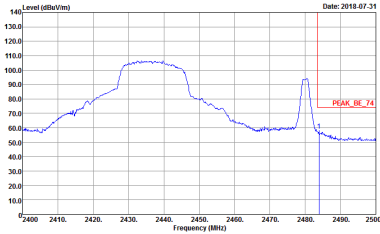
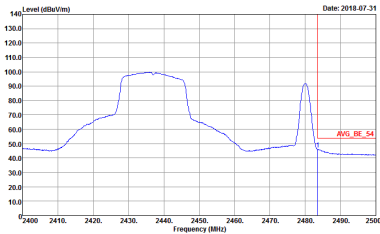


ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH06 2437 MHz Ant 1	
Simultaneously	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 91200-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 91200-HF HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank

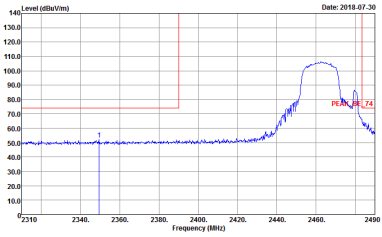
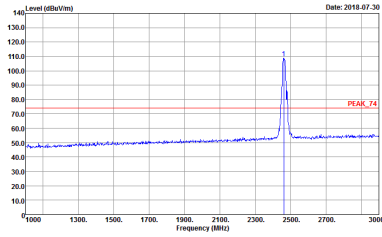
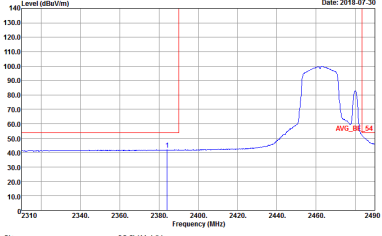
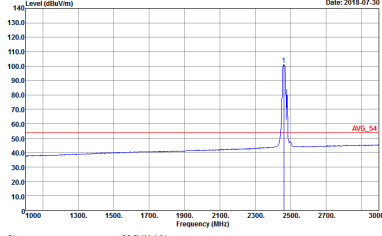


ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH06 2437 MHz Ant 1	
Simultaneously	Vertical	Fundamental
Peak	Site Condition : 03CH11-HY : PEAK_BE_74 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site Condition : 03CH11-HY : PEAK_74 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
	Site Condition : 03CH11-HY : AVG_BE_54 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Site Condition : 03CH11-HY : AVG_54 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto

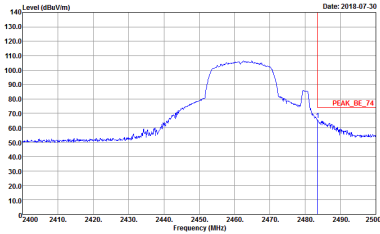
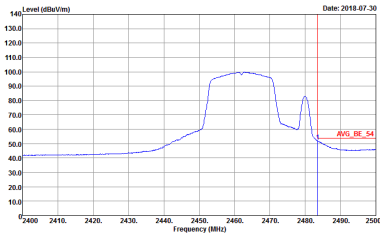


ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH06 2437 MHz Ant 1	
Simultaneously	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank

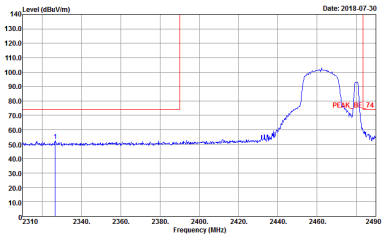
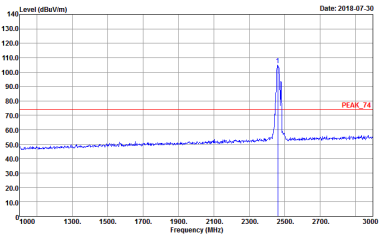
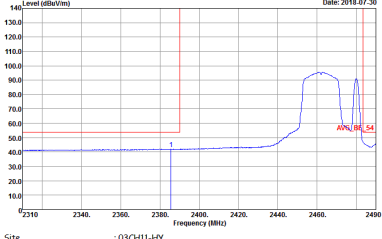
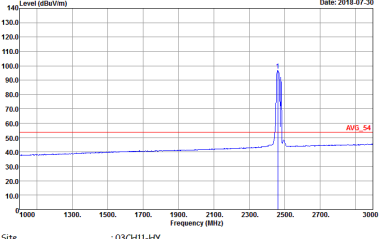
Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Band Edge @ 3m)

ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH11 2462 MHz Ant 1	
Simultaneously	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto
	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:1000KHz SWT:Auto	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:1000KHz SWT:Auto

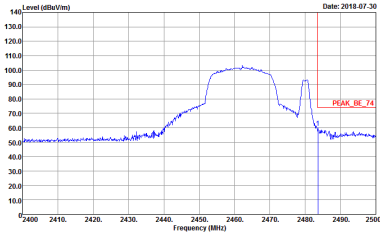
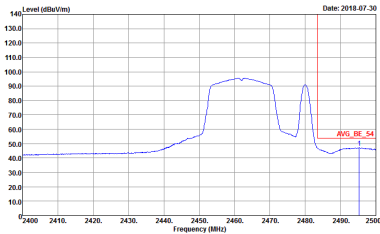


ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH11 2462 MHz Ant 1	
Simultaneously	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 91200-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 91200-HF HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank



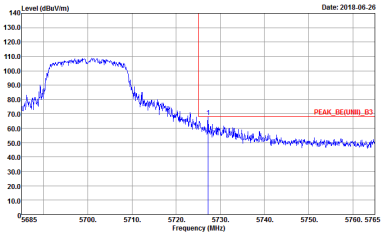
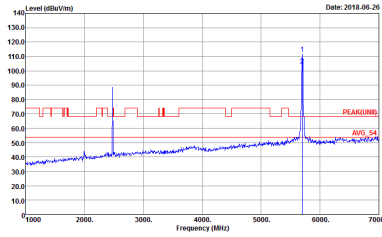
ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH11 2462 MHz Ant 1	
Simultaneously	Vertical	Fundamental
Peak	 Site Condition : 03CH11-HY : PEAK_BE_74 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site Condition : 03CH11-HY : PEAK_74 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
	 Site Condition : 03CH11-HY : AVG_BE_54 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto	 Site Condition : 03CH11-HY : AVG_54 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto



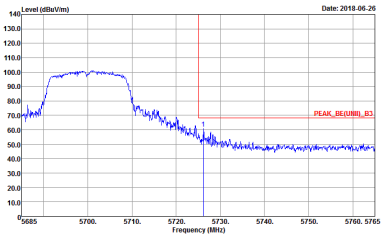
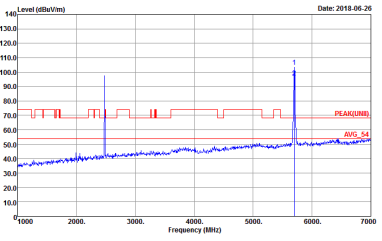
ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH11 2462 MHz Ant 1	
Simultaneously	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank



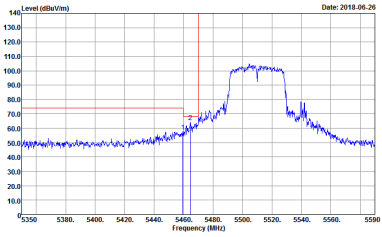
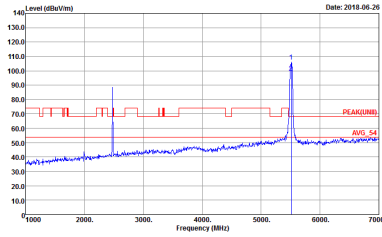
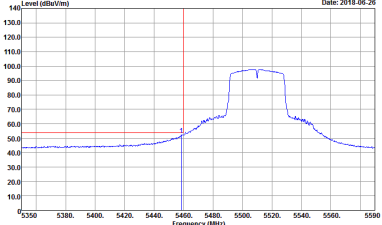
Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Band Edge @ 3m)

ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH140 5700 MHz Ant 1	
Simultaneously	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE(UNIT)_83 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH11-HY Condition : PEAK(UNIT) 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto

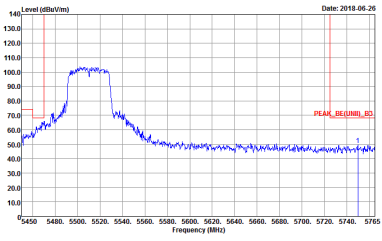


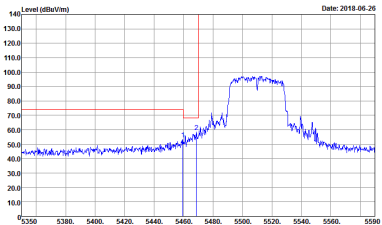
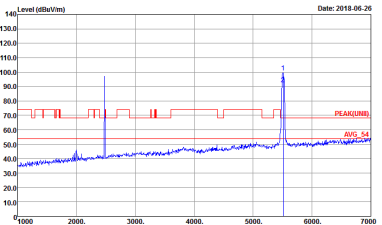
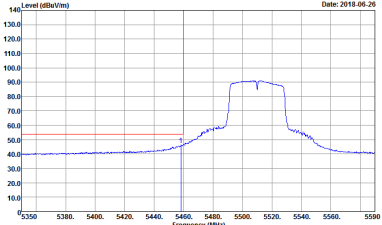
ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH140 5700 MHz Ant 1	
Simultaneously	Vertical	Fundamental
Peak	 Site Condition : 03CH11-HY : PEAK_BE(UNIT)_B3 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site Condition : 03CH11-HY : PEAK(UNIT) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto

Bluetooth LE (2Mbps) and WIFI 802.11n HT40 (Band Edge @ 3m)

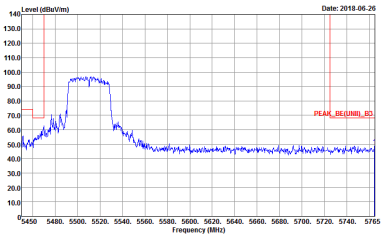
ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT40 CH102 5510 MHz Ant 1	
Simultaneously	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE(UNIT)_B3 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH11-HY Condition : PEAK(UNIT) 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH11-HY Condition : AVG_BE(UNIT)_B3 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto	Left blank



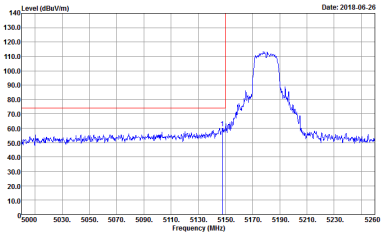
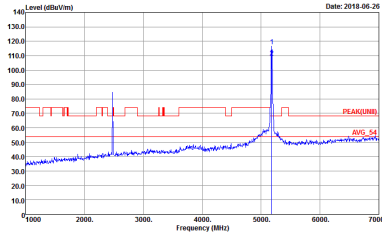
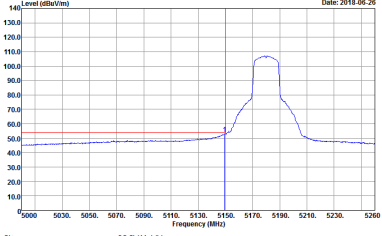
ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT40 CH102 5510 MHz Ant 1	
Simultaneously	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE(UNIT)_B3 3m HORN 91200-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Date: 2018-06-26	Left blank

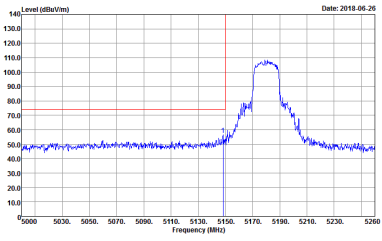
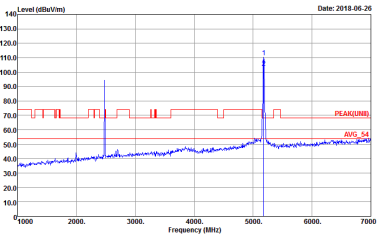
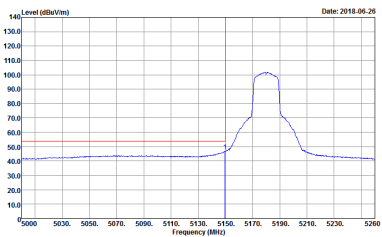
ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT40 CH102 5510 MHz Ant 1	
Simultaneously	Vertical	Fundamental
Peak	 Site Condition : 03CH11-HY : PEAK_BE(UNIT)_B3 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site Condition : 03CH11-HY : PEAK(UNIT) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
	 Site Condition : 03CH11-HY : AVG_BE(UNIT)_B3 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank



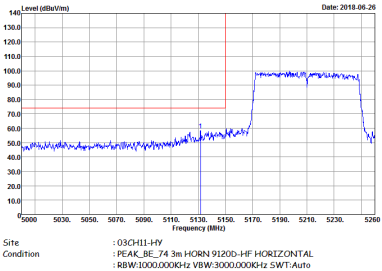
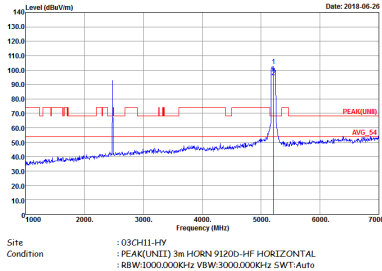
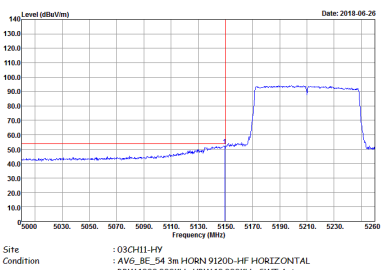
ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT40 CH102 5510 MHz Ant 1	
Simultaneously	Vertical	Fundamental
Peak	 Date: 2018-06-26 Site : 03CH11-HY Condition : PEAK_BE(UNIT)_B3 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank

Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Band Edge @ 3m)

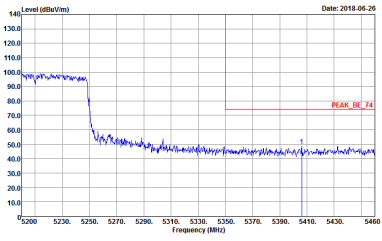
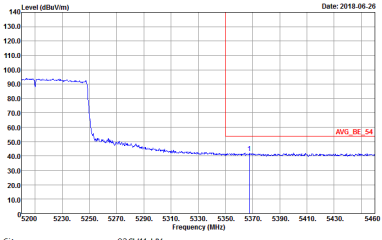
ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH36 5180 MHz Ant 2	
Simultaneously	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 91200-HF HORIZONTAL : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH11-HY Condition : PEAK(FUND) 3m HORN 91200-HF HORIZONTAL : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 91200-HF HORIZONTAL : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto	Left blank

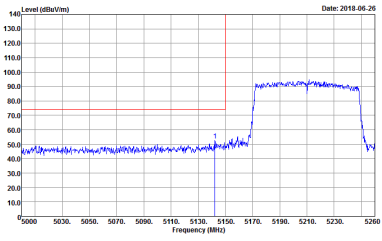
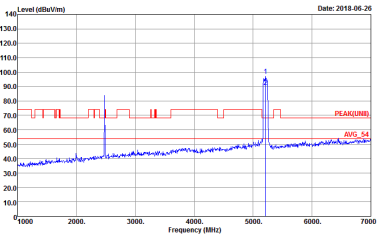
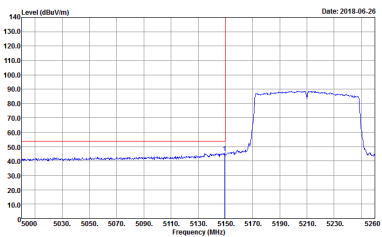
ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH36 5180 MHz Ant 2	
Simultaneously	Vertical	Fundamental
Peak	 Site Condition : 03CH11-HY : PEAK_BE_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site Condition : 03CH11-HY : PEAK(UNIT) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
	 Site Condition : 03CH11-HY : AVG_BE_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank

Bluetooth LE (2Mbps) and WIFI 802.11ac VHT80 (Band Edge @ 3m)

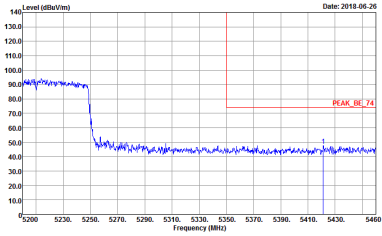
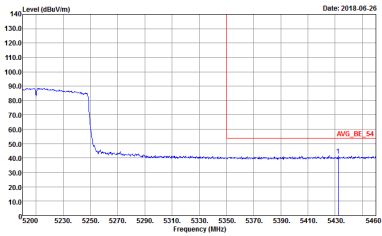
ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11ac VHT80 CH42 5210 MHz Ant 2	
Simultaneously	Horizontal	Fundamental
Peak		
Avg.		Left blank



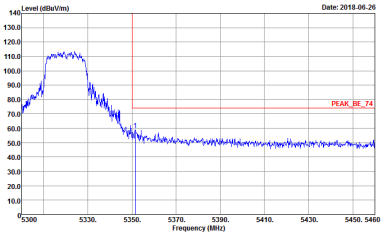
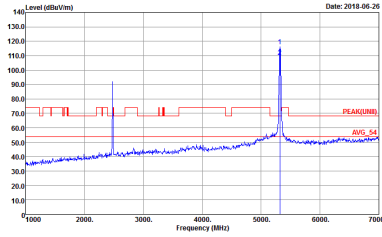
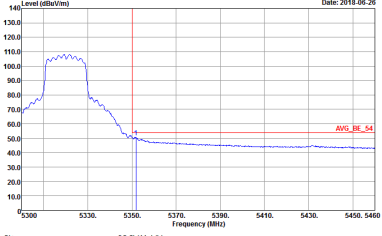
ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11ac VHT80 CH42 5210 MHz Ant 2	
Simultaneously	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 91200-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 91200-HF HORIZONTAL : RBW:1000.000KHz VBW:30.000KHz SWT:Auto	Left blank

ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11ac VHT80 CH42 5210 MHz Ant 2	
Simultaneously	Vertical	Fundamental
Peak	 Site Condition : 03CH11-HY : PEAK_BE_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site Condition : 03CH11-HY : PEAK(UNIT) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
	 Site Condition : 03CH11-HY : AVG_BE_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:30.000KHz SWT:Auto	Left blank

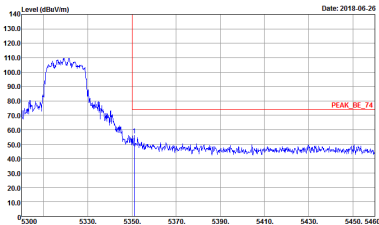
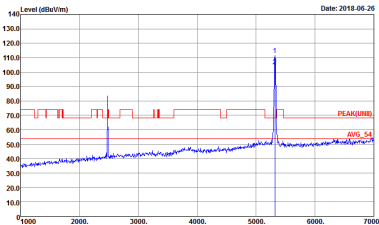
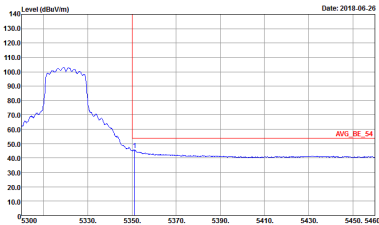


ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11ac VHT80 CH42 5210 MHz Ant 2	
Simultaneously	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 91200-HF VERTICAL : RBW:1000.000KHz VBW:30.000KHz SWT:Auto	Left blank

Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Band Edge @ 3m)

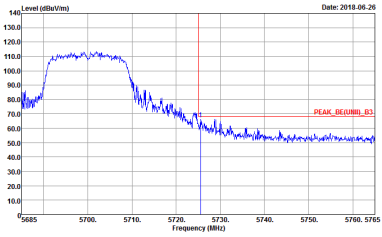
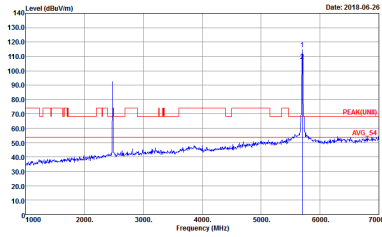
ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH64 5320 MHz Ant 1+2	
Simultaneously	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH11-HY Condition : PEAK(FUND) 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto	Left blank



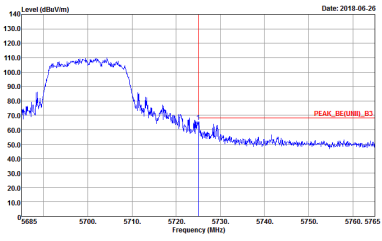
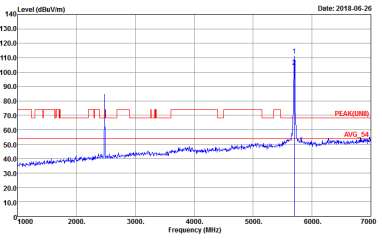
ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH64 5320 MHz Ant 1+2	
Simultaneously	Vertical	Fundamental
Peak	 Site Condition : 03CH11-HY : PEAK_BE_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site Condition : 03CH11-HY : PEAK(UNIT) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site Condition : 03CH11-HY : AVG_BE_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank



Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Band Edge @ 3m)

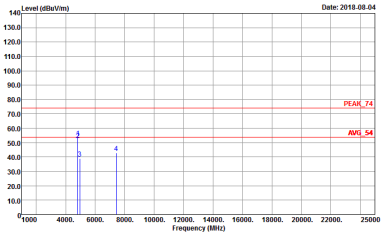
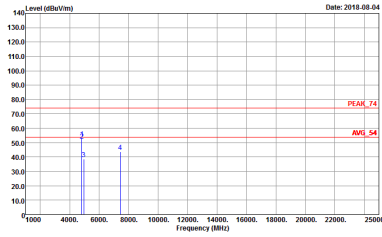
ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH140 5700 MHz Ant 1+2	
Simultaneously	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE(UNIT)_83 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH11-HY Condition : PEAK(UNIT) 3m HORN 9120D-HF HORIZONTAL : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto



ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH140 5700 MHz Ant 1+2	
Simultaneously	Vertical	Fundamental
Peak	 Site Condition : 03CH11-HY : PEAK_BE(UNIT)_B3 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site Condition : 03CH11-HY : PEAK(UNIT)_B3 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto



Bluetooth LE (2Mbps) and WIFI 802.11b (Harmonic @ 3m)

ANT	BLE (2M) CH39 2480 MHz Ant 2 + 802.11b CH01 2412 MHz Ant 1	
Simultaneously	Horizontal	Vertical
Peak Avg.	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : Peak

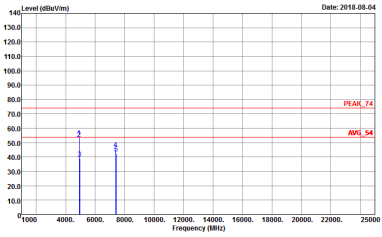
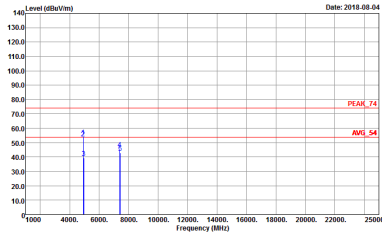


Bluetooth LE (2Mbps) and WIFI 802.11b (Harmonic @ 3m)

ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11b CH06 2437 MHz Ant 1	
Simultaneously	Horizontal	Vertical
Peak Avg.	Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak	Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : Peak



Bluetooth LE (2Mbps) and WIFI 802.11b (Harmonic @ 3m)

ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11b CH11 2462 MHz Ant 1	
Simultaneously	Horizontal	Vertical
Peak Avg.	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : Peak

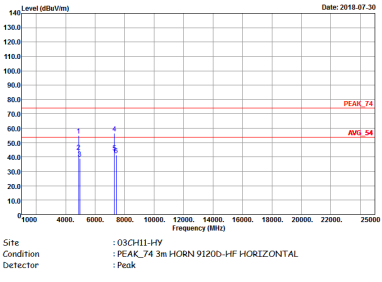
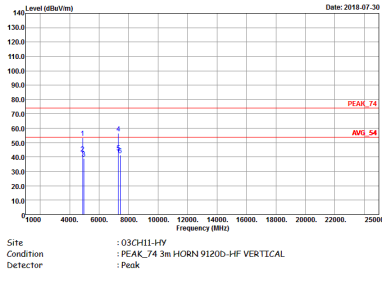


Bluetooth LE (2Mbps) and WIFI 802.11g (Harmonic @ 3m)

ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11g CH01 2412 MHz Ant 1	
Simultaneously	Horizontal	Vertical
Peak	Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : Peak	Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : Peak

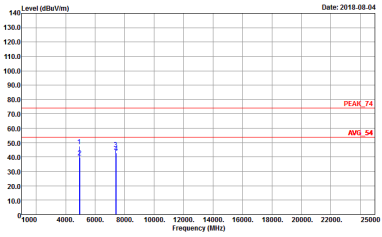
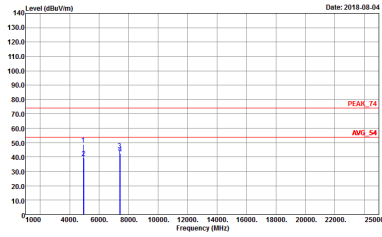


Bluetooth LE (2Mbps) and WIFI 802.11g (Harmonic @ 3m)

ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11g CH06 2437 MHz Ant 1	
Simultaneously	Horizontal	Vertical
Peak Avg.	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : Peak



Bluetooth LE (2Mbps) and WIFI 802.11g (Harmonic @ 3m)

ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11g CH11 2462 MHz Ant 1	
Simultaneously	Horizontal	Vertical
Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : Peak



Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Harmonic @ 3m)

ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH01 2412 MHz Ant 1	
Simultaneously	Horizontal	Vertical
Peak	Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak	Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : Peak

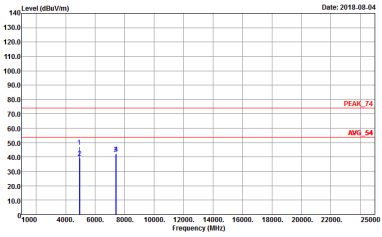
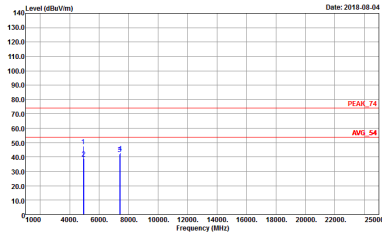


Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Harmonic @ 3m)

ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH06 2437 MHz Ant 1	
Simultaneously	Horizontal	Vertical
Peak Avg.	Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak	Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : Peak

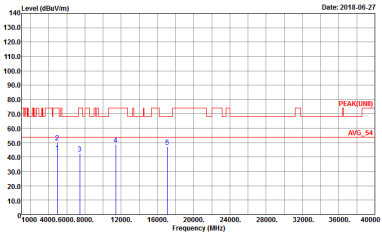
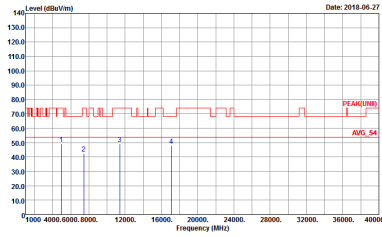


Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Harmonic @ 3m)

ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH11 2462 MHz Ant 1	
Simultaneously	Horizontal	Vertical
Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : Peak

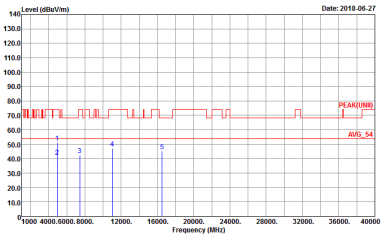
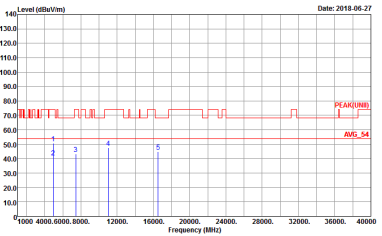


Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Harmonic @ 3m)

ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH140 5700 MHz Ant 1	
Simultaneously	Horizontal	Vertical
Peak Avg.	 Site Condition : 03CH11-HY : PEAK(UNIT) 3m HORN 91200-HF HORIZONTAL : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto	 Site Condition : 03CH11-HY : PEAK(UNIT) 3m HORN 91200-HF VERTICAL : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto

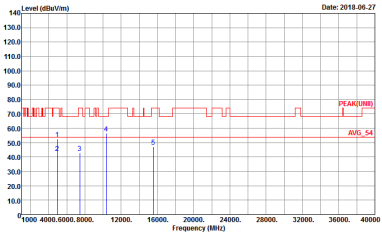
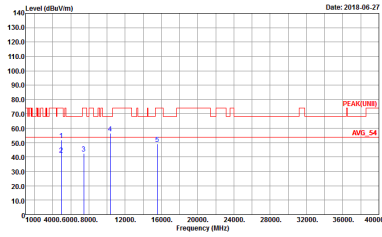


Bluetooth LE (2Mbps) and WIFI 802.11n HT40 (Harmonic @ 3m)

ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT40 CH102 5510 MHz Ant 1	
Simultaneously	Horizontal	Vertical
Peak Avg.	 Site : 03CH11-HY Condition : PEAK(UNIT) 3m HORN 91200-HF HORIZONTAL Detector : Peak	 Site : 03CH11-HY Condition : PEAK(UNIT) 3m HORN 91200-HF VERTICAL Detector : Peak

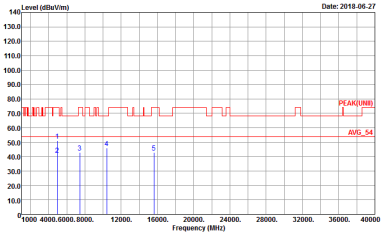
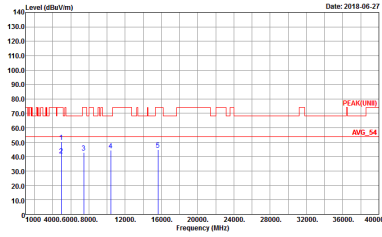


Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Harmonic @ 3m)

ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH36 5180 MHz Ant 2	
Simultaneously	Horizontal	Vertical
Peak Avg.	 Site : 03CH11-HY Condition : PEAK(UNIT) 3m HORN 9120D-HF HORIZONTAL Detector : Peak	 Site : 03CH11-HY Condition : PEAK(UNIT) 3m HORN 9120D-HF VERTICAL Detector : Peak

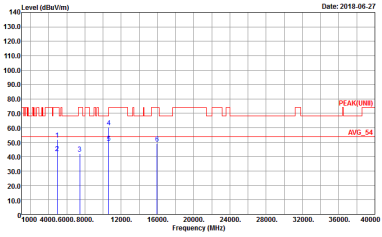
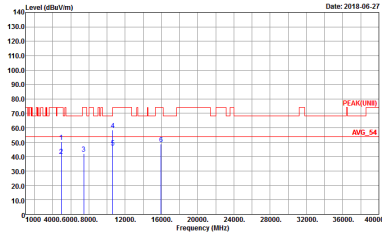


Bluetooth LE (2Mbps) and WIFI 802.11ac VHT80 (Harmonic @ 3m)

ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11ac VHT80 CH42 5210 MHz Ant 2	
Simultaneously	Horizontal	Vertical
Peak Avg.	 Date: 2018-06-27 Site : 03CH11-HY Condition : : PEAK(UNIT) 3m HORN 9120D-HF HORIZONTAL Detector : : Peak	 Date: 2018-06-27 Site : 03CH11-HY Condition : : PEAK(UNIT) 3m HORN 9120D-HF VERTICAL Detector : : Peak

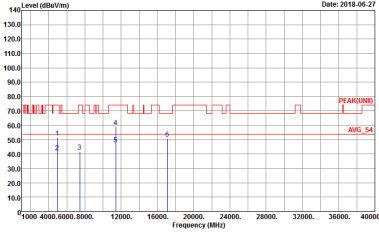
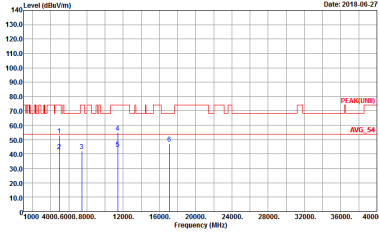


Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Harmonic @ 3m)

ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH64 5320 MHz Ant 1+2	
Simultaneously	Horizontal	Vertical
Peak Avg.	 Site : 03CH11-HY Condition : : PEAK(UNIT) 3m HORN 9120D-HF HORIZONTAL Detector : Peak	 Site : 03CH11-HY Condition : : PEAK(UNIT) 3m HORN 9120D-HF VERTICAL Detector : Peak



Bluetooth LE (2Mbps) and WIFI 802.11n HT20 (Harmonic @ 3m)

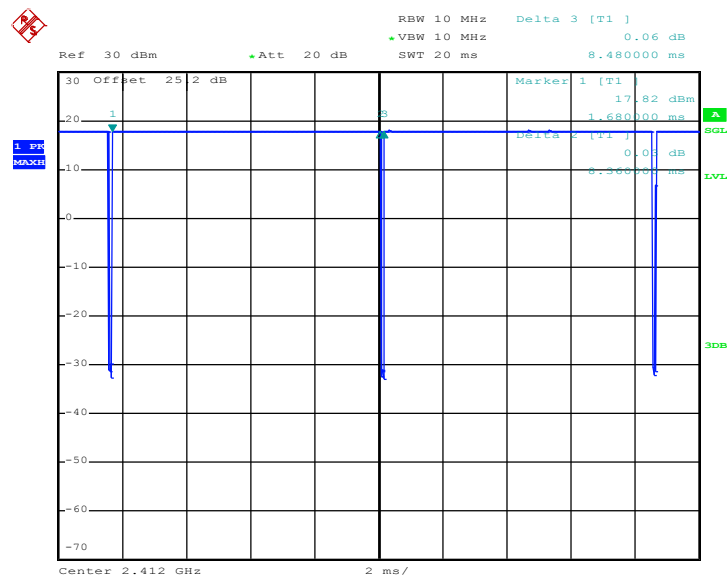
ANT	BLE(2M) CH39 2480 MHz Ant 2 + 802.11n HT20 CH140 5700 MHz Ant 1+2	
Simultaneously	Horizontal	Vertical
Peak Avg.	 Site : 03CH11-HY Condition : PEAK(UNIT) 3m HORN 9120D-HF HORIZONTAL Detector : Peak	 Site : 03CH11-HY Condition : PEAK(UNIT) 3m HORN 9120D-HF VERTICAL Detector : Peak

Appendix D. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting	Duty Factor(dB)
2	Bluetooth - LE for 2 Mbps	56.50	1065	0.94	1kHz	2.48
1	802.11b	98.58	-	-	10Hz	0.06
1	802.11g	92.67	1390.00	0.72	1kHz	0.33
1	2.4GHz 802.11n HT20	92.20	1300.00	0.77	1kHz	0.35
1	5GHz 802.11n HT20	92.20	1300.00	0.77	1kHz	0.35
1	5GHz 802.11n HT40	86.69	645.00	1.55	3kHz	0.62
2	5GHz 802.11n HT20	92.20	1300.00	0.77	1kHz	0.35
2	5GHz 802.11ac VHT80	76.19	320.00	3.13	10kHz	1.18
1+2	5GHz 802.11n HT20	92.20	1300.00	0.77	1kHz	0.35
1+2	5GHz 802.11n HT20	92.17	1295.00	0.77	1kHz	0.35

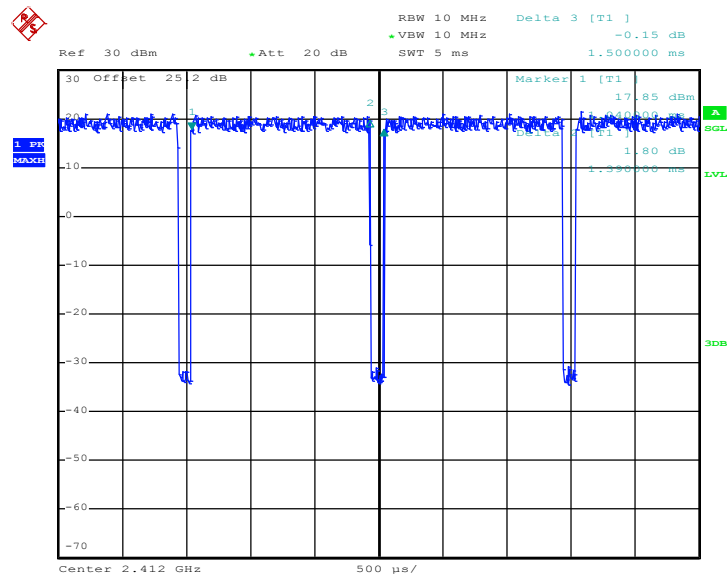
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802.11b



Date: 25.JUN.2018 19:59:11

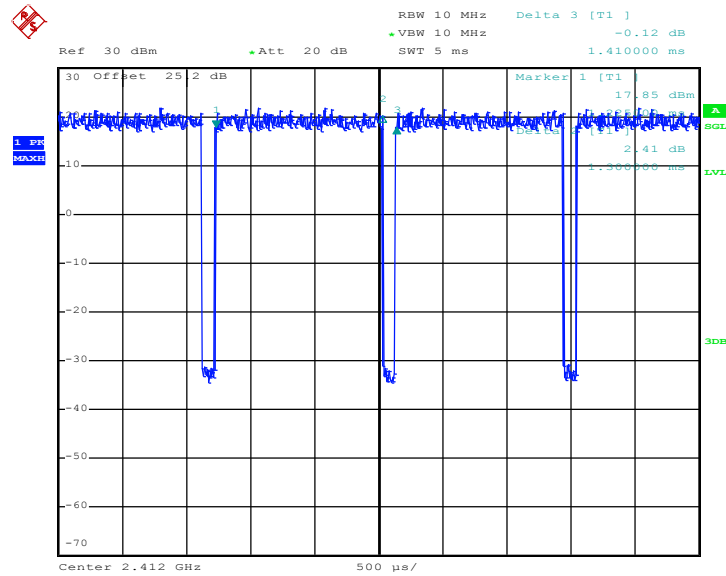
802.11g



Date: 25.JUN.2018 20:02:01

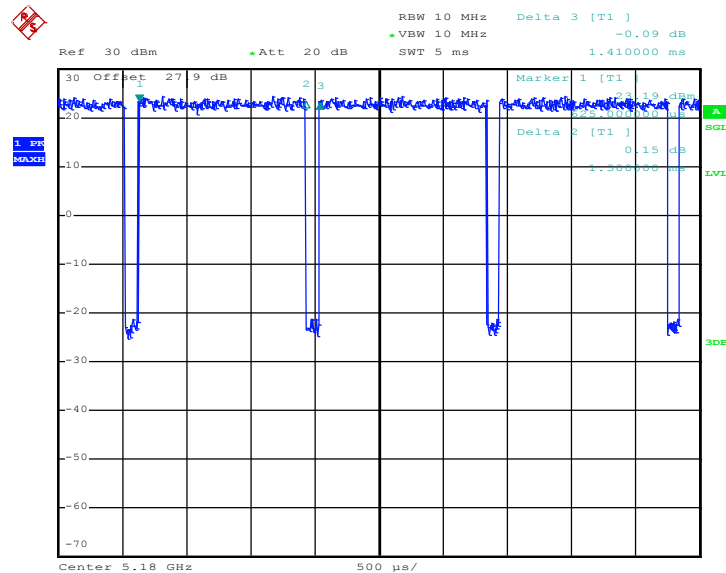


2.4GHz 802.11n HT20



Date: 25.JUN.2018 20:02:42

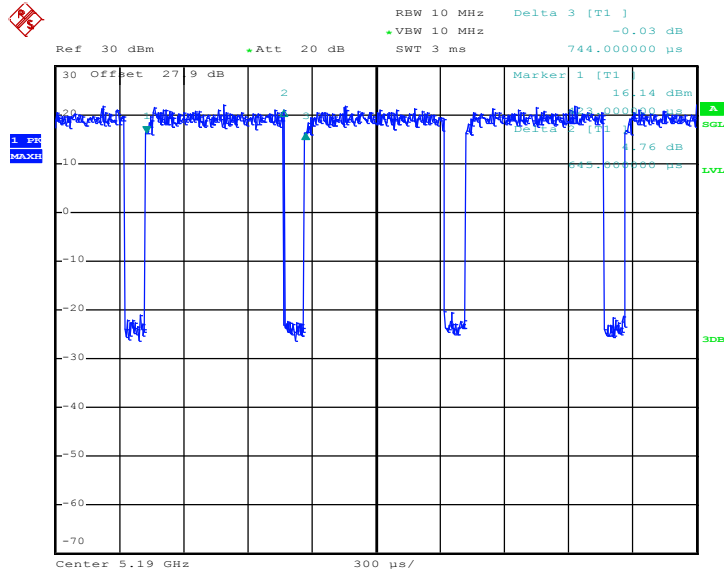
5GHz 802.11n HT20



Date: 26.JUN.2018 02:08:20



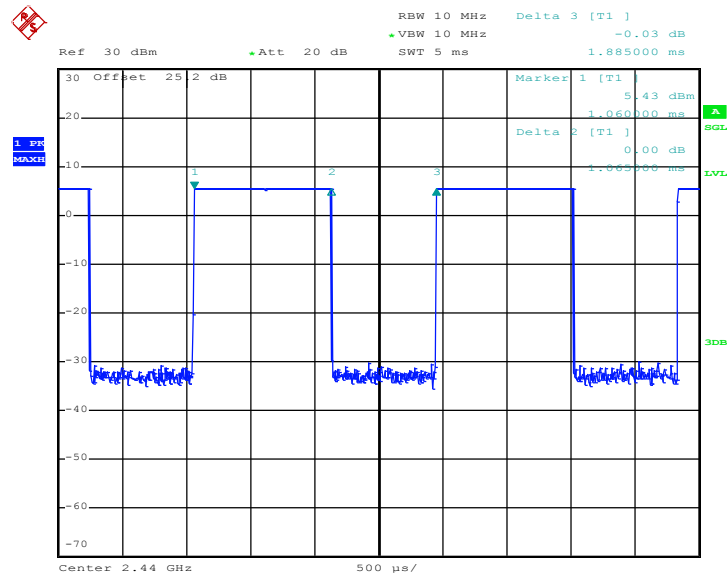
5GHz 802.11n HT40



Date: 26.JUN.2018 05:13:11

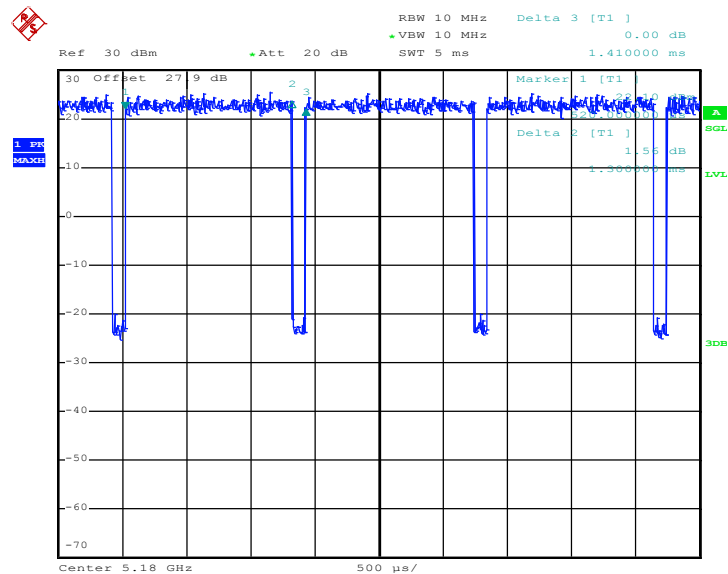
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Bluetooth – LE for 2Mbps



Date: 25.JUN.2018 21:38:03

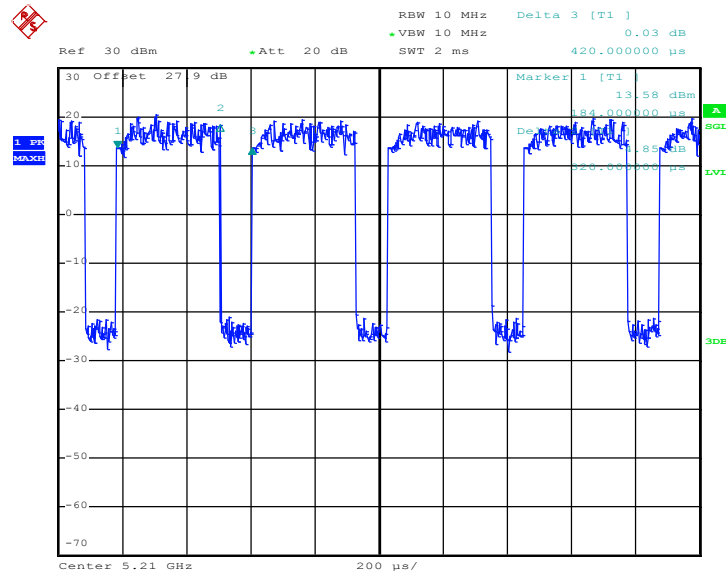
5GHz 802.11n HT20



Date: 26.JUN.2018 02:09:54



5GHz 802.11ac VHT80

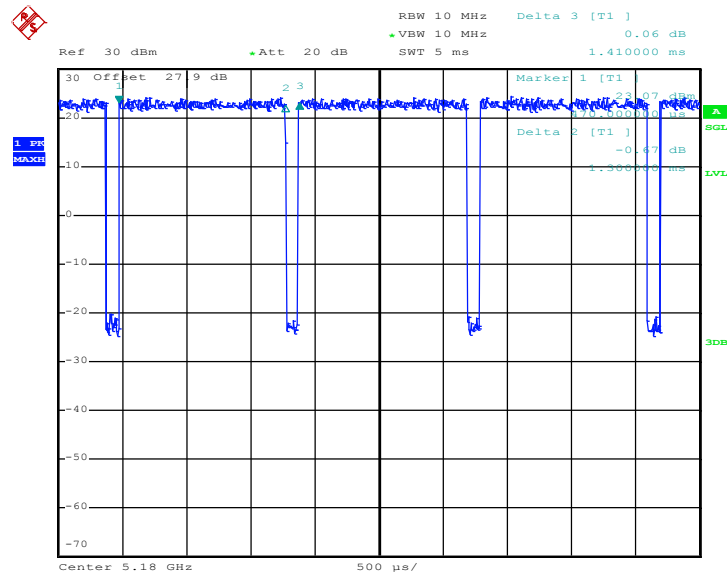


Date: 26.JUN.2018 07:13:28



MIMO<Ant. 1>

5GHz 802.11n HT20

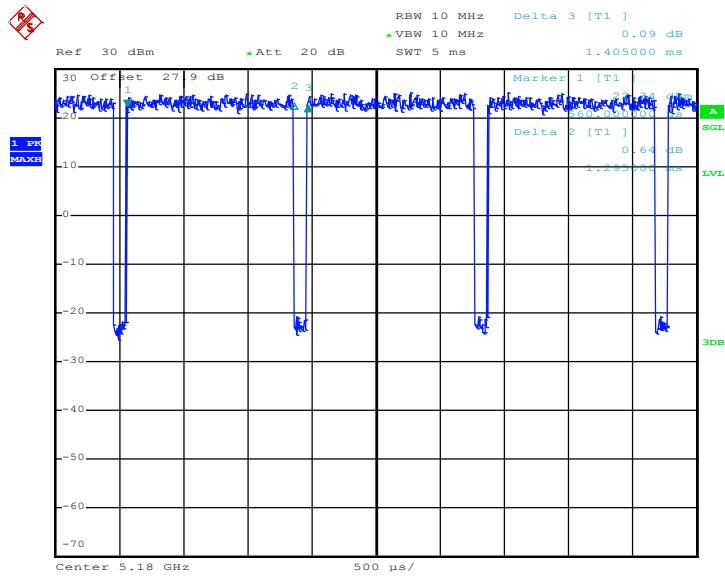


Date: 26.JUN.2018 02:02:23



MIMO<Ant. 2>

802.11n HT20



Date: 26.JUN.2018 02:03:55

————THE END————