



FCC RADIO TEST REPORT

FCC ID : A4RGD1YQ
Equipment : Phone
Model Name : GD1YQ
Applicant : Google LLC
1600 Amphitheatre Parkway,
Mountain View, California, 94043 USA
Standard : FCC Part 15 Subpart C §15.247

The product was received on Apr. 22, 2020 and testing was started from Apr. 29, 2020 and completed on Jul. 07, 2020. We, SPORTON INTERNATIONAL INC., EMC & Wireless Communications Laboratory, 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 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.

Louis Wu

Approved by: Louis Wu

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
FR011718-01C	01	Initial issue of report	Jul. 10, 2020

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.247(a)(2)	6dB Bandwidth	Pass	-
3.1	2.1049	99% Occupied Bandwidth	Reporting only	-
3.2	15.247(b)	Power Output Measurement	Pass	-
3.3	15.247(e)	Power Spectral Density	Pass	-
3.4	15.247(d)	Conducted Band Edges	Pass	-
		Conducted Spurious Emission	Pass	-
3.5	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	Pass	Under limit 0.86 dB at 2483.520 MHz
3.6	15.207	AC Conducted Emission	Pass	Under limit 8.75 dB at 0.204 MHz
3.7	15.203 & 15.247(b)	Antenna Requirement	Pass	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

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

Reviewed by: Wii Chang

Report Producer: Lucy Wu



1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Phone
Model Name	GD1YQ
FCC ID	A4RGD1YQ
EUT supports Radios application	CDMA/EV-DO/GSM/EGPRS/WCDM/HSPA/LTE/5G NR /NFC/GNSS/WPC/WPT WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE

Remark: The above EUT's information was declared by manufacturer.

EUT Information List	
S/N	Performed Test Item
06021FDD40012C	Conducted Measurement
03281FDD4000BB	Radiated Spurious Emission
03311FDD40001W	Conducted Emission

1.2 Product Specification of Equipment Under Test

Standards-related Product Specification												
Tx/Rx Channel Frequency Range		2412 MHz ~ 2472 MHz										
Maximum (Average) Output Power to antenna		<Ant. 4> 802.11b : 22.90 dBm (0.1950 W) 802.11g : 22.00 dBm (0.1585 W) 802.11n HT20 : 22.20 dBm (0.1660 W) 802.11 ac VHT20 : 22.10 dBm (0.1622 W) <Ant. 3> 802.11b : 22.20 dBm (0.1660 W) 802.11g : 21.20 dBm (0.1318 W) 802.11n HT20 : 21.40 dBm (0.1380 W) 802.11 ac VHT20 : 21.30 dBm (0.1349 W) MIMO <Ant. 4+3> 802.11b : 25.57 dBm (0.3606 W) 802.11g : 24.63 dBm (0.2904 W) 802.11n HT20 : 24.83 dBm (0.3041 W) 802.11 ac VHT20 : 24.73 dBm (0.2972 W)										
99% Occupied Bandwidth		MIMO <Ant. 4> 802.11b : 15.35MHz 802.11g : 19.60MHz 802.11n HT20 : 19.85MHz <MIMO <Ant. 3> 802.11b : 14.85MHz 802.11g : 18.90MHz 802.11n HT20 : 19.70MHz										
Antenna Type / Gain		<Ant. 4> ILA Antenna type with gain -2.20 dBi <Ant. 3> Loop Antenna type with gain -2.40 dBi										
Type of Modulation		802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)										
Antenna Function for Transmitter		<table><tr><td></td><td>Ant. 4</td><td>Ant. 3</td></tr><tr><td>802.11 b/g/n/ac</td><td>V</td><td>V</td></tr><tr><td>802.11 b/g/n/ac MIMO</td><td>V</td><td>V</td></tr></table>			Ant. 4	Ant. 3	802.11 b/g/n/ac	V	V	802.11 b/g/n/ac MIMO	V	V
	Ant. 4	Ant. 3										
802.11 b/g/n/ac	V	V										
802.11 b/g/n/ac MIMO	V	V										

Note: MIMO Ant. 4+3 is a calculated result from sum of the power MIMO Ant. 4 and MIMO Ant. 3.

1.3 Modification of EUT

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



1.4 Testing Location

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory	
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	CO05-HY

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

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory	
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.

FCC designation No.: TW1190 and TW0007

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 C §15.247
- ♦ FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v05r02
- ♦ FCC KDB 414788 D01 Radiated Test Site v01r01.
- ♦ FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ♦ ANSI C63.10-2013

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. The TAF code is not including all the FCC KDB listed without accreditation.



2 Test Configuration of Equipment Under Test

- a. 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: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z and Accessory (Adapter or Earphone). The worst cases (Z plane with Adapter and WPC Mode) were recorded in this report.
- b. AC power line Conducted Emission was tested under maximum output power.

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
2400-2483.5 MHz	1	2412	8	2447
	2	2417	9	2452
	3	2422	10	2457
	4	2427	11	2462
	5	2432	12	2467
	6	2437	13	2472
	7	2442		

2.2 Test Mode

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

Modulation	Data Rate
802.11b	1 Mbps
802.11g	6 Mbps
802.11n HT20	MCS0
802.11ac VHT20 (Covered by HT20)	MCS0

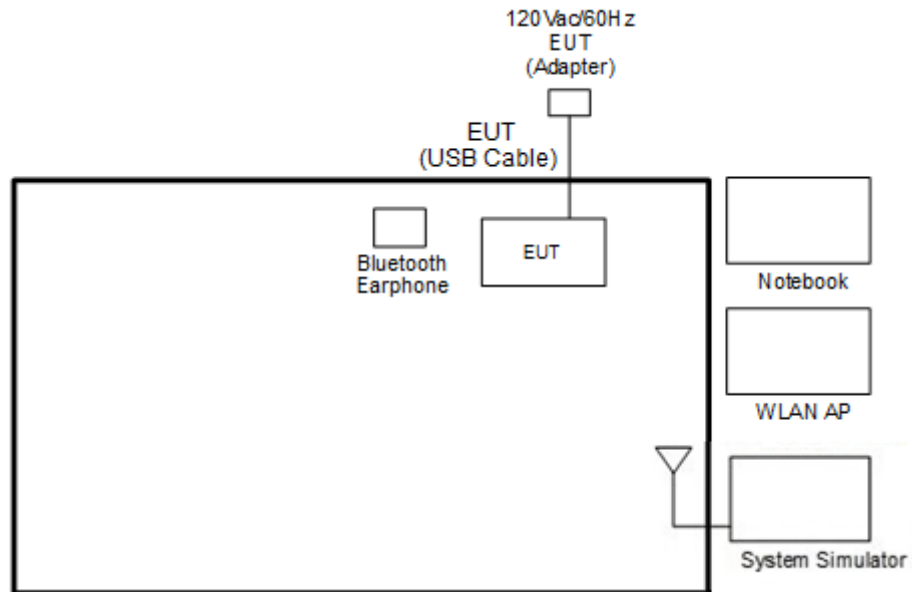
Test Cases	
AC Conducted Emission	Mode 1 : GSM850 Idle + WLAN (2.4GHz) Link + Bluetooth Link + USB Cable (Charging from Adapter 2)
Remark: For Radiated Test Cases, the tests were performed with Adapter 2.	

Ch. #	2400-2483.5 MHz		
	802.11b	802.11g	802.11n HT20
Low	01	01	01
Middle	06	06	06
High	11	11	11
	12	12	12
	13	13	13

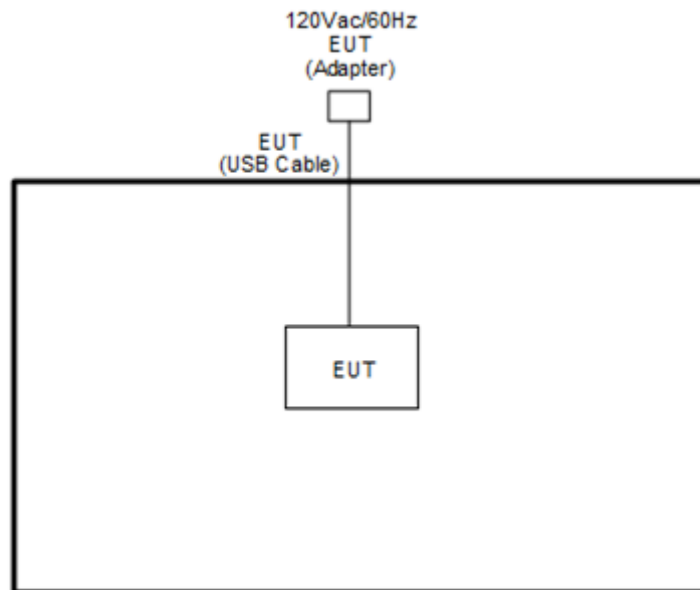
Remark: For radiation spurious emission, the final modulation and the worst data rate was reference the max RF conducted power.

2.3 Connection Diagram of Test System

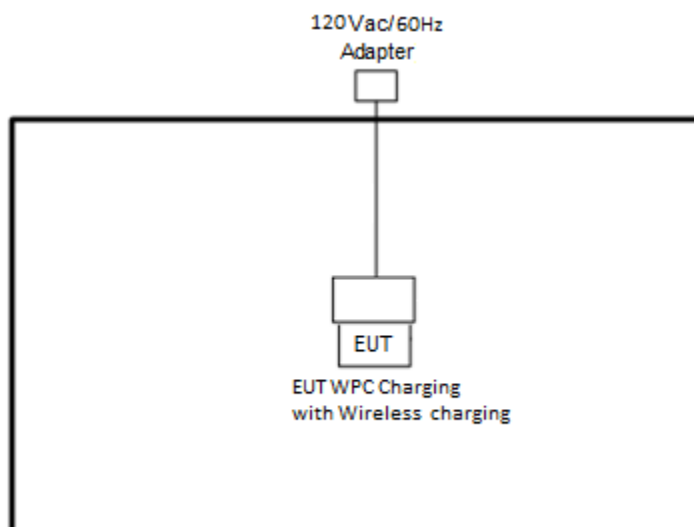
<AC Conducted Emission Mode>



<WLAN TX Mode>



<WPC Mode>



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	Bluetooth Earphone	Google	G1007/ G1008	A4RG1007	N/A	N/A
3.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8 m
4.	Notebook	DELL	Latitude 3400	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
5.	Wireless charging	YU-live	K8	N/A	N/A	N/A



2.5 EUT Operation Test Setup

The RF test items, utility “QRCT V4.0.00153.0” 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.

2.6 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example:

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.2 dB and 10dB attenuator.

$$\begin{aligned}\text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)} \\ &= 4.2 + 10 = 14.2 \text{ (dB)}\end{aligned}$$

3 Test Result

3.1 6dB and 99% Bandwidth Measurement

3.1.1 Limit of 6dB and 99% Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz.

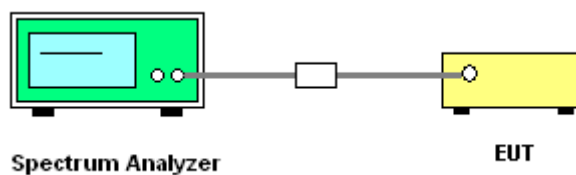
3.1.2 Measuring Instruments

See list of measuring equipment of this test report.

3.1.3 Test Procedures

1. The testing follows the ANSI C63.10 Section 6.9.3 (OBW) and 11.8.1 (6dB BW).
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 kHz.
5. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1-5% of the emission bandwidth and set the Video bandwidth (VBW) $\geq 3 * RBW$.
6. Measure and record the results in the test report.

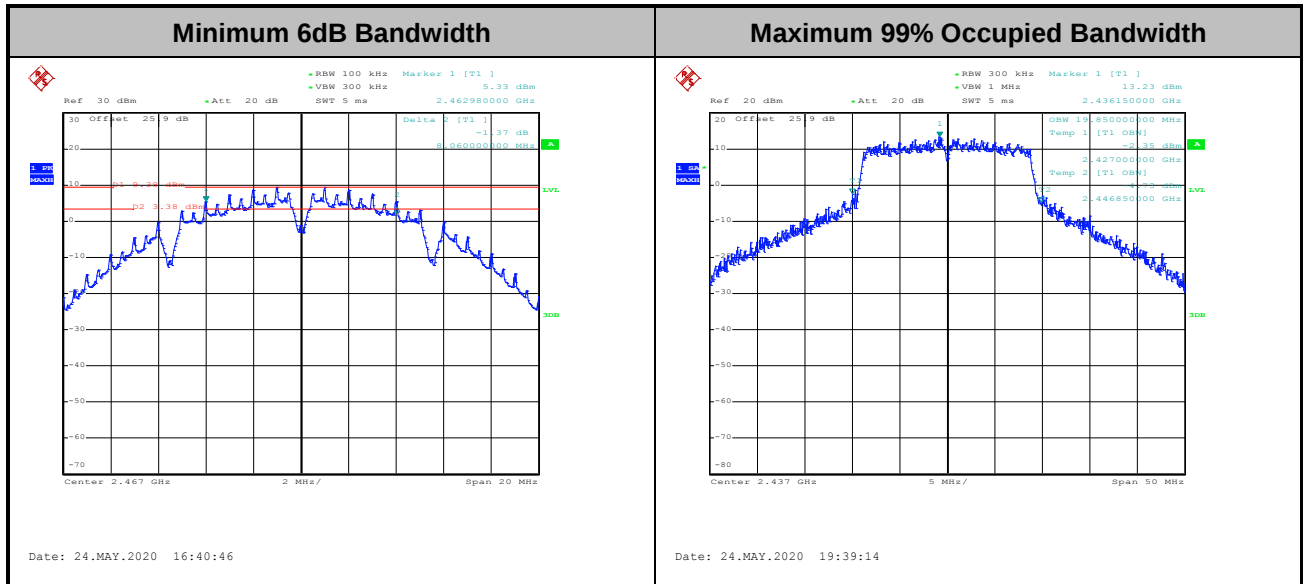
3.1.4 Test Setup





3.1.5 Test Result of 6dB and 99% Occupied Bandwidth

Please refer to Appendix A.



Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

3.2 Output Power Measurement

3.2.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5MHz, the limit for output power is 30dBm. If transmitting antenna with 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.

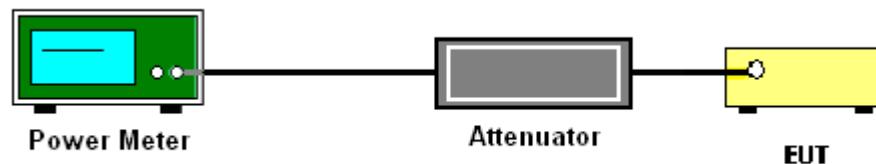
3.2.2 Measuring Instruments

See list of measuring equipment of this test report.

3.2.3 Test Procedures

1. For Average Power, the testing follows ANSI C63.10 Section 11.9.2.3.2 Method AVGPM-G
2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Measure the conducted output power and record the results in the test report.
5. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

3.2.4 Test Setup



3.2.5 Test Result of Average Output Power

Please refer to Appendix A.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

The peak power spectral density shall not be greater than 8dBm in any 3kHz band at any time interval of continuous transmission.

3.3.2 Measuring Instruments

See list of measuring equipment of this test report.

3.3.3 Test Procedures

1. The testing follows the ANSI C63.10 Section 11.10.2 Method PKPSD.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz. Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)
5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.
6. Measure and record the results in the test report.
7. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

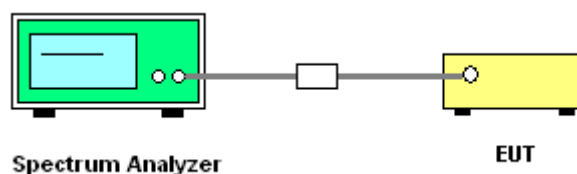
If measurements performed using method (2) plus $10 \log(N)$ exceeds the emission limit, the test should choose method (1) before declaring that the device fails the emission limit.

Method (1): Measure and sum the spectra across the outputs.

The total final Power Spectral Density is from a device with 2 transmitter outputs. The spectrum measurements of the individual outputs are all performed with the same span and number of points, the spectrum value in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 to obtain the value for the first frequency bin of the summed spectrum.

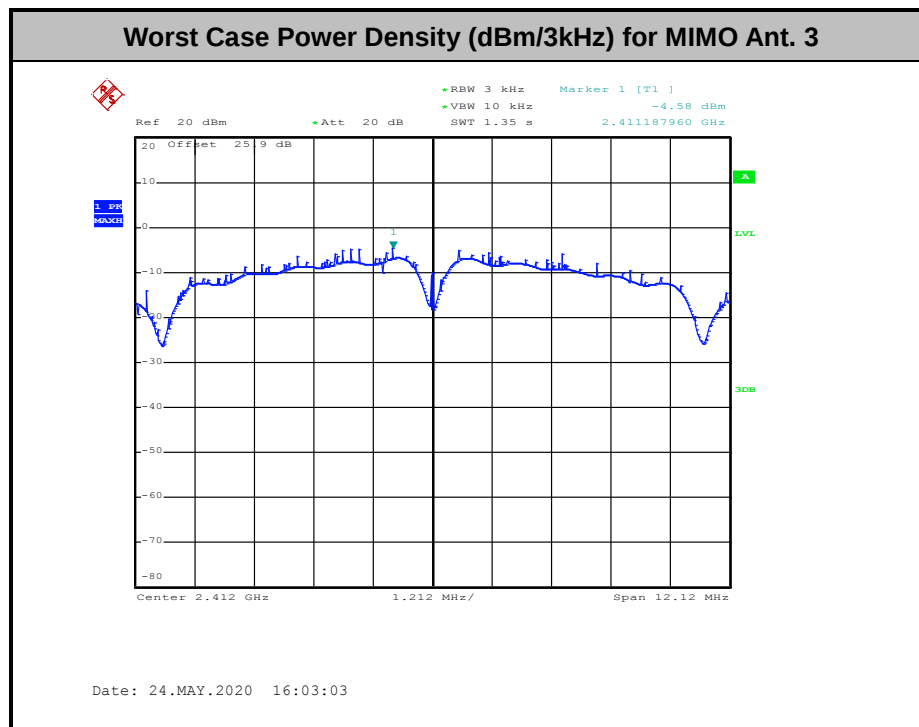
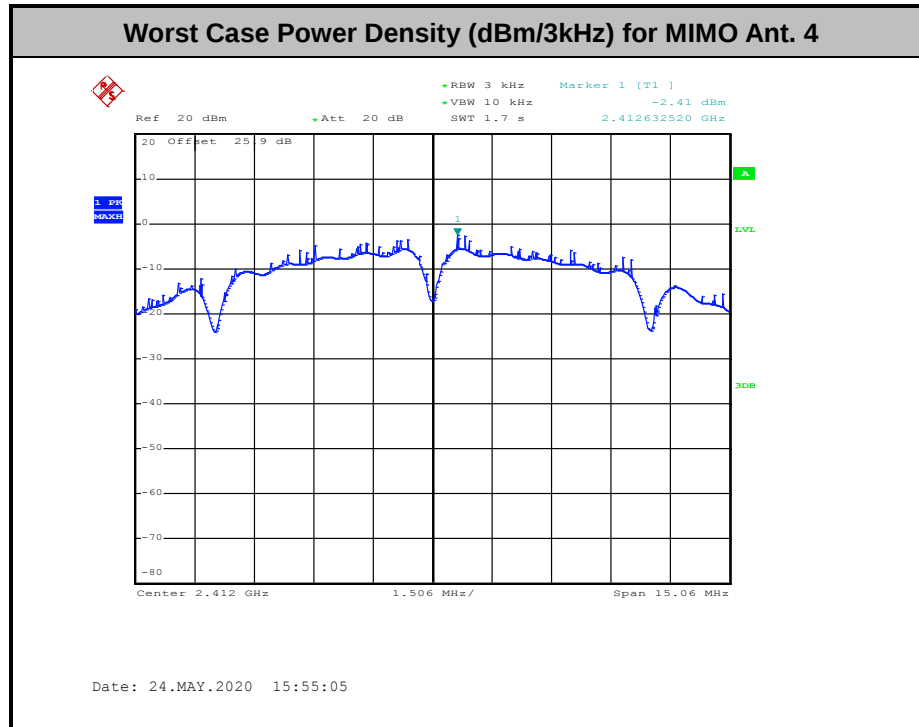
Method (2): Measure and add $10 \log(N)$ dB, where N is the number of outputs. (N=2)

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.



3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

In any 100 kHz bandwidth outside of the authorized frequency band, the emissions which fall in the non-restricted bands shall be attenuated at least 20 dB / 30dB relative to the maximum PSD level in 100 kHz by RF conducted measurement.

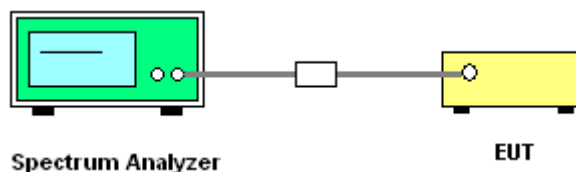
3.4.2 Measuring Instruments

See list of measuring equipment of this test report.

3.4.3 Test Procedures

1. The testing follows the ANSI C63.10 Section 11.11.3 Emission level measurement.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d).
5. Measure and record the results in the test report.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.4.4 Test Setup



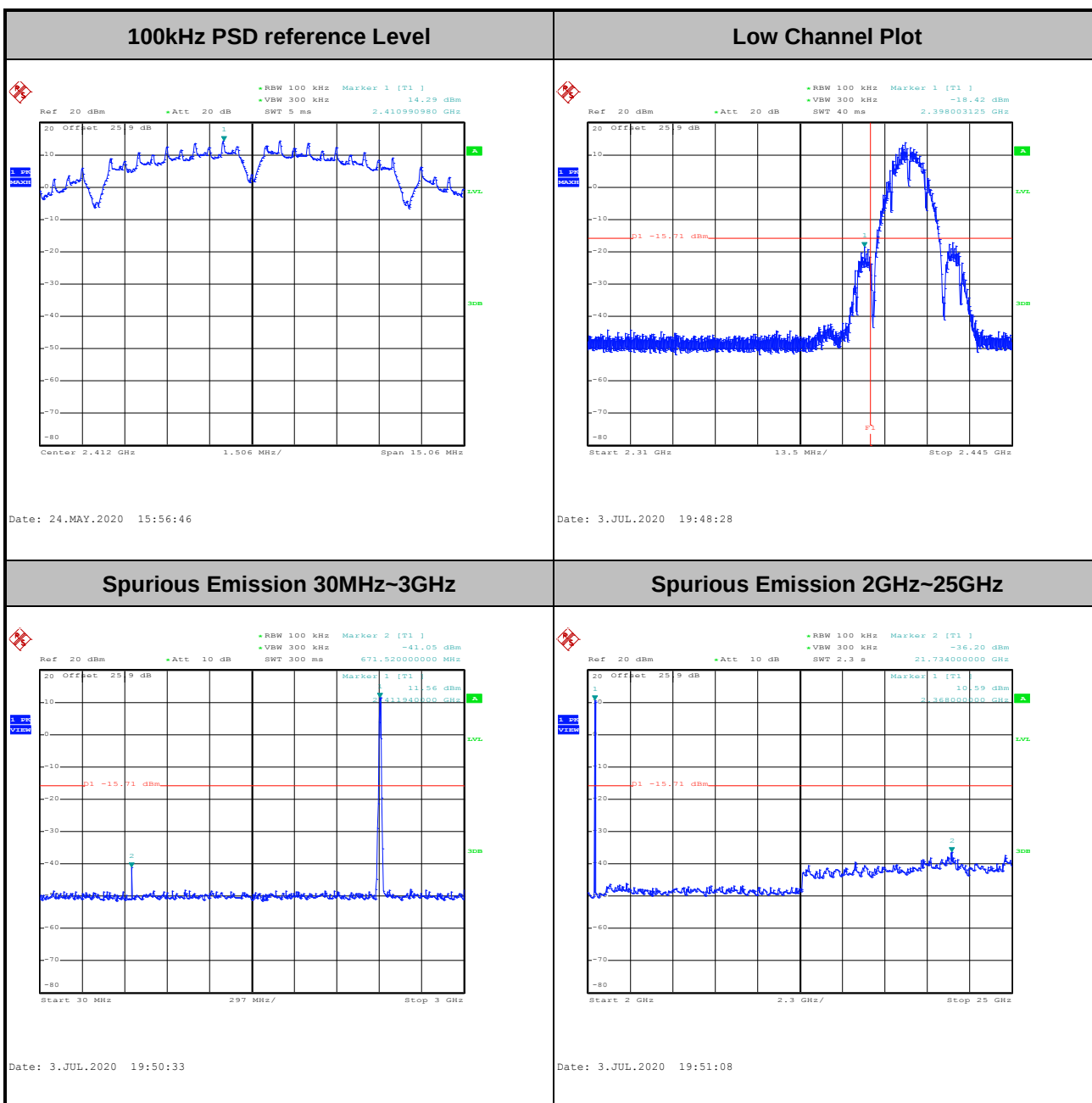


3.4.5 Test Result of Conducted Band Edges and Spurious Emission

Test Engineer :	Hank Hsu	Temperature :	21~25°C
		Relative Humidity :	51~54%

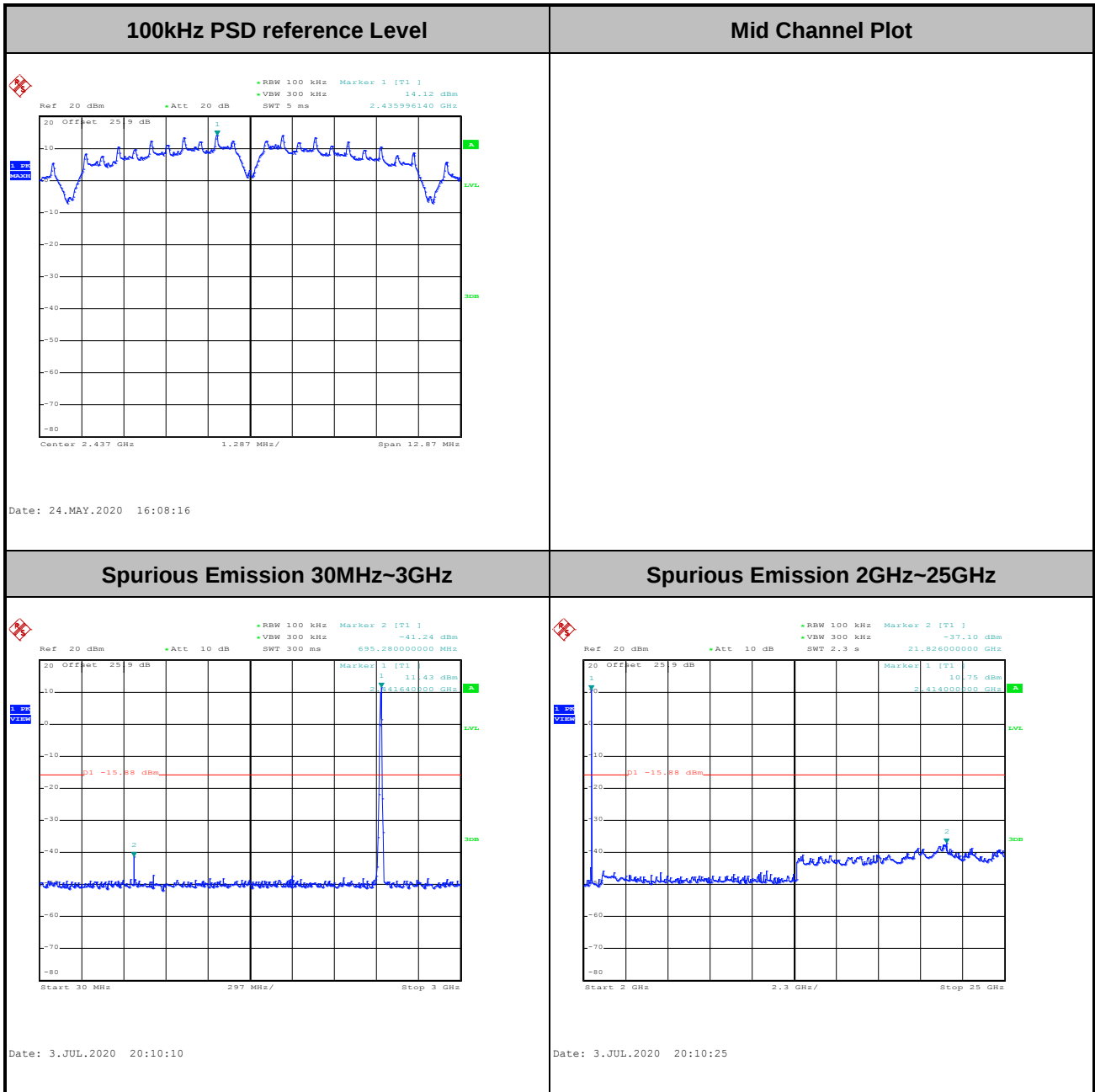
Number of TX = 2, Ant. 4(Measured)

Test Mode :	802.11b	Test Channel :	01
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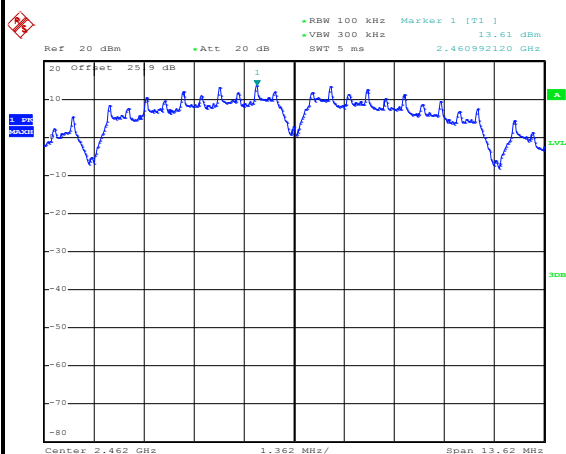
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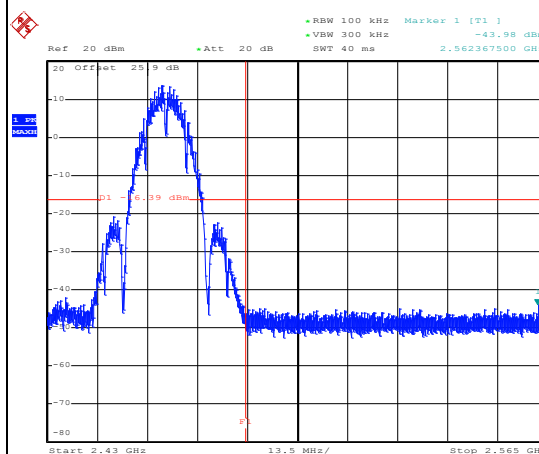
Test Mode :	802.11b	Test Channel :	11
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100kHz PSD reference Level



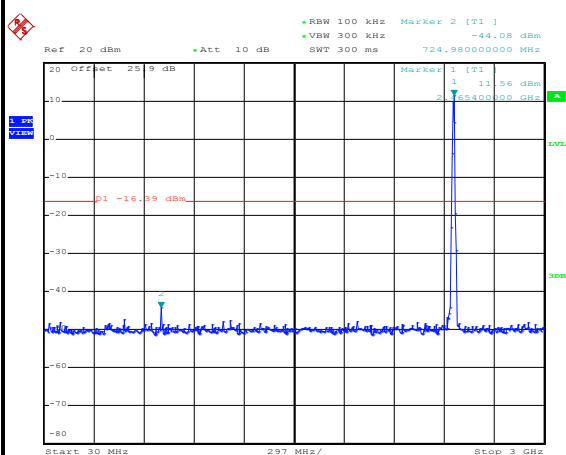
Date: 24.MAY.2020 16:27:47

High Channel Plot



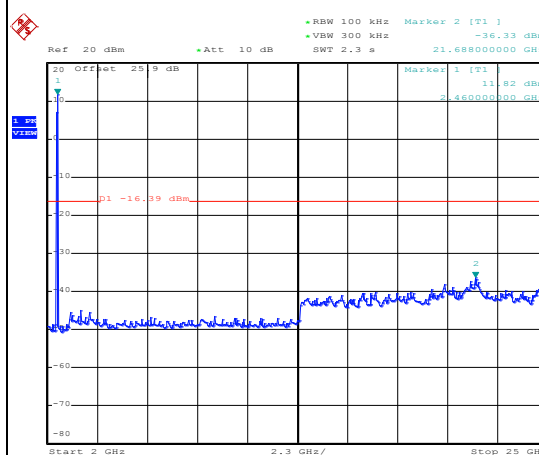
Date: 3.JUL.2020 20:13:48

Spurious Emission 30MHz~3GHz



Date: 3.JUL.2020 20:22:32

Spurious Emission 2GHz~25GHz

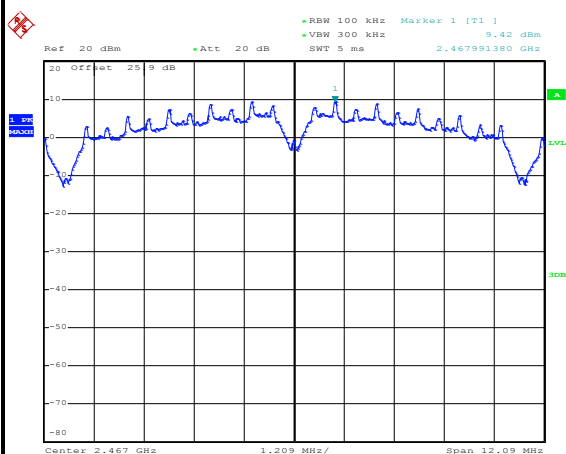


Date: 3.JUL.2020 20:22:48



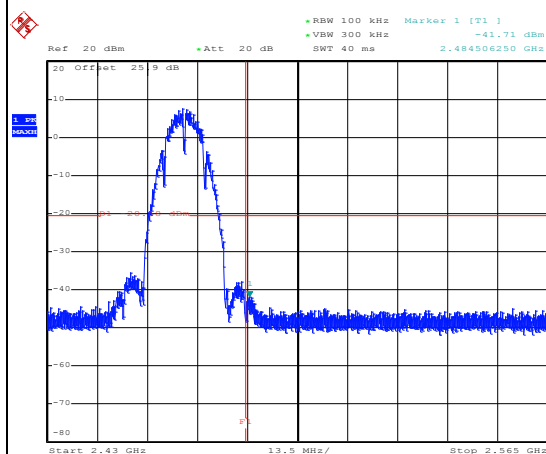
Test Mode :	802.11b	Test Channel :	12
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100kHz PSD reference Level



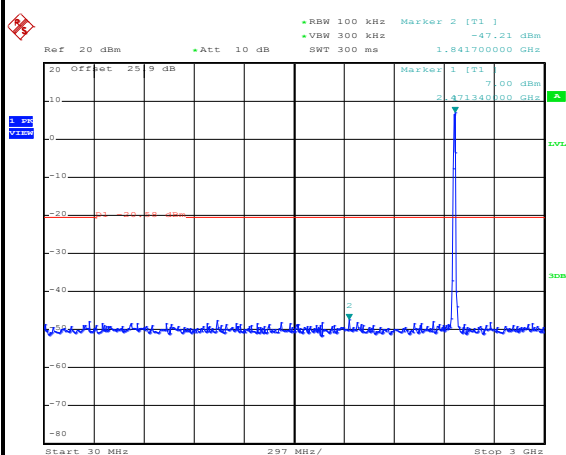
Date: 24.MAY.2020 16:42:17

High Channel Plot



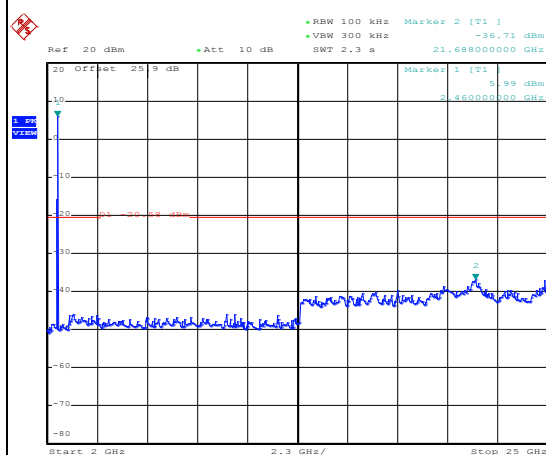
Date: 3.JUL.2020 20:24:47

Spurious Emission 30MHz~3GHz



Date: 3.JUL.2020 20:26:22

Spurious Emission 2GHz~25GHz

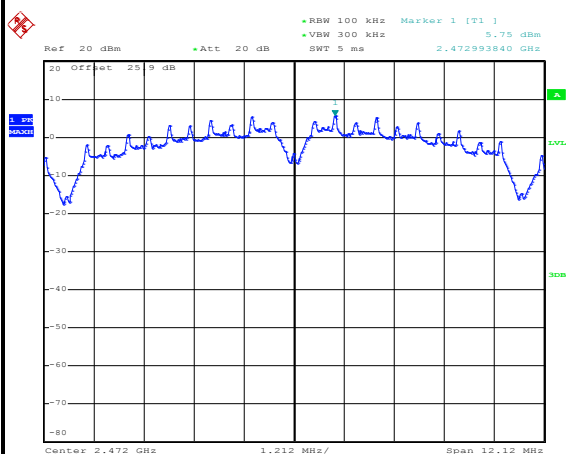


Date: 3.JUL.2020 20:26:38



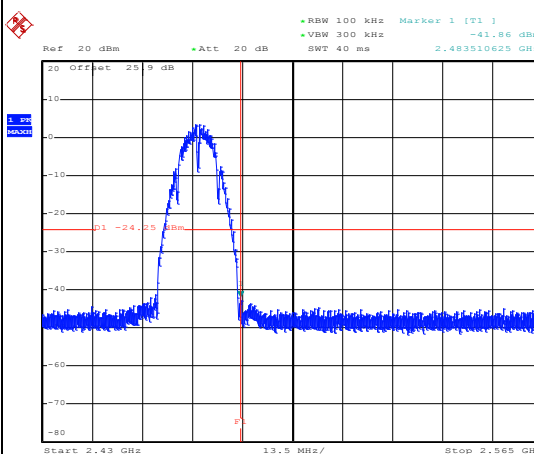
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100kHz PSD reference Level



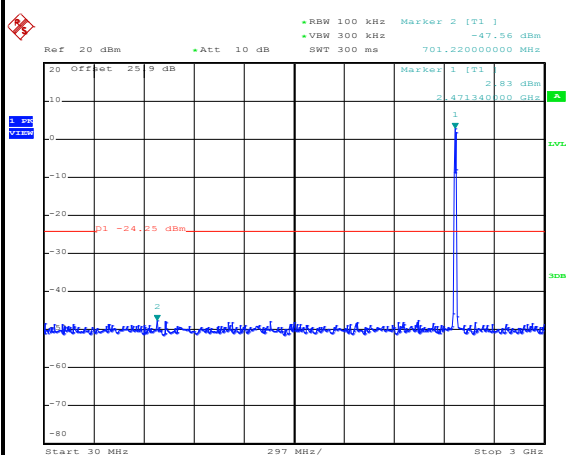
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High Channel Plot



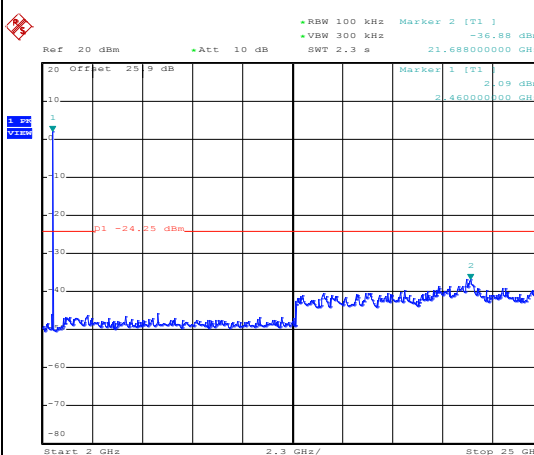
Date: 3.JUL.2020 20:32:45

Spurious Emission 30MHz~3GHz



Date: 3.JUL.2020 20:33:18

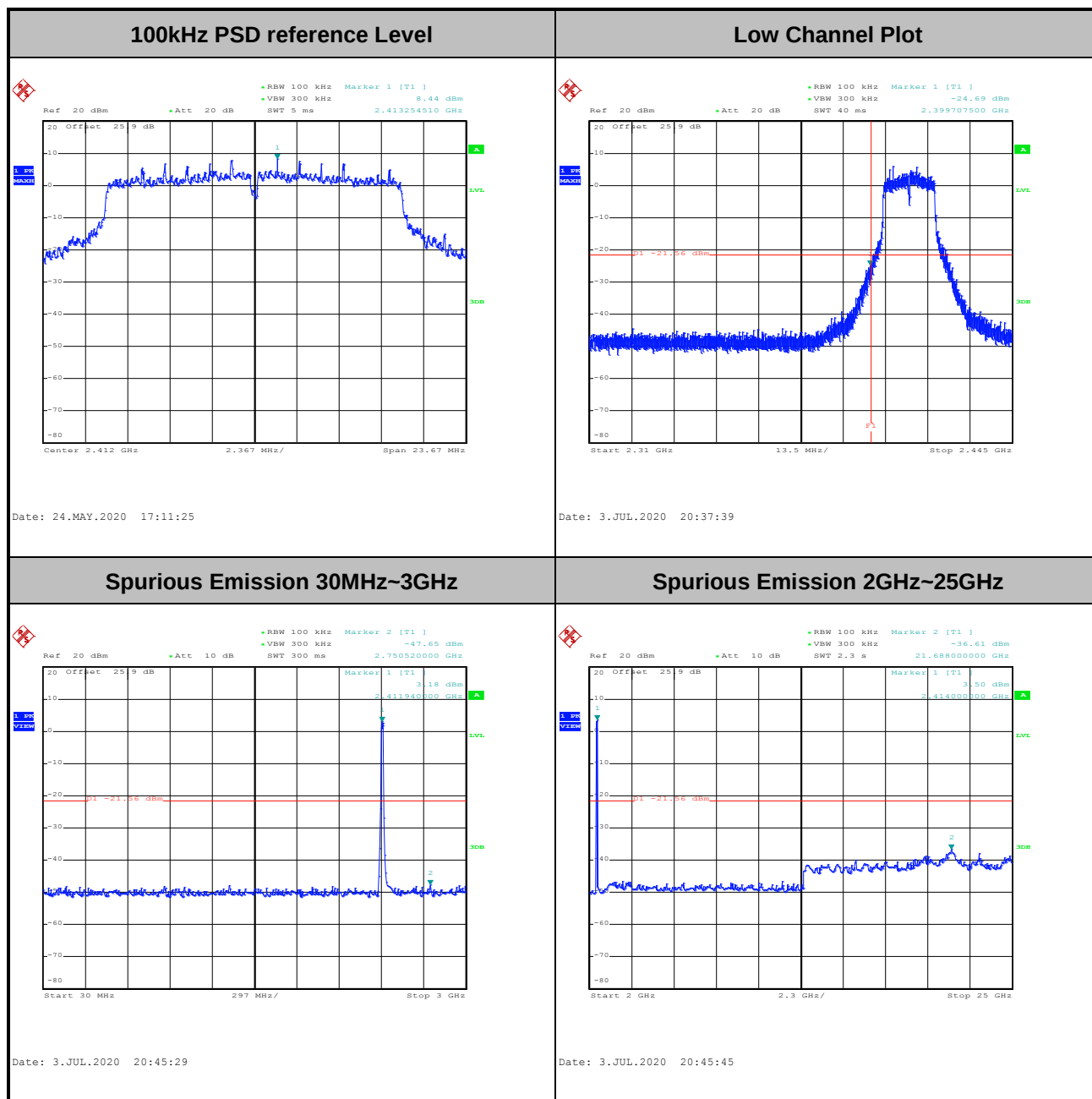
Spurious Emission 2GHz~25GHz



Date: 3.JUL.2020 20:33:36

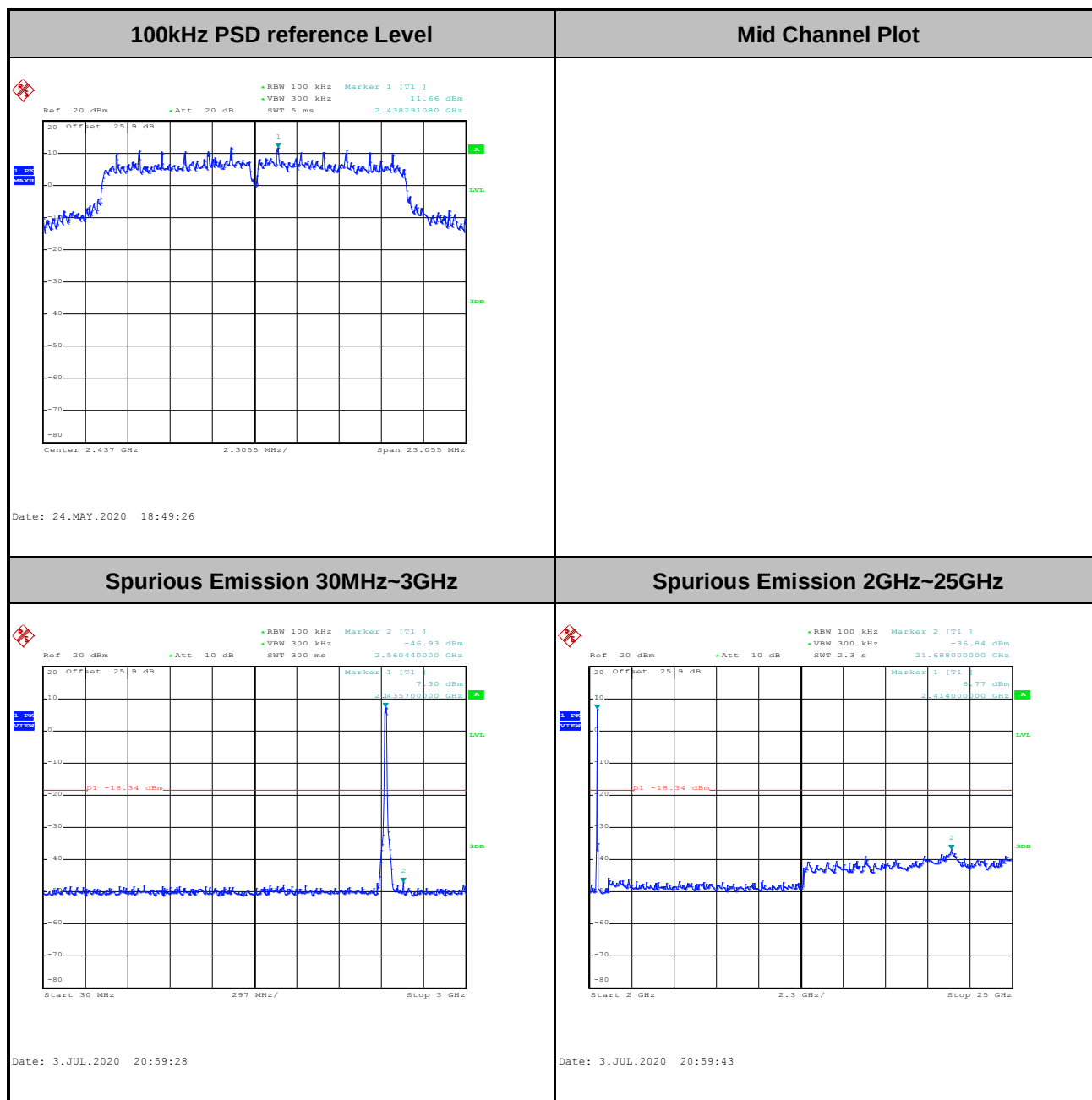


Test Mode :	802.11g	Test Channel :	01
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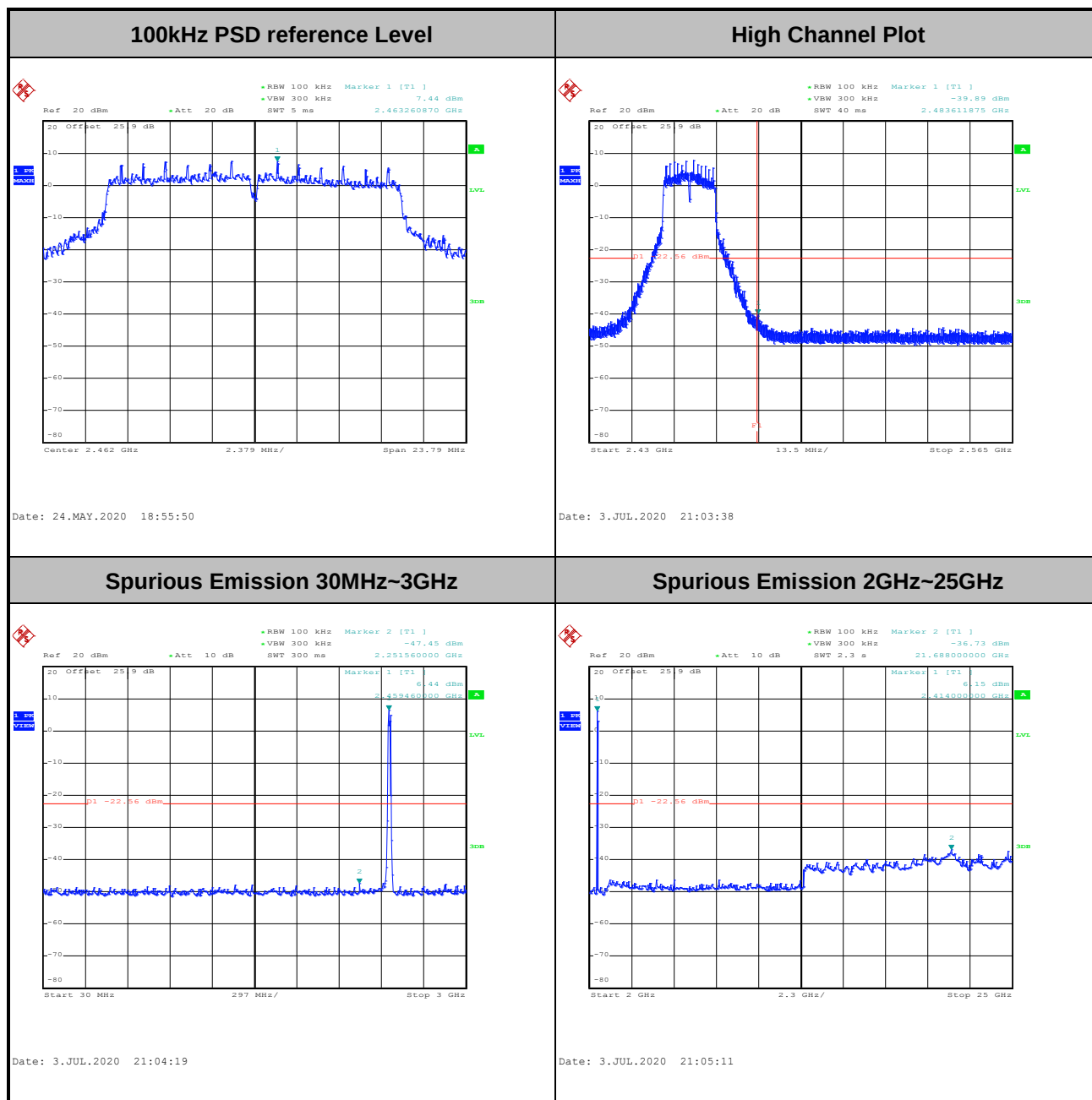


Test Mode :	802.11g	Test Channel :	06
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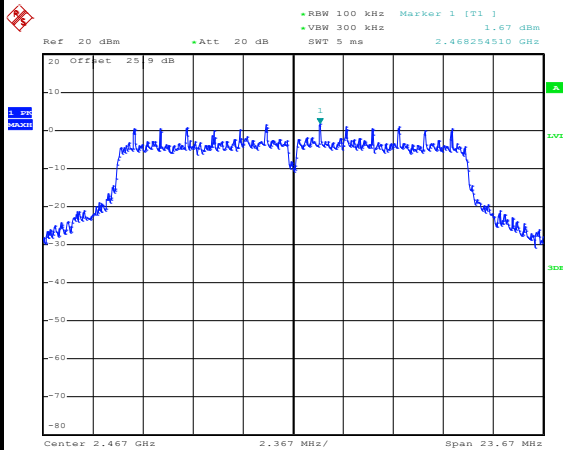
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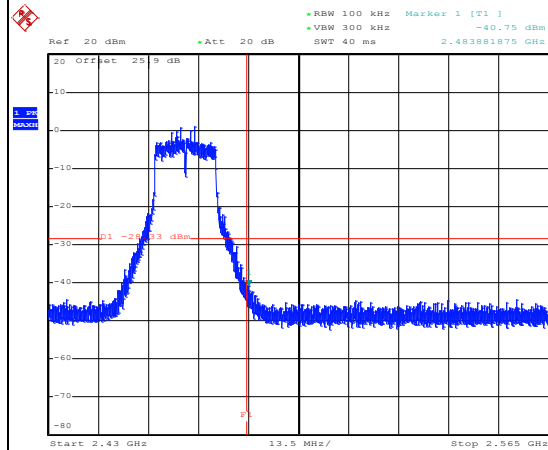
Test Mode :	802.11g	Test Channel :	12
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100kHz PSD reference Level



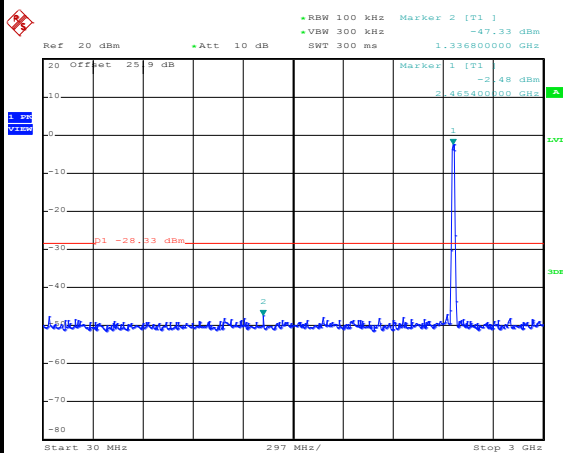
Date: 24.MAY.2020 19:03:13

High Channel Plot



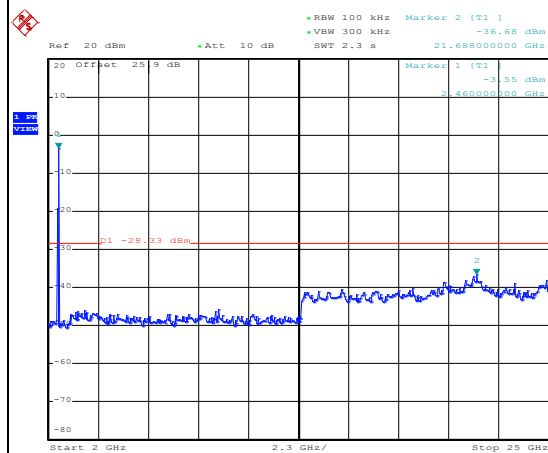
Date: 3.JUL.2020 21:09:40

Spurious Emission 30MHz~3GHz



Date: 3.JUL.2020 21:10:14

Spurious Emission 2GHz~25GHz

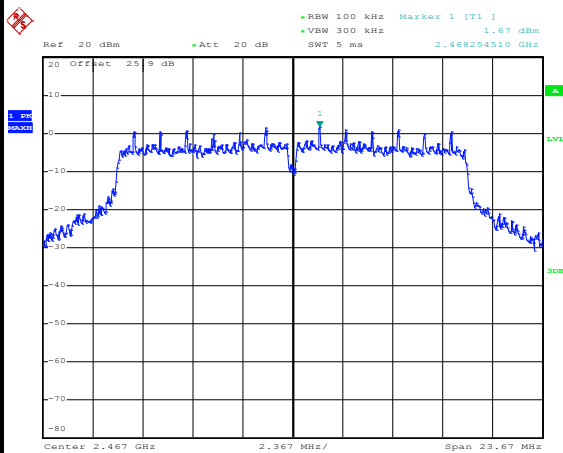


Date: 3.JUL.2020 21:10:31



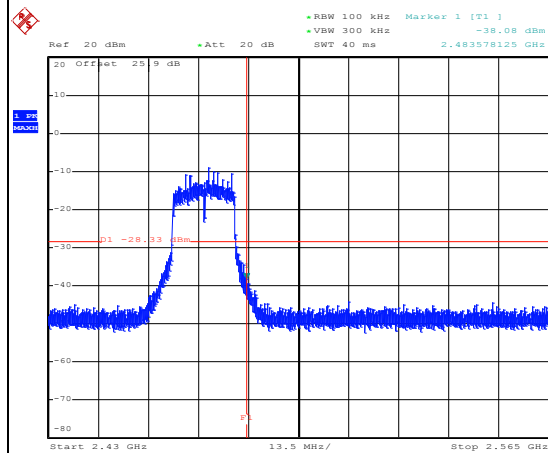
Test Mode :	802.11g	Test Channel :	13
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100kHz PSD reference Level



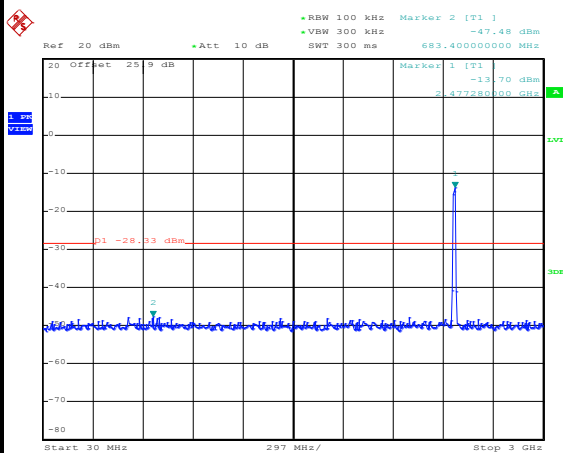
Date: 24.MAY.2020 19:03:13

High Channel Plot



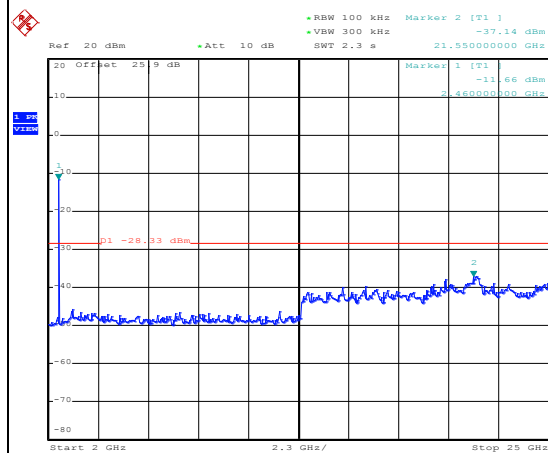
Date: 3.JUL.2020 21:50:37

Spurious Emission 30MHz~3GHz



Date: 3.JUL.2020 21:48:05

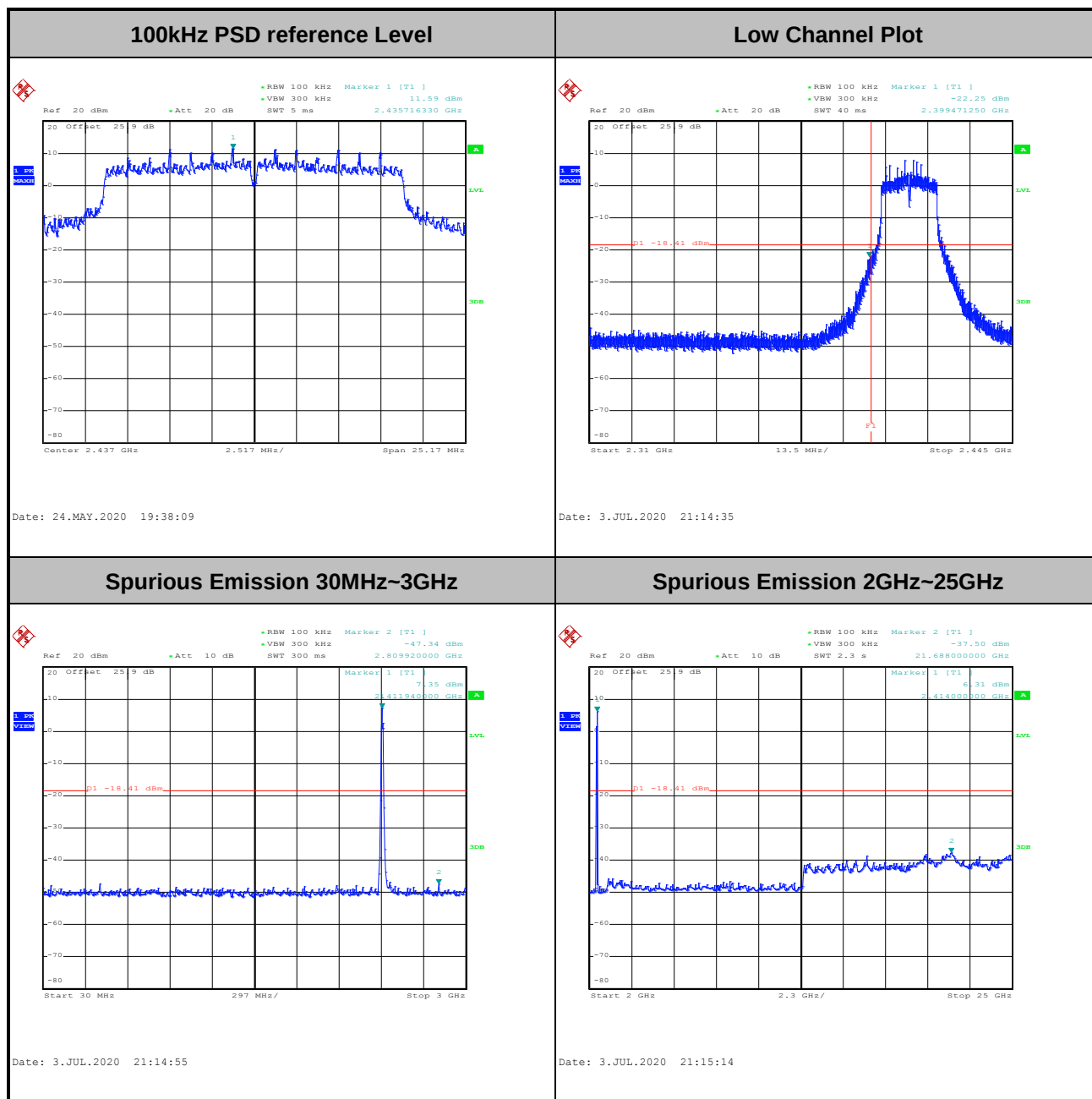
Spurious Emission 2GHz~25GHz



Date: 3.JUL.2020 21:48:30

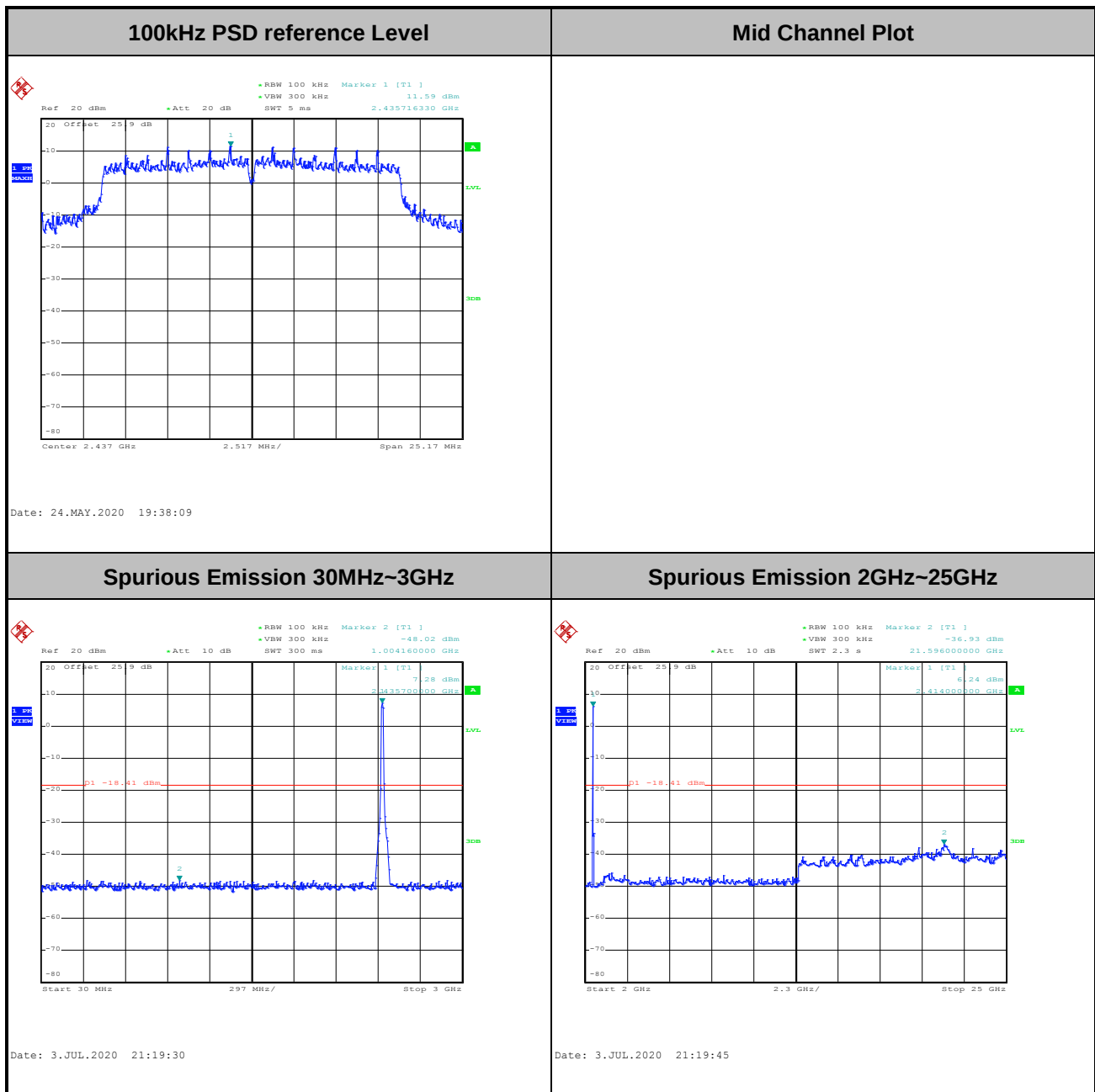


Test Mode :	802.11n HT20	Test Channel :	01
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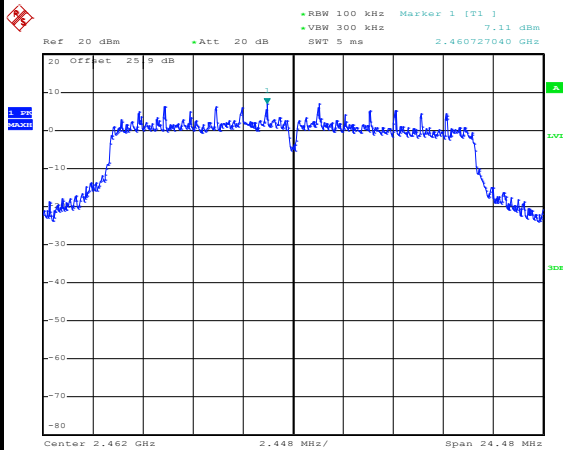


Test Mode :	802.11n HT20	Test Channel :	06
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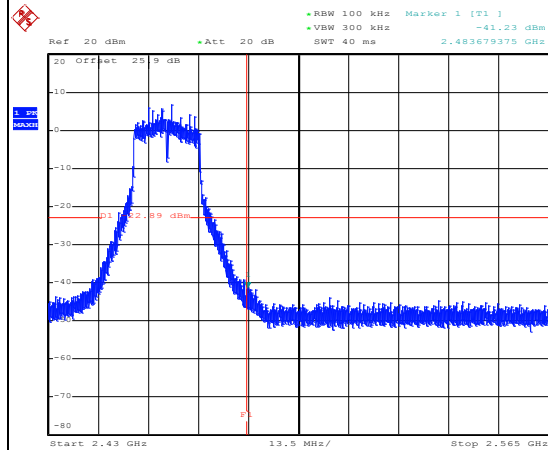




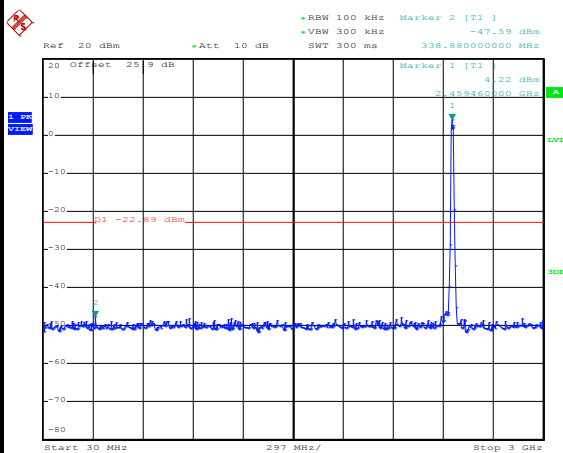
Test Mode :	802.11n HT20	Test Channel :	11
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100kHz PSD reference Level

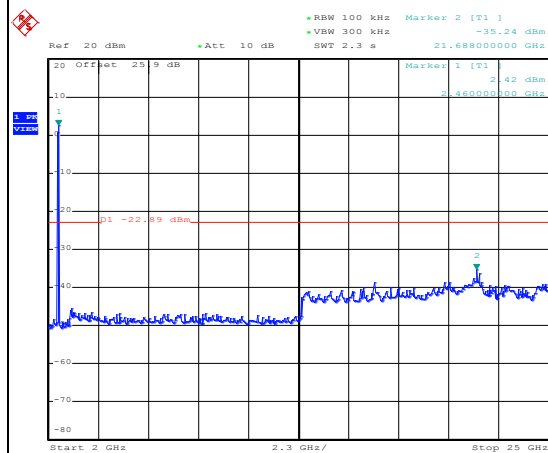
Date: 24.MAY.2020 19:48:33

High Channel Plot

Date: 3.JUL.2020 21:30:02

Spurious Emission 30MHz~3GHz

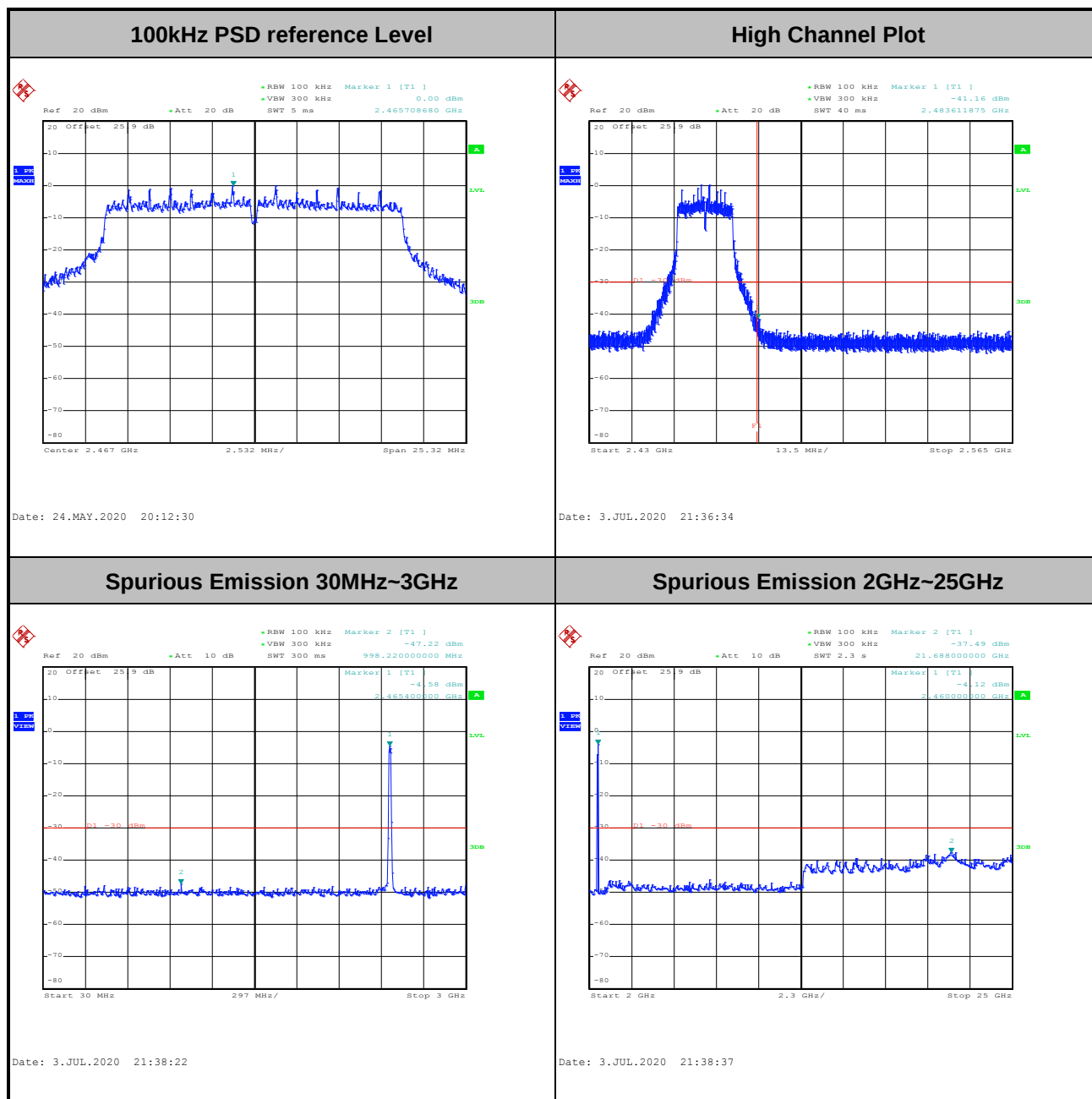
Date: 3.JUL.2020 21:30:45

Spurious Emission 2GHz~25GHz

Date: 3.JUL.2020 21:31:02

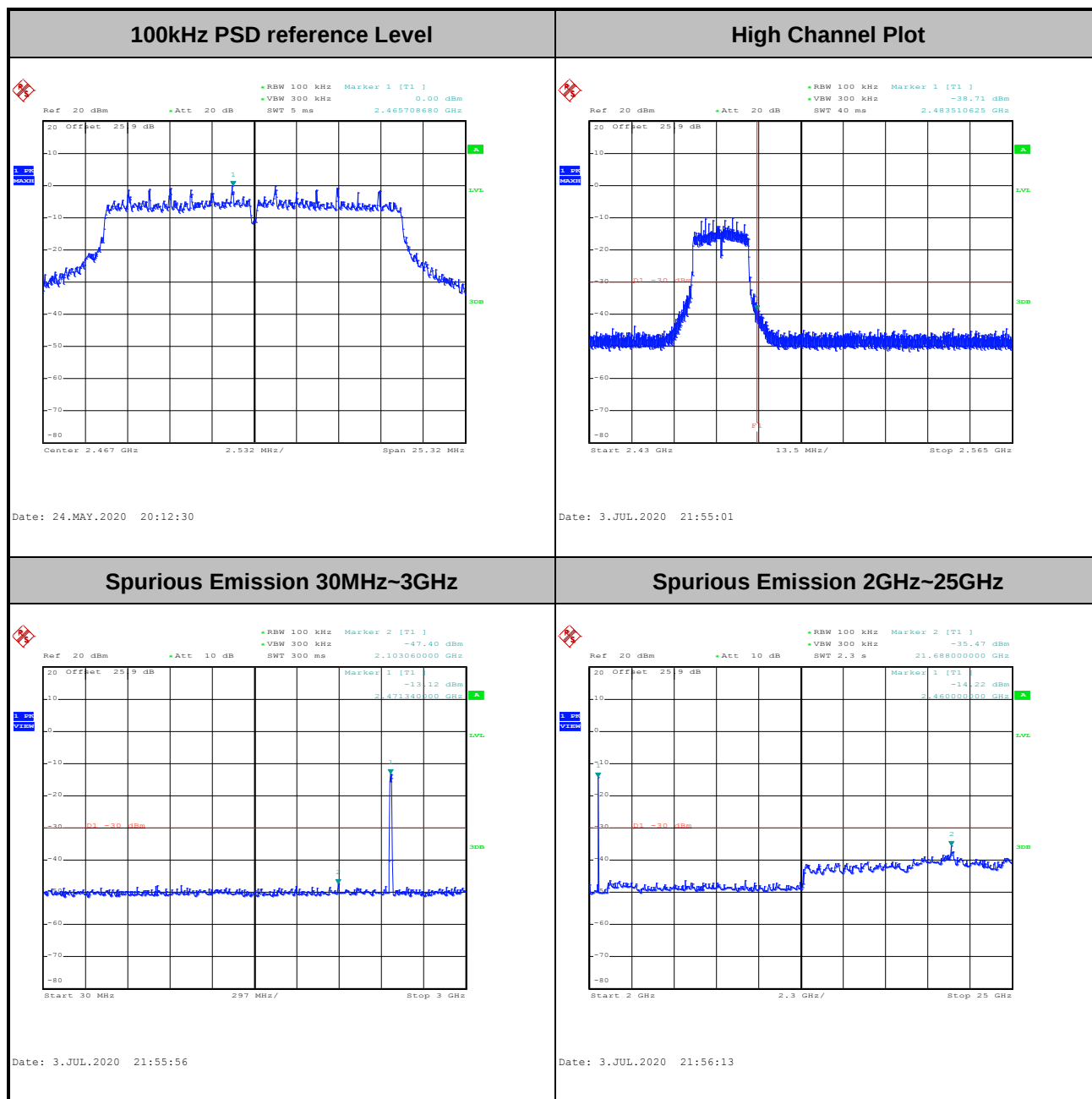


Test Mode :	802.11n HT20	Test Channel :	12
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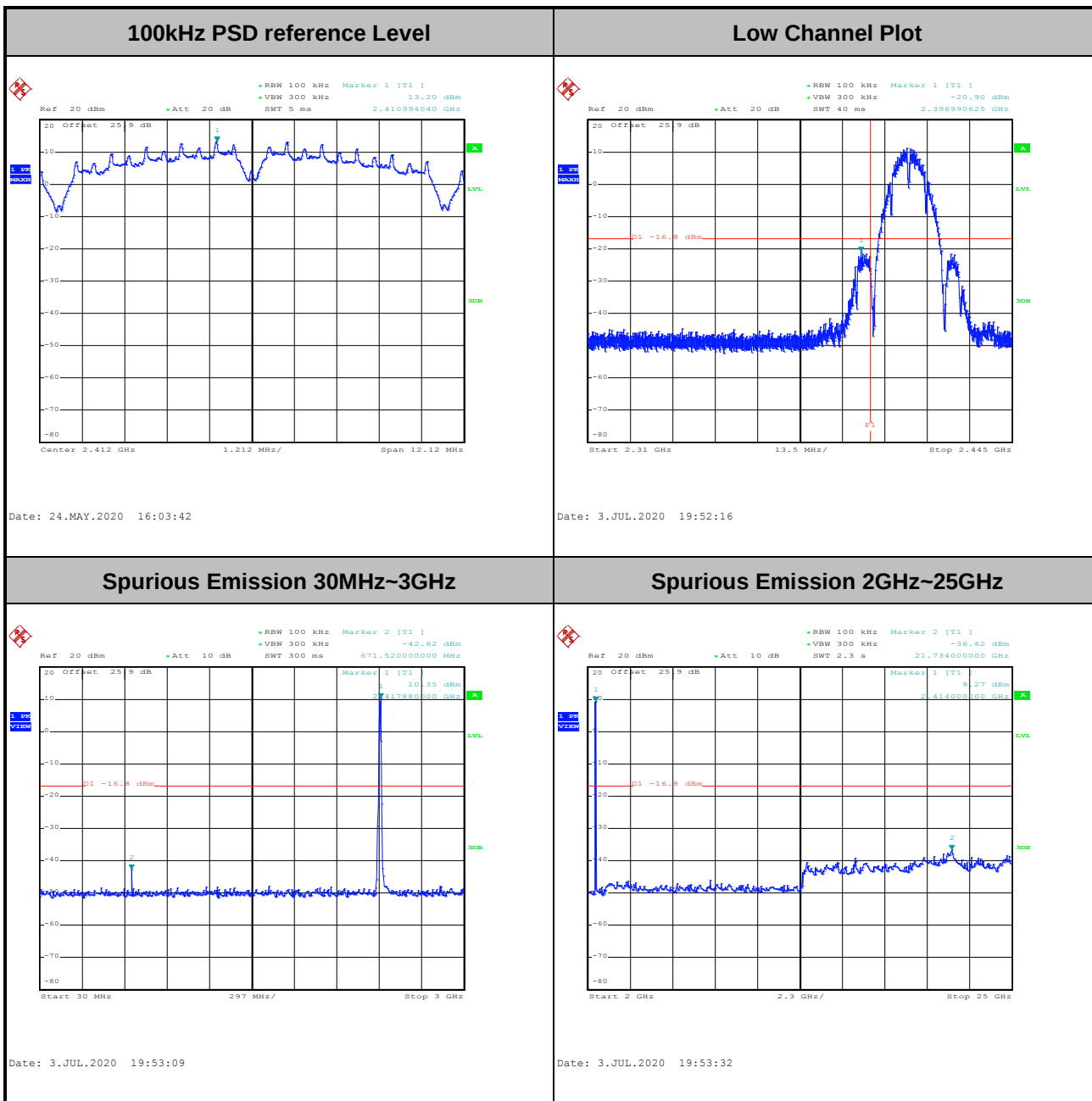
Test Mode :	802.11n HT20	Test Channel :	13
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Number of TX = 2, Ant. 3 (Measured)

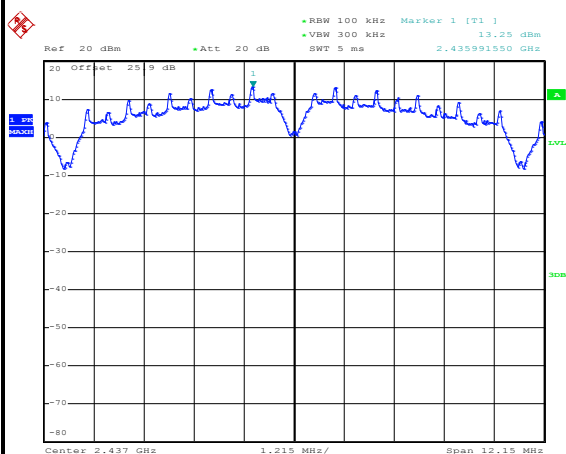
Test Mode :	802.11b	Test Channel :	01
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Test Mode :	802.11b	Test Channel :	06
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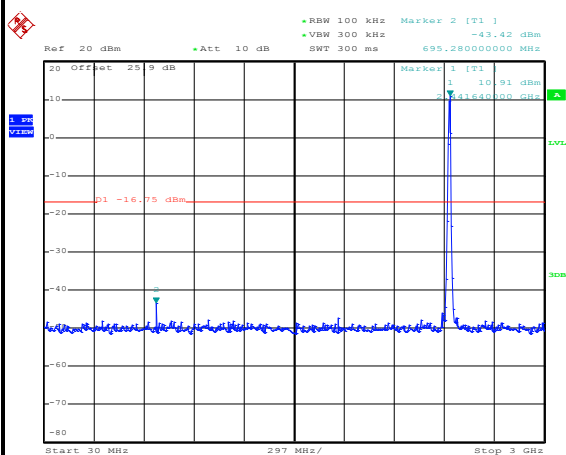
100kHz PSD reference Level



Date: 24.MAY.2020 18:09:26

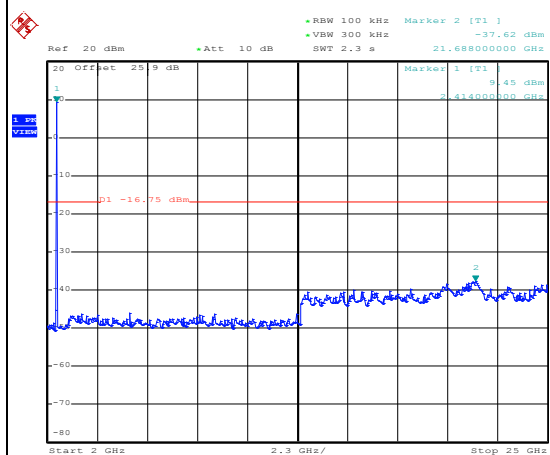
Mid Channel Plot

Spurious Emission 30MHz~3GHz



Date: 3.JUL.2020 20:11:31

Spurious Emission 2GHz~25GHz

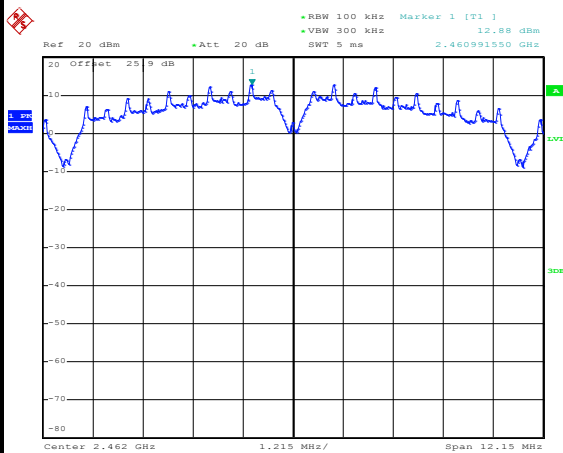


Date: 3.JUL.2020 20:11:46



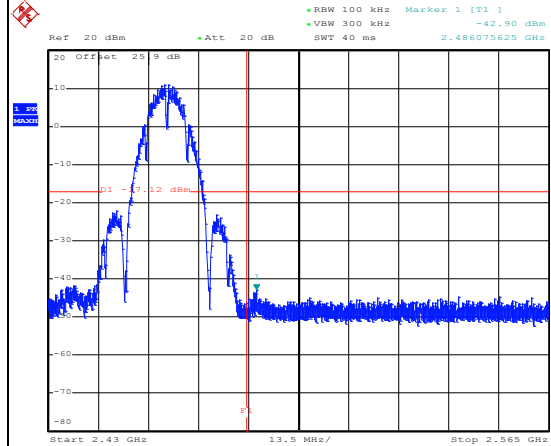
Test Mode :	802.11b	Test Channel :	11
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100kHz PSD reference Level



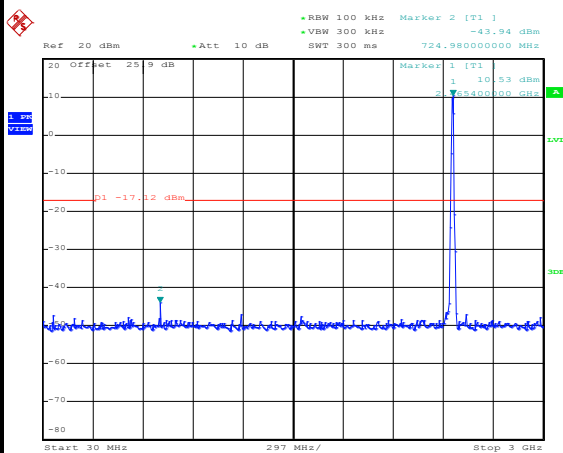
Date: 24.MAY.2020 16:36:21

High Channel Plot



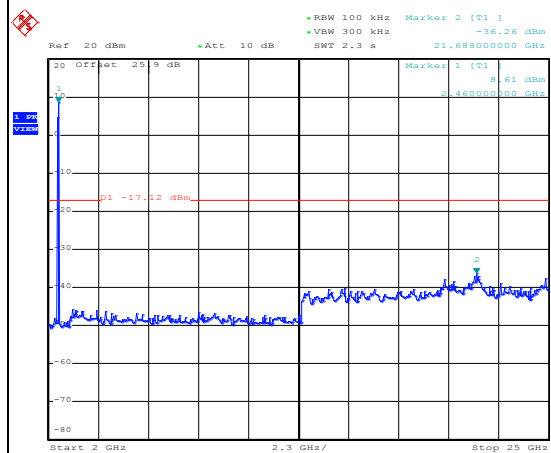
Date: 3.JUL.2020 20:16:24

Spurious Emission 30MHz~3GHz



Date: 3.JUL.2020 20:21:11

Spurious Emission 2GHz~25GHz

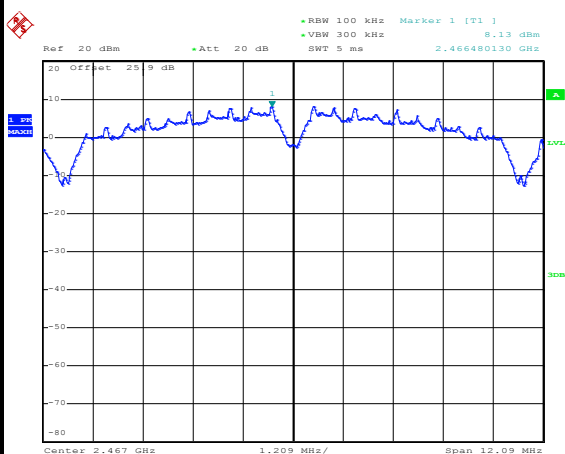


Date: 3.JUL.2020 20:21:29



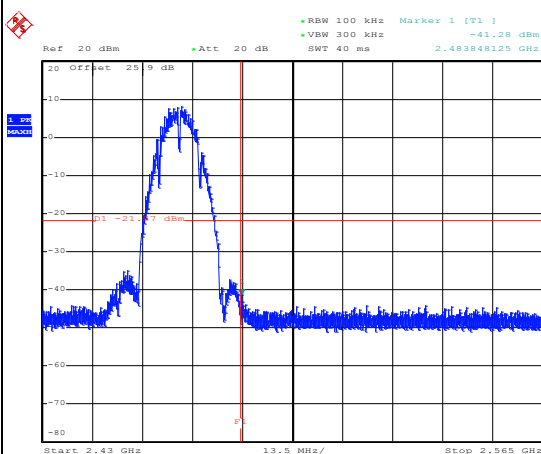
Test Mode :	802.11b	Test Channel :	12
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100kHz PSD reference Level



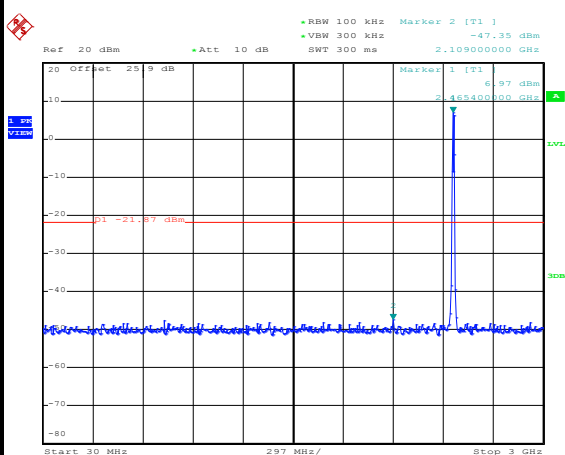
Date: 24.MAY.2020 16:52:16

High Channel Plot



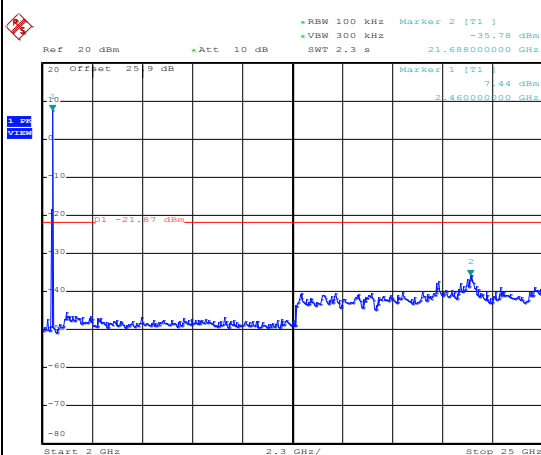
Date: 3.JUL.2020 20:27:50

Spurious Emission 30MHz~3GHz



Date: 3.JUL.2020 20:29:00

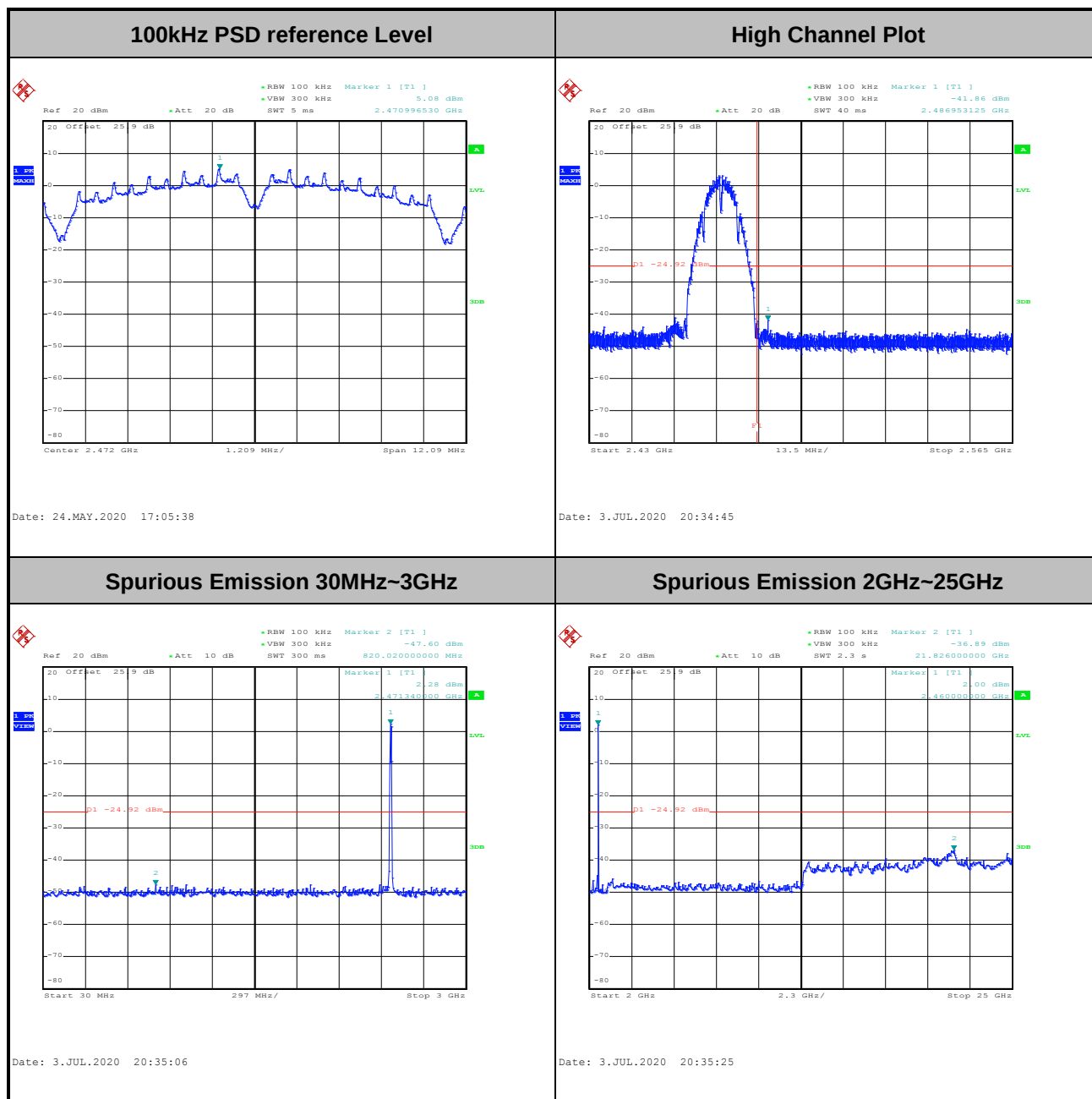
Spurious Emission 2GHz~25GHz



Date: 3.JUL.2020 20:29:41



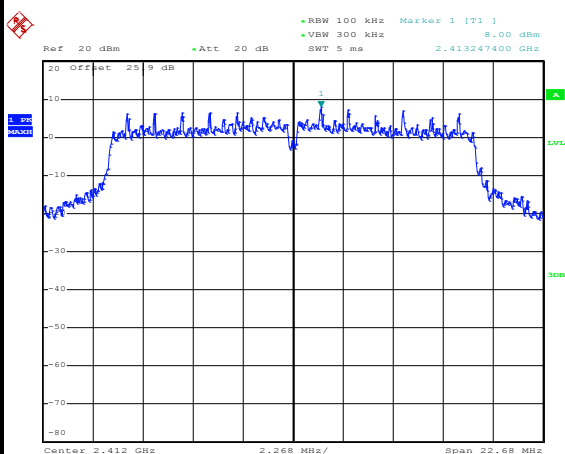
Test Mode :	802.11b	Test Channel :	13
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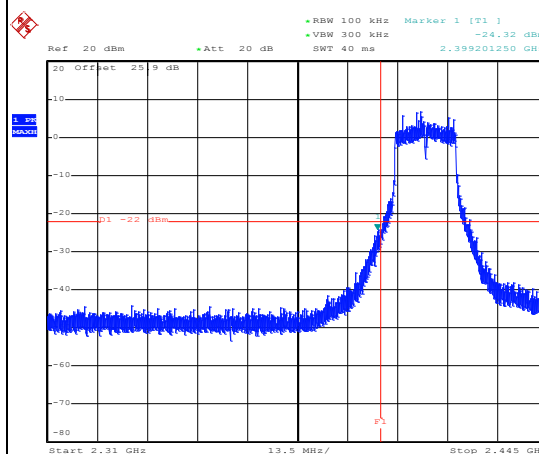
Test Mode :	802.11g	Test Channel :	01
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100kHz PSD reference Level



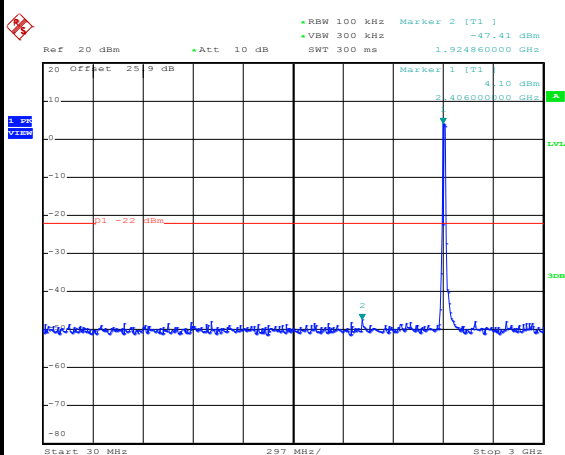
Date: 24.MAY.2020 17:17:57

Low Channel Plot



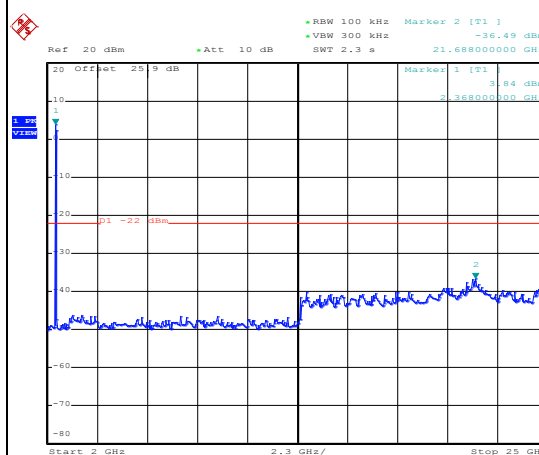
Date: 3.JUL.2020 20:47:04

Spurious Emission 30MHz~3GHz



Date: 3.JUL.2020 20:47:56

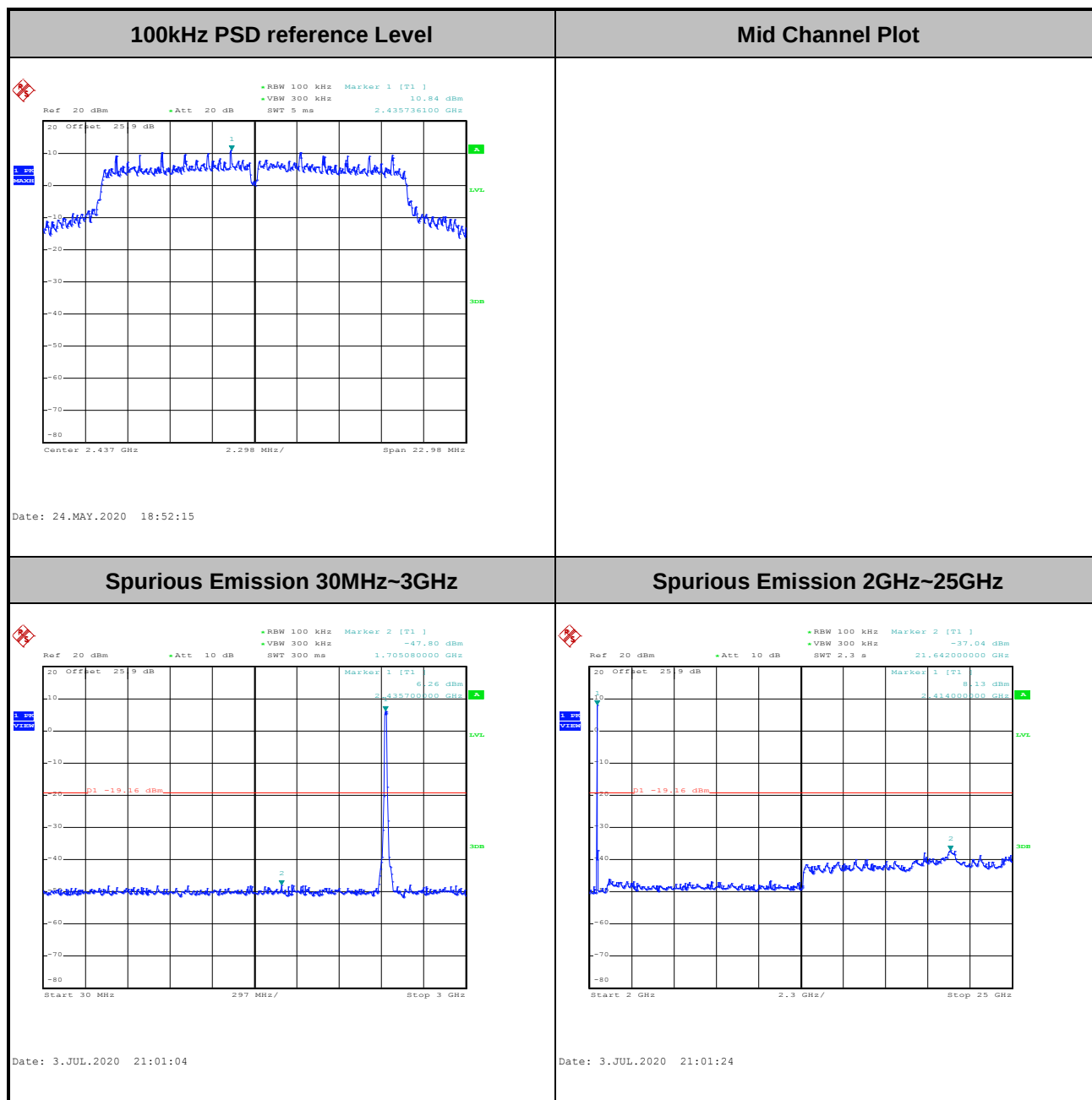
Spurious Emission 2GHz~25GHz



Date: 3.JUL.2020 20:48:14



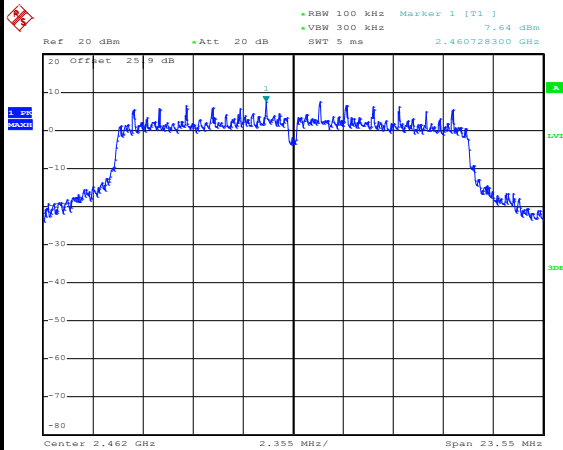
Test Mode :	802.11g	Test Channel :	06
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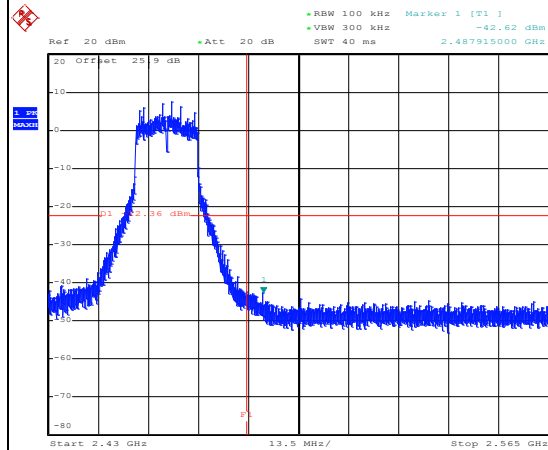
Test Mode :	802.11g	Test Channel :	11
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100kHz PSD reference Level



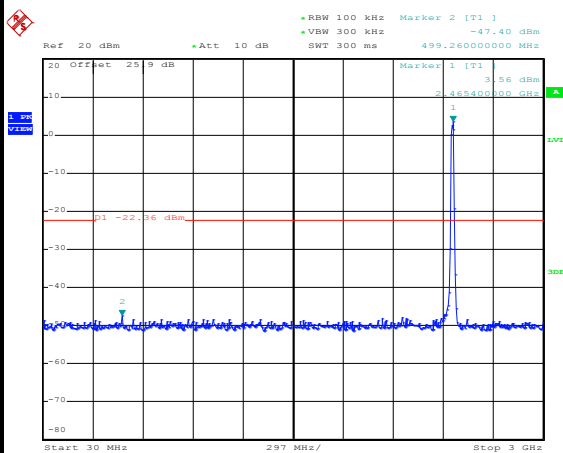
Date: 24.MAY.2020 18:58:52

High Channel Plot



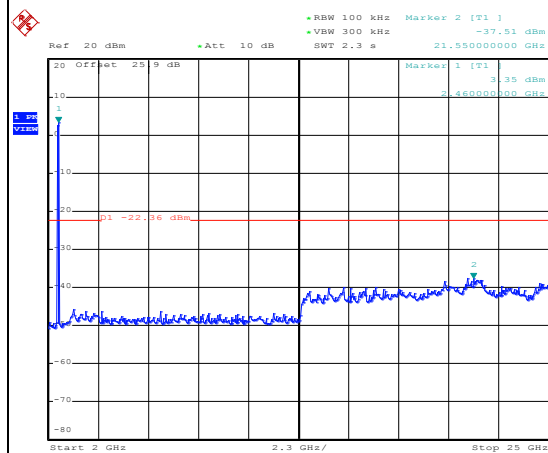
Date: 3.JUL.2020 21:07:00

Spurious Emission 30MHz~3GHz



Date: 3.JUL.2020 21:07:50

Spurious Emission 2GHz~25GHz

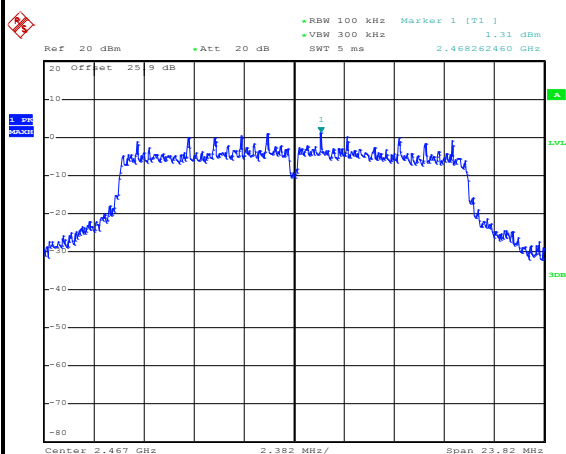


Date: 3.JUL.2020 21:08:09



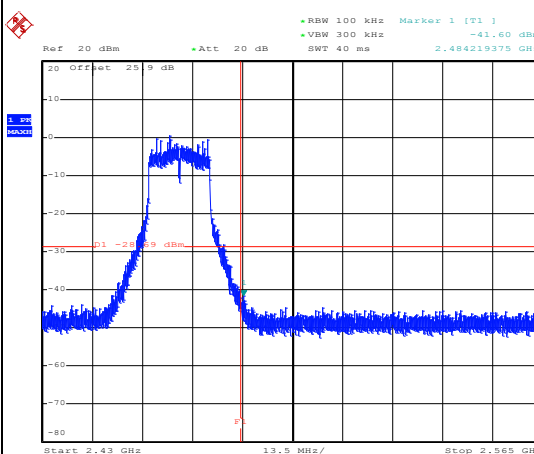
Test Mode :	802.11g	Test Channel :	12
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100kHz PSD reference Level



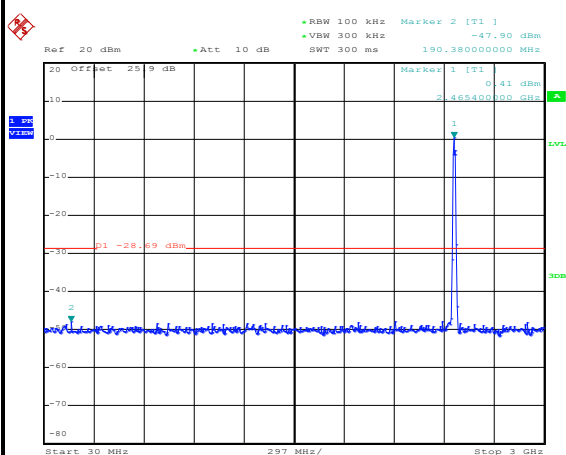
Date: 24.MAY.2020 19:06:17

High Channel Plot



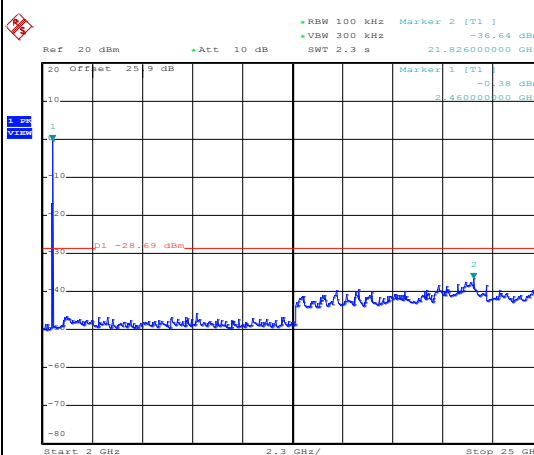
Date: 3.JUL.2020 21:11:17

Spurious Emission 30MHz~3GHz



Date: 3.JUL.2020 21:11:36

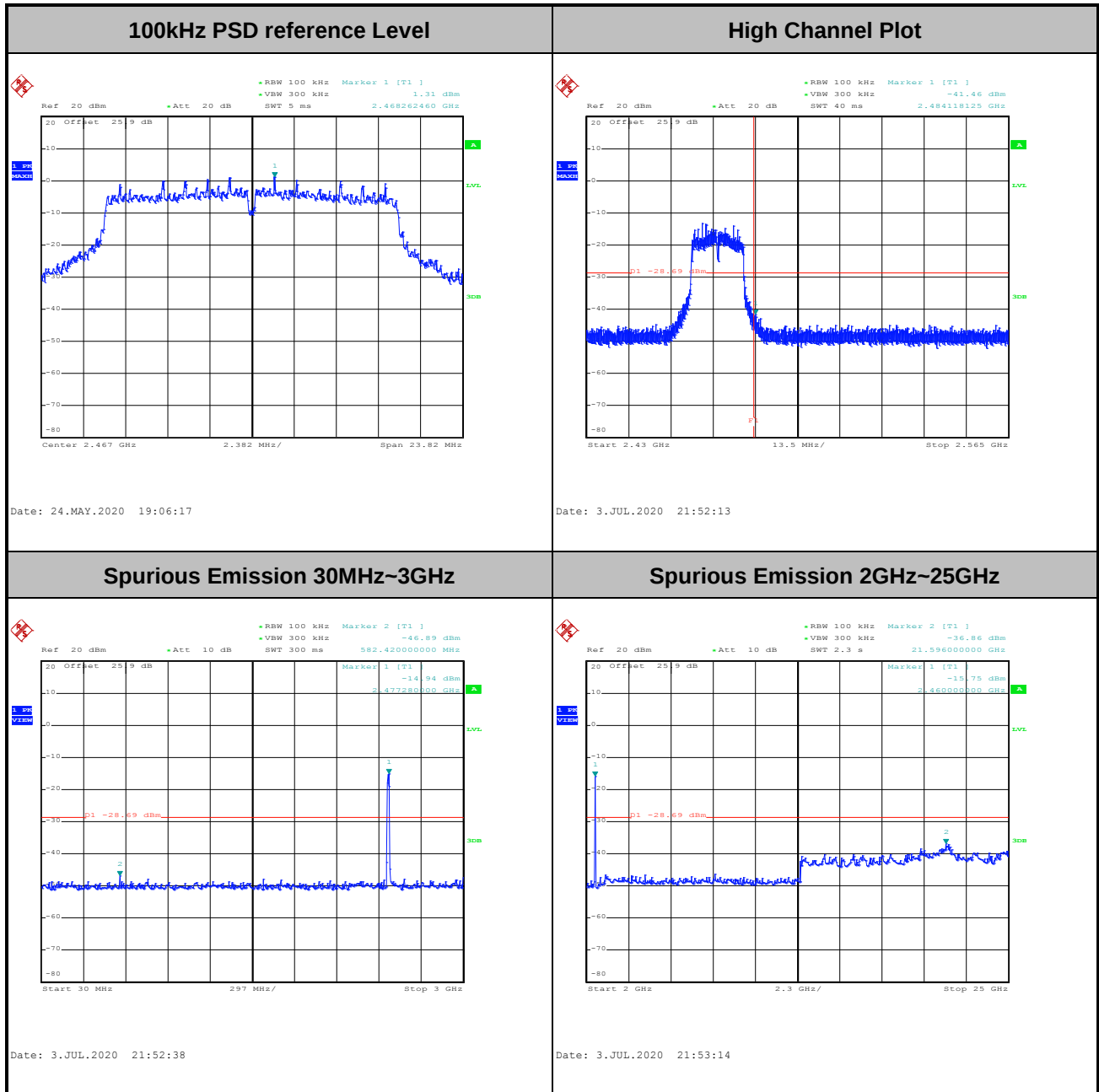
Spurious Emission 2GHz~25GHz



Date: 3.JUL.2020 21:11:52



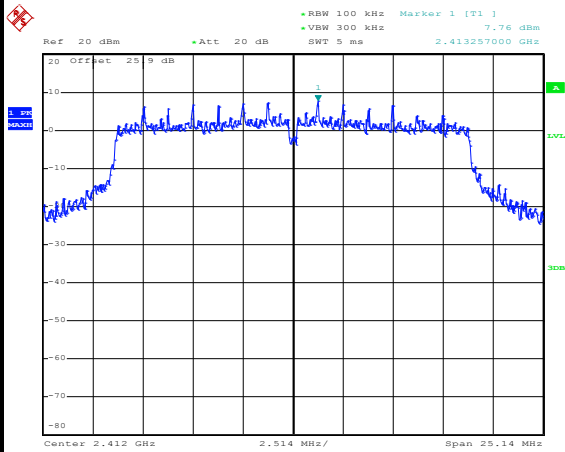
Test Mode :	802.11g	Test Channel :	13
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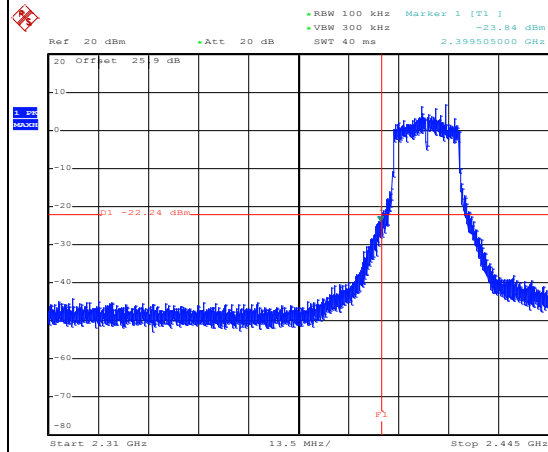
Test Mode :	802.11n HT20	Test Channel :	01
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100kHz PSD reference Level



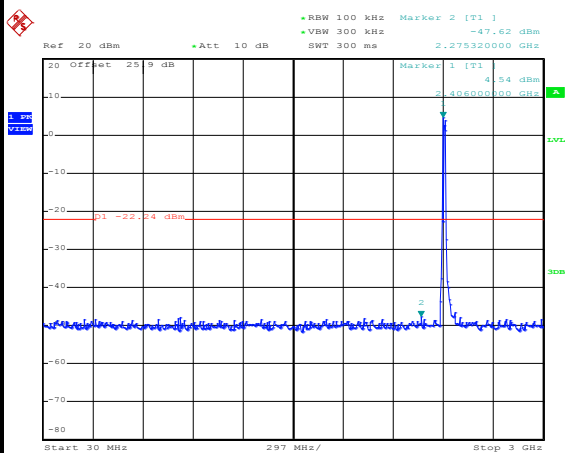
Date: 24.MAY.2020 19:32:30

Low Channel Plot



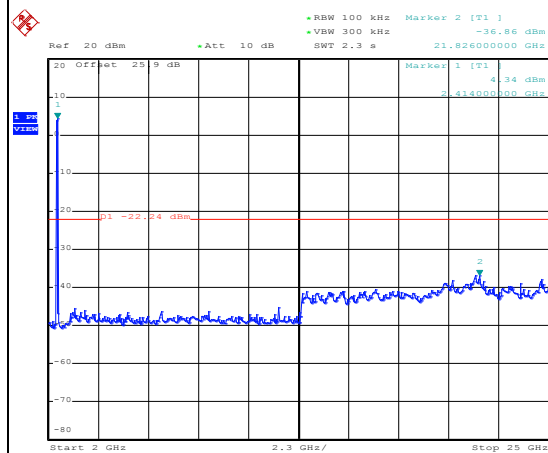
Date: 3.JUL.2020 21:16:03

Spurious Emission 30MHz~3GHz



Date: 3.JUL.2020 21:17:24

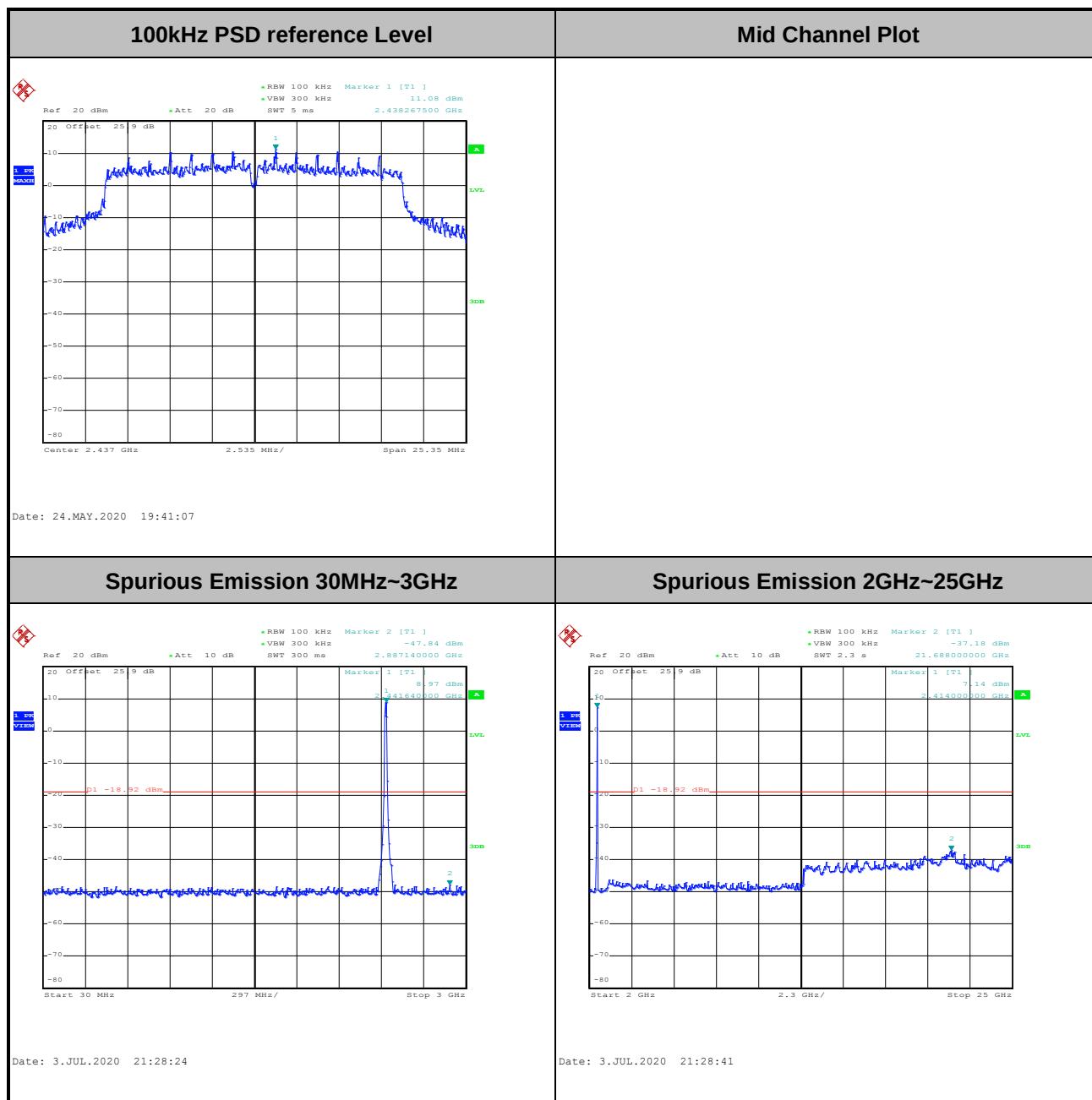
Spurious Emission 2GHz~25GHz



Date: 3.JUL.2020 21:17:46



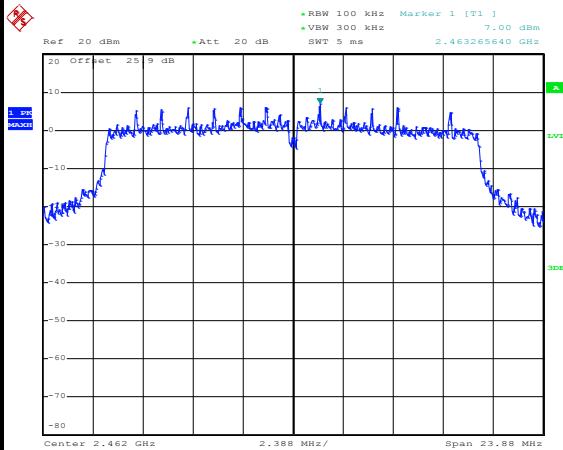
Test Mode :	802.11n HT20	Test Channel :	06
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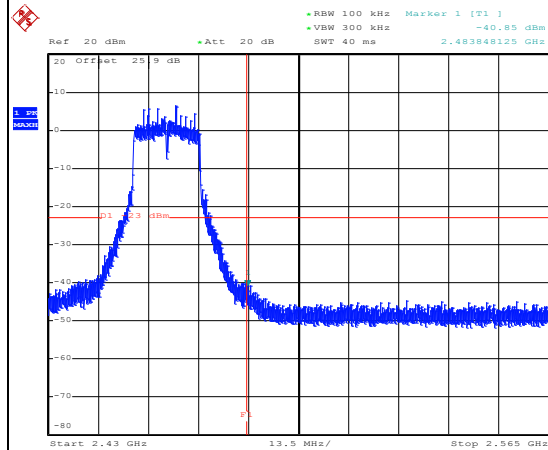
Test Mode :	802.11n HT20	Test Channel :	11
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100kHz PSD reference Level



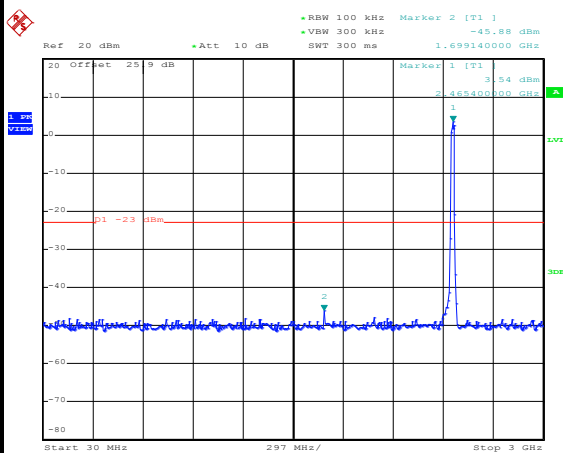
Date: 24.MAY.2020 19:54:05

High Channel Plot



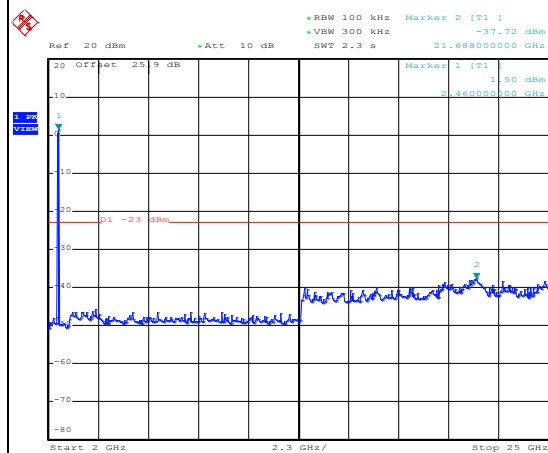
Date: 3.JUL.2020 21:32:17

Spurious Emission 30MHz~3GHz



Date: 3.JUL.2020 21:33:13

Spurious Emission 2GHz~25GHz

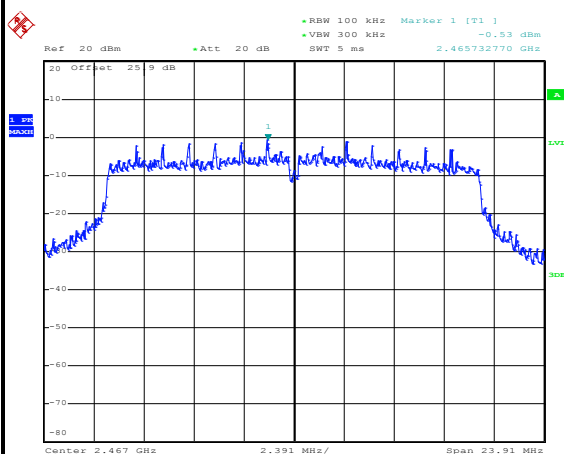


Date: 3.JUL.2020 21:33:28



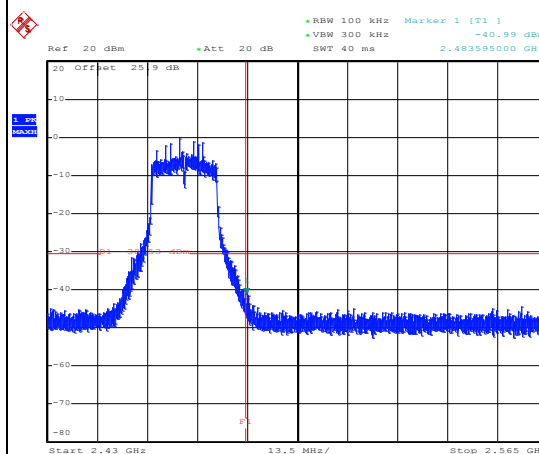
Test Mode :	802.11n HT20	Test Channel :	12
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100kHz PSD reference Level



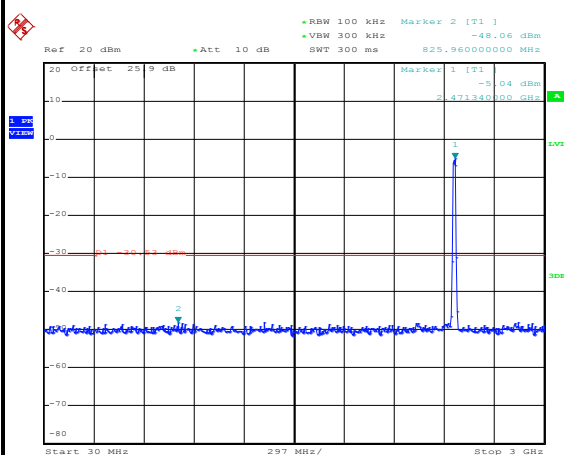
Date: 24.MAY.2020 20:16:37

High Channel Plot



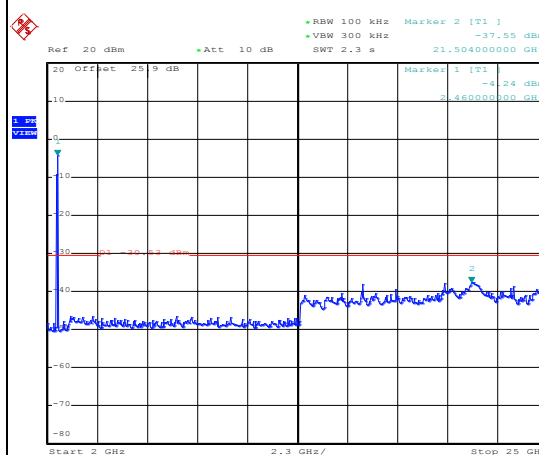
Date: 3.JUL.2020 21:39:36

Spurious Emission 30MHz~3GHz



Date: 3.JUL.2020 21:41:50

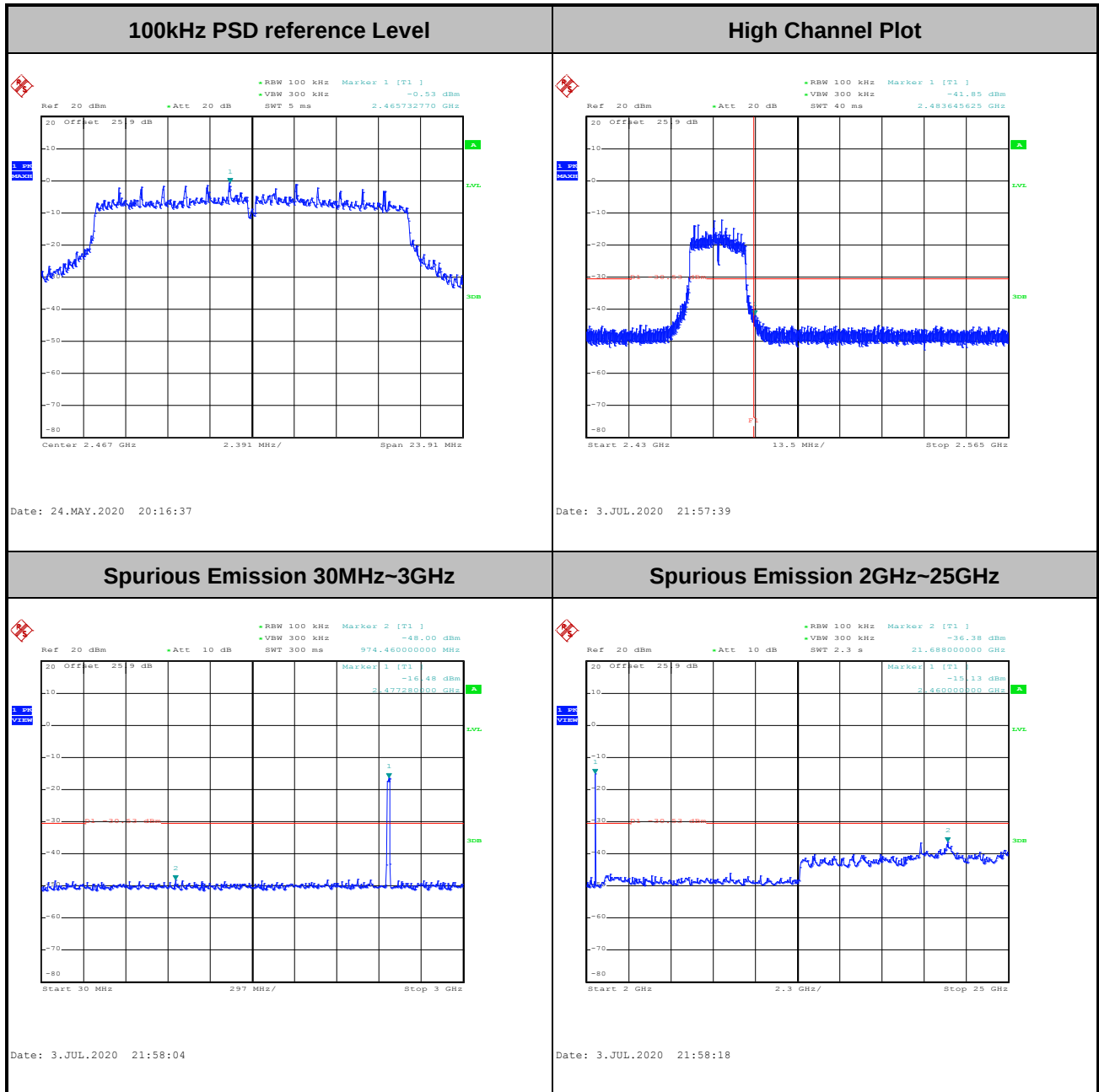
Spurious Emission 2GHz~25GHz



Date: 3.JUL.2020 21:42:05



Test Mode :	802.11n HT20	Test Channel :	13
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3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the limits as below.

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

3.5.2 Measuring Instruments

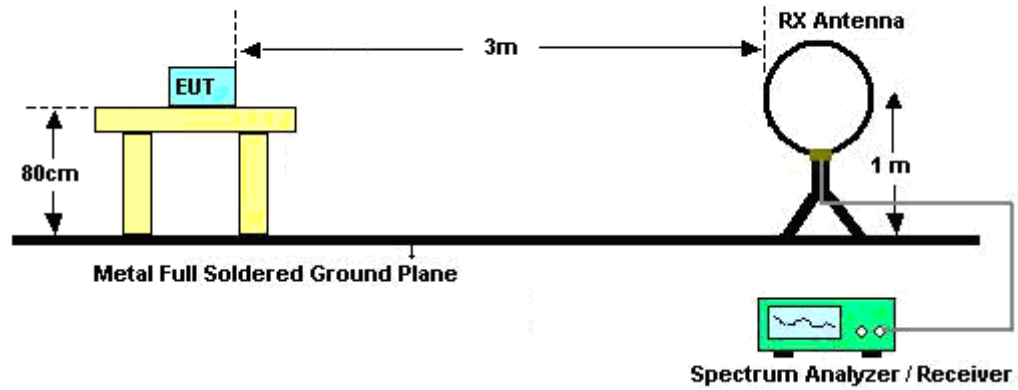
See list of measuring equipment of this test report.

3.5.3 Test Procedures

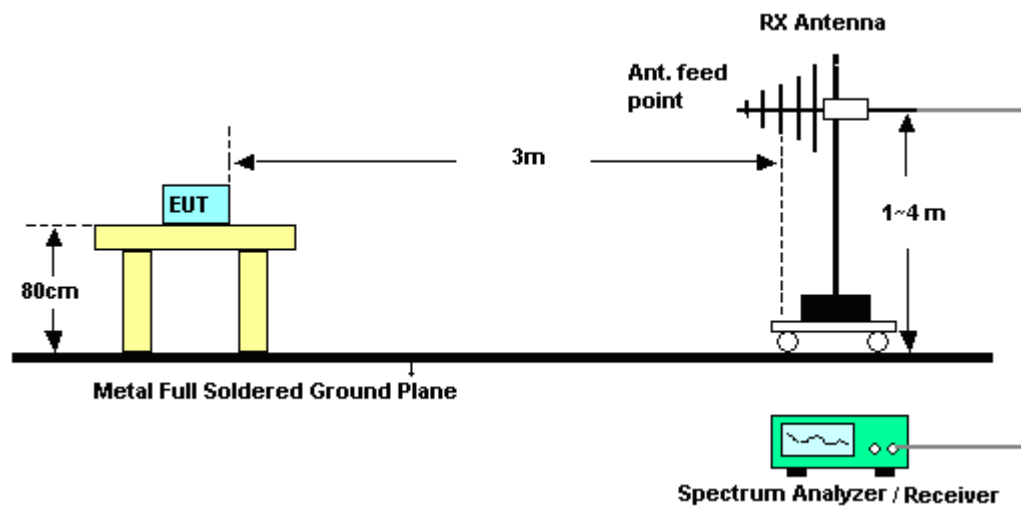
1. The testing follows the ANSI C63.10 Section 11.12.1 Radiated emission measurements.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. 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.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
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.
8. Use the following spectrum analyzer settings:
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Set RBW=100 kHz for $f < 1$ GHz; $VBW \geq RBW$; Sweep = auto; Detector function = peak; Trace = max hold;
 - (3) Set RBW = 1 MHz, VBW= 3MHz for $f \geq 1$ GHz for peak measurement.
For average measurement:
 - $VBW = 10$ 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.

3.5.4 Test Setup

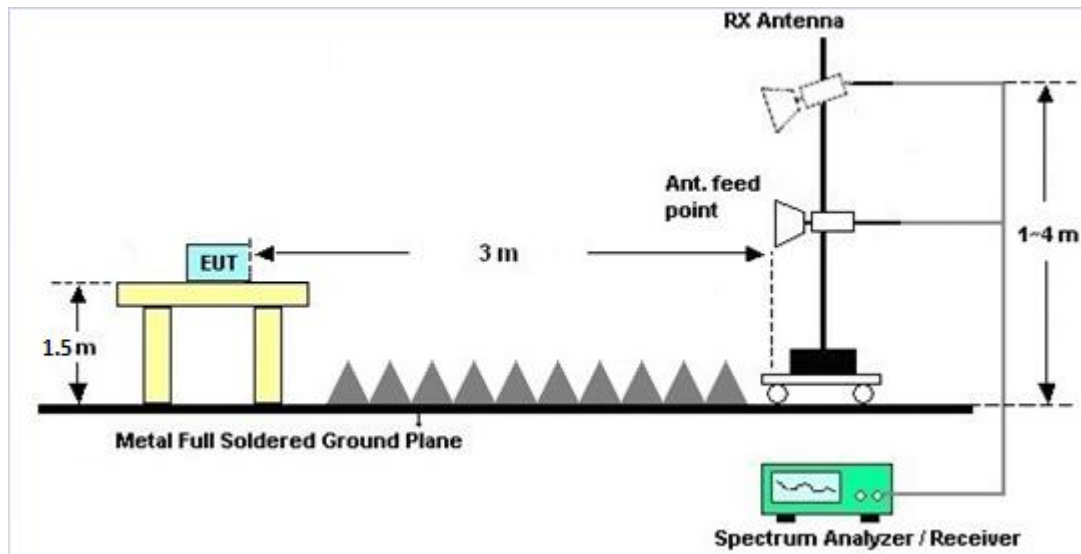
For radiated emissions below 30MHz



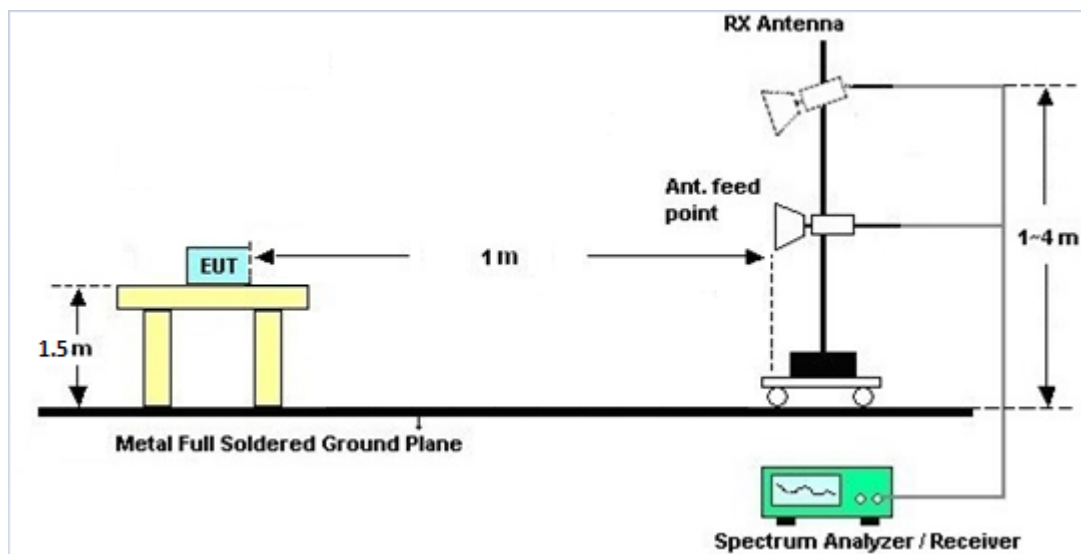
For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



For radiated emissions above 18GHz



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

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 alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C and D.

3.5.7 Duty Cycle

Please refer to Appendix E.

3.5.8 Test Result of Radiated Spurious Emission (30MHz ~ 10th Harmonic)

Please refer to Appendix C and D.

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of Emission (MHz)	Conducted Limit (dB μ V)	
	Quasi-Peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

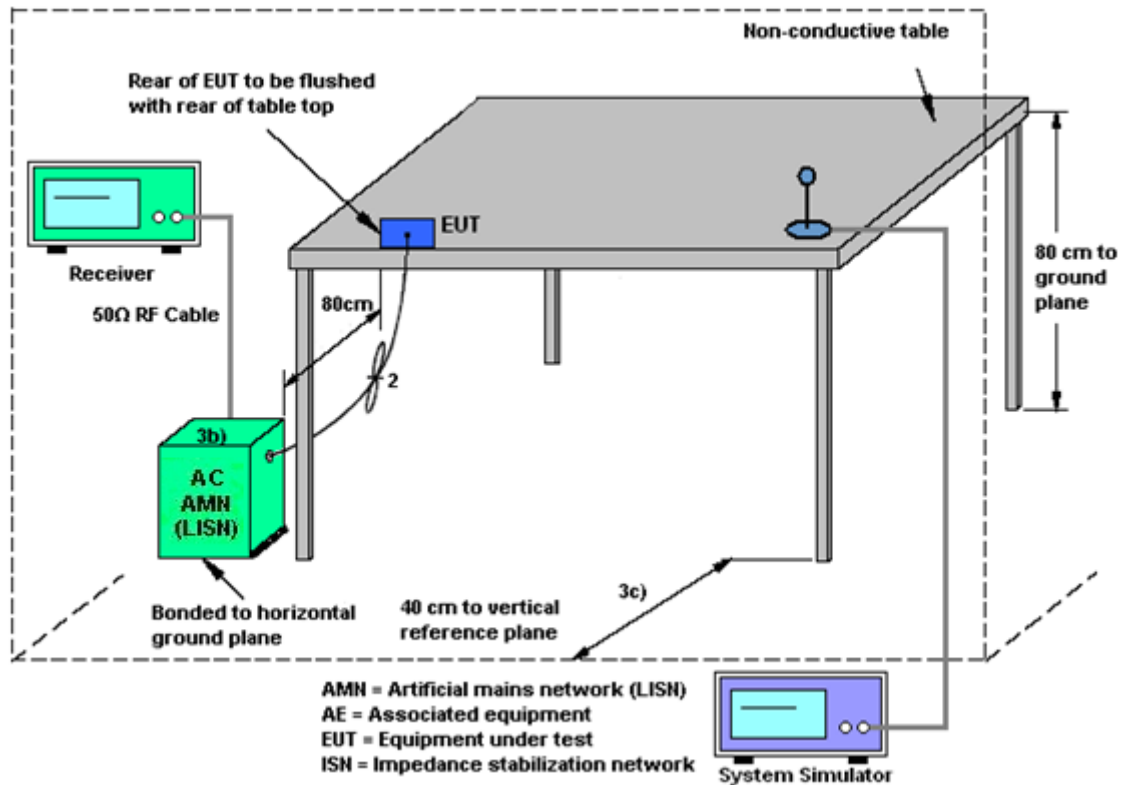
3.6.2 Measuring Instruments

See list of measuring equipment of this test report.

3.6.3 Test Procedures

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

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.7 Antenna Requirements

3.7.1 Standard Applicable

If directional gain of transmitting Antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. The use of a permanently attached Antenna or of an Antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the rule.

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

<CDD Modes >

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

Directional gain = G_{ANT} + Array Gain, where Array Gain is as follows.

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

Array Gain = $10 \log(N_{ANT}/N_{SS}=1)$ dB.

For power measurements on IEEE 802.11 devices,

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

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

The EUT supports CDD mode.

For power, the directional gain G_{ANT} 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 for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
	Ant. 4 (dBi)	Ant. 3 (dBi)				
2.4 GHz	-2.20	-2.40	-2.20	0.71	0.00	0.00

Power Limit Reduction = $DG(\text{Power}) - 6\text{dBi}$, (min = 0)

PSD Limit Reduction = $DG(\text{PSD}) - 6\text{dBi}$, (min = 0)

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Dec. 03, 2019	May 06, 2020~ Jul. 07, 2020	Dec. 02, 2020	Radiation (03CH11-HY)
Bilog Antenna	TESEQ	CBL 6111D & N-6-06	35414 & AT-N0602	30MHz~1GHz	Oct. 12, 2019	May 06, 2020~ Jul. 07, 2020	Oct. 11, 2020	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-13 26	1GHz~18GHz	Nov. 04, 2019	May 06, 2020~ Jul. 07, 2020	Nov. 03, 2020	Radiation (03CH11-HY)
Hygrometer	TECPEL	DTN-303B	TP140325	N/A	Nov. 07, 2019	May 06, 2020~ Jul. 07, 2020	Nov. 06, 2020	Radiation (03CH11-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Jan. 09, 2020	May 06, 2020~ Jul. 07, 2020	Jan. 08, 2021	Radiation (03CH11-HY)
Preamplifier	Keysight	83017A	MY53270 080	1GHz~26.5GHz	Nov. 14, 2018	May 06, 2020~ Jul. 07, 2020	Nov. 13, 2020	Radiation (03CH11-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200 486	10Hz~44GHz	Oct. 28, 2019	May 06, 2020~ Jul. 07, 2020	Oct. 27, 2020	Radiation (03CH11-HY)
Filter	Wainwright	WHKX12-2700- 3000-18000-60 SS	SN3	3GHz High Pass Filter	Sep. 15, 2019	May 06, 2020~ Jul. 07, 2020	Sep. 14, 2020	Radiation (03CH11-HY)
Filter	Wainwright	WLK4-1000-15 30-8000-40SS	SN11	1.53GHz Low Pass Filter	Sep. 15, 2019	May 06, 2020~ Jul. 07, 2020	Sep. 14, 2020	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4 PE	9kHz~30MHz	Mar. 12, 2020	May 06, 2020~ Jul. 07, 2020	Mar. 11, 2021	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2859/2	30MHz~40GHz	Mar. 12, 2020	May 06, 2020~ Jul. 07, 2020	Mar. 11, 2021	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4 PE	30MHz~18GHz	Mar. 12, 2020	May 06, 2020~ Jul. 07, 2020	Mar. 11, 2021	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY4274/2	30MHz~40GHz	Mar. 12, 2020	May 06, 2020~ Jul. 07, 2020	Mar. 11, 2021	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY11681/ 4PE	30MHz~18GHz	Mar. 12, 2020	May 06, 2020~ Jul. 07, 2020	Mar. 11, 2021	Radiation (03CH11-HY)
Controller	EMEC	EM 1000	N/A	Control Turn table & Ant Mast	N/A	May 06, 2020~ Jul. 07, 2020	N/A	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	May 06, 2020~ Jul. 07, 2020	N/A	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0~360 Degree	N/A	May 06, 2020~ Jul. 07, 2020	N/A	Radiation (03CH11-HY)
Preamplifier	Jet-Power	JPA0118-55-30 3K	17100018 00054002	1GHz~18GHz	Aug. 06, 2019	May 06, 2020~ Jul. 07, 2020	Aug. 05, 2020	Radiation (03CH11-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz~40GHz	Dec. 13, 2019	May 06, 2020~ Jul. 07, 2020	Dec. 12, 2020	Radiation (03CH11-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA9170	BBHA917 0980	18GHz~40GHz	N/A	May 06, 2020~ Jul. 07, 2020	N/A	Radiation (03CH11-HY)
Software	Audix	E3 6.2009-8-24	RK-00105 3	N/A	N/A	May 06, 2020~ Jul. 07, 2020	N/A	Radiation (03CH11-HY)



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Hygrometer	Testo	608-H2	41410069	N/A	Jun. 17, 2019	Apr. 29, 2020~ May 24, 2020	Jun. 16, 2020	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	16I00054S NO10	10MHz~6GHz	Dec. 23, 2019	Apr. 29, 2020~ May 24, 2020	Dec. 22, 2020	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz-40GHz	Aug. 14, 2019	Apr. 29, 2020~ May 24, 2020	Aug. 13, 2020	Conducted (TH05-HY)
Switch Control Manframe	Burgeon	ETF-058	EC130048 4	N/A	Aug. 22, 2019	Apr. 29, 2020~ May 24, 2020	Aug. 21, 2020	Conducted (TH05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Jun. 24, 2020	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9kHz~3.6GHz	Nov. 15, 2019	Jun. 24, 2020	Nov. 14, 2020	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	Nov. 07, 2019	Jun. 24, 2020	Nov. 06, 2020	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Nov. 15, 2019	Jun. 24, 2020	Nov. 14, 2020	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Jun. 24, 2020	N/A	Conduction (CO05-HY)
LF Cable	HUBER + SUHNER	RG-214/U	LF01	N/A	Jan. 02, 2020	Jun. 24, 2020	Jan. 01, 2021	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Jan. 02, 2020	Jun. 24, 2020	Jan. 01, 2021	Conduction (CO05-HY)

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.3
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.2
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.2
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.3
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Appendix A. Test Result of Conducted Test Items

Test Engineer:	Hank Hsu	Temperature:	21~25	°C
Test Date:	2020/04/29~2020/05/24	Relative Humidity:	51~54	%

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band MIMO										
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	99% Occupied BW (MHz)		6dB BW (MHz)		6dB BW Limit (MHz)	Pass/Fail
					Ant4	Ant3	Ant4	Ant3		
11b	1Mbps	2	1	2412	15.35	14.75	10.04	8.08	0.50	Pass
11b	1Mbps	2	6	2437	15.10	14.85	8.58	8.10	0.50	Pass
11b	1Mbps	2	11	2462	15.05	14.75	9.08	8.10	0.50	Pass
11b	1Mbps	2	12	2467	14.10	13.95	8.06	8.06	0.50	Pass
11b	1Mbps	2	13	2472	13.70	13.65	8.08	8.06	0.50	Pass
11g	6Mbps	2	1	2412	16.75	16.80	15.78	15.12	0.50	Pass
11g	6Mbps	2	6	2437	19.60	18.90	15.37	15.32	0.50	Pass
11g	6Mbps	2	11	2462	16.90	16.75	15.86	15.70	0.50	Pass
11g	6Mbps	2	12	2467	16.85	16.65	15.78	15.88	0.50	Pass
11g	6Mbps	2	13	2472	16.65	16.65	15.48	15.40	0.50	Pass
HT20	MCS0	2	1	2412	17.95	17.90	15.32	16.76	0.50	Pass
HT20	MCS0	2	6	2437	19.85	19.70	16.78	16.90	0.50	Pass
HT20	MCS0	2	11	2462	18.00	17.85	16.32	15.92	0.50	Pass
HT20	MCS0	2	12	2467	17.95	17.80	16.88	15.94	0.50	Pass
HT20	MCS0	2	13	2472	17.80	17.85	13.88	15.92	0.50	Pass

TEST RESULTS DATA
Average Output Power

2.4GHz Band Single Antenna																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
					Ant4	Ant3	SUM	Ant4	Ant3	Ant4	Ant3	Ant4	Ant3	Ant4	Ant3	
11b	1Mbps	1	1	2412	22.90	22.20		30.00	30.00	-2.20	-2.40	20.70	19.80	36.00	36.00	Pass
11b	1Mbps	1	6	2437	22.80	22.10		30.00	30.00	-2.20	-2.40	20.60	19.70	36.00	36.00	Pass
11b	1Mbps	1	11	2462	22.50	21.70		30.00	30.00	-2.20	-2.40	20.30	19.30	36.00	36.00	Pass
11b	1Mbps	1	12	2467	17.80	18.20		30.00	30.00	-2.20	-2.40	15.60	15.80	36.00	36.00	Pass
11b	1Mbps	1	13	2472	13.60	13.70		30.00	30.00	-2.20	-2.40	11.40	11.30	36.00	36.00	Pass
11g	6Mbps	1	1	2412	18.10	18.00		30.00	30.00	-2.20	-2.40	15.90	15.60	36.00	36.00	Pass
11g	6Mbps	1	6	2437	22.00	21.20		30.00	30.00	-2.20	-2.40	19.80	18.80	36.00	36.00	Pass
11g	6Mbps	1	11	2462	18.00	18.00		30.00	30.00	-2.20	-2.40	15.80	15.60	36.00	36.00	Pass
11g	6Mbps	1	12	2467	12.10	11.90		30.00	30.00	-2.20	-2.40	9.90	9.50	36.00	36.00	Pass
11g	6Mbps	1	13	2472	1.10	-2.10		30.00	30.00	-2.20	-2.40	-1.10	-4.50	36.00	36.00	Pass
HT20	MCS0	1	1	2412	17.90	17.70		30.00	30.00	-2.20	-2.40	15.70	15.30	36.00	36.00	Pass
HT20	MCS0	1	6	2437	22.20	21.40		30.00	30.00	-2.20	-2.40	20.00	19.00	36.00	36.00	Pass
HT20	MCS0	1	11	2462	17.20	17.30		30.00	30.00	-2.20	-2.40	15.00	14.90	36.00	36.00	Pass
HT20	MCS0	1	12	2467	10.40	10.20		30.00	30.00	-2.20	-2.40	8.20	7.80	36.00	36.00	Pass
HT20	MCS0	1	13	2472	0.90	-2.30		30.00	30.00	-2.20	-2.40	-1.30	-4.70	36.00	36.00	Pass
VHT20	MCS0	1	1	2412	17.80	17.60		30.00	30.00	-2.20	-2.40	15.60	15.20	36.00	36.00	Pass
VHT20	MCS0	1	6	2437	22.10	21.30		30.00	30.00	-2.20	-2.40	19.90	18.90	36.00	36.00	Pass
VHT20	MCS0	1	11	2462	17.10	17.20		30.00	30.00	-2.20	-2.40	14.90	14.80	36.00	36.00	Pass
VHT20	MCS0	1	12	2467	10.30	10.10		30.00	30.00	-2.20	-2.40	8.10	7.70	36.00	36.00	Pass
VHT20	MCS0	1	13	2472	0.80	-2.40		30.00	30.00	-2.20	-2.40	-1.40	-4.80	36.00	36.00	Pass

2.4GHz Band MIMO																
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	Average Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
					Ant4	Ant3	SUM	Ant4	Ant3	Ant4	Ant3	Ant4	Ant3	Ant4	Ant3	
11b	1Mbps	2	1	2412	22.90	22.20	25.57	30.00		-2.20		23.37		36.00		Pass
11b	1Mbps	2	6	2437	22.80	22.10	25.47	30.00		-2.20		23.27		36.00		Pass
11b	1Mbps	2	11	2462	22.50	21.70	25.13	30.00		-2.20		22.93		36.00		Pass
11b	1Mbps	2	12	2467	17.80	18.20	21.01	30.00		-2.20		18.81		36.00		Pass
11b	1Mbps	2	13	2472	13.60	13.70	16.66	30.00		-2.20		14.46		36.00		Pass
11g	6Mbps	2	1	2412	18.10	18.00	21.06	30.00		-2.20		18.86		36.00		Pass
11g	6Mbps	2	6	2437	22.00	21.20	24.63	30.00		-2.20		22.43		36.00		Pass
11g	6Mbps	2	11	2462	18.00	18.00	21.01	30.00		-2.20		18.81		36.00		Pass
11g	6Mbps	2	12	2467	12.10	11.90	15.01	30.00		-2.20		12.81		36.00		Pass
11g	6Mbps	2	13	2472	1.10	-2.10	2.80	30.00		-2.20		0.60		36.00		Pass
HT20	MCS0	2	1	2412	17.90	17.70	20.81	30.00		-2.20		18.61		36.00		Pass
HT20	MCS0	2	6	2437	22.20	21.40	24.83	30.00		-2.20		22.63		36.00		Pass
HT20	MCS0	2	11	2462	17.20	17.30	20.26	30.00		-2.20		18.06		36.00		Pass
HT20	MCS0	2	12	2467	10.40	10.20	13.31	30.00		-2.20		11.11		36.00		Pass
HT20	MCS0	2	13	2472	0.90	-2.30	2.60	30.00		-2.20		0.40		36.00		Pass
VHT20	MCS0	2	1	2412	17.80	17.60	20.71	30.00		-2.20		18.51		36.00		Pass
VHT20	MCS0	2	6	2437	22.10	21.30	24.73	30.00		-2.20		22.53		36.00		Pass
VHT20	MCS0	2	11	2462	17.10	17.20	20.16	30.00		-2.20		17.96		36.00		Pass
VHT20	MCS0	2	12	2467	10.30	10.10	13.21	30.00		-2.20		11.01		36.00		Pass
VHT20	MCS0	2	13	2472	0.80	-2.40	2.50	30.00		-2.20		0.30		36.00		Pass

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

TEST RESULTS DATA
Peak Power Spectral Density

2.4GHz Band MIMO												
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	Peak PSD (dBm/3kHz)			DG (dBi)				Pass/Fail
					Ant4	Ant3	Worse + 3.01	Ant4	Ant3	Ant4	Ant3	
11b	1Mbps	2	1	2412	-2.41	-4.58	0.60	0.71		8.00		Pass
11b	1Mbps	2	6	2437	-3.89	-4.70	-0.88	0.71		8.00		Pass
11b	1Mbps	2	11	2462	-3.60	-4.93	-0.59	0.71		8.00		Pass
11b	1Mbps	2	12	2467	-8.55	-7.79	-4.78	0.71		8.00		Pass
11b	1Mbps	2	13	2472	-10.93	-12.00	-7.92	0.71		8.00		Pass
11g	6Mbps	2	1	2412	-8.34	-8.83	-5.33	0.71		8.00		Pass
11g	6Mbps	2	6	2437	-4.78	-5.86	-1.77	0.71		8.00		Pass
11g	6Mbps	2	11	2462	-9.56	-9.94	-6.55	0.71		8.00		Pass
11g	6Mbps	2	12	2467	-15.30	-15.35	-12.29	0.71		8.00		Pass
11g	6Mbps	2	13	2472	-26.05	-28.40	-23.04	0.71		8.00		Pass
HT20	MCS0	2	1	2412	-9.44	-9.03	-6.02	0.71		8.00		Pass
HT20	MCS0	2	6	2437	-5.37	-6.48	-2.36	0.71		8.00		Pass
HT20	MCS0	2	11	2462	-10.56	-10.18	-7.17	0.71		8.00		Pass
HT20	MCS0	2	12	2467	-17.57	-17.74	-14.56	0.71		8.00		Pass
HT20	MCS0	2	13	2472	-26.64	-28.69	-23.63	0.71		8.00		Pass

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



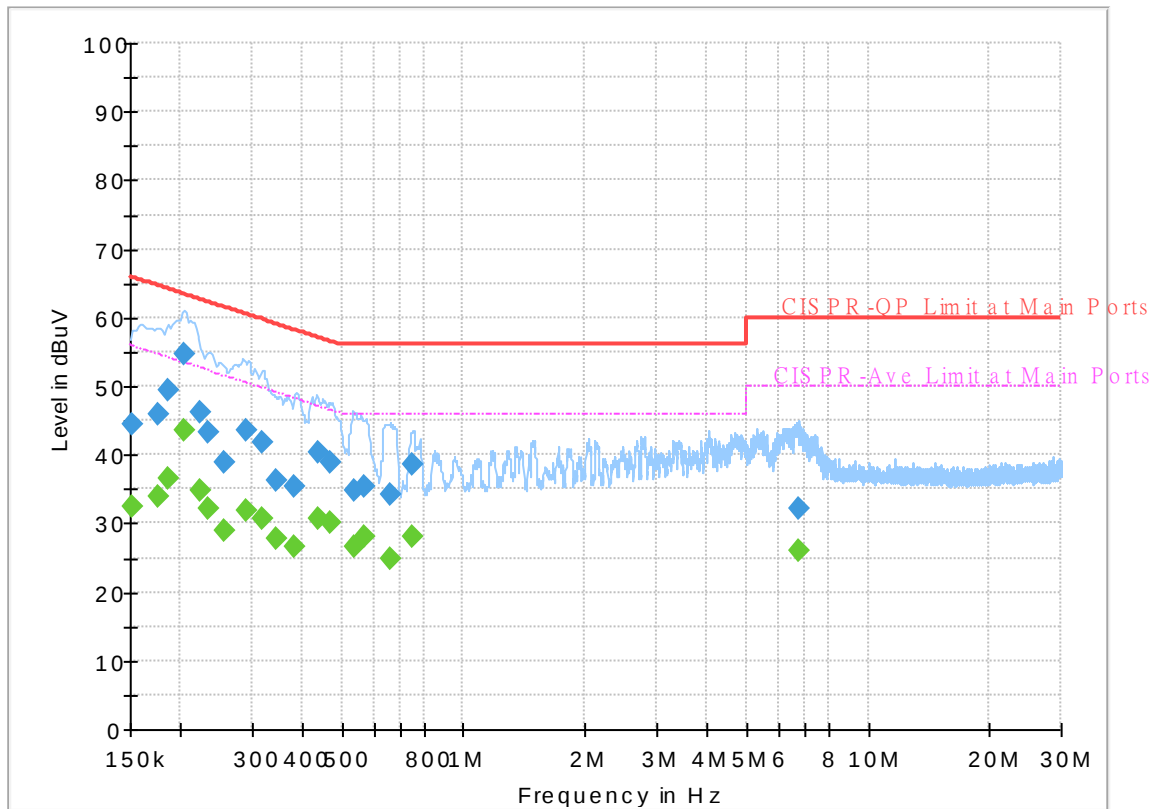
Appendix B. AC Conducted Emission Test Results

Test Engineer :	Tom Lee	Temperature :	23~25℃
		Relative Humidity :	42~50%

EUT Information

Test Mode : Mode 1
 Test Voltage : 120Vac/60Hz
 Phase : Line

Full Spectrum



Final_Result

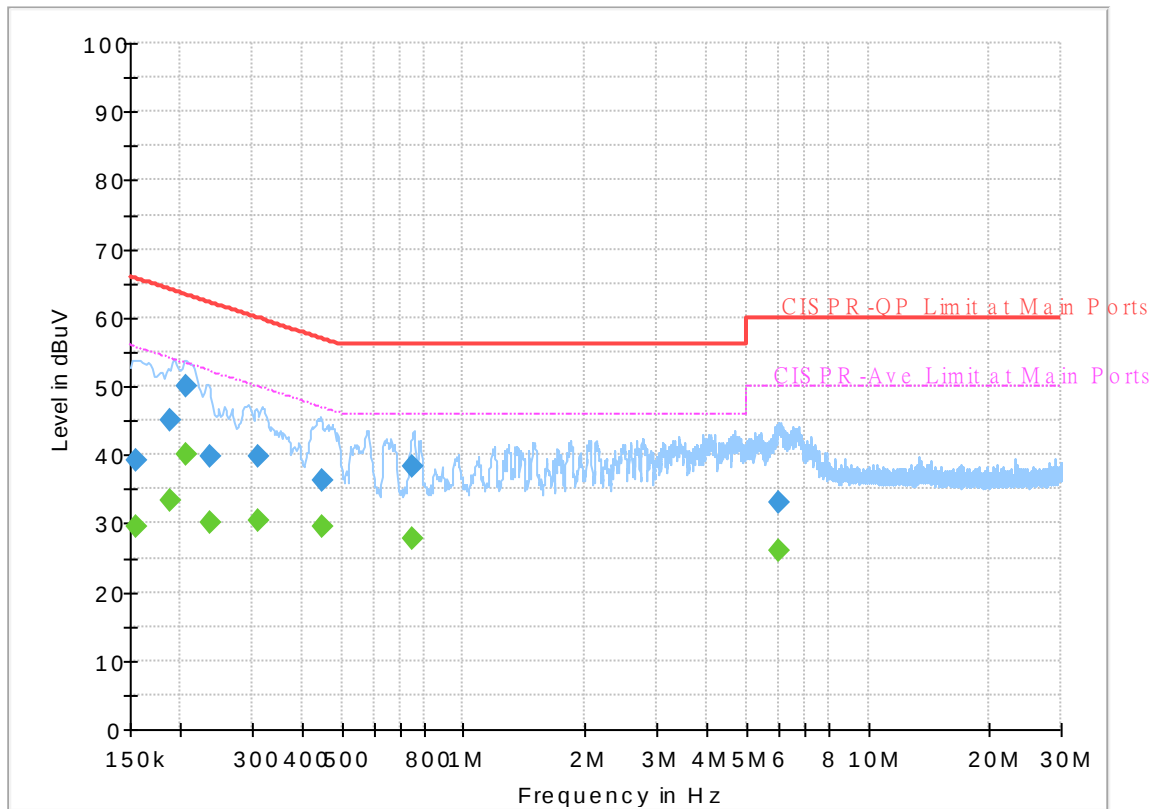
Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.152250	---	32.36	55.88	23.52	L1	OFF	19.6
0.152250	44.48	---	65.88	21.40	L1	OFF	19.6
0.175110	---	33.80	54.71	20.91	L1	OFF	19.6
0.175110	45.84	---	64.71	18.87	L1	OFF	19.6
0.186000	---	36.60	54.21	17.61	L1	OFF	19.6
0.186000	49.42	---	64.21	14.79	L1	OFF	19.6
0.203910	---	43.63	53.45	9.82	L1	OFF	19.6
0.203910	54.70	---	63.45	8.75	L1	OFF	19.6
0.224250	---	34.90	52.66	17.76	L1	OFF	19.6
0.224250	46.26	---	62.66	16.40	L1	OFF	19.6
0.234960	---	32.19	52.27	20.08	L1	OFF	19.6
0.234960	43.20	---	62.27	19.07	L1	OFF	19.6
0.255300	---	28.98	51.58	22.60	L1	OFF	19.6
0.255300	38.80	---	61.58	22.78	L1	OFF	19.6
0.289500	---	31.80	50.54	18.74	L1	OFF	19.6
0.289500	43.52	---	60.54	17.02	L1	OFF	19.6
0.319290	---	30.74	49.73	18.99	L1	OFF	19.6
0.319290	41.92	---	59.73	17.81	L1	OFF	19.6
0.344670	---	27.67	49.09	21.42	L1	OFF	19.6
0.344670	36.30	---	59.09	22.79	L1	OFF	19.6
0.381750	---	26.64	48.24	21.60	L1	OFF	19.6

0.381750	35.28	---	58.24	22.96	L1	OFF	19.6
0.435570	---	30.66	47.15	16.49	L1	OFF	19.6
0.435570	40.37	---	57.15	16.78	L1	OFF	19.6
0.470310	---	30.11	46.51	16.40	L1	OFF	19.6
0.470310	38.86	---	56.51	17.65	L1	OFF	19.6
0.537000	---	26.62	46.00	19.38	L1	OFF	19.6
0.537000	34.72	---	56.00	21.28	L1	OFF	19.6
0.571110	---	27.94	46.00	18.06	L1	OFF	19.6
0.571110	35.46	---	56.00	20.54	L1	OFF	19.6
0.662910	---	24.83	46.00	21.17	L1	OFF	19.6
0.662910	34.19	---	56.00	21.81	L1	OFF	19.6
0.750210	---	27.95	46.00	18.05	L1	OFF	19.6
0.750210	38.68	---	56.00	17.32	L1	OFF	19.6
6.726660	---	25.95	50.00	24.05	L1	OFF	19.9
6.726660	32.20	---	60.00	27.80	L1	OFF	19.9

EUT Information

Test Mode : Mode 1
 Test Voltage : 120Vac/60Hz
 Phase : Neutral

Full Spectrum



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.154500	39.22	---	65.75	26.53	N	OFF	19.5
0.154500	---	29.55	55.75	26.20	N	OFF	19.5
0.189330	44.92	---	64.07	19.15	N	OFF	19.5
0.189330	---	33.35	54.07	20.72	N	OFF	19.5
0.206070	49.94	---	63.36	13.42	N	OFF	19.5
0.206070	---	40.08	53.36	13.28	N	OFF	19.5
0.235410	39.71	---	62.26	22.55	N	OFF	19.5
0.235410	---	30.11	52.26	22.15	N	OFF	19.5
0.312000	39.72	---	59.92	20.20	N	OFF	19.5
0.312000	---	30.29	49.92	19.63	N	OFF	19.5
0.449250	36.25	---	56.89	20.64	N	OFF	19.5
0.449250	---	29.50	46.89	17.39	N	OFF	19.5
0.750750	38.44	---	56.00	17.56	N	OFF	19.5
0.750750	---	27.90	46.00	18.10	N	OFF	19.5
6.047340	33.16	---	60.00	26.84	N	OFF	19.7
6.047340	---	26.01	50.00	23.99	N	OFF	19.7



Appendix C. Radiated Spurious Emission

Test Engineer :	Cookie Ku, Fu Chen and Troye Hsieh	Temperature :	19.6~21.6°C
		Relative Humidity :	64.1~69.1%

2.4GHz 2400~2483.5MHz

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.
4+3		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2388.855	53.21	-20.79	74	42.3	27.52	16.62	33.23	100	154	P	H
		2390	44.48	-9.52	54	33.57	27.52	16.62	33.23	100	154	A	H
	*	2412	105.2	-	-	94.31	27.48	16.64	33.23	100	154	P	H
	*	2412	101.9	-	-	91.01	27.48	16.64	33.23	100	154	A	H
													H
		2385.075	55.38	-18.62	74	44.47	27.53	16.62	33.24	131	215	P	V
		2385.18	48.03	-5.97	54	37.12	27.53	16.62	33.24	131	215	A	V
	*	2412	108.4	-	-	97.51	27.48	16.64	33.23	131	215	P	V
	*	2412	105.57	-	-	94.68	27.48	16.64	33.23	131	215	A	V
													V
802.11b CH 06 2437MHz		2337.68	52.92	-21.08	74	41.98	27.62	16.57	33.25	115	134	P	H
		2389.36	42.13	-11.87	54	31.22	27.52	16.62	33.23	115	134	A	H
	*	2437	108.32	-	-	97.44	27.43	16.67	33.22	115	134	P	H
	*	2437	105.19	-	-	94.31	27.43	16.67	33.22	115	134	A	H
		2487.84	52.81	-21.19	74	42.04	27.25	16.73	33.21	115	134	P	H
		2484.48	41.93	-12.07	54	31.16	27.26	16.72	33.21	115	134	A	H
		2342.16	53.24	-20.76	74	42.29	27.62	16.57	33.24	100	231	P	V
		2389.2	42.77	-11.23	54	31.86	27.52	16.62	33.23	100	231	A	V
	*	2437	108.56	-	-	97.68	27.43	16.67	33.22	100	231	P	V
	*	2437	105.65	-	-	94.77	27.43	16.67	33.22	100	231	A	V
		2486.32	52.57	-21.43	74	41.81	27.25	16.72	33.21	100	231	P	V
		2483.52	42.21	-11.79	54	31.43	27.27	16.72	33.21	100	231	A	V



802.11b CH 11 2462MHz	*	2462	107.63	-	-	96.8	27.35	16.7	33.22	100	134	P	H
	*	2462	104.52	-	-	93.69	27.35	16.7	33.22	100	134	A	H
		2483.64	53.6	-20.4	74	42.82	27.27	16.72	33.21	100	134	P	H
		2483.52	44.19	-9.81	54	33.41	27.27	16.72	33.21	100	134	A	H
													H
													H
	*	2462	109.02	-	-	98.19	27.35	16.7	33.22	100	245	P	V
	*	2462	106.13	-	-	95.3	27.35	16.7	33.22	100	245	A	V
		2483.72	55.21	-18.79	74	44.43	27.27	16.72	33.21	100	245	P	V
		2483.52	48.96	-5.04	54	38.18	27.27	16.72	33.21	100	245	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant. 4+3		(MHz)	(dBμV/m)	Limit (dB)	Line (dBμV/m)	Level (dBμV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)	Pos (deg)	Avg. (P/A)	(H/V)
802.11b CH 12 2467MHz	*	2467	105.09	-	-	94.28	27.33	16.7	33.22	333	128	P	H
	*	2467	102.14	-	-	91.33	27.33	16.7	33.22	333	128	A	H
		2484	54.92	-19.08	74	44.15	27.26	16.72	33.21	333	128	P	H
		2484.12	46.01	-7.99	54	35.24	27.26	16.72	33.21	333	128	A	H
													H
													H
	*	2467	107.48	-	-	96.67	27.33	16.7	33.22	100	229	P	V
	*	2467	104.27	-	-	93.46	27.33	16.7	33.22	100	229	A	V
		2483.56	57.41	-16.59	74	46.63	27.27	16.72	33.21	100	229	P	V
		2483.8	51.32	-2.68	54	40.55	27.26	16.72	33.21	100	229	P	V
													V
													V
802.11b CH 13 2472MHz	*	2472	100.82	-	-	90.02	27.31	16.71	33.22	300	153	P	H
	*	2472	97.69	-	-	86.89	27.31	16.71	33.22	300	153	A	H
		2483.64	55.62	-18.38	74	44.84	27.27	16.72	33.21	300	153	P	H
		2483.52	48.3	-5.7	54	37.52	27.27	16.72	33.21	300	153	A	H
													H
													H
	*	2472	95.63	-	-	84.83	27.31	16.71	33.22	150	123	P	V
	*	2472	93.06	-	-	82.26	27.31	16.71	33.22	150	123	A	V
		2483.52	58.01	-15.99	74	47.23	27.27	16.72	33.21	150	123	P	V
		2483.52	51.94	-2.06	54	41.16	27.27	16.72	33.21	150	123	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 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.
4+3		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		4824	47.05	-26.95	74	65.55	31	10.94	60.44	100	0	P	H
													H
													H
													H
		4824	44.41	-29.59	74	62.91	31	10.94	60.44	100	0	P	V
													V
													V
													V
802.11b CH 06 2437MHz		4874	44.06	-29.94	74	62.5	31	10.96	60.4	100	0	P	H
		7311	49.47	-24.53	74	58.7	36.5	13.38	59.11	100	0	P	H
													H
													H
		4874	43.83	-30.17	74	62.27	31	10.96	60.4	100	0	P	V
		7311	49.77	-24.23	74	59	36.5	13.38	59.11	100	0	P	V
													V
													V
802.11b CH 11 2462MHz		4924	43.91	-30.09	74	62.24	31.05	10.98	60.36	100	0	P	H
		7386	49.96	-24.04	74	59.45	36.36	13.22	59.07	100	0	P	H
													H
													H
		4924	42.68	-31.32	74	61.01	31.05	10.98	60.36	100	0	P	V
		7386	48.23	-25.77	74	57.72	36.36	13.22	59.07	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant. 4+3		(MHz)	(dBμV/m)	Limit (dB)	Line (dBμV/m)	Level (dBμV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)	Pos (deg)	Avg. (P/A)	(H/V)
802.11b CH 12 2467MHz		4934	43.02	-30.98	74	61.31	31.07	10.99	60.35	100	0	P	H
		7401	44.39	-29.61	74	53.96	36.3	13.19	59.06	100	0	P	H
													H
													H
		4934	42.46	-31.54	74	60.75	31.07	10.99	60.35	100	0	P	V
		7401	47.65	-26.35	74	57.22	36.3	13.19	59.06	100	0	P	V
													V
													V
802.11b CH 13 2472MHz		4944	42.95	-31.05	74	61.2	31.09	11	60.34	100	0	P	H
		7416	42.88	-31.12	74	52.4	36.33	13.2	59.05	100	0	P	H
													H
													H
		4944	44.36	-29.64	74	62.61	31.09	11	60.34	100	0	P	V
		7416	43.43	-30.57	74	52.95	36.33	13.2	59.05	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz
WIFI 802.11g (Band Edge @ 3m)

WIFI Ant. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		2389.065	55.48	-18.52	74	44.57	27.52	16.62	33.23	400	145	P	H
		2389.17	45.23	-8.77	54	34.32	27.52	16.62	33.23	400	145	A	H
	*	2412	106.54	-	-	95.65	27.48	16.64	33.23	400	145	P	H
	*	2412	99.2	-	-	88.31	27.48	16.64	33.23	400	145	A	H
													H
													H
		2389.8	62.91	-11.09	74	52	27.52	16.62	33.23	136	115	P	V
		2390	51.42	-2.58	54	40.51	27.52	16.62	33.23	136	115	A	V
	*	2412	109.64	-	-	98.75	27.48	16.64	33.23	136	115	P	V
	*	2412	101.95	-	-	91.06	27.48	16.64	33.23	136	115	A	V
													V
													V
802.11g CH 06 2437MHz		2327.6	53.04	-20.96	74	42.09	27.64	16.56	33.25	393	161	P	H
		2388.56	42.47	-11.53	54	31.56	27.52	16.62	33.23	393	161	A	H
	*	2437	111.79	-	-	100.91	27.43	16.67	33.22	393	161	P	H
	*	2437	104.33	-	-	93.45	27.43	16.67	33.22	393	161	A	H
		2494.48	52.93	-21.07	74	42.19	27.22	16.73	33.21	393	161	P	H
		2483.52	42.34	-11.66	54	31.56	27.27	16.72	33.21	393	161	A	H
		2386.32	54.82	-19.18	74	43.91	27.53	16.62	33.24	108	114	P	V
		2390	44.41	-9.59	54	33.5	27.52	16.62	33.23	108	114	A	V
	*	2437	114.51	-	-	103.63	27.43	16.67	33.22	108	114	P	V
	*	2437	106.99	-	-	96.11	27.43	16.67	33.22	108	114	A	V
		2483.6	54.37	-19.63	74	43.59	27.27	16.72	33.21	108	114	P	V
		2483.52	43.4	-10.6	54	32.62	27.27	16.72	33.21	108	114	A	V



802.11g CH 11 2462MHz	*	2462	108	-	-	97.17	27.35	16.7	33.22	347	36	P	H
	*	2462	100.08	-	-	89.25	27.35	16.7	33.22	347	36	A	H
		2484.76	57.42	-16.58	74	46.65	27.26	16.72	33.21	347	36	P	H
		2484	45.58	-8.42	54	34.81	27.26	16.72	33.21	347	36	A	H
													H
													H
	*	2462	109.29	-	-	98.46	27.35	16.7	33.22	124	245	P	V
	*	2462	102.44	-	-	91.61	27.35	16.7	33.22	124	245	A	V
		2483.52	61.99	-12.01	74	51.21	27.27	16.72	33.21	124	245	P	V
		2483.52	51.17	-2.83	54	40.39	27.27	16.72	33.21	124	245	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant. 4+3		(MHz)	(dBμV/m)	Limit (dB)	Line (dBμV/m)	Level (dBμV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)	Pos (deg)	Avg. (P/A)	(H/V)
802.11g CH 12 2467MHz	*	2467	101.65	-	-	90.84	27.33	16.7	33.22	338	143	P	H
	*	2467	93.88	-	-	83.07	27.33	16.7	33.22	338	143	A	H
		2484.12	59.86	-14.14	74	49.09	27.26	16.72	33.21	338	143	P	H
		2484.24	48.1	-5.9	54	37.33	27.26	16.72	33.21	338	143	A	H
													H
													H
	*	2467	104.08	-	-	93.27	27.33	16.7	33.22	105	243	P	V
	*	2467	97.15	-	-	86.34	27.33	16.7	33.22	105	243	A	V
		2483.88	63.76	-10.24	74	52.99	27.26	16.72	33.21	105	243	P	V
		2483.52	52.35	-1.65	54	41.57	27.27	16.72	33.21	105	243	A	V
													V
													V
802.11g CH 13 2472MHz	*	2472	88.13	-	-	77.33	27.31	16.71	33.22	297	152	P	H
	*	2472	80.72	-	-	69.92	27.31	16.71	33.22	297	152	A	H
		2484.6	58.52	-15.48	74	47.75	27.26	16.72	33.21	297	152	P	H
		2484.4	47.05	-6.95	54	36.28	27.26	16.72	33.21	297	152	A	H
													H
													H
	*	2472	91.19	-	-	80.39	27.31	16.71	33.22	100	248	P	V
	*	2472	83.56	-	-	72.76	27.31	16.71	33.22	100	248	A	V
		2483.64	63.43	-10.57	74	52.65	27.27	16.72	33.21	100	248	P	V
		2483.52	52.49	-1.51	54	41.71	27.27	16.72	33.21	100	248	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz
WIFI 802.11g (Harmonic @ 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.
4+3		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11g CH 01 2412MHz		4824	40.56	-33.44	74	59.06	31	10.94	60.44	100	0	P	H
													H
													H
													H
		4824	40.91	-33.09	74	59.41	31	10.94	60.44	100	0	P	V
													V
													V
													V
802.11g CH 06 2437MHz		4874	41.41	-32.59	74	59.85	31	10.96	60.4	100	0	P	H
		7311	43.07	-30.93	74	52.3	36.5	13.38	59.11	100	0	P	H
													H
													H
		4874	40.39	-33.61	74	58.83	31	10.96	60.4	100	0	P	V
		7311	43.75	-30.25	74	52.98	36.5	13.38	59.11	100	0	P	V
													V
													V
802.11g CH 11 2462MHz		4924	40.69	-33.31	74	59.02	31.05	10.98	60.36	100	0	P	H
		7386	42.78	-31.22	74	52.27	36.36	13.22	59.07	100	0	P	H
													H
													H
		4924	39.96	-34.04	74	58.29	31.05	10.98	60.36	100	0	P	V
		7386	42.83	-31.17	74	52.32	36.36	13.22	59.07	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant. 4+3		(MHz)	(dBμV/m)	Limit (dB)	Line (dBμV/m)	Level (dBμV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)	Pos (deg)	Avg. (P/A)	(H/V)
802.11g CH 12 2467MHz		4934	42.03	-31.97	74	60.32	31.07	10.99	60.35	100	0	P	H
		7401	43.32	-30.68	74	52.89	36.3	13.19	59.06	100	0	P	H
													H
													H
		4934	40.13	-33.87	74	58.42	31.07	10.99	60.35	100	0	P	V
		7401	42.69	-31.31	74	52.26	36.3	13.19	59.06	100	0	P	V
													V
													V
802.11g CH 13 2472MHz		4944	40.64	-33.36	74	58.89	31.09	11	60.34	100	0	P	H
		7416	43.66	-30.34	74	53.18	36.33	13.2	59.05	100	0	P	H
													H
													H
		4944	39.87	-34.13	74	58.12	31.09	11	60.34	100	0	P	V
		7416	42.75	-31.25	74	52.27	36.33	13.2	59.05	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 01 2412MHz		2390	54.88	-19.12	74	43.97	27.52	16.62	33.23	400	161	P	H
		2390	45.75	-8.25	54	34.84	27.52	16.62	33.23	400	161	A	H
	*	2412	105.78	-	-	94.89	27.48	16.64	33.23	400	161	P	H
	*	2412	98.07	-	-	87.18	27.48	16.64	33.23	400	161	A	H
													H
													H
		2389.905	63.46	-10.54	74	52.55	27.52	16.62	33.23	112	245	P	V
		2390	52.12	-1.88	54	41.21	27.52	16.62	33.23	112	245	A	V
	*	2412	110.06	-	-	99.17	27.48	16.64	33.23	112	245	P	V
	*	2412	102.47	-	-	91.58	27.48	16.64	33.23	112	245	A	V
													V
													V
802.11n HT20 CH 06 2437MHz		2371.76	53.03	-20.97	74	42.11	27.56	16.6	33.24	396	144	P	H
		2390	42.8	-11.2	54	31.89	27.52	16.62	33.23	396	144	A	H
	*	2437	110.21	-	-	99.33	27.43	16.67	33.22	396	144	P	H
	*	2437	102.44	-	-	91.56	27.43	16.67	33.22	396	144	A	H
		2484.64	53.52	-20.48	74	42.75	27.26	16.72	33.21	396	144	P	H
		2483.52	42.34	-11.66	54	31.56	27.27	16.72	33.21	396	144	A	H
		2388.56	55.74	-18.26	74	44.83	27.52	16.62	33.23	115	124	P	V
		2389.52	44.35	-9.65	54	33.44	27.52	16.62	33.23	115	124	A	V
	*	2437	114.55	-	-	103.67	27.43	16.67	33.22	115	124	P	V
	*	2437	106.46	-	-	95.58	27.43	16.67	33.22	115	124	A	V
		2484.48	55.56	-18.44	74	44.79	27.26	16.72	33.21	115	124	P	V
		2483.52	43.58	-10.42	54	32.8	27.27	16.72	33.21	115	124	A	V



802.11n HT20 CH 11 2462MHz	*	2462	106.79	-	-	95.96	27.35	16.7	33.22	304	38	P	H
	*	2462	98.72	-	-	87.89	27.35	16.7	33.22	304	38	A	H
		2483.56	55.6	-18.4	74	44.82	27.27	16.72	33.21	304	38	P	H
		2483.52	45.2	-8.8	54	34.42	27.27	16.72	33.21	304	38	A	H
													H
													H
	*	2462	108.9	-	-	98.07	27.35	16.7	33.22	100	245	P	V
	*	2462	100.91	-	-	90.08	27.35	16.7	33.22	100	245	A	V
		2483.8	62.96	-11.04	74	52.19	27.26	16.72	33.21	100	245	P	V
		2483.52	51.94	-2.06	54	41.16	27.27	16.72	33.21	100	245	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant. 4+3		(MHz)	(dBμV/m)	Limit (dB)	Line (dBμV/m)	Level (dBμV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)	Pos (deg)	Avg. (P/A)	(H/V)
802.11n HT20 CH 12 2467MHz	*	2467	99.47	-	-	88.66	27.33	16.7	33.22	305	48	P	H
	*	2467	92.15	-	-	81.34	27.33	16.7	33.22	305	48	A	H
		2484.16	56.02	-17.98	74	45.25	27.26	16.72	33.21	305	48	P	H
		2483.52	45.58	-8.42	54	34.8	27.27	16.72	33.21	305	48	A	H
													H
													H
	*	2467	103.92	-	-	93.11	27.33	16.7	33.22	120	124	P	V
	*	2467	96.08	-	-	85.27	27.33	16.7	33.22	120	124	A	V
		2483.52	62.27	-11.73	74	51.49	27.27	16.72	33.21	120	124	P	V
		2483.52	51.68	-2.32	54	40.9	27.27	16.72	33.21	120	124	A	V
													V
													V
802.11n HT20 CH 13 2472MHz	*	2472	89.01	-	-	78.21	27.31	16.71	33.22	306	144	P	H
	*	2472	81.17	-	-	70.37	27.31	16.71	33.22	306	144	A	H
		2483.64	61.56	-12.44	74	50.78	27.27	16.72	33.21	306	144	P	H
		2483.52	50.08	-3.92	54	39.3	27.27	16.72	33.21	306	144	A	H
													H
													H
	*	2472	90.01	-	-	79.21	27.31	16.71	33.22	100	55	P	V
	*	2472	82.34	-	-	71.54	27.31	16.71	33.22	100	55	A	V
		2483.88	65.16	-8.84	74	54.39	27.26	16.72	33.21	100	55	P	V
		2483.52	53.14	-0.86	54	42.36	27.27	16.72	33.21	100	55	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz
WIFI 802.11n HT20 (Harmonic @ 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.
4+3		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 01 2412MHz		4824	40.64	-33.36	74	59.14	31	10.94	60.44	100	0	P	H
													H
													H
													H
		4824	40.38	-33.62	74	58.88	31	10.94	60.44	100	0	P	V
													V
													V
													V
802.11n HT20 CH 06 2437MHz		4874	42.25	-31.75	74	60.69	31	10.96	60.4	100	0	P	H
		7311	49.04	-24.96	74	58.27	36.5	13.38	59.11	100	0	P	H
													H
													H
		4874	42.49	-31.51	74	60.93	31	10.96	60.4	100	0	P	V
		7311	49.96	-24.04	74	59.19	36.5	13.38	59.11	100	0	P	V
													V
													V
802.11n HT20 CH 11 2462MHz		4924	41.39	-32.61	74	59.72	31.05	10.98	60.36	100	0	P	H
		7386	44.65	-29.35	74	54.14	36.36	13.22	59.07	100	0	P	H
													H
													H
		4924	41.95	-32.05	74	60.28	31.05	10.98	60.36	100	0	P	V
		7386	43.38	-30.62	74	52.87	36.36	13.22	59.07	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant. 4+3		(MHz)	(dBμV/m)	Limit (dB)	Line (dBμV/m)	Level (dBμV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)	Pos (deg)	Avg. (P/A)	(H/V)
802.11n HT20 CH 12 2467MHz		4934	41.62	-32.38	74	59.91	31.07	10.99	60.35	100	0	P	H
		7401	43.67	-30.33	74	53.24	36.3	13.19	59.06	100	0	P	H
													H
													H
		4934	40.79	-33.21	74	59.08	31.07	10.99	60.35	100	0	P	V
		7401	43.34	-30.66	74	52.91	36.3	13.19	59.06	100	0	P	V
													V
													V
802.11n HT20 CH 13 2472MHz		4944	41.46	-32.54	74	59.71	31.09	11	60.34	100	0	P	H
		7416	42.98	-31.02	74	52.5	36.33	13.2	59.05	100	0	P	H
													H
													H
		4944	40.03	-33.97	74	58.28	31.09	11	60.34	100	0	P	V
		7416	42.6	-31.4	74	52.12	36.33	13.2	59.05	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission above 18GHz

2.4GHz WIFI 802.11n HT20 (SHF)

[illegible]



Emission below 1GHz

2.4GHz WIFI 802.11n HT20 (LF)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
4+3		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11n HT20 LF		30	25.29	-14.71	40	32.8	24.15	0.76	32.42	100	0	P	H
		36.79	22.59	-17.41	40	33.43	20.76	0.86	32.46	-	-	P	H
		80.44	25.22	-14.78	40	43.16	13.2	1.3	32.44	-	-	P	H
		848.68	28.46	-17.54	46	27.46	28.75	4.2	31.95	-	-	P	H
		881.66	29.25	-16.75	46	27.77	29.03	4.26	31.81	-	-	P	H
		947.62	30.71	-15.29	46	27.43	29.95	4.43	31.1	-	-	P	H
													H
													H
													H
													H
													H
													H
		33.88	29.01	-10.99	40	38.13	22.5	0.82	32.44	-	-	P	V
		39.7	32.38	-7.62	40	44.55	19.4	0.91	32.48	100	0	P	V
		205.57	28.27	-15.23	43.5	43.94	14.81	2.09	32.57	-	-	P	V
		720.64	34.35	-11.65	46	35.86	26.57	3.85	31.93	-	-	P	V
		942.77	30.46	-15.54	46	27.52	29.69	4.42	31.17	-	-	P	V
		950.53	30.75	-15.25	46	27.28	30.09	4.44	31.06	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



<WPC Mode>

2.4GHz 2400~2483.5MHz

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.	
4+3		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 13 2472MHz	*	2472	87.73	-	-	76.93	27.31	16.71	33.22	144	105	P	H
	*	2472	80.82	-	-	70.02	27.31	16.71	33.22	144	105	A	H
		2483.52	63.18	-10.82	74	52.4	27.27	16.72	33.21	144	105	P	H
		2483.52	52.5	-1.5	54	41.72	27.27	16.72	33.21	144	105	A	H
													H
													H
	*	2472	86.14	-	-	75.34	27.31	16.71	33.22	370	62	P	V
	*	2472	78.72	-	-	67.92	27.31	16.71	33.22	370	62	A	V
		2483.76	59.35	-14.65	74	48.58	27.26	16.72	33.21	370	62	P	V
		2483.52	47.92	-6.08	54	37.14	27.27	16.72	33.21	370	62	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant. 4+3		(MHz)	(dBμV/m)	Limit (dB)	Line (dBμV/m)	Level (dBμV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)	Pos (deg)	Avg. (P/A)	(H/V)
802.11n HT20 CH 13 2472MHz		4944	41.97	-32.03	74	58.15	31.09	11	58.27	100	0	P	H
		7416	42.69	-31.31	74	51.74	36.33	13.2	58.58	100	0	P	H
													H
													H
		4944	42.33	-31.67	74	58.51	31.09	11	58.27	100	0	P	V
		7416	42.97	-31.03	74	52.02	36.33	13.2	58.58	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission above 18GHz

2.4GHz WIFI 802.11n HT20 (SHF)

[illegible]



Emission below 1GHz

2.4GHz WIFI 802.11n HT20 (LF)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
4+3		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11n HT20 LF		34.85	19.49	-20.51	40	29.06	22.04	0.84	32.45	-	-	P	H
		125.06	24.03	-19.47	43.5	37.49	17.37	1.6	32.43	-	-	P	H
		182.29	20.77	-22.73	43.5	36.69	14.63	2	32.55	-	-	P	H
		817.64	28.3	-17.7	46	28.48	27.81	4.09	32.08	-	-	P	H
		899.12	29.3	-16.7	46	27.82	28.91	4.3	31.73	-	-	P	H
		953.44	31.99	-14.01	46	28.31	30.26	4.44	31.02	100	0	P	H
													H
													H
													H
													H
													H
													H
		35.82	32.71	-7.29	40	43.02	21.29	0.85	32.45	100	0	P	V
		124.09	25.44	-18.06	43.5	38.97	17.32	1.58	32.43	-	-	P	V
		215.27	28.02	-15.48	43.5	43.53	14.88	2.14	32.53	-	-	P	V
		843.83	29.14	-16.86	46	28.37	28.56	4.18	31.97	-	-	P	V
		881.66	29.46	-16.54	46	27.98	29.03	4.26	31.81	-	-	P	V
		954.41	30.29	-15.71	46	26.53	30.32	4.45	31.01	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against 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.
!	Test result is over limit line.
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.	
4+3		(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”.



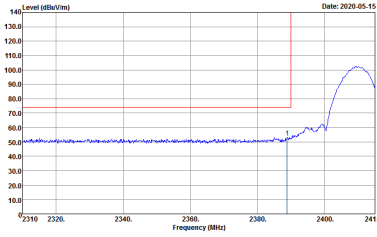
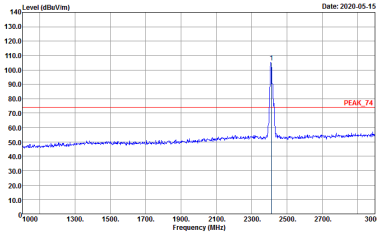
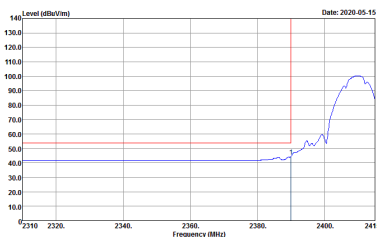
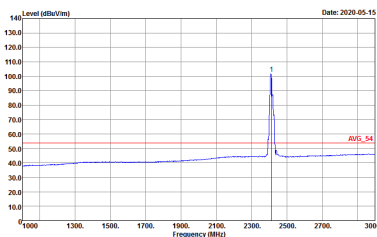
Appendix D. Radiated Spurious Emission Plots

Test Engineer :	Cookie Ku, Fu Chen and Troye Hsieh	Temperature :	19.6~21.6°C
		Relative Humidity :	64.1~69.1%

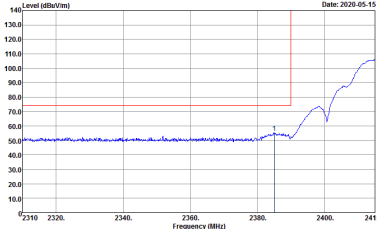
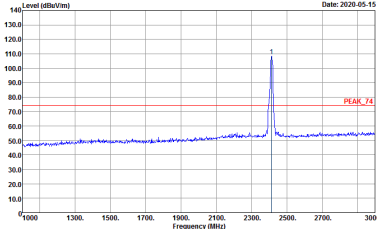
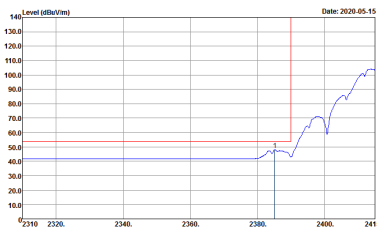
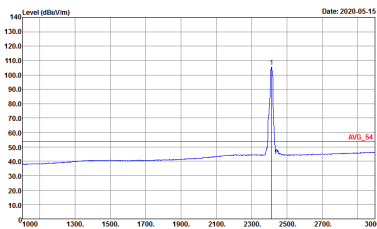
Note symbol

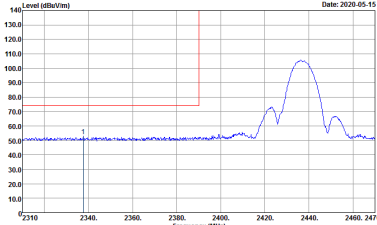
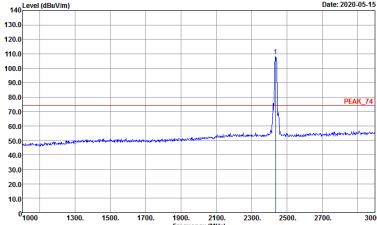
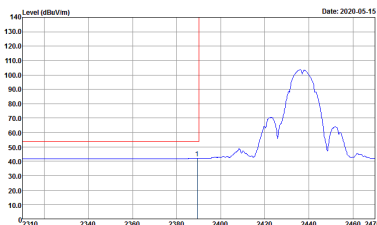
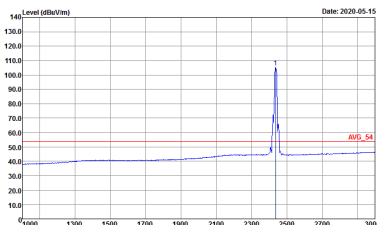
-L	Low channel location
-R	High channel location

2.4GHz 2400~2483.5MHz
WIFI 802.11b (Band Edge @ 3m)

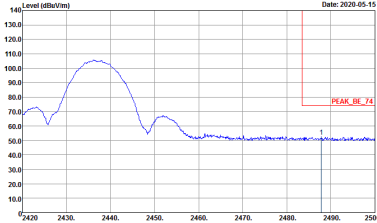
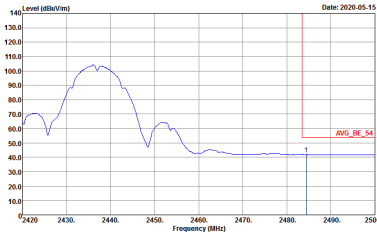
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
4+3	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZZONTAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF HORIZZONTAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

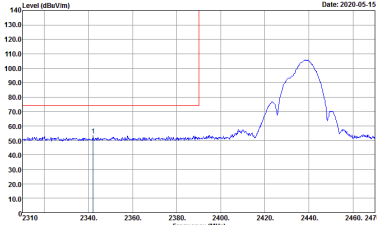
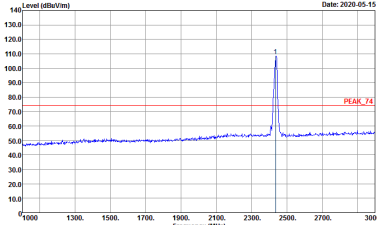
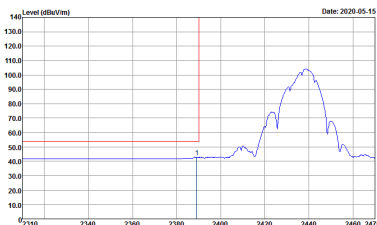
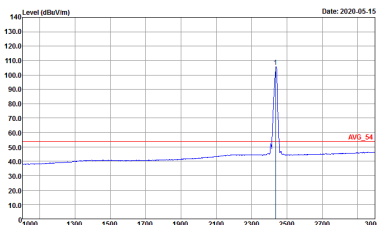


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
4+3	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

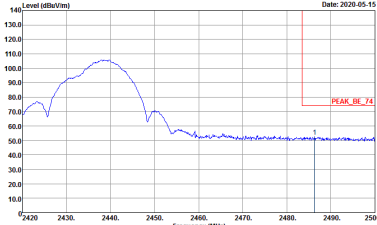
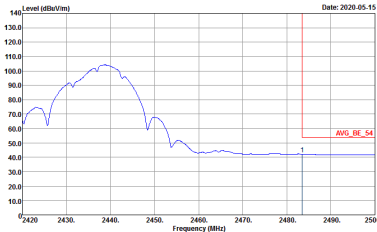
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - L	
4+3	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

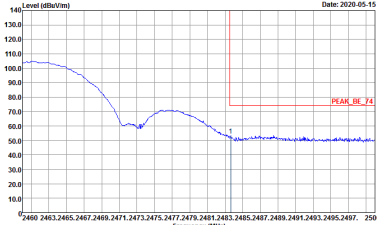
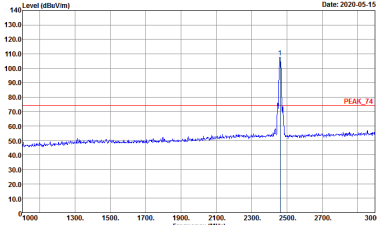
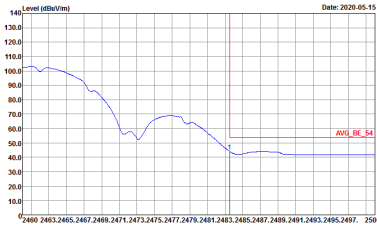
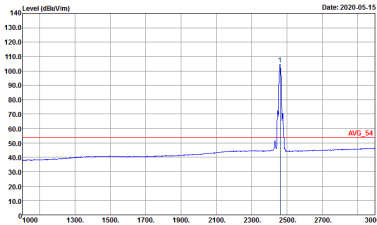


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - R	
4+3	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 91200-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	Left blank
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 91200-HF HORIZONTAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	Left blank

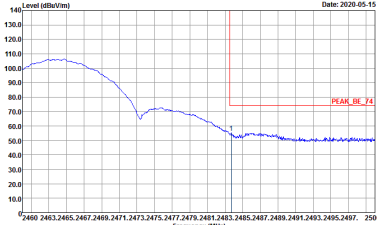
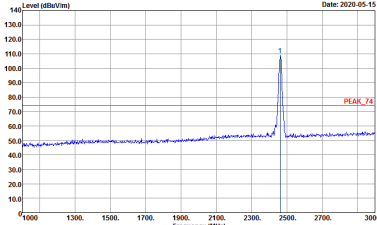
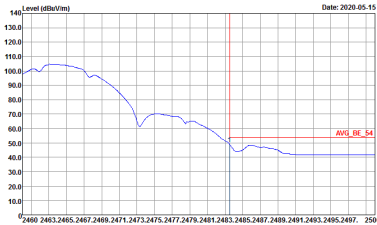
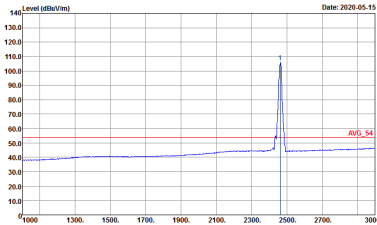
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - L	
4+3	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

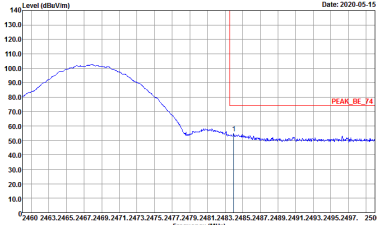
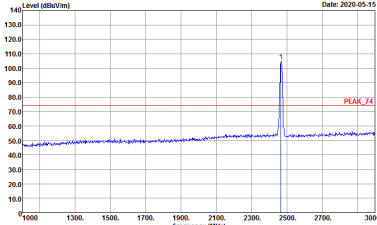
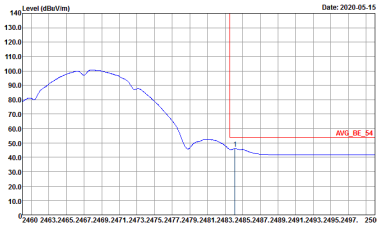
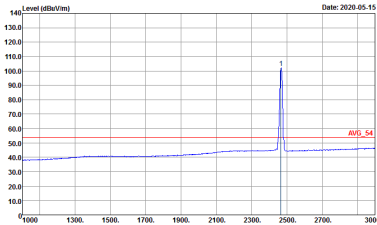


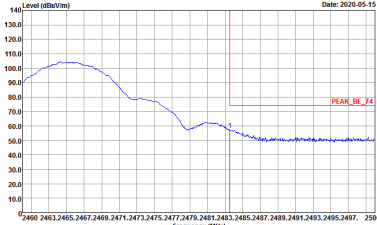
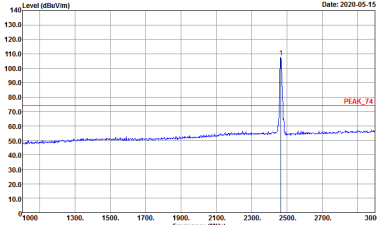
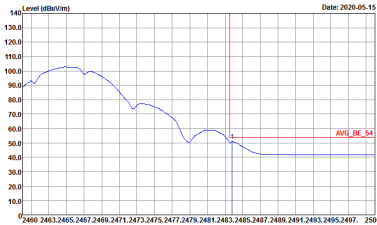
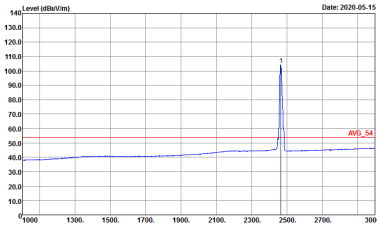
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - R	
4+3	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	Left blank
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	Left blank

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
4+3	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

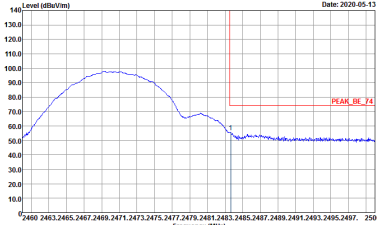
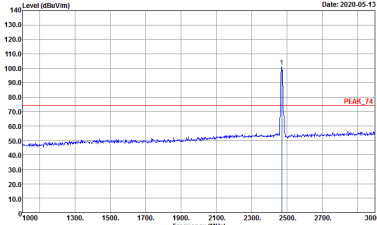
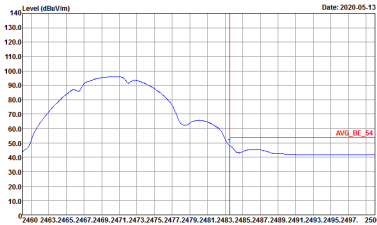
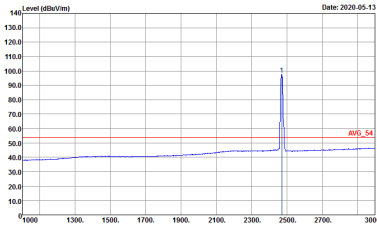


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
4+3	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

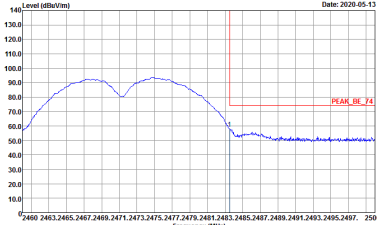
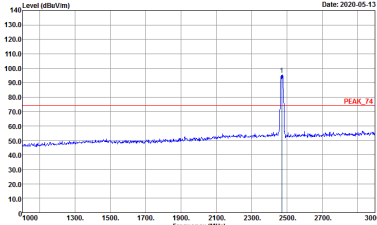
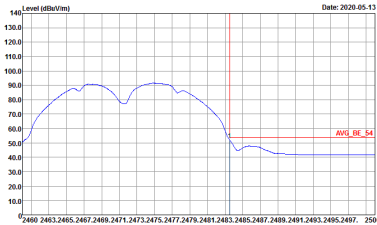
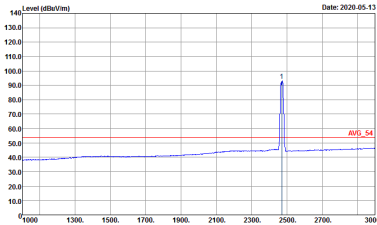
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH12 2467MHz	
4+3	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 91200-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 91200-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 91200-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 91200-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH12 2467MHz	
4+3	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

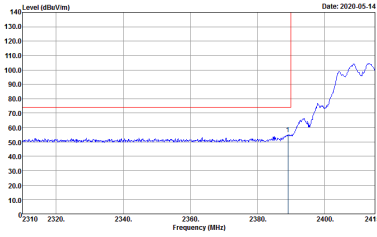
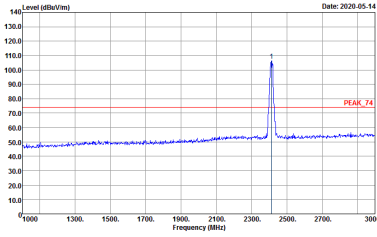
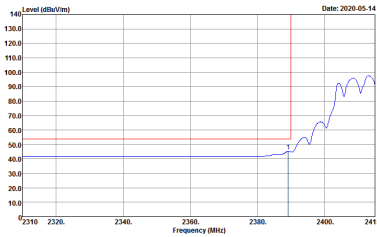
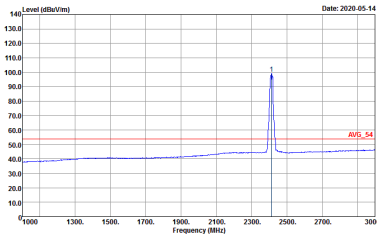


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH13 2472MHz	
4+3	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

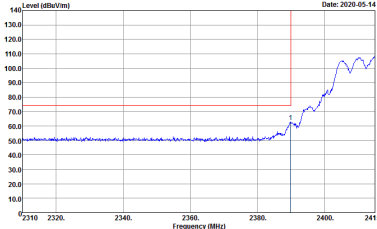
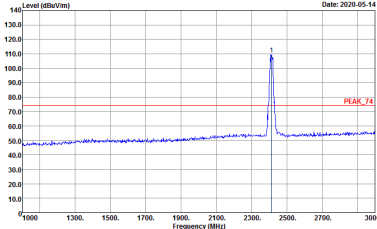
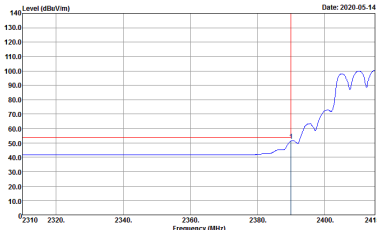
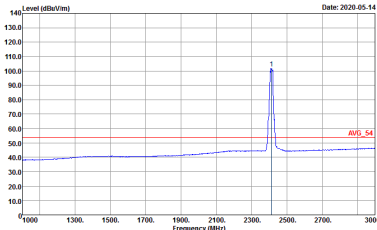


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH13 2472MHz	
4+3	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

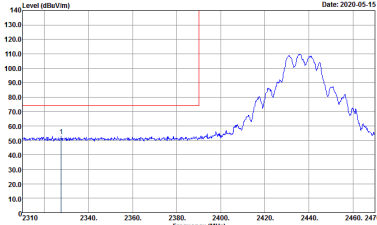
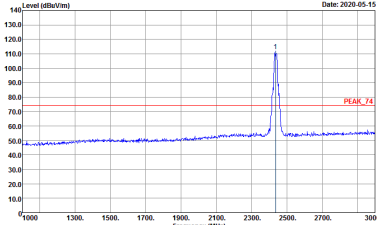
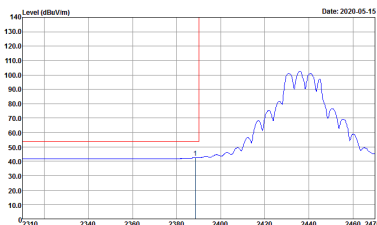
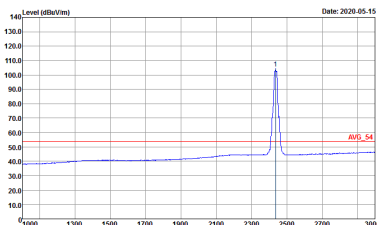
2.4GHz 2400~2483.5MHz
WIFI 802.11g (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
4+3	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak
Avg.		

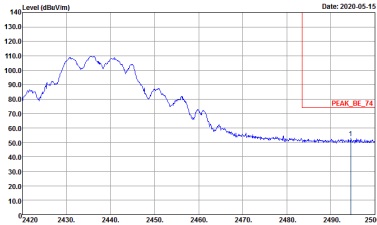
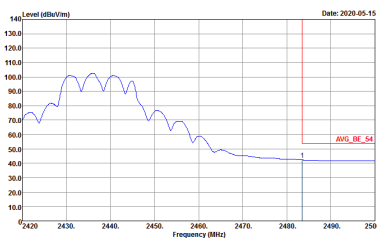


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
4+3	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

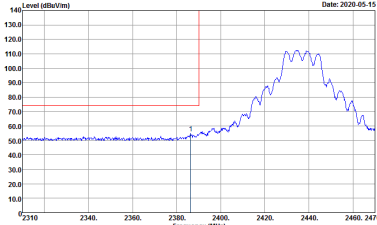
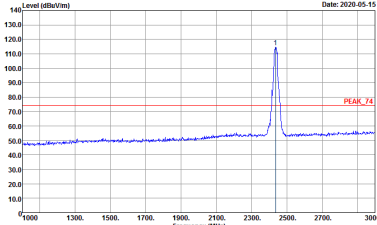
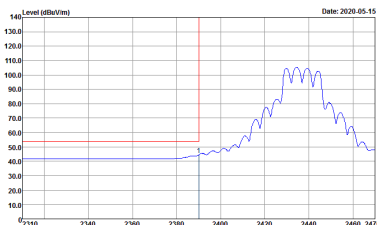
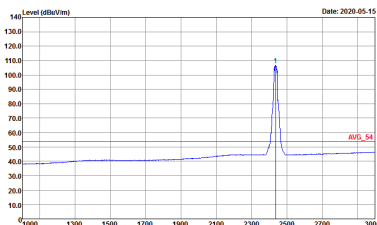


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - L	
4+3	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

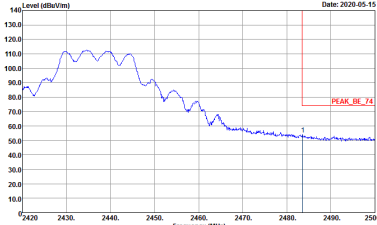
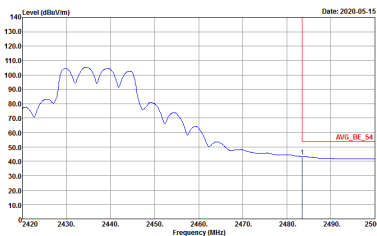


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - R	
4+3	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 91200-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	Left blank
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 91200-HF HORIZONTAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	Left blank

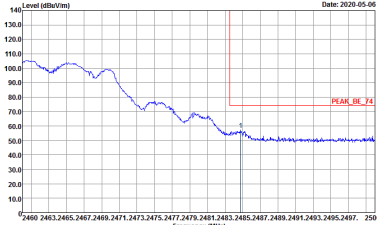
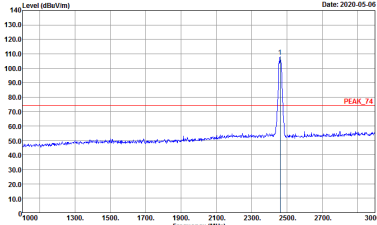
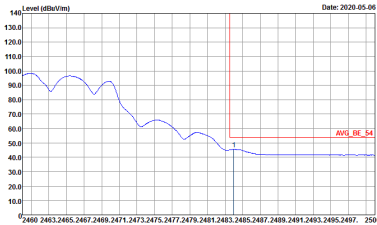
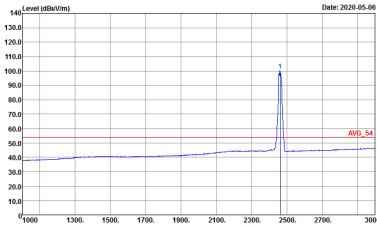


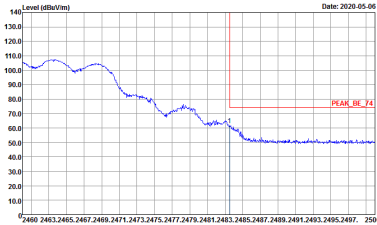
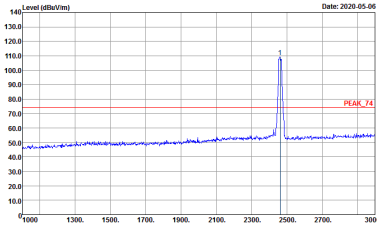
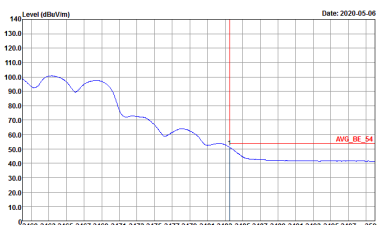
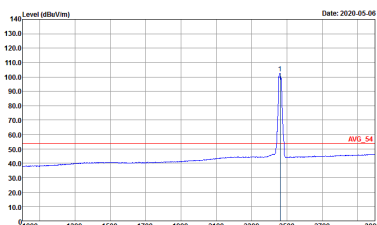
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - L	
4+3	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

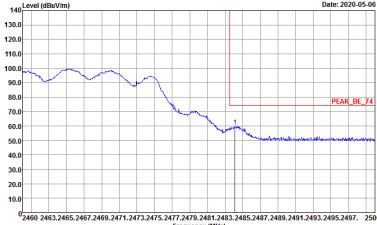
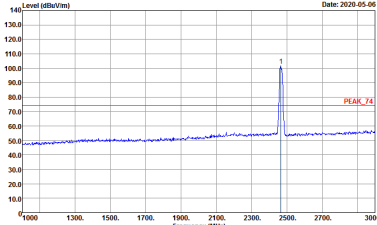
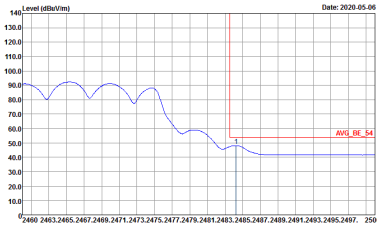
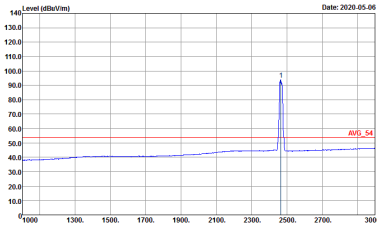


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - R	
4+3	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	Left Blank
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	Left Blank

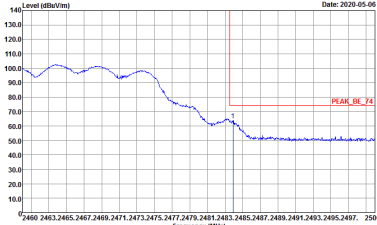
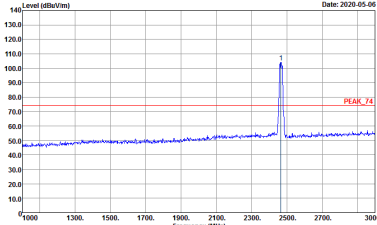
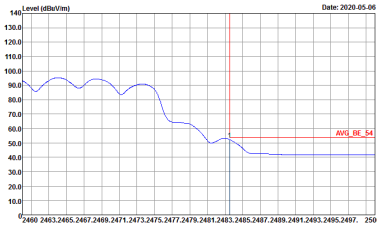
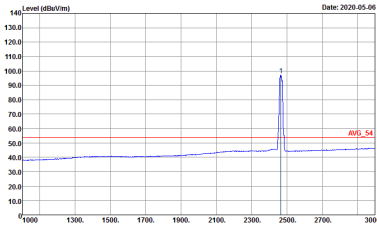


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
4+3	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 91200-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 91200-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 91200-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 91200-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

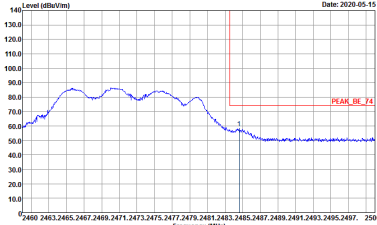
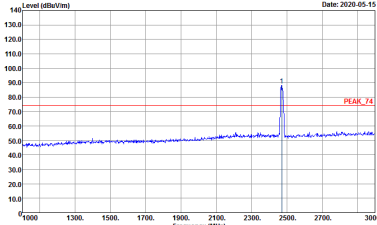
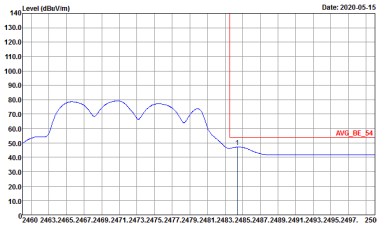
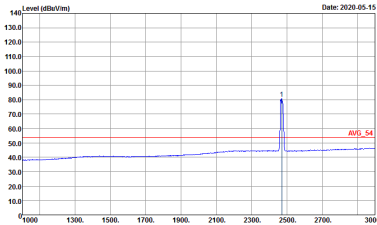
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
4+3	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

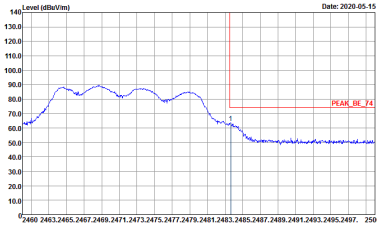
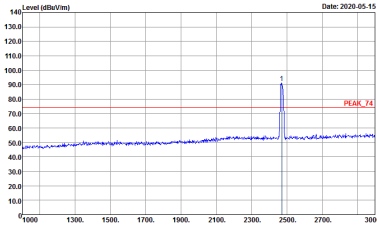
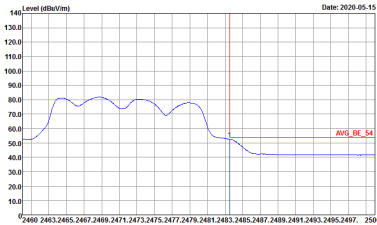
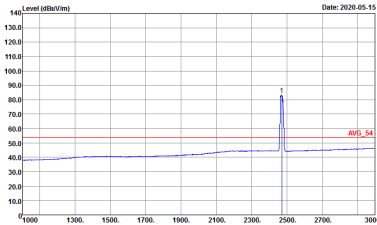
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH12 2467MHz	
4+3	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak



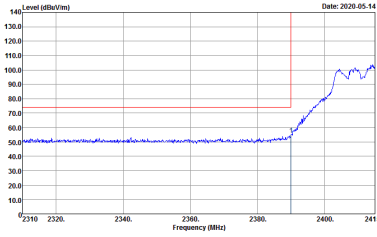
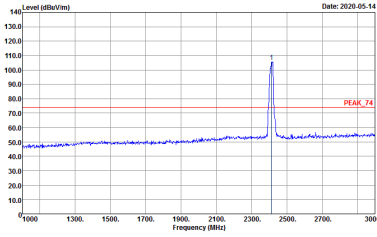
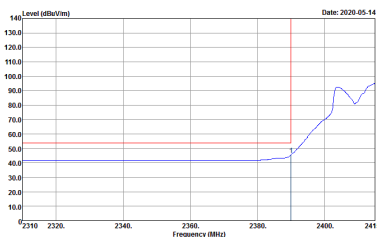
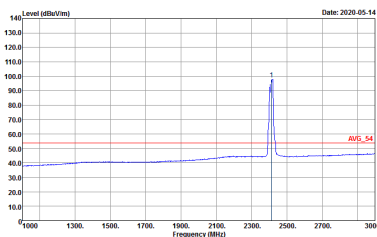
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH12 2467MHz	
4+3	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak



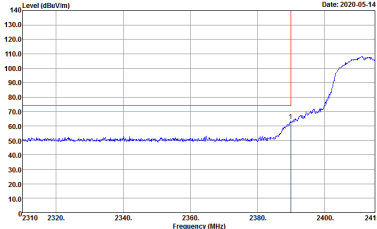
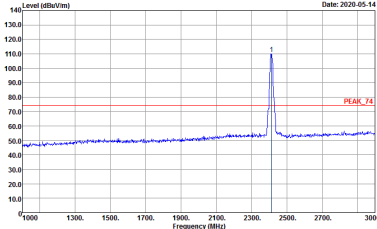
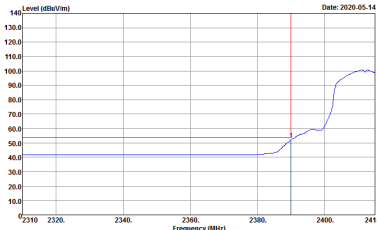
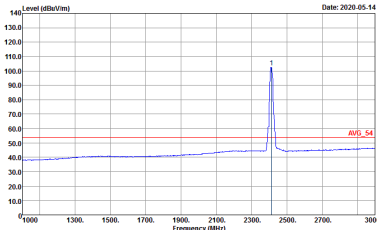
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH13 2472MHz	
4+3	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH13 2472MHz	
4+3	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

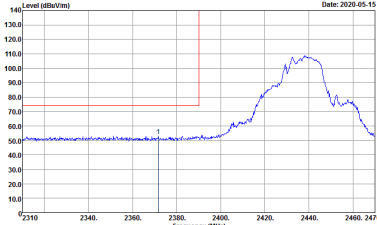
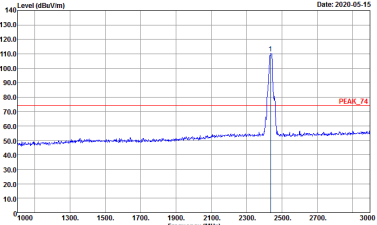
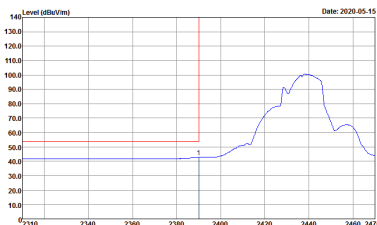
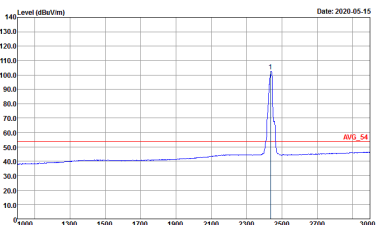
2.4GHz 2400~2483.5MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
4+3	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZZONTAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF HORIZZONTAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

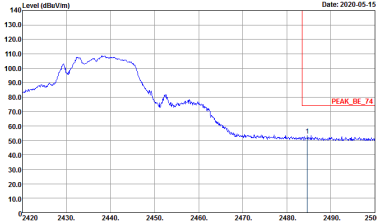
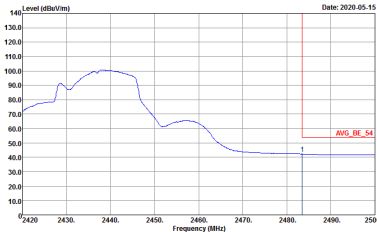


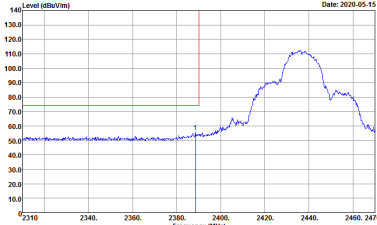
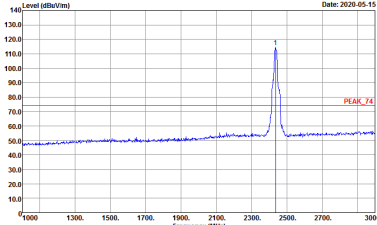
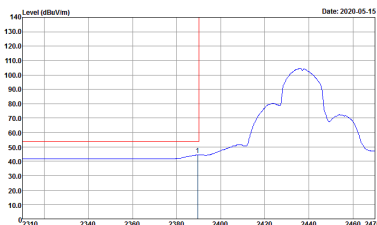
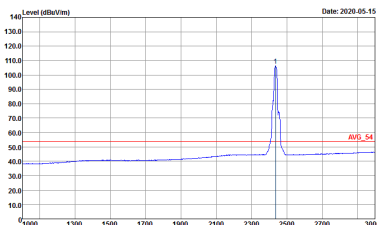
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
4+3	Vertical	Fundamental
Peak	 Site : 03CHI1-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CHI1-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CHI1-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CHI1-HY Condition : AVG_54 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak



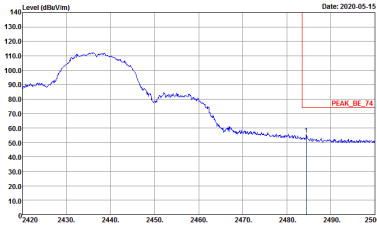
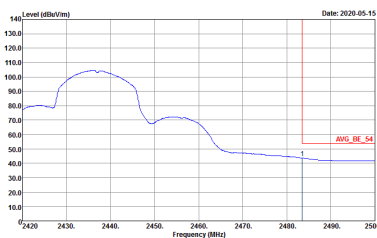
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - L	
4+3	Horizontal	Fundamental
Peak	 Site : 03CHI1-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CHI1-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CHI1-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CHI1-HY Condition : AVG_54 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

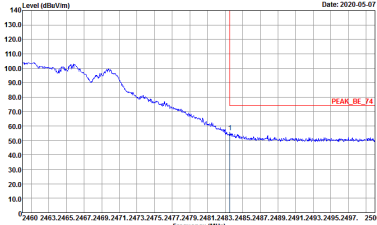
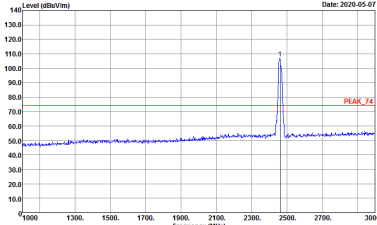
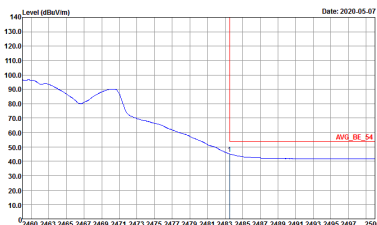
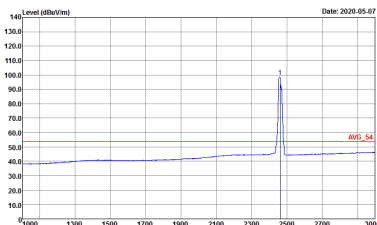


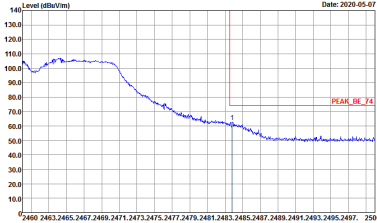
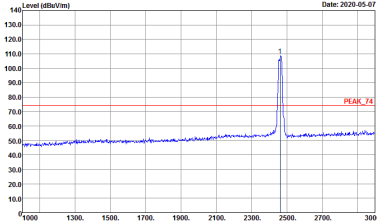
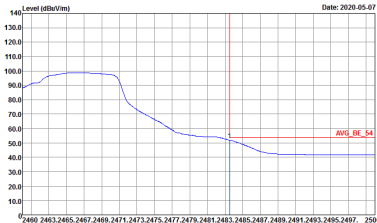
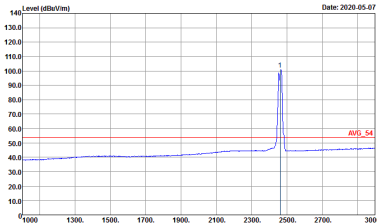
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - R	
4+3	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 91200-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	Left blank
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 91200-HF HORIZONTAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	Left blank

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - L	
4+3	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto : Peak
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto : Peak

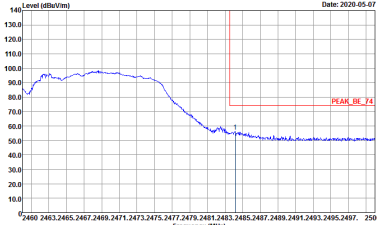
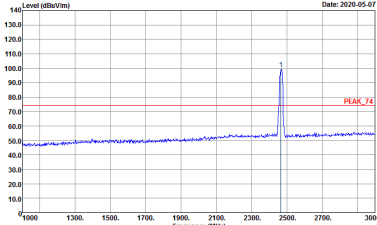
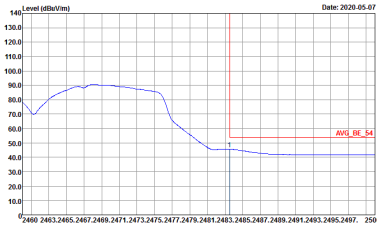
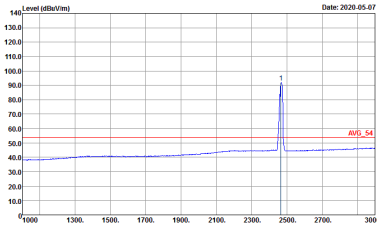


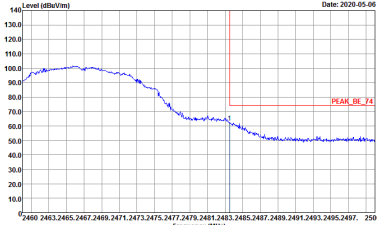
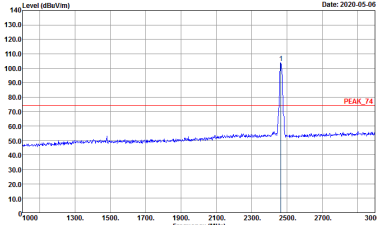
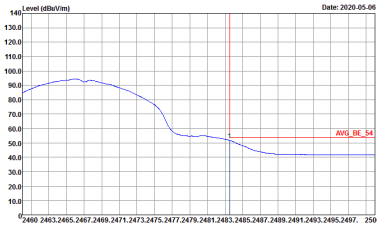
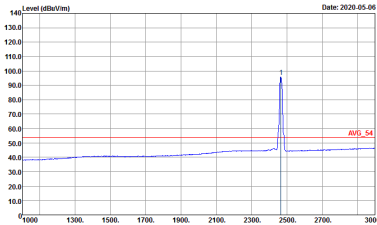
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - R	
4+3	Vertical	Fundamental
Peak	 Site : 03CH11-1HY Condition : PEAK_BE_74 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	Left Blank
Avg.	 Site : 03CH11-1HY Condition : AVG_BE_54 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	Left Blank

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
4+3	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

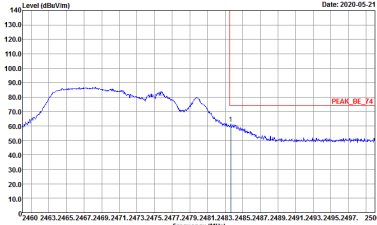
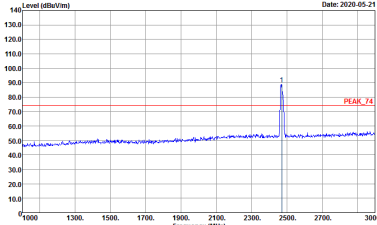
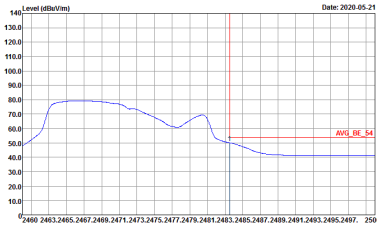
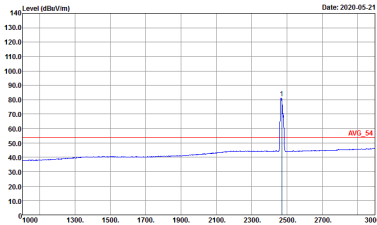
WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
4+3	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

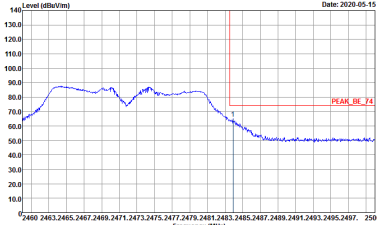
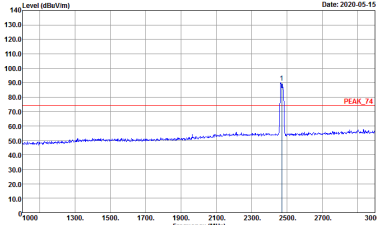
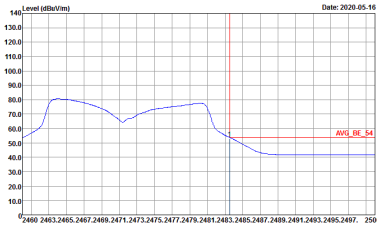
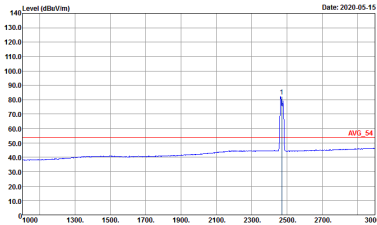


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH12 2467MHz	
4+3	Horizontal	Fundamental
Peak	 Site : 03CHI1-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CHI1-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
	 Site : 03CHI1-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CHI1-HY Condition : AVG_54 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH12 2467MHz	
4+3	Vertical	Fundamental
Peak	 Site : 03CHI1-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CHI1-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
	 Site : 03CHI1-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CHI1-HY Condition : AVG_54 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak



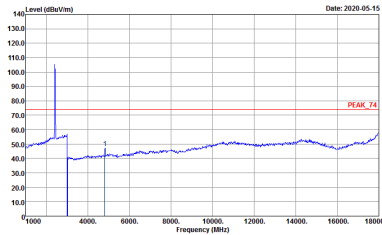
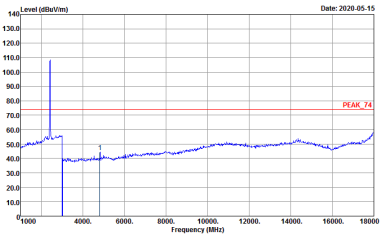
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH13 2472MHz	
4+3	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH13 2472MHz	
4+3	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

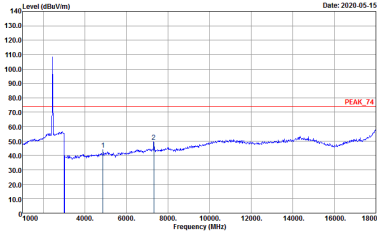
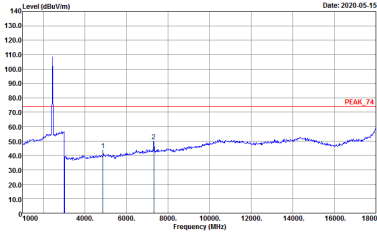


2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH01 2412MHz	
4+3	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



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH06 2437MHz	
4+3	Horizontal	Vertical
Peak Avg.	 Site : 03CHI1-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak	 Site : 03CHI1-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : Peak



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH11 2462MHz	
4+3	Horizontal	Vertical
Peak Avg.	Level (dBuV/m) Date: 2020-05-15 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak	Level (dBuV/m) Date: 2020-05-15 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : Peak



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH12 2467MHz	
4+3	Horizontal	Vertical
Peak Avg.	Level (dBuV/m) Date: 2020-05-15 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak	Level (dBuV/m) Date: 2020-05-15 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : Peak

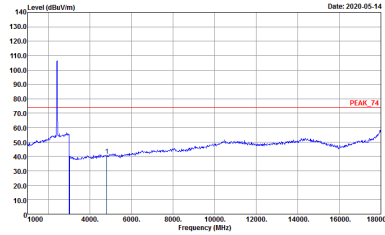
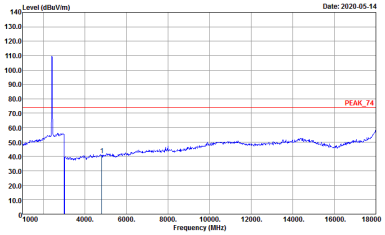


WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH13 2472MHz	
4+3	Horizontal	Vertical
Peak Avg.	Level (dBuV/m) Date: 2020-05-13 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak	Level (dBuV/m) Date: 2020-05-13 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : Peak



2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH01 2412MHz	
4+3	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

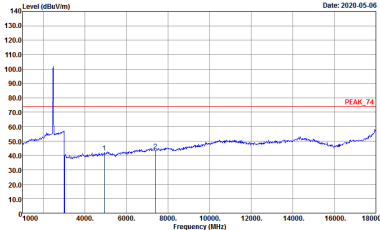
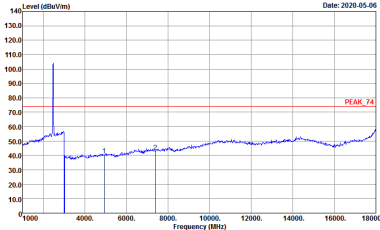


WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH06 2437MHz	
4+3	Horizontal	Vertical
Peak Avg.	Level (dBuV/m) Date: 2020-05-15 Site : 03CHI1-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak	Level (dBuV/m) Date: 2020-05-15 Site : 03CHI1-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : Peak



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH11 2462MHz	
4+3	Horizontal	Vertical
Peak Avg.	Level (dBuV/m) Date: 2020.05.06 PEAK_74 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak	Level (dBuV/m) Date: 2020.05.06 PEAK_74 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : Peak



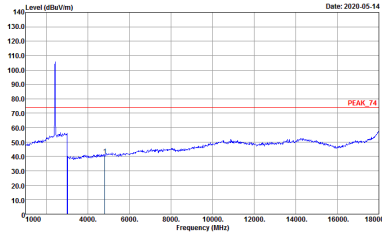
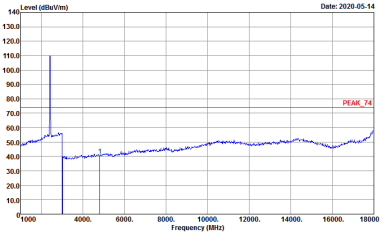
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH12 2467MHz	
4+3	Horizontal	Vertical
Peak Avg.	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : Peak



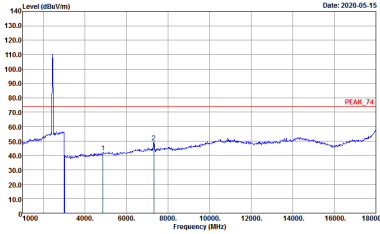
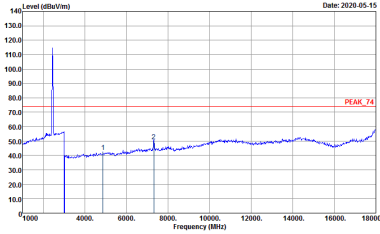
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH13 2472MHz	
4+3	Horizontal	Vertical
Peak Avg.	Level (dBuV/m) Date: 2020-05-15 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak	Level (dBuV/m) Date: 2020-05-15 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : Peak



2.4GHz 2400~2483.5MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
4+3	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



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH06 2437MHz	
4+3	Horizontal	Vertical
Peak Avg.	 Site : 03CHI1-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak	 Site : 03CHI1-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : Peak



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
4+3	Horizontal	Vertical
Peak Avg.	Level (dBuV/m) Date: 2020-05-07 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak	Level (dBuV/m) Date: 2020-05-07 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : Peak



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH12 2462MHz	
4+3	Horizontal	Vertical
Peak Avg.	Level (dBuV/m) Date: 2020-05-07 Site : 03CHI1-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak	Level (dBuV/m) Date: 2020-05-06 Site : 03CHI1-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : Peak



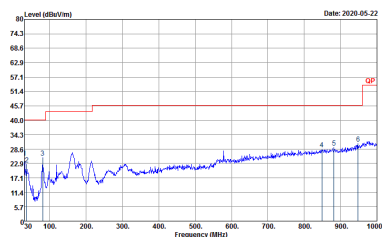
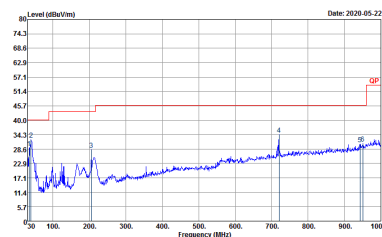
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH13 2472MHz	
4+3	Horizontal	Vertical
Peak Avg.	Level (dBuV/m) Date: 2020-05-21 Site : 03CHI1-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak	Level (dBuV/m) Date: 2020-05-15 Site : 03CHI1-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : Peak



Emission above 18GHz
2.4GHz WFI 802.11n HT20 (SHF)

WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11n HT20 SHF	
4+3	Horizontal	Vertical
Peak Avg	Level (dBuV/m) Date: 2020-07-04 140.0 130.0 120.0 110.0 100.0 90.0 80.0 70.0 60.0 50.0 40.0 30.0 20.0 10.0 18000 19000 20000 21000 22000 23000 24000 25000 Frequency (MHz) Site : 03CH11-HY Condition : PEAK_74_1M 1m SHF HORN BBHA9170576 HORIZONTAL Detecto : Peak	Level (dBuV/m) Date: 2020-07-04 140.0 130.0 120.0 110.0 100.0 90.0 80.0 70.0 60.0 50.0 40.0 30.0 20.0 10.0 18000 19000 20000 21000 22000 23000 24000 25000 Frequency (MHz) Site : 03CH11-HY Condition : PEAK_74_1M 1m SHF HORN BBHA9170576 VERTICAL Detecto : Peak

Emission below 1GHz
2.4GHz WFI 802.11n HT20 (LF)

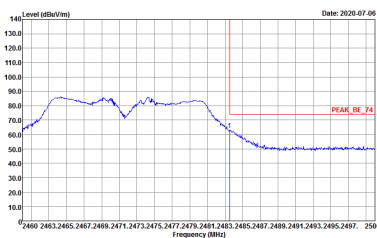
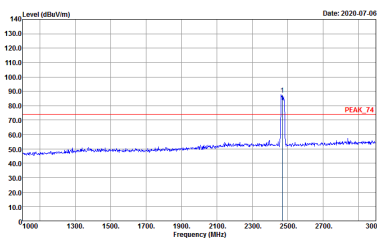
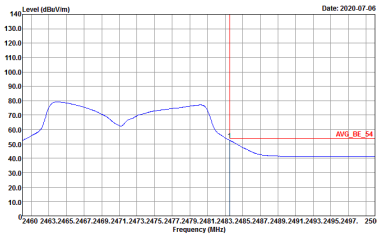
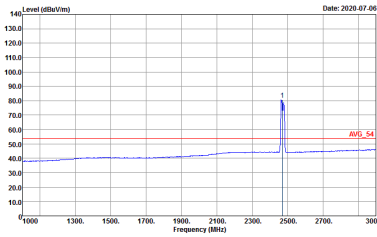
WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11n HT20 LF	
4+3	Horizontal	Vertical
QP / Peak	 Site : 03CH11-HY Condition : QP 3m BE-LOG 6111D-LF_ETC VERTICAL Detector : Peak	 Site : 03CH11-HY Condition : QP 3m BE-LOG 6111D-LF_ETC VERTICAL Detector : Peak

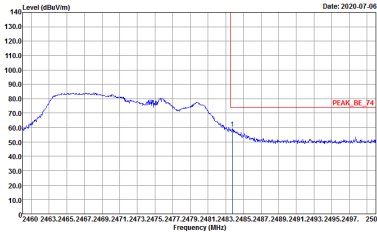
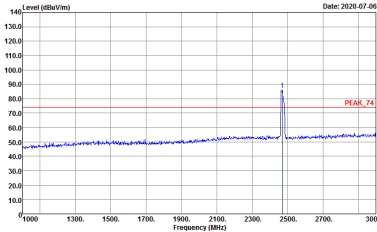
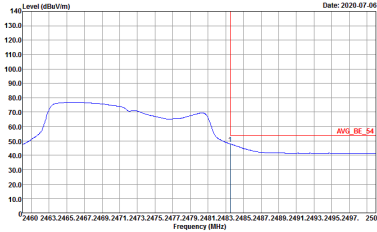
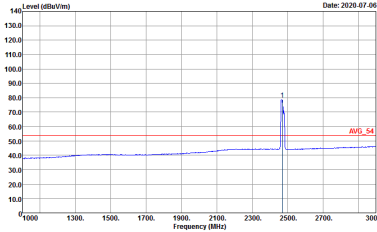


<WPC Mode>

2.4GHz 2400~2483.5MHz

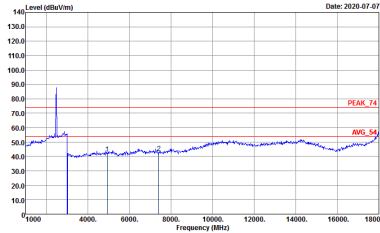
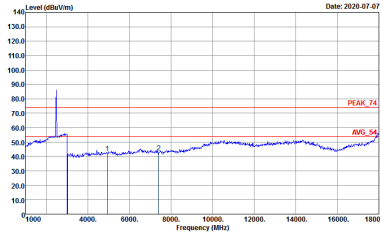
WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH13 2472MHz	
4+3	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

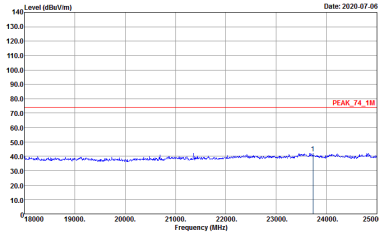
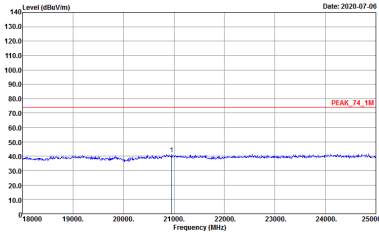
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH13 2472MHz	
4+3	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak



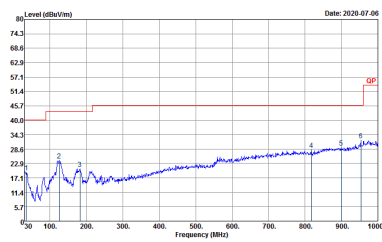
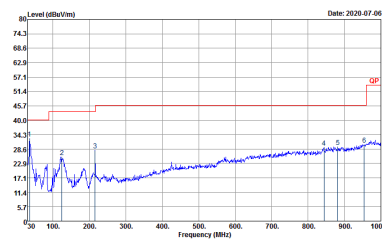
2.4GHz 2400~2483.5MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH13 2472MHz	
4+3	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

Emission above 18 GHz
2.4GHz WIFI 802.11n HT20 (SHF)

WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11n HT20 SHF	
4+3	Horizontal	Vertical
Peak Avg	 Site : 03CH11-HY Condition : PEAK_74_1M 1m SHF HORN 88HA9170576 HORIZONTAL	 Site : 03CH11-HY Condition : PEAK_74_1M 1m SHF HORN 88HA9170576 VERTICAL

Emission below 1GHz
2.4GHz WFI 802.11n HT20 (LF)

WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11n HT20 LF	
4+3	Horizontal	Vertical
QP / Peak	 Site : 03CH11-HY Condition : QP 3m BE-LOG 6111D-LF_ETC HORIZONTAL Detector : Peak	 Site : 03CH11-HY Condition : QP 3m BE-LOG 6111D-LF_ETC VERTICAL Detector : Peak



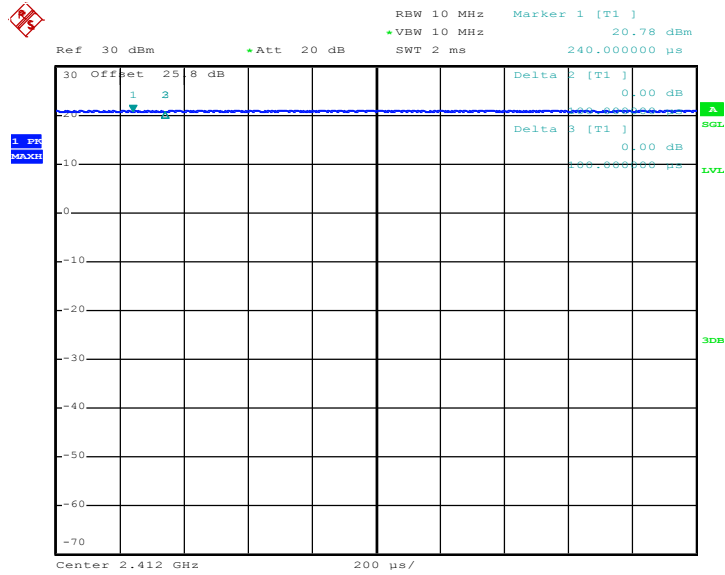
Appendix E. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting	Duty Factor(dB)
4+3	802.11b for Ant 4	100.00	-	-	10Hz	0.00
4+3	802.11b for Ant 3	100.00	-	-	10Hz	0.00
4+3	802.11g for Ant 4	97.64	2065	0.48	1kHz	0.10
4+3	802.11g for Ant 3	98.11	-	-	10Hz	0.08
4+3	2.4GHz 802.11n HT20 for Ant 4	97.72	1925	0.52	1kHz	0.10
4+3	2.4GHz 802.11n HT20 for Ant 3	97.96	1925	0.52	1kHz	0.09



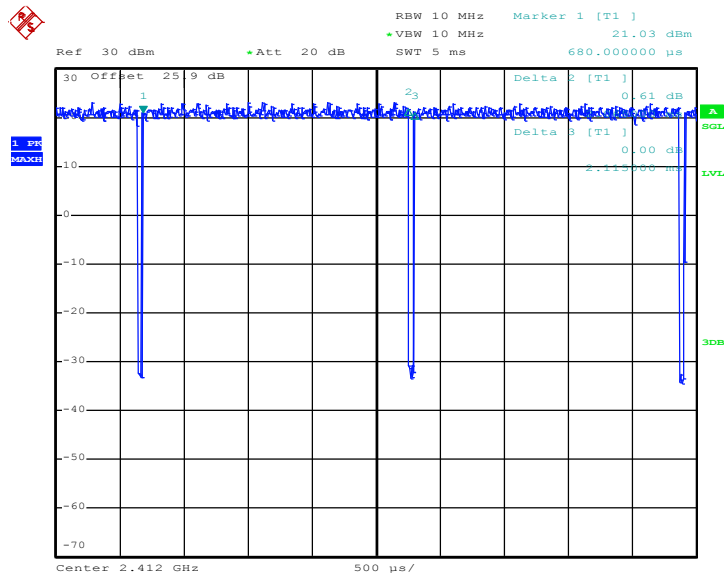
MIMO <Ant. 4>

802.11b

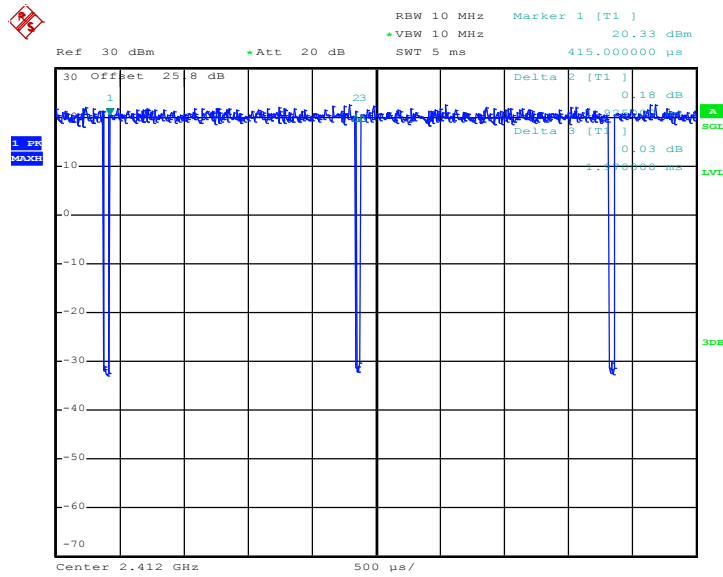


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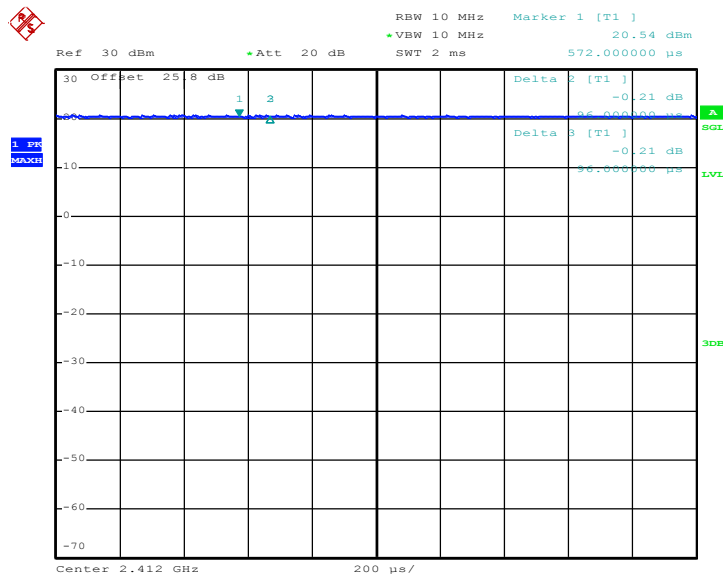
802.11g



Date: 29.APR.2020 21:40:11

802.11n HT20


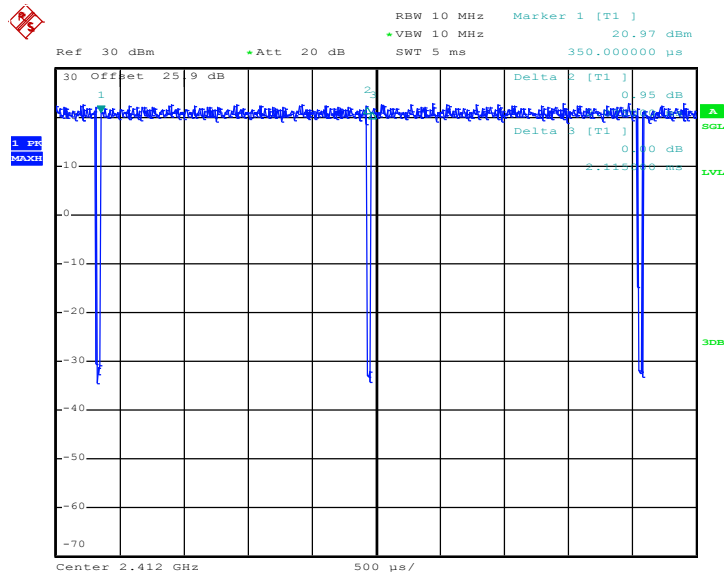
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MIMO <Ant. 3>
802.11b


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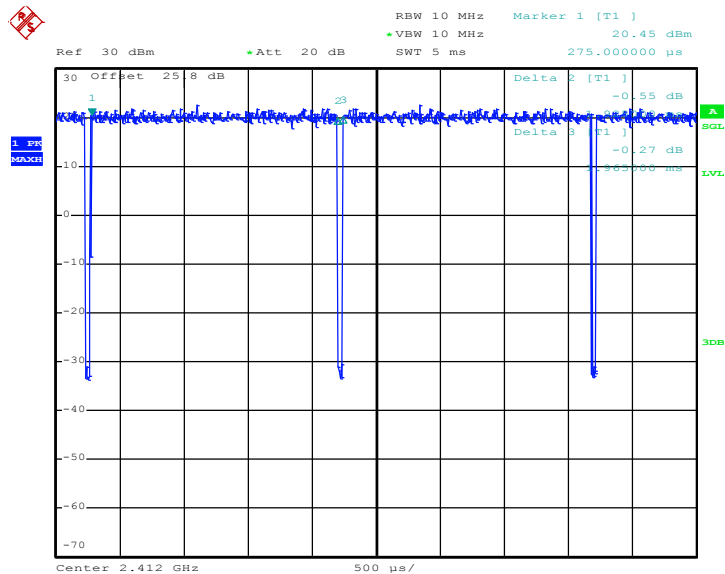


802.11g



Date: 29.APR.2020 21:41:30

802.11n HT20



Date: 28.APR.2020 20:55:09

—THE END—