FCC RADIO TEST REPORT

FCC ID	:	**GKRGQF4C**
Equipment	:	**Wireless Device**
Model Name	:	**GQF4C**
Applicant	:	**Compal Electronics, Inc.** **No. 581-1 & 581, Ruiguang Rd., Nei-hu District, Taipei City 114, TAIWAN (R.O.C.)**
Standard	:	**FCC Part 15 Subpart C §15.247**

The product was received on May 12, 2021 and testing was started from May 20, 2021 and completed on Oct. 26, 2021. We, Sporton International Inc. Wensan 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. Wensan Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

Sporton International Inc. Wensan Laboratory
No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)

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History of this test report

Report No.	Version	Description	Issued Date
FR0D2205-01C	01	Initial issue of report	Aug. 18, 2021
FR0D2205-01C	02	1. Revise Support Unit used in test configuration and system 2. Revise List of Measuring Equipment 3. Revise antenna information in appendix C and D 4. Revise test data in appendix A 5. Revise test result of 99% occupied bandwidth 6. Revise test result of spurious emission	Oct. 27, 2021

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 1.84 dB at 2483.520 MHz
3.6	15.207	AC Conducted Emission	Pass	Under limit 9.63 dB at 0.503 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: Avis Chuang

Report Producer: Vivian Hsu

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Wireless Device
Model Name	GQF4C
FCC ID	GKRGQF4C
EUT supports Radios application	NFC (Passive) WLAN 11b/g/n HT20 Bluetooth BR/EDR/LE

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

EUT Information List	
S/N	Performed Test Item
1FQ65006390040914K001F8	RF Conducted Measurement
14261FQEJSW06E	Radiated Spurious Emission
14261FQEJSW068	Conducted Emission

1.2 Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx/Rx Channel Frequency Range	2412 MHz ~ 2462 MHz
Maximum (Average) Output Power to antenna	802.11b: 18.30 dBm / 0.0676 W 802.11g: 18.30 dBm / 0.0676 W 802.11n HT20: 17.40 dBm / 0.0550 W
99% Occupied Bandwidth	802.11b: 12.65 MHz 802.11g: 16.95 MHz 802.11n HT20: 17.95 MHz
Antenna Type / Gain	IFA Antenna with gain -4.10 dBi
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

Remark: The above EUT's information was declared by manufacturer. Please refer to Comments and Explanations in report summary.

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 333, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978
Test Site No.	**Sporton Site No.**
	CO05-HY (TAF Code: 1190)
Remark	The Conducted Emission test item subcontracted to Sporton International Inc. EMC & Wireless Communications Laboratory.

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

Test Site	Sporton International Inc. Wensan Laboratory
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	**Sporton Site No.**
	TH05-HY, 03CH12-HY

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

FCC designation No.: TW1190 and TW3786

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.
- 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.
3. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

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). The measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape), and adjusting the measurement antenna orientation, following C63.10 exploratory test procedures and find Z Plane with Charger and Strap 1 as worst plane.

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	7	2442
	2	2417	8	2447
	3	2422	9	2452
	4	2427	10	2457
	5	2432	11	2462
	6	2437		

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**

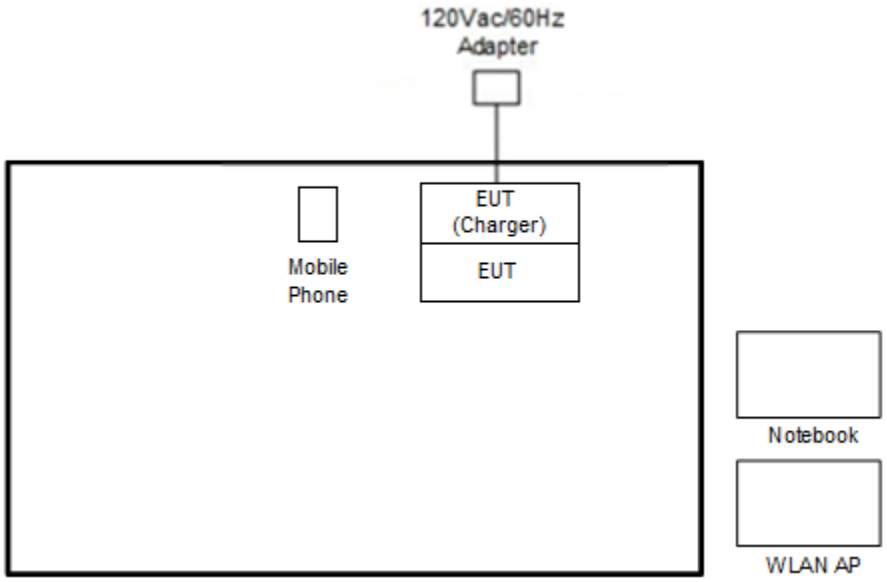
Test Cases	
AC Conducted Emission	Mode 1 : WLAN (2.4GHz) Link + Bluetooth Link + Charger (Charging from AC Adapter) + NFC (Passive) On + Charging Mode ; Battery <50%

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

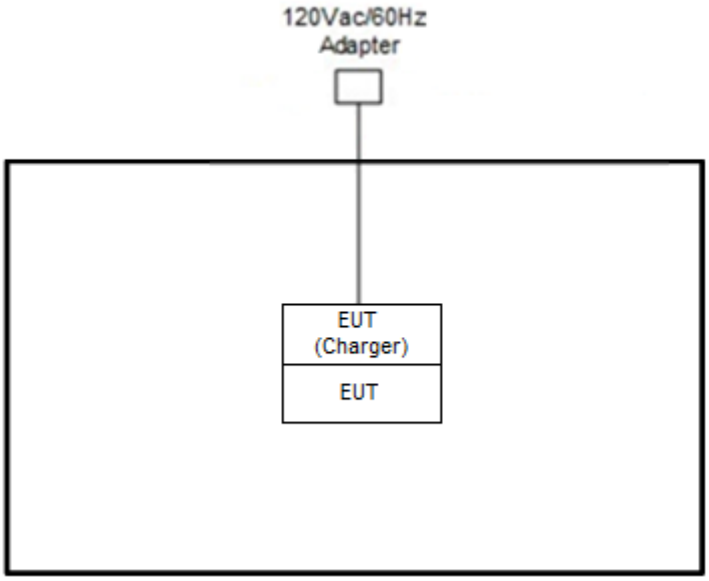
Remark: For radiation spurious emission, the final modulation and the worst data rate was reference the max RF conducted power.

2.3 Connection Diagram of Test System

<AC Conducted Emission Mode>



<WLAN Tx Mode>



2.4 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8 m
2.	Notebook	Dell	Latitude 3400	FCC DoC	N/A	AC I/P： Unshielded, 1.2m DC O/P： Shielded, 1.8m
3.	Mobile Phone	SAMSUNG	SM-A730F/DS	A3LSMA730F	N/A	N/A
4.	AC Adapter	N/A	N/A	N/A	N/A	N/A
5.	WPT	N/A	G943M	GKRG943M	N/A	N/A

2.5 EUT Operation Test Setup

The RF test items, utility “CMD ver.10.0.18362.1256” 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 10 dB attenuator.

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).
= 4.2 + 10 = 14.2 (dB)

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.

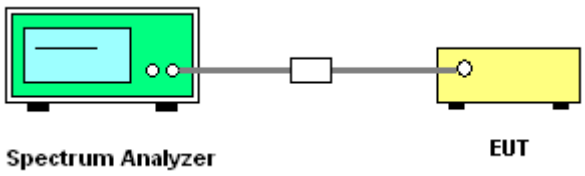
3.1.2 Measuring Instruments

See list of measuring equipment of this test report.

3.1.3 Test Procedures

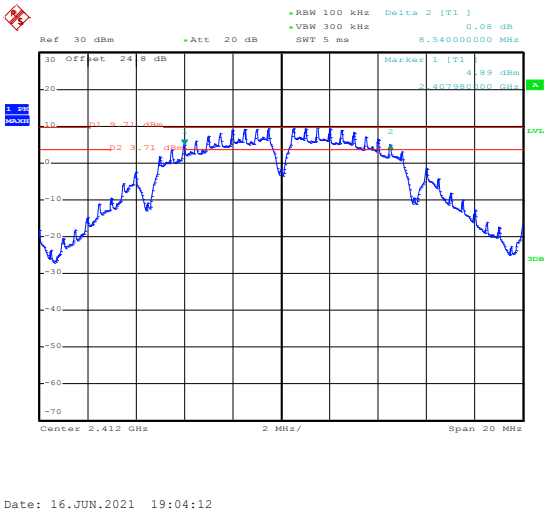
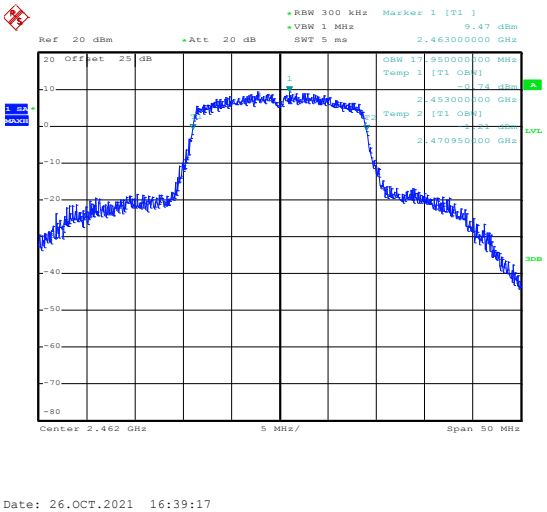
1. The testing follows the ANSI C63.10 Section 6.9.3 (OBW) and 11.8.1 (6dB BW).
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set the maximum power setting and enable the EUT to transmit 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) ≥ 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.

Minimum 6dB Bandwidth	Maximum 99% Occupied Bandwidth
	

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 2400-2483.5 MHz, the limit for output power is 30 dBm. If transmitting antenna with directional gain greater than 6 dBi 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 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

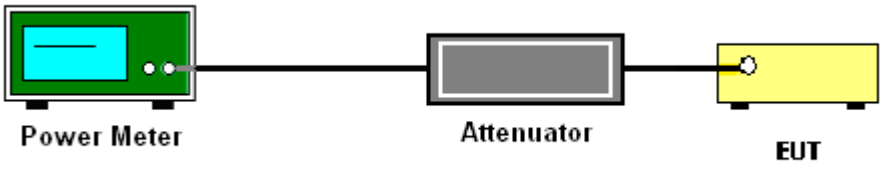
3.2.2 Measuring Instruments

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 the maximum power setting and enable the EUT to transmit continuously.
4. Measure the conducted output power and record the results in the test report.

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 8 dBm in any 3 kHz band at any time interval of continuous transmission.

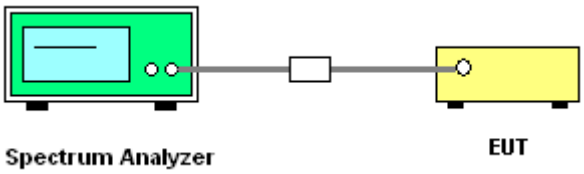
3.3.2 Measuring Instruments

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 the maximum power setting and enable the EUT to 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.

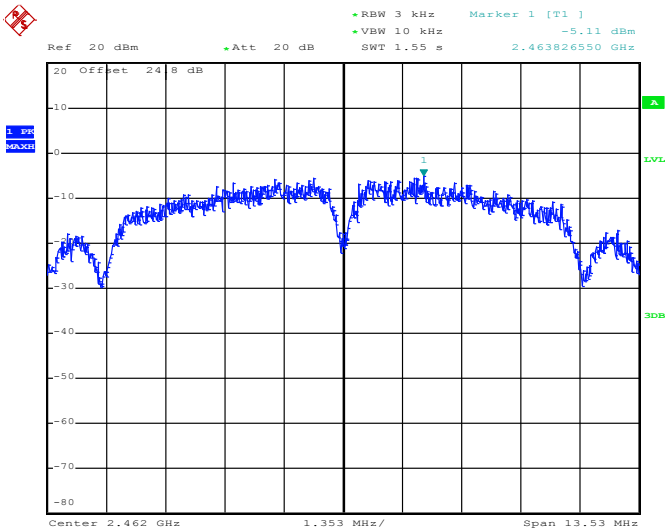
3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

Worst Case Power Density (dBm/3kHz)



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.

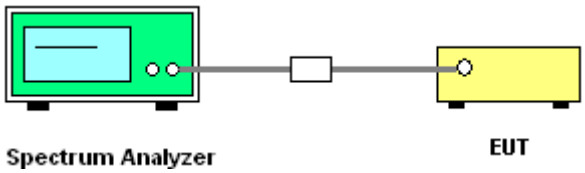
3.4.2 Measuring Instruments

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 the maximum power setting and enable the EUT to 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.

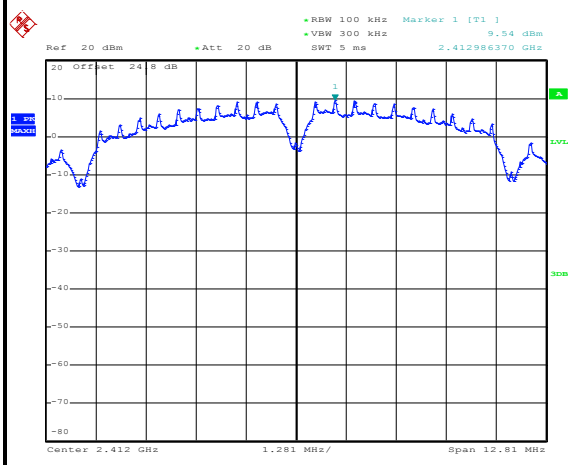
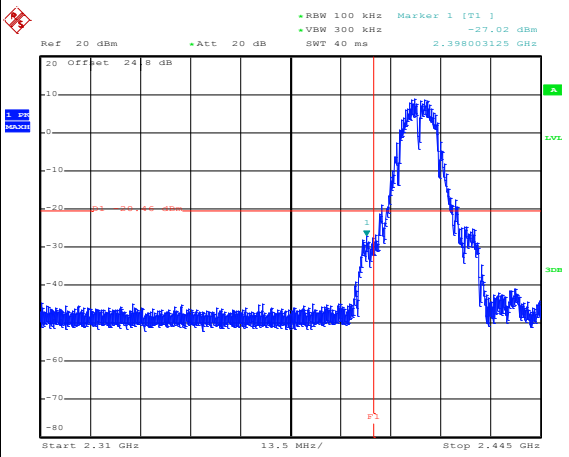
3.4.4 Test Setup



3.4.5 Test Result of Conducted Band Edges and Spurious Emission

Number of TX = 1, Ant. 1 (Measured)

Test Mode :	802.11b	Test Channel :	01

100kHz PSD reference Level	Low Channel Plot
	
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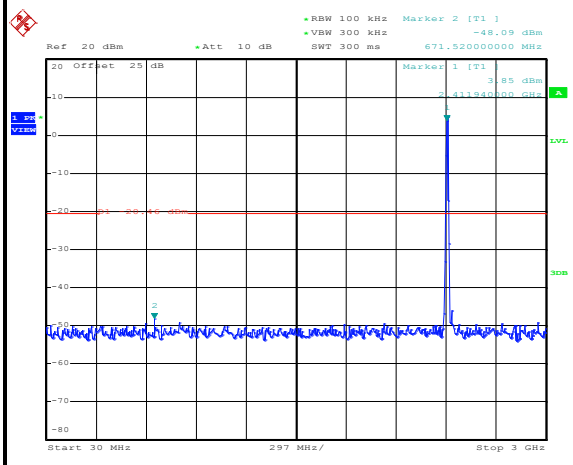
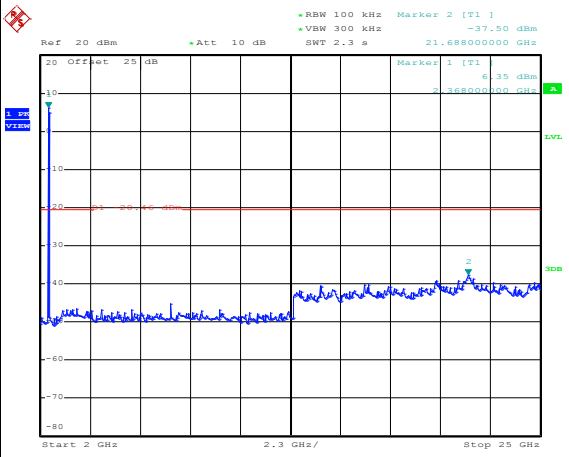
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
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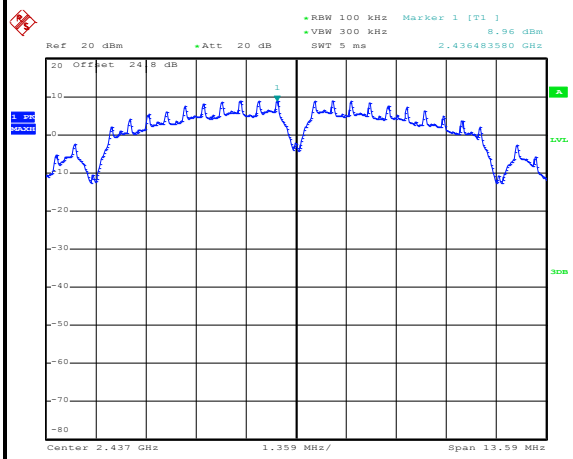
Test Mode :	802.11b	Test Channel :	06

100kHz PSD reference Level	Mid Channel Plot
	
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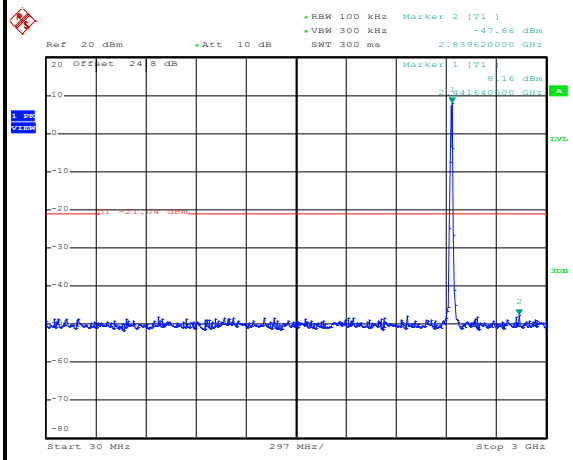
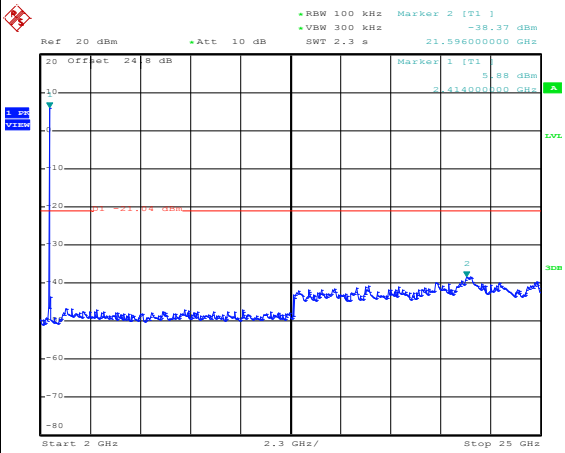
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	
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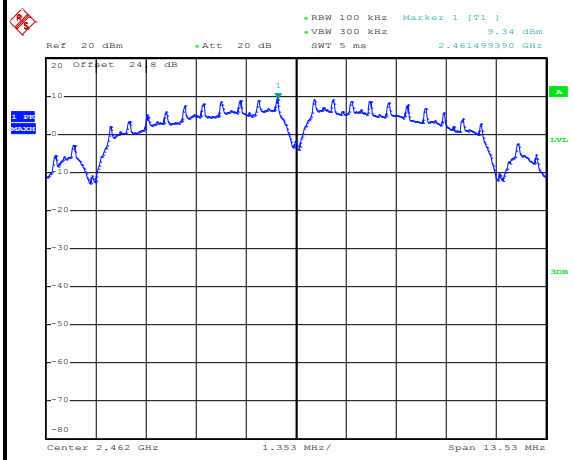
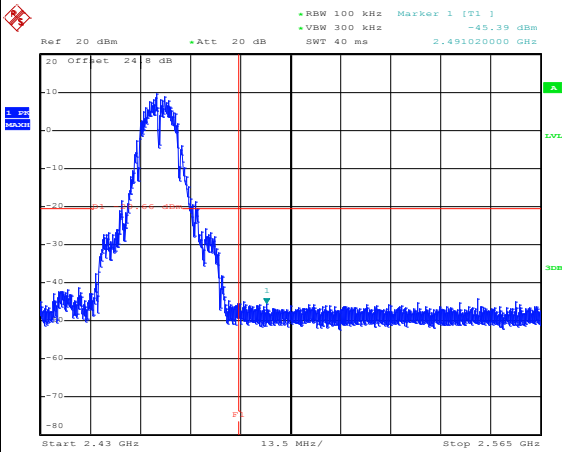
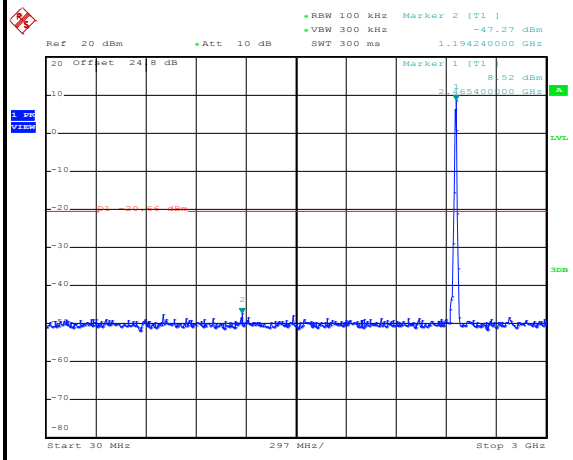
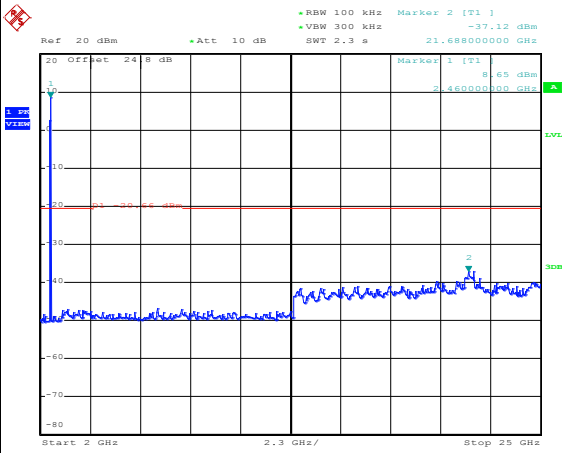
Test Mode :	802.11b	Test Channel :	11

100kHz PSD reference Level	High Channel Plot
	
Date: 16.JUN.2021 19:17:17	Date: 16.JUN.2021 19:17:43
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
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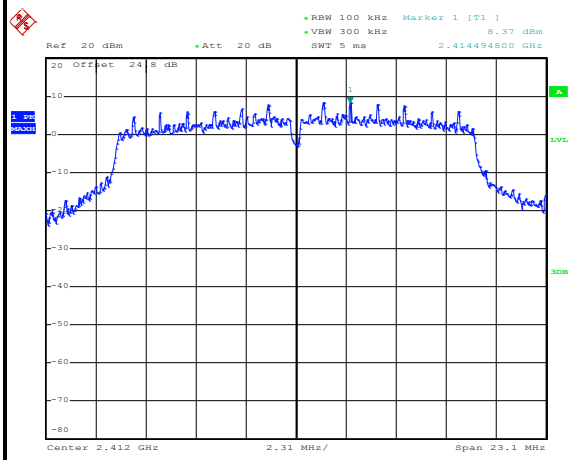
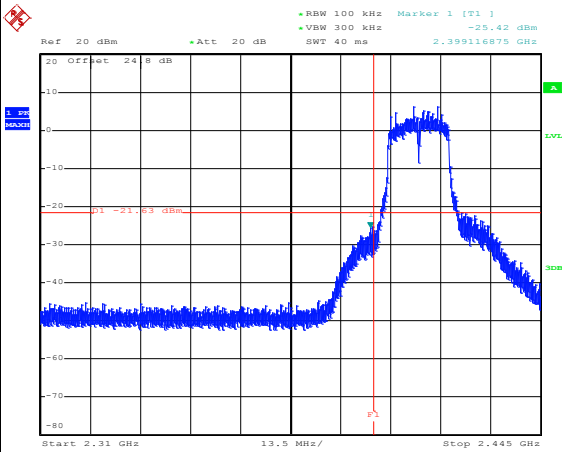
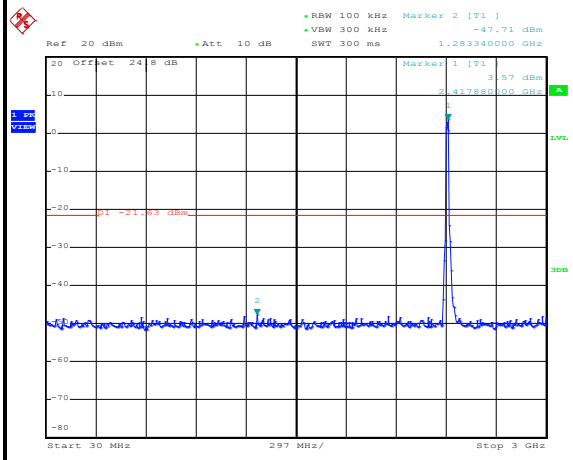
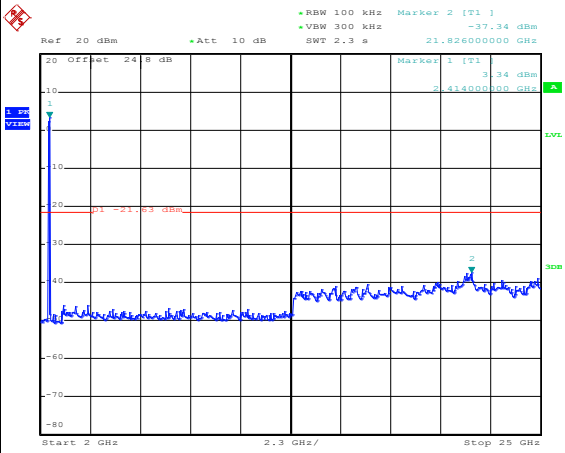
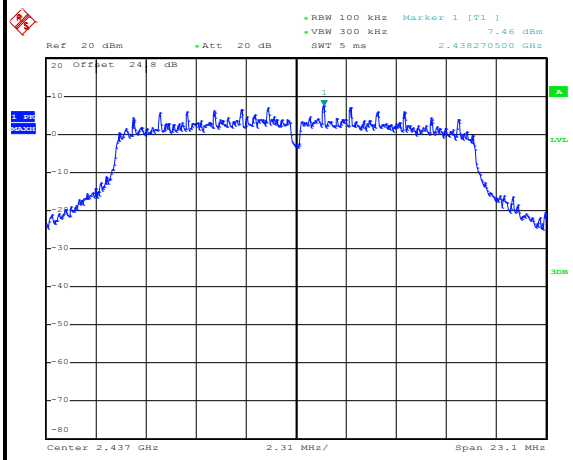
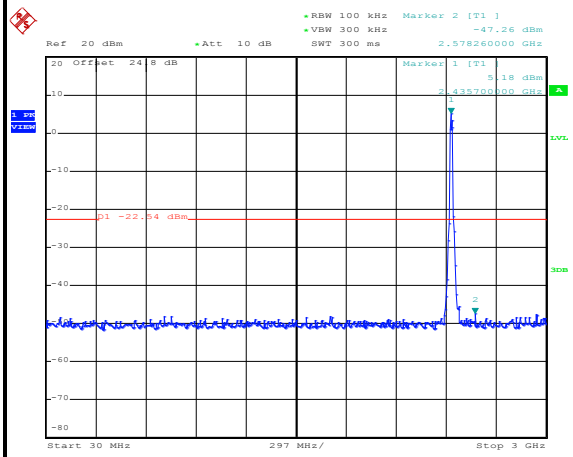
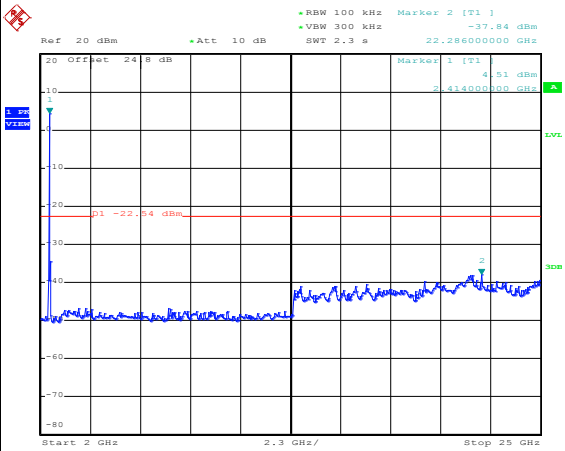
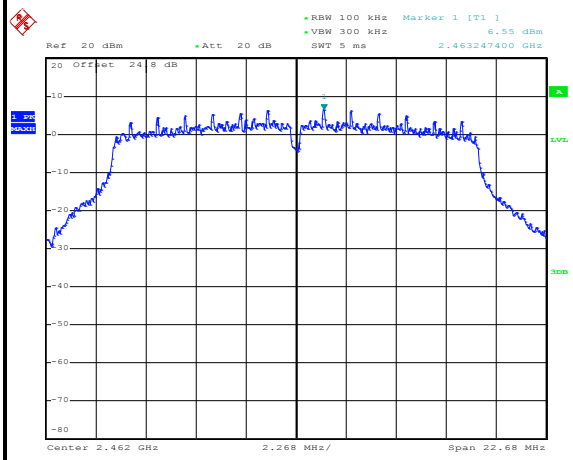
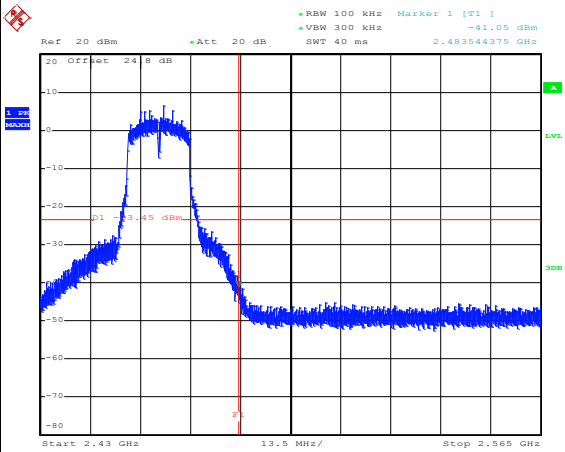
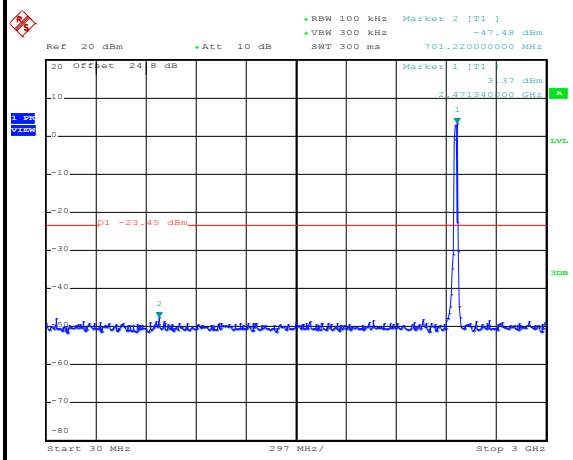
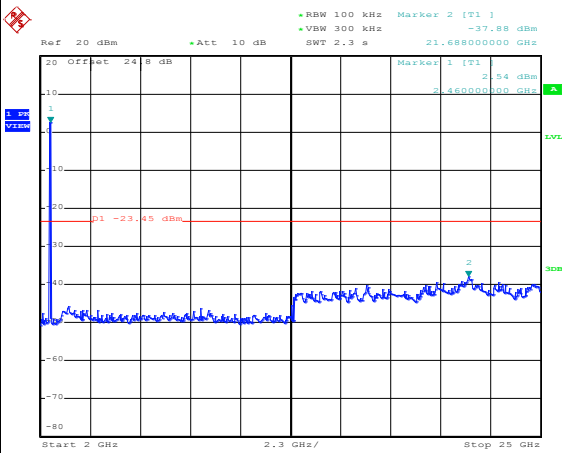
Test Mode :	802.11g	Test Channel :	01

100kHz PSD reference Level	Low Channel Plot
	
Date: 16.JUN.2021 20:29:25	Date: 16.JUN.2021 20:31:07
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 16.JUN.2021 20:32:12	Date: 16.JUN.2021 20:32:34

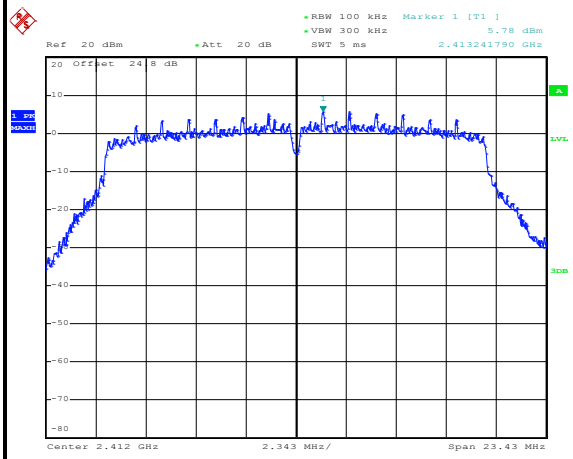
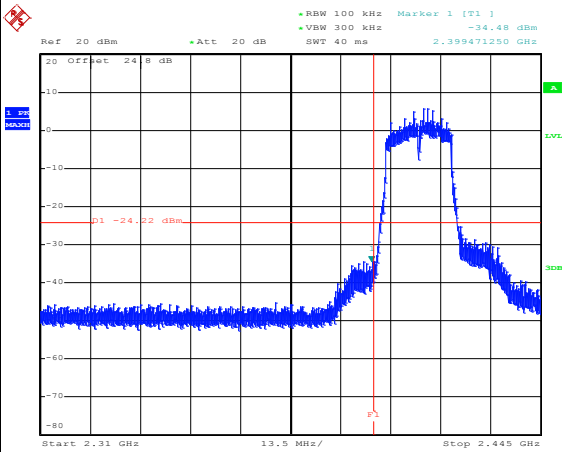
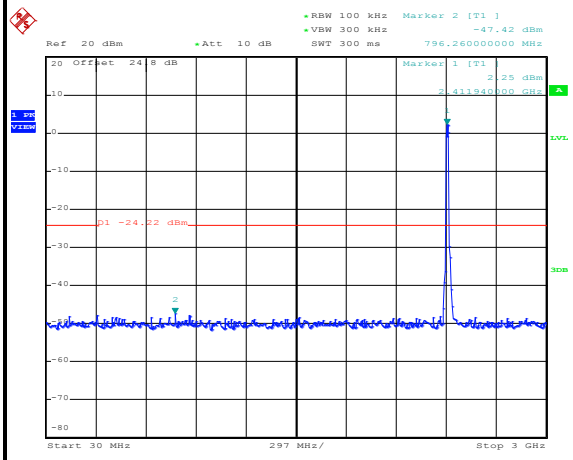
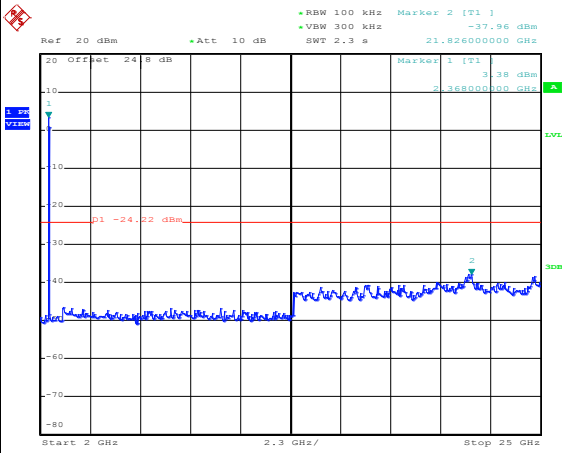
Test Mode :	802.11g	Test Channel :	06

100kHz PSD reference Level	Mid Channel Plot
	
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

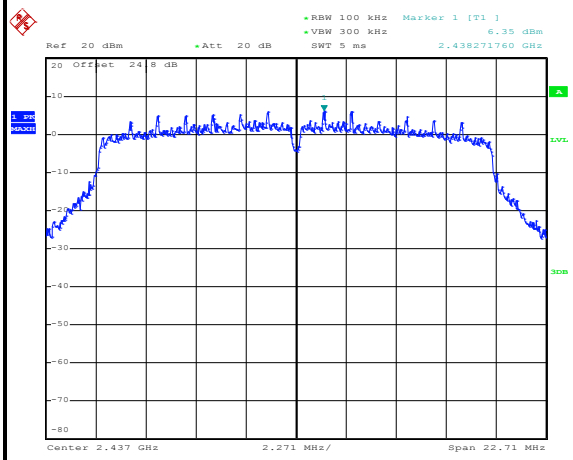
Test Mode :	802.11g	Test Channel :	11

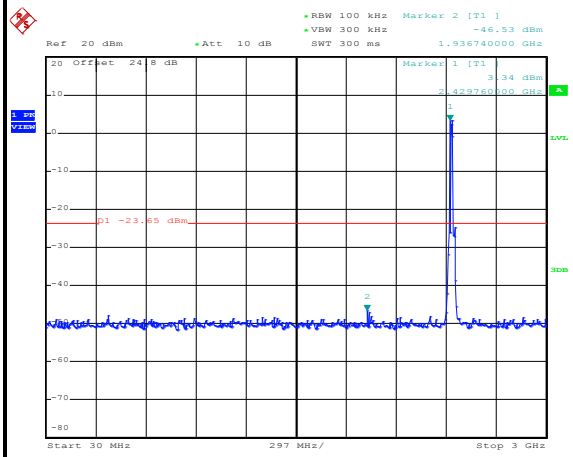
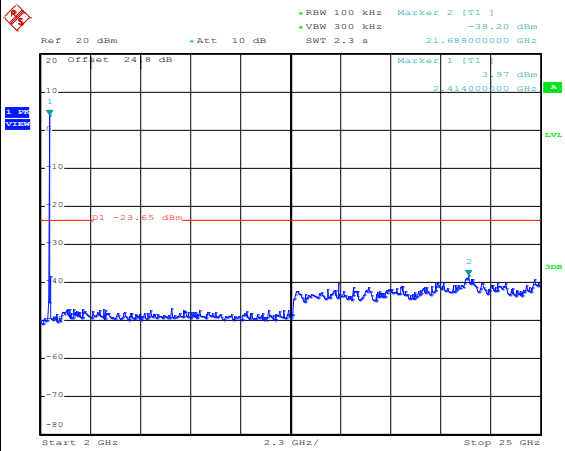
100kHz PSD reference Level	High Channel Plot
	
Date: 5.AUG.2021 19:03:30	Date: 5.AUG.2021 19:03:49
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 5.AUG.2021 19:04:28	Date: 5.AUG.2021 19:04:56

Test Mode :	802.11n HT20	Test Channel :	01

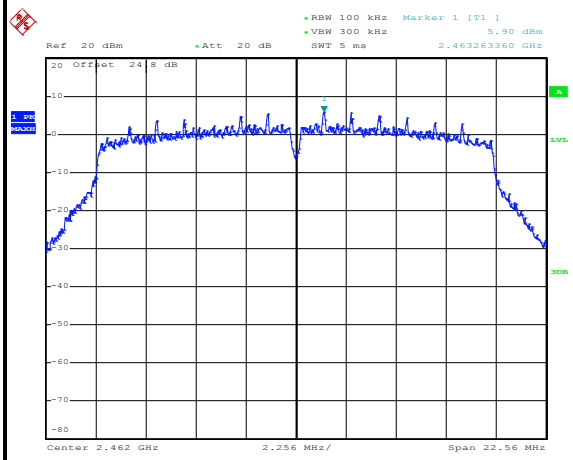
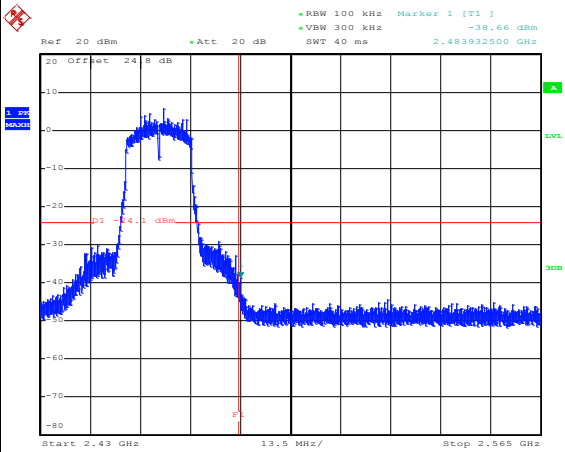
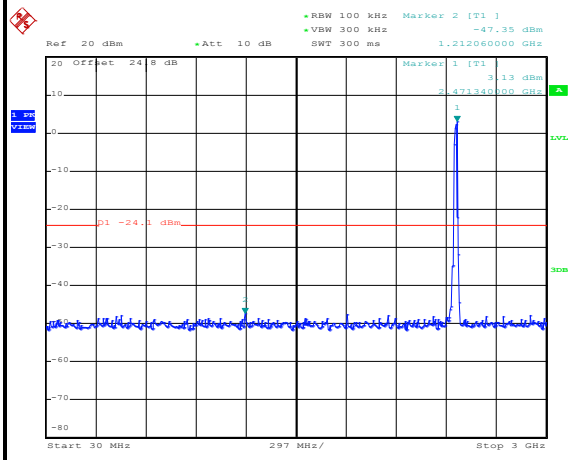
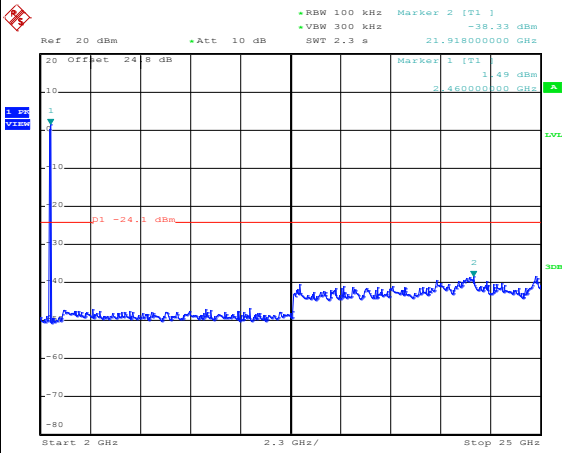
100kHz PSD reference Level	Low Channel Plot
	
Date: 16.JUN.2021 20:04:45	Date: 16.JUN.2021 20:05:01
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 16.JUN.2021 20:05:23	Date: 16.JUN.2021 20:05:38

Test Mode :	802.11n HT20	Test Channel :	06

100kHz PSD reference Level	Mid Channel Plot
	
Date: 16.JUN.2021 20:11:22	

Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	
Date: 16.JUN.2021 20:12:00	Date: 16.JUN.2021 20:12:14

Test Mode :	802.11n HT20	Test Channel :	11

100kHz PSD reference Level	High Channel Plot
	
Date: 16.JUN.2021 20:17:53	Date: 16.JUN.2021 20:20:09
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 16.JUN.2021 20:20:42	Date: 16.JUN.2021 20:20:58

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

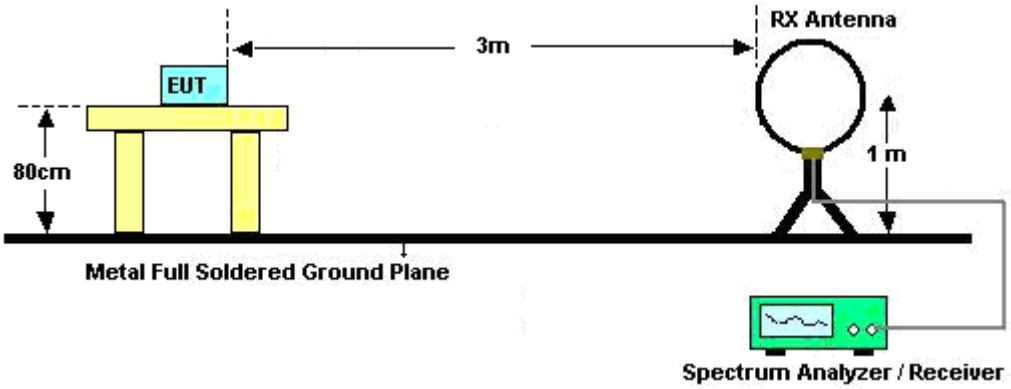
See list of measuring equipment of this test report.

3.5.3 Test Procedures

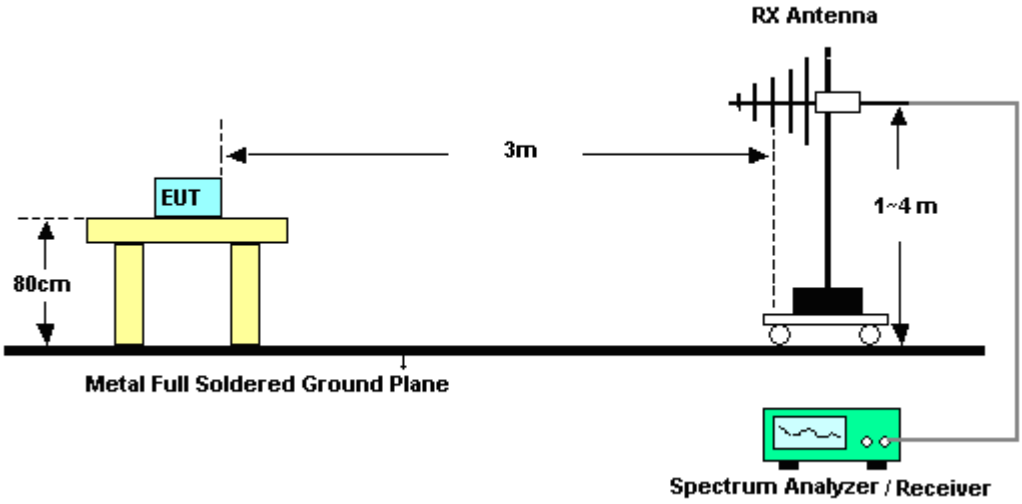
1. The testing follows the ANSI C63.10 Section 11.12.1 Radiated emission measurements.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter for frequency below 1 GHz and 1.5 meter for frequency above 1 GHz 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 1 GHz, 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 1 GHz, the emission level of the EUT in peak mode was 20 dB 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 ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
   (3) Set RBW = 1 MHz, VBW= 3 MHz for f ≥ 1 GHz for peak measurement.
   For average measurement:
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 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

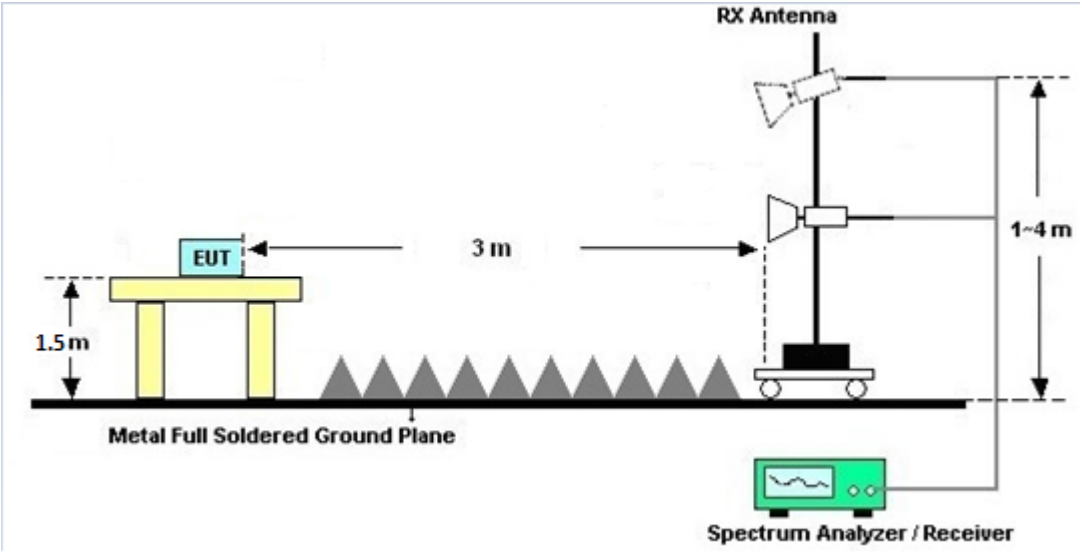
For radiated emissions below 30MHz



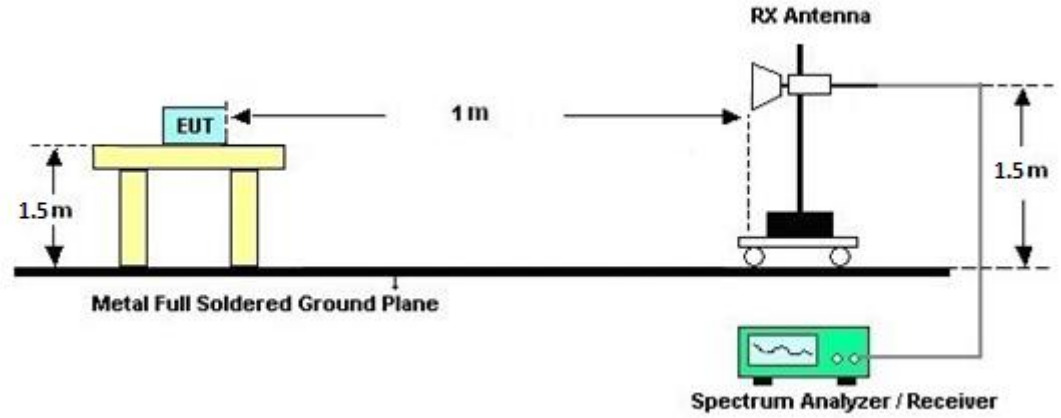
For radiated emissions from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test 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 adequate comparison measurement 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 (dBμV)	
	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.

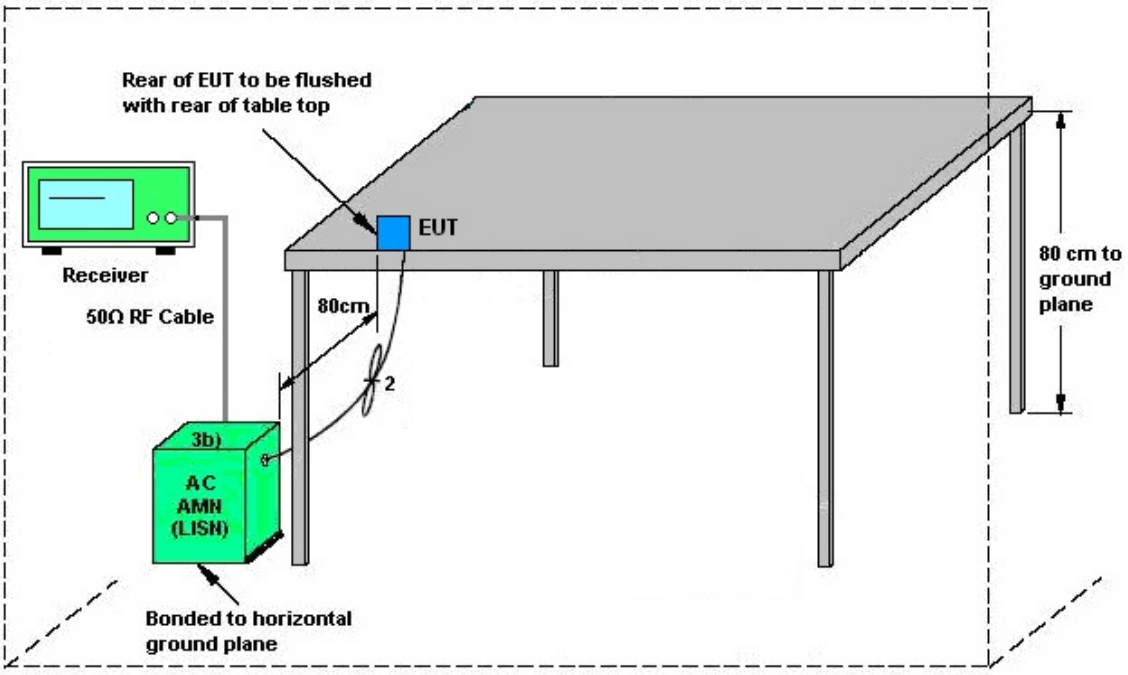
3.6.2 Measuring Instruments

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 shall 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



AMN = Artificial mains network (LISN)
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabilization network

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 6 dBi, the power shall be reduced by the same level in dB comparing to gain minus 6 dBi. 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

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Jan. 04, 2021	Jun. 06, 2021~ Aug. 04, 2021	Jan. 03, 2022	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01 N-06	37059 & 01	30MHz~1GHz	Oct. 11, 2020	Jun. 06, 2021~ Aug. 04, 2021	Oct. 10, 2021	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1328	1GHz~18GHz	Nov. 23, 2020	Jun. 06, 2021~ Aug. 04, 2021	Nov. 22, 2021	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	00993	18GHz~40GHz	Dec. 19, 2020	Jun. 06, 2021~ Aug. 04, 2021	Dec. 18, 2021	Radiation (03CH12-HY)
Preamplifier	COM-POWER	PA-103	161075	10MHz~1GHz	Mar. 24, 2021	Jun. 06, 2021~ Aug. 04, 2021	Mar. 23, 2022	Radiation (03CH12-HY)
Preamplifier	Keysight	83017A	MY57280120	1GHz~26.5GHz	Jul. 20, 2020	Jun. 06, 2021~ Jul. 18, 2021	Jul. 19, 2021	Radiation (03CH12-HY)
Preamplifier	Keysight	83017A	MY57280120	1GHz~26.5GHz	Jul. 19, 2021	Jul. 19, 2021~ Aug. 04, 2021	Jul. 18, 2022	Radiation (03CH12-HY)
Preamplifier	E-INSTRUMENT TECH LTD.	ERA-100M-18G-56-01-A70	EC1900249	1GHz-18GHz	Dec. 05, 2020	Jun. 06, 2021~ Aug. 04, 2021	Dec. 04, 2021	Radiation (03CH12-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz~40GHz	Dec. 11, 2020	Jun. 06, 2021~ Aug. 04, 2021	Dec. 10, 2021	Radiation (03CH12-HY)
Spectrum Analyzer	Agilent	N9010A	MY53470118	10Hz~44GHz	Jan. 15, 2021	Jun. 06, 2021~ Aug. 04, 2021	Jan. 14, 2022	Radiation (03CH12-HY)
Filter	Wainwright	WLKS1200-12SS	SN2	1.2GHz Low Pass Filter	Mar. 17, 2021	Jun. 06, 2021~ Aug. 04, 2021	Mar. 16, 2022	Radiation (03CH12-HY)
Filter	Wainwright	WHKX12-2700-3000-18000-60ST	SN2	3GHz High Pass Filter	Jul. 14, 2020	Jun. 06, 2021~ Jul. 12, 2021	Jul. 13, 2021	Radiation (03CH12-HY)
Filter	Wainwright	WHKX12-2700-3000-18000-60ST	SN2	3GHz High Pass Filter	Jul. 12, 2021	Jul. 13, 2021~ Aug. 04, 2021	Jul. 11, 2022	Radiation (03CH12-HY)
Filter	Wainwright	WHKX8-5872.5-6750-18000-40ST	SN2	6.75GHz High Pass Filter	Mar. 17, 2021	Jun. 06, 2021~ Aug. 04, 2021	Mar. 16, 2022	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4PE	9kHz~30MHz	Mar. 11, 2021	Jun. 06, 2021~ Aug. 04, 2021	Mar. 10, 2022	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0058/126E	30MHz~18GHz	Dec. 11, 2020	Jun. 06, 2021~ Aug. 04, 2021	Dec. 10, 2021	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30MHz~40GHz	Feb. 22, 2021	Jun. 06, 2021~ Aug. 04, 2021	Feb. 21, 2022	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	800740/2	30MHz~40GHz	Feb. 22, 2021	Jun. 06, 2021~ Aug. 04, 2021	Feb. 22, 2022	Radiation (03CH12-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	Jun. 06, 2021~ Aug. 04, 2021	N/A	Radiation (03CH12-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Jun. 06, 2021~ Aug. 04, 2021	N/A	Radiation (03CH12-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	Jun. 06, 2021~ Aug. 04, 2021	N/A	Radiation (03CH12-HY)
Software	Audix	E3 6.2009-8-24	RK-000989	N/A	N/A	Jun. 06, 2021~ Aug. 04, 2021	N/A	Radiation (03CH12-HY)

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Jun. 01, 2021~ Jul. 13, 2021	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9kHz~3.6GHz	Nov. 30, 2020	Jun. 01, 2021~ Jul. 13, 2021	Nov. 29, 2021	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	Nov. 18, 2020	Jun. 01, 2021~ Jul. 13, 2021	Nov. 17, 2021	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 01, 2020	Jun. 01, 2021~ Jul. 13, 2021	Nov. 30, 2021	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Jun. 01, 2021~ Jul. 13, 2021	N/A	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Feb. 25, 2021	Jun. 01, 2021~ Jul. 13, 2021	Feb. 24, 2022	Conduction (CO05-HY)
LISN Cable	MVE	RG-400	260260	N/A	Dec. 31, 2020	Jun. 01, 2021~ Jul. 13, 2021	Dec. 30, 2021	Conduction (CO05-HY)
Hygrometer	TECPEL	TR-32	HE17XB2468	N/A	Mar. 09, 2021	May 20, 2021~ Oct. 26, 2021	Mar. 08. 2022	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	16I00054SNO12	10MHz~6GHz	Dec. 16, 2020	May 20, 2021~ Oct. 26, 2021	Dec. 15, 2021	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz-40GHz	Jan. 21, 2021	May 20, 2021~ Oct. 26, 2021	Jan. 20, 2022	Conducted (TH05-HY)
Switch Box & RF Cable	Burgeon	ETF058	EC1300484	N/A	Nov. 19, 2020	May 20, 2021~ Oct. 26, 2021	Nov. 18, 2021	Conducted (TH05-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 dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.4 dB**

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**6.3 dB**

Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.1 dB**

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Mina Liu	Temperature:	21~25	°C
Test Date:	2021/05/20~2021/10/26	Relative Humidity:	51~54	%

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band Single Antenna										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Occupied BW (MHz)		6dB BW (MHz)		6dB BW Limit (MHz)	Pass/Fail
					Ant1	Ant2	Ant1	Ant2		
11b	1Mbps	1	1	2412	12.55	-	8.54	-	0.50	Pass
11b	1Mbps	1	6	2437	12.65	-	9.06	-	0.50	Pass
11b	1Mbps	1	11	2462	12.55	-	9.02	-	0.50	Pass
11g	6Mbps	1	1	2412	16.90	-	15.40	-	0.50	Pass
11g	6Mbps	1	6	2437	16.85	-	15.40	-	0.50	Pass
11g	6Mbps	1	11	2462	16.95	-	15.12	-	0.50	Pass
HT20	MCS0	1	1	2412	17.75	-	15.62	-	0.50	Pass
HT20	MCS0	1	6	2437	17.90	-	15.14	-	0.50	Pass
HT20	MCS0	1	11	2462	17.95	-	15.04	-	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
					Ant1	Ant2	SUM	Ant1	Ant2	Ant1	Ant2	Ant1	Ant2	Ant1	Ant2	
11b	1Mbps	1	1	2412	18.10	-		30.00	-	-4.10	-4.10	14.00	-	36.00	-	Pass
11b	1Mbps	1	6	2437	18.10	-		30.00	-	-4.10	-4.10	14.00	-	36.00	-	Pass
11b	1Mbps	1	11	2462	18.30	-		30.00	-	-4.10	-4.10	14.20	-	36.00	-	Pass
11g	6Mbps	1	1	2412	18.30	-		30.00	-	-4.10	-4.10	14.20	-	36.00	-	Pass
11g	6Mbps	1	6	2437	18.10	-	-	30.00	-	-4.10	-4.10	14.00	-	36.00	-	Pass
11g	6Mbps	1	11	2462	18.10	-		30.00	-	-4.10	-4.10	14.00	-	36.00	-	Pass
HT20	MCS0	1	1	2412	17.10	-		30.00	-	-4.10	-4.10	13.00	-	36.00	-	Pass
HT20	MCS0	1	6	2437	17.40	-		30.00	-	-4.10	-4.10	13.30	-	36.00	-	Pass
HT20	MCS0	1	11	2462	17.30	-		30.00	-	-4.10	-4.10	13.20	-	36.00	-	Pass

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

TEST RESULTS DATA
Peak Power Spectral Density

2.4GHz Band Single Antenna												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak PSD (dBm/3kHz)			DG (dBi)		Peak PSD Limit (dBm/3kHz)		Pass/Fail
					Ant1	Ant2	Worse + 3.01	Ant1	Ant2	Ant1	Ant2	
11b	1Mbps	1	1	2412	-5.57	-		-4.10	-4.10	8.00	8.00	Pass
11b	1Mbps	1	6	2437	-5.23	-		-4.10	-4.10	8.00	8.00	Pass
11b	1Mbps	1	11	2462	-5.11	-		-4.10	-4.10	8.00	8.00	Pass
11g	6Mbps	1	1	2412	-6.68	-		-4.10	-4.10	8.00	8.00	Pass
11g	6Mbps	1	6	2437	-6.93	-	-	-4.10	-4.10	8.00	8.00	Pass
11g	6Mbps	1	11	2462	-6.93	-		-4.10	-4.10	8.00	8.00	Pass
HT20	MCS0	1	1	2412	-9.60	-		-4.10	-4.10	8.00	8.00	Pass
HT20	MCS0	1	6	2437	-9.03	-		-4.10	-4.10	8.00	8.00	Pass
HT20	MCS0	1	11	2462	-9.06	-		-4.10	-4.10	8.00	8.00	Pass

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

Appendix B. AC Conducted Emission Test Results

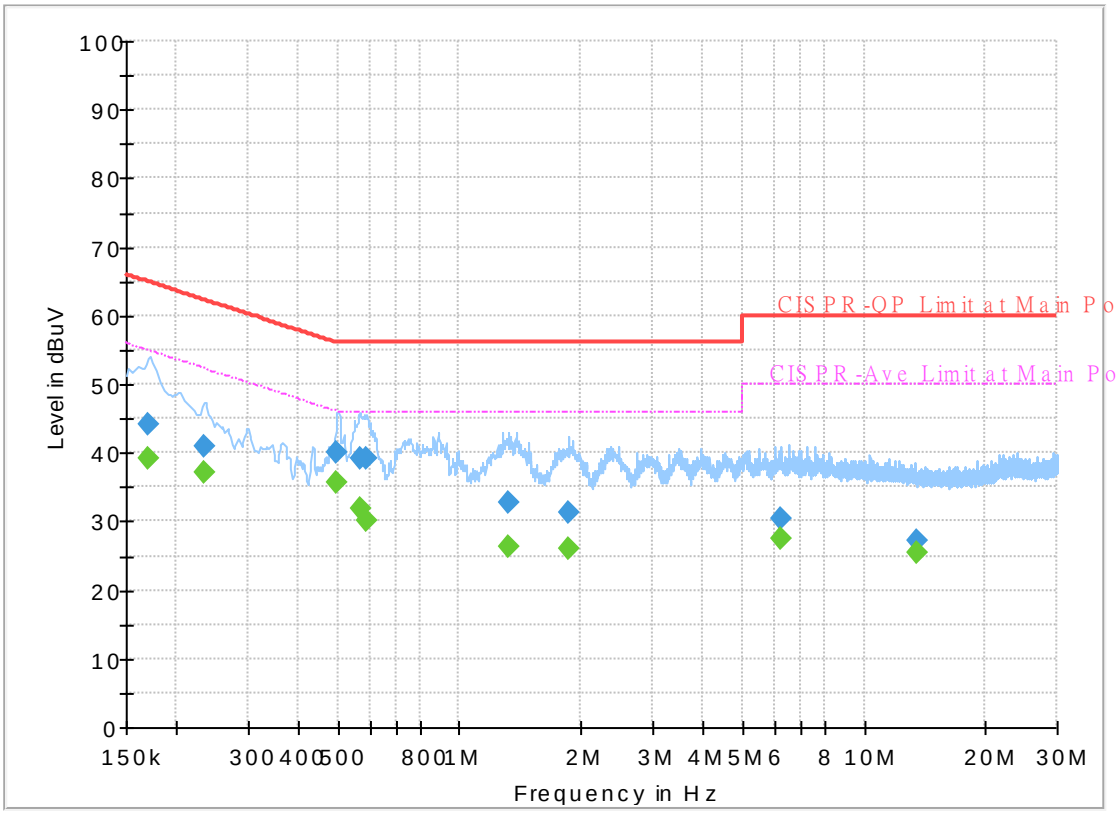
Test Engineer :	Calvin Wang and Tom Lee	**Temperature :**	23~26℃
		Relative Humidity :	40~50%

EUT Information

Report NO : 0D2205-01

Test Voltage : 120Vac/60Hz
Phase : Line

Full Spectrum



Final_Result

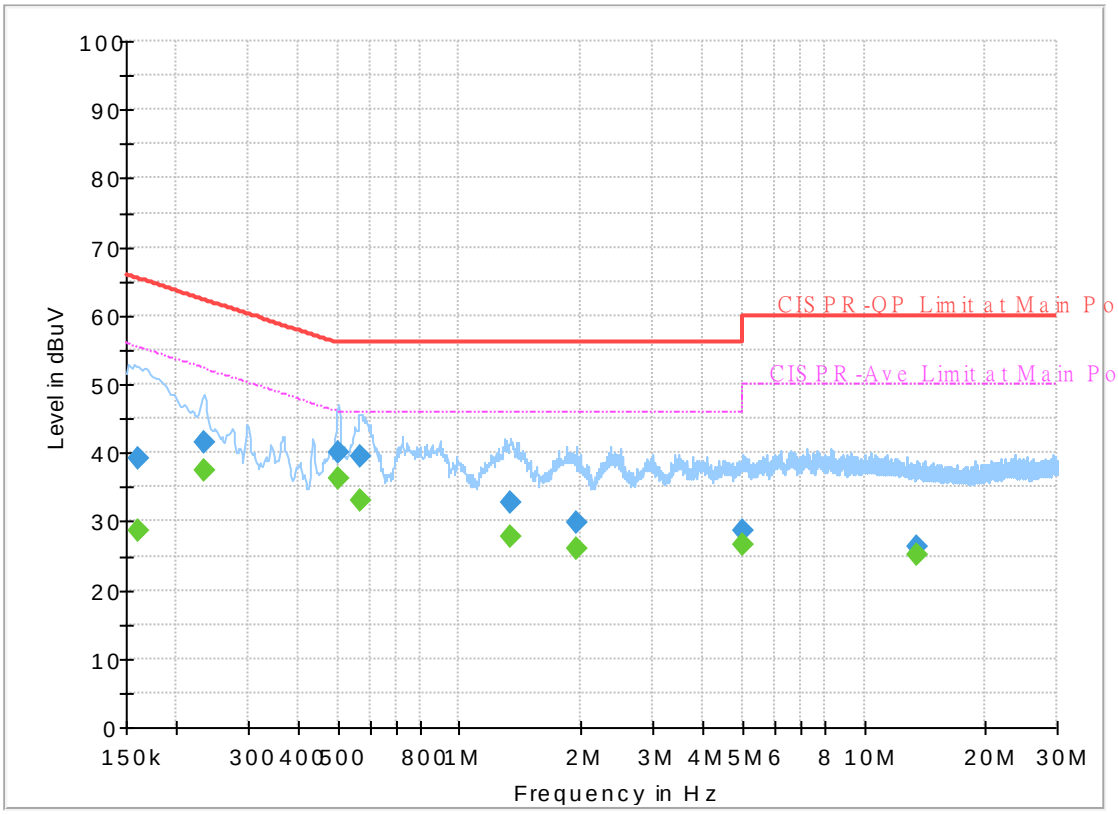
Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.170250	---	39.25	54.95	15.70	L1	OFF	19.5
0.170250	44.17	---	64.95	20.78	L1	OFF	19.5
0.233250	---	37.15	52.33	15.18	L1	OFF	19.5
0.233250	40.81	---	62.33	21.52	L1	OFF	19.5
0.498750	---	35.64	46.02	10.38	L1	OFF	19.7
0.498750	40.08	---	56.02	15.94	L1	OFF	19.7
0.566250	---	31.96	46.00	14.04	L1	OFF	19.7
0.566250	39.24	---	56.00	16.76	L1	OFF	19.7
0.591000	---	30.00	46.00	16.00	L1	OFF	19.8
0.591000	39.20	---	56.00	16.80	L1	OFF	19.8
1.320000	---	26.29	46.00	19.71	L1	OFF	20.0
1.320000	32.88	---	56.00	23.12	L1	OFF	20.0
1.857750	---	25.94	46.00	20.06	L1	OFF	20.0
1.857750	31.28	---	56.00	24.72	L1	OFF	20.0
6.202500	---	27.48	50.00	22.52	L1	OFF	19.9
6.202500	30.49	---	60.00	29.51	L1	OFF	19.9
13.560000	---	25.30	50.00	24.70	L1	OFF	20.1
13.560000	27.14	---	60.00	32.86	L1	OFF	20.1

EUT Information

Report NO : 0D2205-01

Test Voltage : 120Vac/60Hz
Phase : Neutral

Full Spectrum



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.161250	---	28.70	55.40	26.70	N	OFF	19.5
0.161250	39.05	---	65.40	26.35	N	OFF	19.5
0.233250	---	37.53	52.33	14.80	N	OFF	19.5
0.233250	41.50	---	62.33	20.83	N	OFF	19.5
0.503250	---	36.37	46.00	9.63	N	OFF	19.7
0.503250	40.18	---	56.00	15.82	N	OFF	19.7
0.568500	---	33.16	46.00	12.84	N	OFF	19.8
0.568500	39.42	---	56.00	16.58	N	OFF	19.8
1.340250	---	27.71	46.00	18.29	N	OFF	20.0
1.340250	32.78	---	56.00	23.22	N	OFF	20.0
1.943250	---	26.10	46.00	19.90	N	OFF	20.0
1.943250	29.87	---	56.00	26.13	N	OFF	20.0
5.034750	---	26.70	50.00	23.30	N	OFF	19.9
5.034750	28.62	---	60.00	31.38	N	OFF	19.9
13.560000	---	25.08	50.00	24.92	N	OFF	20.2
13.560000	26.19	---	60.00	33.81	N	OFF	20.2

Appendix C. Radiated Spurious Emission

Test Engineer :	Jack Cheng, Lance Chiang and Chuan Chu	Temperature :	21~23°C
		Relative Humidity :	54~65%

<EUT with Strap 1>

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2388.015	54.44	-19.56	74	44.15	27.7	16.74	34.15	103	294	P	H
		2387.595	43	-11	54	32.71	27.7	16.74	34.15	103	294	A	H
	*	2412	104.29	-	-	93.96	27.68	16.78	34.13	103	294	P	H
	*	2412	101.36	-	-	91.03	27.68	16.78	34.13	103	294	A	H
													H
													H
		2387.49	53.97	-20.03	74	43.68	27.7	16.74	34.15	376	185	P	V
		2387.49	42.57	-11.43	54	32.28	27.7	16.74	34.15	376	185	A	V
	*	2412	98.83	-	-	88.5	27.68	16.78	34.13	376	185	P	V
	*	2412	95.85	-	-	85.52	27.68	16.78	34.13	376	185	A	V
													V
													V
802.11b CH 06 2437MHz		2375.24	53.11	-20.89	74	42.85	27.7	16.72	34.16	100	294	P	H
		2389.94	42.44	-11.56	54	32.15	27.7	16.74	34.15	100	294	A	H
	*	2437	105.29	-	-	94.97	27.63	16.81	34.12	100	294	P	H
	*	2437	102.1	-	-	91.78	27.63	16.81	34.12	100	294	A	H
		2494.4	52.89	-21.11	74	42.67	27.42	16.88	34.08	100	294	P	H
		2483.69	42.29	-11.71	54	32.04	27.47	16.87	34.09	100	294	A	H
		2359.42	53.23	-20.77	74	43	27.7	16.7	34.17	331	180	P	V
		2372.44	42.42	-11.58	54	32.16	27.7	16.72	34.16	331	180	A	V
	*	2437	99.65	-	-	89.33	27.63	16.81	34.12	331	180	P	V
	*	2437	96.5	-	-	86.18	27.63	16.81	34.12	331	180	A	V
		2487.82	53.42	-20.58	74	43.19	27.45	16.87	34.09	331	180	P	V
		2490.9	42.28	-11.72	54	32.05	27.44	16.88	34.09	331	180	A	V

802.11b CH 11 2462MHz	*	2462	105.85	-	-	95.56	27.55	16.84	34.1	147	293	P	H
	*	2462	102.69	-	-	92.4	27.55	16.84	34.1	147	293	A	H
		2494.16	53.29	-20.71	74	43.07	27.42	16.88	34.08	147	293	P	H
		2483.52	45.28	-8.72	54	35.03	27.47	16.87	34.09	147	293	A	H
													H
													H
	*	2462	99.6	-	-	89.31	27.55	16.84	34.1	323	187	P	V
	*	2462	96.44	-	-	86.15	27.55	16.84	34.1	323	187	A	V
		2491.84	53.04	-20.96	74	42.82	27.43	16.88	34.09	323	187	P	V
		2483.52	43.15	-10.85	54	32.9	27.47	16.87	34.09	323	187	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. 1	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)
802.11b CH 01 2412MHz		4824	39.4	-34.6	74	63.7	31	11.5	66.8	100	0	P	H
		17955	60.95	-13.05	74	60.25	49.1	20.91	69.31	100	0	P	H
		17955	50.35	-3.65	54	49.65	49.1	20.91	69.31	100	0	A	H
													H
		4824	38.7	-35.3	74	63	31	11.5	66.8	100	0	P	V
		17955	60.69	-13.31	74	59.99	49.1	20.91	69.31	100	0	P	V
		17955	50.12	-3.88	54	49.42	49.1	20.91	69.31	100	0	A	V
													V
802.11b CH 06 2437MHz		4874	40.59	-33.41	74	64.95	31	11.37	66.73	100	0	P	H
		7311	45.57	-28.43	74	61.52	36.28	13.15	65.38	100	0	P	H
		17970	61.7	-12.3	74	60.61	49.53	20.92	69.36	100	0	P	H
		17970	50.69	-3.31	54	49.6	49.53	20.92	69.36	100	0	A	H
		4874	40.33	-33.67	74	64.69	31	11.37	66.73	100	0	P	V
		7311	45	-29	74	60.95	36.28	13.15	65.38	100	0	P	V
		17955	61.72	-12.28	74	61.02	49.1	20.91	69.31	100	0	P	V
		17955	50.14	-3.86	54	49.44	49.1	20.91	69.31	100	0	A	V
802.11b CH 11 2462MHz		4924	39.53	-34.47	74	63.84	31.1	11.25	66.66	100	0	P	H
		7386	45.31	-28.69	74	61.39	36.2	13.19	65.47	100	0	P	H
		17970	60.44	-13.56	74	59.35	49.53	20.92	69.36	100	0	P	H
		17970	50.61	-3.39	54	49.52	49.53	20.92	69.36	100	0	A	H
		4924	40.18	-33.82	74	64.49	31.1	11.25	66.66	100	0	P	V
		7386	45.23	-28.77	74	61.31	36.2	13.19	65.47	100	0	P	V
		17970	60.49	-13.51	74	59.4	49.53	20.92	69.36	100	0	P	V
		17970	50.47	-3.53	54	49.38	49.53	20.92	69.36	100	0	A	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. 1	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		2389.8	59.84	-14.16	74	49.55	27.7	16.74	34.15	103	314	P	H
		2390	48.54	-5.46	54	38.24	27.7	16.75	34.15	103	314	A	H
	*	2412	105.76	-	-	95.43	27.68	16.78	34.13	103	314	P	H
	*	2412	97.62	-	-	87.29	27.68	16.78	34.13	103	314	A	H
													H
													H
		2389.8	60.54	-13.46	74	50.25	27.7	16.74	34.15	332	184	P	V
		2390	48.42	-5.58	54	38.12	27.7	16.75	34.15	332	184	A	V
	*	2412	104.47	-	-	94.14	27.68	16.78	34.13	332	184	P	V
	*	2412	97.01	-	-	86.68	27.68	16.78	34.13	332	184	A	V
													V
													V
802.11g CH 06 2437MHz		2384.48	53.84	-20.16	74	43.55	27.7	16.74	34.15	100	313	P	H
		2389.94	44.27	-9.73	54	33.98	27.7	16.74	34.15	100	313	A	H
	*	2437	107.91	-	-	97.59	27.63	16.81	34.12	100	313	P	H
	*	2437	99.85	-	-	89.53	27.63	16.81	34.12	100	313	A	H
		2491.39	53.95	-20.05	74	43.73	27.43	16.88	34.09	100	313	P	H
		2483.62	44.05	-9.95	54	33.8	27.47	16.87	34.09	100	313	A	H
		2380.56	53.33	-20.67	74	43.05	27.7	16.73	34.15	328	178	P	V
		2389.66	43.8	-10.2	54	33.51	27.7	16.74	34.15	328	178	A	V
	*	2437	106.61	-	-	96.29	27.63	16.81	34.12	328	178	P	V
	*	2437	98.9	-	-	88.58	27.63	16.81	34.12	328	178	A	V
		2495.03	53.84	-20.16	74	43.62	27.42	16.88	34.08	328	178	P	V
		2483.55	43.89	-10.11	54	33.64	27.47	16.87	34.09	328	178	A	V

802.11g CH 11 2462MHz	*	2462	108.4	-	-	98.11	27.55	16.84	34.1	123	142	P	H
	*	2462	99.77	-	-	89.48	27.55	16.84	34.1	123	142	A	H
		2483.64	64.11	-9.89	74	53.86	27.47	16.87	34.09	123	142	P	H
		2483.52	51.6	-2.4	54	41.35	27.47	16.87	34.09	123	142	A	H
													H
													H
	*	2462	106.68	-	-	96.39	27.55	16.84	34.1	365	186	P	V
	*	2462	98.91	-	-	88.62	27.55	16.84	34.1	365	186	A	V
		2483.52	65.35	-8.65	74	55.1	27.47	16.87	34.09	365	186	P	V
		2483.52	52.16	-1.84	54	41.91	27.47	16.87	34.09	365	186	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. 1	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		4824	38.72	-35.28	74	63.02	31	11.5	66.8	100	0	P	H
		17970	60.71	-13.29	74	59.62	49.53	20.92	69.36	100	0	P	H
		17970	50.41	-3.59	54	49.32	49.53	20.92	69.36	100	0	A	H
													H
		4824	40.07	-33.93	74	64.37	31	11.5	66.8	100	0	P	V
		17970	62.88	-11.12	74	61.79	49.53	20.92	69.36	100	0	P	V
		17970	50.41	-3.59	54	49.32	49.53	20.92	69.36	100	0	A	V
													V
802.11g CH 06 2437MHz		4874	40.38	-33.62	74	64.74	31	11.37	66.73	100	0	P	H
		7311	44.47	-29.53	74	60.42	36.28	13.15	65.38	100	0	P	H
		17970	60.85	-13.15	74	59.76	49.53	20.92	69.36	100	0	P	H
		17970	50.3	-3.7	54	49.21	49.53	20.92	69.36	100	0	A	H
		4874	39.98	-34.02	74	64.34	31	11.37	66.73	100	0	P	V
		7311	44.39	-29.61	74	60.34	36.28	13.15	65.38	100	0	P	V
		17970	61.14	-12.86	74	60.05	49.53	20.92	69.36	100	0	P	V
		17970	50.41	-3.59	54	49.32	49.53	20.92	69.36	100	0	A	V
802.11g CH 11 2462MHz		4960	41.17	-32.83	74	65.39	31.24	11.15	66.61	100	0	P	H
		7440	46.35	-27.65	74	62.39	36.28	13.22	65.54	100	0	P	H
		17940	60.71	-13.29	74	60.41	48.66	20.89	69.25	100	0	P	H
		17940	49.86	-4.14	54	49.56	48.66	20.89	69.25	100	0	A	H
		4960	40.59	-33.41	74	64.81	31.24	11.15	66.61	100	0	P	V
		7440	46.33	-27.67	74	62.37	36.28	13.22	65.54	100	0	P	V
		17940	61.09	-12.91	74	60.79	48.66	20.89	69.25	100	0	P	V
		17940	49.93	-4.07	54	49.63	48.66	20.89	69.25	100	0	A	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. 1	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)
		2390	62.12	-11.88	74	51.82	27.7	16.75	34.15	100	315	P	H
		2390	48.84	-5.16	54	38.54	27.7	16.75	34.15	100	315	A	H
	*	2412	106.24	-	-	95.91	27.68	16.78	34.13	100	315	P	H
	*	2412	97.51	-	-	87.18	27.68	16.78	34.13	100	315	A	H
802.11n													H
HT20													H
CH 01		2389.905	65.82	-8.18	74	55.53	27.7	16.74	34.15	333	186	P	V
2412MHz		2390	49.24	-4.76	54	38.94	27.7	16.75	34.15	333	186	A	V
	*	2412	104.25	-	-	93.92	27.68	16.78	34.13	333	186	P	V
	*	2412	96.43	-	-	86.1	27.68	16.78	34.13	333	186	A	V
													V
													V
		2335.76	53.49	-20.51	74	43.28	27.73	16.66	34.18	100	294	P	H
		2389.24	44.16	-9.84	54	33.87	27.7	16.74	34.15	100	294	A	H
	*	2437	108.09	-	-	97.77	27.63	16.81	34.12	100	294	P	H
	*	2437	100.46	-	-	90.14	27.63	16.81	34.12	100	294	A	H
802.11n		2488.87	53.63	-20.37	74	43.4	27.44	16.88	34.09	100	294	P	H
HT20		2483.5	44.09	-9.91	54	33.84	27.47	16.87	34.09	100	294	A	H
CH 06		2313.22	53.5	-20.5	74	43.3	27.77	16.63	34.2	322	167	P	V
2437MHz		2366.28	43.52	-10.48	54	33.27	27.7	16.71	34.16	322	167	A	V
	*	2437	101.51	-	-	91.19	27.63	16.81	34.12	322	167	P	V
	*	2437	93.62	-	-	83.3	27.63	16.81	34.12	322	167	A	V
		2496.08	53.12	-20.88	74	42.9	27.42	16.88	34.08	322	167	P	V
		2483.9	43.26	-10.74	54	33.02	27.46	16.87	34.09	322	167	A	V

	*	2462	106.09	-	-	95.8	27.55	16.84	34.1	150	293	P	H
	*	2462	98.1	-	-	87.81	27.55	16.84	34.1	150	293	A	H
		2484.6	61.13	-12.87	74	50.89	27.46	16.87	34.09	150	293	P	H
		2483.72	46.75	-7.25	54	36.5	27.47	16.87	34.09	150	293	A	H
802.11n													H
HT20													H
CH 11	*	2462	99.85	-	-	89.56	27.55	16.84	34.1	321	183	P	V
2462MHz	*	2462	91.91	-	-	81.62	27.55	16.84	34.1	321	183	A	V
		2483.52	60.53	-13.47	74	50.28	27.47	16.87	34.09	321	183	P	V
		2483.56	44.36	-9.64	54	34.11	27.47	16.87	34.09	321	183	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. 1	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)
		4824	39.27	-34.73	74	63.57	31	11.5	66.8	100	0	P	H
		17955	60.65	-13.35	74	59.95	49.1	20.91	69.31	100	0	P	H
802.11n		17955	50.35	-3.65	54	49.65	49.1	20.91	69.31	100	0	A	H
HT20													H
CH 01		4824	39.6	-34.4	74	63.9	31	11.5	66.8	100	0	P	V
2412MHz		17955	60.57	-13.43	74	59.87	49.1	20.91	69.31	100	0	P	V
		17955	50.25	-3.75	54	49.55	49.1	20.91	69.31	100	0	A	V
													V
		4874	40.94	-33.06	74	65.3	31	11.37	66.73	100	0	P	H
		7311	45.77	-28.23	74	61.72	36.28	13.15	65.38	100	0	P	H
802.11n		17955	60.57	-13.43	74	59.87	49.1	20.91	69.31	100	0	P	H
HT20		17955	50.28	-3.72	54	49.58	49.1	20.91	69.31	100	0	A	H
CH 06		4874	39.98	-34.02	74	64.34	31	11.37	66.73	100	0	P	V
2437MHz		7311	44.81	-29.19	74	60.76	36.28	13.15	65.38	100	0	P	V
		17955	60.26	-13.74	74	59.56	49.1	20.91	69.31	100	0	P	V
		17955	50.11	-3.89	54	49.41	49.1	20.91	69.31	100	0	A	V
		4924	39.53	-34.47	74	63.84	31.1	11.25	66.66	100	0	P	H
		7386	45.18	-28.82	74	61.26	36.2	13.19	65.47	100	0	P	H
802.11n		17955	60.92	-13.08	74	60.22	49.1	20.91	69.31	100	0	P	H
HT20		17955	50.26	-3.74	54	49.56	49.1	20.91	69.31	100	0	A	H
CH 11		4924	40.64	-33.36	74	64.95	31.1	11.25	66.66	100	0	P	V
2462MHz		7386	45.11	-28.89	74	61.19	36.2	13.19	65.47	100	0	P	V
		17955	59.92	-14.08	74	59.22	49.1	20.91	69.31	100	0	P	V
		17955	50.05	-3.95	54	49.35	49.1	20.91	69.31	100	0	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission above 18GHz

2.4GHz WIFI 802.11g (SHF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11g SHF		38944	48.38	-25.62	74	40.68	44	19.22	55.52	150	0	P	H
													H
													H
													H
		38834	47.47	-26.53	74	39.85	44	19.19	55.57	150	0	P	V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Emission below 1GHz

2.4GHz WIFI 802.11g (LF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11g LF		30	33.95	-6.05	40	38.32	24.46	0.81	29.64	-	-	P	H
		224	36.17	-9.83	46	47.77	15.64	2.21	29.45	-	-	P	H
		344.28	37.94	-8.06	46	44.09	20.36	2.74	29.25	100	320	Q	H
		790.48	34.53	-11.47	46	30.48	28.33	4.22	28.5	-	-	P	H
		876.81	35.83	-10.17	46	30.53	29.07	4.51	28.28	-	-	P	H
		953.44	37.57	-8.43	46	30.28	30.74	4.68	28.13	-	-	P	H
													H
													H
													H
													H
													H
													H
		30	33.83	-6.17	40	38.2	24.46	0.81	29.64	100	46	Q	V
		85.29	33.99	-6.01	40	48.16	14.13	1.36	29.66	-	-	P	V
		166.77	35.02	-8.48	43.5	46.71	15.97	1.89	29.55	-	-	P	V
		780.78	34.81	-11.19	46	30.79	28.35	4.19	28.52	-	-	P	V
		859.35	36.15	-9.85	46	30.82	29.22	4.46	28.35	-	-	P	V
		947.62	37.47	-8.53	46	30.41	30.53	4.67	28.14	-	-	P	V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

<EUT with Strap 3>

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant. 1		(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 01 2412MHz		2389.59	64.48	-9.52	74	53.47	27.7	16.74	33.43	150	270	P	H
		2390	51.96	-2.04	54	40.94	27.7	16.75	33.43	150	270	A	H
	*	2412	106.52	-	-	95.47	27.68	16.78	33.41	150	270	P	H
	*	2412	98.32	-	-	87.27	27.68	16.78	33.41	150	270	A	H
													H
													H
		2390	62.78	-11.22	74	51.76	27.7	16.75	33.43	300	322	P	V
		2390	50.09	-3.91	54	39.07	27.7	16.75	33.43	300	322	A	V
	*	2412	103.79	-	-	92.74	27.68	16.78	33.41	300	322	P	V
	*	2412	95.62	-	-	84.57	27.68	16.78	33.41	300	322	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. 1	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		4824	39.26	-34.74	74	63.56	31	11.5	66.8	100	0	P	H
		17970	61.26	-12.74	74	60.3	49.53	20.79	69.36	100	0	P	H
		17970	50.6	-3.4	54	49.64	49.53	20.79	69.36	100	0	A	H
													H
		4824	39.61	-34.39	74	63.91	31	11.5	66.8	100	0	P	V
		17970	59.89	-14.11	74	58.93	49.53	20.79	69.36	100	0	P	V
		17970	50.17	-3.83	54	49.21	49.53	20.79	69.36	100	0	A	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 802.11g (SHF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11g SHF		39362	49.02	-24.98	74	40.42	44.65	19.23	55.28	150	0	P	H
													H
													H
													H
		38504	46.14	-22.06	68.2	38.74	44	19.1	55.7	150	0	P	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	**P**eak or **A**verage
H/V	**H**orizontal or **V**ertical

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

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		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 :	Jack Cheng, Lance Chiang and Chuan Chu	**Temperature :**	21~23°C
		Relative Humidity :	54~65%

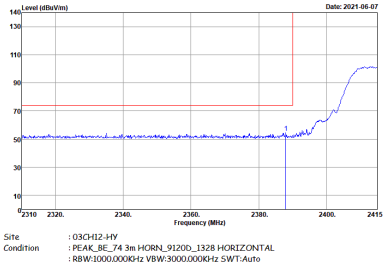
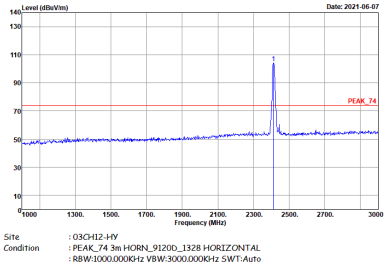
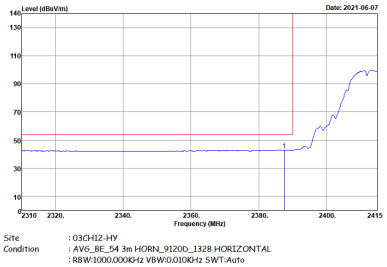
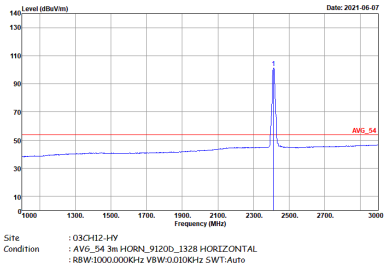
Note symbol

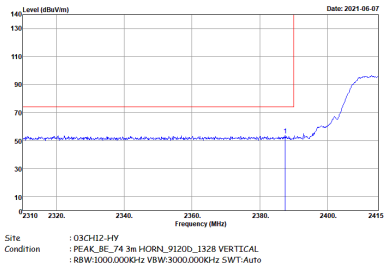
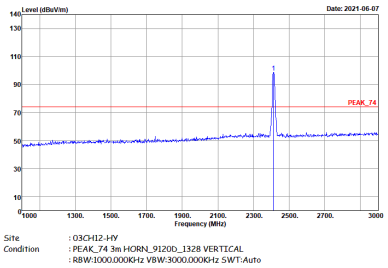
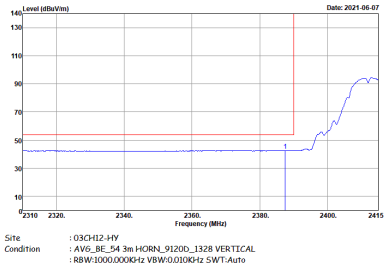
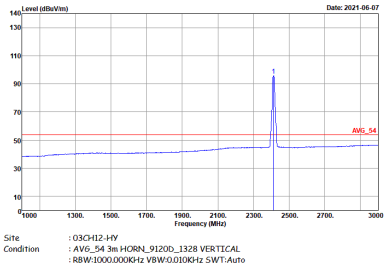
-L	**Low channel location**
-R	**High channel location**

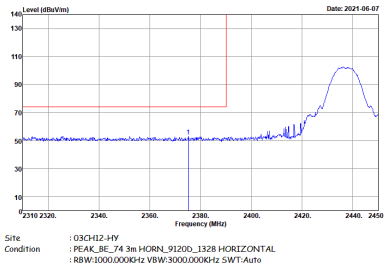
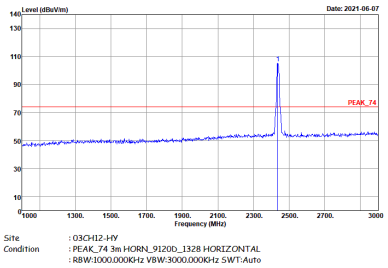
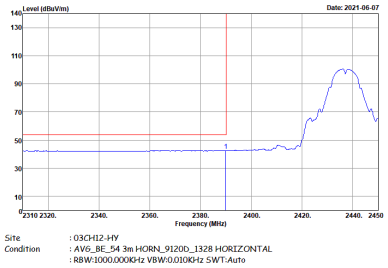
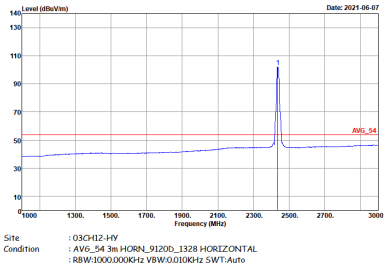
<EUT with Strap 1>

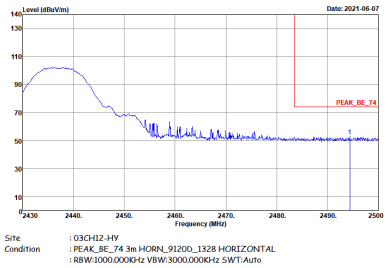
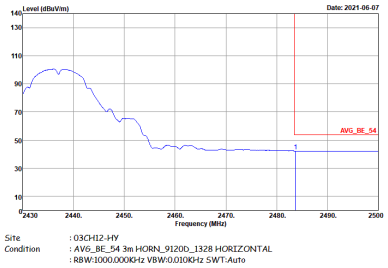
2.4GHz 2400~2483.5MHz

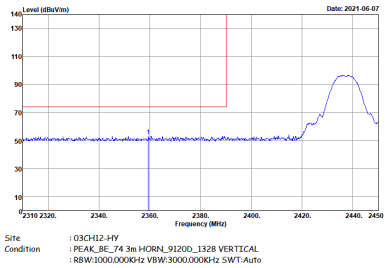
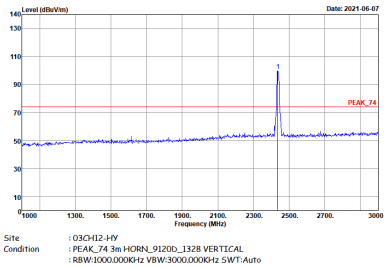
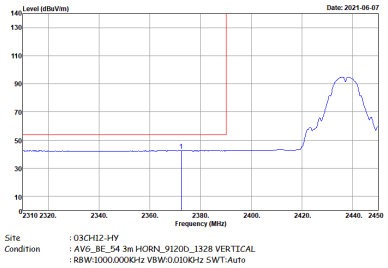
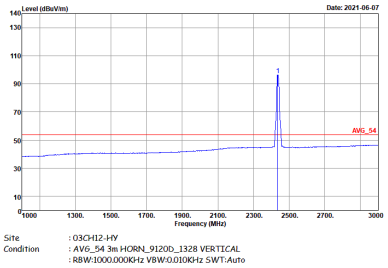
WIFI 802.11b (Band Edge @ 3m)

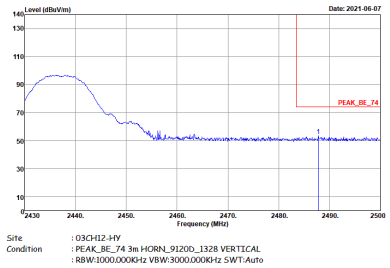
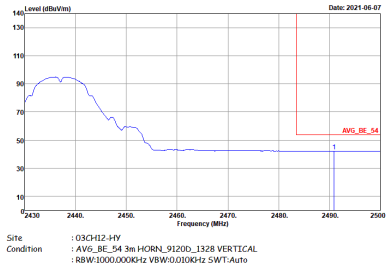
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1	Horizontal	Fundamental
Peak		
Avg.		

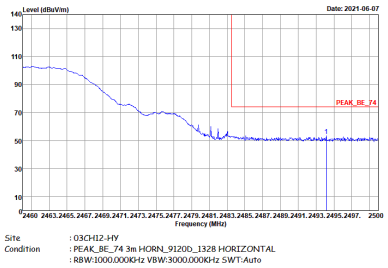
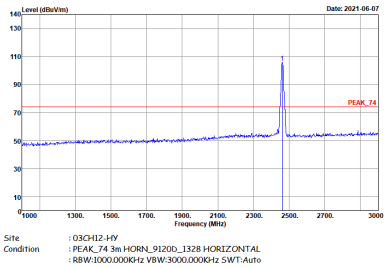
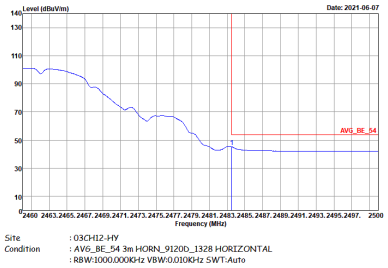
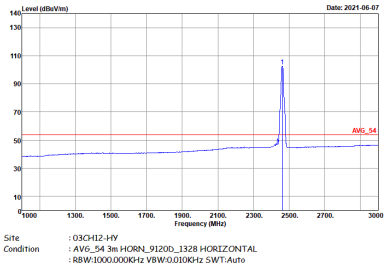
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1	Vertical	Fundamental
Peak		
Avg.		

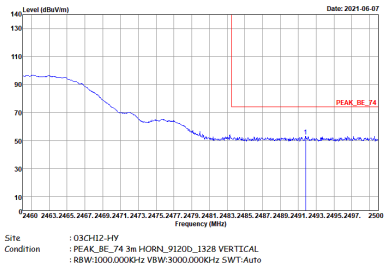
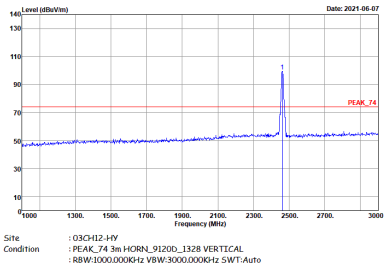
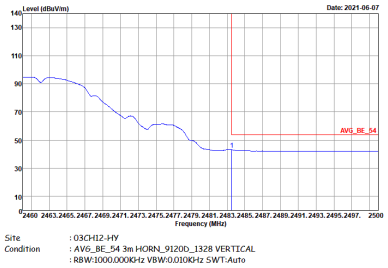
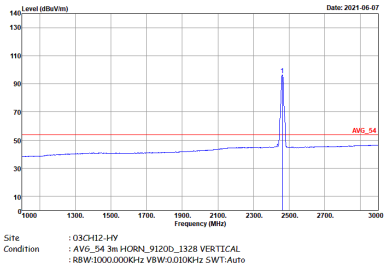
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		

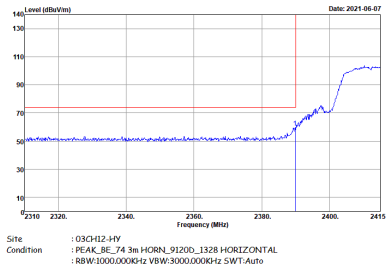
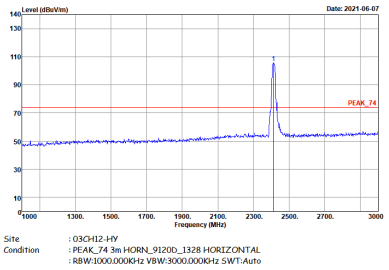
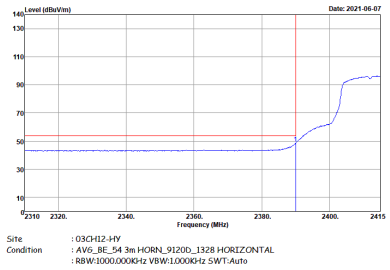
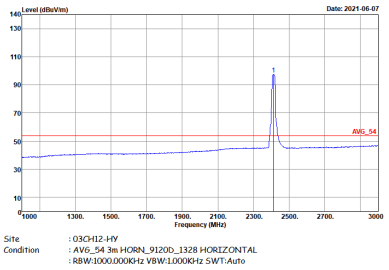
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

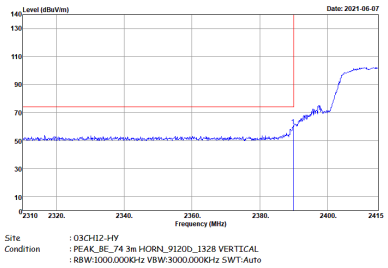
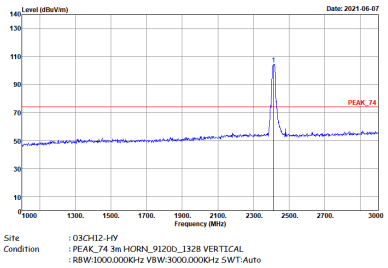
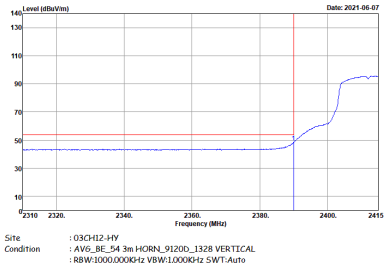
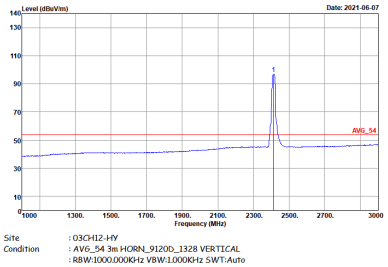
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

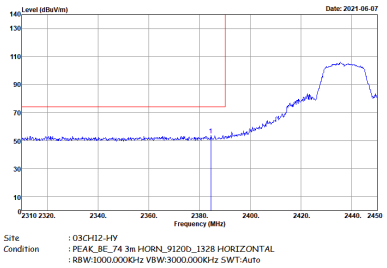
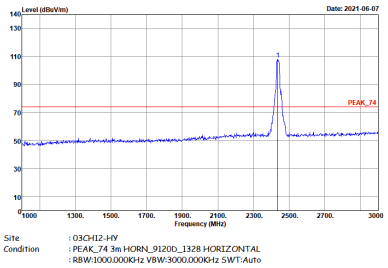
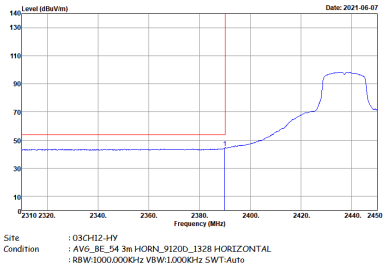
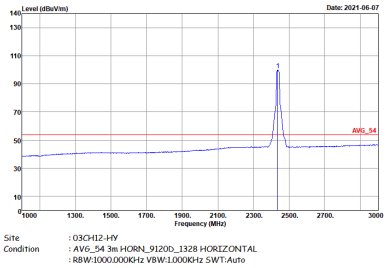
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1	Vertical	Fundamental
Peak		
Avg.		

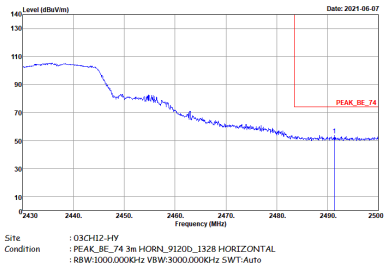
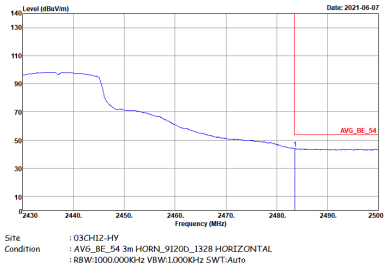
2.4GHz 2400~2483.5MHz

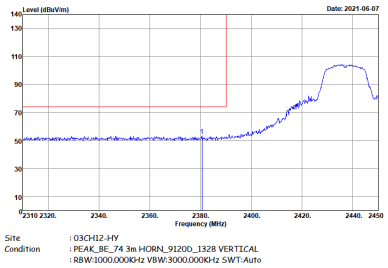
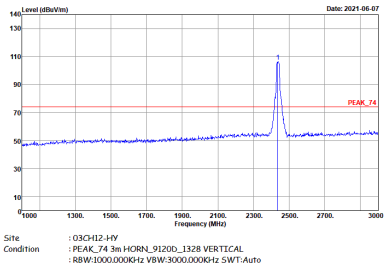
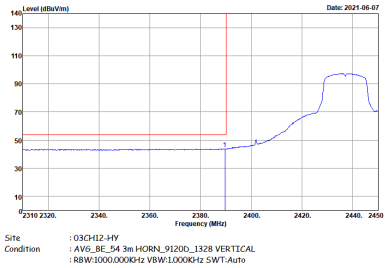
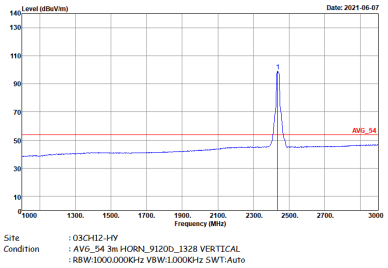
WIFI 802.11g (Band Edge @ 3m)

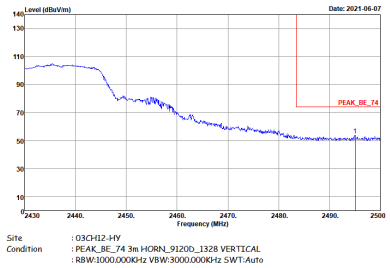
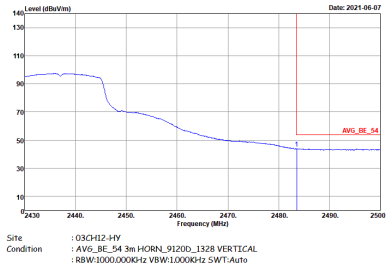
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
1	Horizontal	Fundamental
Peak		
Avg.		

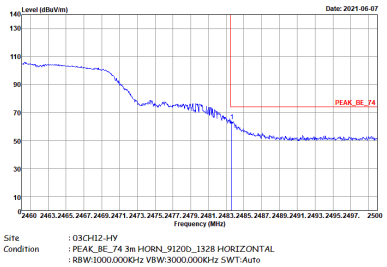
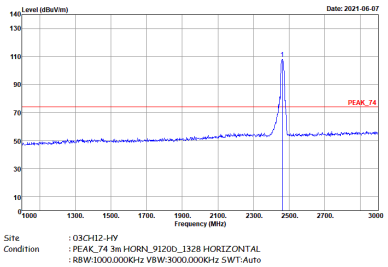
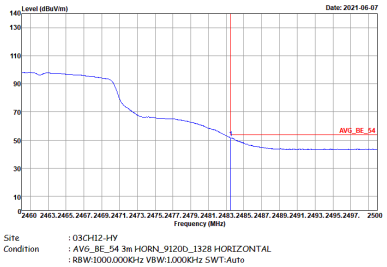
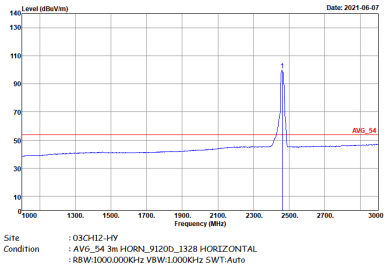
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
1	Vertical	Fundamental
Peak		
Avg.		

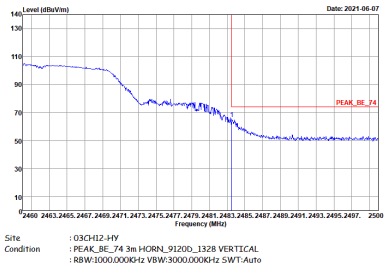
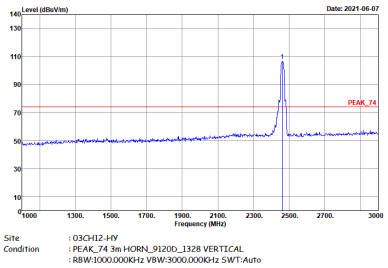
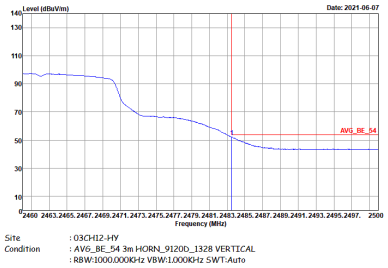
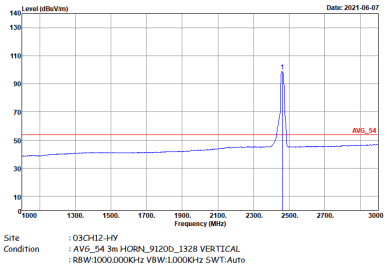
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		

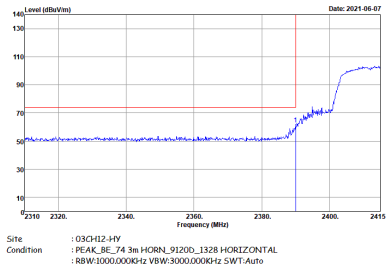
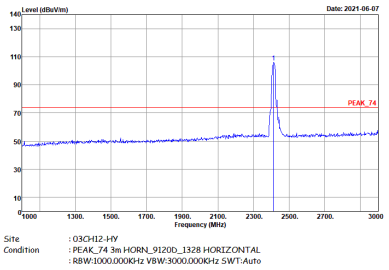
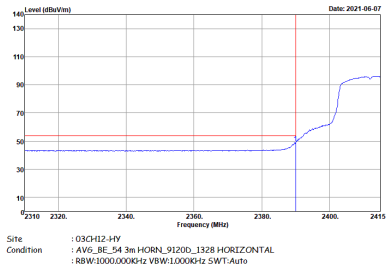
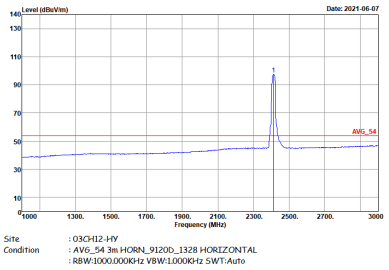
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - R	
1	Vertical	Fundamental
Peak		Left Blank
Avg.		Left Blank

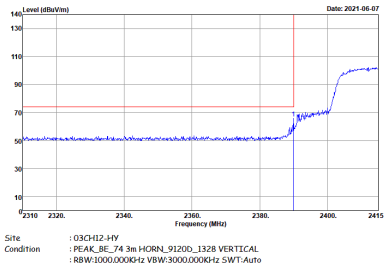
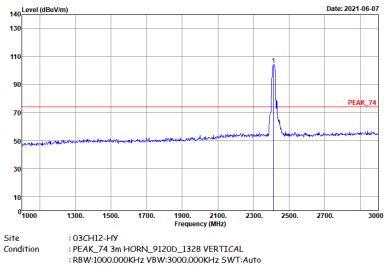
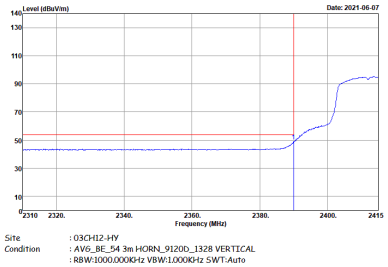
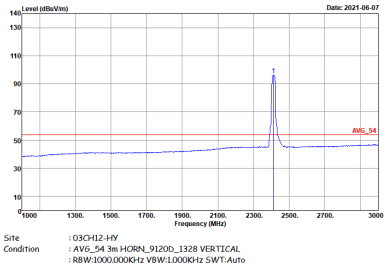
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto

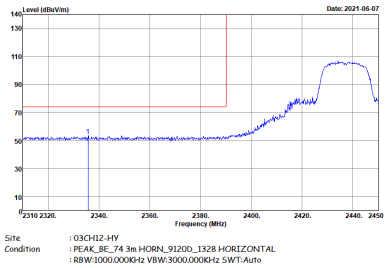
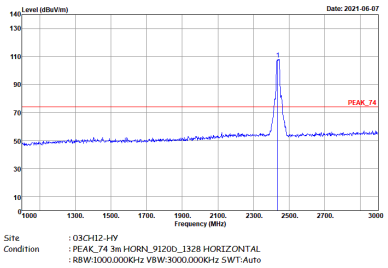
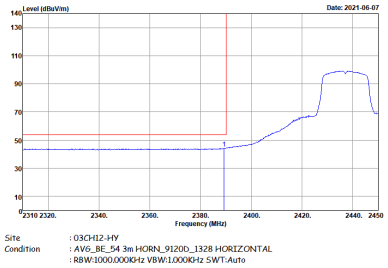
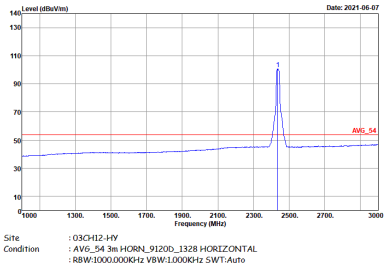
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1	Vertical	Fundamental
Peak		
Avg.		

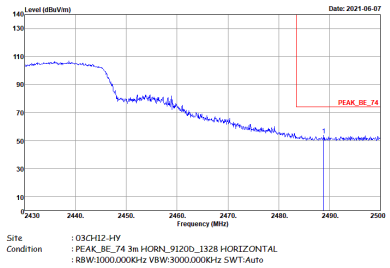
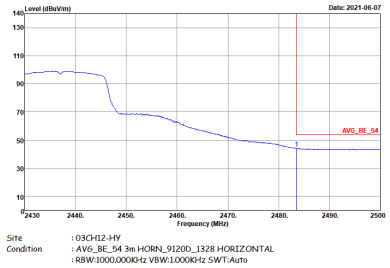
2.4GHz 2400~2483.5MHz

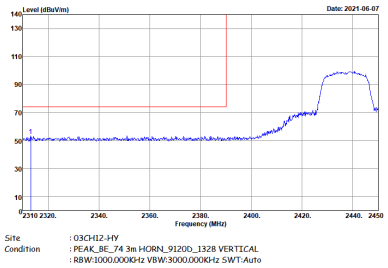
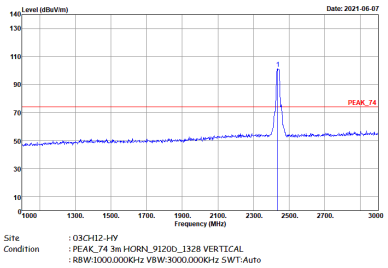
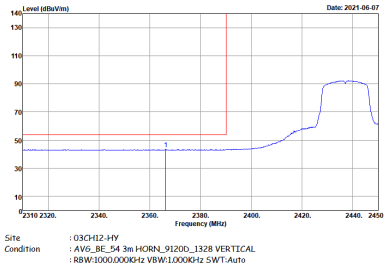
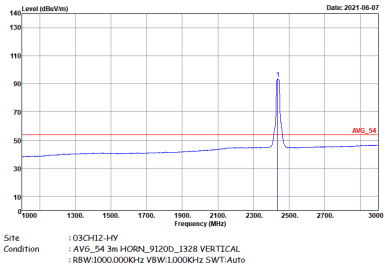
WIFI 802.11n HT20 (Band Edge @ 3m)

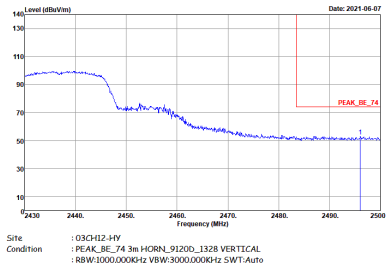
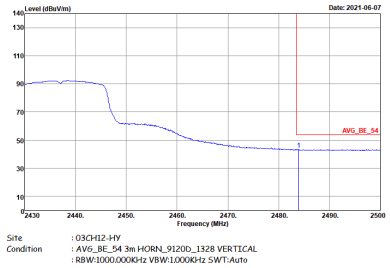
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Horizontal	Fundamental
Peak		
Avg.		

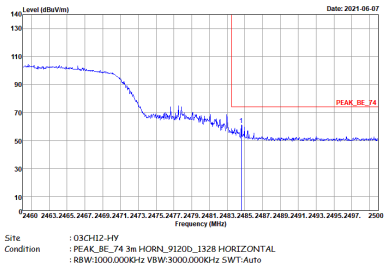
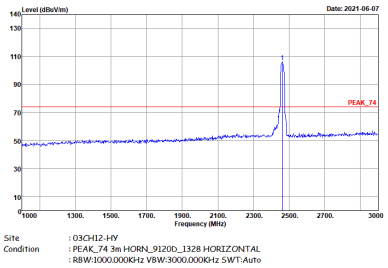
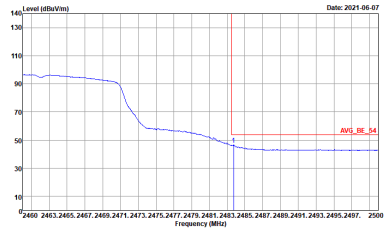
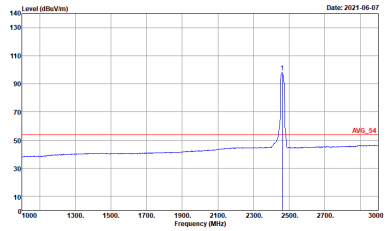
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Vertical	Fundamental
Peak		
Avg.		

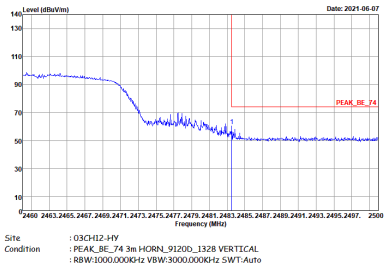
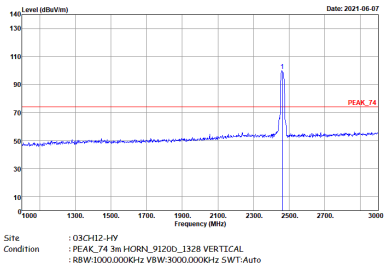
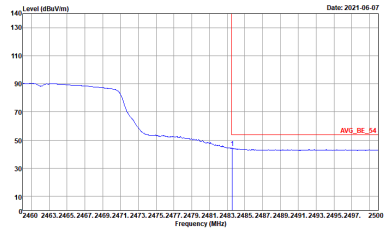
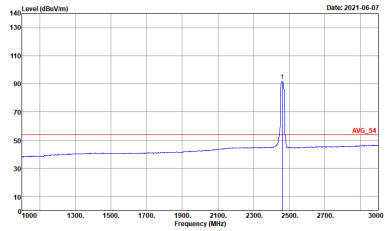
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		

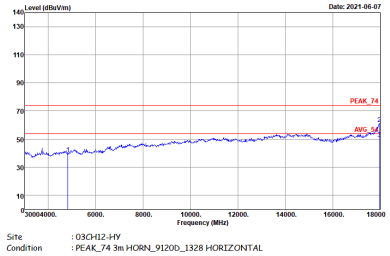
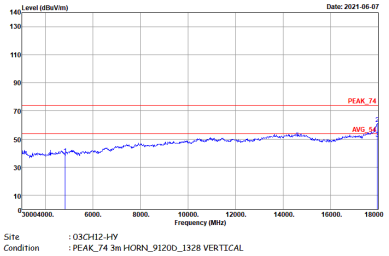
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - R	
1	Vertical	Fundamental
Peak		Left Blank
Avg.		Left Blank

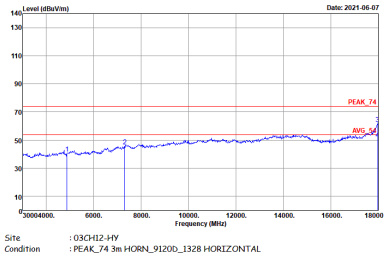
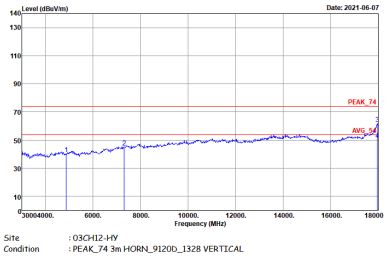
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto

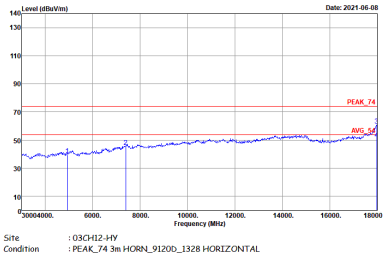
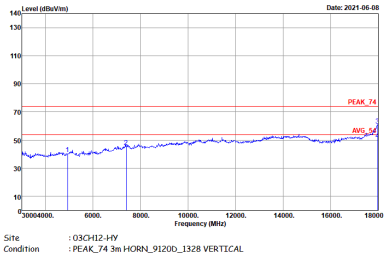
WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

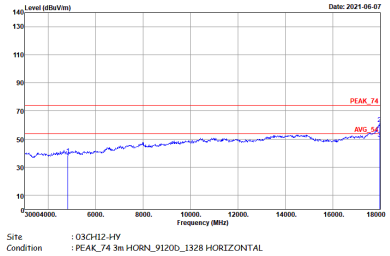
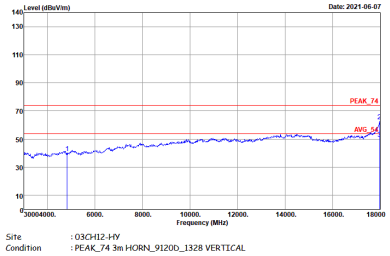
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.		

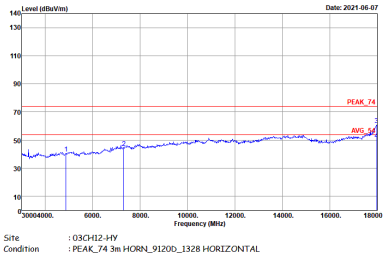
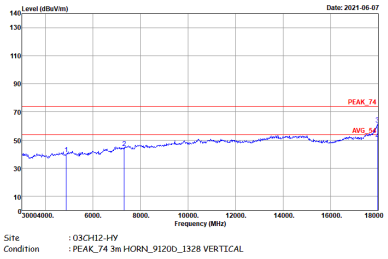
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.		

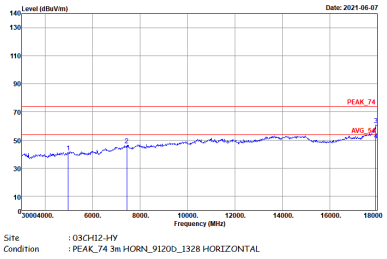
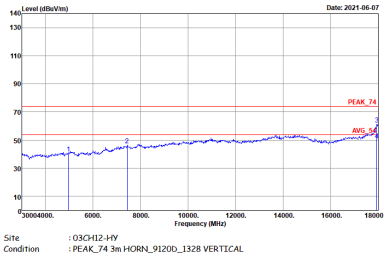
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.		

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

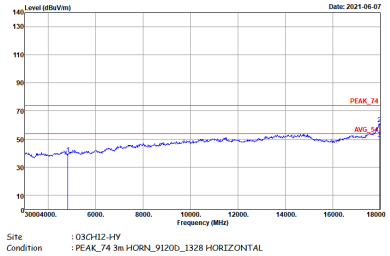
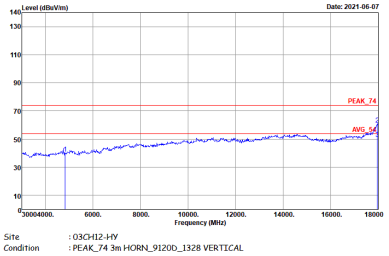
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.		

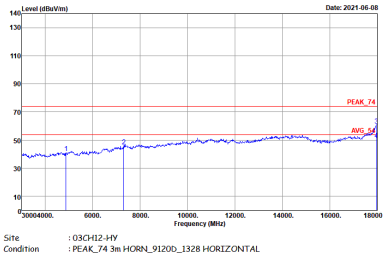
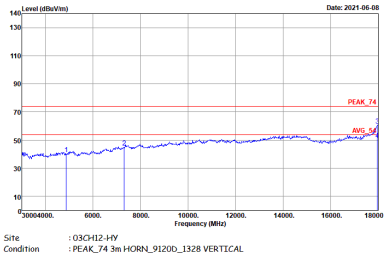
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.		

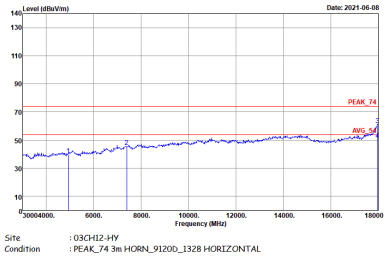
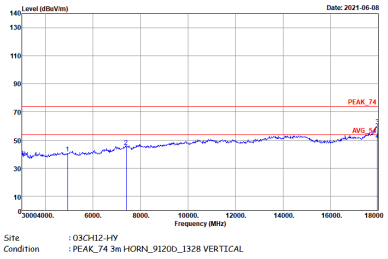
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.		

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

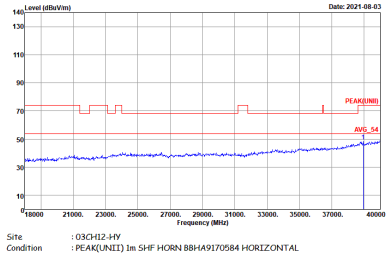
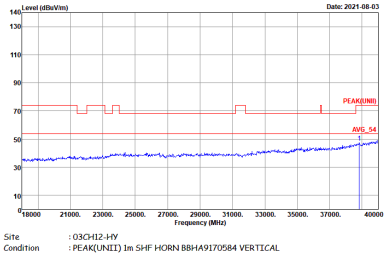
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.		

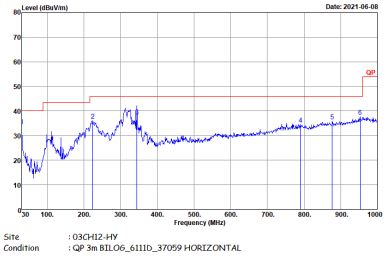
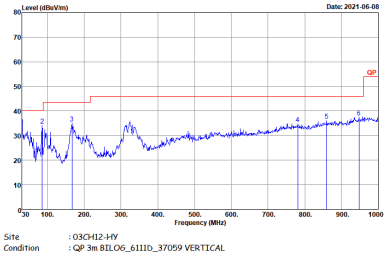
Emission above 18GHz

2.4GHz WIFI 802.11g (SHF)

WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11g SHF	
1	Horizontal	Vertical
Peak Avg.		

Emission below 1GHz

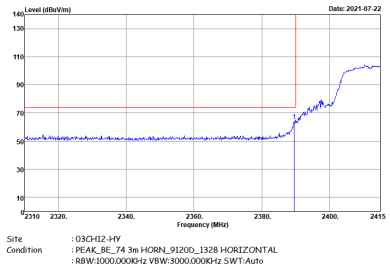
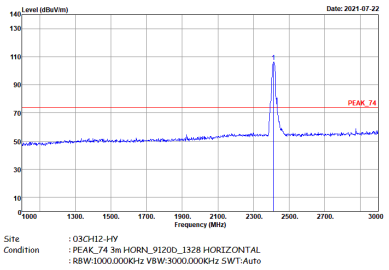
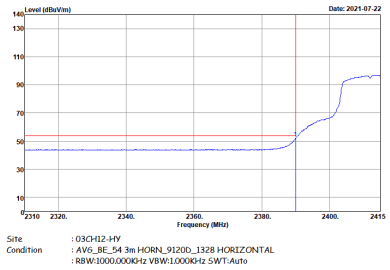
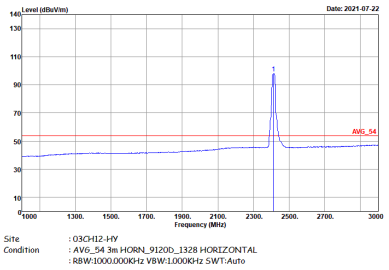
2.4GHz WIFI 802.11g (LF)

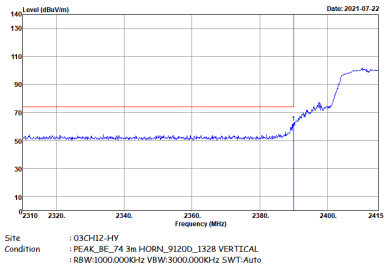
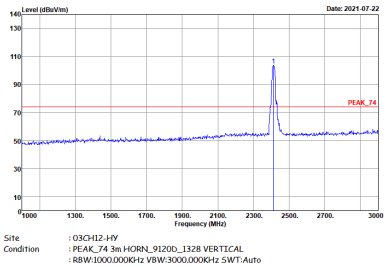
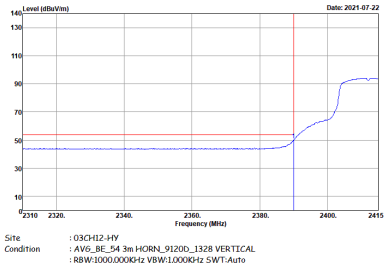
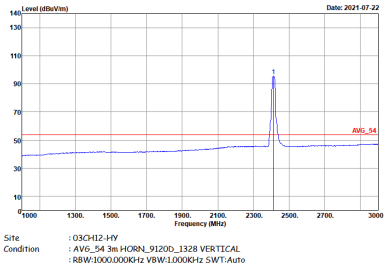
WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11g LF	
1	Horizontal	Vertical
QP / Peak		

<EUT with Strap 3>

2.4GHz 2400~2483.5MHz

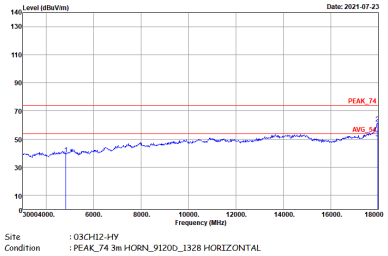
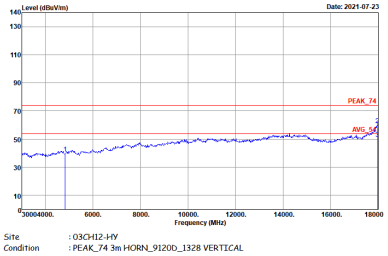
WIFI 802.11g (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
1	Horizontal	Fundamental
Peak		
Avg.		

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
1	Vertical	Fundamental
Peak		
Avg.		

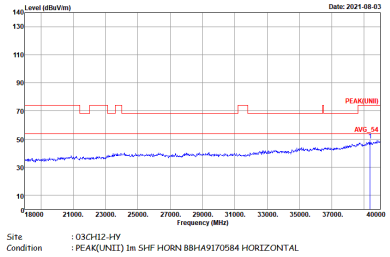
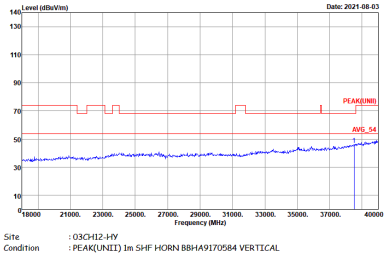
2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.		

Emission above 18GHz

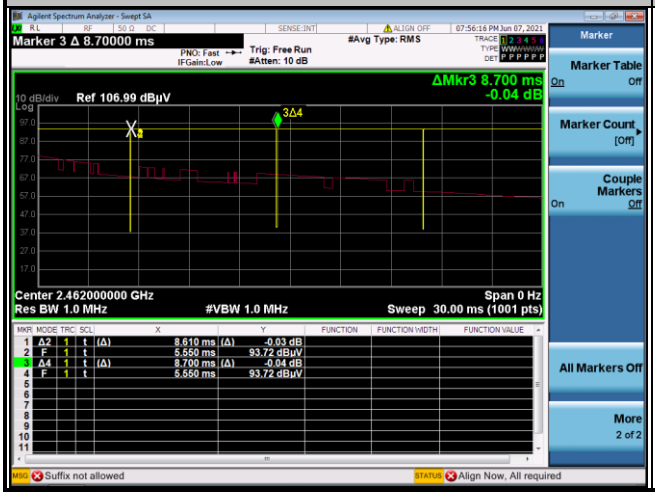
2.4GHz WIFI 802.11g (SHF)

WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11g SHF	
1	Horizontal	Vertical
Peak Avg.		

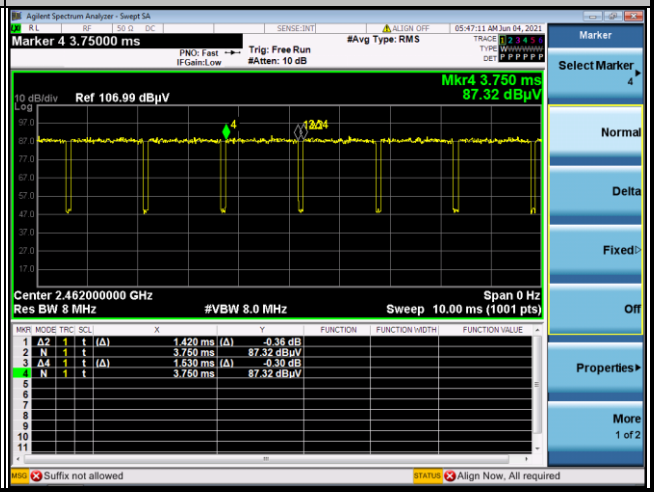
Appendix E. Duty Cycle Plots

Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
802.11b	98.97	-	-	10Hz
802.11g	92.81	1420	0.70	1kHz
2.4GHz 802.11n HT20	93.06	1340	0.75	1kHz

802.11b



802.11g



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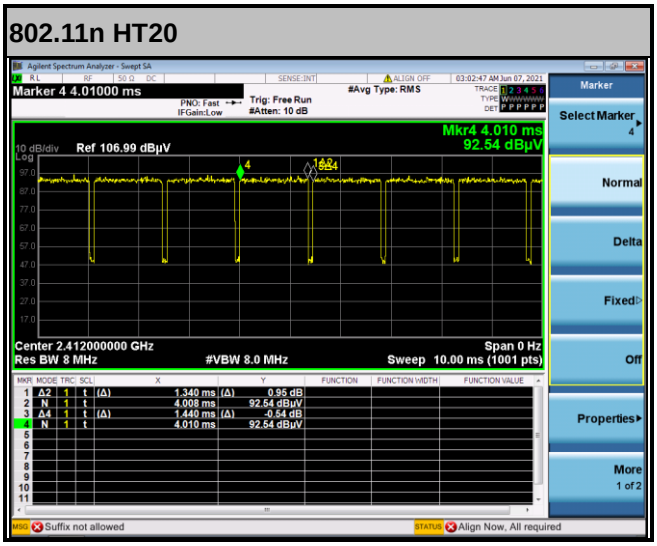

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