FCC RF Test Report

APPLICANT	:	**Persimmon Kaki LLC**
EQUIPMENT	:	**Digital Media Receiver**
MODEL NAME	:	**G6A87E**
FCC ID	:	**2A8UX-2892**
STANDARD	:	**FCC Part 15 Subpart C §15.247**
CLASSIFICATION	:	**(DTS) Digital Transmission System**
TEST DATE(S)	:	**Feb. 16, 2023 ~ Feb. 25, 2023**

We, Sporton International Inc. (Shenzhen), 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. (Shenzhen), the test report shall not be reproduced except in full

Jason Jia

Approved by: Jason Jia

ACCREDITED
Cert #5145.01

Sporton International Inc. (ShenZhen)

1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055

People's Republic of China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR2N0202-01D	Rev. 01	Initial issue of report	May 25, 2023

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	6dB Bandwidth	≥ 0.5MHz	Pass	-
3.1	-	99% Bandwidth	-	Report Only	-
3.2	15.247(b)	Power Output Measurement	≤ 30dBm	Pass	-
3.3	15.247(e)	Power Spectral Density	≤ 8dBm/3kHz	Pass	-
3.4	15.247(d)	Conducted Band Edges	≤ 30dBc	Pass	-
		Conducted Spurious Emission		Pass	-
3.5	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 3.09 dB at 2390 MHz
3.6	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 12.76 dB at 0.596 MHz
3.7	15.203 & 15.247(b)	Antenna Requirement	15.203 & 15.247(b)	Pass	-
Remark: Not required means after assessing, test items are not necessary to carry out.					

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits.
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.

1 General Description

1.1 Applicant

Persimmon Kaki LLC
6975 Union Park Avenue, Suite 600, Cottonwood Heights, Utah 84047

1.2 Product Feature of Equipment Under Test

Product Feature	
Equipment	Digital Media Receiver
Model Name	G6A87E
FCC ID	2A8UX-2892
IMEI Code	Conducted: P0B33R01302503S3 Conduction: G0B2JK013055002A Radiation: G0B2JK0130550029

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.3 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Channel Frequency Range	2412 MHz ~ 2472 MHz
Maximum (Average) Output Power to antenna	802.11b : 18.40 dBm (0.0692 W) 802.11g : 17.30 dBm (0.0537 W) 802.11n HT20 : 17.40 dBm (0.0550 W)
99% Occupied Bandwidth	802.11b : 13.44MHz 802.11g : 16.78MHz 802.11n HT20 : 17.68MHz
Antenna Type / Gain	PCB IFA Antenna type with gain 4 dBi
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

1.4 Modification of EUT

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

1.5 Testing Location

Sporton International Inc. (ShenZhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Test Firm	Sporton International Inc. (ShenZhen)		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	TH01-SZ	CN1256	421272

Test Firm	Sporton International Inc. (ShenZhen)		
Test Site Location	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City Guangdong Province China 518103 TEL: +86-755-33202398		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	CO02-SZ ; 03CH02-SZ	CN1256	421272

1.6 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH02-SZ	AUDIX	E3	6.2009-8-24a
2.	CO02-SZ	AUDIX	E3	6.120613b

1.7 Applicable Standards

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

- 47 CFR Part 15 Subpart C §15.247
- FCC KDB 558074 D01 15.247 Meas Guidance v05r02
- 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. 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). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Z plane) were recorded in this report.

b. AC power line Conducted Emission was tested under maximum output power.

2.1 Carrier Frequency and Channel

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

2.2 Test Mode

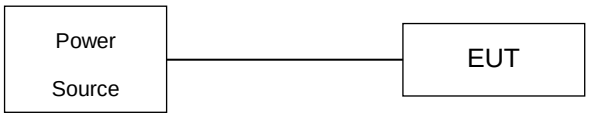
Final test modes are considering the modulation and worse data rates as below table.

Modulation	Data Rate
802.11b	1 Mbps
802.11g	6 Mbps
802.11n HT20	MCS0

Test Cases	
AC Conducted Emission	Mode 1 :Lora Tx + Zigbee Tx + Bluetooth Tx + WIFI(2.4G) Tx + USB Cable (Charging from Adapter)
Remark: For Radiated Test Cases, The tests were performance with Adapter	

Co-location
LoRa SF7 CH01 Tx + WLAN 802.11b CH01 Tx + BLE(2M) CH19 Tx + Zigbee CH11 Tx LoRa SF7 CH31 Tx + WLAN 802.11n20 CH01 Tx + BLE(2M) CH39 Tx + Zigbee CH25 Tx

2.3 Connection Diagram of Test System



This example is connection diagram of EUT test configurations.

. For detail, please refer to test mode configuration and setup photographs for each test item.

2.4 EUT Operation Test Setup

For WLAN RF test items, an engineering test program was provided and enabled to make EUT continuous transmit.

2.5 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 1.20 dB and 10dB attenuator.

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

= 1.20 + 10 = 11.20 (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.

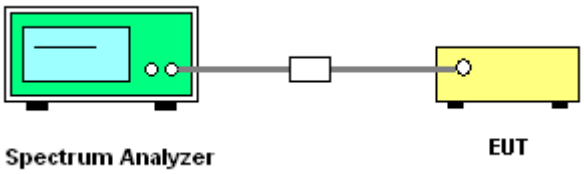
3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedures

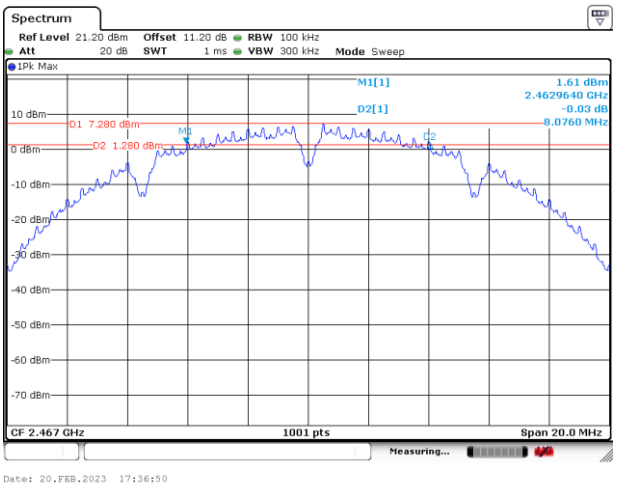
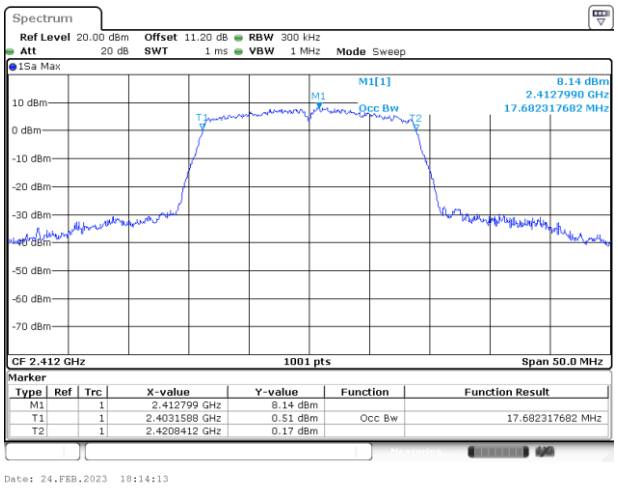
1. The testing follows ANSI C63.10-2013 clause 11.8
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 kHz.
5. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) = 1%~5% of OBW and set the Video bandwidth (VBW) = 3MHz.
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 2400-2483.5MHz, the limit for output power is 30dBm. If transmitting antenna with directional gain greater than 6dBi is used, the output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

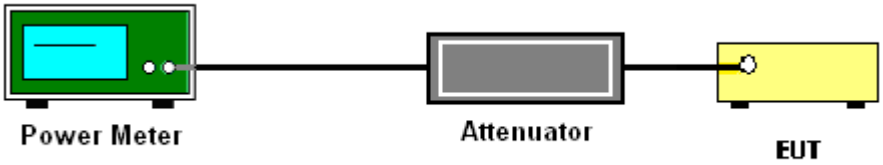
3.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.2.3 Test Procedures

1. The testing follows the Measurement Procedure of ANSI C63.10-2013 clause 11.9.1.3 PKPM1 Peak power meter or ANSI C63.10-2013 clause 11.9.2.3.1 Method AVGPM method.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Measure the conducted output power and record the results in the test report.

3.2.4 Test Setup



3.2.5 Test Result of Average Output Power

Please refer to Appendix A.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

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

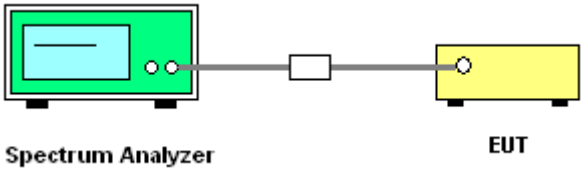
3.3.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.3.3 Test Procedures

1. The testing follows Measurement Procedure of ANSI C63.10-2013 clause 11.10.2 Method PKPSD.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz. Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)
5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.
6. Measure and record the results in the test report.

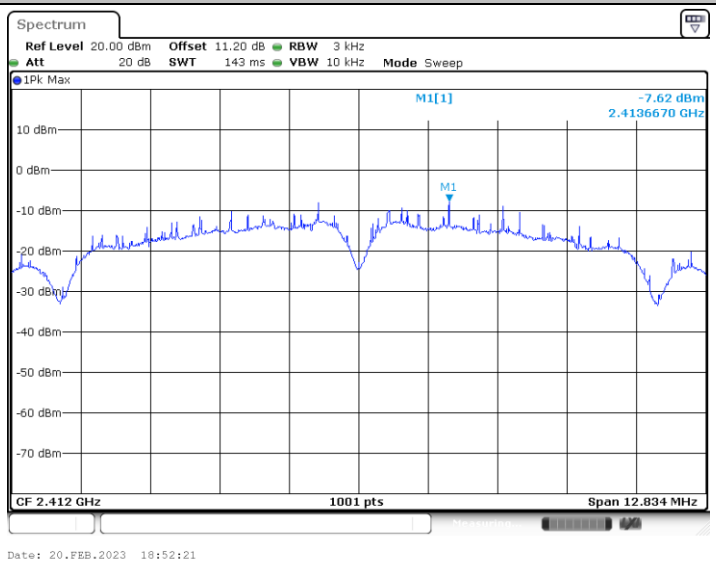
3.3.4 Test Setup



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.

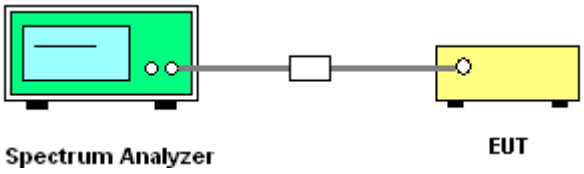
3.4.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.4.3 Test Procedures

1. The testing follows ANSI C63.10-2013 clause 11.11
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d).
5. Measure and record the results in the test report.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.4.4 Test Setup



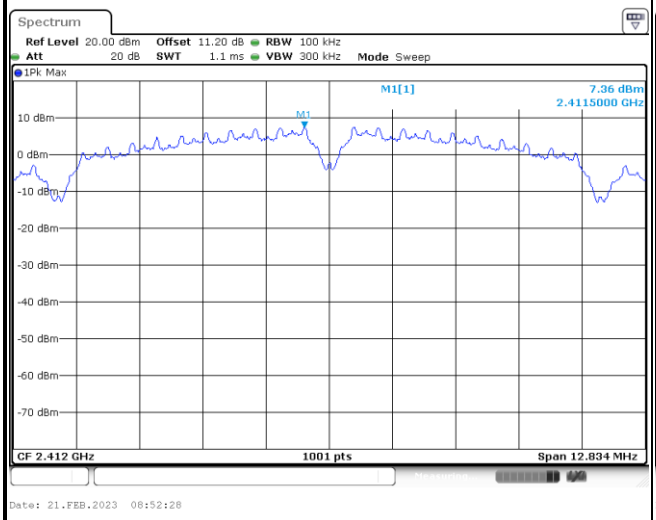
3.4.5 Test Result of Conducted Band Edges and Spurious Emission

Test Engineer :	Chen Ran	**Temperature :**	24~26℃
		Relative Humidity :	50~53%

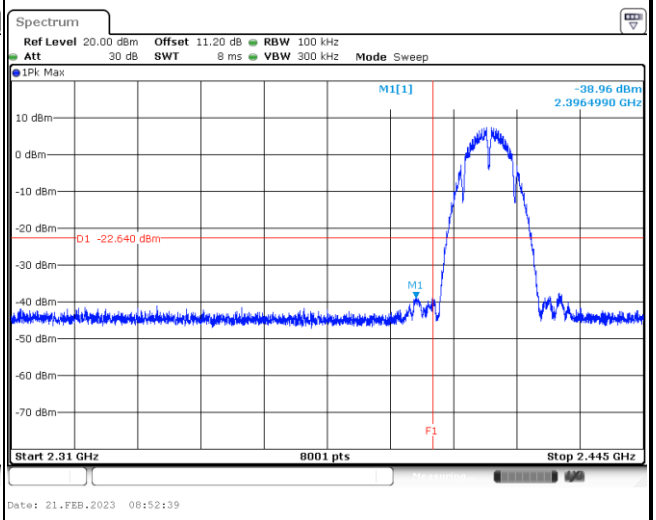
Number of TX = 1, Ant. 1 (Measured)

Test Mode :	802.11b	**Test Channel :**	01

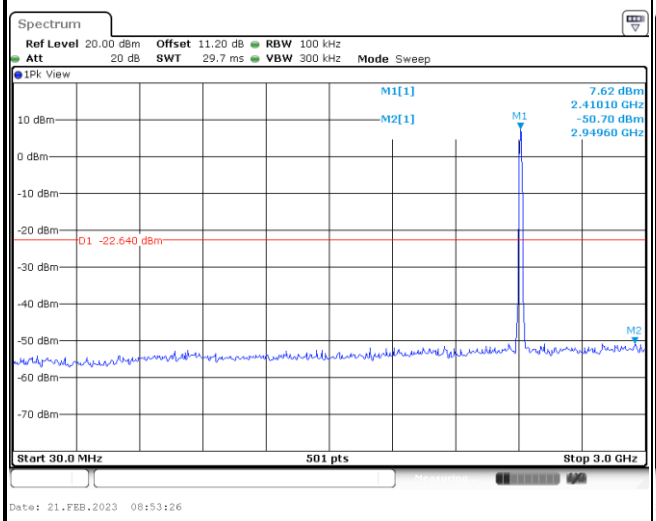
100kHz PSD reference Level



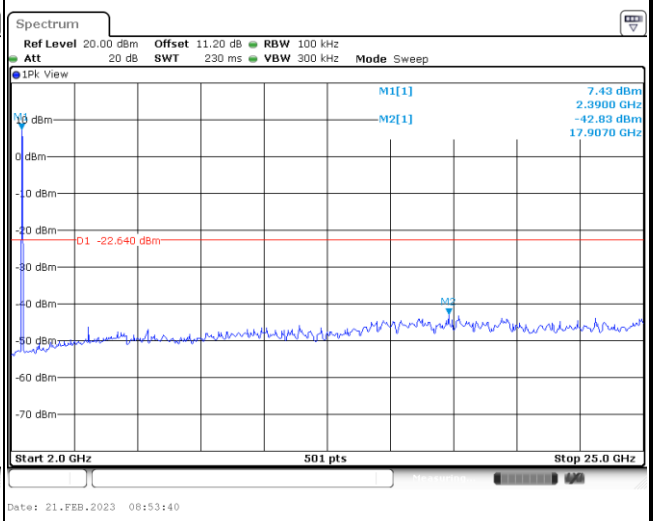
Channel Plot



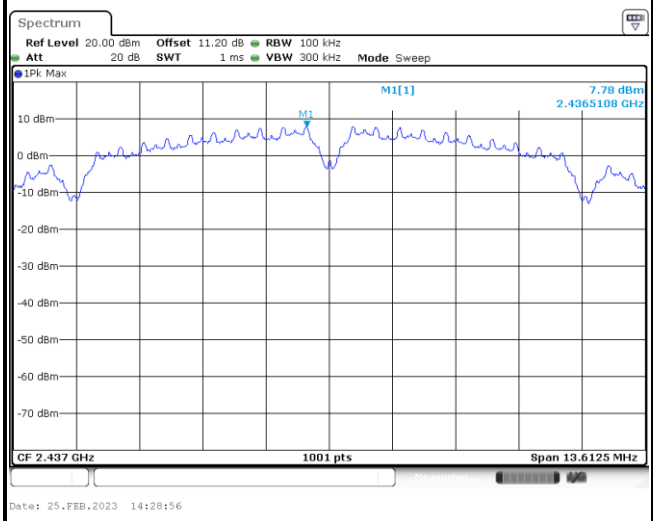
Spurious Emission 30MHz~3GHz

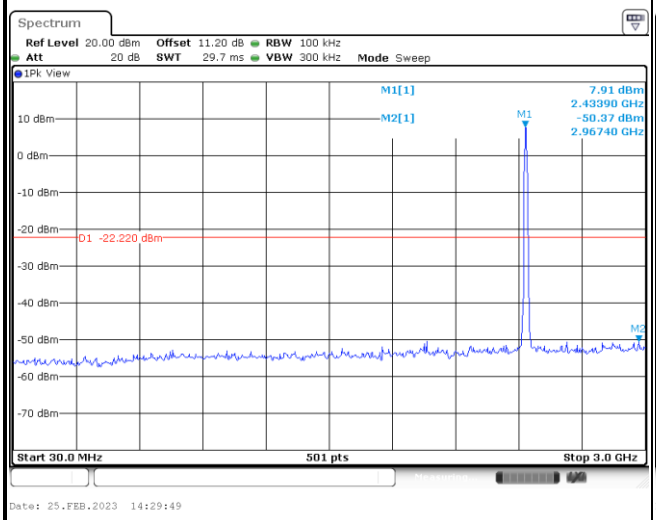
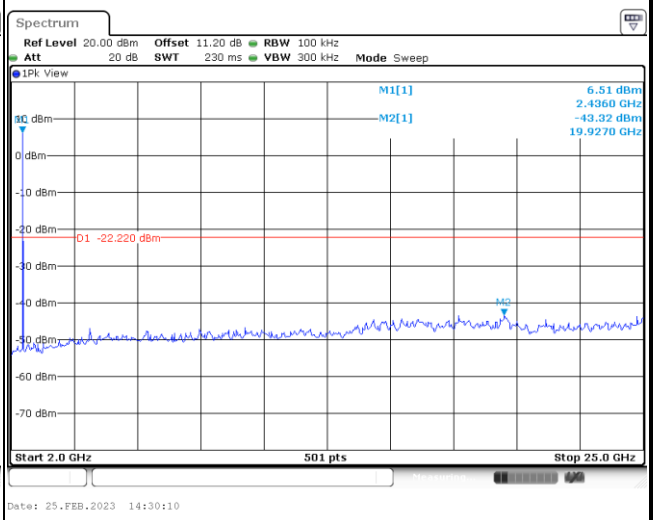


Spurious Emission 2GHz~25GHz

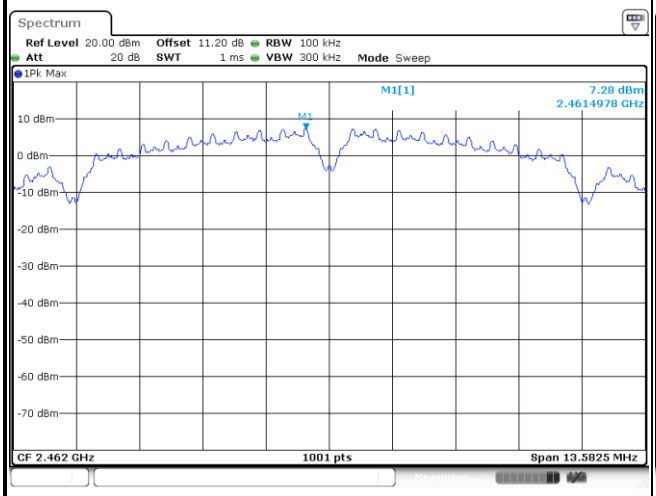
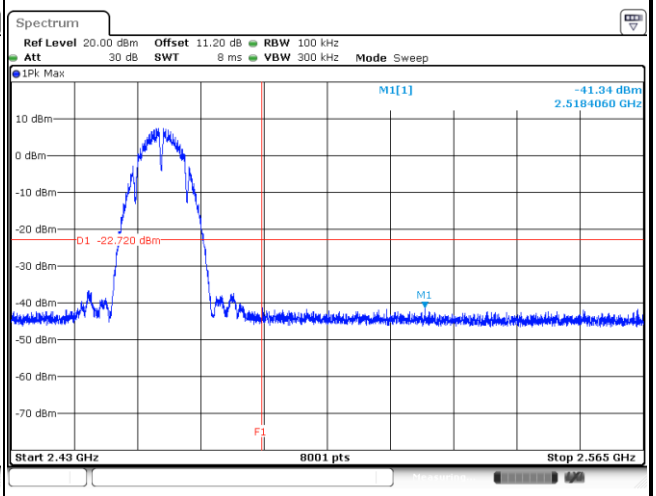
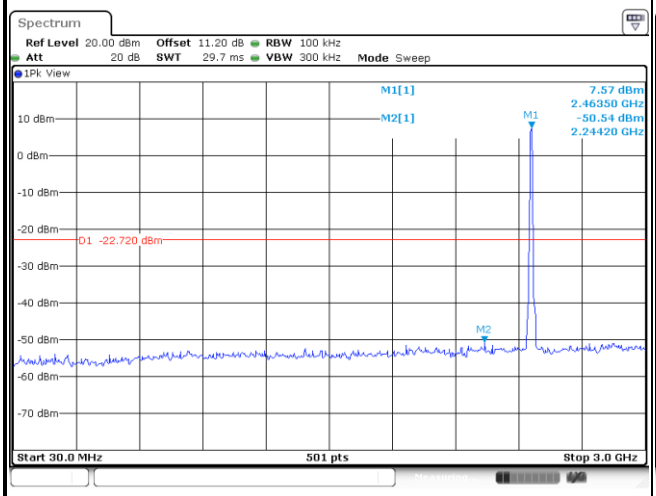
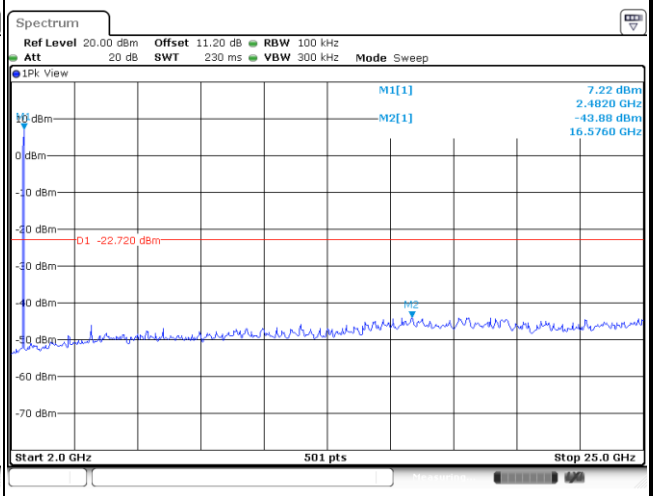


Test Mode :	802.11b	Test Channel :	06

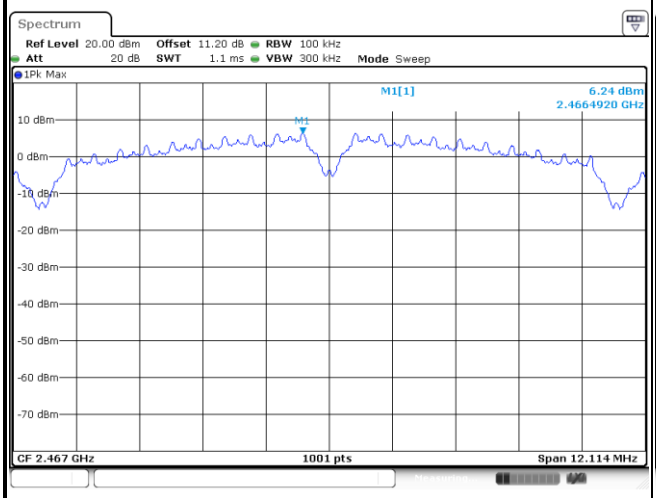
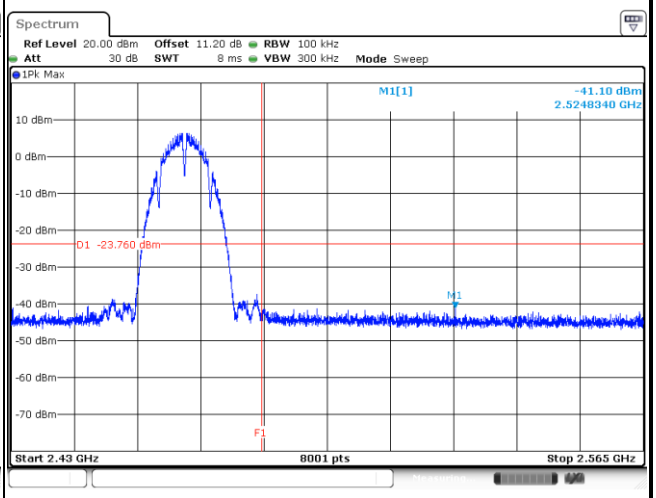
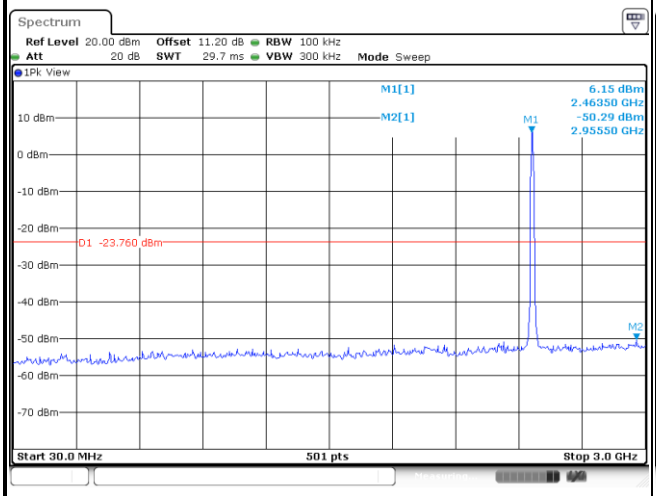
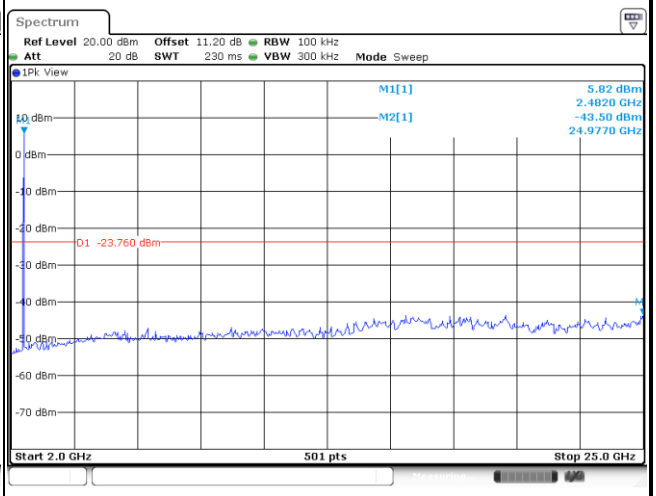
100kHz PSD reference Level	Channel Plot
	

Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

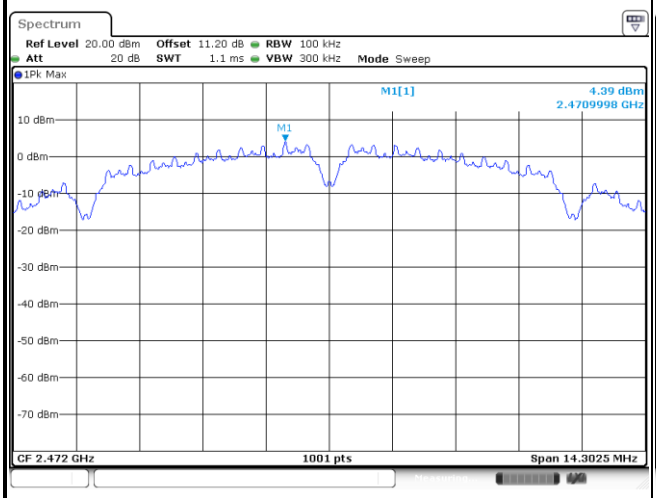
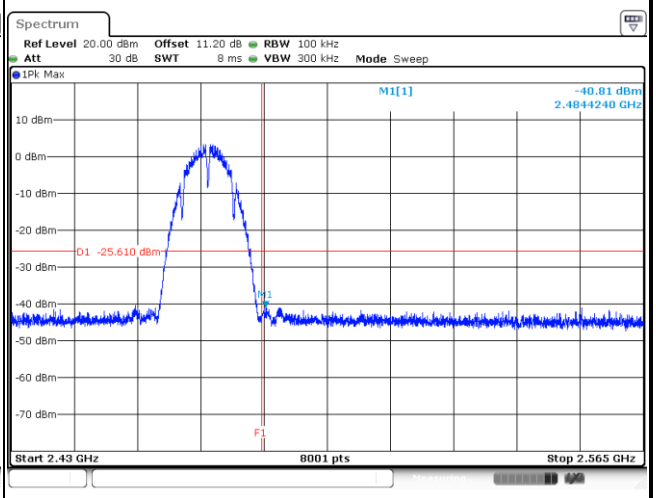
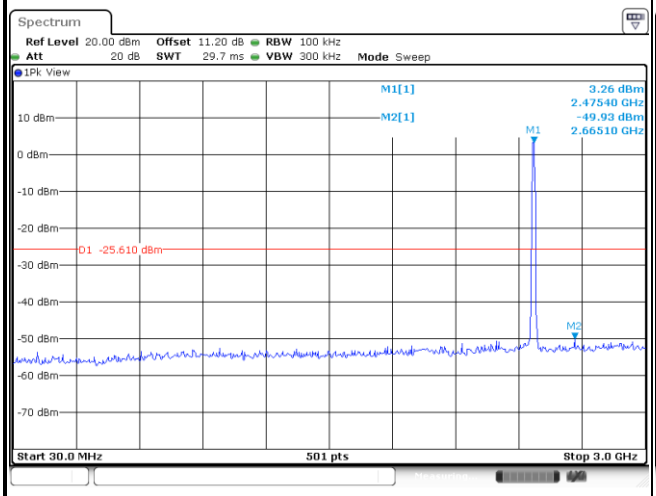
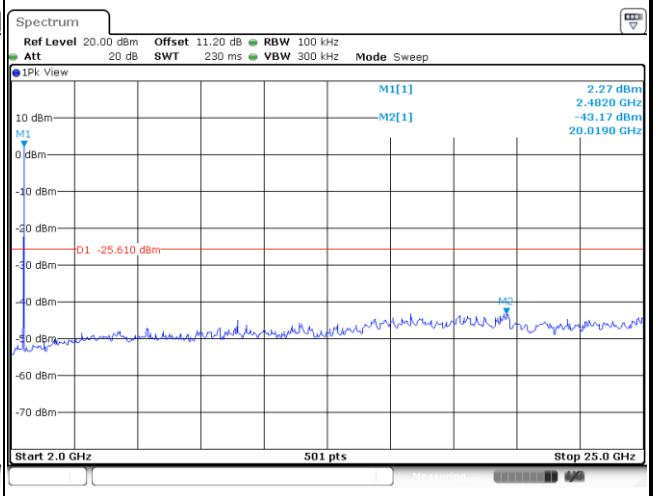
Test Mode :	802.11b	Test Channel :	11

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

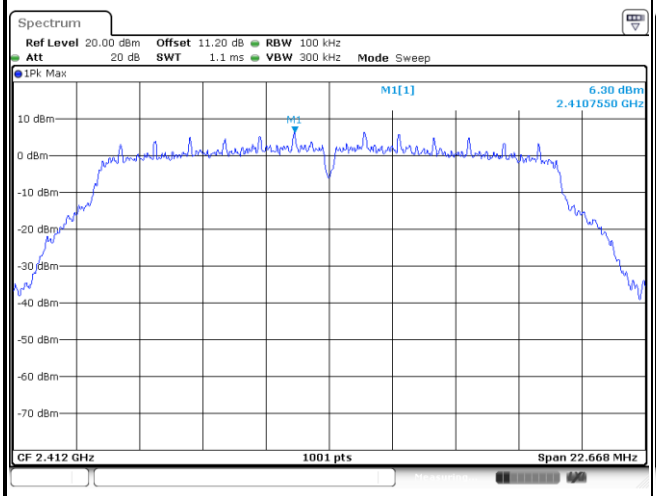
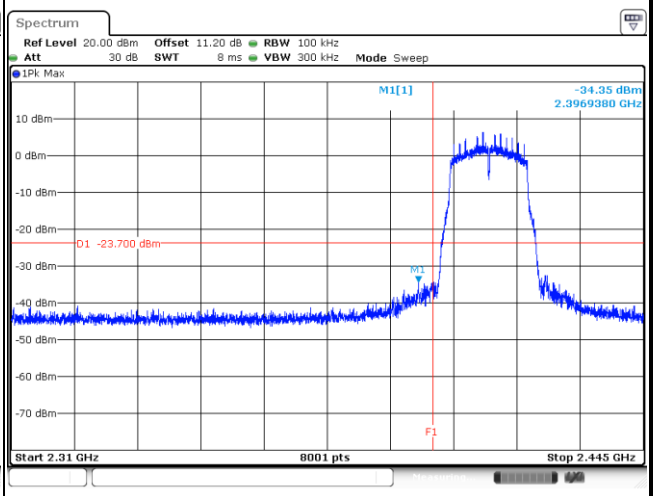
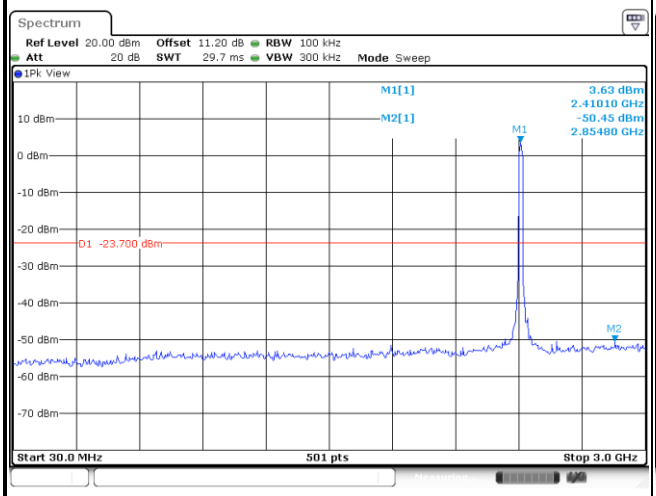
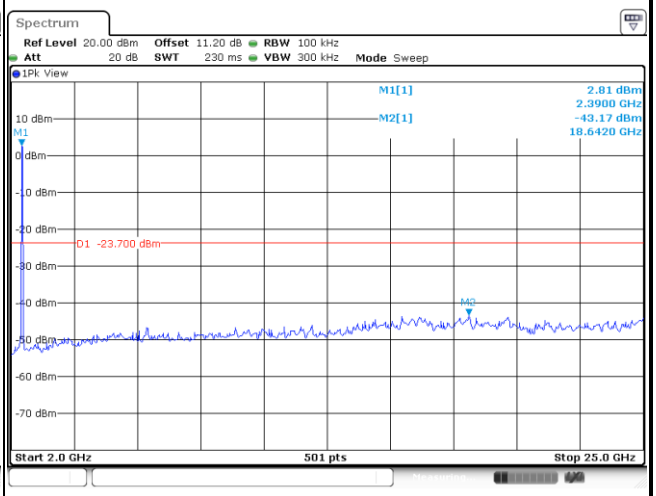
Test Mode :	802.11b	Test Channel :	12

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

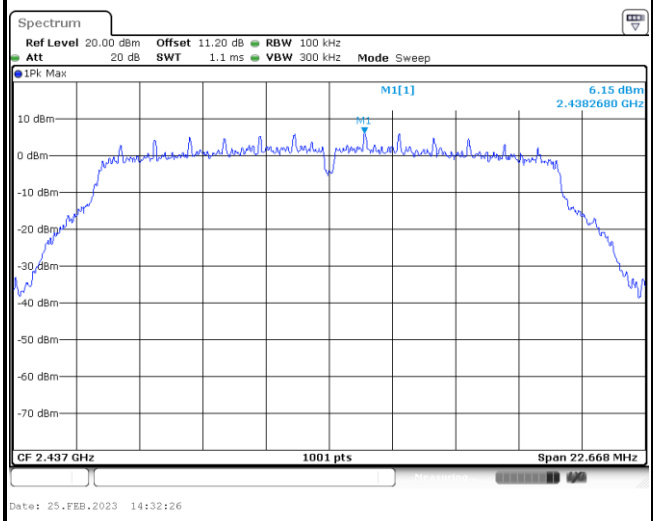
Test Mode :	802.11b	Test Channel :	13

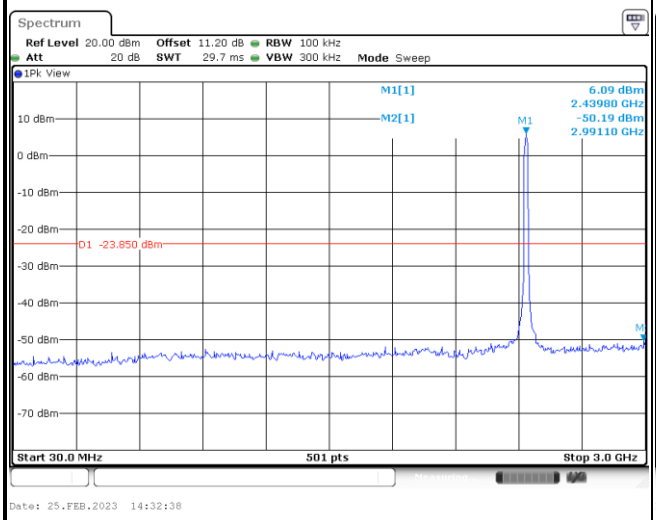
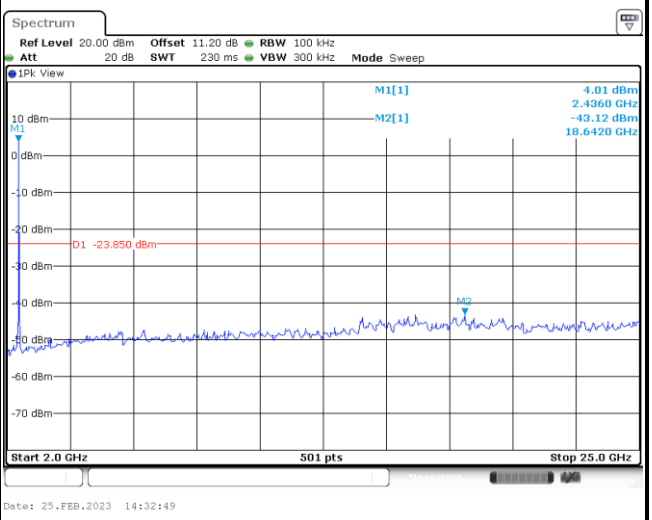
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11g	Test Channel :	01

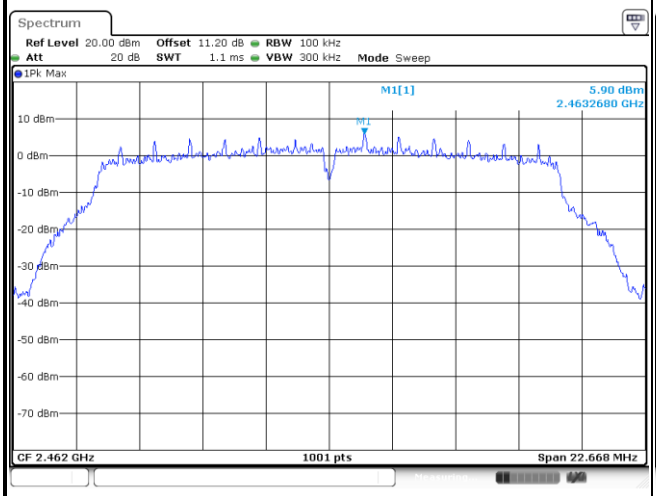
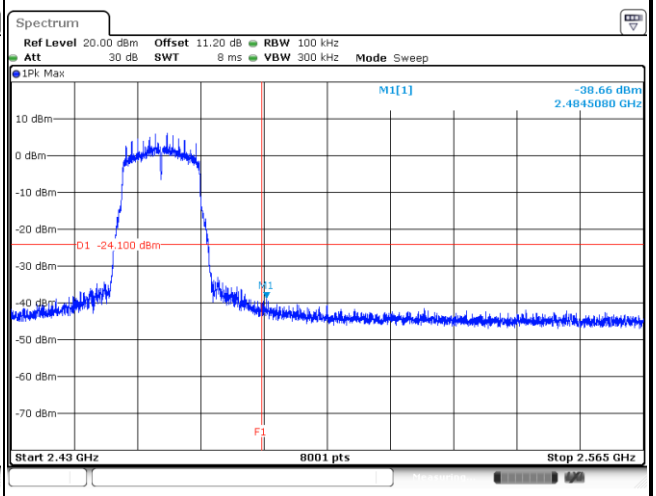
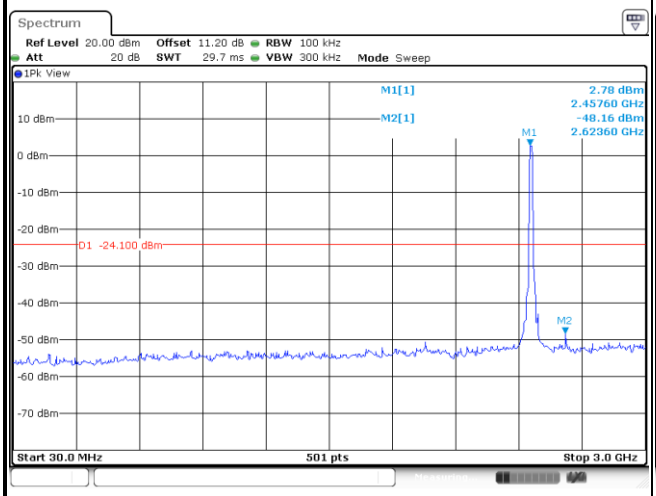
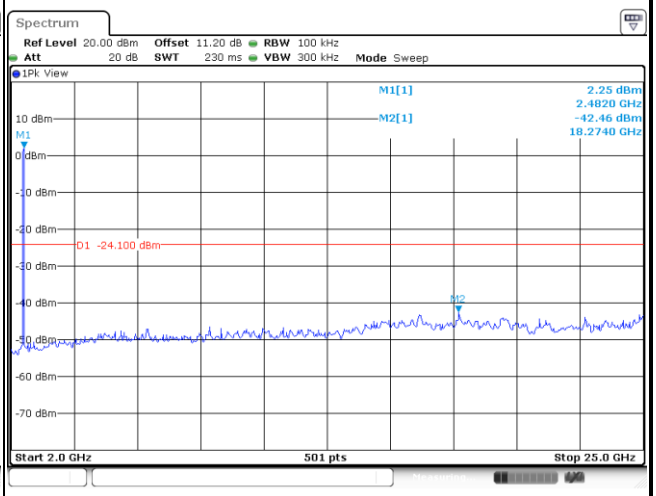
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11g	Test Channel :	06

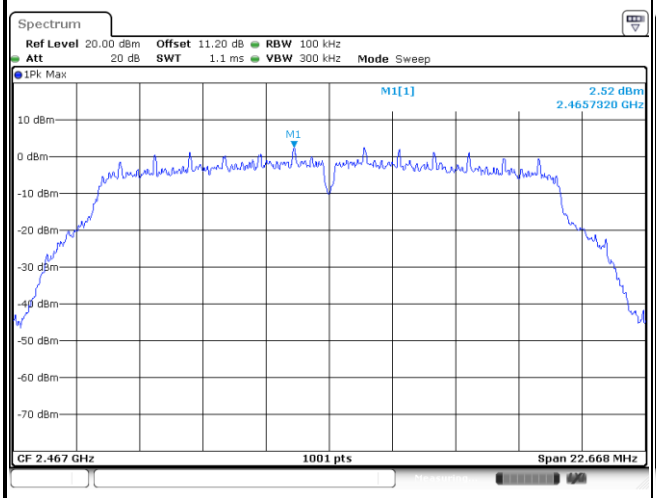
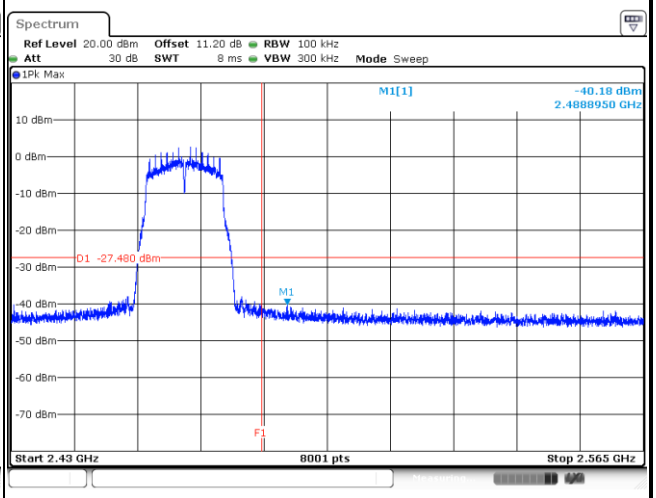
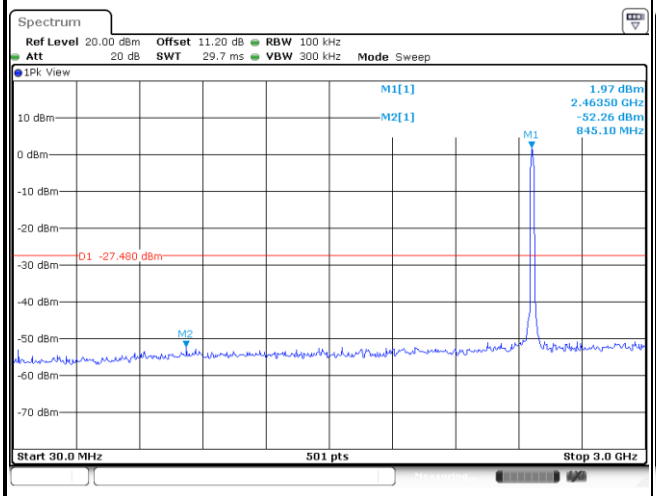
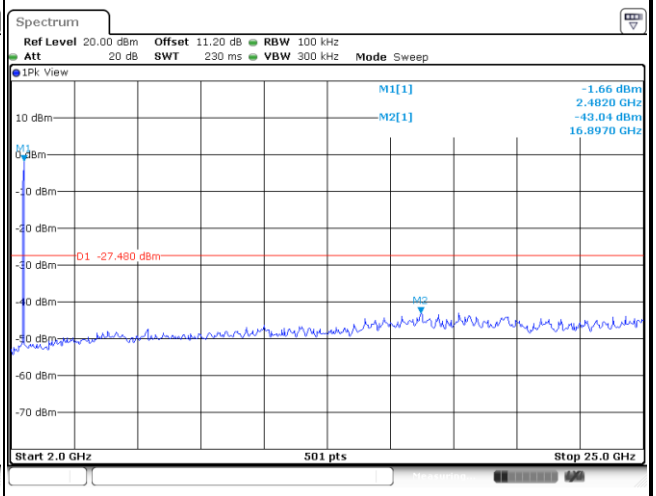
100kHz PSD reference Level	Channel Plot
	

Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

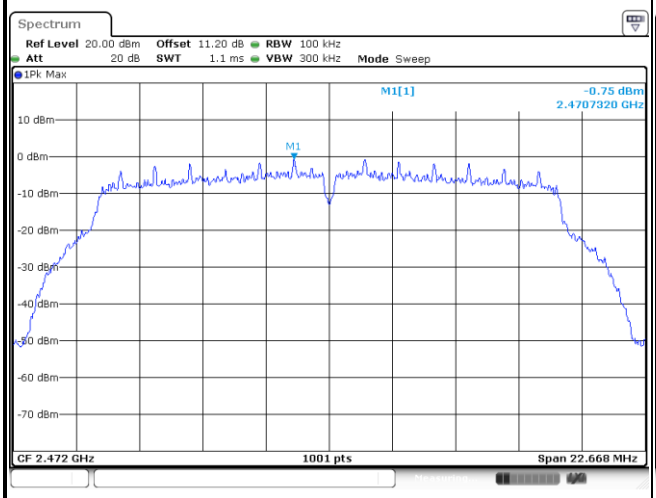
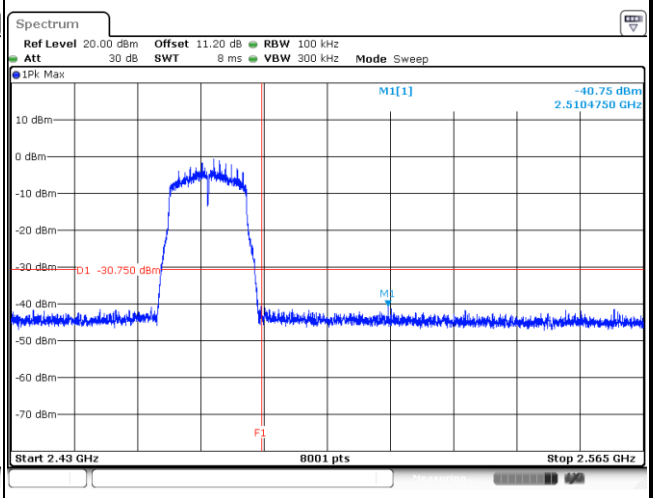
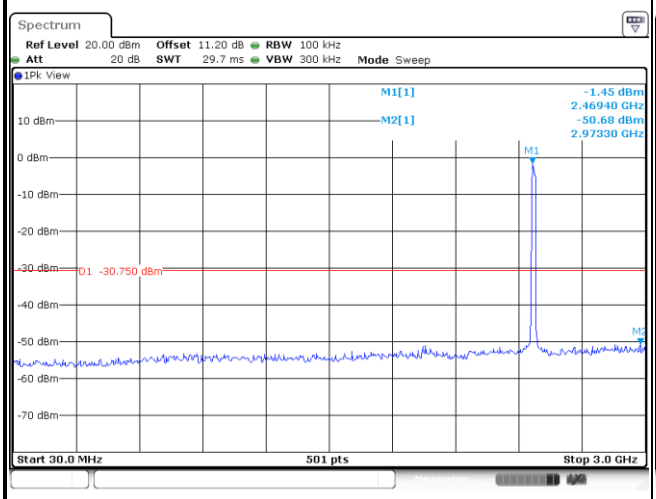
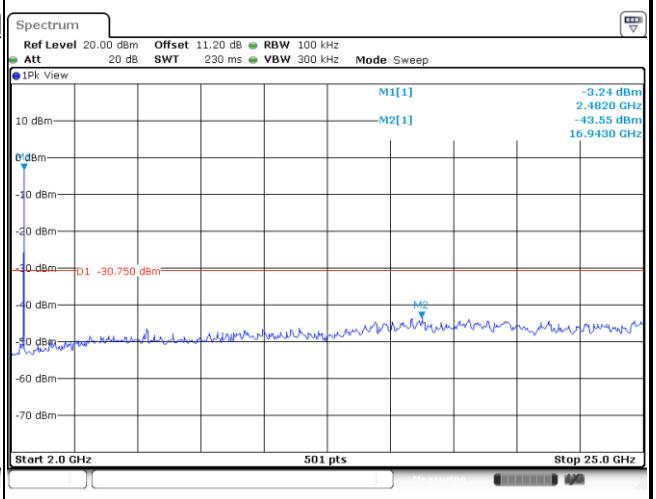
Test Mode :	802.11g	Test Channel :	11

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

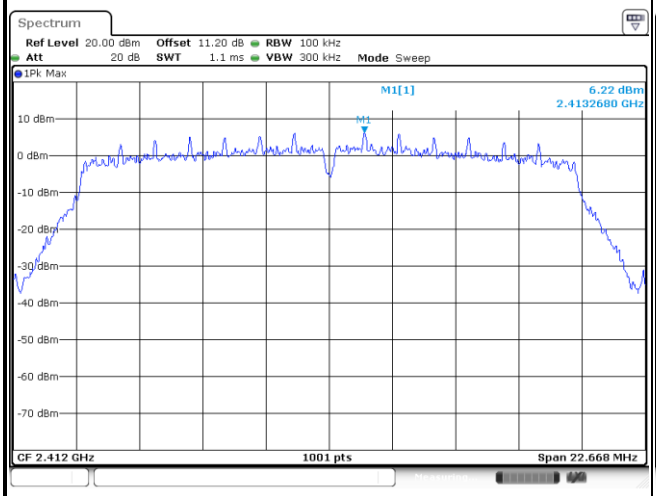
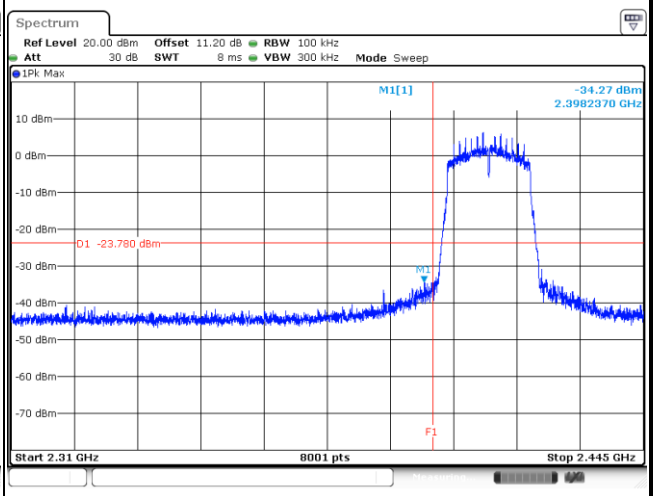
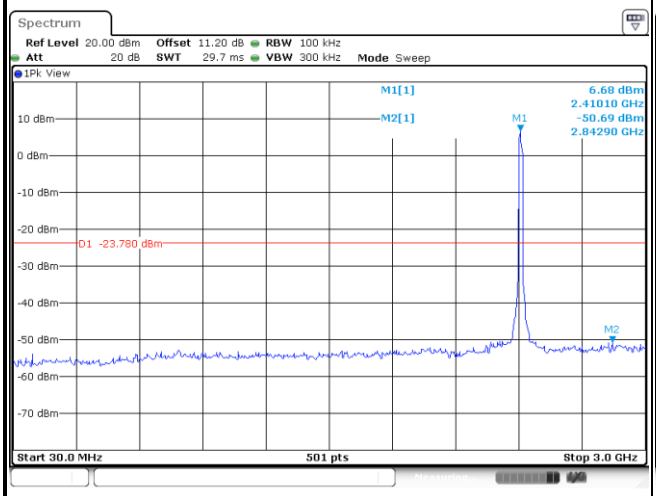
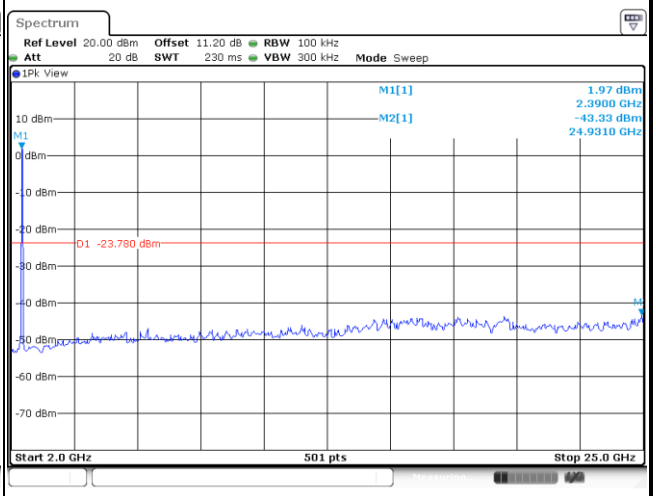
Test Mode :	802.11g	Test Channel :	12

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

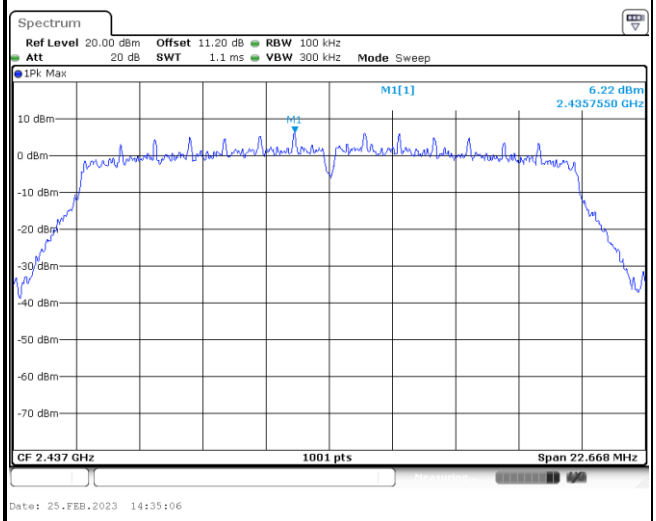
Test Mode :	802.11g	Test Channel :	13

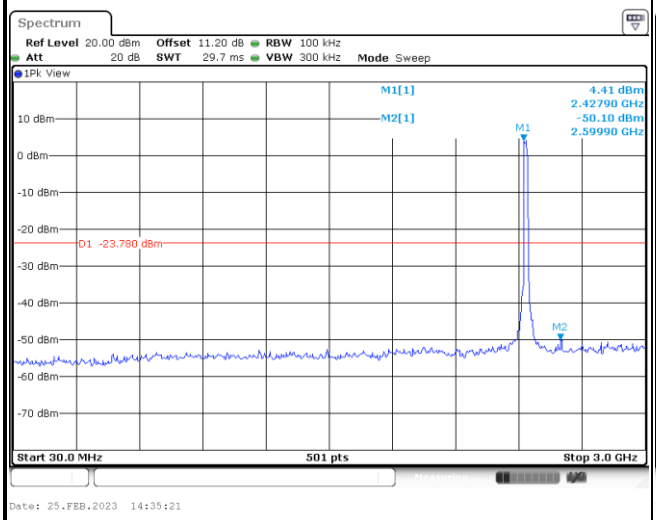
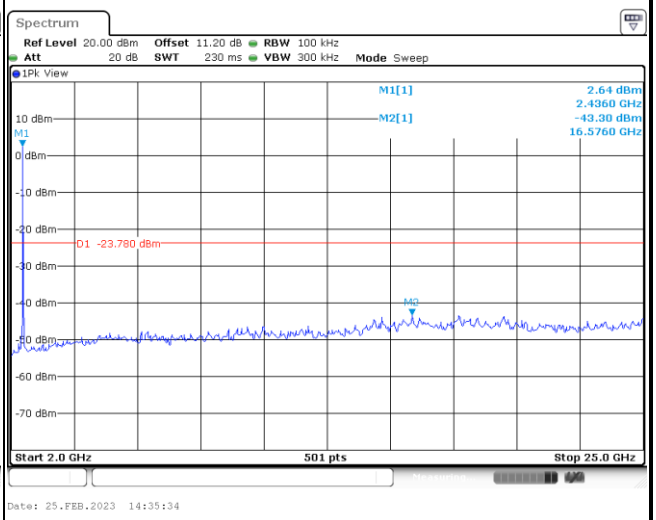
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11n HT20	Test Channel :	01

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

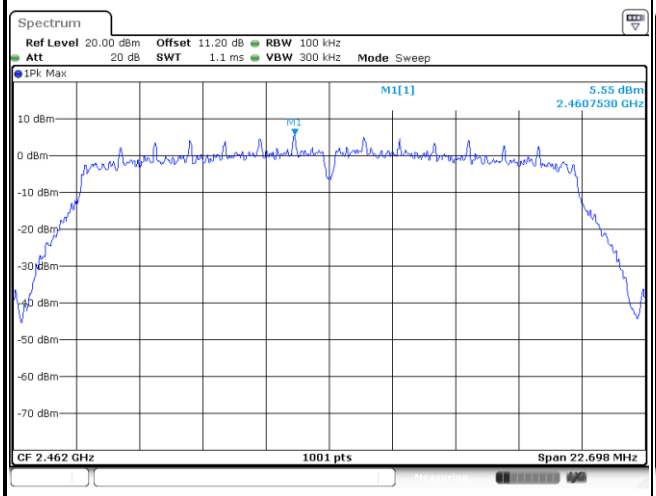
Test Mode :	802.11n HT20	Test Channel :	06

100kHz PSD reference Level	Channel Plot
	

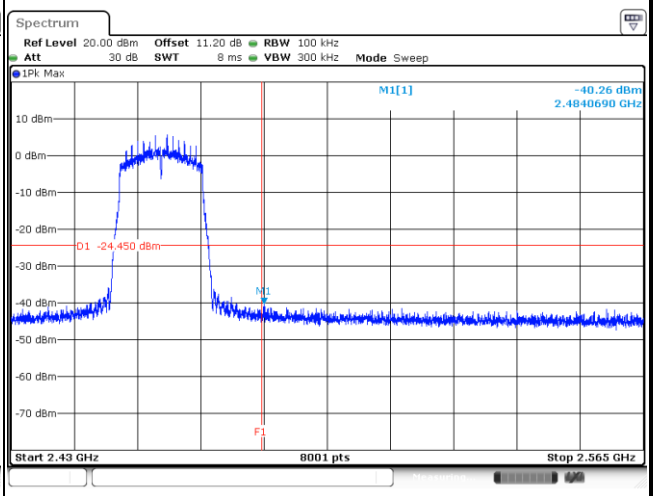
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

Test Mode :	802.11n HT20	Test Channel :	11

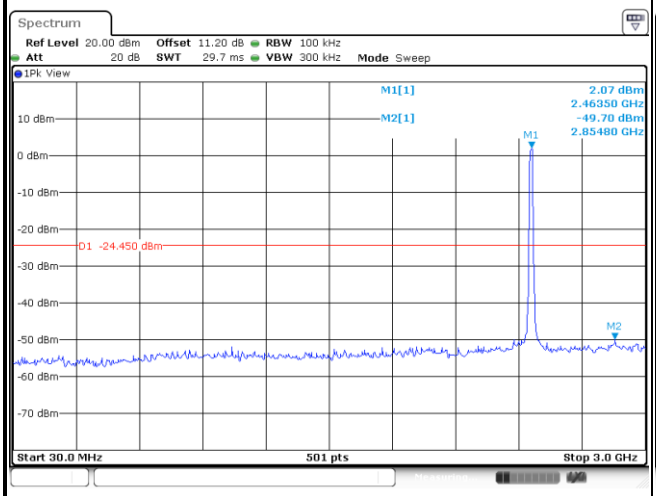
100kHz PSD reference Level



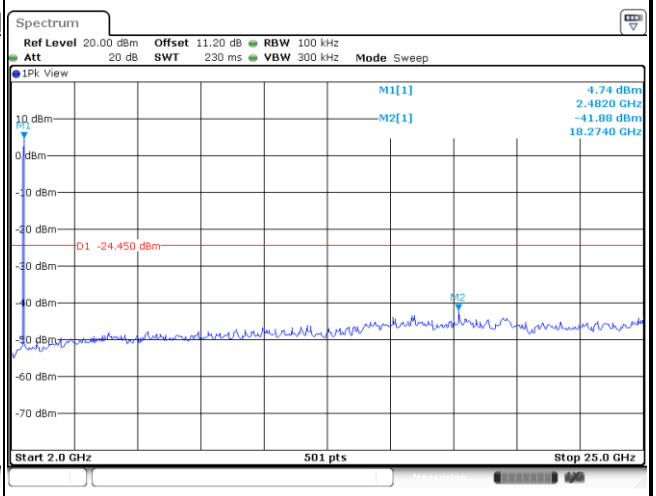
Channel Plot



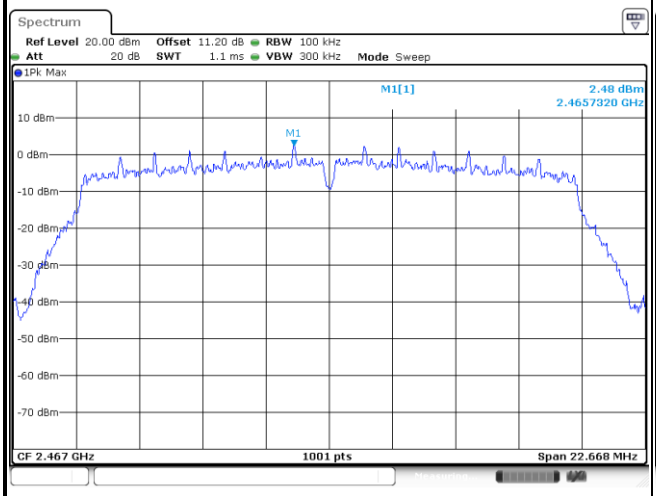
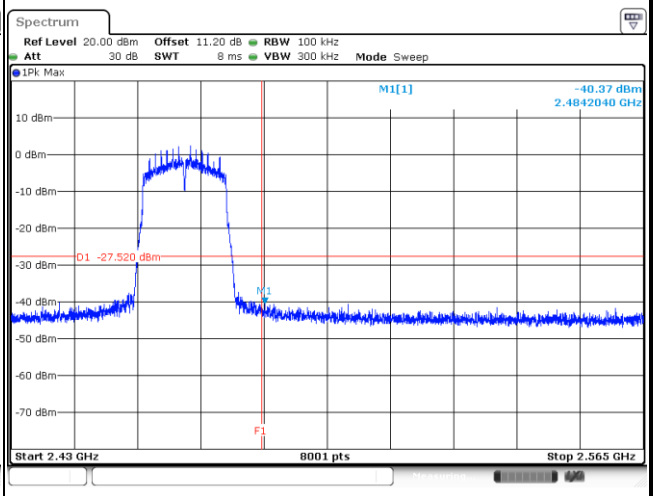
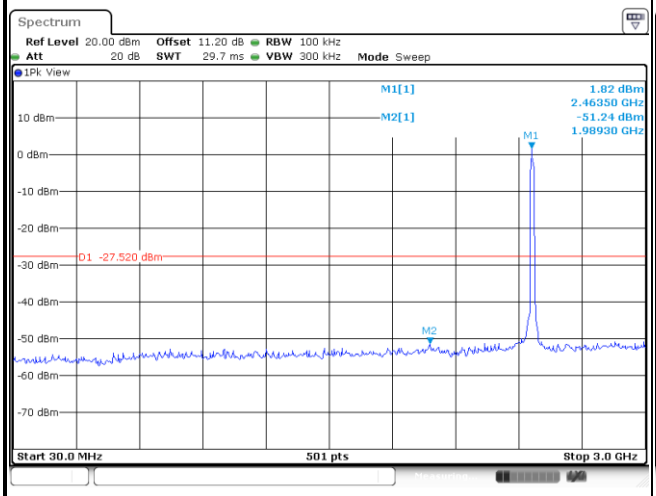
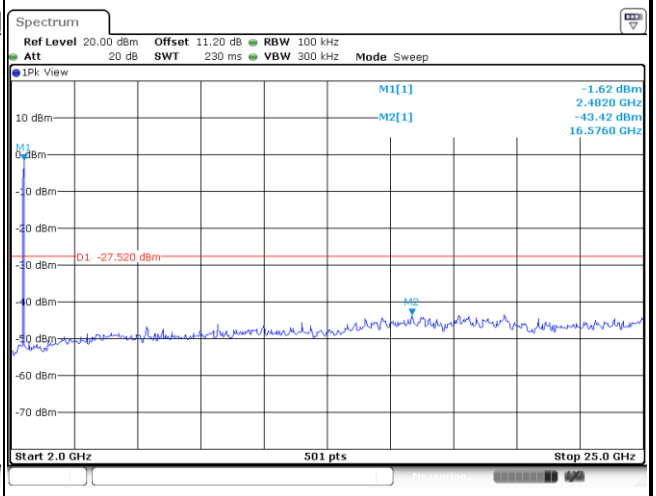
Spurious Emission 30MHz~3GHz



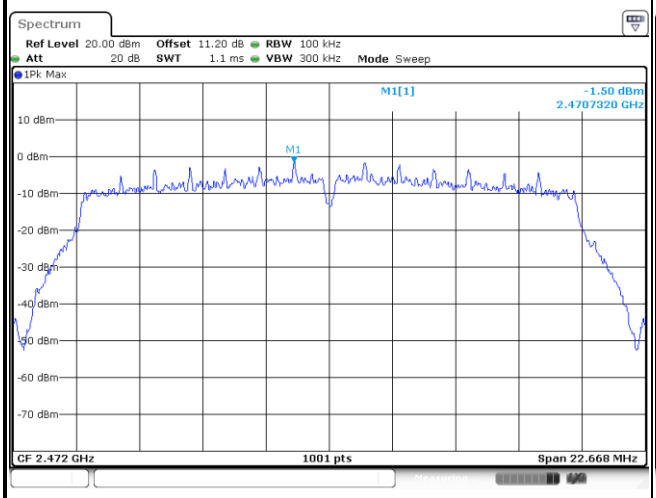
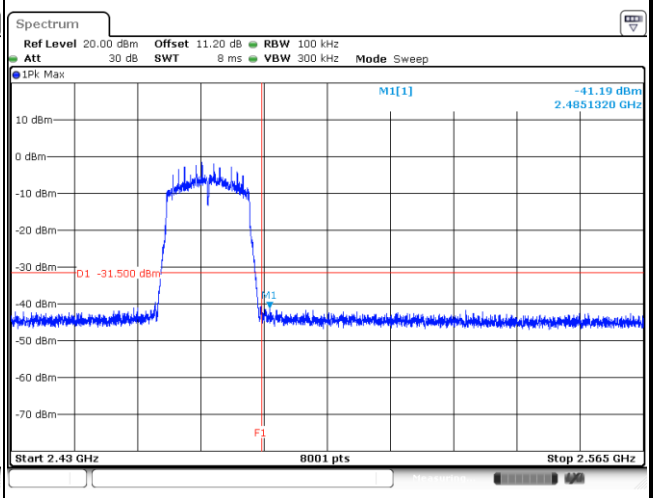
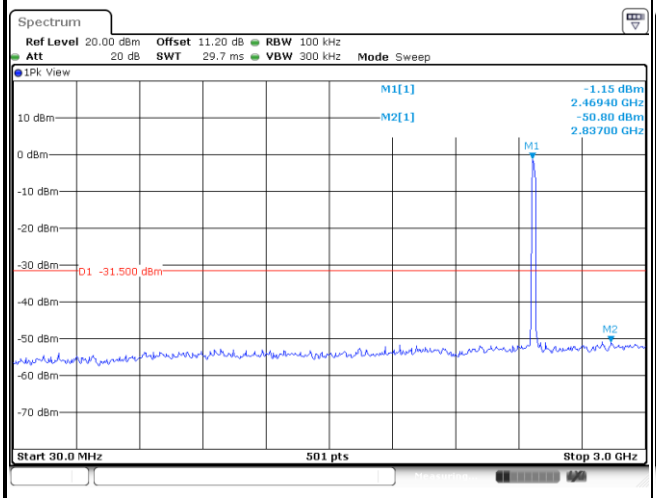
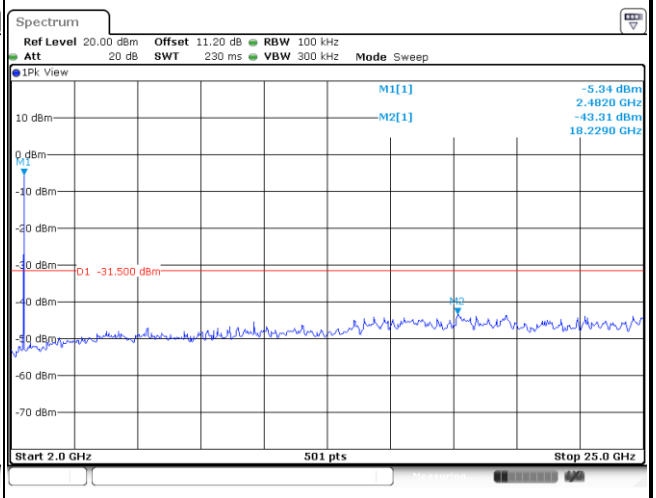
Spurious Emission 2GHz~25GHz



Test Mode :	802.11n HT20	Test Channel :	12

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

Test Mode :	802.11n HT20	Test Channel :	13

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

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

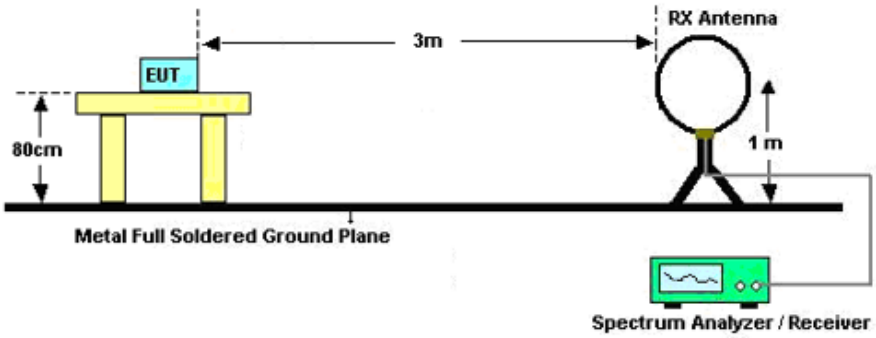
The measuring equipment is listed in the section 4 of this test report.

3.5.3 Test Procedures

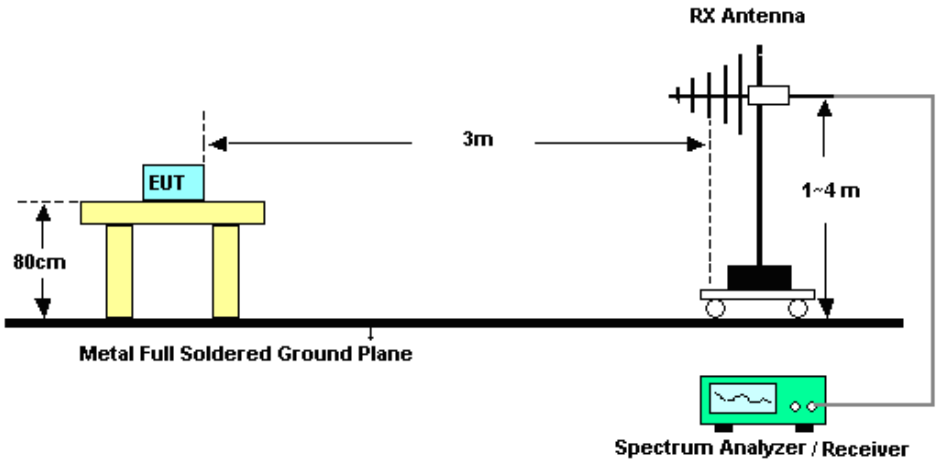
1. The testing follows ANSI C63.10-2013 clause 11.11 & 11.12
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than peak 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= 3MHz 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

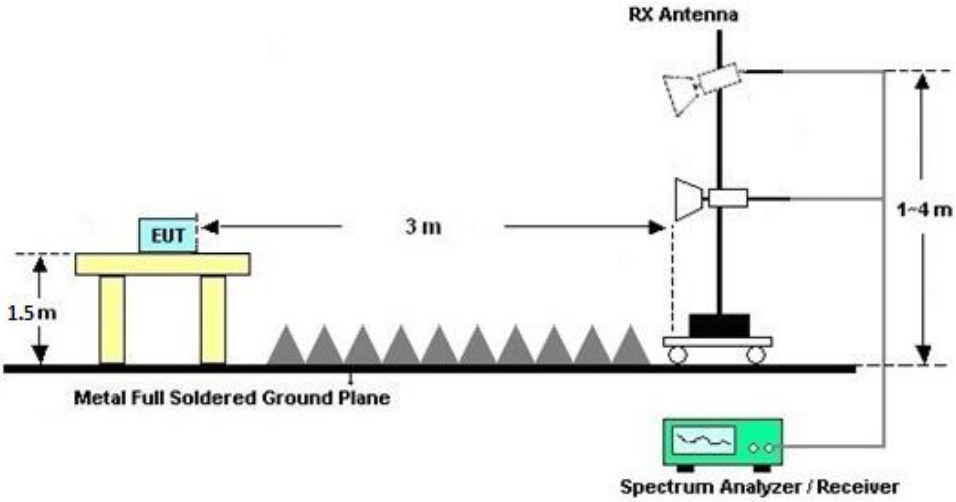
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

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

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

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C&D.

3.5.7 Duty Cycle

Please refer to Appendix E.

3.5.8 Test Result of Radiated Spurious Emission (30MHz ~ 10th Harmonic or 40GHz, whichever is lower)

Please refer to Appendix C&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.

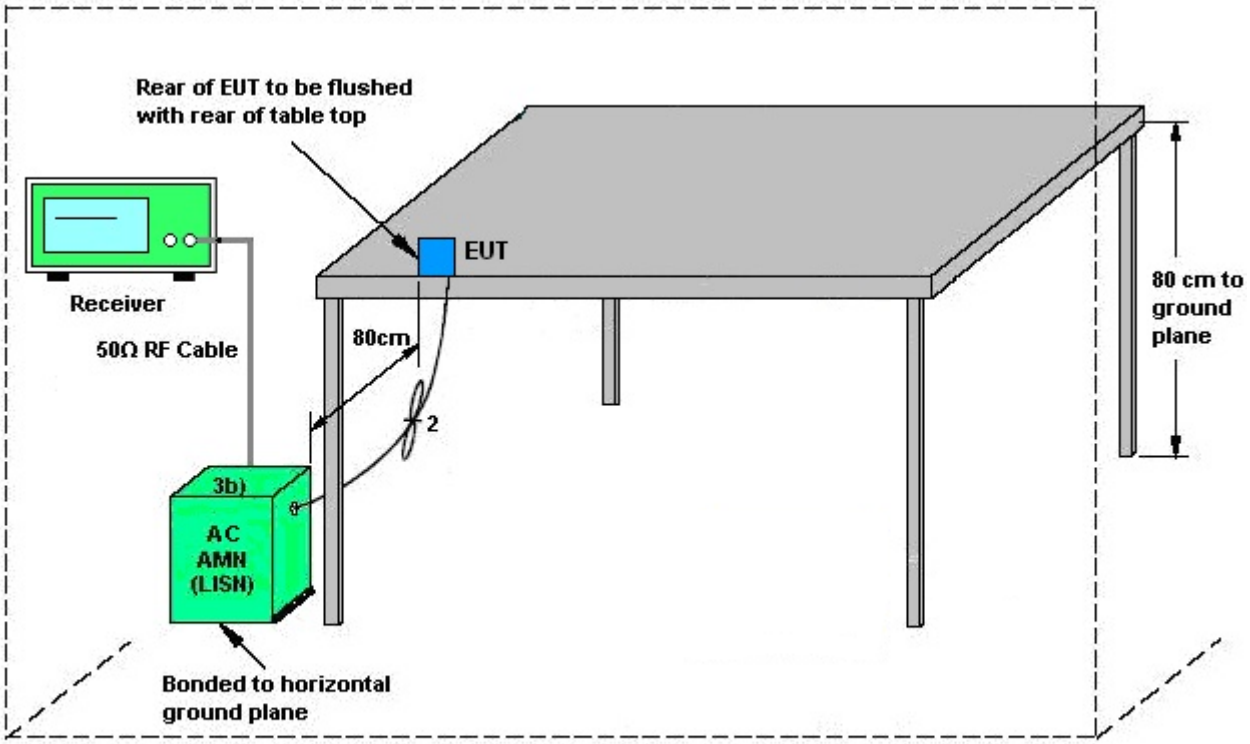
3.6.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.6.3 Test Procedures

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

3.6.4 Test Setup



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

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

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	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 08, 2022	Feb. 20, 2023~ Feb. 25, 2023	Apr. 07, 2023	Conducted (TH01-SZ)
Pulse Power Senor	Anritsu	MA2411B	1339473	30MHz~40GHz	Dec. 27, 2022	Feb. 20, 2023~ Feb. 25, 2023	Dec. 26, 2023	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1542004	50MHz Bandwidth	Dec. 27, 2022	Feb. 20, 2023~ Feb. 25, 2023	Dec. 26, 2023	Conducted (TH01-SZ)
Attenuator	MICROWAV	EMVE2214-10	2	30MHz-26.5GHz	Feb. 22, 2022	Feb. 20, 2023~ Feb. 25, 2023	Feb. 22, 2023	Conducted (TH01-SZ)
Attenuator	MICROWAV	EMVE2214-10	2	30MHz-26.5GHz	Feb. 22, 2023		Feb. 22, 2024	Conducted (TH01-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 07, 2022	Feb. 19, 2023	Jul. 06, 2023	Radiation (03CH02-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jul. 28, 2022	Feb. 19, 2023	Jul. 27, 2024	Radiation (03CH02-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz-2GHz	Sep. 28, 2021	Feb. 19, 2023	Sep. 27, 2023	Radiation (03CH02-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 07, 2022	Feb. 19, 2023	Jul. 06, 2023	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 07, 2022	Feb. 19, 2023	Jul. 06, 2023	Radiation (03CH02-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Apr. 10, 2022	Feb. 19, 2023	Apr. 10, 2023	Radiation (03CH02-SZ)
LF Amplifier	Burgeon	BPA-530	102211	0.01~3000Mhz	Oct. 19, 2022	Feb. 19, 2023	Oct.18, 2023	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1943528	1GHz~18GHz	Oct. 19, 2022	Feb. 19, 2023	Oct.18, 2023	Radiation (03CH02-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270105	0.5GHz~26.5Ghz	Oct. 19, 2022	Feb. 19, 2023	Oct. 18, 2023	Radiation (03CH02-SZ)
AC Power Source	Chroma	61601	616010003043	N/A	Nov. 10, 2022	Feb. 19, 2023	Nov. 10, 2023	Radiation (03CH02-SZ)
Turn Table	Chaintek	T-200	N/A	0~360 degree	NCR	Feb. 19, 2023	NCR	Radiation (03CH02-SZ)
Antenna Mast	Chaintek	MBS-400	N/A	1 m~4 m	NCR	Feb. 19, 2023	NCR	Radiation (03CH02-SZ)
laser range finder	Dingxin Yi	D-40	#02	NA	Oct. 09, 2022	Feb. 19, 2023	Oct. 08, 2023	Radiation (03CH02-SZ)
Thermo meter	Anymetre	JR593	#3	- 10℃ ~ 50℃ 10%RH ~ 99%RH	Jul. 07, 2022	Feb. 19, 2023	Jul. 06, 2023	Radiation (03CH02-SZ)
EMI Receiver	R&S	ESR7	102297	9kHz~7GHz;	Jul. 06, 2022	Feb. 16, 2023	Jul. 05, 2023	Conduction (CO02-SZ)
AC LISN	R&S	ENV216	101499	9kHz~30MHz	Jul. 06, 2022	Feb. 16, 2023	Jul. 05, 2023	Conduction (CO02-SZ)
AC Power Source	CHROMA	61601	616010002470	100Vac~250Vac	Nov. 10, 2022	Feb. 16, 2023	Nov. 09, 2023	Conduction (CO02-SZ)

NCR: No Calibration Required

5 Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.10-2013. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Conducted Measurement

Test Item	Uncertainty
Conducted Power	±1.34 dB
Conducted Emissions	±1.34 dB
Occupied Channel Bandwidth	±0.13%
Conducted Power Spectral Density	±1.32 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.7 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.0 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.1 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.1 dB

---------- THE END ----------

Appendix A. Conducted Test Results

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Chen Ran	Temperature:	21~25	°C
Test Date:	2023/2/20~2023/2/25	Relative Humidity:	51~54	%

Report Number : FR2N0202-01D

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band								
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Occupied BW (MHz)	6dB BW (MHz)	6dB BW Limit (MHz)	Pass/Fail
					Ant 1	Ant 1		
11b	1Mbps	1	1	2412	13.39	8.56	0.50	Pass
11b	1Mbps	1	6	2437	13.44	9.08	0.50	Pass
11b	1Mbps	1	11	2462	13.44	9.06	0.50	Pass
11b	1Mbps	1	12	2467	13.44	8.08	0.50	Pass
11b	1Mbps	1	13	2472	13.34	9.54	0.50	Pass
11g	6Mbps	1	1	2412	16.73	15.11	0.50	Pass
11g	6Mbps	1	6	2437	16.78	15.11	0.50	Pass
11g	6Mbps	1	11	2462	16.73	15.11	0.50	Pass
11g	6Mbps	1	12	2467	16.73	15.11	0.50	Pass
11g	6Mbps	1	13	2472	16.73	15.11	0.50	Pass
HT20	MCS0	1	1	2412	17.68	15.11	0.50	Pass
HT20	MCS0	1	6	2437	17.68	15.11	0.50	Pass
HT20	MCS0	1	11	2462	17.68	15.13	0.50	Pass
HT20	MCS0	1	12	2467	17.68	15.11	0.50	Pass
HT20	MCS0	1	13	2472	17.68	15.11	0.50	Pass

Report Number : FR2N0202-01D

TEST RESULTS DATA
Average Output Power

2.4GHz Band											
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	Setting
					Ant 1	Ant 1	Ant 1	Ant 1	Ant 1		Ant 1
11b	1Mbps	1	1	2412	18.30	30.00	4.00	22.30	36.00	Pass	19.00
11b	1Mbps	1	6	2437	18.40	30.00	4.00	22.40	36.00	Pass	19.00
11b	1Mbps	1	11	2462	18.10	30.00	4.00	22.10	36.00	Pass	19.00
11b	1Mbps	1	12	2467	17.10	30.00	4.00	21.10	36.00	Pass	18.00
11b	1Mbps	1	13	2472	13.90	30.00	4.00	17.90	36.00	Pass	15.00
11g	6Mbps	1	1	2412	16.90	30.00	4.00	20.90	36.00	Pass	17.50
11g	6Mbps	1	6	2437	17.30	30.00	4.00	21.30	36.00	Pass	18.00
11g	6Mbps	1	11	2462	17.30	30.00	4.00	21.30	36.00	Pass	18.00
11g	6Mbps	1	12	2467	13.70	30.00	4.00	17.70	36.00	Pass	14.50
11g	6Mbps	1	13	2472	10.70	30.00	4.00	14.70	36.00	Pass	11.50
HT20	MCS0	1	1	2412	17.00	30.00	4.00	21.00	36.00	Pass	17.50
HT20	MCS0	1	6	2437	17.40	30.00	4.00	21.40	36.00	Pass	18.00
HT20	MCS0	1	11	2462	17.00	30.00	4.00	21.00	36.00	Pass	17.50
HT20	MCS0	1	12	2467	13.80	30.00	4.00	17.80	36.00	Pass	14.50
HT20	MCS0	1	13	2472	9.80	30.00	4.00	13.80	36.00	Pass	10.50

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

Report Number : FR2N0202-01D

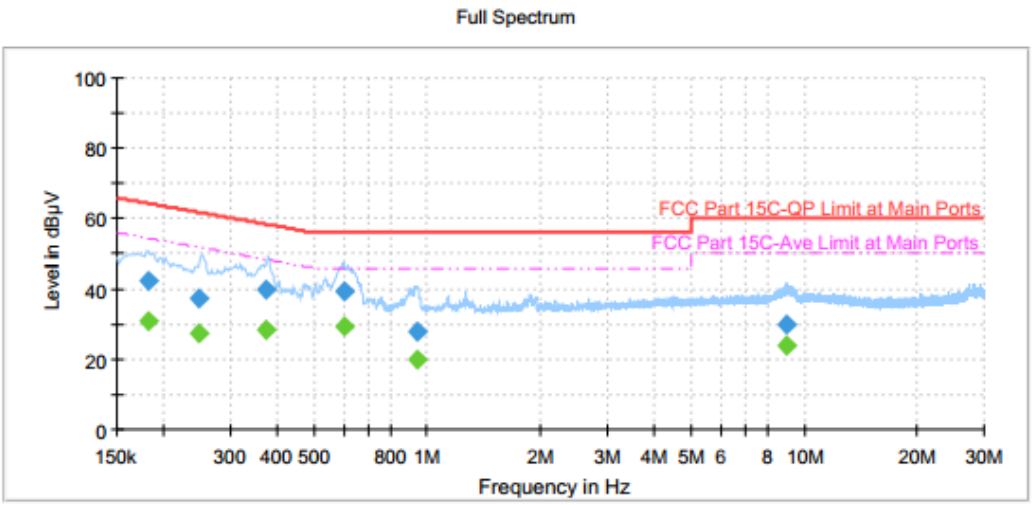
TEST RESULTS DATA
Peak Power Spectral Density

2.4GHz Band								
Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Peak PSD (dBm/3kHz)	DG (dBi)	Peak PSD Limit (dBm/3kHz)	Pass/Fail
					Ant 1	Ant 1	Ant 1	
11b	1Mbps	1	1	2412	-7.62	4.00	8.00	Pass
11b	1Mbps	1	6	2437	-7.62	4.00	8.00	Pass
11b	1Mbps	1	11	2462	-8.31	4.00	8.00	Pass
11b	1Mbps	1	12	2467	-9.55	4.00	8.00	Pass
11b	1Mbps	1	13	2472	-11.86	4.00	8.00	Pass
11g	6Mbps	1	1	2412	-8.63	4.00	8.00	Pass
11g	6Mbps	1	6	2437	-8.72	4.00	8.00	Pass
11g	6Mbps	1	11	2462	-8.86	4.00	8.00	Pass
11g	6Mbps	1	12	2467	-12.64	4.00	8.00	Pass
11g	6Mbps	1	13	2472	-15.16	4.00	8.00	Pass
HT20	MCS0	1	1	2412	-8.55	4.00	8.00	Pass
HT20	MCS0	1	6	2437	-8.31	4.00	8.00	Pass
HT20	MCS0	1	11	2462	-9.21	4.00	8.00	Pass
HT20	MCS0	1	12	2467	-12.01	4.00	8.00	Pass
HT20	MCS0	1	13	2472	-16.06	4.00	8.00	Pass

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

Appendix B. AC Conducted Emission Test Results

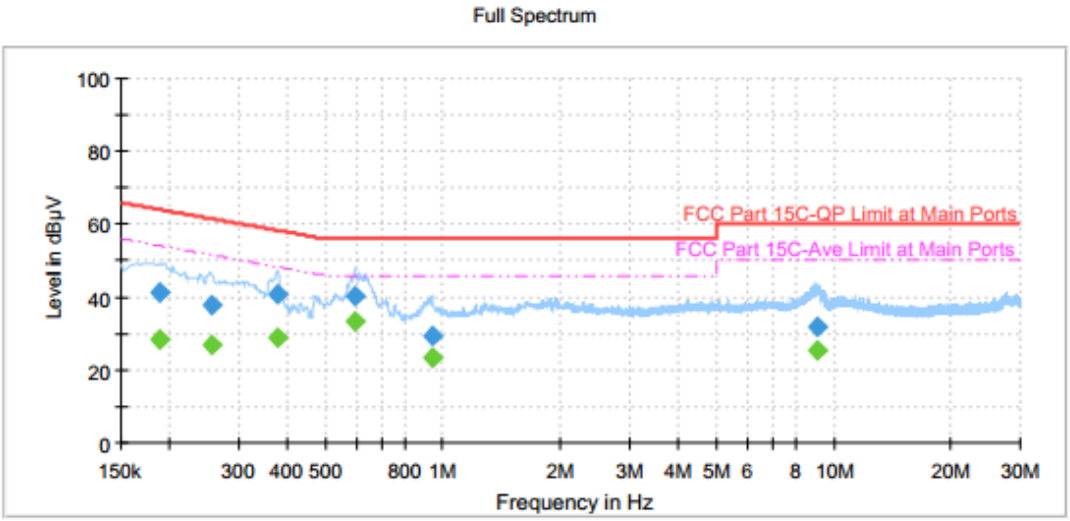
Test Engineer :	TaoZhang	**Temperature :**	22~25℃
		Relative Humidity :	50~55%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Final Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.182850	42.09	---	64.36	22.27	L1	OFF	19.7
0.182850	---	30.80	54.36	23.55	L1	OFF	19.7
0.249000	37.34	---	61.79	24.45	L1	OFF	19.7
0.249000	---	27.12	51.79	24.67	L1	OFF	19.7
0.375000	39.72	---	58.39	18.67	L1	OFF	19.7
0.375000	---	28.56	48.39	19.82	L1	OFF	19.7
0.602250	39.31	---	56.00	16.69	L1	OFF	19.8
0.602250	---	29.43	46.00	16.57	L1	OFF	19.8
0.939660	27.66	---	56.00	28.34	L1	OFF	19.8
0.939660	---	19.75	46.00	26.25	L1	OFF	19.8
8.963250	29.70	---	60.00	30.30	L1	OFF	20.0
8.963250	---	24.11	50.00	25.89	L1	OFF	20.0

Test Engineer :	TaoZhang	**Temperature :**	22~25℃
		Relative Humidity :	50~55%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Final Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.188250	41.15	---	64.11	22.97	N	OFF	19.7
0.188250	---	28.49	54.11	25.63	N	OFF	19.7
0.255750	37.91	---	61.57	23.66	N	OFF	19.7
0.255750	---	26.74	51.57	24.82	N	OFF	19.7
0.377340	41.04	---	58.34	17.30	N	OFF	19.7
0.377340	---	28.82	48.34	19.51	N	OFF	19.7
0.596220	40.30	---	56.00	15.70	N	OFF	19.7
0.596220	---	33.24	46.00	12.76	N	OFF	19.7
0.939570	29.26	---	56.00	26.74	N	OFF	19.7
0.939570	---	23.42	46.00	22.58	N	OFF	19.7
9.060000	31.82	---	60.00	28.18	N	OFF	20.0
9.060000	---	25.43	50.00	24.57	N	OFF	20.0

Appendix C. Radiated Spurious Emission

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					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		2379.09	54.42	-19.58	74	47.49	32.35	6.37	31.79	183	146	P	H
		2363.55	42.97	-11.03	54	36.05	32.34	6.37	31.79	183	146	A	H
	*	2412	108.97	-	-	101.83	32.37	6.44	31.67	183	146	P	H
	*	2412	105.84	-	-	98.7	32.37	6.44	31.67	183	146	A	H
		2387.805	54.41	-19.59	74	47.34	32.36	6.44	31.73	315	103	P	V
		2387.28	43.12	-10.88	54	36.05	32.36	6.44	31.73	315	103	A	V
	*	2412	108.4	-	-	101.26	32.37	6.44	31.67	315	103	P	V
	*	2412	105.3	-	-	98.16	32.37	6.44	31.67	315	103	A	V
802.11b CH 11 2462MHz	*	2462	108.06	-	-	100.81	32.39	6.48	31.62	178	156	P	H
	*	2462	104.94	-	-	97.69	32.39	6.48	31.62	178	156	A	H
		2486.04	53.61	-20.39	74	46.25	32.39	6.53	31.56	178	156	P	H
		2487.2	43.24	-10.76	54	35.88	32.39	6.53	31.56	178	156	A	H
	*	2462	106.43	-	-	99.18	32.39	6.48	31.62	100	212	P	V
	*	2462	103.36	-	-	96.11	32.39	6.48	31.62	100	212	A	V
		2495.96	54.39	-19.61	74	46.96	32.4	6.53	31.5	100	212	P	V
		2483.52	42.97	-11.03	54	35.61	32.39	6.53	31.56	100	212	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 12 2467MHz	*	2467	107.4	-	-	100.04	32.39	6.53	31.56	177	156	P	H
	*	2467	104.44	-	-	97.08	32.39	6.53	31.56	177	156	A	H
		2483.72	57.45	-16.55	74	50.09	32.39	6.53	31.56	177	156	P	H
		2484	50.7	-3.3	54	43.34	32.39	6.53	31.56	177	156	A	H
	*	2467	106.07	-	-	98.71	32.39	6.53	31.56	100	213	P	V
	*	2467	103.13	-	-	95.77	32.39	6.53	31.56	100	213	A	V
		2483.84	57.75	-16.25	74	50.39	32.39	6.53	31.56	100	213	P	V
		2484.08	50.56	-3.44	54	43.2	32.39	6.53	31.56	100	213	A	V
802.11b CH 13 2472MHz	*	2472	106.37	-	-	99.01	32.39	6.53	31.56	178	143	P	H
	*	2472	103.19	-	-	95.83	32.39	6.53	31.56	178	143	A	H
		2483.92	58.07	-15.93	74	50.71	32.39	6.53	31.56	178	143	P	H
		2483.84	50.73	-3.27	54	43.37	32.39	6.53	31.56	178	143	A	H
	*	2472	103.94	-	-	96.58	32.39	6.53	31.56	100	215	P	V
	*	2472	100.88	-	-	93.52	32.39	6.53	31.56	100	215	A	V
		2483.84	57.57	-16.43	74	50.21	32.39	6.53	31.56	100	215	P	V
		2487.12	50.46	-3.54	54	43.1	32.39	6.53	31.56	100	215	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 802.11b (Harmonic @ 3m)

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		4824	43.6	-30.4	74	57.63	34.4	9.47	57.9	-	-	P	H
		4824	45	-29	74	59.03	34.4	9.47	57.9	-	-	P	V
802.11b CH 06 2437MHz		4874	44.19	-29.81	74	58.22	34.37	9.5	57.9	-	-	P	H
		7311	46.2	-27.8	74	58.38	36.05	11.24	59.47	-	-	P	H
		4874	44.05	-29.95	74	58.08	34.37	9.5	57.9	-	-	P	V
		7311	45.42	-28.58	74	57.6	36.05	11.24	59.47	-	-	P	V
802.11b CH 11 2462MHz		4924	44.96	-29.04	74	58.96	34.34	9.56	57.9	-	-	P	H
		7386	44.69	-29.31	74	57.1	35.98	11.32	59.71	-	-	P	H
		4924	43.76	-30.24	74	57.76	34.34	9.56	57.9	-	-	P	V
		7386	45.52	-28.48	74	57.93	35.98	11.32	59.71	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 12 2467MHz		4934	43.5	-30.5	74	57.5	34.34	9.56	57.9	-	-	P	H
		7401	45.78	-28.22	74	58.25	35.97	11.32	59.76	-	-	P	H
		4934	43.37	-30.63	74	57.37	34.34	9.56	57.9	-	-	P	V
		7401	45.57	-28.43	74	58.04	35.97	11.32	59.76	-	-	P	V
802.11b CH 13 2472MHz		4944	44.07	-29.93	74	58.08	34.33	9.56	57.9	-	-	P	H
		7416	45.49	-28.51	74	57.99	35.97	11.29	59.76	-	-	P	H
		4944	43.65	-30.35	74	57.66	34.33	9.56	57.9	-	-	P	V
		7416	44.81	-29.19	74	57.31	35.97	11.29	59.76	-	-	P	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	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant. 1		(MHz)	(dBµV/m)	(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		2389.905	61.02	-12.98	74	53.95	32.36	6.44	31.73	164	144	P	H
		2390	50.64	-3.36	54	43.57	32.36	6.44	31.73	164	144	A	H
	*	2412	110.28	-	-	103.14	32.37	6.44	31.67	164	144	P	H
	*	2412	102.77	-	-	95.63	32.37	6.44	31.67	164	144	A	H
		2388.855	56.19	-17.81	74	49.12	32.36	6.44	31.73	100	172	P	V
		2390	45.69	-8.31	54	38.62	32.36	6.44	31.73	100	172	A	V
	*	2412	106.6	-	-	99.46	32.37	6.44	31.67	100	172	P	V
	*	2412	98.89	-	-	91.75	32.37	6.44	31.67	100	172	A	V
802.11g CH 11 2462MHz	*	2462	111.8	-	-	104.55	32.39	6.48	31.62	167	142	P	H
	*	2462	104.1	-	-	96.85	32.39	6.48	31.62	167	142	A	H
		2484.28	62.84	-11.16	74	55.48	32.39	6.53	31.56	167	142	P	H
		2483.52	50.4	-3.6	54	43.04	32.39	6.53	31.56	167	142	A	H
	*	2460	109.87	-	-	102.62	32.39	6.48	31.62	106	177	P	V
	*	2462	101.98	-	-	94.73	32.39	6.48	31.62	106	177	A	V
		2483.6	61.98	-12.02	74	54.62	32.39	6.53	31.56	106	177	P	V
		2483.6	49.75	-4.25	54	42.39	32.39	6.53	31.56	106	177	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11g CH 12 2467MHz		2467	107.22	-	-	99.86	32.39	6.53	31.56	161	142	P	H
		2467	99.58	-	-	92.22	32.39	6.53	31.56	161	142	A	H
		2483.52	61.54	-12.46	74	54.18	32.39	6.53	31.56	161	142	P	H
		2483.52	50.33	-3.67	54	42.97	32.39	6.53	31.56	161	142	A	H
		2467	105.66	-	-	98.3	32.39	6.53	31.56	106	177	P	V
		2467	98.02	-	-	90.66	32.39	6.53	31.56	106	177	A	V
		2485.36	61.33	-12.67	74	53.97	32.39	6.53	31.56	106	177	P	V
		2483.52	49.07	-4.93	54	41.71	32.39	6.53	31.56	106	177	A	V
802.11g CH 13 2472MHz		2472	104.43	-	-	97.07	32.39	6.53	31.56	163	142	P	H
		2472	96.62	-	-	89.26	32.39	6.53	31.56	163	142	A	H
		2484.84	60.43	-13.57	74	53.07	32.39	6.53	31.56	163	142	P	H
		2484.16	50.88	-3.12	54	43.52	32.39	6.53	31.56	163	142	A	H
		2472	102.02	-	-	94.66	32.39	6.53	31.56	108	160	P	V
		2472	94.5	-	-	87.14	32.39	6.53	31.56	108	160	A	V
		2484.6	57.18	-16.82	74	49.82	32.39	6.53	31.56	108	160	P	V
		2484.2	47.44	-6.56	54	40.08	32.39	6.53	31.56	108	160	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 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (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	43.47	-30.53	74	57.5	34.4	9.47	57.9	-	-	P	H
		4824	43.81	-30.19	74	57.84	34.4	9.47	57.9	-	-	P	V
802.11g CH 06 2437MHz		4874	44.27	-29.73	74	58.3	34.37	9.5	57.9	-	-	P	H
		7311	47.09	-26.91	74	59.27	36.05	11.24	59.47	-	-	P	H
		4874	43.05	-30.95	74	57.08	34.37	9.5	57.9	-	-	P	V
		7311	46.42	-27.58	74	58.6	36.05	11.24	59.47	-	-	P	V
802.11g CH 11 2462MHz		4924	43.12	-30.88	74	57.12	34.34	9.56	57.9	-	-	P	H
		7386	44.88	-29.12	74	57.29	35.98	11.32	59.71	-	-	P	H
		4924	43.55	-30.45	74	57.55	34.34	9.56	57.9	-	-	P	V
		7386	44.9	-29.1	74	57.31	35.98	11.32	59.71	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (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 12 2467MHz		4934	43.61	-30.39	74	57.61	34.34	9.56	57.9	-	-	P	H
		7401	44.56	-29.44	74	57.03	35.97	11.32	59.76	-	-	P	H
		4934	42.86	-31.14	74	56.86	34.34	9.56	57.9	-	-	P	V
		7401	45.01	-28.99	74	57.48	35.97	11.32	59.76	-	-	P	V
802.11g CH 13 2472MHz		4944	43.31	-30.69	74	57.32	34.33	9.56	57.9	-	-	P	H
		7416	44.97	-29.03	74	57.47	35.97	11.29	59.76	-	-	P	H
		4944	43.83	-30.17	74	57.84	34.33	9.56	57.9	-	-	P	V
		7416	45.41	-28.59	74	57.91	35.97	11.29	59.76	-	-	P	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.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 01 2412MHz		2389.065	62.31	-11.69	74	55.24	32.36	6.44	31.73	163	143	P	H
		2390	50.91	-3.09	54	43.84	32.36	6.44	31.73	163	143	A	H
	*	2412	110.2	-	-	103.06	32.37	6.44	31.67	163	143	P	H
	*	2412	102.62	-	-	95.48	32.37	6.44	31.67	163	143	A	H
		2389.695	56.94	-17.06	74	49.87	32.36	6.44	31.73	101	173	P	V
		2390	46.3	-7.7	54	39.23	32.36	6.44	31.73	101	173	A	V
	*	2412	106.44	-	-	99.3	32.37	6.44	31.67	101	173	P	V
	*	2412	98.82	-	-	91.68	32.37	6.44	31.67	101	173	A	V
802.11n HT20 CH 11 2462MHz	*	2462	110.56	-	-	103.31	32.39	6.48	31.62	163	141	P	H
	*	2462	102.69	-	-	95.44	32.39	6.48	31.62	163	141	A	H
		2484.04	63.42	-10.58	74	56.06	32.39	6.53	31.56	163	141	P	H
		2483.52	49.66	-4.34	54	42.3	32.39	6.53	31.56	163	141	A	H
	*	2462	108.96	-	-	101.71	32.39	6.48	31.62	104	182	P	V
	*	2462	101.24	-	-	93.99	32.39	6.48	31.62	104	182	A	V
		2483.8	58.21	-15.79	74	50.85	32.39	6.53	31.56	104	182	P	V
		2483.52	46.84	-7.16	54	39.48	32.39	6.53	31.56	104	182	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 12 2467MHz	*	2467	107.36	-	-	100	32.39	6.53	31.56	164	144	P	H
	*	2467	99.89	-	-	92.53	32.39	6.53	31.56	164	144	A	H
		2484.32	63.03	-10.97	74	55.67	32.39	6.53	31.56	164	144	P	H
		2483.52	50.88	-3.12	54	43.52	32.39	6.53	31.56	164	144	A	H
	*	2467	105.54	-	-	98.18	32.39	6.53	31.56	106	177	P	V
	*	2467	98.01	-	-	90.65	32.39	6.53	31.56	106	177	A	V
		2483.68	62.78	-11.22	74	55.42	32.39	6.53	31.56	106	177	P	V
		2483.52	50.29	-3.71	54	42.93	32.39	6.53	31.56	106	177	A	V
802.11n HT20 CH 13 2472MHz	*	2472	103.39	-	-	96.03	32.39	6.53	31.56	146	143	P	H
	*	2472	95.67	-	-	88.31	32.39	6.53	31.56	146	143	A	H
		2484	59.88	-14.12	74	52.52	32.39	6.53	31.56	146	143	P	H
		2483.52	50.85	-3.15	54	43.49	32.39	6.53	31.56	146	143	A	H
	*	2472	100.69	-	-	93.33	32.39	6.53	31.56	100	176	P	V
	*	2472	93.12	-	-	85.76	32.39	6.53	31.56	100	176	A	V
		2483.6	61.3	-12.7	74	53.94	32.39	6.53	31.56	100	176	P	V
		2483.52	50.15	-3.85	54	42.79	32.39	6.53	31.56	100	176	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 (Harmonic @ 3m)

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 01 2412MHz		4824	43.12	-30.88	74	57.15	34.4	9.47	57.9	-	-	P	H
		4824	42.5	-31.5	74	56.53	34.4	9.47	57.9	-	-	P	V
802.11n HT20 CH 06 2437MHz		4874	42.9	-31.1	74	56.93	34.37	9.5	57.9	-	-	P	H
		7311	46.72	-27.28	74	58.9	36.05	11.24	59.47	-	-	P	H
		4874	42.69	-31.31	74	56.72	34.37	9.5	57.9	-	-	P	V
		7311	45.62	-28.38	74	57.8	36.05	11.24	59.47	-	-	P	V
802.11n HT20 CH 11 2462MHz		4924	43.99	-30.01	74	57.99	34.34	9.56	57.9	-	-	P	H
		7386	44.6	-29.4	74	57.01	35.98	11.32	59.71	-	-	P	H
		4924	42.1	-31.9	74	56.1	34.34	9.56	57.9	-	-	P	V
		7386	45.38	-28.62	74	57.79	35.98	11.32	59.71	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 12 2467MHz		4934	42.63	-31.37	74	56.63	34.34	9.56	57.9	-	-	P	H
		7401	44.66	-29.34	74	57.13	35.97	11.32	59.76	-	-	P	H
		4934	44.02	-29.98	74	58.02	34.34	9.56	57.9	-	-	P	V
		7401	45.19	-28.81	74	57.66	35.97	11.32	59.76	-	-	P	V
802.11n HT20 CH 13 2472MHz		4944	43.21	-30.79	74	57.22	34.33	9.56	57.9	-	-	P	H
		7416	45.24	-28.76	74	57.74	35.97	11.29	59.76	-	-	P	H
		4944	43.55	-30.45	74	57.56	34.33	9.56	57.9	-	-	P	V
		7416	45.08	-28.92	74	57.58	35.97	11.29	59.76	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

Emission below 1GHz

2.4GHz WIFI 802.11n HT20 (LF)

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					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 802.11n HT20 LF		62.01	21.63	-18.37	40	36.26	18.48	1.77	34.88	-	-	P	H
		157.07	27.62	-15.88	43.5	41.39	18.57	2.36	34.7	-	-	P	H
		239.52	34.9	-11.1	46	49.41	17.24	2.95	34.7	-	-	P	H
		331.67	26.85	-19.15	46	38.27	19.82	3.36	34.6	-	-	P	H
		452.92	26.18	-19.82	46	34.43	22.79	3.46	34.5	-	-	P	H
		722.58	31.17	-14.83	46	34.51	27.32	3.74	34.4	-	-	P	H
		111.48	30.37	-13.13	43.5	47.22	15.84	2.09	34.78	-	-	P	V
		166.77	25.48	-18.02	43.5	39.78	17.98	2.42	34.7	-	-	P	V
		239.52	28.43	-17.57	46	42.94	17.24	2.95	34.7	-	-	P	V
		452.92	29.24	-16.76	46	37.49	22.79	3.46	34.5	-	-	P	V
		518.88	28.85	-17.15	46	36.26	23.67	3.42	34.5	-	-	P	V
		724.52	29.3	-16.7	46	32.62	27.34	3.74	34.4	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

<Co-location mode>

LoRa(DTS) SF7 CH01 + WLAN 802.11b CH01 + BLE(2M) CH19 + Zigbee CH11

BLE CH19 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Lora(DTS) SF7 CH1 + WLAN 802.11b CH01 + BLE(2M) CH19 + Zigbee CH11		2356.48	55.38	-18.62	74	48.52	32.34	6.37	31.85	206	107	P	H
		2356.34	44.67	-9.33	54	37.81	32.34	6.37	31.85	206	107	A	H
	*	2440	104.47	-	-	97.23	32.38	6.48	31.62	206	107	P	H
	*	2440	101.41	-	-	94.17	32.38	6.48	31.62	206	107	A	H
		2487.26	55.78	-18.22	74	48.42	32.39	6.53	31.56	206	107	P	H
		2489.29	44.92	-9.08	54	37.49	32.4	6.53	31.5	206	107	A	H
		2349.06	54.36	-19.64	74	47.5	32.34	6.37	31.85	364	267	P	V
		2360.54	44.66	-9.34	54	37.74	32.34	6.37	31.79	364	267	A	V
	*	2440	107.59	-	-	100.35	32.38	6.48	31.62	364	267	P	V
	*	2440	104.62	-	-	97.38	32.38	6.48	31.62	364	267	A	V
		2496.99	55.93	-18.07	74	48.5	32.4	6.53	31.5	364	267	P	V
		2484.32	45.14	-8.86	54	37.78	32.39	6.53	31.56	364	267	A	V
Remark	3. No other spurious found. 4. All results are PASS against Peak and Average limit line.												

WLAN 802.11b CH01 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Lora(DTS) SF7 CH1 + WLAN 802.11b CH01 + BLE(2M) CH19 + Zigbee CH11		2366.175	55.94	-18.06	74	49.02	32.34	6.37	31.79	149	132	P	H
		2368.38	44.87	-9.13	54	37.95	32.34	6.37	31.79	149	132	A	H
	*	2412	112.4	-	-	105.26	32.37	6.44	31.67	149	132	P	H
	*	2412	108.39	-	-	101.25	32.37	6.44	31.67	149	132	A	H
		2369.85	57.34	-16.66	74	50.41	32.35	6.37	31.79	386	251	P	V
		2363.865	46.37	-7.63	54	39.45	32.34	6.37	31.79	386	251	A	V
	*	2412	111.04	-	-	103.9	32.37	6.44	31.67	386	251	P	V
	*	2412	107.88	-	-	100.74	32.37	6.44	31.67	386	251	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Zigbee CH11 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Lora(DTS) SF7 CH1 + WLAN 802.11b CH01 + BLE(2M) CH19 + Zigbee CH11		2361.03	61.03	-12.97	74	54.11	32.34	6.37	31.79	196	185	P	H
		2361.555	50.26	-3.74	54	43.34	32.34	6.37	31.79	196	185	A	H
	*	2405	111.05	-	-	103.97	32.37	6.44	31.73	196	185	P	H
	*	2405	109.89	-	-	102.81	32.37	6.44	31.73	196	185	A	H
		2373.21	57.35	-16.65	74	50.42	32.35	6.37	31.79	368	257	P	V
		2369.535	46.53	-7.47	54	39.6	32.35	6.37	31.79	368	257	A	V
	*	2405	108.3	-	-	101.22	32.37	6.44	31.73	368	257	P	V
	*	2405	106.41	-	-	99.33	32.37	6.44	31.73	368	257	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

LoRa DTS SF=7 CH01 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Lora(DTS) SF7 CH1 + WLAN 802.11b CH01 + BLE(2M) CH19 + Zigbee CH11		127.97	31.73	-11.77	43.5	44.56	17.59	1.16	31.58	-	-	P	H
		240.49	34.35	-11.65	46	45.98	17.98	1.61	31.22	-	-	P	H
		902.5	115.02	-	-	113.52	29.43	3.16	31.09	-	-	P	H
		172.59	28.54	-14.96	43.5	42.38	16.17	1.34	31.35	-	-	P	V
		265.71	28.69	-17.31	46	39.1	19.06	1.7	31.17	-	-	P	V
		902.5	113.55	-	-	112.05	29.43	3.16	31.09	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Harmonic @ 3m

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Lora(DTS) SF7 CH1 &802.11b CH01&BLE CH19& Zigbee CH11 Co-location		1805	41.76	-43.26	85.02	63.6	30.72	5.42	57.98	-	-	P	H
		2707.5	54.22	-19.78	74	72.28	32.8	6.92	57.78	100	263	P	H
		2707.5	47.79	-6.21	54	65.85	32.8	6.92	57.78	100	263	A	H
		4810	50.01	-23.99	74	64.03	34.41	9.47	57.9	100	216	P	H
		4810	44.38	-9.62	54	58.4	34.41	9.47	57.9	100	216	A	H
		4824	41.94	-32.06	74	55.97	34.4	9.47	57.9	-	-	P	H
		4880	42.27	-31.73	74	56.3	34.37	9.5	57.9	-	-	P	H
		7320	44.72	-29.28	74	56.96	36.04	11.24	59.52	-	-	P	H
		1805	37.67	-45.88	83.55	59.51	30.72	5.42	57.98	-	-	P	V
		2707.5	40.87	-33.13	74	58.93	32.8	6.92	57.78	-	-	P	V
		4810	42.6	-31.4	74	56.62	34.41	9.47	57.9	-	-	P	V
		4824	42.14	-31.86	74	56.17	34.4	9.47	57.9	-	-	P	V
		4880	41.61	-32.39	74	55.64	34.37	9.5	57.9	-	-	P	V
		7320	44.09	-29.91	74	56.33	36.04	11.24	59.52	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

LoRa(DTS) SF 7 CH31 + WLAN 802.11n20 CH01 + BLE(2M) CH39 + Zigbee CH25

WLAN 802.11n20 CH01 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
LoRa(DTS) SF 7 CH31 + WLAN 802.11n20 CH01 + BLE(2M) CH39 + Zigbee CH25		2389.59	62.01	-11.99	74	54.94	32.36	6.44	31.73	215	142	P	H
		2390	50.25	-3.75	54	43.18	32.36	6.44	31.73	215	142	A	H
	*	2412	109.26	-	-	102.12	32.37	6.44	31.67	215	142	P	H
	*	2412	101.69	-	-	94.55	32.37	6.44	31.67	215	142	A	H
		2389.17	61.16	-12.84	74	54.09	32.36	6.44	31.73	179	94	P	V
		2390	49.72	-4.28	54	42.65	32.36	6.44	31.73	179	94	A	V
	*	2412	106.92	-	-	99.78	32.37	6.44	31.67	179	94	P	V
	*	2412	99.11	-	-	91.97	32.37	6.44	31.67	179	94	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

BLE CH39 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
LoRa(DTS) SF 7 CH31&802.11n20 CH01&BLE CH39& Zigbee CH25 Co-location		2480	99.63	-	-	92.27	32.39	6.53	31.56	100	107	P	H
		2480	97.27	-	-	89.91	32.39	6.53	31.56	100	107	A	H
	*	2483.72	54.14	-19.86	74	46.78	32.39	6.53	31.56	100	107	P	H
	*	2483.52	44	-10	54	36.64	32.39	6.53	31.56	100	107	A	H
		2480	99.54	-	-	92.18	32.39	6.53	31.56	292	16	P	V
		2480	98.04	-	-	90.68	32.39	6.53	31.56	292	16	A	V
	*	2483.52	55.44	-18.56	74	48.08	32.39	6.53	31.56	292	16	P	V
	*	2483.52	46.08	-7.92	54	38.72	32.39	6.53	31.56	292	16	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Zigbee CH25 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
LoRa(DTS) SF 7 CH31 + WLAN 802.11n20 CH01 + BLE(2M) CH39 + Zigbee CH25		2475	112.13	-	-	104.77	32.39	6.53	31.56	291	200	P	H
		2475	110.23	-	-	102.87	32.39	6.53	31.56	291	200	A	H
	*	2484.16	59.26	-14.74	74	51.9	32.39	6.53	31.56	291	200	P	H
	*	2483.52	50.79	-3.21	54	43.43	32.39	6.53	31.56	291	200	A	H
		2475	109.73	-	-	102.37	32.39	6.53	31.56	390	250	P	V
		2475	107.96	-	-	100.6	32.39	6.53	31.56	390	250	A	V
	*	2483.8	56.63	-17.37	74	49.27	32.39	6.53	31.56	390	250	P	V
	*	2483.52	47.61	-6.39	54	40.25	32.39	6.53	31.56	390	250	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

LoRa DTS SF=7 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
LoRa(DTS) SF 7 CH31 + WLAN 802.11n20 CH01 + BLE(2M) CH39 + Zigbee CH25		123.12	29.87	-13.63	83.87	42.65	17.71	1.13	31.62	-	-	P	H
		280.26	31.52	-14.48	46	41.49	19.43	1.74	31.14	-	-	P	H
		926.5	113.87	-	-	111.31	30.3	3.2	30.94	-	-	P	H
		119.24	28.89	-14.61	43.5	41.7	17.72	1.12	31.65	-	-	P	V
		171.62	30.61	-12.89	43.5	44.42	16.21	1.34	31.36	-	-	P	V
		926.5	109.27	-	-	106.71	30.3	3.2	30.94	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Harmonic @ 3m

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
LoRa(DTS) SF 7 CH31 + WLAN 802.11n20 CH01 + BLE(2M) CH39 + Zigbee CH25		1853	44.97	-38.9	83.87	41.18	31.09	5.48	32.78	-	-	P	H
		2779.5	52.8	-21.2	74	70.46	32.97	7.1	57.73	-	-	P	H
		2779.5	49.56	-4.44	54	67.22	32.97	7.1	57.73	-	-	P	H
		4824	42.52	-31.48	74	56.55	34.4	9.47	57.9	-	-	P	H
		4950	51.09	-22.91	74	65.1	34.33	9.56	57.9	-	-	P	H
		4950	44.1	-9.9	54	58.11	34.33	9.56	57.9	-	-	P	H
		4960	42.5	-31.5	74	56.49	34.32	9.59	57.9	-	-	P	H
		7425	44.63	-29.37	74	57.19	35.96	11.29	59.81	-	-	P	H
		7440	43.93	-30.07	74	56.56	35.94	11.29	59.86	-	-	P	H
		1853	46.77	-32.5	79.27	68.11	31.09	5.48	57.91	-	-	P	V
		2779.5	51.29	-22.71	74	68.95	32.97	7.1	57.73	-	-	P	V
		2779.5	46.57	-7.43	54	64.23	32.97	7.1	57.73	-	-	P	V
		4824	43.37	-30.63	74	57.4	34.4	9.47	57.9	-	-	P	V
		4950	42.62	-31.38	74	56.63	34.33	9.56	57.9	-	-	P	V
		4960	43.59	-30.41	74	57.58	34.32	9.59	57.9	-	-	P	V
		7425	43.5	-30.5	74	56.06	35.96	11.29	59.81	-	-	P	V
		7440	43.91	-30.09	74	56.54	35.94	11.29	59.86	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Note symbol

*	**Fundamental Frequency** which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is **Margin** 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	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					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. Margin (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. Margin (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. Margin (dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

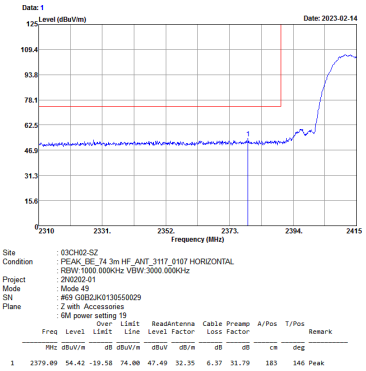
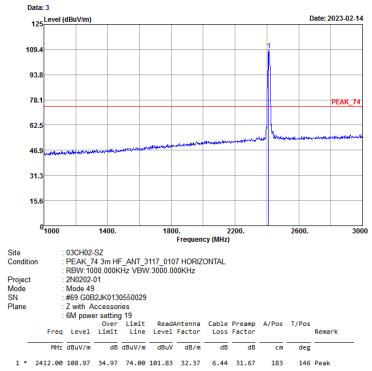
= -10.46(dB)

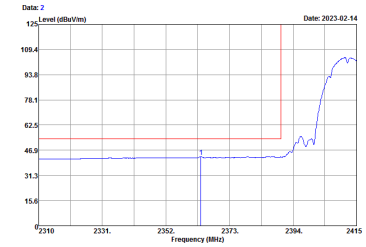
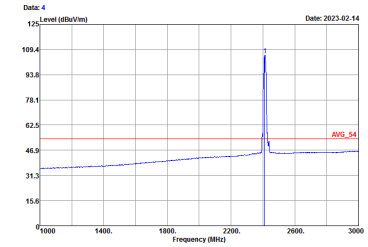
Both peak and average measured complies with the limit line, so test result is "PASS".

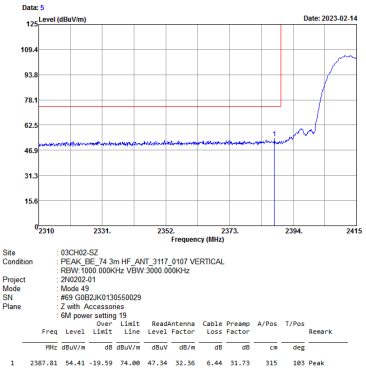
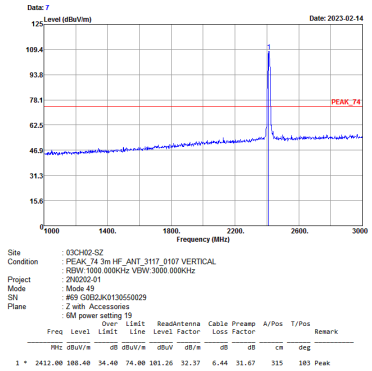
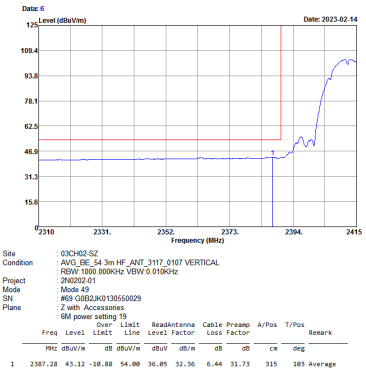
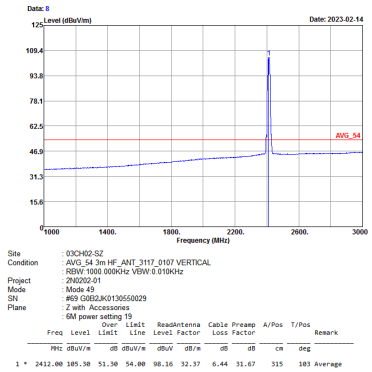
Appendix D. Radiated Spurious Emission Plots

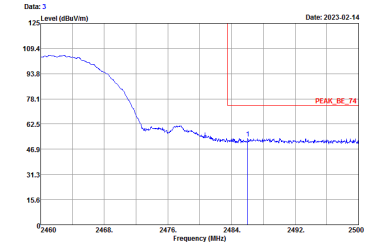
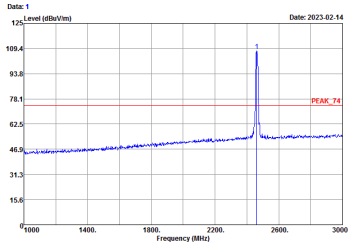
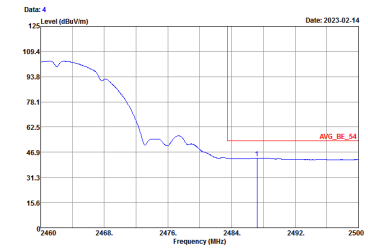
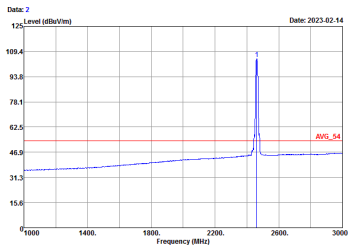
2.4GHz 2400~2483.5MHz

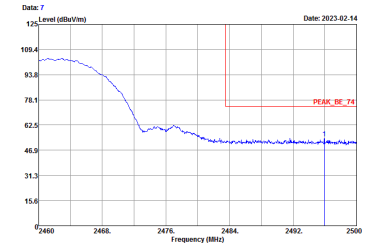
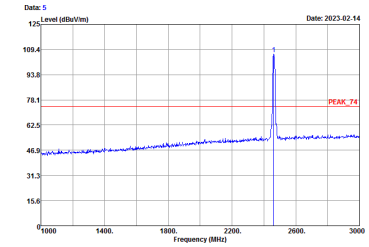
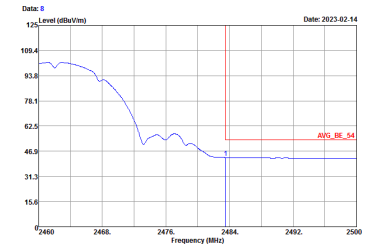
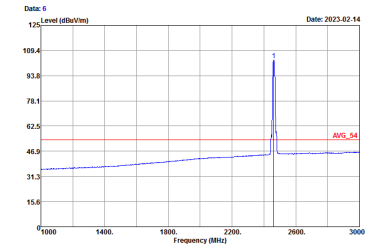
WIFI 802.11b (Band Edge @ 3m)

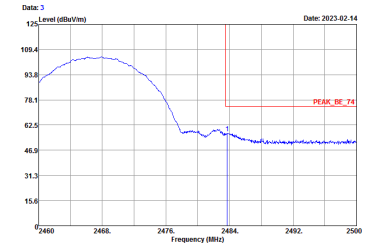
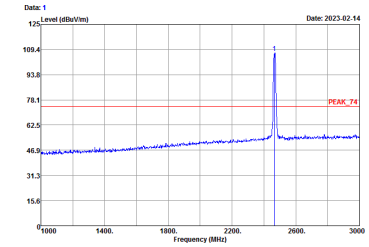
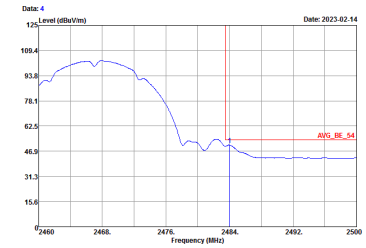
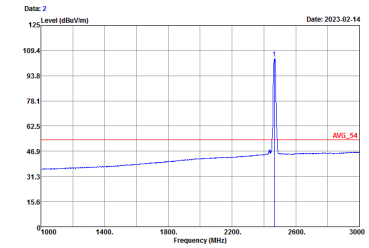
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1	Horizontal	Fundamental
Peak		

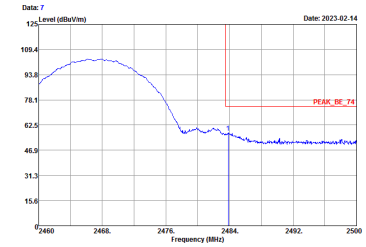
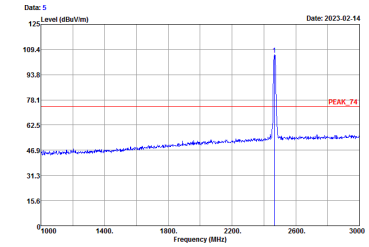
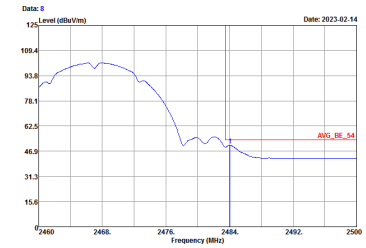
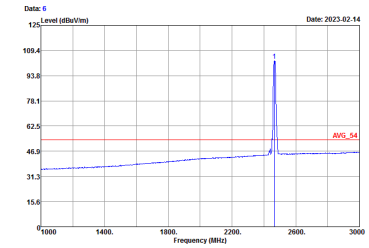
Avg.	 Site : 03CH02-SZ Condition : AVG_BE_54 3m HF_ANT_3117_0107 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 49 SN : #69 G8B2JK0130550029 Plane : Z with Accessories : 6M power setting 19 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dBuV dB/m dB dB cm deg 1 2363.55 42.97 -11.03 54.00 36.05 32.34 6.37 31.79 183 146 Average	 Site : 03CH02-SZ Condition : AVG_54 3m HF_ANT_3117_0107 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 49 SN : #69 G8B2JK0130550029 Plane : Z with Accessories : 6M power setting 19 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dBuV dB/m dB dB cm deg 1 * 2412.00 105.84 51.84 54.00 98.70 32.37 6.44 31.67 183 146 Average

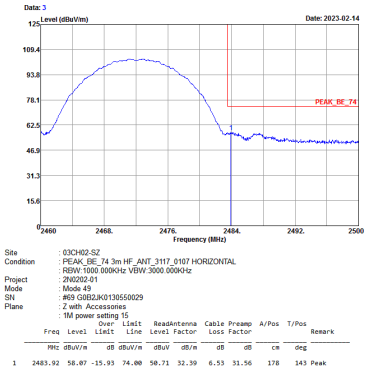
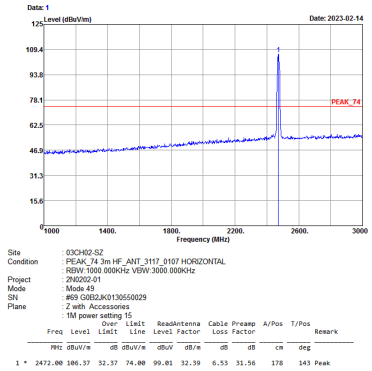
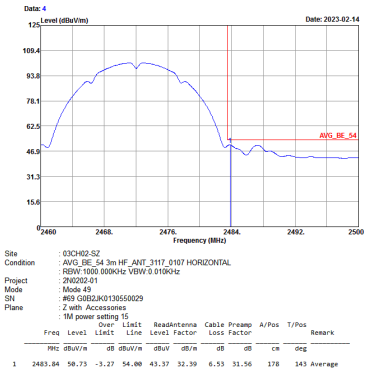
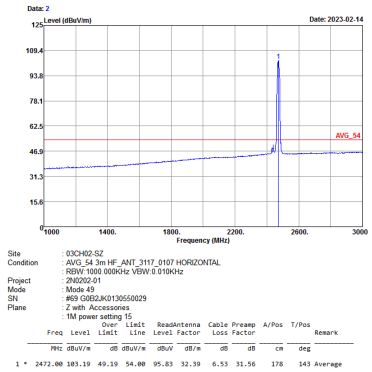
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1	Vertical	Fundamental
Peak		
Avg.		

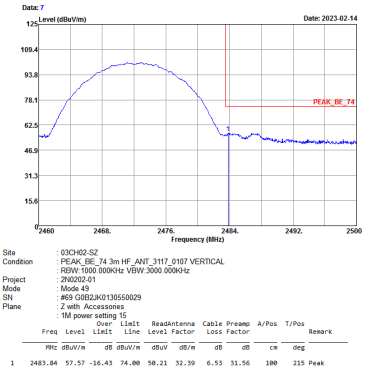
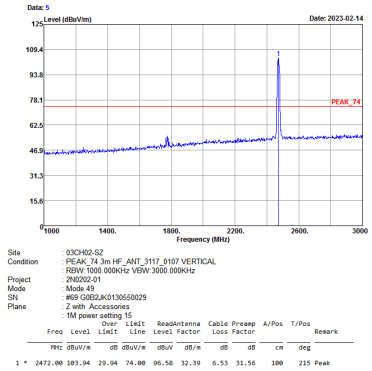
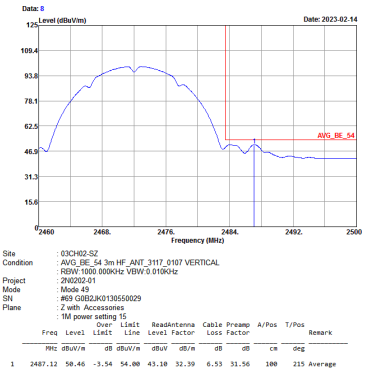
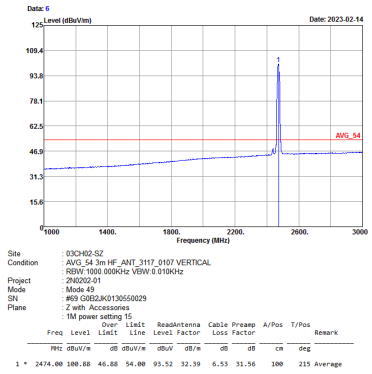
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH02-SZ Condition : PEAK_BE_74 3m HF_ANT_3117_0107 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz Project : 2N0202-01 Mode : Mode 47 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 6M power setting 19 Freq Level Over Limit Limit ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2486.04 53.61 -20.39 74.00 46.25 32.59 6.53 31.56 178 156 Peak	 Site : 03CH02-SZ Condition : PEAK_74 3m HF_ANT_3117_0107 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz Project : 2N0202-01 Mode : Mode 47 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 6M power setting 19 Freq Level Over Limit Limit ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2462.00 108.06 54.06 74.00 100.81 32.39 6.48 31.62 178 156 Peak
Avg.	 Site : 03CH02-SZ Condition : AVG_BE_54 3m HF_ANT_3117_0107 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 47 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 6M power setting 19 Freq Level Over Limit Limit ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2487.20 43.24 -10.76 54.00 35.88 32.39 6.53 31.56 178 156 Average	 Site : 03CH02-SZ Condition : AVG_54 3m HF_ANT_3117_0107 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 47 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 6M power setting 19 Freq Level Over Limit Limit ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2462.00 104.94 50.94 54.00 97.69 32.39 6.48 31.62 178 156 Average

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH02-SZ Condition : PEAK_BE_74 3m HF_ANT_3117_0107 VERTICAL : RBW: 1000.000KHz VBW:3000.000KHz Project : 2N0202-01 Mode : Mode 47 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 6M power setting 19 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2495.96 54.39 -19.61 74.00 46.96 32.40 6.53 31.50 100 212 Peak	 Site : 03CH02-SZ Condition : PEAK_74 3m HF_ANT_3117_0107 VERTICAL : RBW: 1000.000KHz VBW:3000.000KHz Project : 2N0202-01 Mode : Mode 47 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 6M power setting 19 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2462.00 106.43 32.43 74.00 99.18 32.39 6.48 31.62 100 212 Peak
Avg.	 Site : 03CH02-SZ Condition : AVG_BE_54 3m HF_ANT_3117_0107 VERTICAL : RBW: 1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 47 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 6M power setting 19 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2483.52 42.97 -11.03 54.00 35.61 32.39 6.53 31.56 100 212 Average	 Site : 03CH02-SZ Condition : AVG_54 3m HF_ANT_3117_0107 VERTICAL : RBW: 1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 47 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 6M power setting 19 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2462.00 103.36 49.36 54.00 96.11 32.39 6.48 31.62 100 212 Average

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH12 2467MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH02-SZ Condition : PEAK_BE_74 3m HF_ANT_3117_0107 HORIZONTAL : RBW: 1000.000KHz VBW:3000.000KHz Project : 2N0202-01 Mode : Mode 48 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 1M power setting 18 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2483.72 57.45 -16.55 74.00 50.09 32.39 6.53 31.56 177 156 Peak	 Site : 03CH02-SZ Condition : PEAK_74 3m HF_ANT_3117_0107 HORIZONTAL : RBW: 1000.000KHz VBW:3000.000KHz Project : 2N0202-01 Mode : Mode 48 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 1M power setting 18 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2467.00 107.40 33.40 74.00 100.04 32.39 6.53 31.56 177 156 Peak
Avg.	 Site : 03CH02-SZ Condition : AVG_BE_54 3m HF_ANT_3117_0107 HORIZONTAL : RBW: 1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 48 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 1M power setting 18 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2484.00 50.70 -3.30 54.00 43.34 32.39 6.53 31.56 177 156 Average	 Site : 03CH02-SZ Condition : AVG_54 3m HF_ANT_3117_0107 HORIZONTAL : RBW: 1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 48 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 1M power setting 18 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2467.00 104.44 50.44 54.00 97.08 32.39 6.53 31.56 177 156 Average

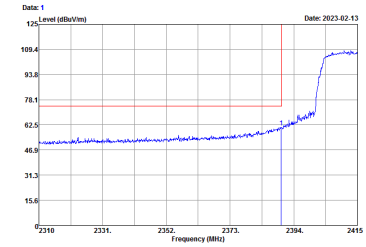
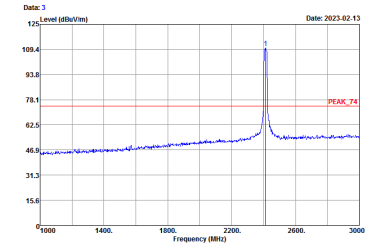
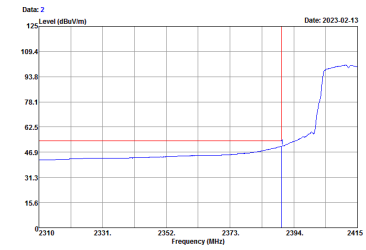
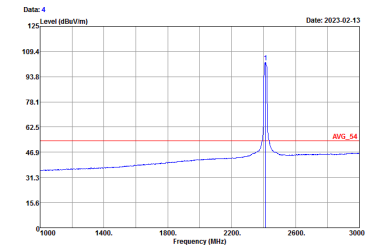
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH12 2467MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH02-SZ Condition : PEAK_BE_74 3m HF_ANT_3117_0107 VERTICAL : RBW: 1000.000KHz VBW:3000.000KHz Project : 2N0202-01 Mode : Mode 48 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 1M power setting 18 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2483.84 57.75 -16.25 74.00 50.39 32.39 6.53 31.56 100 213 Peak	 Site : 03CH02-SZ Condition : PEAK_74 3m HF_ANT_3117_0107 VERTICAL : RBW: 1000.000KHz VBW:3000.000KHz Project : 2N0202-01 Mode : Mode 48 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 1M power setting 18 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2467.00 106.07 32.07 74.00 98.71 32.39 6.53 31.56 100 213 Peak
Avg.	 Site : 03CH02-SZ Condition : AVG_BE_54 3m HF_ANT_3117_0107 VERTICAL : RBW: 1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 48 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 1M power setting 18 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2484.08 50.56 -3.44 54.00 43.20 32.39 6.53 31.56 100 213 Average	 Site : 03CH02-SZ Condition : AVG_54 3m HF_ANT_3117_0107 VERTICAL : RBW: 1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 48 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 1M power setting 18 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2467.00 103.13 49.13 54.00 95.77 32.39 6.53 31.56 100 213 Average

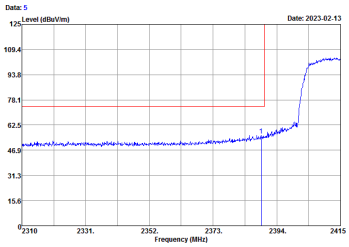
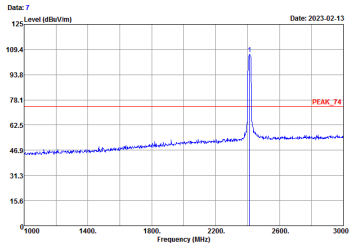
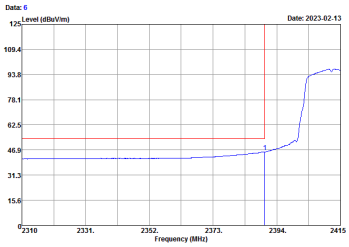
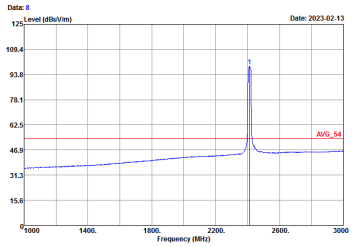
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH13 2472MHz	
1	Horizontal	Fundamental
Peak		
Avg.		

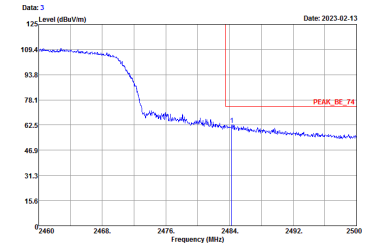
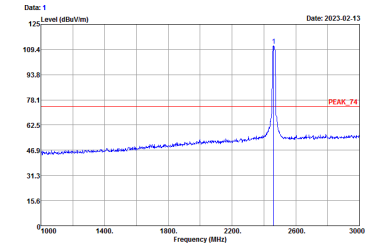
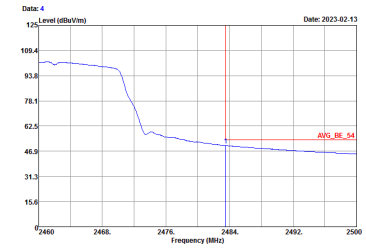
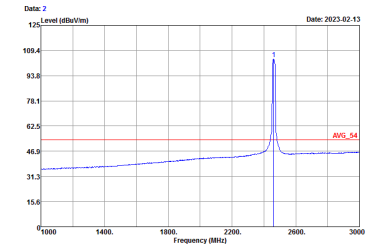
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH13 2472MHz	
1	Vertical	Fundamental
Peak		
Avg.		

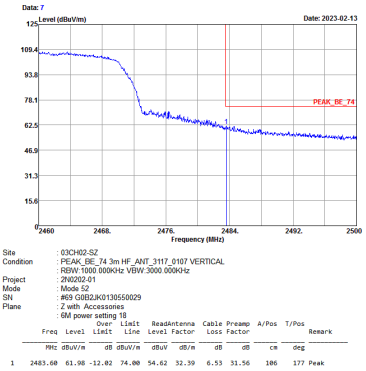
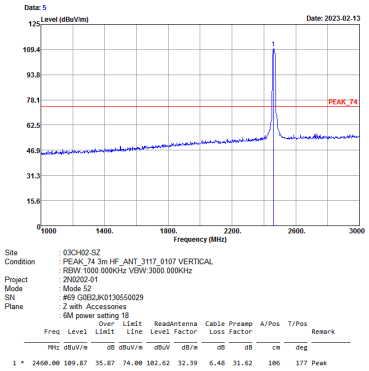
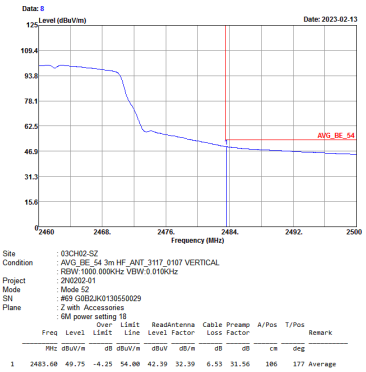
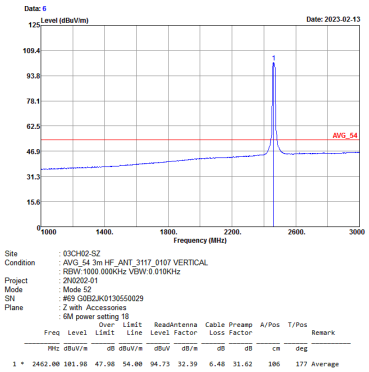
2.4GHz 2400~2483.5MHz

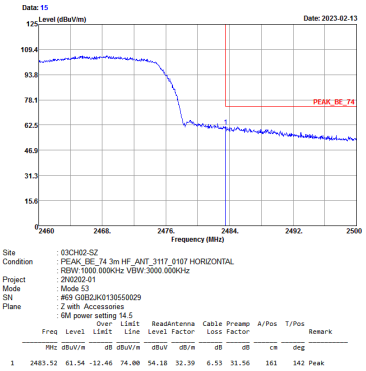
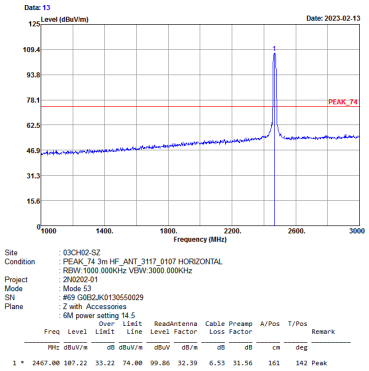
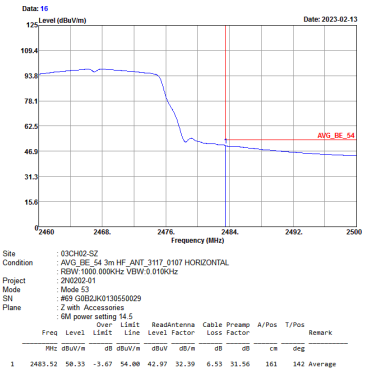
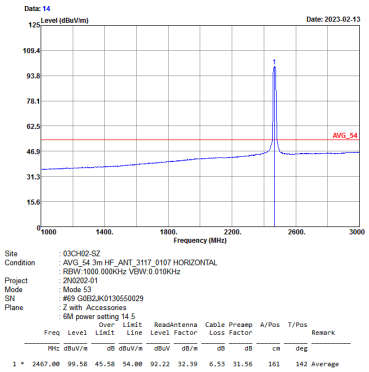
WIFI 802.11g (Band Edge @ 3m)

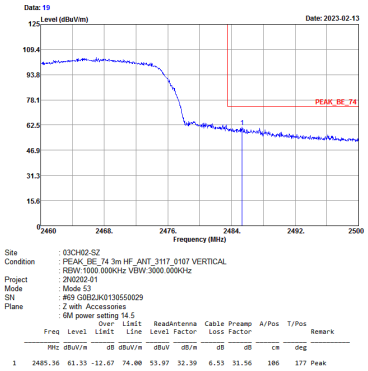
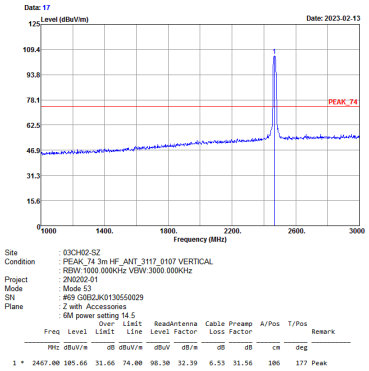
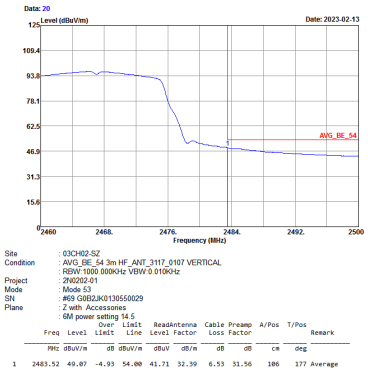
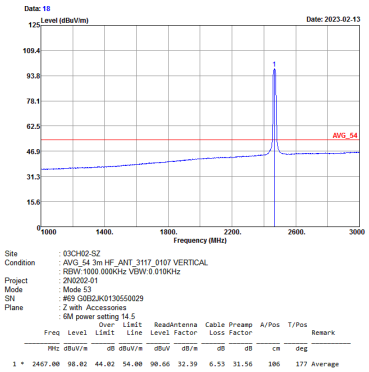
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH02-SZ Condition : PEAK_BE_74 3m HF_ANT_3117_0107 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz Project : 2N0202-01 Mode : Mode 50 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 6M power setting 17.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2389.91 61.02 -12.98 74.00 53.95 32.36 6.44 31.73 164 144 Peak	 Site : 03CH02-SZ Condition : PEAK_74 3m HF_ANT_3117_0107 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz Project : 2N0202-01 Mode : Mode 50 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 6M power setting 17.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2412.00 110.28 36.28 74.00 103.14 32.37 6.44 31.67 164 144 Peak
Avg.	 Site : 03CH02-SZ Condition : AVG_BE_54 3m HF_ANT_3117_0107 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 50 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 6M power setting 17.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2390.00 50.64 -3.36 54.00 43.57 32.36 6.44 31.73 164 144 Average	 Site : 03CH02-SZ Condition : AVG_54 3m HF_ANT_3117_0107 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 50 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 6M power setting 17.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2412.00 102.77 48.77 54.00 95.63 32.37 6.44 31.67 164 144 Average

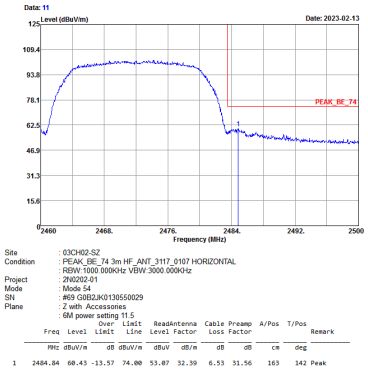
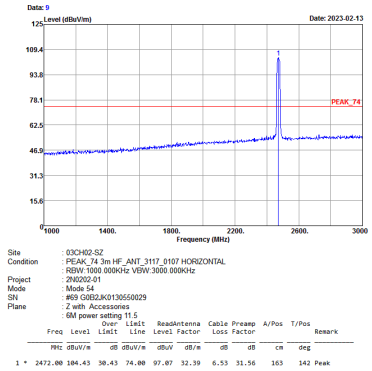
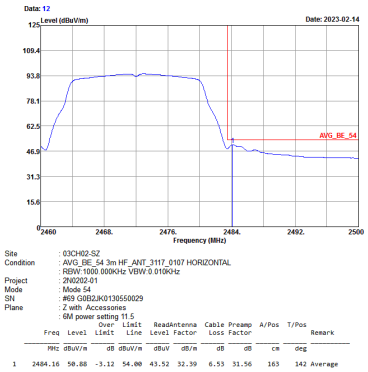
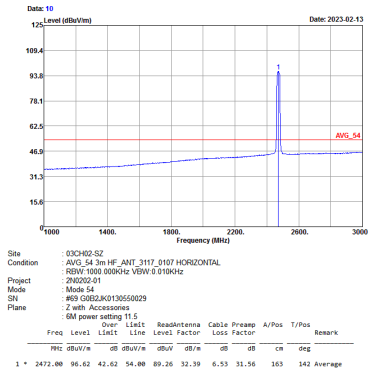
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH02-SZ Condition : PEAK_BE_74 3m HF_ANT_3117_0107 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Project : 2N0202-01 Mode : Mode 50 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 6M power setting 17.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2388.86 56.19 -17.81 74.00 49.12 32.36 6.44 31.73 100 172 Peak	 Site : 03CH02-SZ Condition : PEAK_74 3m HF_ANT_3117_0107 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Project : 2N0202-01 Mode : Mode 50 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 6M power setting 17.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2412.00 106.60 32.60 74.00 99.46 32.37 6.44 31.67 100 172 Peak
Avg.	 Site : 03CH02-SZ Condition : AVG_BE_54 3m HF_ANT_3117_0107 VERTICAL : RBW:1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 50 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 6M power setting 17.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2390.00 45.69 -8.31 54.00 38.62 32.36 6.44 31.73 100 172 Average	 Site : 03CH02-SZ Condition : AVG_54 3m HF_ANT_3117_0107 VERTICAL : RBW:1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 50 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 6M power setting 17.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2412.00 98.89 44.89 54.00 91.75 32.37 6.44 31.67 100 172 Average

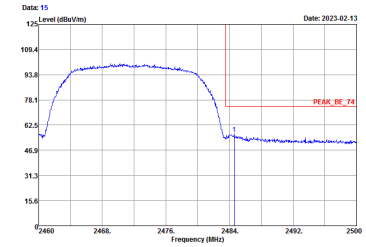
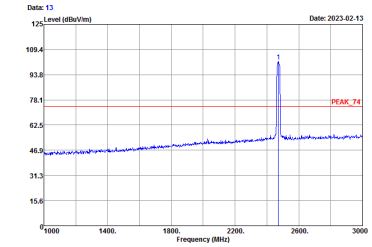
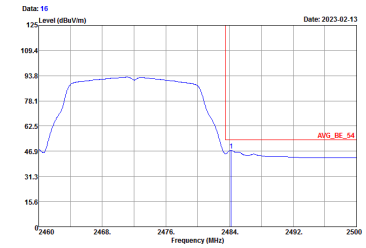
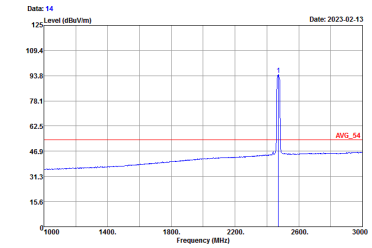
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH02-SZ Condition : PEAK_BE_74 3m HF_ANT_3117_0107 HORIZONTAL : RBW: 1000.000KHz VBW:3000.000KHz Project : 2N0202-01 Mode : Mode 52 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 6M power setting 18 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2484.28 62.84 -11.16 74.00 55.48 32.39 6.53 31.56 167 142 Peak	 Site : 03CH02-SZ Condition : PEAK_74 3m HF_ANT_3117_0107 HORIZONTAL : RBW: 1000.000KHz VBW:3000.000KHz Project : 2N0202-01 Mode : Mode 52 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 6M power setting 18 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2462.00 111.80 37.80 74.00 104.55 32.39 6.48 31.62 167 142 Peak
Avg.	 Site : 03CH02-SZ Condition : AVG_BE_54 3m HF_ANT_3117_0107 HORIZONTAL : RBW: 1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 52 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 6M power setting 18 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2483.52 50.40 -3.60 54.00 43.04 32.39 6.53 31.56 167 142 Average	 Site : 03CH02-SZ Condition : AVG_54 3m HF_ANT_3117_0107 HORIZONTAL : RBW: 1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 52 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 6M power setting 18 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2462.00 104.10 50.10 54.00 96.85 32.39 6.48 31.62 167 142 Average

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

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH12 2467MHz	
1	Horizontal	Fundamental
Peak		
Avg.		

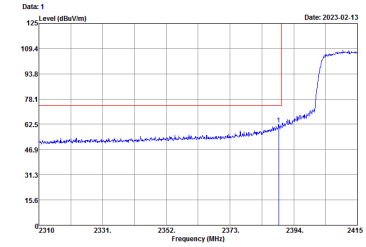
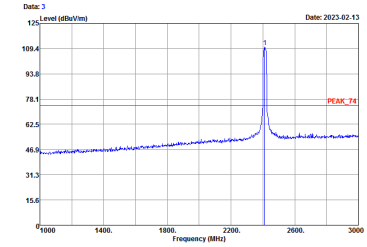
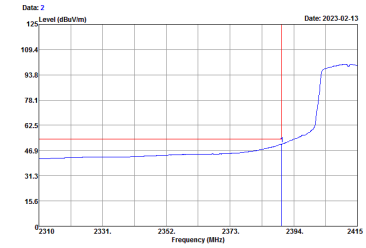
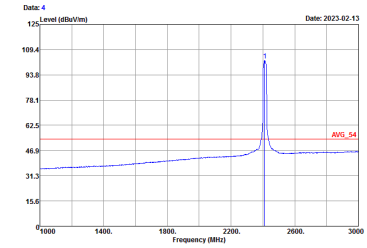
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH12 2467MHz	
1	Vertical	Fundamental
Peak		
Avg.		

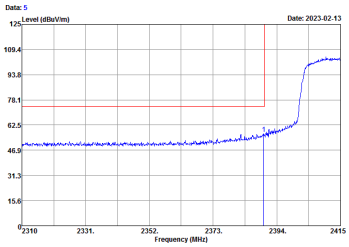
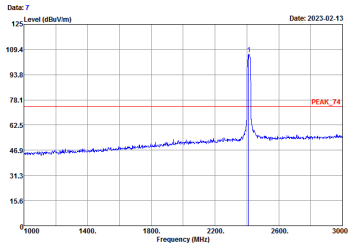
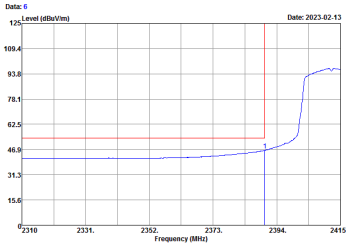
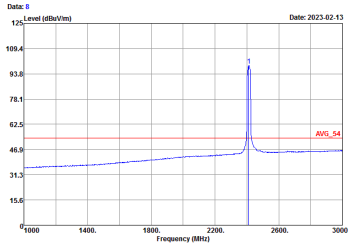
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH13 2472MHz	
1	Horizontal	Fundamental
Peak		
Avg.		

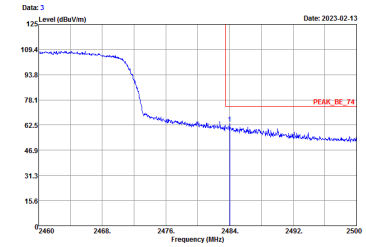
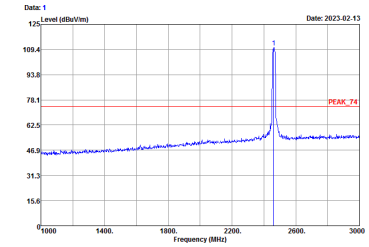
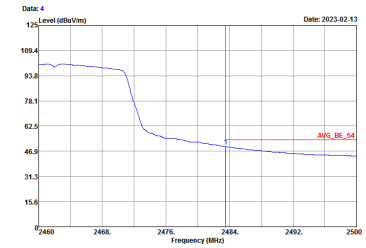
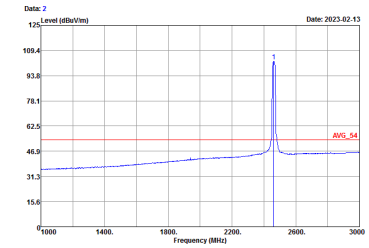
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH13 2472MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH02-SZ Condition : PEAK_BE_74 3m HF_ANT_3117_0107 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Project : 2N0202-01 Mode : Mode 54 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 6M power setting 11.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2484.60 57.18 -16.82 74.00 49.82 32.39 6.53 31.56 108 160 Peak	 Site : 03CH02-SZ Condition : PEAK_74 3m HF_ANT_3117_0107 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Project : 2N0202-01 Mode : Mode 54 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 6M power setting 11.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2472.00 102.02 28.02 74.00 94.66 32.39 6.53 31.56 108 160 Peak
Avg.	 Site : 03CH02-SZ Condition : AVG_BE_54 3m HF_ANT_3117_0107 VERTICAL : RBW:1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 54 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 6M power setting 11.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2484.20 47.44 -6.56 54.00 40.08 32.39 6.53 31.56 108 160 Average	 Site : 03CH02-SZ Condition : AVG_54 3m HF_ANT_3117_0107 VERTICAL : RBW:1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 54 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 6M power setting 11.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2472.00 94.50 40.50 54.00 87.14 32.39 6.53 31.56 108 160 Average

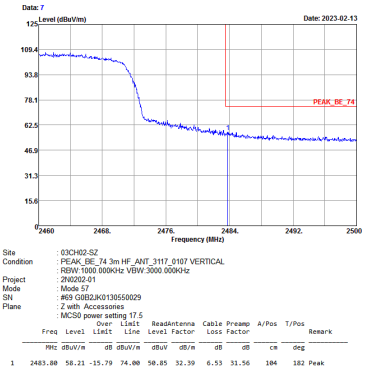
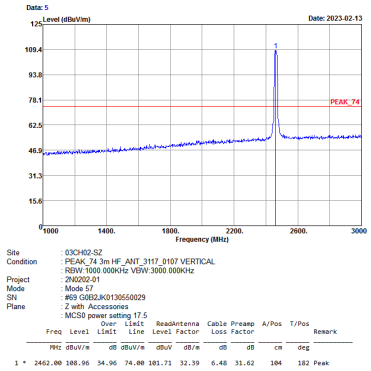
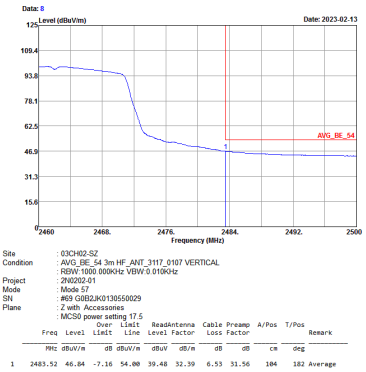
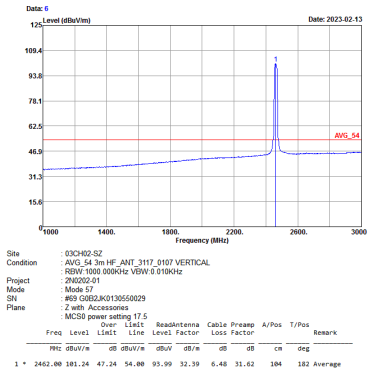
2.4GHz 2400~2483.5MHz

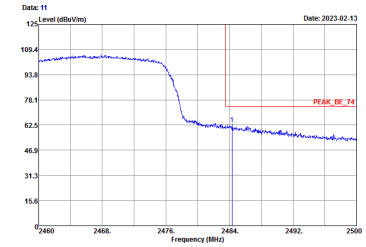
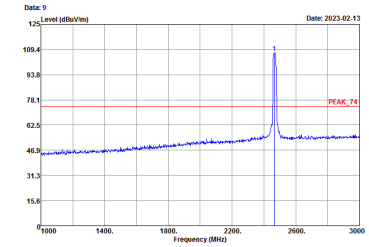
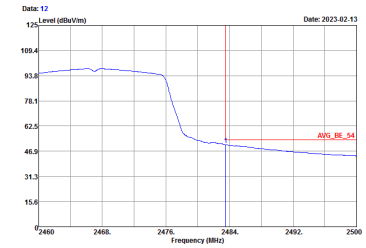
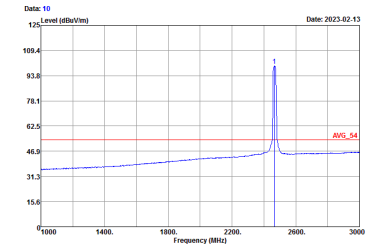
WIFI 802.11n HT20 (Band Edge @ 3m)

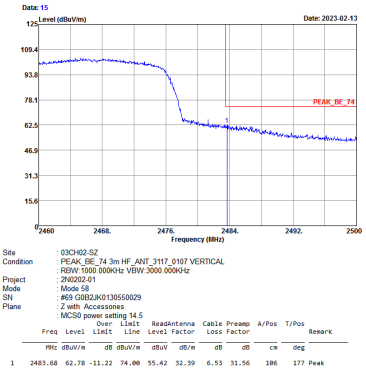
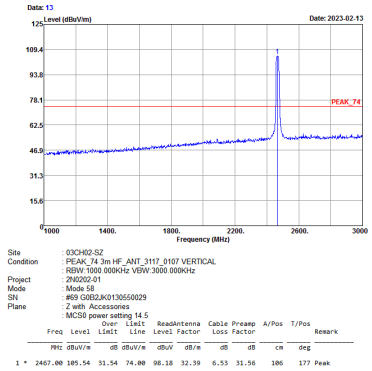
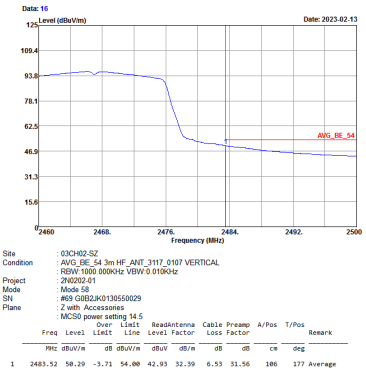
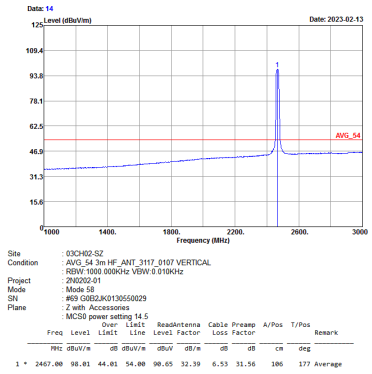
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH02-SZ Condition : PEAK_BE_74 3m HF_ANT_3117_0107 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz Project : ZN0202-01 Mode : Mode 55 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : MCS0 power setting 17.5 Freq Level Over Limit Limit ReadAntenna Level Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2389.07 62.31 -11.69 74.00 55.24 32.36 6.44 31.73 163 143 Peak	 Site : 03CH02-SZ Condition : PEAK_74 3m HF_ANT_3117_0107 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz Project : ZN0202-01 Mode : Mode 55 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : MCS0 power setting 17.5 Freq Level Over Limit Limit ReadAntenna Level Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2412.00 110.20 36.20 74.00 103.06 32.37 6.44 31.67 163 143 Peak
Avg.	 Site : 03CH02-SZ Condition : AVG_BE_54 3m HF_ANT_3117_0107 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz Project : ZN0202-01 Mode : Mode 55 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : MCS0 power setting 17.5 Freq Level Over Limit Limit ReadAntenna Level Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2390.00 50.91 -3.09 54.00 43.84 32.36 6.44 31.73 163 143 Average	 Site : 03CH02-SZ Condition : AVG_54 3m HF_ANT_3117_0107 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz Project : ZN0202-01 Mode : Mode 55 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : MCS0 power setting 17.5 Freq Level Over Limit Limit ReadAntenna Level Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2412.00 102.62 48.62 54.00 95.48 32.37 6.44 31.67 163 143 Average

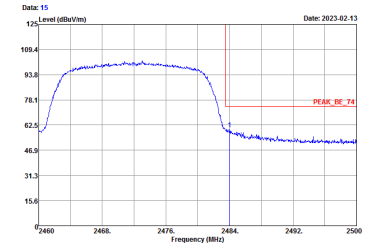
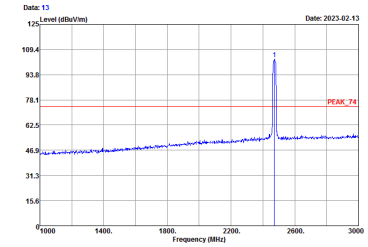
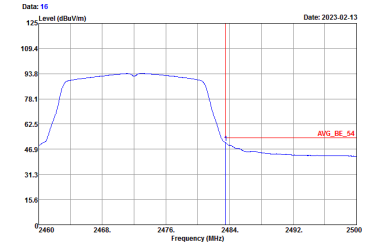
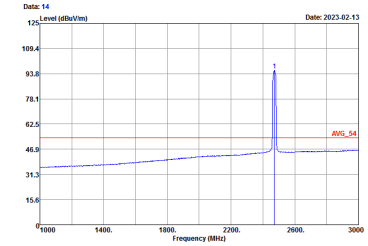
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH02-SZ Condition : PEAK_BE_74 3m HF_ANT_3117_0107 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Project : 2N0202-01 Mode : Mode 55 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : MCS0 power setting 17.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2389.70 56.94 -17.06 74.00 49.87 32.36 6.44 31.73 101 173 Peak	 Site : 03CH02-SZ Condition : PEAK_74 3m HF_ANT_3117_0107 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Project : 2N0202-01 Mode : Mode 55 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : MCS0 power setting 17.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2412.00 106.44 32.44 74.00 99.30 32.37 6.44 31.67 101 173 Peak
Avg.	 Site : 03CH02-SZ Condition : AVG_BE_54 3m HF_ANT_3117_0107 VERTICAL : RBW:1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 55 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : MCS0 power setting 17.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2390.00 46.30 -7.70 54.00 39.23 32.36 6.44 31.73 101 173 Average	 Site : 03CH02-SZ Condition : AVG_54 3m HF_ANT_3117_0107 VERTICAL : RBW:1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 55 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : MCS0 power setting 17.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2412.00 98.82 44.82 54.00 91.68 32.37 6.44 31.67 101 173 Average

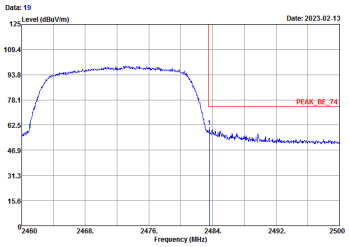
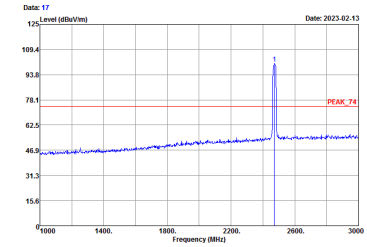
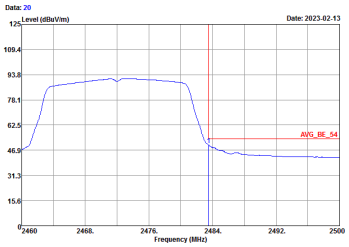
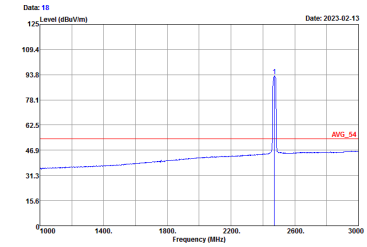
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH02-SZ Condition : PEAK_BE_74 3m HF_ANT_3117_0107 HORIZONTAL : RBW: 1000.000KHz VBW:3000.000KHz Project : 2N0202-01 Mode : Mode 57 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : MCS0 power setting 17.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2484.04 63.42 -10.58 74.00 56.06 32.39 6.53 31.56 163 141 Peak	 Site : 03CH02-SZ Condition : PEAK_74 3m HF_ANT_3117_0107 HORIZONTAL : RBW: 1000.000KHz VBW:3000.000KHz Project : 2N0202-01 Mode : Mode 57 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : MCS0 power setting 17.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2462.00 110.56 36.56 74.00 103.31 32.39 6.48 31.62 163 141 Peak
Avg.	 Site : 03CH02-SZ Condition : AVG_BE_54 3m HF_ANT_3117_0107 HORIZONTAL : RBW: 1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 57 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : MCS0 power setting 17.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2483.52 49.66 -4.34 54.00 42.30 32.39 6.53 31.56 163 141 Average	 Site : 03CH02-SZ Condition : AVG_54 3m HF_ANT_3117_0107 HORIZONTAL : RBW: 1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 57 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : MCS0 power setting 17.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2462.00 102.69 48.69 54.00 95.44 32.39 6.48 31.62 163 141 Average

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

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH12 2467MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH02-SZ Condition : PEAK_BE_74 3m HF_ANT_3117_0107 HORIZONTAL : RBW: 1000.000KHz VBW:3000.000KHz Project : 2N0202-01 Mode : Mode 58 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : MCS0 power setting 14.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2484.32 63.03 -10.97 74.00 55.67 32.39 6.53 31.56 164 144 Peak	 Site : 03CH02-SZ Condition : PEAK_74 3m HF_ANT_3117_0107 HORIZONTAL : RBW: 1000.000KHz VBW:3000.000KHz Project : 2N0202-01 Mode : Mode 58 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : MCS0 power setting 14.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2467.00 107.36 33.36 74.00 100.00 32.39 6.53 31.56 164 144 Peak
Avg.	 Site : 03CH02-SZ Condition : AVG_BE_54 3m HF_ANT_3117_0107 HORIZONTAL : RBW: 1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 58 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : MCS0 power setting 14.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2483.52 50.88 -3.12 54.00 43.52 32.39 6.53 31.56 164 144 Average	 Site : 03CH02-SZ Condition : AVG_54 3m HF_ANT_3117_0107 HORIZONTAL : RBW: 1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 58 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : MCS0 power setting 14.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2467.00 99.89 45.89 54.00 92.53 32.39 6.53 31.56 164 144 Average

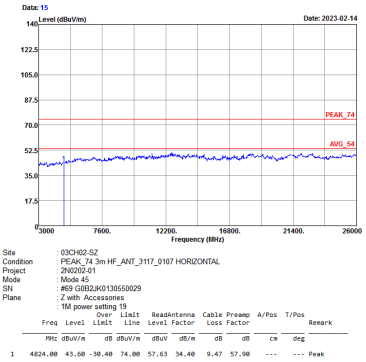
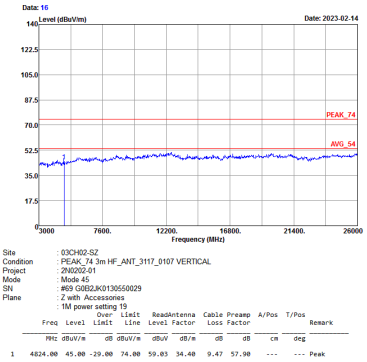
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH12 2467MHz	
1	Vertical	Fundamental
Peak		
Avg.		

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH13 2472MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH02-SZ Condition : PEAK_BE_74 3m HF_ANT_3117_0107 HORIZONTAL : RBW: 1000.000KHz VBW:3000.000KHz Project : 2N0202-01 Mode : Mode 59 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : MCS0 power setting 10.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2484.00 59.88 -14.12 74.00 52.52 32.39 6.53 31.56 146 143 Peak	 Site : 03CH02-SZ Condition : PEAK_74 3m HF_ANT_3117_0107 HORIZONTAL : RBW: 1000.000KHz VBW:3000.000KHz Project : 2N0202-01 Mode : Mode 59 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : MCS0 power setting 10.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2472.00 103.39 29.39 74.00 96.03 32.39 6.53 31.56 146 143 Peak
Avg.	 Site : 03CH02-SZ Condition : AVG_BE_54 3m HF_ANT_3117_0107 HORIZONTAL : RBW: 1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 59 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : MCS0 power setting 10.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2483.52 50.85 -3.15 54.00 43.49 32.39 6.53 31.56 146 143 Average	 Site : 03CH02-SZ Condition : AVG_54 3m HF_ANT_3117_0107 HORIZONTAL : RBW: 1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 59 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : MCS0 power setting 10.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2472.00 95.67 41.67 54.00 88.31 32.39 6.53 31.56 146 143 Average

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH13 2472MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH02-SZ Condition : PEAK_BE_74 3m HF_ANT_3117_0107 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Project : 2N0202-01 Mode : Mode 59 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : MCS0 power setting 10.5 Freq Level Over Limit Limit ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2483.60 61.30 -12.70 74.00 53.94 32.39 6.53 31.56 100 176 Peak	 Site : 03CH02-SZ Condition : PEAK_74 3m HF_ANT_3117_0107 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Project : 2N0202-01 Mode : Mode 59 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : MCS0 power setting 10.5 Freq Level Over Limit Limit ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2472.00 100.69 26.69 74.00 93.33 32.39 6.53 31.56 100 176 Peak
Avg.	 Site : 03CH02-SZ Condition : AVG_BE_54 3m HF_ANT_3117_0107 VERTICAL : RBW:1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 59 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : MCS0 power setting 10.5 Freq Level Over Limit Limit ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2483.52 50.15 -3.85 54.00 42.79 32.39 6.53 31.56 100 176 Average	 Site : 03CH02-SZ Condition : AVG_54 3m HF_ANT_3117_0107 VERTICAL : RBW:1000.000KHz VBW:0.010KHz Project : 2N0202-01 Mode : Mode 59 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : MCS0 power setting 10.5 Freq Level Over Limit Limit ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2472.00 93.12 39.12 54.00 85.76 32.39 6.53 31.56 100 176 Average

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.	 Site : 03CH02-SZ Condition : PEAK_74 3m HF_ANT_3117_0107 HORIZONTAL Project : 2N0202-01 Mode : Mode 45 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 1M power setting 19 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 4824.00 43.60 -30.40 74.00 57.63 34.40 9.47 57.90 --- --- Peak	 Site : 03CH02-SZ Condition : PEAK_74 3m HF_ANT_3117_0107 VERTICAL Project : 2N0202-01 Mode : Mode 45 SN : #69 G0B2JK0130550029 Plane : Z with Accessories : 1M power setting 19 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 4824.00 45.00 -29.00 74.00 59.03 34.40 9.47 57.90 --- --- Peak