FCC RADIO TEST REPORT

FCC ID	:	**UZ7MC3300R**
Equipment	:	**Mobile Computer**
Brand Name	:	**Zebra**
Model Name	:	**MC3300R**
Applicant	:	**Zebra Technologies Corporation 1 Zebra Plaza, Holtsville, NY 11742**
Manufacturer	:	**Zebra Technologies Corporation 1 Zebra Plaza, Holtsville, NY 11742**
Standard	:	**FCC Part 15 Subpart C §15.247**

The product was received on Jul. 19, 2018 and testing was started from Jul. 26, 2018 and completed on Aug. 30, 2018. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

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

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

Approved by: Joseph Lin

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

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History of this test report

Report No.	Version	Description	Issued Date
FR812630-07C	01	Initial issue of report	Sep. 07, 2018

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.247(a)(2)	6dB Bandwidth	Pass	-
3.1	2.1049	99% Occupied Bandwidth	Reporting only	-
3.2	15.247(b)	Power Output Measurement	Pass	-
3.3	15.247(e)	Power Spectral Density	Pass	-
3.4	15.247(d)	Conducted Band Edges	Pass	-
		Conducted Spurious Emission	Pass	-
3.5	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	Pass	Under limit 1.12 dB at 2389.920 MHz
3.6	15.207	AC Conducted Emission	Pass	Under limit 16.40 dB at 0.179 MHz
3.7	15.203 & 15.247(b)	Antenna Requirement	Pass	-

Reviewed by: Wii Chang

Report Producer: Natasha Hsieh

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Computer
Brand Name	Zebra
Model Name	MC3300R
FCC ID	UZ7MC3300R
EUT supports Radios application	UHF RFID WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE
HW Version	DV
SW Version	RFID Manager Application Version: 2.0.9.1 RFID Demo. Application Version: 2.2.5.24 Terminal Version: 91-01-49-NN-00-A
FW Version	Module Version: PAAEES00-001-N12 Radio Version: 2.0.29.0 Terminal Version: FUSION_BA_2_10.0.0.019_N
MFD	10JUL18
EUT Stage	Identical Prototype

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

Specification of Accessories				
Sentry 2X battery	**Brand Name**	Zebra	**Part Number**	BT-000337
MC32 2X battery	**Brand Name**	Symbol	**Part Number**	82-000012-02
Adapter	**Brand Name**	Zebra	**Part Number**	PWR-WUA5V12W0US
USB cable	**Brand Name**	Zebra	**Part Number**	CBL-MC33-USBCHG-01
GUN HOLSTER	**Brand Name**	Zebra	**Part Number**	SG-MC3021212-01R

<Sample Information>

	SKU1	SKU2	SKU3
Part Number	MC339R-GE2HA4-US	MC339R-GF2HA4-US	MC333R-GI2HA4-US
RFID Antenna	Long range	Long range	Middle range
Scanner	SE4850	SE4750	SE4750
Keypad	29	29	29
Region	US	US	US

	SKU4	SKU5	SKU6
Part Number	MC339R-GE3HA4US	MC339R-GF3HA4US	MC333R-GI3HA4US
RFID Antenna	Long range	Long range	Middle range
Scanner	SE4850	SE4750	SE4750
Keypad	38	38	38
Region	US	US	US

	SKU7	SKU8	SKU9
Part Number	MC339R-GE4HA4US	MC339R-GF4HA4US	MC333R-GI4HA4US
RFID Antenna	Long range	Long range	Middle range
Scanner	SE4850	SE4750	SE4750
Keypad	47	47	47
Region	US	US	US

1.2 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Channel Frequency Range	2412 MHz ~ 2462 MHz
Maximum Average Output Power to antenna <CDD Mode>	**<Ant. 1>** 802.11b : 18.99 dBm (0.0793 W) 802.11g : 18.98 dBm (0.0791 W) 802.11n HT20 : 18.94 dBm (0.0783 W) **<Ant. 2>** 802.11b : 18.83 dBm (0.0764 W) 802.11g : 18.88 dBm (0.0773 W) 802.11n HT20 : 18.76 dBm (0.0752 W) **<MIMO Ant. 1 + 2>** 802.11b : 21.37 dBm (0.1371 W) 802.11g : 20.49 dBm (0.1119 W) 802.11n HT20 : 20.86 dBm (0.1219 W)
Maximum Average Output Power to antenna <TXBF Mode>	**<MIMO Ant. 1 + 2>** 802.11n HT20 : 21.81 dBm (0.1517 W)
99% Occupied Bandwidth <CDD Mode>	**<Ant. 1>** 802.11b : 11.90MHz 802.11g : 18.45MHz 802.11n HT20 : 19.20MHz **<MIMO Ant. 1>** 802.11b : 11.85MHz 802.11g : 18.70MHz 802.11n HT20 : 19.15MHz **<MIMO Ant. 2>** 802.11b : 12.00MHz 802.11g : 18.50MHz 802.11n HT20 : 19.05MHz
99% Occupied Bandwidth <TXBF Mode>	**<MIMO Ant. 1>** 802.11n HT20 : 18.23MHz **<MIMO Ant. 2>** 802.11n HT20 : 18.28MHz
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)
Antenna Type / Gain	**<Ant. 1>**: Patch Antenna with gain 3.39 dBi **<Ant. 2>**: Patch Antenna with gain 3.18 dBi
Antenna Function Description	<table><tr><td></td><td>Ant. 1</td><td>Ant. 2</td></tr><tr><td>802.11 b/g/n</td><td>V</td><td>V</td></tr><tr><td>802.11 b/g/n MIMO</td><td>V</td><td>V</td></tr><tr><td>802.11 n TXBF</td><td>V</td><td>V</td></tr></table>

Note: MIMO Ant. 1+2 is a calculated result from sum of the power MIMO Ant. 1 and MIMO Ant. 2.

1.3 Modification of EUT

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

1.4 Testing Location

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

Test Site	SPORTON INTERNATIONAL INC.	
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978	
Test Site No.	**Sporton Site No.**	
	TH05-HY	CO05-HY

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

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

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

1.5 Applicable Standards

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

- FCC Part 15 Subpart C §15.247
- FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v05
- FCC KDB 414788 D01 Radiated Test Site v01r01.
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ANSI C63.10-2013

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. 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	7	2442
	2	2417	8	2447
	3	2422	9	2452
	4	2427	10	2457
	5	2432	11	2462
	6	2437		

2.2 Test Mode

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

Single Mode

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

MIMO Mode

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

TXBF Mode

Modulation	Data Rate
802.11n HT20	MCS0

Test Cases	
AC Conducted Emission	Mode 1 :WLAN (2.4GHz) Link + Bluetooth Link + 29 Keypad + Scanner + Battery (Sentry 2X) + USB Cable + Adapter (PWR-WUA5V12W0US) for SKU 3
Remark: For Radiated Test Cases, the tests were performed with Sentry 2X battery.	

<CDD Modes>

<Ant. 1>

802.11b RF Avg Output Power (dBm)						
Power vs. Channel			Power vs Data Rate			
Channel	Frequency (MHz)	Data Rate (bps) 1M	Channel	Data Rate (bps) 2M	5.5M	11M
Duty Cycle (%)		100.00		98.92	97.30	95.24
CH 01	2412	18.80	CH 11	18.97	18.69	18.68
CH 02	2417	18.75				
CH 06	2437	18.98				
CH 10	2457	18.75				
CH 11	2462	**18.99**				

802.11g RF Avg Output Power (dBm)										
Power vs. Channel			Power vs Data Rate							
Channel	Frequency (MHz)	Data Rate (bps) 6M	Channel	Data Rate (bps) 9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
Duty Cycle (%)		96.05		94.25	92.16	89.51	86.52	81.87	78.32	76.15
CH 01	2412	13.91	CH 06	18.85	18.79	18.76	18.94	18.82	18.94	18.92
CH 02	2417	18.67								
CH 06	2437	**18.98**								
CH 10	2457	17.19								
CH 11	2462	14.22								

802.11n HT20 RF Avg Output Power (dBm)										
Power vs. Channel			Power vs Data Rate							
Channel	Frequency (MHz)	MCS Index MCS 0	Channel	MCS Index MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7
Duty Cycle (%)		95.86		91.67	89.51	86.52	83.15	79.47	78.32	77.04
CH 01	2412	13.76	CH 06	18.70	18.69	18.93	18.93	18.93	18.92	18.92
CH 02	2417	18.60								
CH 06	2437	**18.94**								
CH 10	2457	16.94								
CH 11	2462	14.26								

<Ant. 2>

802.11b RF Avg Output Power (dBm)						
Power vs. Channel			Power vs Data Rate			
Channel	Frequency (MHz)	Data Rate (bps) 1M	Channel	Data Rate (bps) 2M	5.5M	11M
Duty Cycle (%)		100.00		98.93	97.30	95.24
CH 01	2412	18.78	CH 11	18.81	18.82	18.81
CH 02	2417	18.10				
CH 06	2437	18.73				
CH 10	2457	18.72				
CH 11	2462	**18.83**				

802.11g RF Avg Output Power (dBm)									
Power vs. Channel			Power vs Data Rate						
Channel	Frequency (MHz)	Data Rate (bps) 6M	Channel	Data Rate (bps) 9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
Duty Cycle (%)		96.05		94.25	92.61	88.89	86.58	81.87	78.32	76.34
CH 01	2412	13.59	CH 06	18.68	18.73	18.67	18.85	18.66	18.79	18.72
CH 02	2417	18.26								
CH 06	2437	**18.88**								
CH 10	2457	17.09								
CH 11	2462	14.20								

802.11n HT20 RF Avg Output Power (dBm)										
Power vs. Channel			Power vs Data Rate							
Channel	Frequency (MHz)	MCS Index MCS 0	Channel	MCS Index MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7
Duty Cycle (%)		95.83		92.37	89.51	86.96	82.68	79.33	77.62	77.04
CH 01	2412	13.46	CH 06	18.69	18.56	18.75	18.74	18.75	18.72	18.73
CH 02	2417	18.32								
CH 06	2437	**18.76**								
CH 10	2457	16.88								
CH 11	2462	14.19								

<MIMO 1+2>

802.11b RF Avg Output Power (dBm)						
Power vs. Channel			Power vs Data Rate			
Channel	Frequency (MHz)	Data Rate (bps)	Channel	Data Rate (bps)		
		1M		2M	5.5M	11M
CH 01	2412	21.12	CH 06	21.30	21.33	21.30
CH 02	2417	20.85				
CH 06	2437	**21.37**				
CH 10	2457	21.12				
CH 11	2462	21.03				

802.11g RF Avg Output Power (dBm)									
Power vs. Channel			Power vs Data Rate						
Channel	Frequency (MHz)	Data Rate (bps)	Channel	Data Rate (bps)					
		6M		9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
CH 01	2412	16.62	CH 06	20.16	20.21	20.12	20.25	20.28	20.43	20.30
CH 02	2417	19.49								
CH 06	2437	**20.49**								
CH 10	2457	19.25								
CH 11	2462	15.72								

802.11n HT20 RF Avg Output Power (dBm)										
Power vs. Channel			Power vs Data Rate							
Channel	Frequency (MHz)	MCS Index	Channel	MCS Index						
		MCS0		MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 01	2412	14.59	CH 06	20.59	20.64	20.85	20.80	20.79	20.79	20.76
CH 02	2417	19.03								
CH 06	2437	**20.86**								
CH 10	2457	18.58								
CH 11	2462	15.22								

<TXBF Modes>

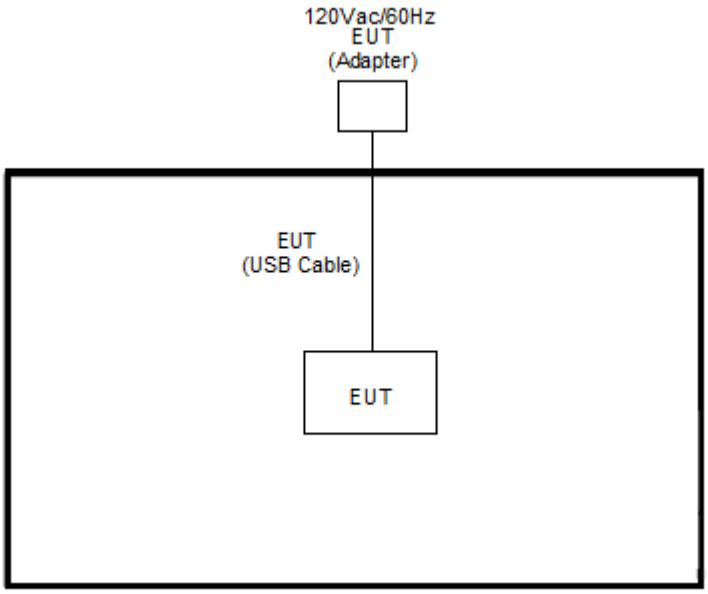
<MIMO 1+2>

802.11n HT20 RF Avg Output Power (dBm)										
Power vs. Channel			Power vs Data Rate							
Channel	Frequency (MHz)	MCS Index	Channel	MCS Index						
		MCS0		MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 01	2412	14.66	CH 06	21.76	21.71	21.76	21.76	21.76	21.76	21.71
CH 02	2417	21.56								
CH 06	2437	**21.81**								
CH 10	2457	19.41								
CH 11	2462	15.06								

2.3 Connection Diagram of Test System

<Radiated Emission Mode>

<CDD Mode>



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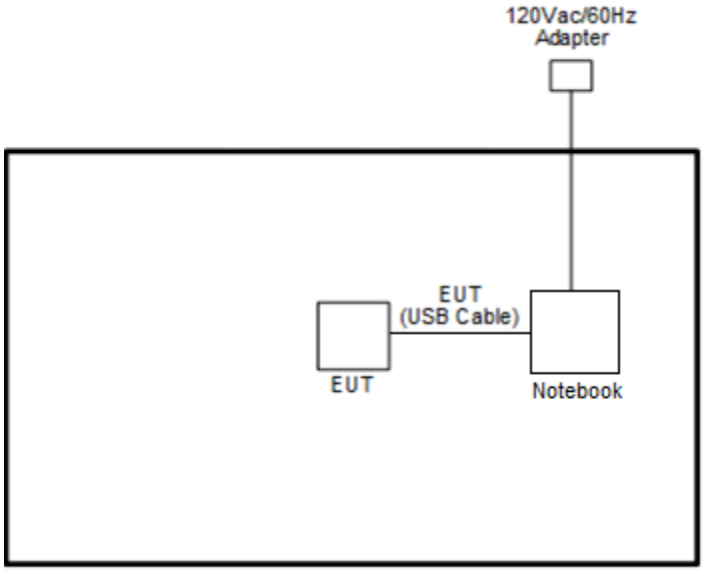
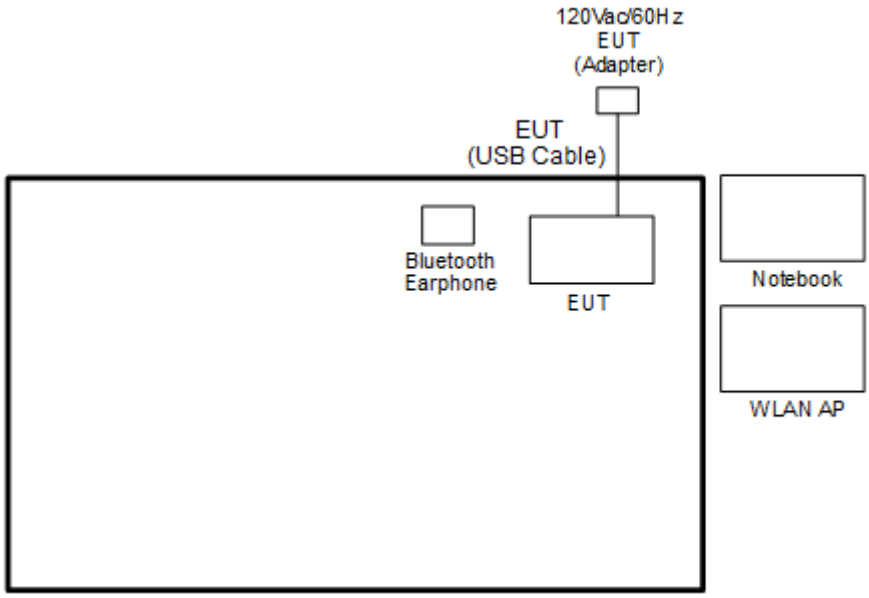


<AC Conducted Emission Mode>



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
2.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8 m
3.	Notebook	DELL	Latitude E6320	FCC DoC/ Contains FCC ID: QDS-BRCM1054	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	Notebook	Lenovo	M490S(E330)	QDS-BRCM1063	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
5.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A

2.5 EUT Operation Test Setup

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

For TXBF mode, the modulation modes and data rates manipulated by the command lines in the engineering program made the EUT link to another EUT by power under the normal operation. The “CMD” software tool was used to enable the EUT to transmit signals continuously.

2.6 Measurement Results Explanation Example

For all conducted test items:

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

Example:

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

Offset = RF cable loss + attenuator factor.

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

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

= 4.2 + 10 = 14.2 (dB)

3 Test Result

3.1 6dB and 99% Bandwidth Measurement

3.1.1 Limit of 6dB and 99% Bandwidth

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

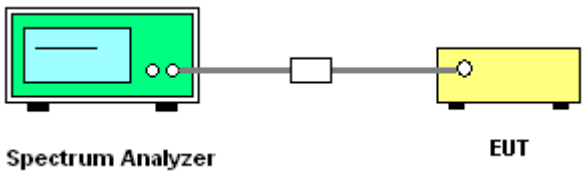
3.1.2 Measuring Instruments

See list of measuring equipment of this test report.

3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 DTS D01 Meas. Guidance v05.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 kHz.
5. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1-5% of the emission bandwidth and set the Video bandwidth (VBW) ≥ 3 * RBW.
6. Measure and record the results in the test report.

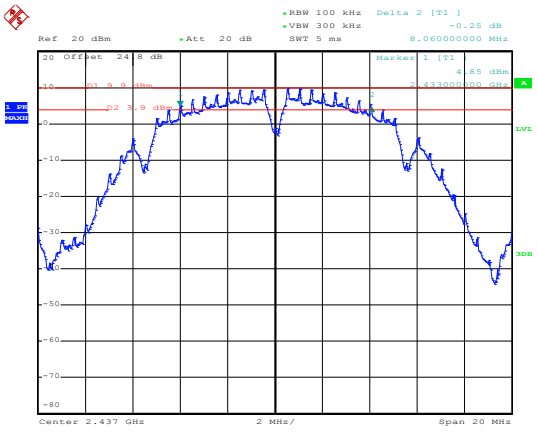
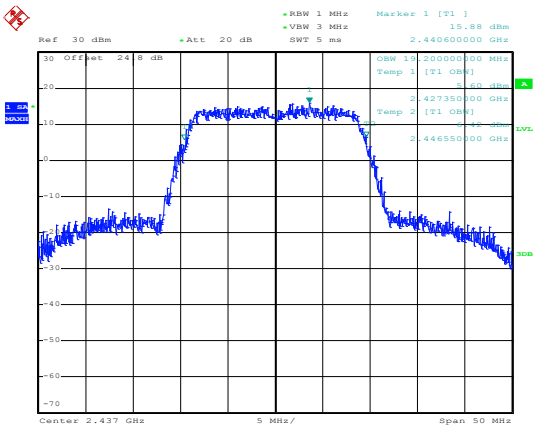
3.1.4 Test Setup



3.1.5 Test Result of 6dB and 99% Occupied Bandwidth

<CDD Mode>

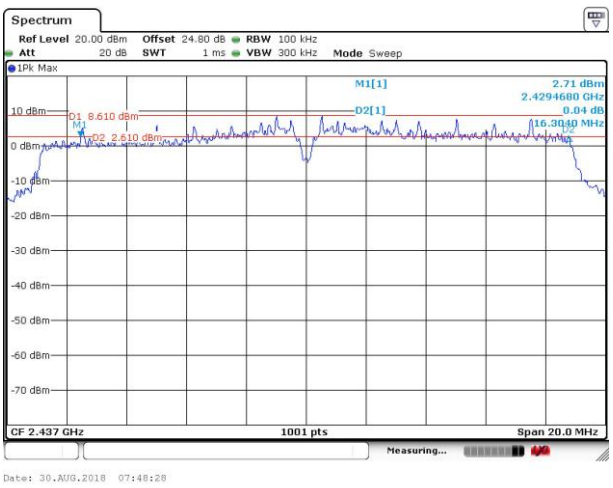
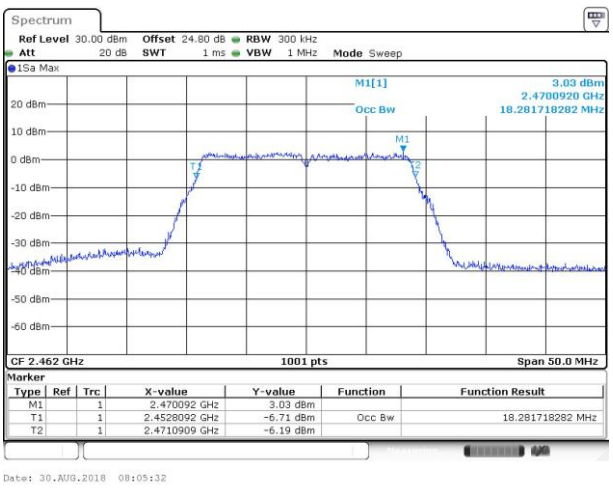
2.4GHz Band										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Occupied BW (MHz)		6dB BW (MHz)		6dB BW Limit (MHz)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2		
11b	1Mbps	1	1	2412	11.85	-	8.56	-	0.50	Pass
11b	1Mbps	1	6	2437	11.90	-	9.04	-	0.50	Pass
11b	1Mbps	1	11	2462	11.90	-	9.04	-	0.50	Pass
11g	6Mbps	1	1	2412	18.10	-	16.04	-	0.50	Pass
11g	6Mbps	1	6	2437	18.45	-	16.32	-	0.50	Pass
11g	6Mbps	1	11	2462	18.40	-	16.28	-	0.50	Pass
HT20	MCS0	1	1	2412	18.95	-	16.92	-	0.50	Pass
HT20	MCS0	1	6	2437	**19.20**	-	17.56	-	0.50	Pass
HT20	MCS0	1	11	2462	19.15	-	17.56	-	0.50	Pass
11b	1Mbps	2	1	2412	11.65	11.80	8.50	8.54	0.50	Pass
11b	1Mbps	2	6	2437	11.85	11.90	**8.06**	8.54	0.50	Pass
11b	1Mbps	2	11	2462	11.80	12.00	9.00	9.04	0.50	Pass
11g	6Mbps	2	1	2412	18.00	17.00	15.72	15.40	0.50	Pass
11g	6Mbps	2	6	2437	18.40	18.30	16.32	15.72	0.50	Pass
11g	6Mbps	2	11	2462	18.70	18.50	16.32	16.36	0.50	Pass
HT20	MCS0	2	1	2412	19.05	18.75	16.92	16.30	0.50	Pass
HT20	MCS0	2	6	2437	19.15	19.00	17.54	16.92	0.50	Pass
HT20	MCS0	2	11	2462	19.10	19.05	17.56	17.58	0.50	Pass

Minimum 6dB Bandwidth	Maximum 99% Occupied Bandwidth
	
Date: 28.AUG.2018 22:54:57	Date: 28.AUG.2018 18:16:34

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

<TXBF Modes>

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 2	Ant 1	Ant 2		
HT20	MCS0	2	1	2412	18.13	18.13	17.18	17.56	0.50	Pass
HT20	MCS0	2	6	2437	18.23	18.18	17.62	**16.30**	0.50	Pass
HT20	MCS0	2	11	2462	18.08	**18.28**	17.62	17.60	0.50	Pass

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

See list of measuring equipment of this test report.

3.2.3 Test Procedures

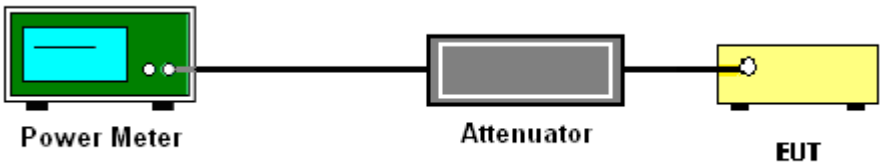
<CDD Modes>

1. For Peak Power, the testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v05 section 9.1.3 PKPM1 Peak power meter method.
2. For Average Power, the testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v05 section 9.2.3.1 Method AVGPM.
3. 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.
4. Set to the maximum power setting and enable the EUT transmit continuously.
5. Measure the conducted output power and record the results in the test report.
6. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

<TXBF Modes>

1. The testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v05 section 9.2.3.2 Method AVGPM-G.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Measure the conducted output power and record the results in the test report.
5. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

3.2.4 Test Setup



3.2.5 Test Result of Peak Output Power (Reporting Only)

<CDD Modes>

2.4GHz Band												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)			DG (dBi)		EIRP Power (dBm)		
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11b	1Mbps	1	1	2412	21.80	21.71		3.39	3.18	25.19	24.89	
11b	1Mbps	1	2	2417	21.85	21.30		3.39	3.18	25.24	24.48	
11b	1Mbps	1	6	2437	22.03	21.83		3.39	3.18	25.42	25.01	
11b	1Mbps	1	10	2457	21.81	21.88		3.39	3.18	25.20	25.06	
11b	1Mbps	1	11	2462	22.28	21.90		3.39	3.18	25.67	25.08	
11g	6Mbps	1	1	2412	20.65	20.32		3.39	3.18	24.04	23.50	
11g	6Mbps	1	2	2417	24.14	23.53		3.39	3.18	27.53	26.71	
11g	6Mbps	1	6	2437	24.30	24.00	-	3.39	3.18	27.69	27.18	
11g	6Mbps	1	10	2457	23.27	23.04		3.39	3.18	26.66	26.22	
11g	6Mbps	1	11	2462	20.83	20.82		3.39	3.18	24.22	24.00	
HT20	MCS0	1	1	2412	20.76	20.51		3.39	3.18	24.15	23.69	
HT20	MCS0	1	2	2417	24.16	23.36		3.39	3.18	27.55	26.54	
HT20	MCS0	1	6	2437	**24.46**	24.11		3.39	3.18	27.85	27.29	
HT20	MCS0	1	10	2457	23.31	23.28		3.39	3.18	26.70	26.46	
HT20	MCS0	1	11	2462	21.06	20.86		3.39	3.18	24.45	24.04	
11b	1Mbps	2	1	2412	21.40	20.80	24.12	3.39		27.51		
11b	1Mbps	2	2	2417	21.22	20.77	24.01	3.39		27.40		
11b	1Mbps	2	6	2437	21.46	21.47	24.48	3.39		27.87		
11b	1Mbps	2	10	2457	21.26	21.24	24.26	3.39		27.65		
11b	1Mbps	2	11	2462	21.44	21.36	24.41	3.39		27.80		
11g	6Mbps	2	1	2412	20.37	20.38	23.39	3.39		26.78		
11g	6Mbps	2	2	2417	23.00	22.62	25.82	3.39		29.21		
11g	6Mbps	2	6	2437	23.49	23.41	26.46	3.39		29.85		
11g	6Mbps	2	10	2457	22.41	22.66	25.55	3.39		28.94		
11g	6Mbps	2	11	2462	19.52	19.74	22.64	3.39		26.03		

2.4GHz Band											
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)			DG (dBi)		EIRP Power (dBm)	
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2
HT20	MCS0	2	1	2412	18.65	18.20	21.44	3.39		24.83	
HT20	MCS0	2	2	2417	22.30	22.24	25.28	3.39		28.67	
HT20	MCS0	2	6	2437	23.72	23.60	26.67	3.39		30.06	
HT20	MCS0	2	10	2457	21.96	21.85	24.92	3.39		28.31	
HT20	MCS0	2	11	2462	19.20	19.12	22.17	3.39		25.56	

3.2.6 Test Result of Average output Power

<CDD Mode>

2.4GHz Band																	
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11b	1Mbps	1	1	2412	0.00	0.00	18.80	18.78		30.00	30.00	3.39	3.18	22.19	21.96	36.00	36.00	Pass
11b	1Mbps	1	2	2417	0.00	0.00	18.75	18.10		30.00	30.00	3.39	3.18	22.14	21.28	36.00	36.00	Pass
11b	1Mbps	1	6	2437	0.00	0.00	18.98	18.73		30.00	30.00	3.39	3.18	22.37	21.91	36.00	36.00	Pass
11b	1Mbps	1	10	2457	0.00	0.00	18.75	18.72		30.00	30.00	3.39	3.18	22.14	21.90	36.00	36.00	Pass
11b	1Mbps	1	11	2462	0.00	0.00	**18.99**	18.83		30.00	30.00	3.39	3.18	22.38	22.01	36.00	36.00	Pass
11g	6Mbps	1	1	2412	0.18	0.18	13.91	13.59		30.00	30.00	3.39	3.18	17.30	16.77	36.00	36.00	Pass
11g	6Mbps	1	2	2417	0.18	0.18	18.67	18.26		30.00	30.00	3.39	3.18	22.06	21.44	36.00	36.00	Pass
11g	6Mbps	1	6	2437	0.18	0.18	18.98	18.88	-	30.00	30.00	3.39	3.18	22.37	22.06	36.00	36.00	Pass
11g	6Mbps	1	10	2457	0.18	0.18	17.19	17.09		30.00	30.00	3.39	3.18	20.58	20.27	36.00	36.00	Pass
11g	6Mbps	1	11	2462	0.18	0.18	14.22	14.20		30.00	30.00	3.39	3.18	17.61	17.38	36.00	36.00	Pass
HT20	MCS0	1	1	2412	0.18	0.18	13.76	13.46		30.00	30.00	3.39	3.18	17.15	16.64	36.00	36.00	Pass
HT20	MCS0	1	2	2417	0.18	0.18	18.60	18.32		30.00	30.00	3.39	3.18	21.99	21.50	36.00	36.00	Pass
HT20	MCS0	1	6	2437	0.18	0.18	18.94	18.76		30.00	30.00	3.39	3.18	22.33	21.94	36.00	36.00	Pass
HT20	MCS0	1	10	2457	0.18	0.18	16.94	16.88		30.00	30.00	3.39	3.18	20.33	20.06	36.00	36.00	Pass
HT20	MCS0	1	11	2462	0.18	0.18	14.26	14.19		30.00	30.00	3.39	3.18	17.65	17.37	36.00	36.00	Pass

2.4GHz Band																	
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11b	1Mbps	2	1	2412	0.00	0.00	18.40	17.80	21.12	30.00		3.39		24.51		36.00		Pass
11b	1Mbps	2	2	2417	0.00	0.00	18.10	17.57	20.85	30.00		3.39		24.24		36.00		Pass
11b	1Mbps	2	6	2437	0.00	0.00	18.41	18.30	**21.37**	30.00		3.39		24.76		36.00		Pass
11b	1Mbps	2	10	2457	0.00	0.00	18.16	18.05	21.12	30.00		3.39		24.51		36.00		Pass
11b	1Mbps	2	11	2462	0.00	0.00	18.03	18.01	21.03	30.00		3.39		24.42		36.00		Pass
11g	6Mbps	2	1	2412	0.18	0.18	13.65	13.56	16.62	30.00		3.39		20.01		36.00		Pass
11g	6Mbps	2	2	2417	0.18	0.18	16.56	16.39	19.49	30.00		3.39		22.88		36.00		Pass
11g	6Mbps	2	6	2437	0.18	0.18	17.50	17.45	20.49	30.00		3.39		23.88		36.00		Pass
11g	6Mbps	2	10	2457	0.18	0.18	16.13	16.34	19.25	30.00		3.39		22.64		36.00		Pass
11g	6Mbps	2	11	2462	0.18	0.18	12.68	12.74	15.72	30.00		3.39		19.11		36.00		Pass
HT20	MCS0	2	1	2412	0.18	0.18	11.71	11.44	14.59	30.00		3.39		17.98		36.00		Pass
HT20	MCS0	2	2	2417	0.18	0.18	16.10	15.93	19.03	30.00		3.39		22.42		36.00		Pass
HT20	MCS0	2	6	2437	0.18	0.18	17.88	17.81	20.86	30.00		3.39		24.25		36.00		Pass
HT20	MCS0	2	10	2457	0.18	0.18	15.65	15.48	18.58	30.00		3.39		21.97		36.00		Pass
HT20	MCS0	2	11	2462	0.18	0.18	12.23	12.19	15.22	30.00		3.39		18.61		36.00		Pass

<TXBF Mode>

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
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
HT20	MCS0	2	1	2412	11.80	11.50	14.66	29.70		6.30		20.96		36.00		Pass
HT20	MCS0	2	2	2417	18.60	18.50	21.56	29.70		6.30		27.86		36.00		Pass
HT20	MCS0	2	6	2437	18.80	18.80	**21.81**	29.70		6.30		28.11		36.00		Pass
HT20	MCS0	2	10	2457	16.30	16.50	19.41	29.70		6.30		25.71		36.00		Pass
HT20	MCS0	2	11	2462	12.00	12.10	15.06	29.70		6.30		21.36		36.00		Pass

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

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

3.3.2 Measuring Instruments

See list of measuring equipment of this test report.

3.3.3 Test Procedures

<CDD Modes>

Method AVGPSD-2

1. The testing follows Measurement Procedure 10.5 Method AVGPSD-2 of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v05.
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) = 10 kHz. Video bandwidth VBW = 30 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW).
5. Number of points in sweep ≥ 2 Span / RBW. (This ensures that bin-to-bin spacing is ≤ RBW/2, so that narrowband signals are not lost between frequency bins).
6. Detector = RMS, Sweep time = auto couple.
7. Trace average at least 100 traces in power averaging mode.
8. Add 10 log(1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add 10 log(1/0.25) = 6 dB if the duty cycle is 25 percent.
9. Measure and record the results in the test report.
10. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

    Method (c): Measure and add 10 log(N_{ANT}) dB.

    With this technique, spectrum measurements are performed at each output of the device, but rather than summing the spectra or the spectral peaks across the outputs, the quantity 10 log(N_{ANT}) dB is added to each spectrum value before comparing to the emission limit. The addition of 10 log(N_{ANT}) dB serves to apportion the emission limit among the N_{ANT} outputs so that each output is permitted to contribute no more than $1/N_{ANT}$ th of the PSD limit .

<TXBF Modes>

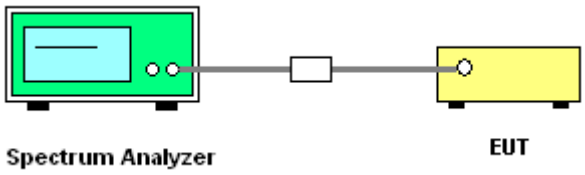
Method AVGPSD-3

1. The testing follows Measurement Procedure 10.7 Method AVGPSD-3 of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v05.
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) = 10 kHz. Video bandwidth VBW = 30 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW).
5. Number of points in sweep ≥ 2 Span / RBW. (This ensures that bin-to-bin spacing is ≤ RBW/2, so that narrowband signals are not lost between frequency bins).
6. Detector = RMS, Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.
9. Measure and record the results in the test report.
10. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

    Method (c): Measure and add 10 log(N_{ANT}) dB.

    With this technique, spectrum measurements are performed at each output of the device, but rather than summing the spectra or the spectral peaks across the outputs, the quantity 10 log(N_{ANT}) dB is added to each spectrum value before comparing to the emission limit. The addition of 10 log(N_{ANT}) dB serves to apportion the emission limit among the N_{ANT} outputs so that each output is permitted to contribute no more than $1/N_{ANT}$ th of the PSD limit .

3.3.4 Test Setup

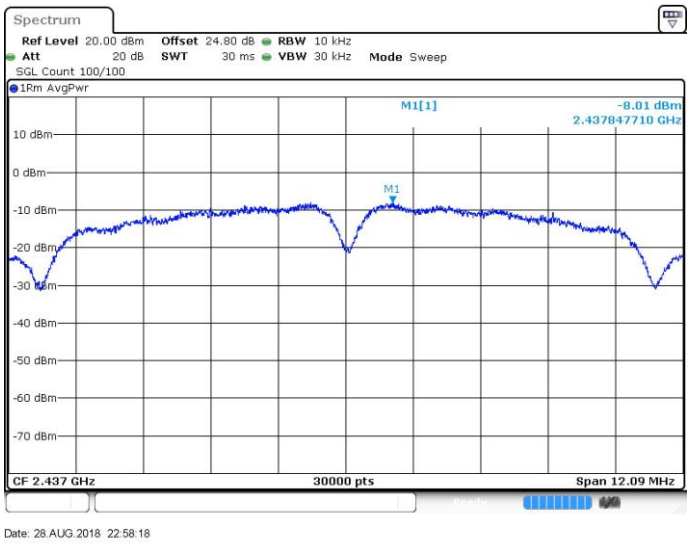


3.3.5 Test Result of Power Spectral Density

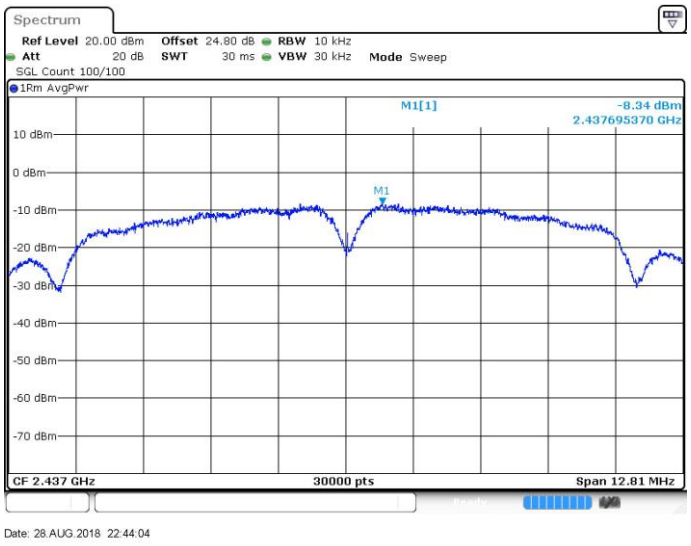
<CDD Mode>

2.4GHz Band														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average PSD (dBm/3kHz)			DG (dBi)		Average PSD Limit (dBm/3kHz)		Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Worse + 3.01	Ant 1	Ant 2	Ant 1	Ant 2	
11b	1Mbps	1	1	2412	0.00	0.00	-7.56	-		3.39	3.18	8.00	8.00	Pass
11b	1Mbps	1	6	2437	0.00	0.00	**-7.00**	-		3.39	3.18	8.00	8.00	Pass
11b	1Mbps	1	11	2462	0.00	0.00	-7.43	-		3.39	3.18	8.00	8.00	Pass
11g	6Mbps	1	1	2412	0.18	0.18	-12.75	-		3.39	3.18	8.00	8.00	Pass
11g	6Mbps	1	6	2437	0.18	0.18	-7.66	-	-	3.39	3.18	8.00	8.00	Pass
11g	6Mbps	1	11	2462	0.18	0.18	-11.88	-		3.39	3.18	8.00	8.00	Pass
HT20	MCS0	1	1	2412	0.18	0.18	-14.02	-		3.39	3.18	8.00	8.00	Pass
HT20	MCS0	1	6	2437	0.18	0.18	-9.19	-		3.39	3.18	8.00	8.00	Pass
HT20	MCS0	1	11	2462	0.18	0.18	-14.34	-		3.39	3.18	8.00	8.00	Pass
11b	1Mbps	2	1	2412	0.00	0.00	-8.22	-8.55	-5.21	6.30		7.70		Pass
11b	1Mbps	2	6	2437	0.00	0.00	-8.01	-8.34	**-5.00**	6.30		7.70		Pass
11b	1Mbps	2	11	2462	0.00	0.00	-8.80	-9.71	-5.79	6.30		7.70		Pass
11g	6Mbps	2	1	2412	0.18	0.18	-12.17	-11.36	-8.35	6.30		7.70		Pass
11g	6Mbps	2	6	2437	0.18	0.18	-8.73	-8.54	-5.53	6.30		7.70		Pass
11g	6Mbps	2	11	2462	0.18	0.18	-13.48	-13.79	-10.47	6.30		7.70		Pass
HT20	MCS0	2	1	2412	0.18	0.18	-16.29	-16.73	-13.28	6.30		7.70		Pass
HT20	MCS0	2	6	2437	0.18	0.18	-10.24	-10.75	-7.23	6.30		7.70		Pass
HT20	MCS0	2	11	2462	0.18	0.18	-16.70	-16.41	-13.40	6.30		7.70		Pass

Worst Case Power Density (dBm/3kHz) for MIMO Ant. 1



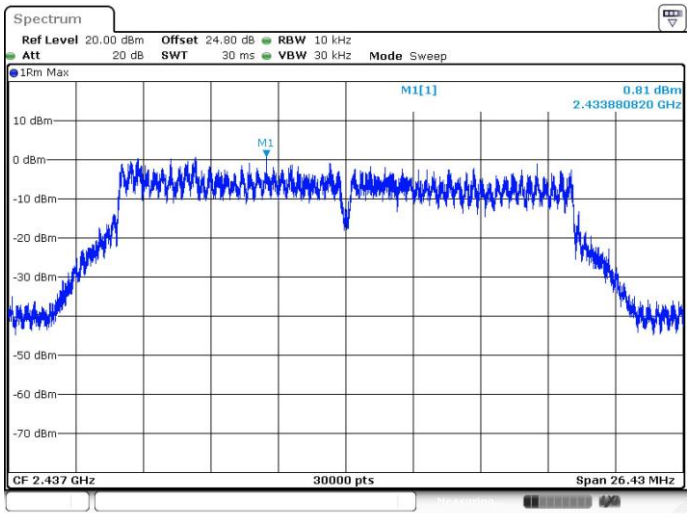
Worst Case Power Density (dBm/3kHz) for MIMO Ant. 2



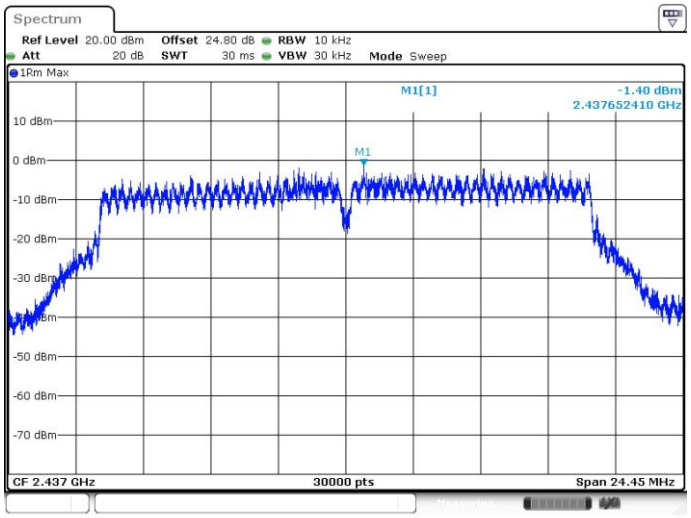
<TXBF Modes>

2.4GHz Band														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average PSD (dBm/3kHz)			DG (dBi)		Average PSD Limit (dBm/3kHz)		Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Worse + 3.01	Ant 1	Ant 2	Ant 1	Ant 2	
HT20	MCS0	2	1	2412	0.00	0.00	-7.37	-7.18	-4.17	6.30		7.70		Pass
HT20	MCS0	2	6	2437	0.00	0.00	0.81	-1.40	3.82	6.30		7.70		Pass
HT20	MCS0	2	11	2462	0.00	0.00	-7.27	-7.69	-4.26	6.30		7.70		Pass

Worst Case Power Density (dBm/3kHz) for MIMO Ant. 1



Worst Case Power Density (dBm/3kHz) for MIMO Ant. 2



3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

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

3.4.2 Measuring Instruments

See list of measuring equipment of this test report.

3.4.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v05.
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

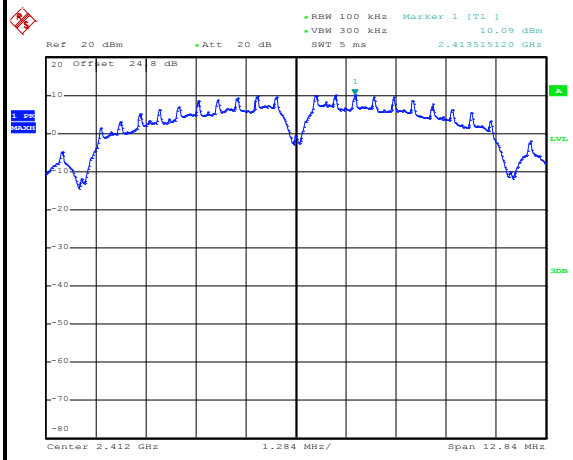
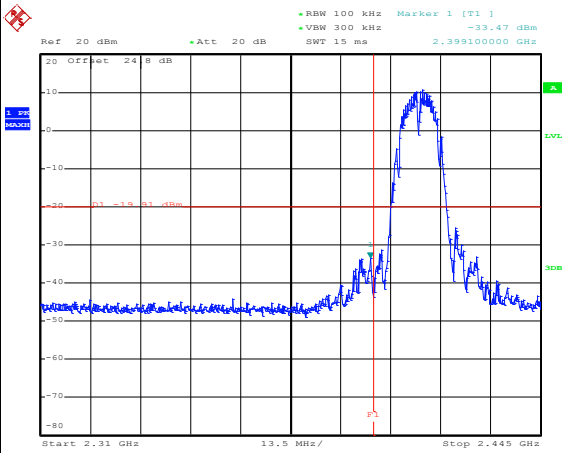
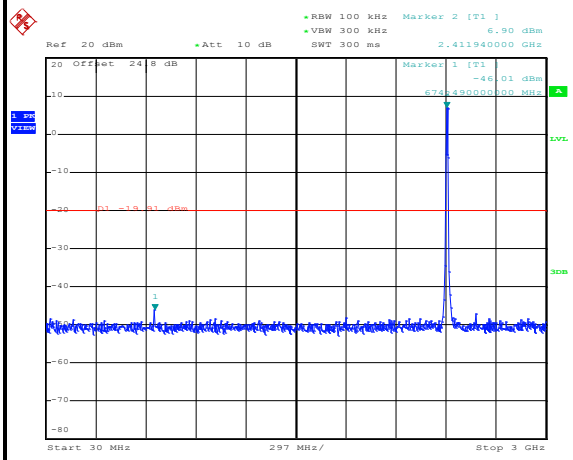
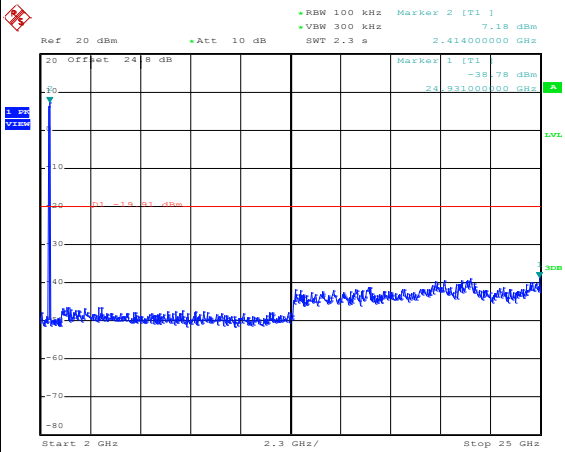
3.4.5 Test Result of Conducted Band Edges and Spurious Emission

Test Engineer :	Kai Liao	Temperature :	21~25℃
		Relative Humidity :	51~54%

<CDD Mode>

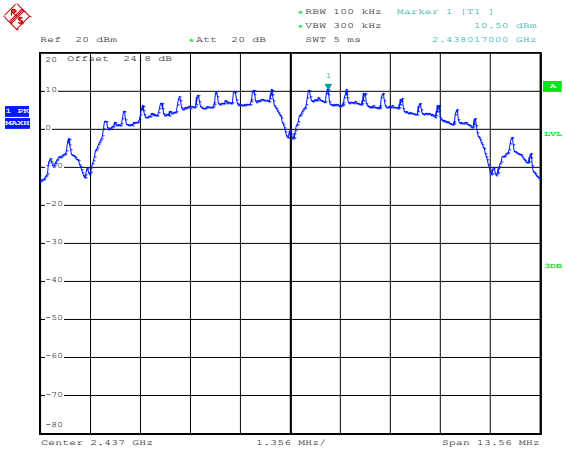
Number of TX = 1, Ant. 1 (Measured)

Test Mode :	802.11b	Test Channel :	01

100kHz PSD reference Level	Channel Plot
	
Date: 28.AUG.2018 12:21:36	Date: 28.AUG.2018 12:23:16
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 28.AUG.2018 12:26:49	Date: 28.AUG.2018 12:26:57

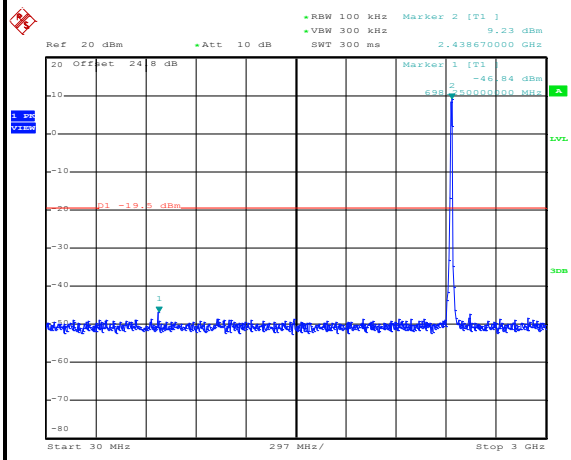
Test Mode :	802.11b	Test Channel :	06

100kHz PSD reference Level



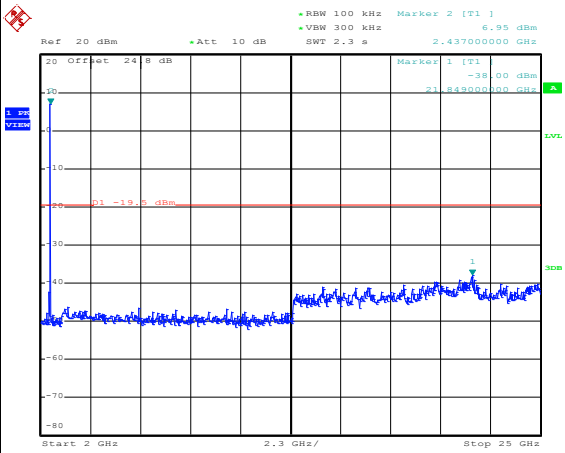
Date: 28.AUG.2018 12:38:36

Spurious Emission 30MHz~3GHz



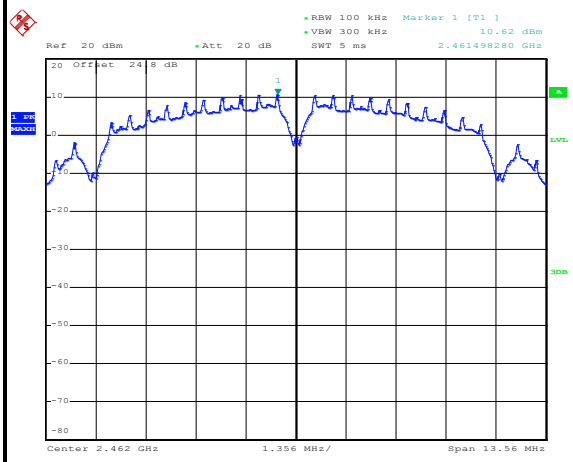
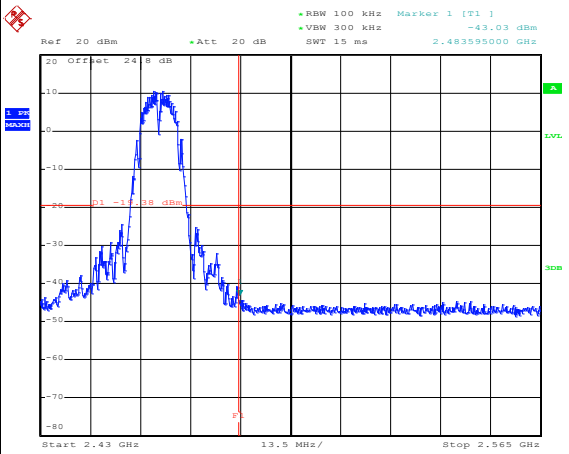
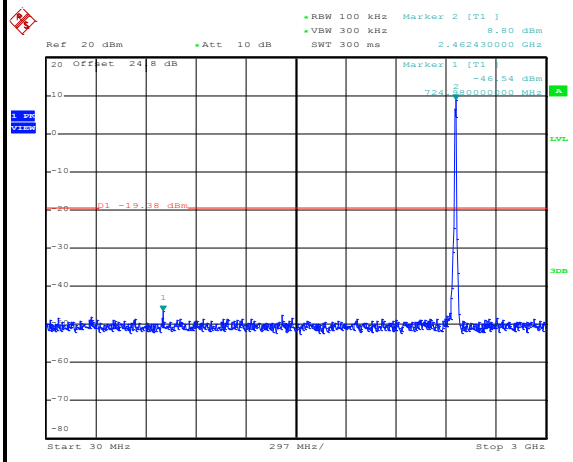
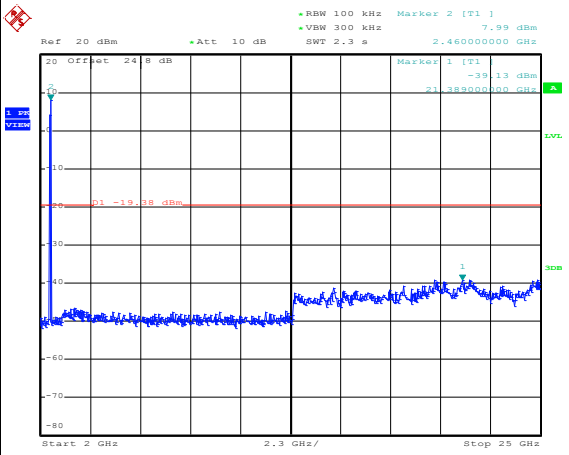
Date: 28.AUG.2018 12:41:04

Spurious Emission 2GHz~25GHz

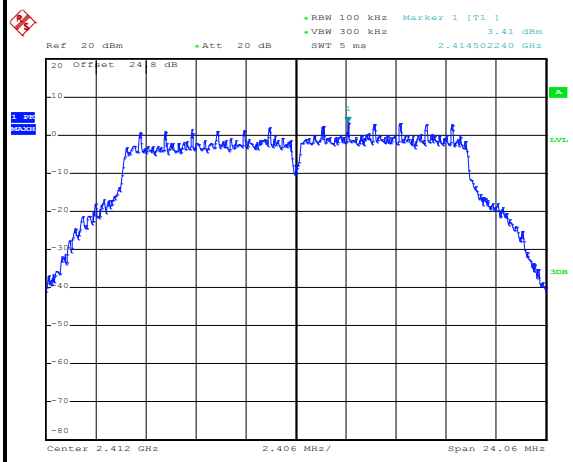
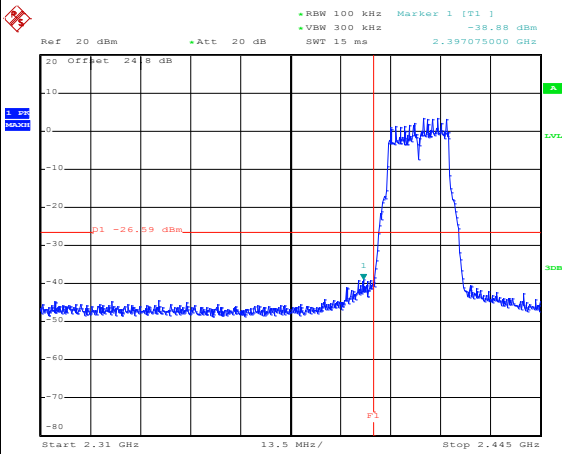
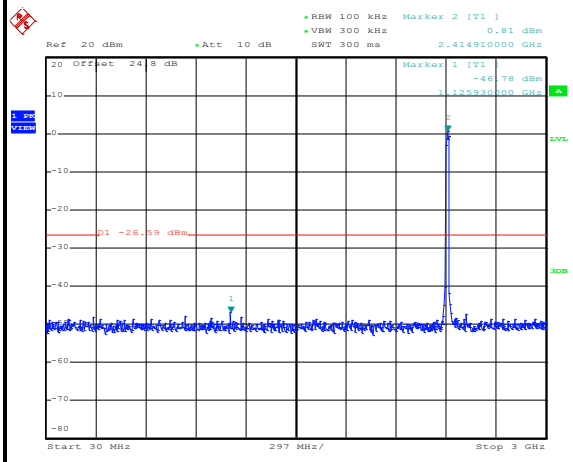
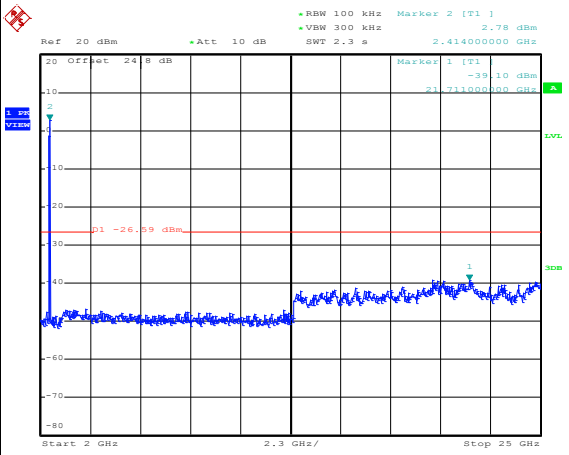


Date: 28.AUG.2018 12:41:12

Test Mode :	802.11b	Test Channel :	11

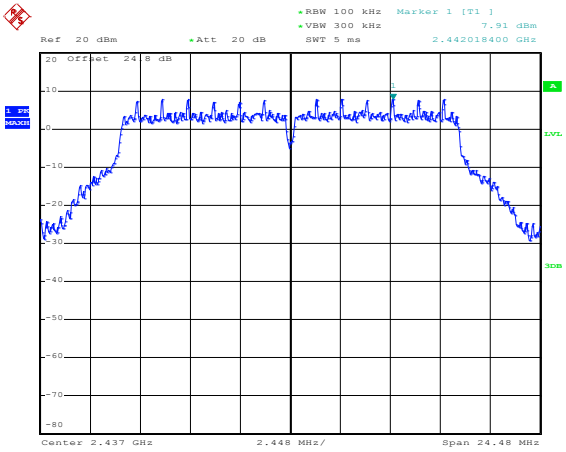
100kHz PSD reference Level	Channel Plot
	
Date: 28.AUG.2018 12:51:39	Date: 28.AUG.2018 12:55:06
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 28.AUG.2018 12:55:43	Date: 28.AUG.2018 12:55:52

Test Mode :	802.11g	Test Channel :	01

100kHz PSD reference Level	Channel Plot
	
Date: 28.AUG.2018 13:19:11	Date: 28.AUG.2018 13:20:35
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 28.AUG.2018 13:20:47	Date: 28.AUG.2018 13:20:56

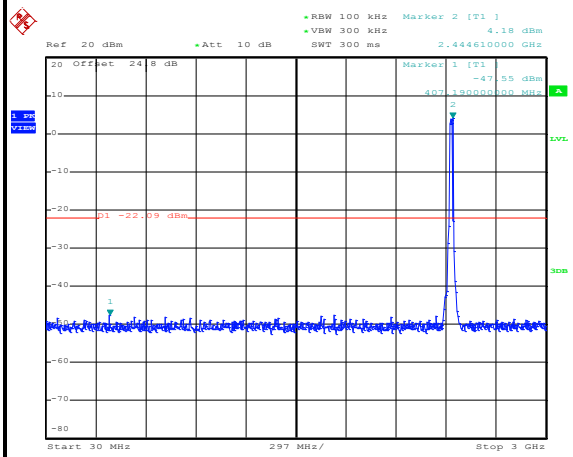
Test Mode :	802.11g	Test Channel :	06

100kHz PSD reference Level



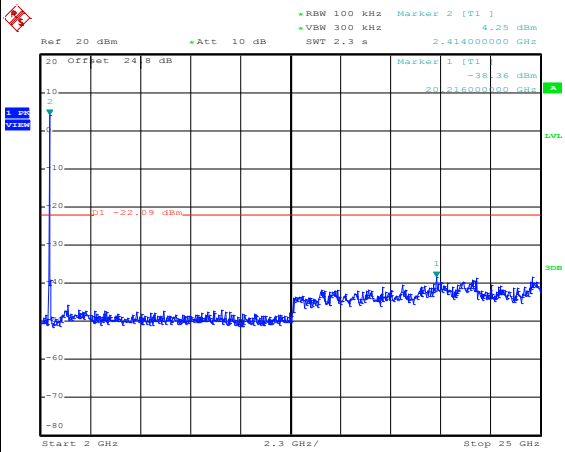
Date: 28.AUG.2018 15:16:37

Spurious Emission 30MHz~3GHz



Date: 28.AUG.2018 15:18:59

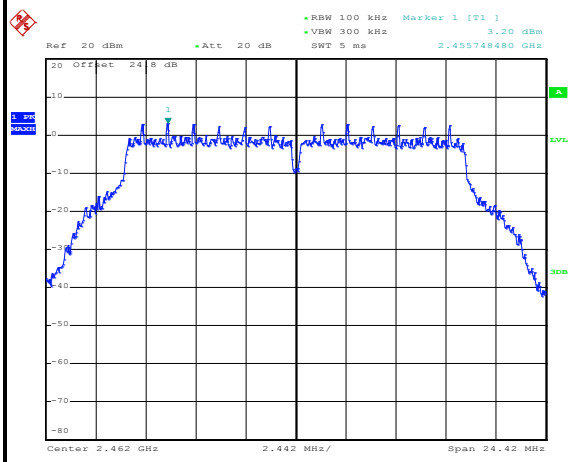
Spurious Emission 2GHz~25GHz



Date: 28.AUG.2018 15:19:07

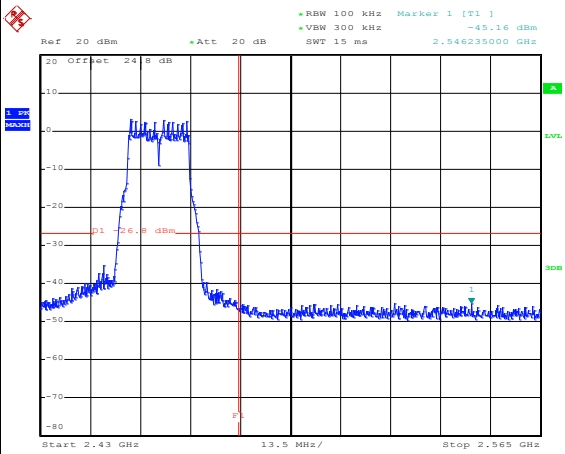
Test Mode :	802.11g	Test Channel :	11

100kHz PSD reference Level



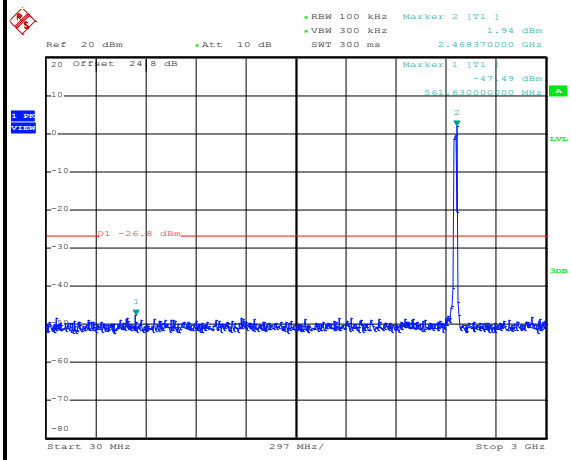
Date: 28.AUG.2018 15:23:44

Channel Plot



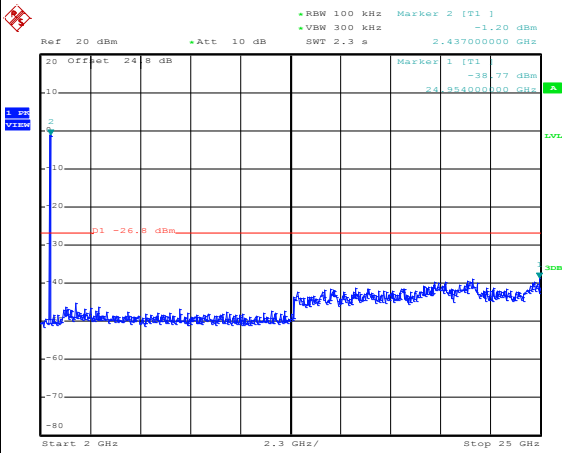
Date: 28.AUG.2018 15:24:18

Spurious Emission 30MHz~3GHz



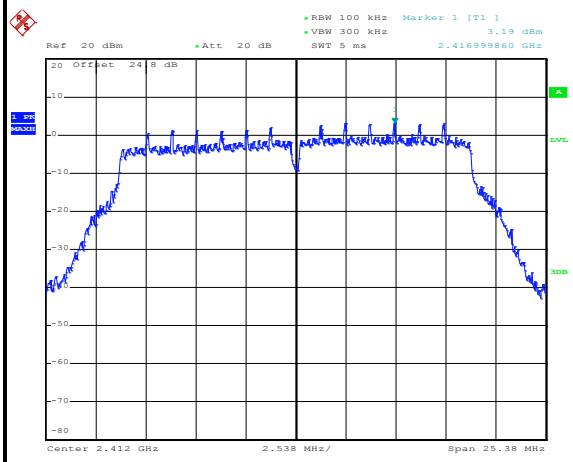
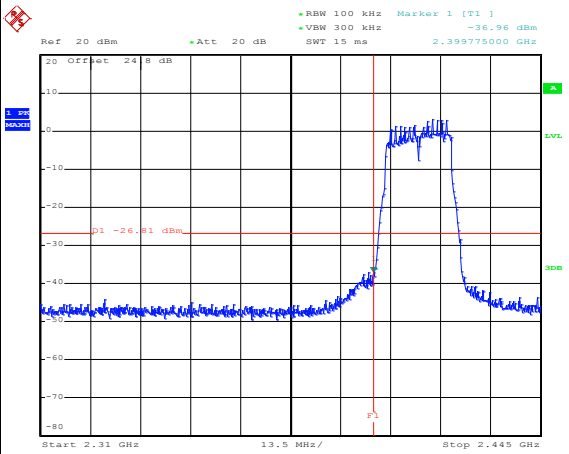
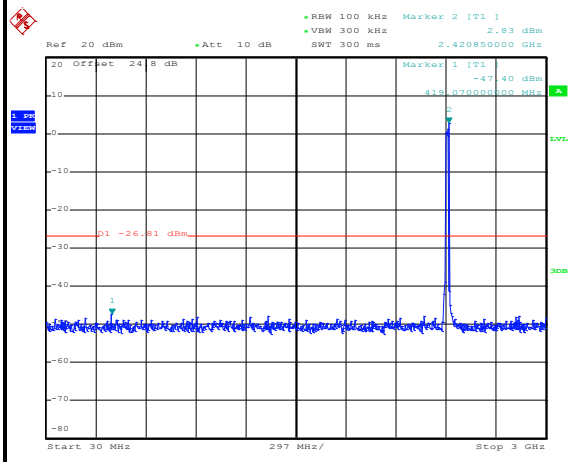
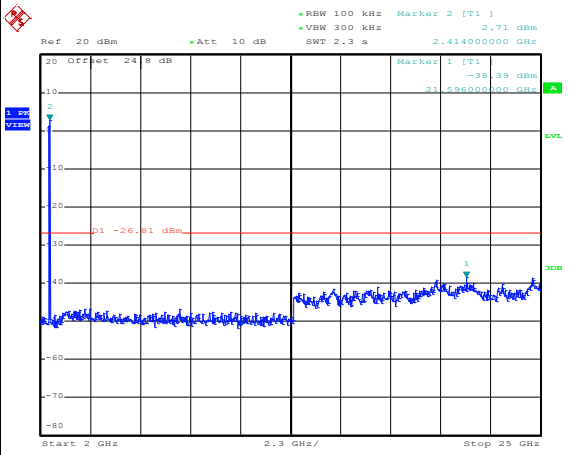
Date: 28.AUG.2018 15:26:21

Spurious Emission 2GHz~25GHz



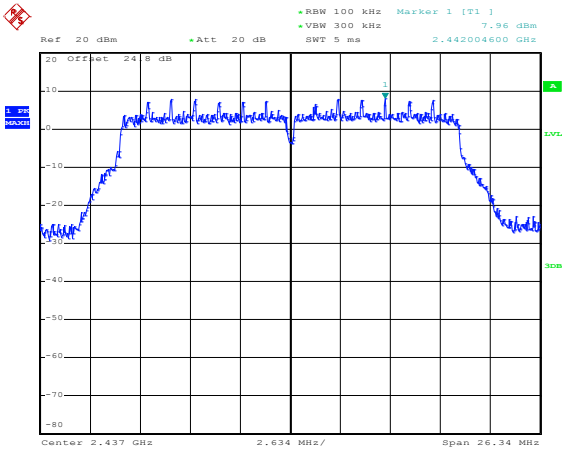
Date: 28.AUG.2018 15:26:30

Test Mode :	802.11n HT20	Test Channel :	01

100kHz PSD reference Level	Channel Plot
	
Date: 28.AUG.2018 18:03:44	Date: 28.AUG.2018 18:04:34
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 28.AUG.2018 18:06:19	Date: 28.AUG.2018 18:06:27

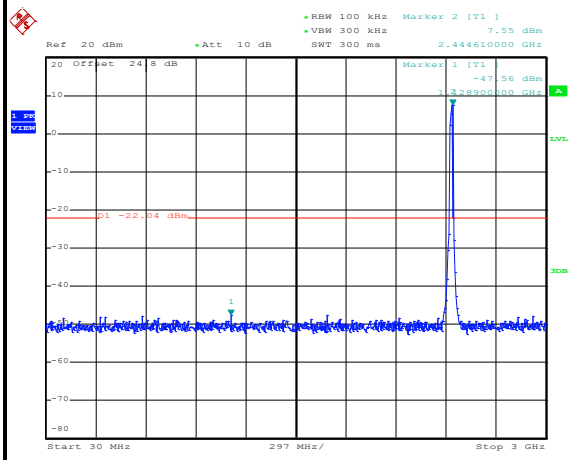
Test Mode :	802.11n HT20	Test Channel :	06

100kHz PSD reference Level



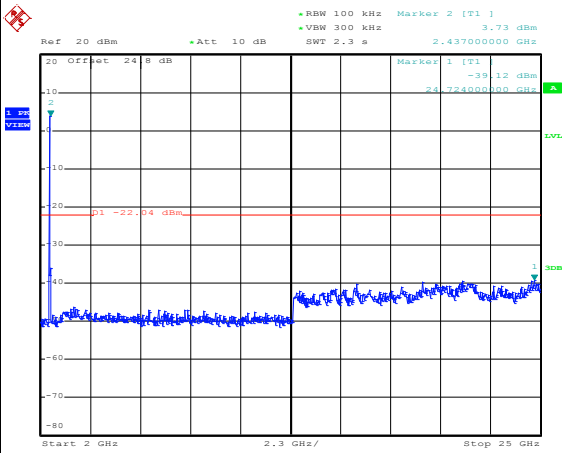
Date: 28.AUG.2018 18:10:54

Spurious Emission 30MHz~3GHz



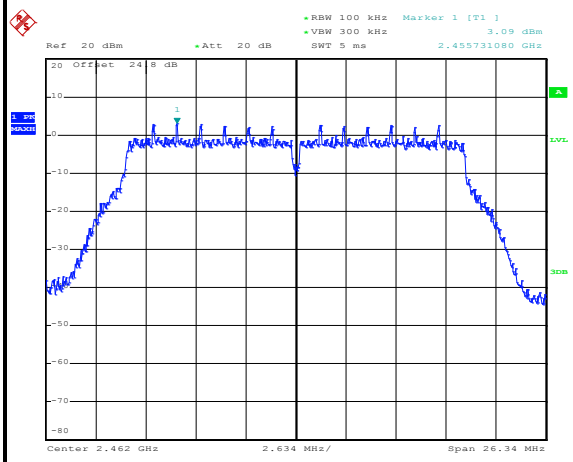
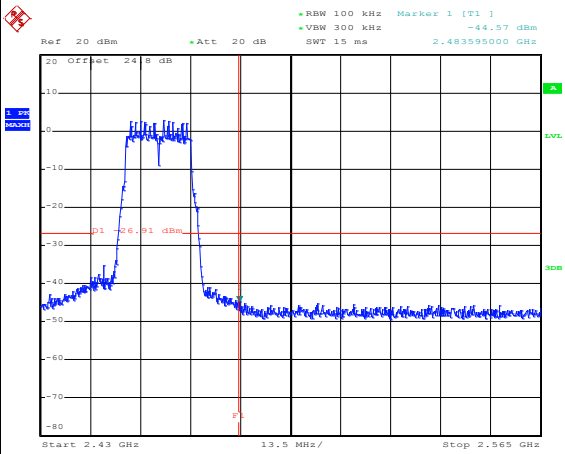
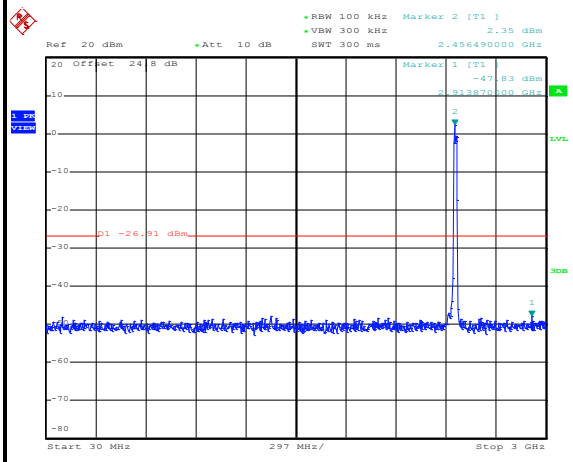
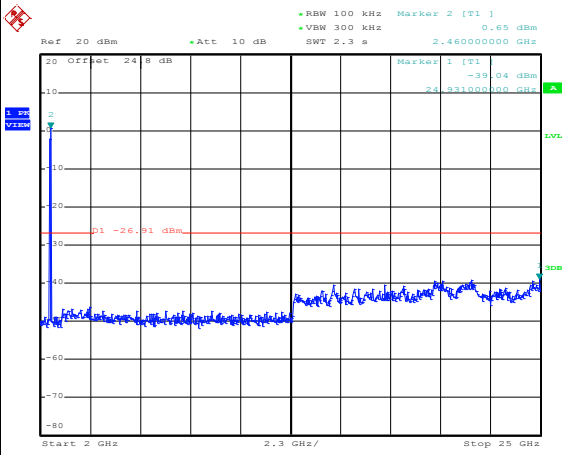
Date: 28.AUG.2018 18:15:56

Spurious Emission 2GHz~25GHz



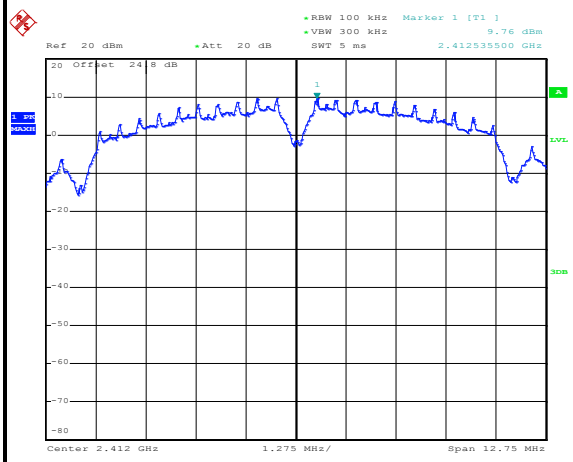
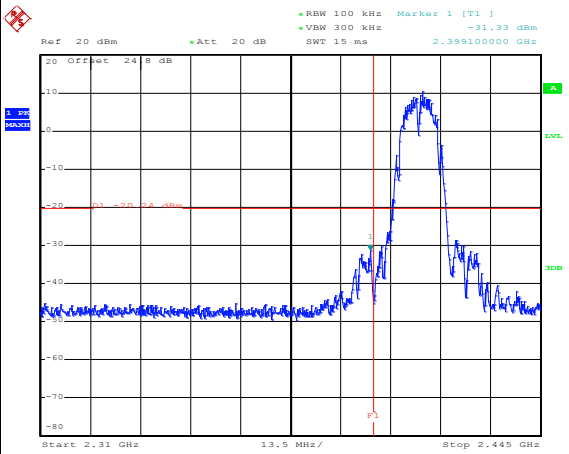
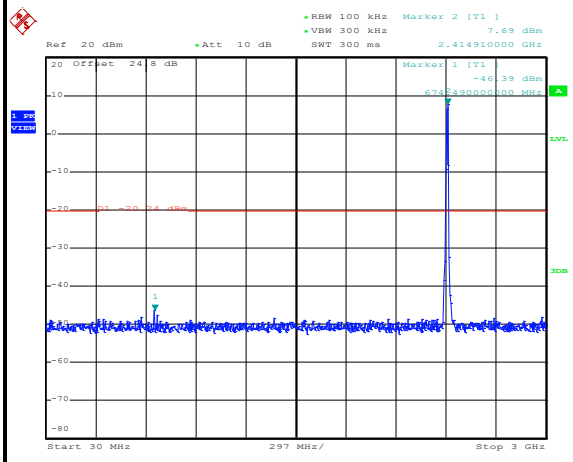
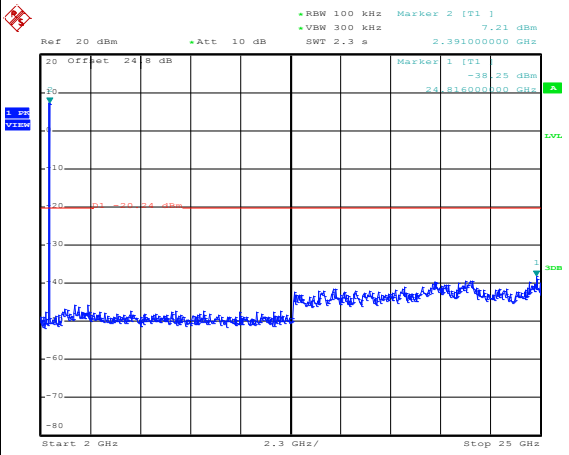
Date: 28.AUG.2018 18:16:04

Test Mode :	802.11n HT20	Test Channel :	11

100kHz PSD reference Level	Channel Plot
	
Date: 28.AUG.2018 18:40:44	Date: 28.AUG.2018 18:41:06
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 28.AUG.2018 18:41:20	Date: 28.AUG.2018 18:41:28

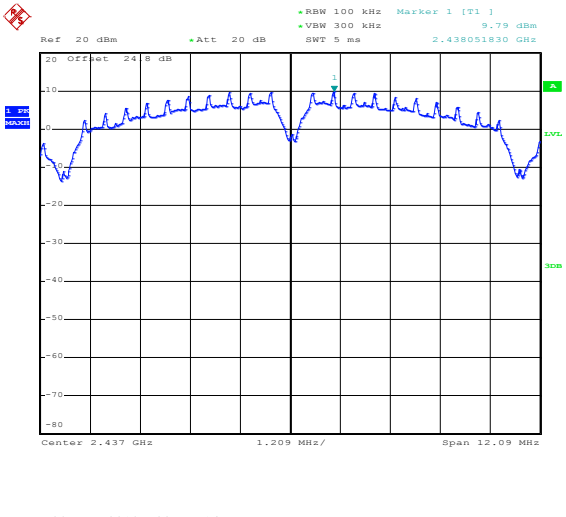
Number of TX = 2, Ant. 1 (Measured)

Test Mode :	802.11b	Test Channel :	01

100kHz PSD reference Level	Channel Plot
	
Date: 28.AUG.2018 22:26:25	Date: 28.AUG.2018 22:27:01
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 28.AUG.2018 22:27:14	Date: 28.AUG.2018 22:27:23

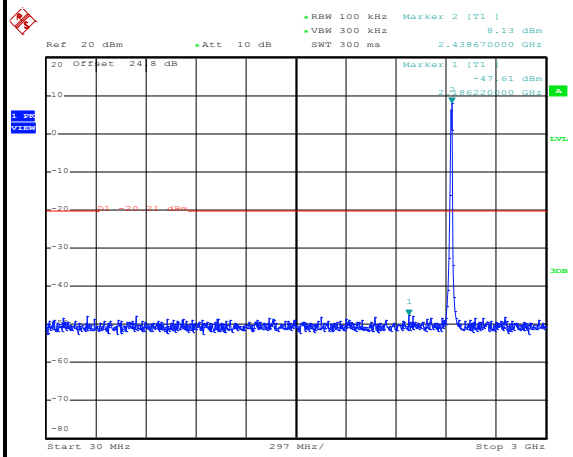
Test Mode :	802.11b	Test Channel :	06

100kHz PSD reference Level



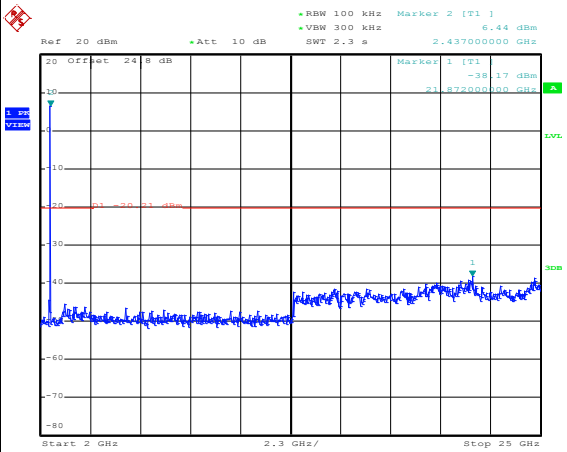
Date: 28.AUG.2018 22:55:16

Spurious Emission 30MHz~3GHz



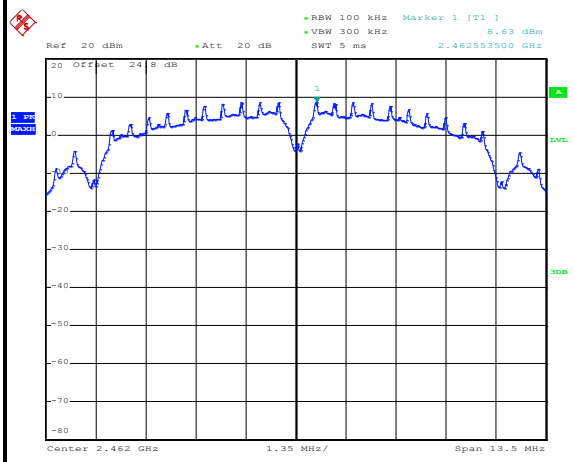
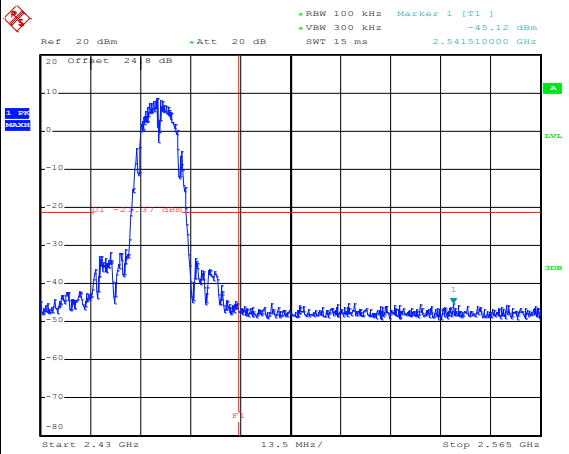
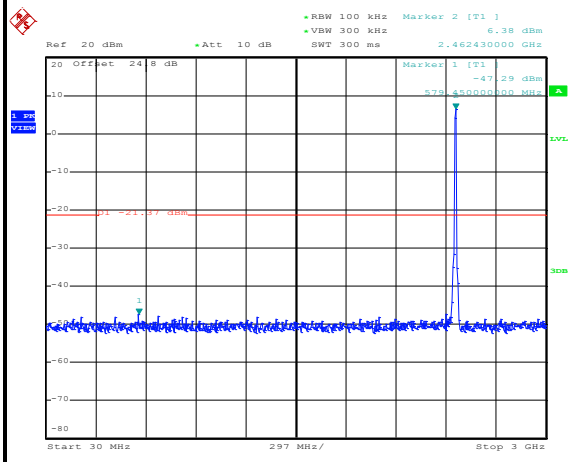
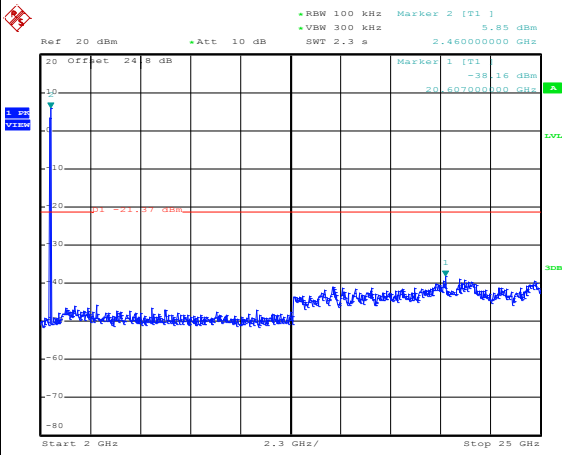
Date: 28.AUG.2018 22:59:58

Spurious Emission 2GHz~25GHz

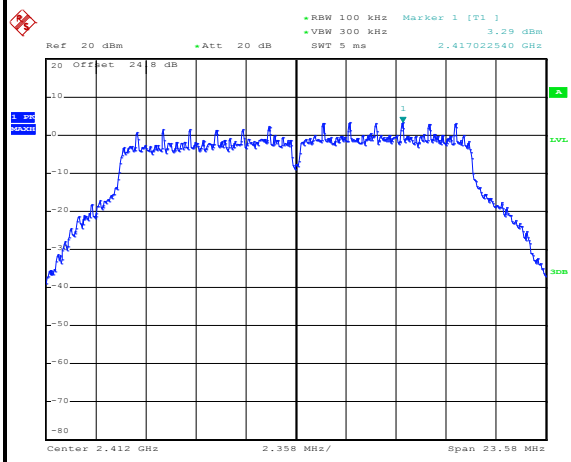
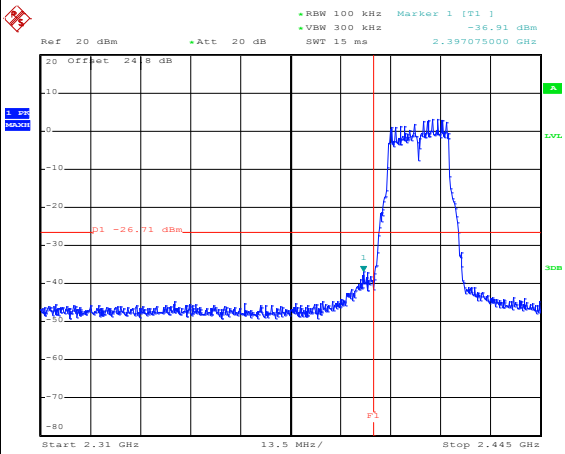
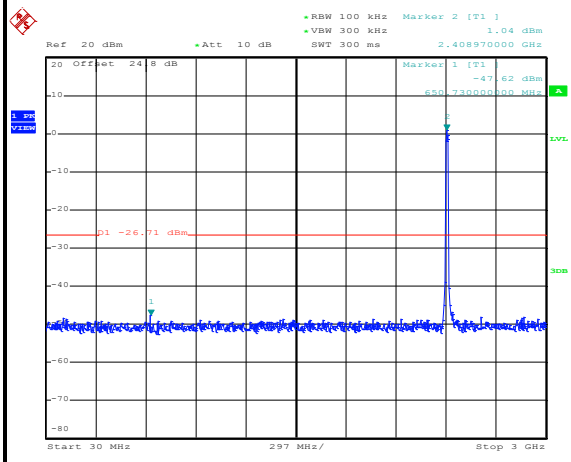
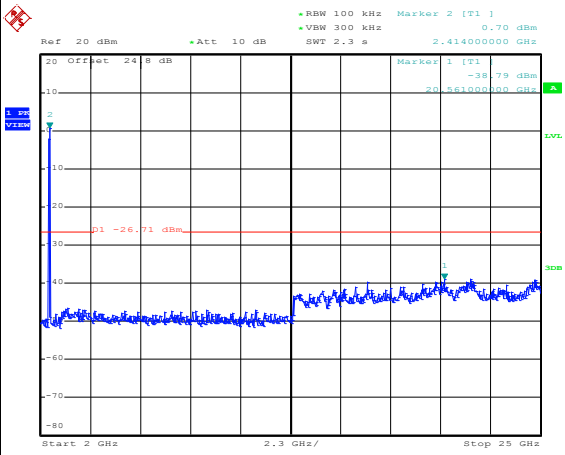


Date: 28.AUG.2018 23:00:07

Test Mode :	802.11b	Test Channel :	11

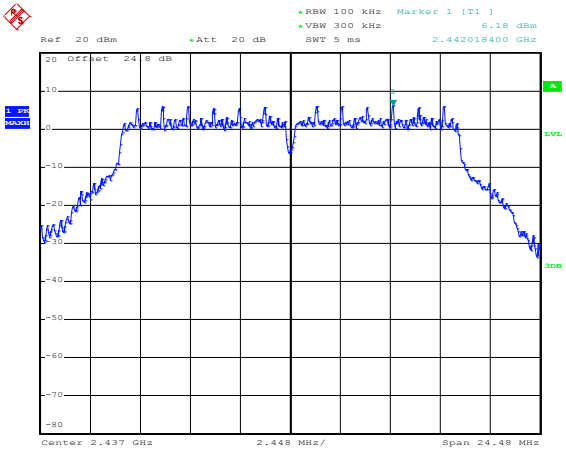
100kHz PSD reference Level	Channel Plot
	
Date: 28.AUG.2018 23:06:41	Date: 28.AUG.2018 23:07:01
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 28.AUG.2018 23:07:15	Date: 28.AUG.2018 23:07:24

Test Mode :	802.11g	Test Channel :	01

100kHz PSD reference Level	Channel Plot
	
Date: 28.AUG.2018 15:32:11	Date: 28.AUG.2018 15:32:36
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 28.AUG.2018 15:33:00	Date: 28.AUG.2018 15:33:08

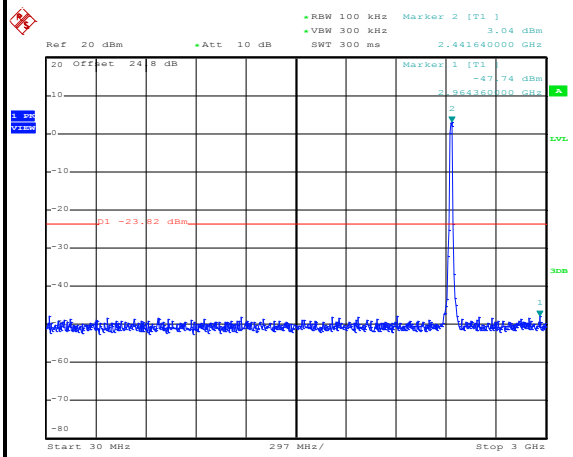
Test Mode :	802.11g	Test Channel :	06

100kHz PSD reference Level



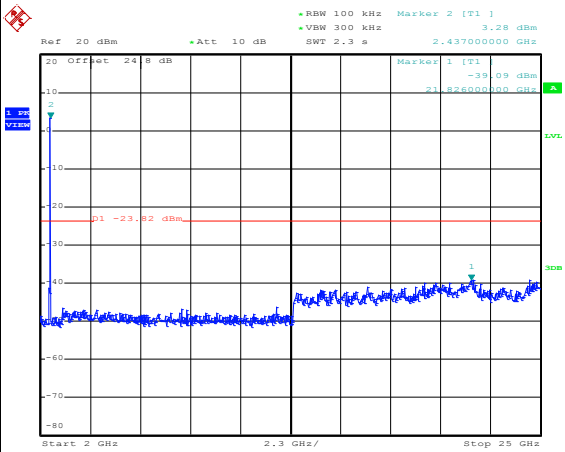
Date: 28.AUG.2018 17:08:28

Spurious Emission 30MHz~3GHz



Date: 28.AUG.2018 17:10:02

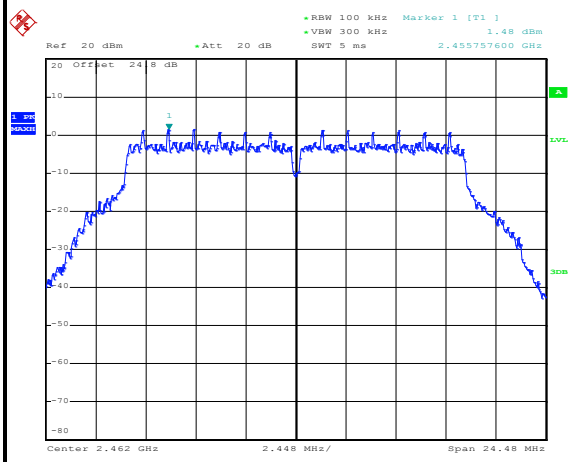
Spurious Emission 2GHz~25GHz



Date: 28.AUG.2018 17:10:11

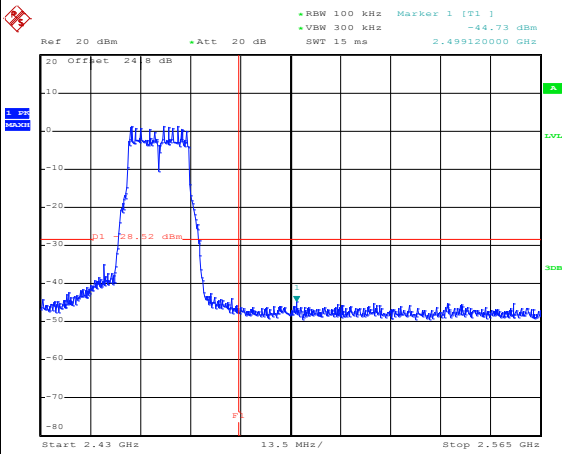
Test Mode :	802.11g	Test Channel :	11

100kHz PSD reference Level



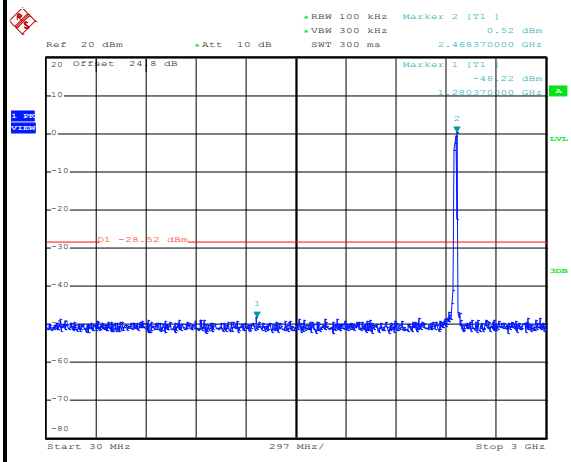
Date: 28.AUG.2018 17:22:47

Channel Plot



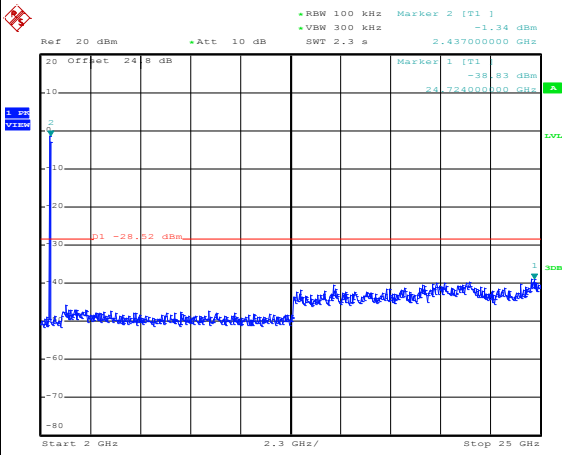
Date: 28.AUG.2018 17:25:02

Spurious Emission 30MHz~3GHz



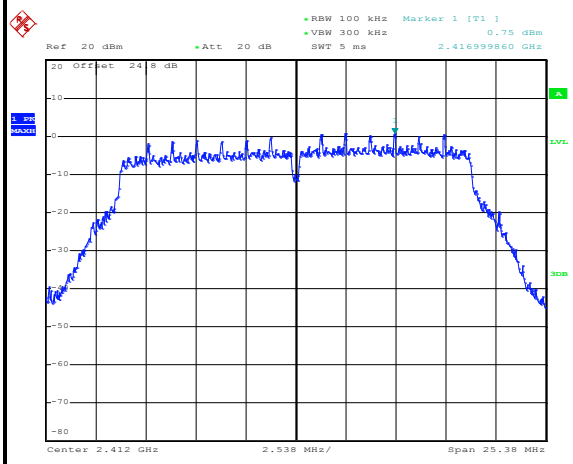
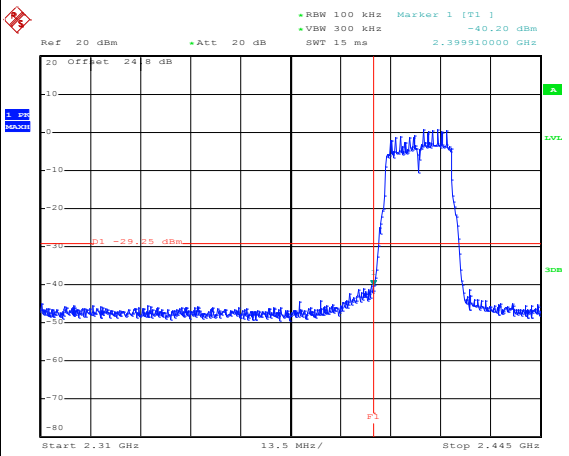
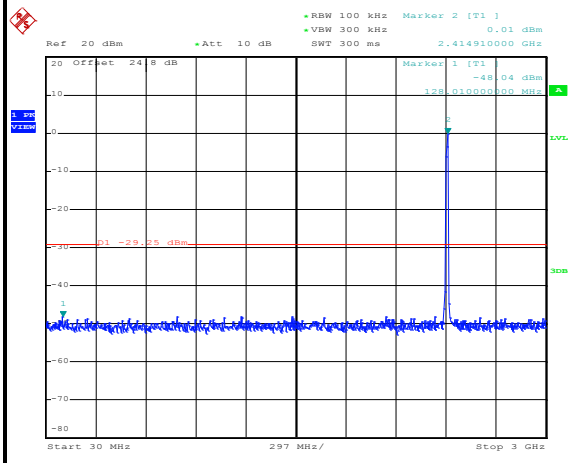
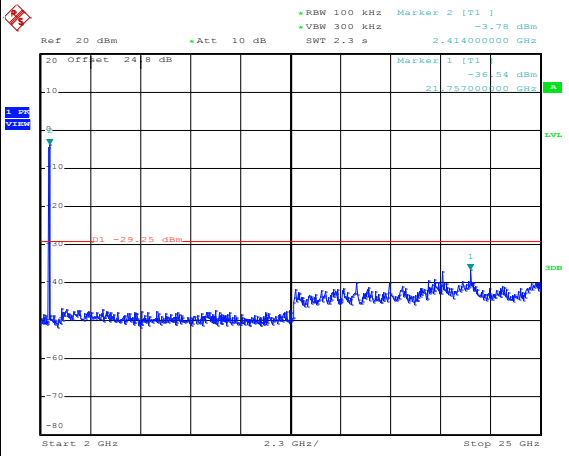
Date: 28.AUG.2018 17:25:39

Spurious Emission 2GHz~25GHz



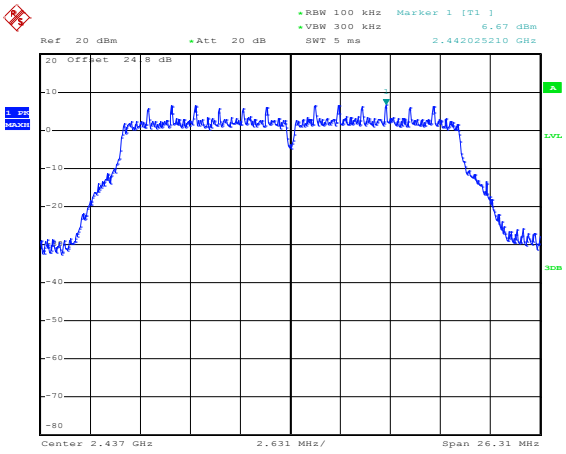
Date: 28.AUG.2018 17:25:48

Test Mode :	802.11n HT20	Test Channel :	01

100kHz PSD reference Level	Channel Plot
	
Date: 28.AUG.2018 23:20:34	Date: 28.AUG.2018 23:20:52
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 28.AUG.2018 23:21:05	Date: 28.AUG.2018 23:21:13

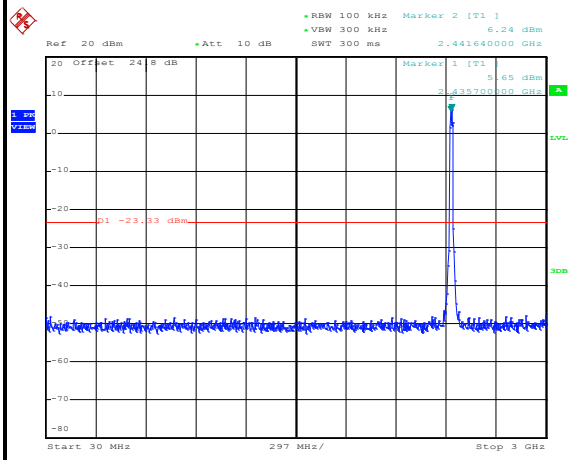
Test Mode :	802.11n HT20	Test Channel :	06

100kHz PSD reference Level



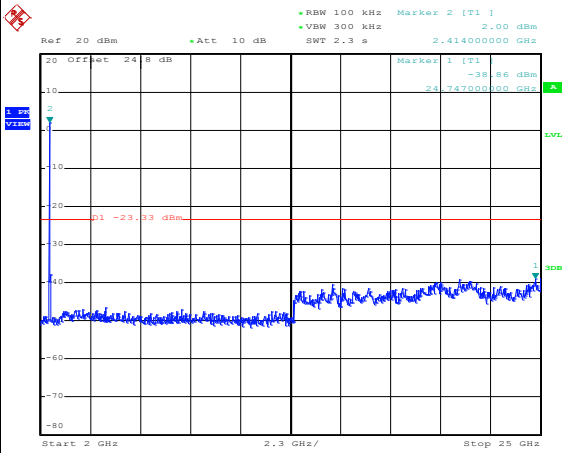
Date: 28.AUG.2018 23:39:28

Spurious Emission 30MHz~3GHz



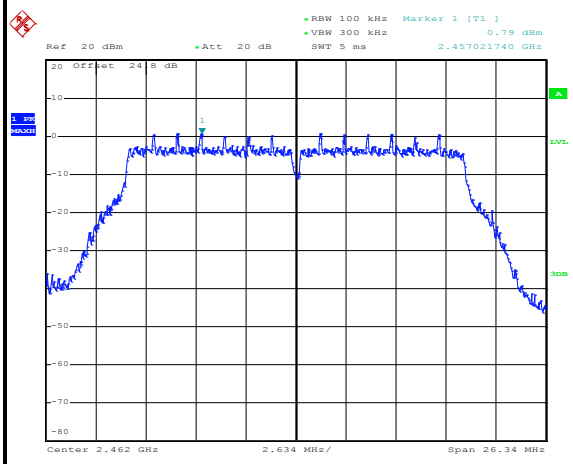
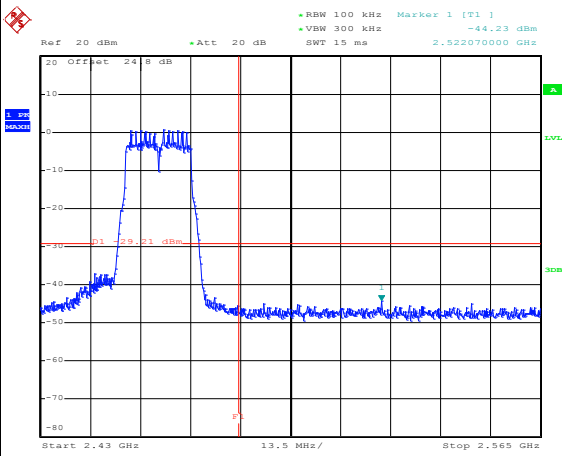
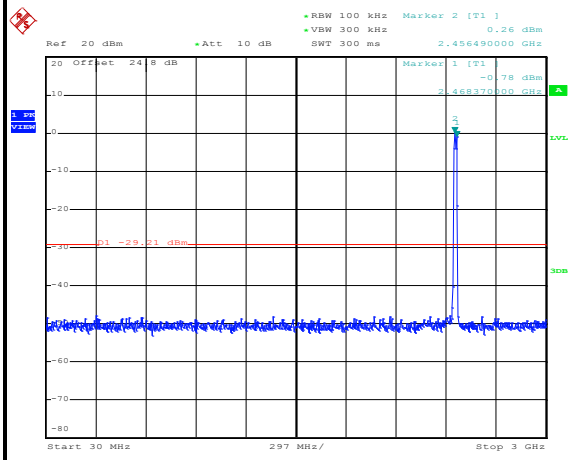
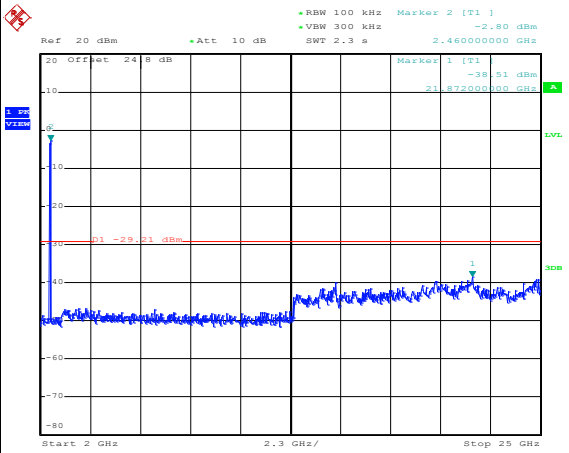
Date: 28.AUG.2018 23:39:46

Spurious Emission 2GHz~25GHz



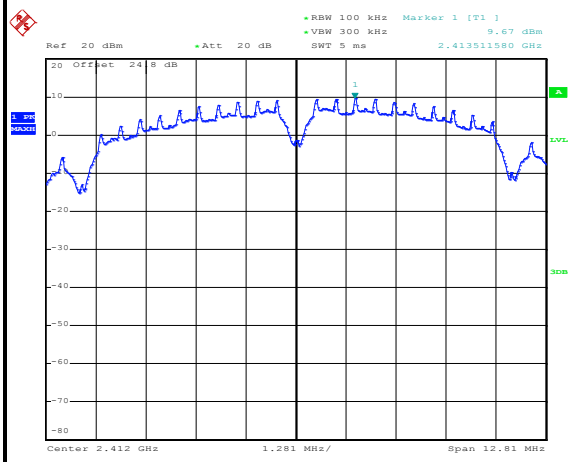
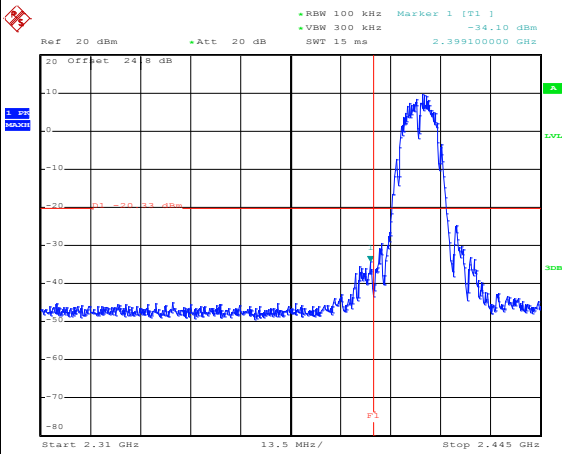
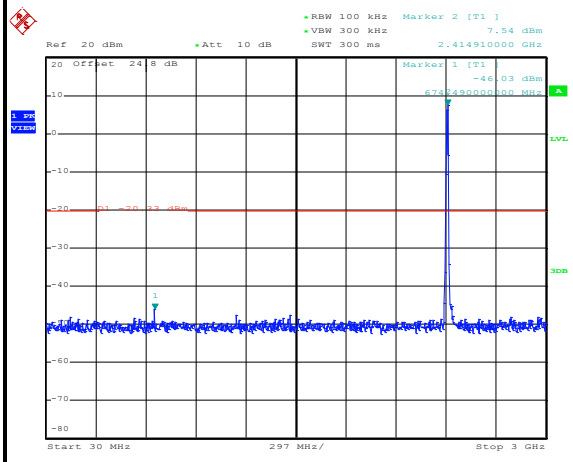
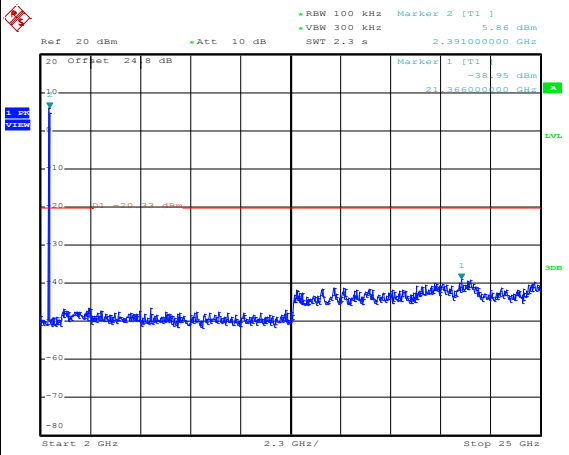
Date: 28.AUG.2018 23:39:55

Test Mode :	802.11n HT20	Test Channel :	11

100kHz PSD reference Level	Channel Plot
	
Date: 28.AUG.2018 23:42:57	Date: 28.AUG.2018 23:43:22
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 28.AUG.2018 23:43:42	Date: 28.AUG.2018 23:43:50

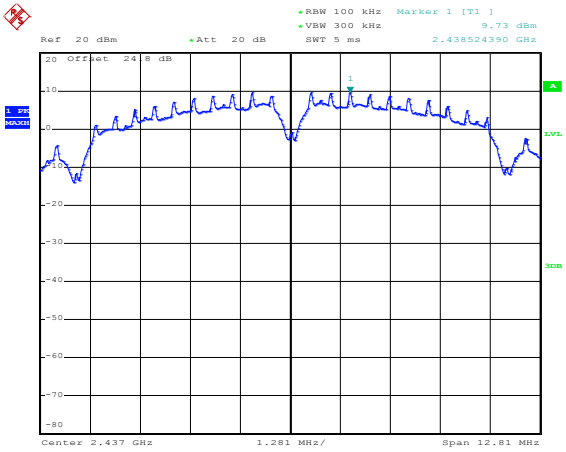
Number of TX = 2, Ant. 2 (Measured)

Test Mode :	802.11b	Test Channel :	01

100kHz PSD reference Level	Channel Plot
	
Date: 28.AUG.2018 22:30:43	Date: 28.AUG.2018 22:36:42
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 28.AUG.2018 22:36:56	Date: 28.AUG.2018 22:37:04

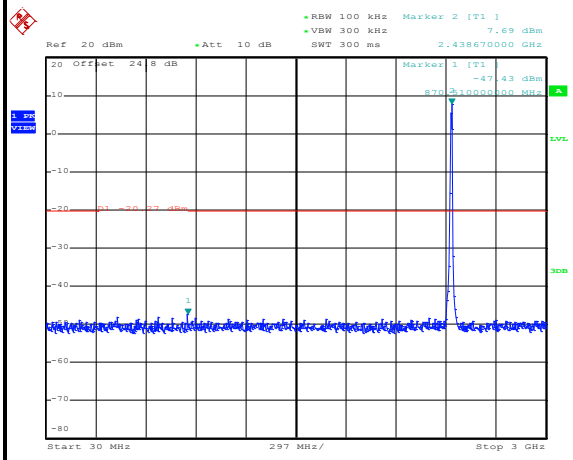
Test Mode :	802.11b	Test Channel :	06

100kHz PSD reference Level



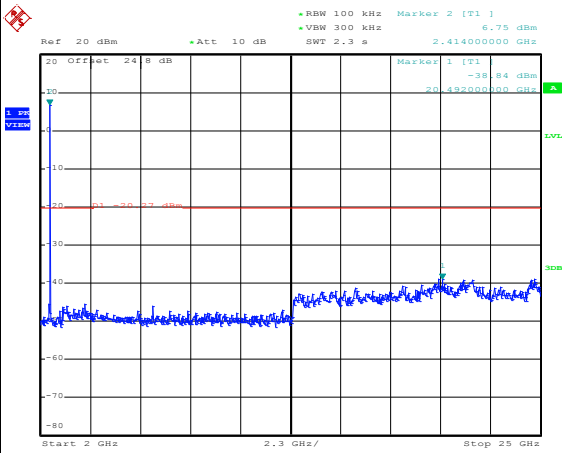
Date: 28.AUG.2018 22:42:09

Spurious Emission 30MHz~3GHz



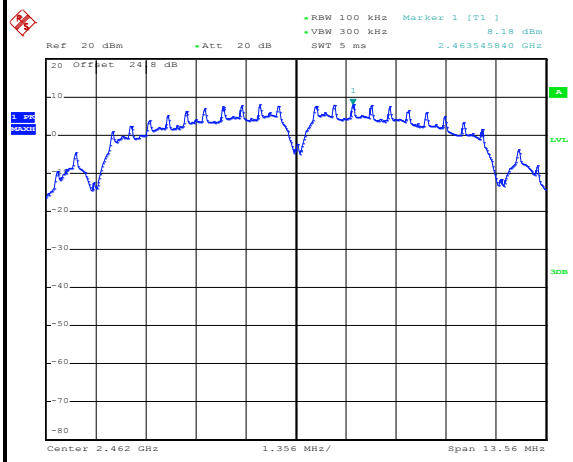
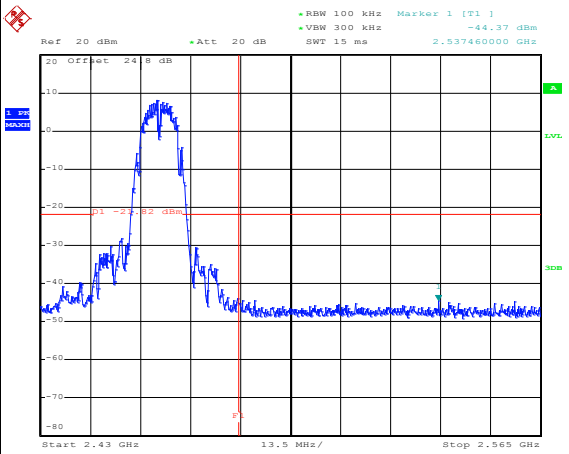
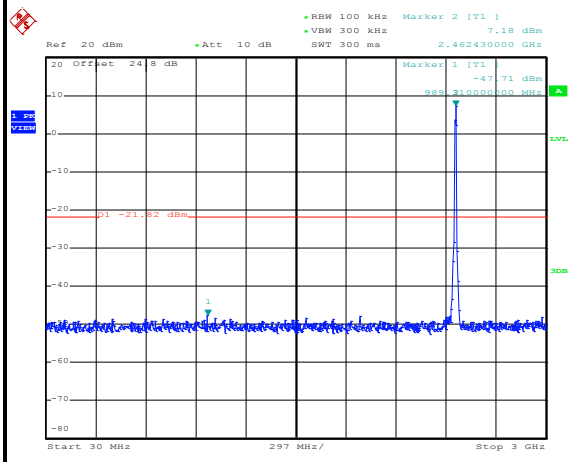
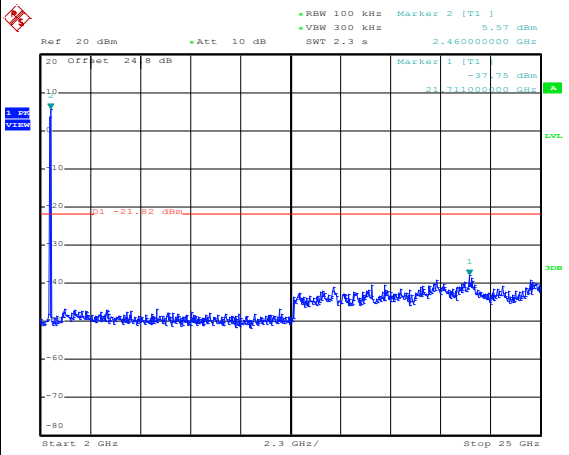
Date: 28.AUG.2018 22:42:24

Spurious Emission 2GHz~25GHz



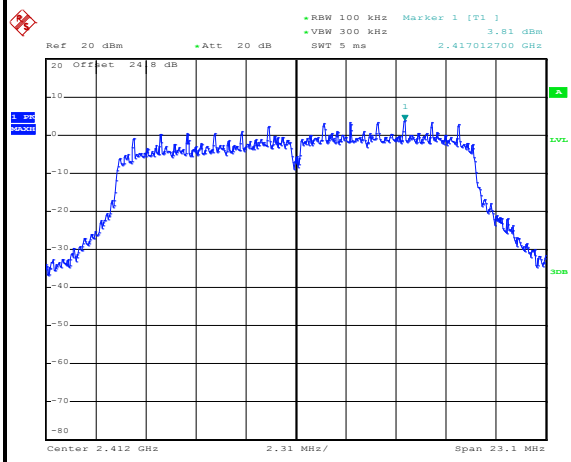
Date: 28.AUG.2018 22:42:33

Test Mode :	802.11b	Test Channel :	11

100kHz PSD reference Level	Channel Plot
	
Date: 28.AUG.2018 23:11:37	Date: 28.AUG.2018 23:12:04
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 28.AUG.2018 23:12:18	Date: 28.AUG.2018 23:12:26

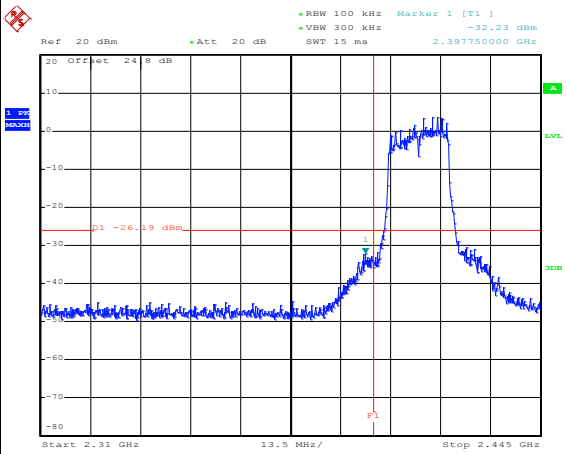
Test Mode :	802.11g	Test Channel :	01

100kHz PSD reference Level



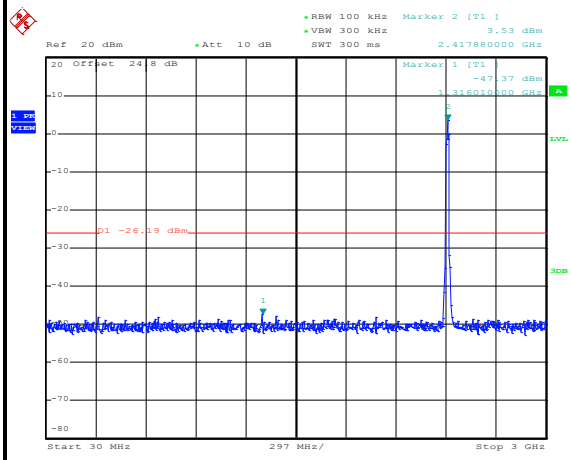
Date: 28.AUG.2018 15:36:36

Channel Plot



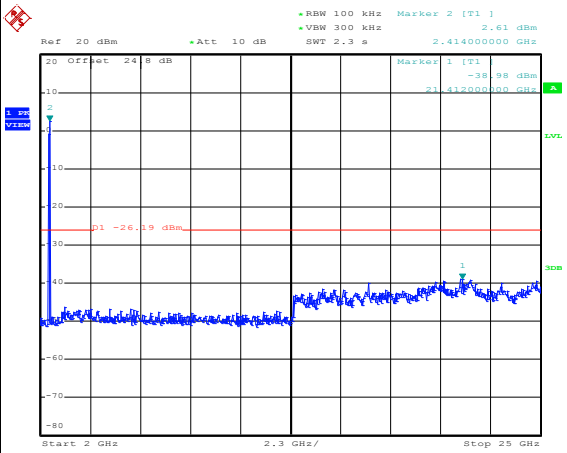
Date: 28.AUG.2018 15:37:10

Spurious Emission 30MHz~3GHz



Date: 28.AUG.2018 15:37:23

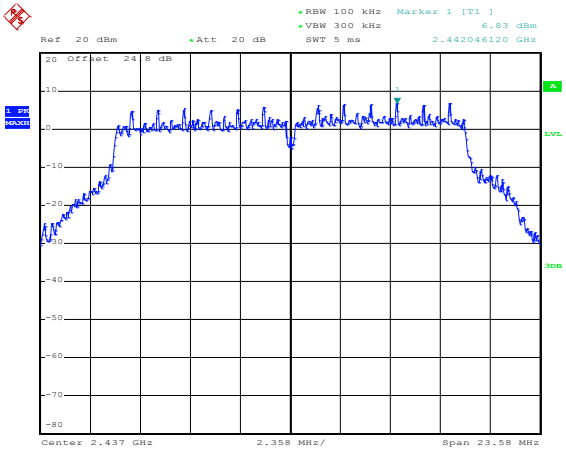
Spurious Emission 2GHz~25GHz



Date: 28.AUG.2018 15:37:32

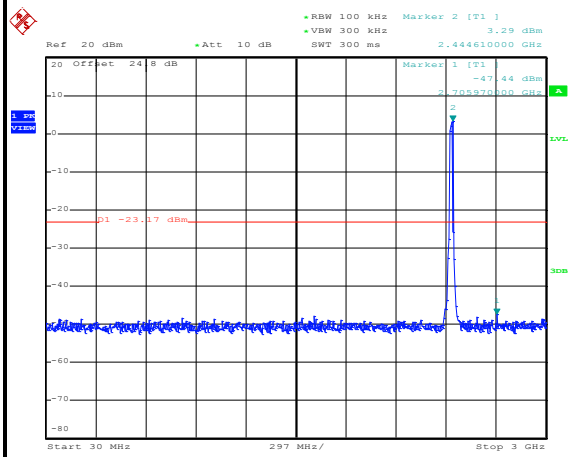
Test Mode :	802.11g	Test Channel :	06

100kHz PSD reference Level



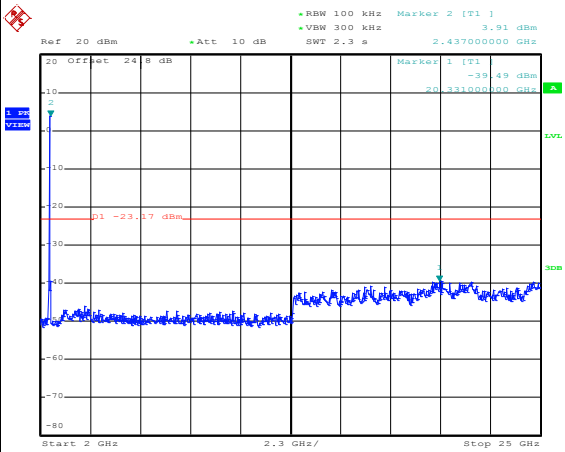
Date: 28.AUG.2018 17:16:17

Spurious Emission 30MHz~3GHz



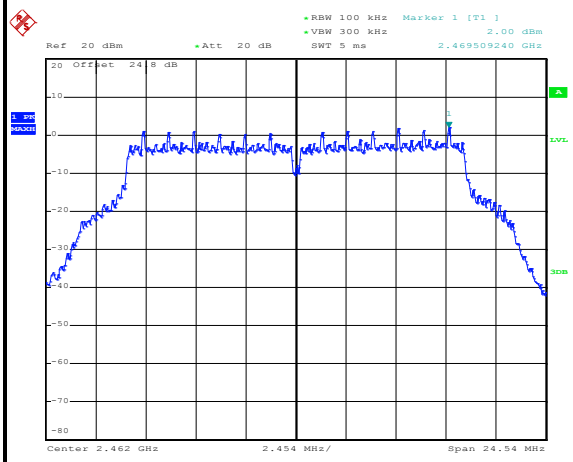
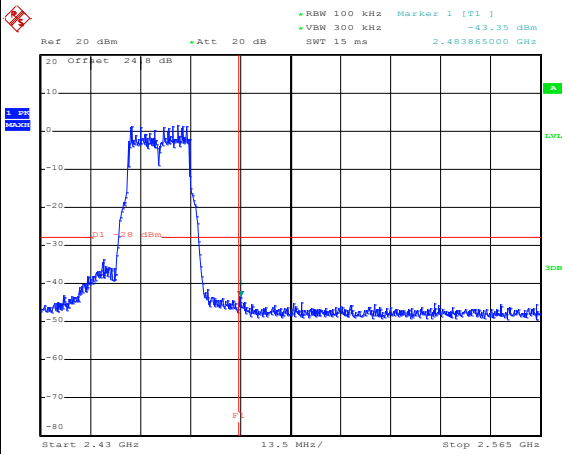
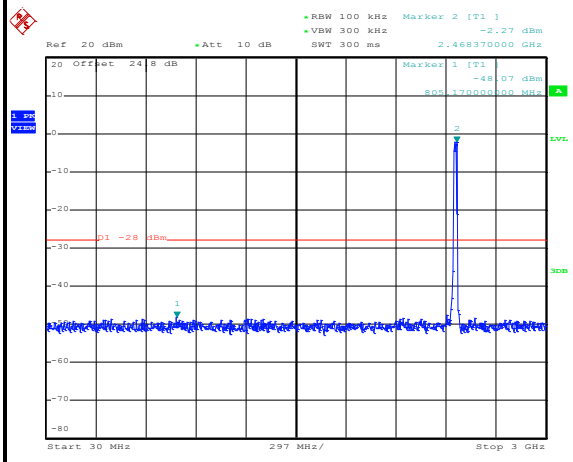
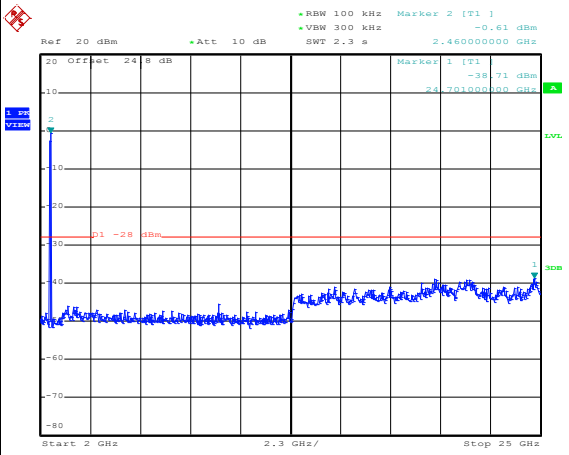
Date: 28.AUG.2018 17:17:34

Spurious Emission 2GHz~25GHz

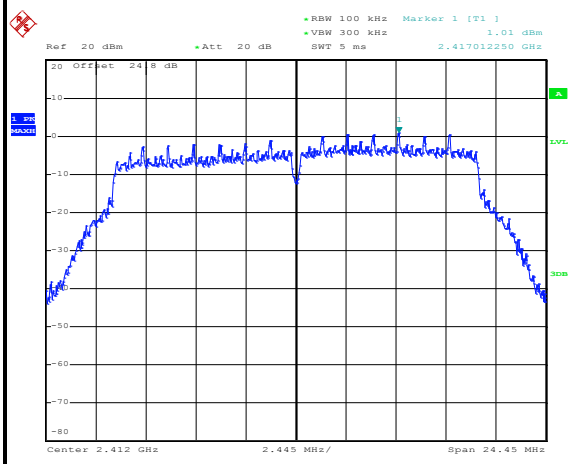
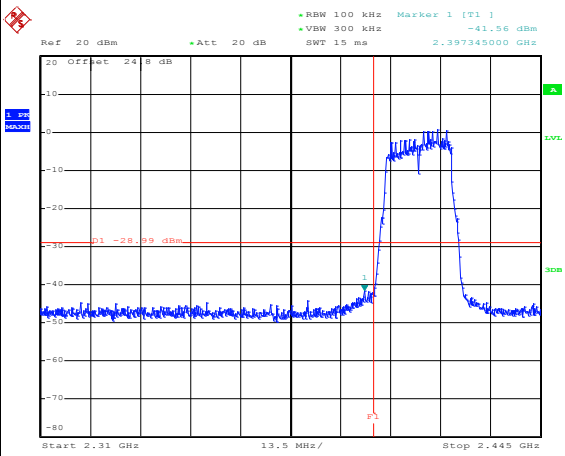
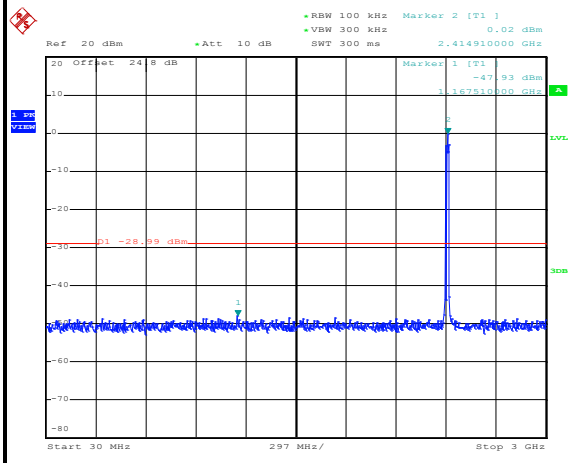
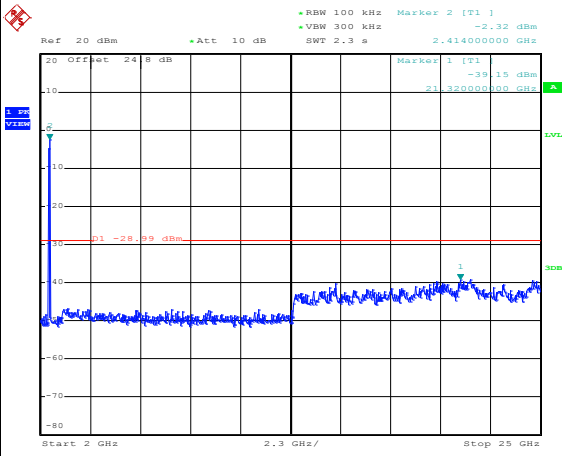


Date: 28.AUG.2018 17:17:42

Test Mode :	802.11g	Test Channel :	11

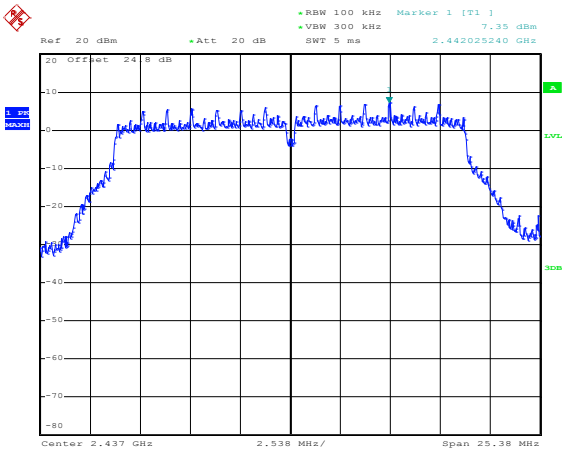
100kHz PSD reference Level	Channel Plot
	
Date: 28.AUG.2018 17:31:30	Date: 28.AUG.2018 17:31:49
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 28.AUG.2018 17:32:40	Date: 28.AUG.2018 17:32:49

Test Mode :	802.11n HT20	Test Channel :	01

100kHz PSD reference Level	Channel Plot
	
Date: 28.AUG.2018 23:24:45	Date: 28.AUG.2018 23:25:06
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 28.AUG.2018 23:25:19	Date: 28.AUG.2018 23:25:28

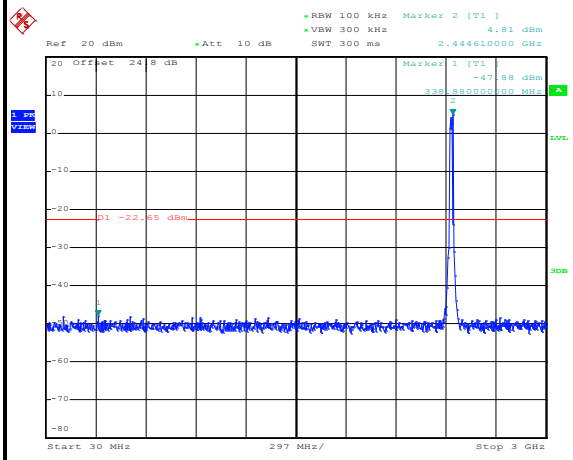
Test Mode :	802.11n HT20	Test Channel :	06

100kHz PSD reference Level



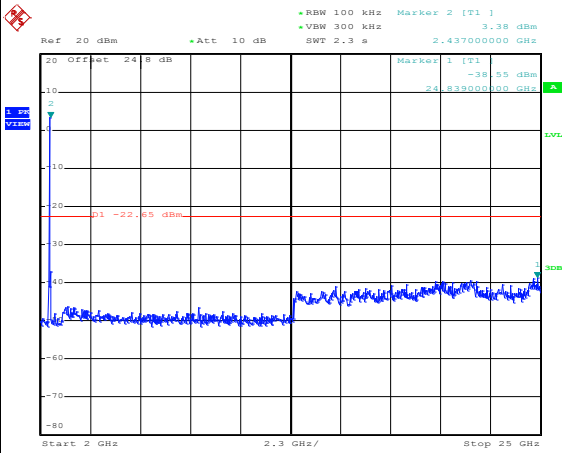
Date: 28.AUG.2018 23:30:56

Spurious Emission 30MHz~3GHz



Date: 28.AUG.2018 23:31:13

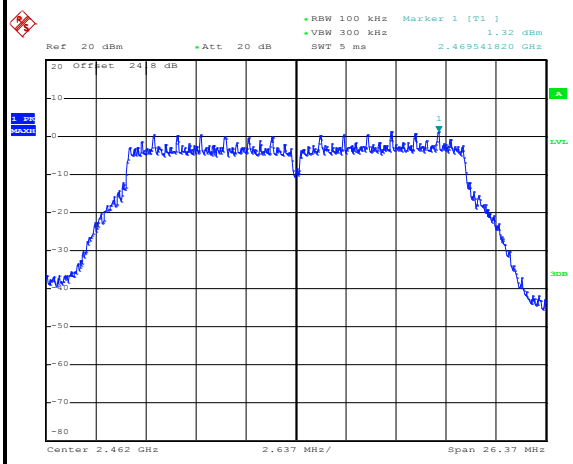
Spurious Emission 2GHz~25GHz



Date: 28.AUG.2018 23:31:22

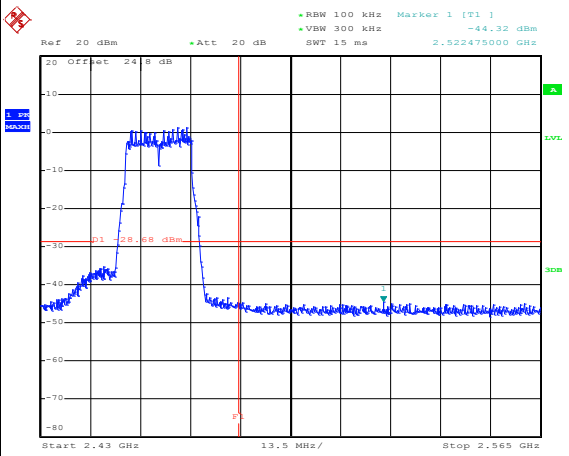
Test Mode :	802.11n HT20	Test Channel :	11

100kHz PSD reference Level



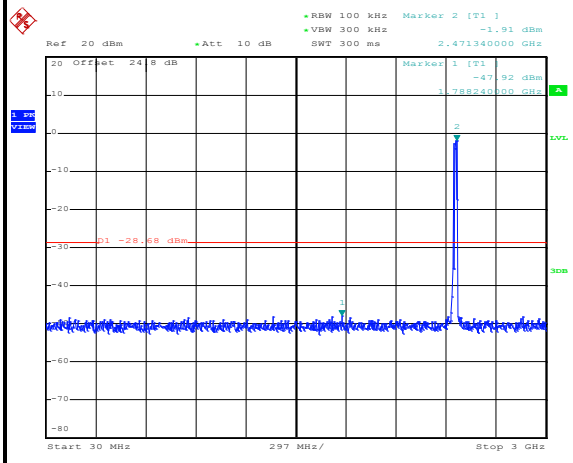
Date: 28.AUG.2018 23:46:31

Channel Plot



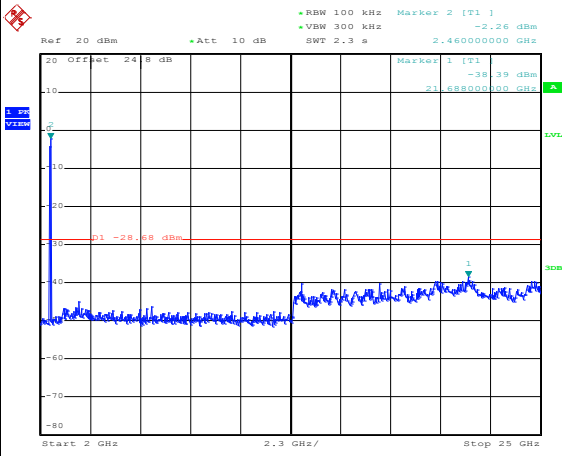
Date: 28.AUG.2018 23:47:11

Spurious Emission 30MHz~3GHz



Date: 28.AUG.2018 23:47:24

Spurious Emission 2GHz~25GHz

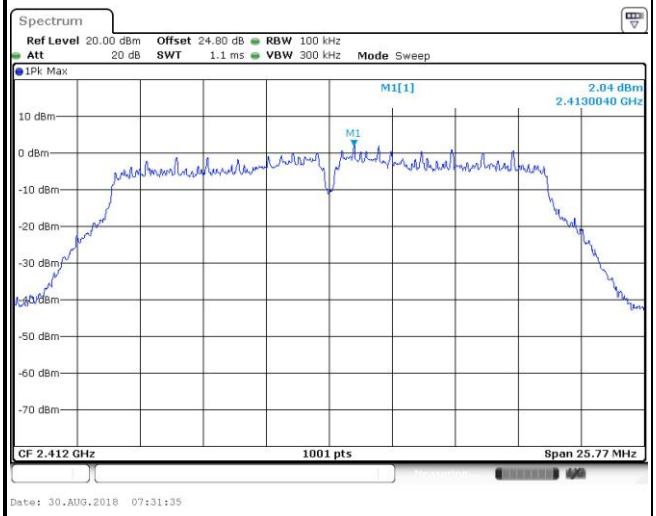
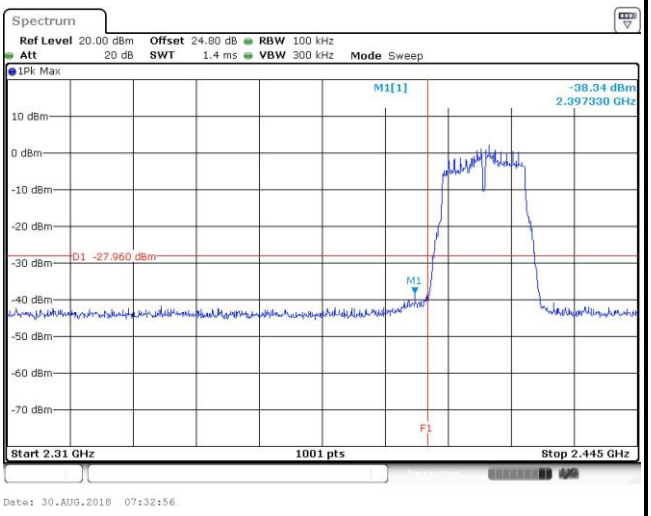
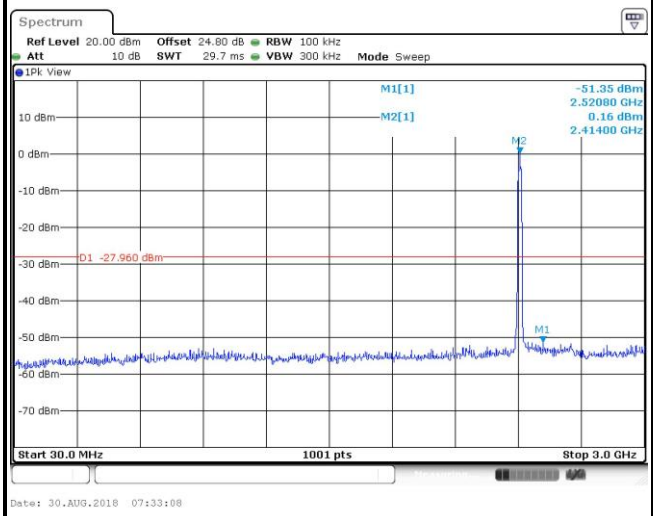
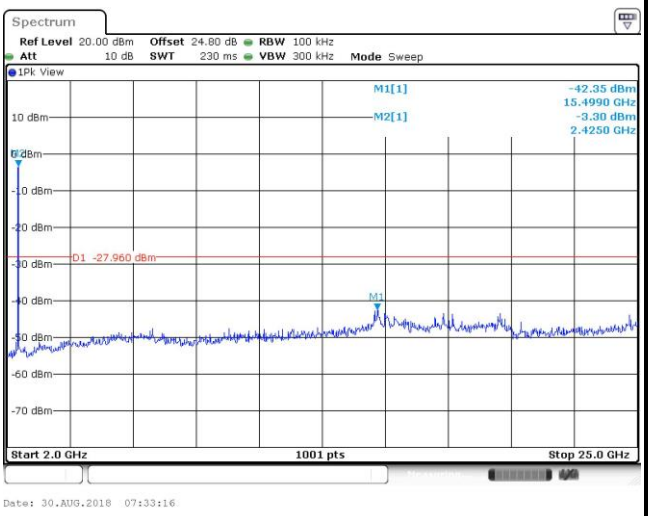


Date: 28.AUG.2018 23:47:32

<TXBF Modes>

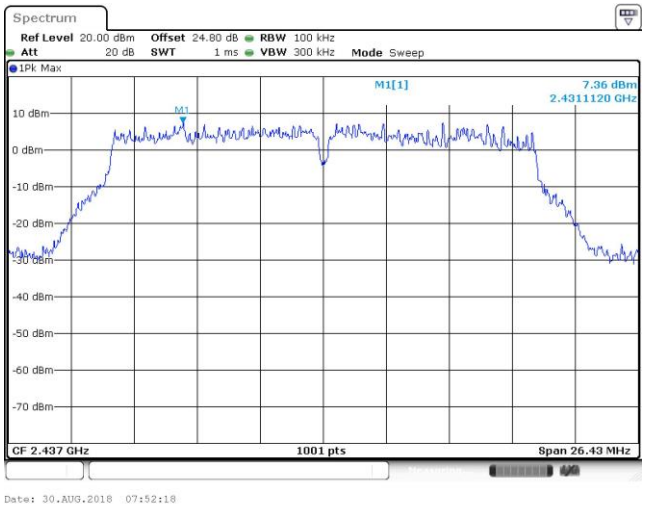
Number of TX = 2, Ant. 1 (Measured)

Test Mode :	802.11n HT20	Test Channel :	01

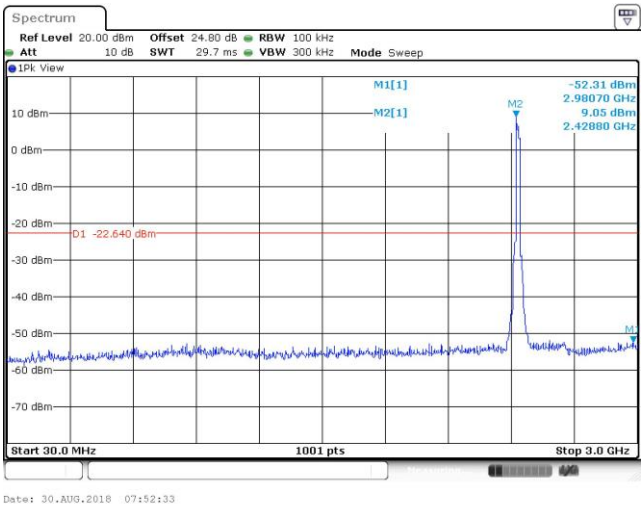
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11n HT20	Test Channel :	06

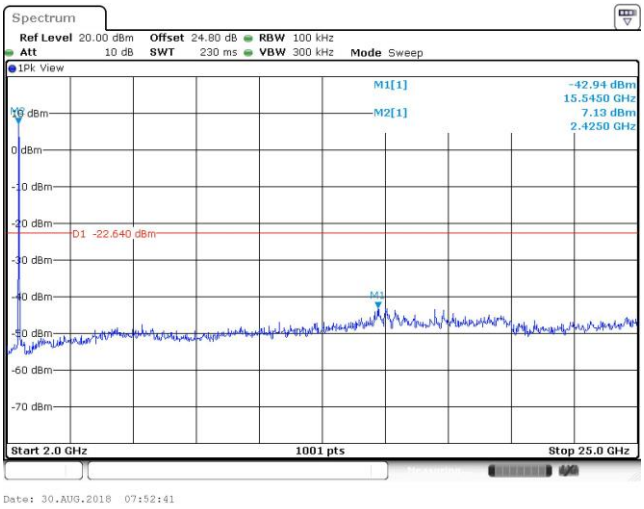
100kHz PSD reference Level



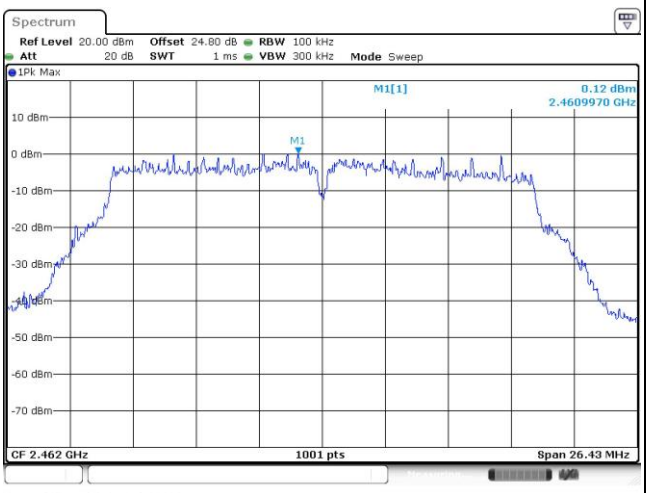
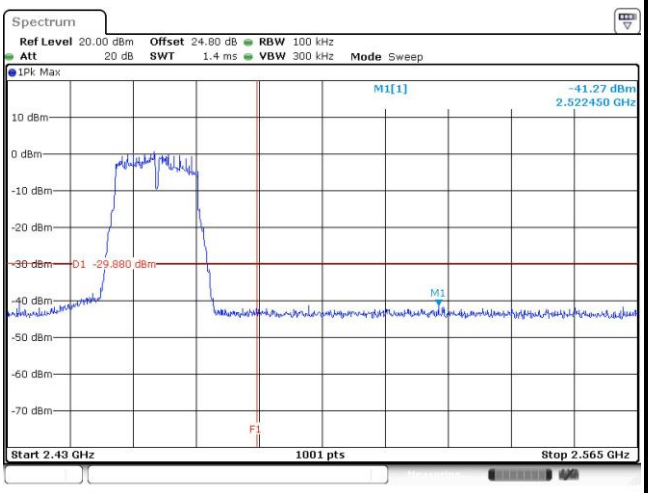
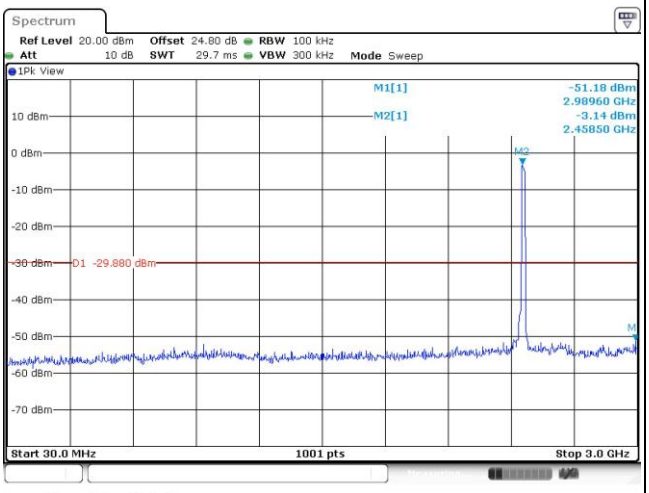
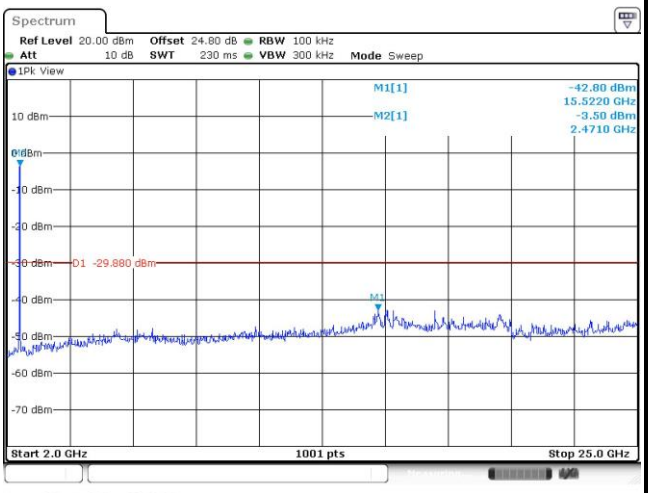
Spurious Emission 30MHz~3GHz



Spurious Emission 2GHz~25GHz

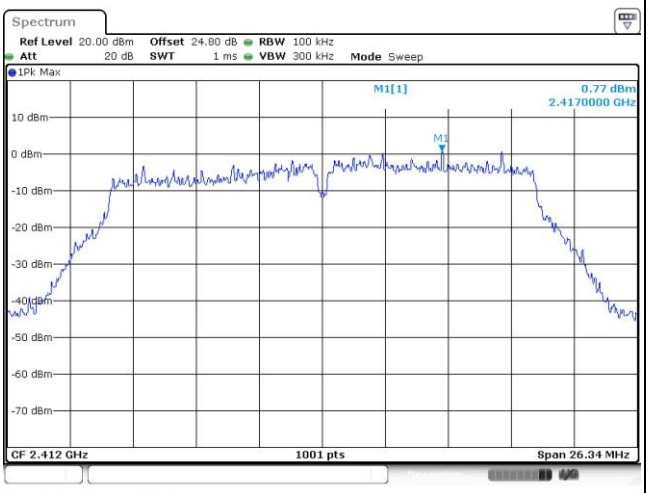
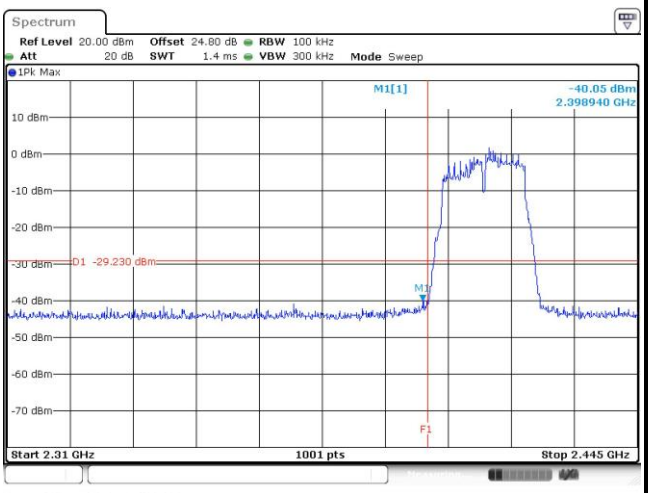
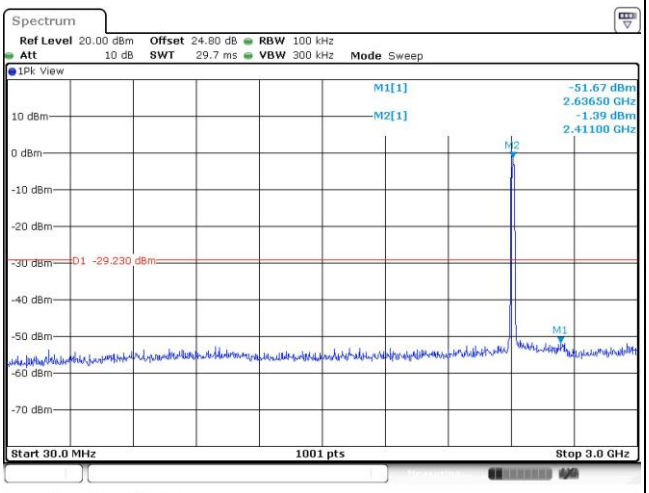
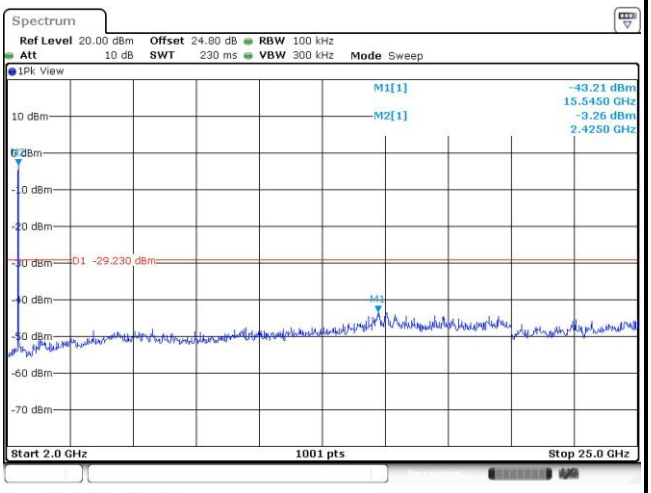


Test Mode :	802.11n HT20	Test Channel :	11

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

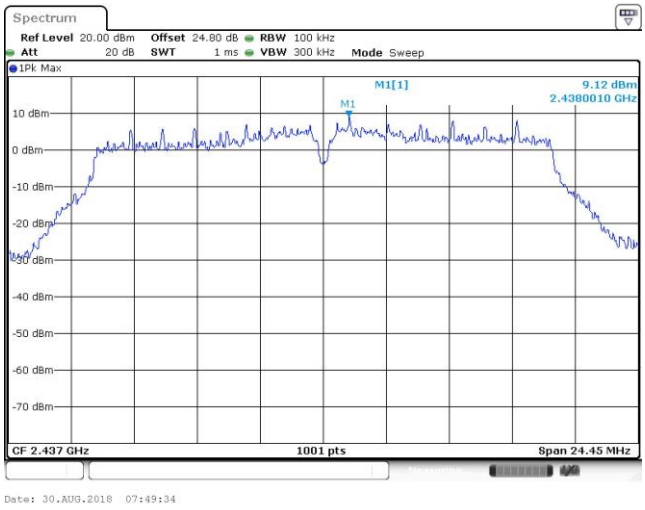
Number of TX = 2, Ant. 2 (Measured)

Test Mode :	802.11n HT20	Test Channel :	01

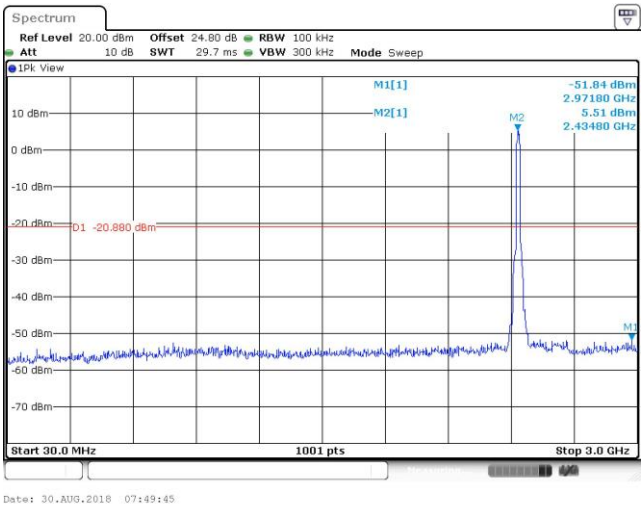
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11n HT20	Test Channel :	06

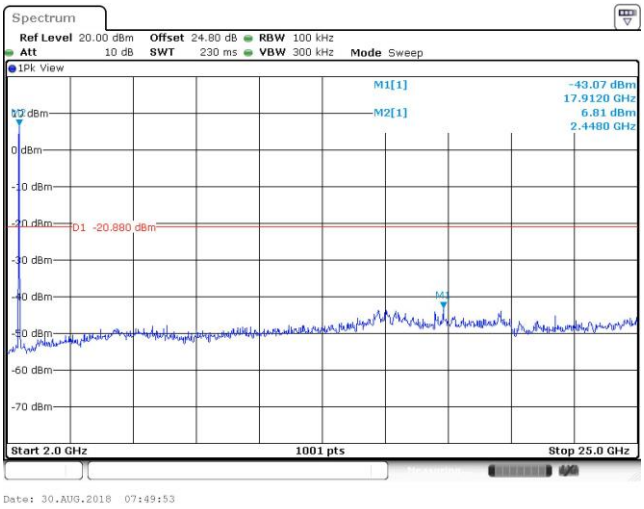
100kHz PSD reference Level



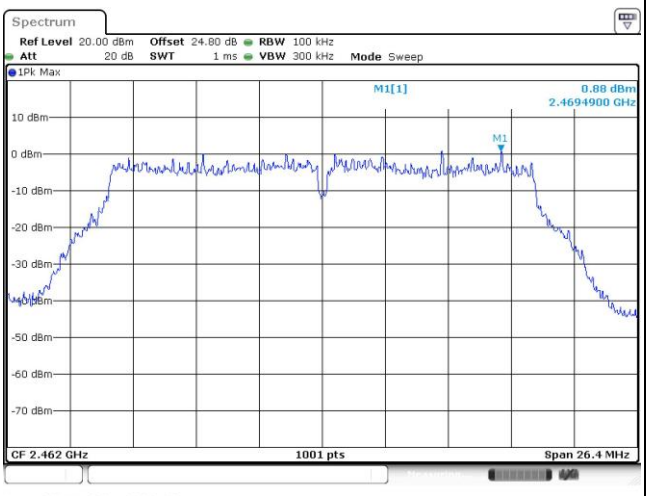
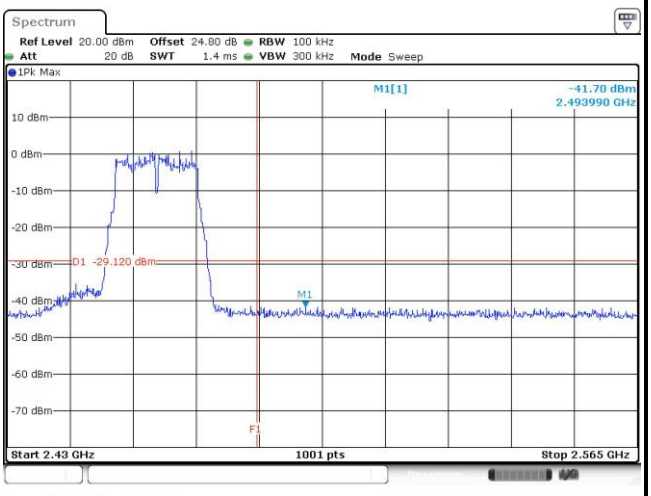
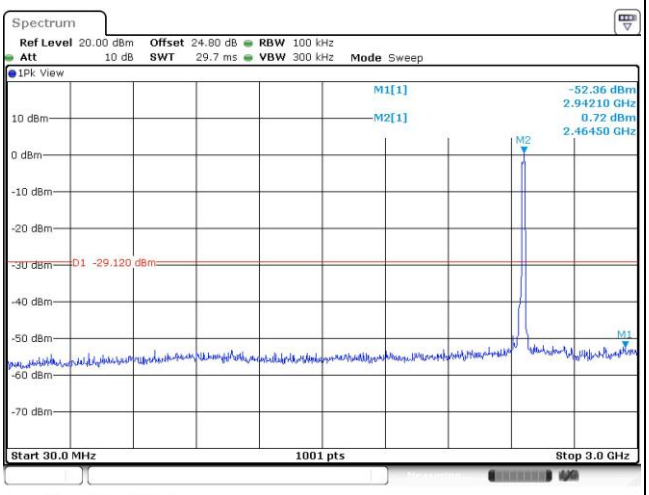
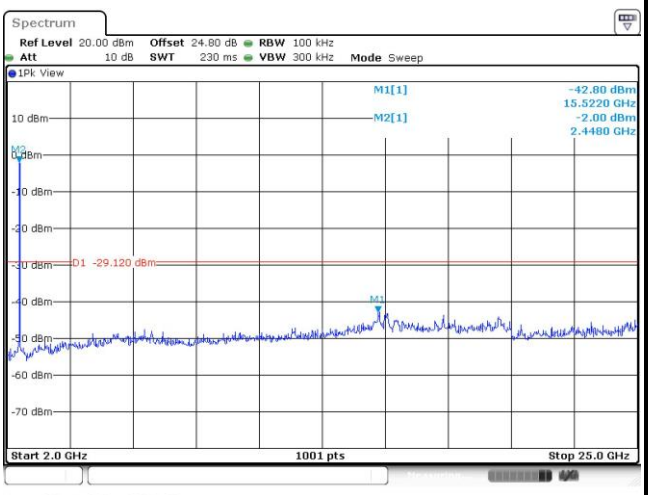
Spurious Emission 30MHz~3GHz



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**
	

3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

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

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

3.5.2 Measuring Instruments

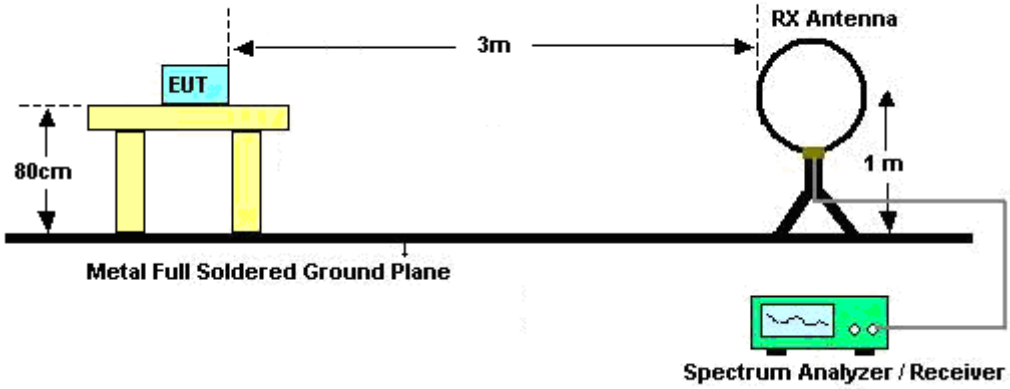
See list of measuring equipment of this test report.

3.5.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v05.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
8. Use the following spectrum analyzer settings:
   (1) Span shall wide enough to fully capture the emission being measured;
   (2) Set RBW=100 kHz for f < 1 GHz; VBW ≥ 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.

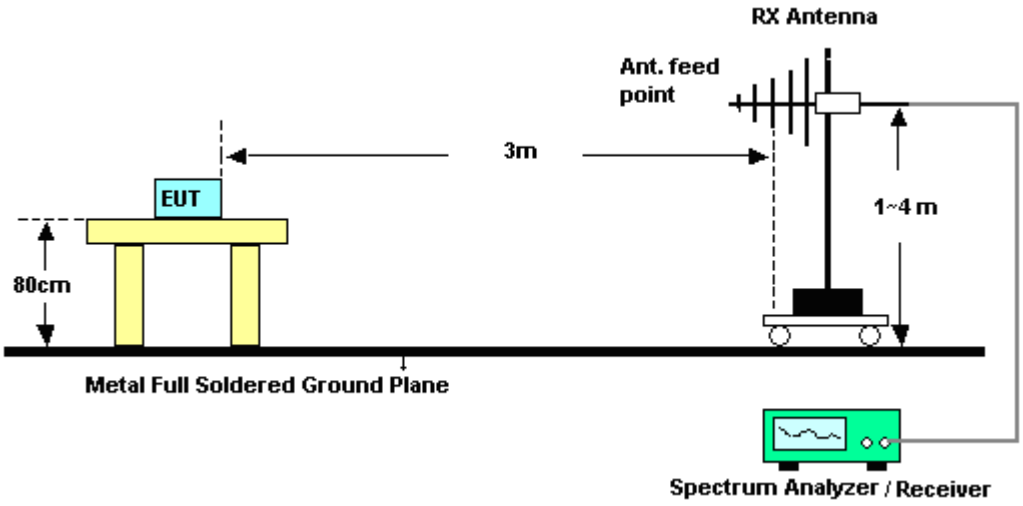
3.5.4 Test Setup

For radiated emissions below 30MHz

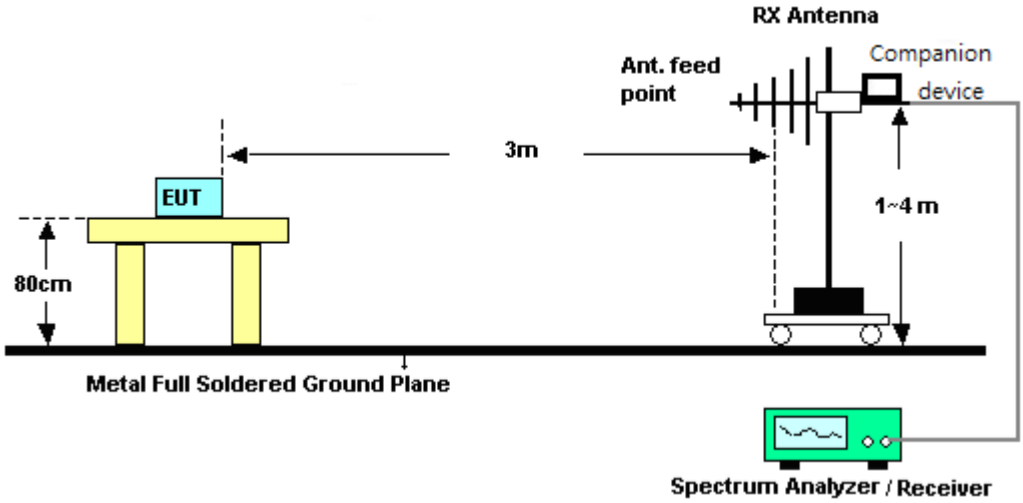


For radiated emissions from 30MHz to 1GHz

<CDD Mode>

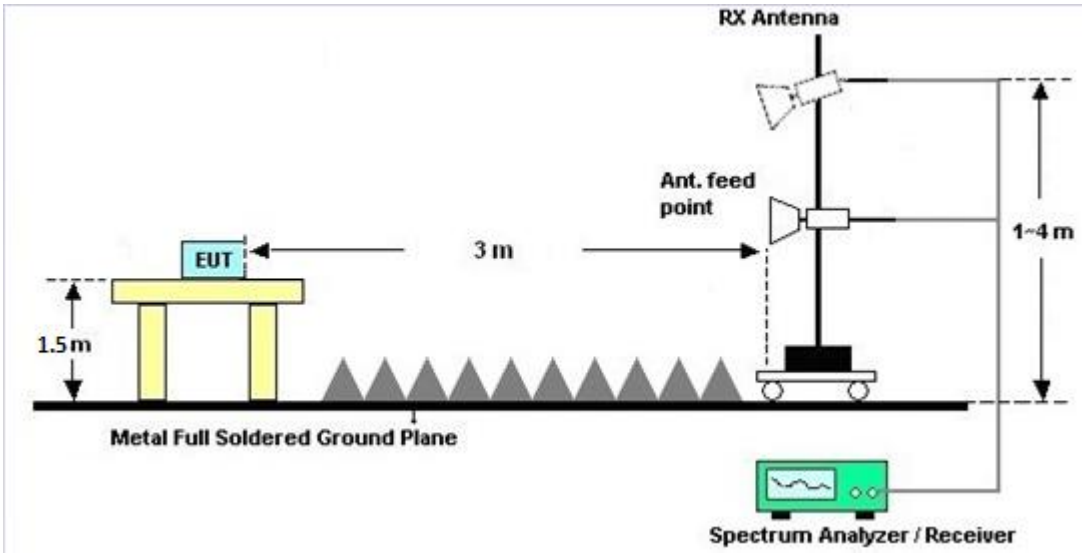


<TXBF Modes>



For radiated emissions above 1GHz

<CDD Mode>



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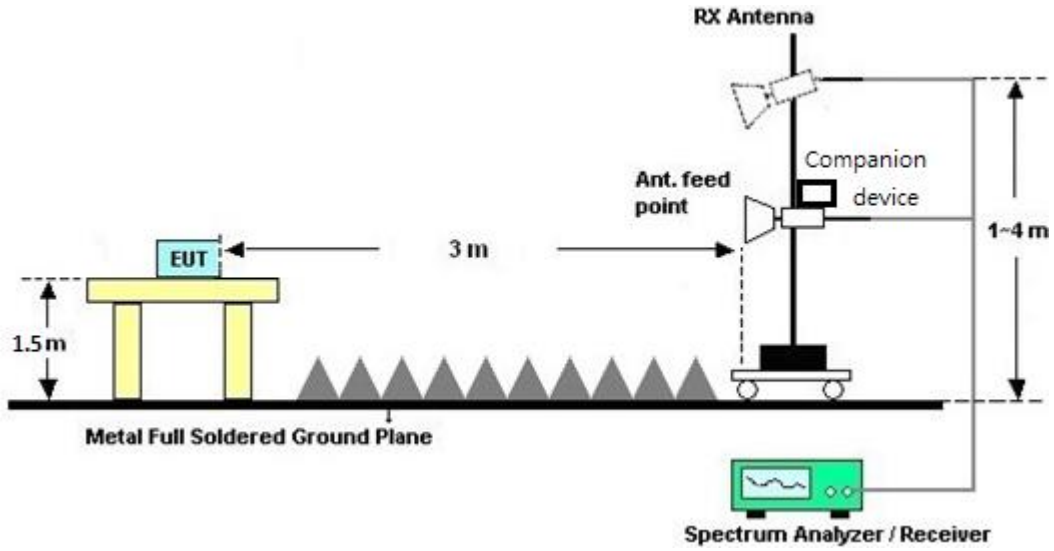


3.5.5 Test Results of Radiated Spurious Emissions (9kHz ~ 30MHz)

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

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix B and C.

3.5.7 Duty Cycle

Please refer to Appendix D.

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

Please refer to Appendix B and C.

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

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

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

*Decreases with the logarithm of the frequency.

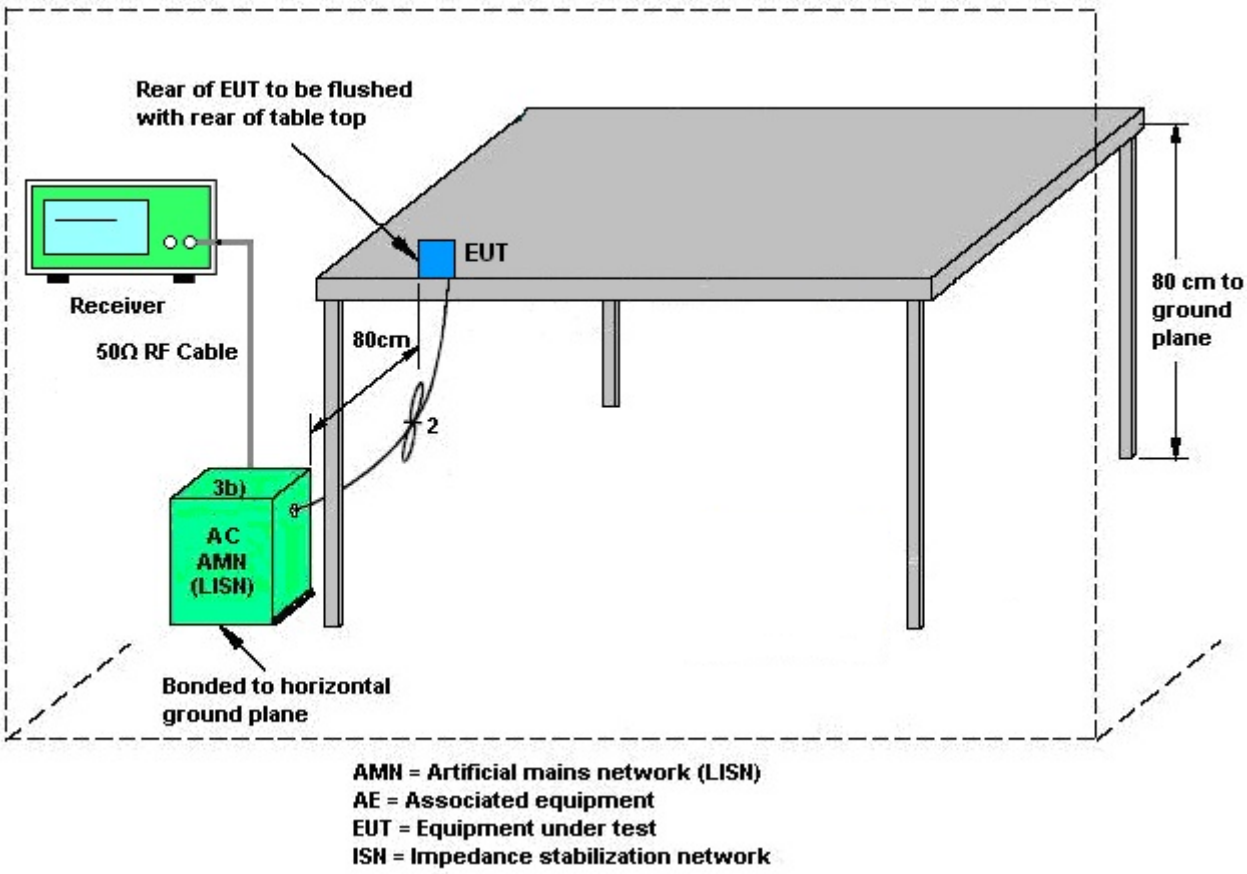
3.6.2 Measuring Instruments

See list of measuring equipment of this test report.

3.6.3 Test Procedures

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

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Please refer to Appendix A.

3.7 Antenna Requirements

3.7.1 Standard Applicable

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

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

<CDD Modes >

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

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

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

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

For power measurements on IEEE 802.11 devices,

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

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

The EUT supports CDD mode.

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

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

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

The directional gain “DG” is calculated as following table.

<CDD Modes>

			DG for Power	DG for PSD	Power Limit Reduction	PSD Limit Reduction
	Ant. 1 (dBi)	Ant. 2 (dBi)	(dBi)	(dBi)	(dB)	(dB)
2.4 GHz	3.39	3.18	3.39	6.30	0.00	0.30

Power Limit Reduction = DG(Power) – 6dBi, (min = 0)

PSD Limit Reduction = DG(PSD) – 6dBi, (min = 0)

TXBF modes

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$

where

Each antenna is driven by no more than one spatial stream;

N_{SS} = the number of independent spatial streams of data;

N_{ANT} = the total number of antennas

$g_{j,k} = 10^{G_k / 20}$ if the kth antenna is being fed by spatial stream j, or zero if it is not;

G_k is the gain in dBi of the kth antenna.

The EUT supports beamforming for 802.11ac modes.

The directional gain calculation is following F)2)e)ii) of KDB 662911 D01 v02r01.

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

The directional gain “DG” is calculated as following table.

			DG	DG	Power	PSD
			for	for	Limit	Limit
	Ant. 1	Ant. 2	Power	PSD	Reduction	Reduction
	(dBi)	(dBi)	(dBi)	(dBi)	(dB)	(dB)
2.4 GHz	3.39	3.18	6.30	6.30	0.30	0.30

Power Limit Reduction = DG(Power) – 6dBi, (min = 0)

PSD Limit Reduction = DG(PSD) – 6dBi, (min = 0)

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Power Meter	Anritsu	ML2495A	1240001	N/A	Sep. 07, 2017	Jul. 26, 2018 ~ Aug. 30, 2018	Sep. 06, 2018	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	1207349	300MHz~40GHz	Sep. 07, 2017	Jul. 26, 2018 ~ Aug. 30, 2018	Sep. 06, 2018	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100057	9kHz-40GHz	Nov. 21, 2017	Jul. 26, 2018 ~ Aug. 30, 2018	Nov. 20, 2018	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	13I00030SNO31	10MHz~6GHz	Sep. 25, 2017	Jul. 26, 2018 ~ Aug. 30, 2018	Sep. 24, 2018	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101397	10Hz~40GHz	Nov. 07, 2017	Jul. 26, 2018 ~ Aug. 30, 2018	Nov. 06, 2018	Conducted (TH05-HY)
Switch Box & RF Cable	Burgeon	ETF-058	EC1300484	N/A	Mar. 01, 2018	Jul. 26, 2018 ~ Aug. 30, 2018	Feb. 28, 2019	Conducted (TH05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Aug. 06, 2018	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9KHz~3.6GHz	Dec. 08, 2017	Aug. 06, 2018	Dec. 07, 2018	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 30, 2017	Aug. 06, 2018	Nov. 29, 2018	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Aug. 06, 2018	N/A	Conduction (CO05-HY)
LF Cable	HUBER + SUHNER	RG-214/U	LF01	N/A	Jan. 03, 2018	Aug. 06, 2018	Jan. 02, 2019	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Jan. 03, 2018	Aug. 06, 2018	Jan. 02, 2019	Conduction (CO05-HY)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz, VSWR : 2.5:1 max	Jul. 16, 2018	Aug. 07, 2018~ Aug. 27, 2018	Jul. 15, 2019	Radiation (03CH11-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Jan. 16, 2018	Aug. 07, 2018~ Aug. 27, 2018	Jan. 15, 2019	Radiation (03CH11-HY)
Bilog Antenna	TESEQ	CBL 6111D&N-6-06	35414&AT-N0602	30MHz~1GHz	Oct. 14, 2017	Aug. 07, 2018~ Aug. 27, 2018	Oct. 13, 2018	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1326	1GHz ~ 18GHz	Oct. 16, 2017	Aug. 07, 2018~ Aug. 27, 2018	Oct. 15, 2018	Radiation (03CH11-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Nov. 23, 2017	Aug. 07, 2018~ Aug. 27, 2018	Nov. 22, 2018	Radiation (03CH11-HY)
Preamplifier	Keysight	83017A	MY53270080	1GHz~26.5GHz	Jan. 16, 2018	Aug. 07, 2018~ Aug. 27, 2018	Jan. 15, 2020	Radiation (03CH11-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz ~ 44GHz	Oct. 19, 2017	Aug. 07, 2018~ Aug. 27, 2018	Oct. 18, 2018	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Aug. 07, 2018~ Aug. 27, 2018	N/A	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0~360 Degree	N/A	Aug. 07, 2018~ Aug. 27, 2018	N/A	Radiation (03CH11-HY)
Preamplifier	Jet-Power	JPA0118-55-303K	17100018000 54001	1GHz~18GHz	Apr. 16, 2018	Aug. 07, 2018~ Aug. 27, 2018	Apr. 15, 2019	Radiation (03CH11-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Nov. 27, 2017	Aug. 07, 2018~ Aug. 27, 2018	Nov. 26, 2018	Radiation (03CH11-HY)
Software	Audix	E3 6.2009-8-24	RK-001042	N/A	N/A	Aug. 07, 2018~ Aug. 27, 2018	N/A	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4PE	9kHz-30MHz	Mar. 14, 2018	Aug. 07, 2018~ Aug. 27, 2018	Mar. 13, 2019	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2859/2	30MHz-40GHz	Mar. 14, 2018	Aug. 07, 2018~ Aug. 27, 2018	Mar. 13, 2019	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4PE	30M-18G	Mar. 14, 2018	Aug. 07, 2018~ Aug. 27, 2018	Mar. 13, 2019	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY4274/2	30MHz-40GHz	Mar. 14, 2018	Aug. 07, 2018~ Aug. 27, 2018	Mar. 13, 2019	Radiation (03CH11-HY)
Filter	Wainwright	WLK4-1000-1530-8000-40SS	SN11	1G Low Pass	Sep. 18, 2017	Aug. 07, 2018~ Aug. 27, 2018	Sep. 17, 2018	Radiation (03CH11-HY)
Filter	Wainwright	WHKX12-2700-3000-18000-60SS	SN3	2.7G High Pass	Sep. 18, 2017	Aug. 07, 2018~ Aug. 27, 2018	Sep. 17, 2018	Radiation (03CH11-HY)

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.70**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.20**

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

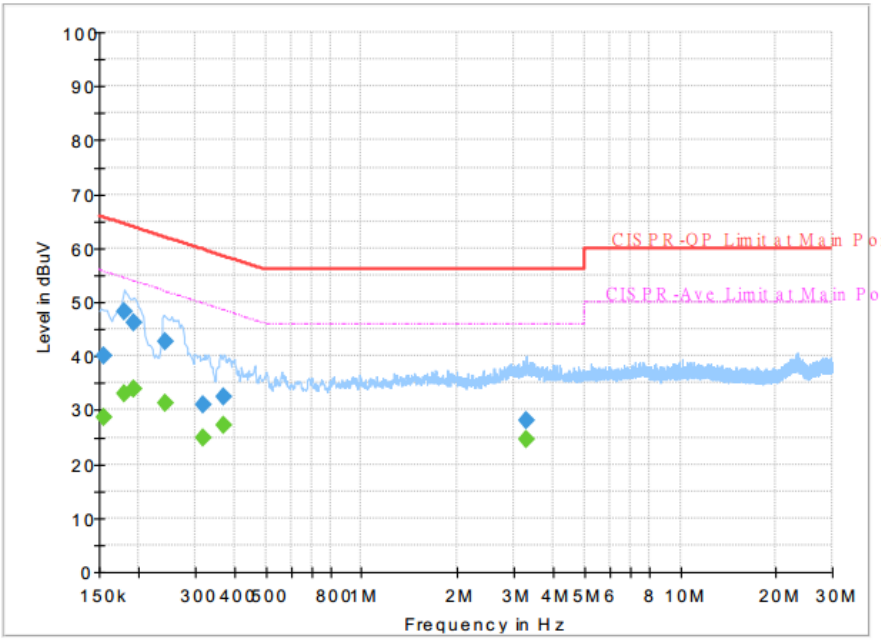
Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.50**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.20**

Appendix A. AC Conducted Emission Test Results

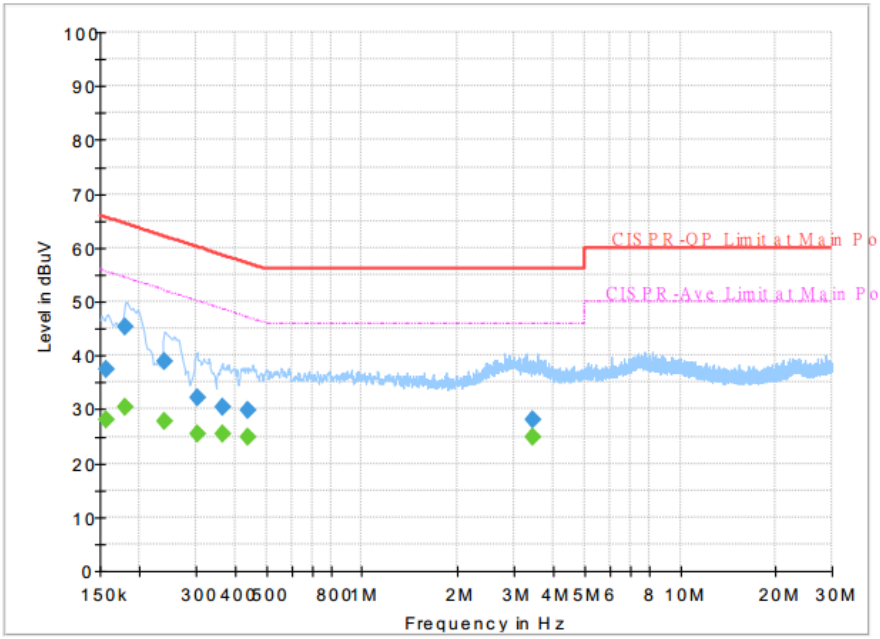
Test Engineer :	Arthur Hsieh	Temperature :	21~25℃
		Relative Humidity :	51~55%
Test Voltage :	120Vac / 60Hz	Phase :	Line



Final Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.154500	---	28.79	55.75	26.96	L1	OFF	19.5
0.154500	40.08	---	65.75	25.67	L1	OFF	19.5
0.179250	---	33.11	54.52	21.41	L1	OFF	19.5
0.179250	48.12	---	64.52	16.40	L1	OFF	19.5
0.192750	---	33.93	53.92	19.99	L1	OFF	19.5
0.192750	46.34	---	63.92	17.58	L1	OFF	19.5
0.242250	---	31.33	52.02	20.69	L1	OFF	19.5
0.242250	42.67	---	62.02	19.35	L1	OFF	19.5
0.316500	---	24.79	49.80	25.01	L1	OFF	19.5
0.316500	30.98	---	59.80	28.82	L1	OFF	19.5
0.370500	---	27.17	48.49	21.32	L1	OFF	19.5
0.370500	32.41	---	58.49	26.08	L1	OFF	19.5
3.277500	---	24.67	46.00	21.33	L1	OFF	19.7
3.277500	27.98	---	56.00	28.02	L1	OFF	19.7

Test Engineer :	Arthur Hsieh	Temperature :	21~25℃
		Relative Humidity :	51~55%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral



Final Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.156750	---	28.01	55.63	27.62	N	OFF	19.5
0.156750	37.51	---	65.63	28.12	N	OFF	19.5
0.179250	---	30.27	54.52	24.25	N	OFF	19.5
0.179250	45.23	---	64.52	19.29	N	OFF	19.5
0.240000	---	27.83	52.10	24.27	N	OFF	19.5
0.240000	38.91	---	62.10	23.19	N	OFF	19.5
0.303000	---	25.42	50.16	24.74	N	OFF	19.5
0.303000	32.12	---	60.16	28.04	N	OFF	19.5
0.363750	---	25.43	48.64	23.21	N	OFF	19.5
0.363750	30.53	---	58.64	28.11	N	OFF	19.5
0.435750	---	24.83	47.14	22.31	N	OFF	19.5
0.435750	29.68	---	57.14	27.46	N	OFF	19.5
3.448500	---	24.75	46.00	21.25	N	OFF	19.7
3.448500	27.95	---	56.00	28.05	N	OFF	19.7

Appendix B. Radiated Spurious Emission

Test Engineer :	HAO HSU, Ken Wu, and Avis Chuan	Temperature :	21~26°C
		Relative Humidity :	51~56%

<CDD Mode>

<SKU 1>

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 01 2412MHz		2390	63.89	-10.11	74	54.06	27.13	16.29	33.59	100	355	P	H
		2389.905	51.11	-2.89	54	41.28	27.13	16.29	33.59	100	355	A	H
	*	2412	106.5	-	-	96.61	27.18	16.3	33.59	100	355	P	H
	*	2412	99.08	-	-	89.19	27.18	16.3	33.59	100	355	A	H
													H
													H
		2389.905	58.72	-15.28	74	48.89	27.13	16.29	33.59	114	97	P	V
		2389.695	48.1	-5.9	54	38.28	27.13	16.29	33.6	114	97	A	V
	*	2412	104.95	-	-	95.06	27.18	16.3	33.59	114	97	P	V
	*	2412	97.33	-	-	87.44	27.18	16.3	33.59	114	97	A	V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		4824	39.25	-34.75	74	56.51	31.29	10.02	58.57	100	0	P	H
													H
802.11n													H
HT20													H
CH 01		4824	39.02	-34.98	74	56.28	31.29	10.02	58.57	100	0	P	V
2412MHz													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

2.4GHz WIFI 802.11n HT20 (LF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		60.78	25.72	-14.28	40	45.62	11.55	1.04	32.49	-	-	P	H
		65.1	26.62	-13.38	40	46.34	11.74	1.03	32.49	-	-	P	H
		106.95	28.9	-14.6	43.5	43.53	16.42	1.42	32.47	-	-	P	H
		425.3	25.16	-20.84	46	32.23	22.59	2.68	32.34	-	-	P	H
		750.1	29.56	-16.44	46	30.51	27.81	3.57	32.33	-	-	P	H
		940.5	35.61	-10.39	46	32.81	30.1	3.99	31.29	100	0	P	H
													H
													H
													H
													H
2.4GHz													H
802.11n													H
HT20		36.48	35.52	-4.48	40	46.4	20.79	0.82	32.49	100	0	P	V
LF		64.56	30.68	-9.32	40	50.4	11.74	1.03	32.49	-	-	P	V
		122.07	32.46	-11.04	43.5	46.09	17.28	1.55	32.46	-	-	P	V
		496.7	24.75	-21.25	46	30.59	23.65	2.89	32.38	-	-	P	V
		723.5	29.04	-16.96	46	30.89	27.02	3.53	32.4	-	-	P	V
		937	32.41	-13.59	46	29.8	29.94	3.99	31.32	-	-	P	V
													V
													V
													V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against limit line.

<SKU 2>

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 01 2412MHz		2389.485	61.85	-12.15	74	52.03	27.13	6.36	33.6	400	352	P	H
		2390	49.71	-4.29	54	39.88	27.13	6.36	33.59	400	352	A	H
	*	2412	107.54	-	-	97.65	27.18	6.37	33.59	400	352	P	H
	*	2412	99.87	-	-	89.98	27.18	6.37	33.59	400	352	A	H
													H
													H
		2389.8	64.75	-9.25	74	54.92	27.13	6.36	33.59	112	103	P	V
		2390	52.16	-1.84	54	42.33	27.13	6.36	33.59	112	103	A	V
	*	2412	107.43	-	-	97.54	27.18	6.37	33.59	112	103	P	V
	*	2412	99.93	-	-	90.04	27.18	6.37	33.59	112	103	A	V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		4824	39.01	-34.99	74	56.27	31.29	9.59	58.57	100	0	P	H
													H
802.11n													H
HT20													H
CH 01		4824	38.55	-35.45	74	55.81	31.29	9.59	58.57	100	0	P	V
2412MHz													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

2.4GHz WIFI 802.11n HT20 (LF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		59.7	23.3	-16.7	40	43.25	11.5	1.04	32.49	-	-	P	H
		107.76	28.92	-14.58	43.5	43.46	16.51	1.42	32.47	-	-	P	H
		154.47	28.75	-14.75	43.5	42.92	16.56	1.7	32.43	-	-	P	H
		448.4	24.76	-21.24	46	31.44	22.93	2.74	32.35	-	-	P	H
		687.1	28.8	-17.2	46	31.55	26.33	3.39	32.47	-	-	P	H
		917.4	33.23	-12.77	46	31.49	29.29	3.95	31.5	100	0	P	H
													H
													H
													H
													H
2.4GHz													H
802.11n													H
HT20		36.48	35.42	-4.58	40	46.3	20.79	0.82	32.49	100	0	P	V
LF		42.42	34.78	-5.22	40	48.84	17.61	0.82	32.49	-	-	P	V
		61.86	27.63	-12.37	40	47.49	11.59	1.04	32.49	-	-	P	V
		437.9	23.6	-22.4	46	30.45	22.76	2.74	32.35	-	-	P	V
		652.1	27.18	-18.82	46	30.07	26.27	3.31	32.47	-	-	P	V
		890.1	32	-14	46	30.78	29.04	3.89	31.71	-	-	P	V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

<SKU 3>

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	58.44	-15.56	74	48.61	27.13	16.29	33.59	154	0	P	H
		2387.28	52.08	-1.92	54	42.26	27.13	16.29	33.6	154	0	A	H
	*	2412	111.8	-	-	101.91	27.18	16.3	33.59	154	0	P	H
	*	2412	108.83	-	-	98.94	27.18	16.3	33.59	154	0	A	H
													H
													H
		2389.065	54.25	-19.75	74	44.43	27.13	16.29	33.6	112	72	P	V
		2387.175	47.01	-6.99	54	37.19	27.13	16.29	33.6	112	72	A	V
	*	2412	105.63	-	-	95.74	27.18	16.3	33.59	112	72	P	V
	*	2412	102.66	-	-	92.77	27.18	16.3	33.59	112	72	A	V
													V
													V
802.11b CH 06 2437MHz		2387.44	52.81	-21.19	74	42.99	27.13	16.29	33.6	310	0	P	H
		2390	42.33	-11.67	54	32.5	27.13	16.29	33.59	310	0	A	H
	*	2437	112.4	-	-	102.41	27.27	16.31	33.59	310	0	P	H
	*	2437	109.34	-	-	99.35	27.27	16.31	33.59	310	0	A	H
		2485.6	55.2	-18.8	74	45.1	27.36	16.32	33.58	310	0	P	H
		2483.92	42.57	-11.43	54	32.48	27.36	16.31	33.58	310	0	A	H
		2349.2	52.73	-21.27	74	43.18	27	16.15	33.6	111	76	P	V
		2390	41.42	-12.58	54	31.59	27.13	16.29	33.59	111	76	A	V
	*	2437	106.04	-	-	96.05	27.27	16.31	33.59	111	76	P	V
	*	2437	102.99	-	-	93	27.27	16.31	33.59	111	76	A	V
		2484.16	54.39	-19.61	74	44.3	27.36	16.31	33.58	111	76	P	V
		2483.52	41.81	-12.19	54	31.72	27.36	16.31	33.58	111	76	A	V

802.11b CH 11 2462MHz	*	2462	112.58	-	-	102.54	27.31	16.31	33.58	303	0	P	H
	*	2462	109.56	-	-	99.52	27.31	16.31	33.58	303	0	A	H
		2483.52	60.53	-13.47	74	50.44	27.36	16.31	33.58	303	0	P	H
		2483.52	48.63	-5.37	54	38.54	27.36	16.31	33.58	303	0	A	H
													H
													H
	*	2462	106.26	-	-	96.22	27.31	16.31	33.58	100	92	P	V
	*	2462	103.24	-	-	93.2	27.31	16.31	33.58	100	92	A	V
		2485.44	55.61	-18.39	74	45.51	27.36	16.32	33.58	100	92	P	V
		2483.52	44.76	-9.24	54	34.67	27.36	16.31	33.58	100	92	A	V
													V
													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)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 02 2417MHz		2389.94	55.15	-18.85	74	45.32	27.13	16.29	33.59	311	0	P	H
		2389.94	46.71	-7.29	54	36.88	27.13	16.29	33.59	311	0	A	H
	*	2417	110.55	-	-	100.66	27.18	16.3	33.59	311	0	P	H
	*	2417	107.61	-	-	97.72	27.18	16.3	33.59	311	0	A	H
													H
													H
		2389.94	53.36	-20.64	74	43.53	27.13	16.29	33.59	110	103	P	V
		2389.94	43.02	-10.98	54	33.19	27.13	16.29	33.59	110	103	A	V
	*	2417	103.88	-	-	93.99	27.18	16.3	33.59	110	103	P	V
	*	2417	100.95	-	-	91.06	27.18	16.3	33.59	110	103	A	V
													V
													V
802.11b CH 10 2457MHz	*	2457	112.91	-	-	102.87	27.31	16.31	33.58	302	0	P	H
	*	2457	109.99	-	-	99.95	27.31	16.31	33.58	302	0	A	H
		2483.76	56.7	-17.3	74	46.61	27.36	16.31	33.58	302	0	P	H
		2483.5	50.49	-3.51	54	40.4	27.36	16.31	33.58	302	0	A	H
													H
													H
	*	2457	106.25	-	-	96.21	27.31	16.31	33.58	105	70	P	V
	*	2457	103.27	-	-	93.23	27.31	16.31	33.58	105	70	A	V
		2483.83	54.19	-19.81	74	44.1	27.36	16.31	33.58	105	70	P	V
		2483.5	45.54	-8.46	54	35.45	27.36	16.31	33.58	105	70	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 01 2412MHz		4824	45.74	-28.26	74	63	31.29	10.02	58.57	100	0	P	H
													H
													H
													H
		4824	43.89	-30.11	74	61.15	31.29	10.02	58.57	100	0	P	V
													V
													V
													V
802.11b CH 06 2437MHz		4874	44.77	-29.23	74	61.95	31.38	9.99	58.55	100	0	P	H
		7311	41.93	-32.07	74	52.71	36.28	11.77	58.83	100	0	P	H
													H
													H
		4874	41.92	-32.08	74	59.1	31.38	9.99	58.55	100	0	P	V
		7311	41.7	-32.3	74	52.48	36.28	11.77	58.83	100	0	P	V
													V
													V
802.11b CH 11 2462MHz		4924	43.76	-30.24	74	60.82	31.48	9.99	58.53	100	0	P	H
		7386	41.15	-32.85	74	51.72	36.47	11.68	58.72	100	0	P	H
													H
													H
		4924	41.49	-32.51	74	58.55	31.48	9.99	58.53	100	0	P	V
		7386	41.23	-32.77	74	51.8	36.47	11.68	58.72	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		2389.8	60.12	-13.88	74	50.29	27.13	16.29	33.59	158	358	P	H
		2390	52.59	-1.41	54	42.76	27.13	16.29	33.59	158	358	A	H
	*	2412	109.7	-	-	99.81	27.18	16.3	33.59	158	358	P	H
	*	2412	102.43	-	-	92.54	27.18	16.3	33.59	158	358	A	H
													H
													H
		2390	55.98	-18.02	74	46.15	27.13	16.29	33.59	100	83	P	V
		2390	46.25	-7.75	54	36.42	27.13	16.29	33.59	100	83	A	V
	*	2412	102.53	-	-	92.64	27.18	16.3	33.59	100	83	P	V
	*	2412	95.38	-	-	85.49	27.18	16.3	33.59	100	83	A	V
													V
													V
802.11g CH 06 2437MHz		2388.9	55.59	-18.41	74	45.77	27.13	16.29	33.6	181	357	P	H
		2389.5	47.82	-6.18	54	38	27.13	16.29	33.6	181	357	A	H
	*	2437	115.53	-	-	105.54	27.27	16.31	33.59	181	357	P	H
	*	2437	107.98	-	-	97.99	27.27	16.31	33.59	181	357	A	H
		2483.84	56.36	-17.64	74	46.27	27.36	16.31	33.58	181	357	P	H
		2484.08	48.63	-5.37	54	38.54	27.36	16.31	33.58	181	357	A	H
		2389.2	52.6	-21.4	74	42.78	27.13	16.29	33.6	100	84	P	V
		2389.65	44.83	-9.17	54	35.01	27.13	16.29	33.6	100	84	A	V
	*	2437	109.17	-	-	99.18	27.27	16.31	33.59	100	84	P	V
	*	2437	101.7	-	-	91.71	27.27	16.31	33.59	100	84	A	V
		2486.88	52.67	-21.33	74	42.57	27.36	16.32	33.58	100	84	P	V
		2483.68	44.57	-9.43	54	34.48	27.36	16.31	33.58	100	84	A	V

802.11g CH 11 2462MHz	*	2462	111.55	-	-	101.51	27.31	16.31	33.58	179	5	P	H
	*	2462	103.74	-	-	93.7	27.31	16.31	33.58	179	5	A	H
		2483.72	61.34	-12.66	74	51.25	27.36	16.31	33.58	179	5	P	H
		2483.52	51.31	-2.69	54	41.22	27.36	16.31	33.58	179	5	A	H
													H
													H
	*	2462	104.35	-	-	94.31	27.31	16.31	33.58	134	94	P	V
	*	2462	96.84	-	-	86.8	27.31	16.31	33.58	134	94	A	V
		2483.76	54.12	-19.88	74	44.03	27.36	16.31	33.58	134	94	P	V
		2483.68	45.49	-8.51	54	35.4	27.36	16.31	33.58	134	94	A	V
													V
													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)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 02 2417MHz		2389.38	60.13	-13.87	74	50.31	27.13	16.29	33.6	183	355	P	H
		2390	52.38	-1.62	54	42.55	27.13	16.29	33.59	183	355	A	H
	*	2417	115.39	-	-	105.46	27.22	16.3	33.59	183	355	P	H
	*	2417	107.93	-	-	98.04	27.18	16.3	33.59	183	355	A	H
													H
													H
		2389.8	55.36	-18.64	74	45.53	27.13	16.29	33.59	100	95	P	V
		2389.905	47.23	-6.77	54	37.4	27.13	16.29	33.59	100	95	A	V
	*	2417	108.61	-	-	98.72	27.18	16.3	33.59	100	95	P	V
	*	2417	100.96	-	-	91.07	27.18	16.3	33.59	100	95	A	V
													V
													V
802.11g CH 10 2457MHz	*	2457	115.03	-	-	104.99	27.31	16.31	33.58	178	359	P	H
	*	2457	107.56	-	-	97.52	27.31	16.31	33.58	178	359	A	H
		2484.56	62.27	-11.73	74	52.17	27.36	16.32	33.58	178	359	P	H
		2483.8	52.62	-1.38	54	42.53	27.36	16.31	33.58	178	359	A	H
													H
													H
	*	2457	107.74	-	-	97.7	27.31	16.31	33.58	100	96	P	V
	*	2457	100.33	-	-	90.29	27.31	16.31	33.58	100	96	A	V
		2484.12	56.07	-17.93	74	45.98	27.36	16.31	33.58	100	96	P	V
		2483.52	46.55	-7.45	54	36.46	27.36	16.31	33.58	100	96	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		4824	38.65	-35.35	74	55.91	31.29	10.02	58.57	100	0	P	H
													H
													H
													H
		4824	38.36	-35.64	74	55.62	31.29	10.02	58.57	100	0	P	V
													V
													V
													V
802.11g CH 06 2437MHz		4874	41.19	-32.81	74	58.37	31.38	9.99	58.55	100	0	P	H
		7311	41.79	-32.21	74	52.57	36.28	11.77	58.83	100	0	P	H
													H
													H
		4874	41.47	-32.53	74	58.65	31.38	9.99	58.55	100	0	P	V
		7311	41.04	-32.96	74	51.82	36.28	11.77	58.83	100	0	P	V
													V
													V
802.11g CH 11 2462MHz		4924	39.36	-34.64	74	56.42	31.48	9.99	58.53	100	0	P	H
		7386	41.21	-32.79	74	51.78	36.47	11.68	58.72	100	0	P	H
													H
													H
		4924	38.37	-35.63	74	55.43	31.48	9.99	58.53	100	0	P	V
		7386	40.6	-33.4	74	51.17	36.47	11.68	58.72	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		2389.8	62.39	-11.61	74	52.56	27.13	16.29	33.59	206	0	P	H
		2390	52.8	-1.2	54	42.97	27.13	16.29	33.59	206	0	A	H
	*	2412	108.48	-	-	98.59	27.18	16.3	33.59	206	0	P	H
	*	2412	101.4	-	-	91.51	27.18	16.3	33.59	206	0	A	H
802.11n													H
HT20													H
CH 01		2390	58.35	-15.65	74	48.52	27.13	16.29	33.59	100	97	P	V
2412MHz		2390	49.07	-4.93	54	39.24	27.13	16.29	33.59	100	97	A	V
	*	2412	102.73	-	-	92.84	27.18	16.3	33.59	100	97	P	V
	*	2412	95.24	-	-	85.35	27.18	16.3	33.59	100	97	A	V
													V
													V
		2389.8	56.36	-17.64	74	46.53	27.13	16.29	33.59	154	360	P	H
		2389.9	47.67	-6.33	54	37.84	27.13	16.29	33.59	154	360	A	H
	*	2437	113.47	-	-	103.48	27.27	16.31	33.59	154	360	P	H
	*	2437	105.98	-	-	95.99	27.27	16.31	33.59	154	360	A	H
802.11n		2484	55.42	-18.58	74	45.33	27.36	16.31	33.58	154	360	P	H
HT20		2483.76	47.01	-6.99	54	36.92	27.36	16.31	33.58	154	360	A	H
CH 06		2388.45	51.81	-22.19	74	41.99	27.13	16.29	33.6	112	70	P	V
2437MHz		2389.8	43.93	-10.07	54	34.1	27.13	16.29	33.59	112	70	A	V
	*	2437	108	-	-	98.01	27.27	16.31	33.59	112	70	P	V
	*	2437	100.58	-	-	90.59	27.27	16.31	33.59	112	70	A	V
		2484.88	52.44	-21.56	74	42.34	27.36	16.32	33.58	112	70	P	V
		2484	43.8	-10.2	54	33.71	27.36	16.31	33.58	112	70	A	V

	*	2462	110.63	-	-	100.59	27.31	16.31	33.58	178	360	P	H
	*	2462	103.07	-	-	93.03	27.31	16.31	33.58	178	360	A	H
		2483.92	62.61	-11.39	74	52.52	27.36	16.31	33.58	178	360	P	H
		2483.76	51.9	-2.1	54	41.81	27.36	16.31	33.58	178	360	A	H
802.11n													H
HT20													H
CH 11	*	2462	104.55	-	-	94.51	27.31	16.31	33.58	100	95	P	V
2462MHz	*	2462	96.85	-	-	86.81	27.31	16.31	33.58	100	95	A	V
		2483.6	56.54	-17.46	74	46.45	27.36	16.31	33.58	100	95	P	V
		2483.72	47.43	-6.57	54	37.34	27.36	16.31	33.58	100	95	A	V
													V
													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)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		2389.8	61.52	-12.48	74	51.69	27.13	16.29	33.59	152	360	P	H
		2389.8	51.34	-2.66	54	41.51	27.13	16.29	33.59	152	360	A	H
	*	2417	113.59	-	-	103.7	27.18	16.3	33.59	152	360	P	H
	*	2417	106.11	-	-	96.22	27.18	16.3	33.59	152	360	A	H
802.11n													H
HT20													H
CH 02		2390	55.71	-18.29	74	45.88	27.13	16.29	33.59	116	70	P	V
2417MHz		2390	46.94	-7.06	54	37.11	27.13	16.29	33.59	116	70	A	V
	*	2417	107.63	-	-	97.74	27.18	16.3	33.59	116	70	P	V
	*	2417	99.74	-	-	89.85	27.18	16.3	33.59	116	70	A	V
													V
													V
	*	2457	112.33	-	-	102.29	27.31	16.31	33.58	153	360	P	H
	*	2457	104.94	-	-	94.9	27.31	16.31	33.58	153	360	A	H
		2483.83	61.92	-12.08	74	51.83	27.36	16.31	33.58	153	360	P	H
		2484.04	50.08	-3.92	54	39.99	27.36	16.31	33.58	153	360	A	H
802.11n													H
HT20													H
CH 10	*	2457	106.2	-	-	96.16	27.31	16.31	33.58	102	96	P	V
2457MHz	*	2457	98.59	-	-	88.55	27.31	16.31	33.58	102	96	A	V
		2483.5	55.64	-18.36	74	45.55	27.36	16.31	33.58	102	96	P	V
		2483.97	46.03	-7.97	54	35.94	27.36	16.31	33.58	102	96	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		4824	38.88	-35.12	74	56.14	31.29	10.02	58.57	100	0	P	H
													H
802.11n													H
HT20													H
CH 01		4824	38.31	-35.69	74	55.57	31.29	10.02	58.57	100	0	P	V
2412MHz													V
													V
													V
		4874	41.48	-32.52	74	58.66	31.38	9.99	58.55	100	0	P	H
		7311	41.94	-32.06	74	52.72	36.28	11.77	58.83	100	0	P	H
802.11n													H
HT20													H
CH 06		4874	39.84	-34.16	74	57.02	31.38	9.99	58.55	100	0	P	V
2437MHz		7311	41.41	-32.59	74	52.19	36.28	11.77	58.83	100	0	P	V
													V
													V
		4924	39.48	-34.52	74	56.54	31.48	9.99	58.53	100	0	P	H
		7386	40.46	-33.54	74	51.03	36.47	11.68	58.72	100	0	P	H
802.11n													H
HT20													H
CH 11		4924	39.09	-34.91	74	56.15	31.48	9.99	58.53	100	0	P	V
2462MHz		7386	41.57	-32.43	74	52.14	36.47	11.68	58.72	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

2.4GHz WIFI 802.11n HT20 (LF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		64.29	25.68	-14.32	40	45.45	11.69	1.03	32.49	-	-	P	H
		108.03	29.79	-13.71	43.5	44.33	16.51	1.42	32.47	-	-	P	H
		155.55	28.28	-15.22	43.5	42.53	16.48	1.7	32.43	-	-	P	H
		498.8	25.38	-20.62	46	31.19	23.68	2.89	32.38	-	-	P	H
		746.6	30.45	-15.55	46	31.43	27.78	3.57	32.33	-	-	P	H
		951	33.3	-12.7	46	29.89	30.61	3.99	31.19	100	0	P	H
													H
													H
													H
													H
2.4GHz													H
802.11n													H
HT20		37.56	35.21	-4.79	40	46.61	20.26	0.83	32.49	100	0	P	V
LF		42.96	33.95	-6.05	40	48.01	17.61	0.82	32.49	-	-	P	V
		70.5	31.19	-8.81	40	50.38	12.06	1.24	32.49	-	-	P	V
		512.1	24.81	-21.19	46	30.49	23.74	2.97	32.39	-	-	P	V
		769.7	30.1	-15.9	46	30.84	27.95	3.58	32.27	-	-	P	V
		942.6	32.81	-13.19	46	29.88	30.2	3.99	31.26	-	-	P	V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	56.1	-17.9	74	46.27	27.13	16.29	33.59	170	7	P	H
		2390	48.34	-5.66	54	38.51	27.13	16.29	33.59	170	7	A	H
	*	2412	111.68	-	-	101.79	27.18	16.3	33.59	170	7	P	H
	*	2412	108.81	-	-	98.92	27.18	16.3	33.59	170	7	A	H
													H
													H
		2389.17	53.46	-20.54	74	43.64	27.13	16.29	33.6	163	109	P	V
		2390	43.95	-10.05	54	34.12	27.13	16.29	33.59	163	109	A	V
	*	2412	104.9	-	-	95.01	27.18	16.3	33.59	163	109	P	V
	*	2412	102.02	-	-	92.13	27.18	16.3	33.59	163	109	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 01 2412MHz		4824	42.97	-31.03	74	60.23	31.29	10.02	58.57	100	0	P	H
													H
													H
													H
		4824	41.35	-32.65	74	58.61	31.29	10.02	58.57	100	0	P	V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 10 2457MHz	*	2457	113.82	-	-	103.78	27.31	16.31	33.58	114	359	P	H
	*	2457	106.54	-	-	96.5	27.31	16.31	33.58	114	359	A	H
		2483.76	63.2	-10.8	74	53.11	27.36	16.31	33.58	114	359	P	H
		2483.55	52.34	-1.66	54	42.25	27.36	16.31	33.58	114	359	A	H
													H
													H
	*	2457	108.46	-	-	98.42	27.31	16.31	33.58	185	104	P	V
	*	2457	101.01	-	-	90.97	27.31	16.31	33.58	185	104	A	V
		2484.11	55.98	-18.02	74	45.89	27.36	16.31	33.58	185	104	P	V
		2483.62	47.71	-6.29	54	37.62	27.36	16.31	33.58	185	104	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		2389.8	61.69	-12.31	74	51.86	27.13	16.29	33.59	168	4	P	H
		2390	51.87	-2.13	54	42.04	27.13	16.29	33.59	168	4	A	H
	*	2412	109.97	-	-	100.08	27.18	16.3	33.59	168	4	P	H
	*	2412	102.41	-	-	92.52	27.18	16.3	33.59	168	4	A	H
802.11n													H
HT20													H
CH 01		2389.905	54.43	-19.57	74	44.6	27.13	16.29	33.59	129	114	P	V
2412MHz		2390	46.29	-7.71	54	36.46	27.13	16.29	33.59	129	114	A	V
	*	2412	102.94	-	-	93.05	27.18	16.3	33.59	129	114	P	V
	*	2412	95.33	-	-	85.44	27.18	16.3	33.59	129	114	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		4824	38.33	-35.67	74	55.59	31.29	10.02	58.57	100	0	P	H
													H
802.11n													H
HT20													H
CH 01		4824	37.95	-36.05	74	55.21	31.29	10.02	58.57	100	0	P	V
2412MHz													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

2.4GHz WIFI 802.11g (LF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11g LF		105.33	28.79	-14.71	43.5	43.53	16.32	1.42	32.48	-	-	P	H
		155.28	28.38	-15.12	43.5	42.63	16.48	1.7	32.43	-	-	P	H
		197.13	22.72	-20.78	43.5	38.6	14.76	1.75	32.39	-	-	P	H
		550.6	25.55	-20.45	46	29.75	25.15	3.07	32.42	-	-	P	H
		743.1	29.28	-16.72	46	30.35	27.75	3.53	32.35	-	-	P	H
		885.2	32.71	-13.29	46	31.49	29.07	3.89	31.74	100	0	P	H
													H
													H
													H
													H
													H
													H
		37.56	35.49	-4.51	40	46.89	20.26	0.83	32.49	100	0	P	V
		44.31	33.84	-6.16	40	48.76	16.55	1.02	32.49	-	-	P	V
		65.1	30.87	-9.13	40	50.59	11.74	1.03	32.49	-	-	P	V
		444.2	23.52	-22.48	46	30.27	22.86	2.74	32.35	-	-	P	V
		806.8	29.83	-16.17	46	30.28	28	3.69	32.14	-	-	P	V
		947.5	33.44	-12.56	46	30.22	30.46	3.99	31.23	-	-	P	V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2389.905	57.25	-16.75	74	47.42	27.13	16.29	33.59	126	358	P	H
		2390	50.43	-3.57	54	40.6	27.13	16.29	33.59	126	358	A	H
	*	2412	112.67	-	-	102.78	27.18	16.3	33.59	126	358	P	H
	*	2412	109.41	-	-	99.52	27.18	16.3	33.59	126	358	A	H
													H
													H
		2387.385	54	-20	74	44.18	27.13	16.29	33.6	114	73	P	V
		2390	45.33	-8.67	54	35.5	27.13	16.29	33.59	114	73	A	V
	*	2412	105.72	-	-	95.83	27.18	16.3	33.59	114	73	P	V
	*	2412	102.76	-	-	92.87	27.18	16.3	33.59	114	73	A	V
													V
													V
802.11b CH 06 2437MHz		2340.4	53.7	-20.3	74	44.15	27	16.15	33.6	149	359	P	H
		2390	43.01	-10.99	54	33.18	27.13	16.29	33.59	149	359	A	H
	*	2437	112.96	-	-	102.97	27.27	16.31	33.59	149	359	P	H
	*	2437	109.7	-	-	99.71	27.27	16.31	33.59	149	359	A	H
		2485.12	55.56	-18.44	74	45.46	27.36	16.32	33.58	149	359	P	H
		2483.68	43.49	-10.51	54	33.4	27.36	16.31	33.58	149	359	A	H
		2383.28	52.21	-21.79	74	42.43	27.09	16.29	33.6	115	75	P	V
		2390	41.64	-12.36	54	31.81	27.13	16.29	33.59	115	75	A	V
	*	2437	107.89	-	-	97.9	27.27	16.31	33.59	115	75	P	V
	*	2437	104.81	-	-	94.82	27.27	16.31	33.59	115	75	A	V
		2498.88	52.77	-21.23	74	42.62	27.4	16.32	33.57	115	75	P	V
		2484.08	42.04	-11.96	54	31.95	27.36	16.31	33.58	115	75	A	V

802.11b CH 11 2462MHz	*	2462	111.93	-	-	101.89	27.31	16.31	33.58	118	358	P	H
	*	2462	108.8	-	-	98.76	27.31	16.31	33.58	118	358	A	H
		2484.32	59.34	-14.66	74	49.24	27.36	16.32	33.58	118	358	P	H
		2483.52	50.16	-3.84	54	40.07	27.36	16.31	33.58	118	358	A	H
													H
													H
	*	2462	106.82	-	-	96.78	27.31	16.31	33.58	134	73	P	V
	*	2462	103.79	-	-	93.75	27.31	16.31	33.58	134	73	A	V
		2486	54.67	-19.33	74	44.57	27.36	16.32	33.58	134	73	P	V
		2483.52	45.43	-8.57	54	35.34	27.36	16.31	33.58	134	73	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 02 2417MHz		2389.94	56.11	-17.89	74	46.28	27.13	16.29	33.59	156	358	P	H
		2389.94	48.07	-5.93	54	38.24	27.13	16.29	33.59	156	358	A	H
	*	2417	112.85	-	-	102.96	27.18	16.3	33.59	156	358	P	H
	*	2417	109.87	-	-	99.98	27.18	16.3	33.59	156	358	A	H
													H
													H
		2389.94	53.52	-20.48	74	43.69	27.13	16.29	33.59	131	76	P	V
		2389.94	44.35	-9.65	54	34.52	27.13	16.29	33.59	131	76	A	V
	*	2417	106.19	-	-	96.3	27.18	16.3	33.59	131	76	P	V
	*	2417	103.22	-	-	93.33	27.18	16.3	33.59	131	76	A	V
													V
													V
802.11b CH 10 2457MHz	*	2457	113.14	-	-	103.1	27.31	16.31	33.58	150	360	P	H
	*	2457	110.16	-	-	100.12	27.31	16.31	33.58	150	360	A	H
		2484.04	57.73	-16.27	74	47.64	27.36	16.31	33.58	150	360	P	H
		2483.5	50.37	-3.63	54	40.28	27.36	16.31	33.58	150	360	A	H
													H
													H
	*	2457	107.92	-	-	97.88	27.31	16.31	33.58	111	76	P	V
	*	2457	104.85	-	-	94.81	27.31	16.31	33.58	111	76	A	V
		2483.62	55.48	-18.52	74	45.39	27.36	16.31	33.58	111	76	P	V
		2483.5	46.38	-7.62	54	36.29	27.36	16.31	33.58	111	76	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 01 2412MHz		4824	44.9	-29.1	74	62.16	31.29	10.02	58.57	100	0	P	H
													H
													H
													H
		4824	43.39	-30.61	74	60.65	31.29	10.02	58.57	100	0	P	V
													V
													V
													V
802.11b CH 06 2437MHz		4874	43.45	-30.55	74	60.63	31.38	9.99	58.55	100	0	P	H
		7311	41.19	-32.81	74	51.97	36.28	11.77	58.83	100	0	P	H
													H
													H
		4874	41.24	-32.76	74	58.42	31.38	9.99	58.55	100	0	P	V
		7311	41.47	-32.53	74	52.25	36.28	11.77	58.83	100	0	P	V
													V
													V
802.11b CH 11 2462MHz		4924	42.9	-31.1	74	59.96	31.48	9.99	58.53	100	0	P	H
		7386	41.7	-32.3	74	52.27	36.47	11.68	58.72	100	0	P	H
													H
													H
		4924	42.03	-31.97	74	59.09	31.48	9.99	58.53	100	0	P	V
		7386	42.01	-31.99	74	52.58	36.47	11.68	58.72	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		2389.065	61.59	-12.41	74	51.77	27.13	16.29	33.6	100	360	P	H
		2389.275	52.77	-1.23	54	42.95	27.13	16.29	33.6	100	360	A	H
	*	2412	114.81	-	-	104.92	27.18	16.3	33.59	100	360	P	H
	*	2412	107.34	-	-	97.45	27.18	16.3	33.59	100	360	A	H
													H
													H
		2389.485	59.83	-14.17	74	50.01	27.13	16.29	33.6	164	73	P	V
		2389.8	50.17	-3.83	54	40.34	27.13	16.29	33.59	164	73	A	V
	*	2412	106.9	-	-	97.01	27.18	16.3	33.59	164	73	P	V
	*	2412	100.77	-	-	90.88	27.18	16.3	33.59	164	73	A	V
													V
													V
802.11g CH 06 2437MHz		2389.65	55.46	-18.54	74	45.64	27.13	16.29	33.6	157	360	P	H
		2389.8	47.64	-6.36	54	37.81	27.13	16.29	33.59	157	360	A	H
	*	2437	117.26	-	-	107.27	27.27	16.31	33.59	157	360	P	H
	*	2437	110.05	-	-	100.06	27.27	16.31	33.59	157	360	A	H
		2483.52	55.42	-18.58	74	45.33	27.36	16.31	33.58	157	360	P	H
		2483.6	47.93	-6.07	54	37.84	27.36	16.31	33.58	157	360	A	H
		2376	51.77	-22.23	74	42.06	27.09	16.22	33.6	162	96	P	V
		2389.05	43.6	-10.4	54	33.78	27.13	16.29	33.6	162	96	A	V
	*	2437	110.52	-	-	100.53	27.27	16.31	33.59	162	96	P	V
	*	2437	103.69	-	-	93.7	27.27	16.31	33.59	162	96	A	V
		2484.4	53.56	-20.44	74	43.46	27.36	16.32	33.58	162	96	P	V
		2483.6	44.29	-9.71	54	34.2	27.36	16.31	33.58	162	96	A	V

802.11g CH 11 2462MHz	*	2462	113.46	-	-	103.42	27.31	16.31	33.58	172	360	P	H
	*	2462	106.48	-	-	96.44	27.31	16.31	33.58	172	360	A	H
		2483.6	61.24	-12.76	74	51.15	27.36	16.31	33.58	172	360	P	H
		2483.56	51.67	-2.33	54	41.58	27.36	16.31	33.58	172	360	A	H
													H
													H
	*	2462	107.23	-	-	97.19	27.31	16.31	33.58	186	94	P	V
	*	2462	99.62	-	-	89.58	27.31	16.31	33.58	186	94	A	V
		2483.52	57.25	-16.75	74	47.16	27.36	16.31	33.58	186	94	P	V
		2483.72	46.92	-7.08	54	36.83	27.36	16.31	33.58	186	94	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 02 2417MHz		2388.6	62.68	-11.32	74	52.86	27.13	16.29	33.6	100	360	P	H
		2388.6	52.14	-1.86	54	42.32	27.13	16.29	33.6	100	360	A	H
	*	2417	116.49	-	-	106.6	27.18	16.3	33.59	100	360	P	H
	*	2417	109.34	-	-	99.45	27.18	16.3	33.59	100	360	A	H
													H
													H
		2389.92	56.87	-17.13	74	47.04	27.13	16.29	33.59	166	77	P	V
		2389.92	48.28	-5.72	54	38.45	27.13	16.29	33.59	166	77	A	V
	*	2417	111.06	-	-	101.17	27.18	16.3	33.59	166	77	P	V
	*	2417	103.81	-	-	93.92	27.18	16.3	33.59	166	77	A	V
													V
													V
802.11g CH 10 2457MHz	*	2457	117.4	-	-	107.36	27.31	16.31	33.58	176	360	P	H
	*	2457	110.21	-	-	100.17	27.31	16.31	33.58	176	360	A	H
		2483.5	62.16	-11.84	74	52.07	27.36	16.31	33.58	176	360	P	H
		2483.55	52.4	-1.6	54	42.31	27.36	16.31	33.58	176	360	A	H
													H
													H
	*	2457	110.49	-	-	100.45	27.31	16.31	33.58	186	96	P	V
	*	2457	103.17	-	-	93.13	27.31	16.31	33.58	186	96	A	V
		2483.9	56.41	-17.59	74	46.32	27.36	16.31	33.58	186	96	P	V
		2483.69	48.3	-5.7	54	38.21	27.36	16.31	33.58	186	96	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		4824	40.04	-33.96	74	57.3	31.29	10.02	58.57	100	0	P	H
													H
													H
													H
		4824	40.1	-33.9	74	57.36	31.29	10.02	58.57	100	0	P	V
													V
													V
													V
802.11g CH 06 2437MHz		4874	41.06	-32.94	74	58.24	31.38	9.99	58.55	100	0	P	H
		7311	41.83	-32.17	74	52.61	36.28	11.77	58.83	100	0	P	H
													H
													H
		4874	40.12	-33.88	74	57.3	31.38	9.99	58.55	100	0	P	V
		7311	41.54	-32.46	74	52.32	36.28	11.77	58.83	100	0	P	V
													V
													V
802.11g CH 11 2462MHz		4924	39.89	-34.11	74	56.95	31.48	9.99	58.53	100	0	P	H
		7386	42.22	-31.78	74	52.79	36.47	11.68	58.72	100	0	P	H
													H
													H
		4924	39.6	-34.4	74	56.66	31.48	9.99	58.53	100	0	P	V
		7386	40.88	-33.12	74	51.45	36.47	11.68	58.72	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		2389.8	62.05	-11.95	74	52.22	27.13	16.29	33.59	152	0	P	H
		2389.5	52.79	-1.21	54	42.97	27.13	16.29	33.6	152	0	A	H
	*	2412	109.48	-	-	99.59	27.18	16.3	33.59	152	0	P	H
	*	2412	102.82	-	-	92.93	27.18	16.3	33.59	152	0	A	H
802.11n													H
HT20													H
CH 01		2390	55.26	-18.74	74	45.43	27.13	16.29	33.59	168	95	P	V
2412MHz		2390	47.02	-6.98	54	37.19	27.13	16.29	33.59	168	95	A	V
	*	2412	103.32	-	-	93.43	27.18	16.3	33.59	168	95	P	V
	*	2412	96.41	-	-	86.52	27.18	16.3	33.59	168	95	A	V
													V
													V
		2389.65	57.44	-16.56	74	47.62	27.13	16.29	33.6	138	6	P	H
		2389.5	48.07	-5.93	54	38.25	27.13	16.29	33.6	138	6	A	H
	*	2437	115.69	-	-	105.7	27.27	16.31	33.59	138	6	P	H
	*	2437	108.87	-	-	98.88	27.27	16.31	33.59	138	6	A	H
802.11n		2484.24	56.12	-17.88	74	46.02	27.36	16.32	33.58	138	6	P	H
HT20		2483.6	47.65	-6.35	54	37.56	27.36	16.31	33.58	138	6	A	H
CH 06		2389.95	51.46	-22.54	74	41.63	27.13	16.29	33.59	194	98	P	V
2437MHz		2388.9	43.16	-10.84	54	33.34	27.13	16.29	33.6	194	98	A	V
	*	2437	108.37	-	-	98.38	27.27	16.31	33.59	194	98	P	V
	*	2437	101.68	-	-	91.69	27.27	16.31	33.59	194	98	A	V
		2484.4	52.69	-21.31	74	42.59	27.36	16.32	33.58	194	98	P	V
		2483.52	43.92	-10.08	54	33.83	27.36	16.31	33.58	194	98	A	V

	*	2462	111.61	-	-	101.57	27.31	16.31	33.58	175	5	P	H
	*	2462	105.05	-	-	95.01	27.31	16.31	33.58	175	5	A	H
		2484.2	62.42	-11.58	74	52.32	27.36	16.32	33.58	175	5	P	H
		2484.68	51.74	-2.26	54	41.64	27.36	16.32	33.58	175	5	A	H
802.11n													H
HT20													H
CH 11	*	2462	104.24	-	-	94.2	27.31	16.31	33.58	134	94	P	V
2462MHz	*	2462	97.9	-	-	87.86	27.31	16.31	33.58	134	94	A	V
		2484.96	55.56	-18.44	74	45.46	27.36	16.32	33.58	134	94	P	V
		2483.64	47.1	-6.9	54	37.01	27.36	16.31	33.58	134	94	A	V
													V
													V

Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		2389.8	61.8	-12.2	74	51.97	27.13	16.29	33.59	159	7	P	H
		2389.92	52.88	-1.12	54	43.05	27.13	16.29	33.59	159	7	A	H
	*	2417	113.88	-	-	103.99	27.18	16.3	33.59	159	7	P	H
	*	2417	107.45	-	-	97.56	27.18	16.3	33.59	159	7	A	H
802.11n													H
HT20													H
CH 02		2388.36	54.58	-19.42	74	44.76	27.13	16.29	33.6	163	95	P	V
2417MHz		2388.72	46.23	-7.77	54	36.41	27.13	16.29	33.6	163	95	A	V
	*	2417	107.92	-	-	98.03	27.18	16.3	33.59	163	95	P	V
	*	2417	100.85	-	-	90.96	27.18	16.3	33.59	163	95	A	V
													V
													V
	*	2457	115.07	-	-	105.03	27.31	16.31	33.58	115	7	P	H
	*	2457	108.08	-	-	98.04	27.31	16.31	33.58	115	7	A	H
		2483.5	60.91	-13.09	74	50.82	27.36	16.31	33.58	115	7	P	H
		2483.97	52.2	-1.8	54	42.11	27.36	16.31	33.58	115	7	A	H
802.11n													H
HT20													H
CH 10	*	2457	108.35	-	-	98.31	27.31	16.31	33.58	139	105	P	V
2457MHz	*	2457	100.9	-	-	90.86	27.31	16.31	33.58	139	105	A	V
		2483.76	55.24	-18.76	74	45.15	27.36	16.31	33.58	139	105	P	V
		2483.62	47.22	-6.78	54	37.13	27.36	16.31	33.58	139	105	A	V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

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

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		4824	38.27	-35.73	74	55.53	31.29	10.02	58.57	100	0	P	H
													H
802.11n													H
HT20													H
CH 01		4824	38.51	-35.49	74	55.77	31.29	10.02	58.57	100	0	P	V
2412MHz													V
													V
													V
		4874	41.06	-32.94	74	58.24	31.38	9.99	58.55	100	0	P	H
		7311	41.41	-32.59	74	52.19	36.28	11.77	58.83	100	0	P	H
802.11n													H
HT20													H
CH 06		4874	39.58	-34.42	74	56.76	31.38	9.99	58.55	100	0	P	V
2437MHz		7311	41.61	-32.39	74	52.39	36.28	11.77	58.83	100	0	P	V
													V
													V
		4924	41.16	-32.84	74	58.22	31.48	9.99	58.53	100	0	P	H
		7386	41.08	-32.92	74	51.65	36.47	11.68	58.72	100	0	P	H
802.11n													H
HT20													H
CH 11		4924	39.3	-34.7	74	56.36	31.48	9.99	58.53	100	0	P	V
2462MHz		7386	40.89	-33.11	74	51.46	36.47	11.68	58.72	100	0	P	V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

Emission below 1GHz

2.4GHz WIFI 802.11n HT20 (LF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		64.29	25.68	-14.32	40	45.45	11.69	1.03	32.49	-	-	P	H
		108.03	29.79	-13.71	43.5	44.33	16.51	1.42	32.47	-	-	P	H
		155.55	28.28	-15.22	43.5	42.53	16.48	1.7	32.43	-	-	P	H
		498.8	25.38	-20.62	46	31.19	23.68	2.89	32.38	-	-	P	H
		746.6	30.45	-15.55	46	31.43	27.78	3.57	32.33	-	-	P	H
		951	33.3	-12.7	46	29.89	30.61	3.99	31.19	100	0	P	H
													H
													H
													H
													H
2.4GHz													H
802.11n													H
HT20		37.56	35.21	-4.79	40	46.61	20.26	0.83	32.49	100	0	P	V
LF		42.96	33.95	-6.05	40	48.01	17.61	0.82	32.49	-	-	P	V
		70.5	31.19	-8.81	40	50.38	12.06	1.24	32.49	-	-	P	V
		512.1	24.81	-21.19	46	30.49	23.74	2.97	32.39	-	-	P	V
		769.7	30.1	-15.9	46	30.84	27.95	3.58	32.27	-	-	P	V
		942.6	32.81	-13.19	46	29.88	30.2	3.99	31.26	-	-	P	V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

<TXBF Mode>

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		2389.905	64.81	-9.19	74	54.98	27.13	16.29	33.59	161	0	P	H
		2390	52.6	-1.4	54	42.77	27.13	16.29	33.59	161	0	A	H
	*	2412	112.41	-	-	102.52	27.18	16.3	33.59	161	0	P	H
	*	2412	105.25	-	-	95.36	27.18	16.3	33.59	161	0	A	H
802.11n													H
HT20													H
CH 01		2390	55.88	-18.12	74	46.05	27.13	16.29	33.59	161	104	P	V
2412MHz		2390	44.8	-9.2	54	34.97	27.13	16.29	33.59	161	104	A	V
	*	2412	103.83	-	-	93.94	27.18	16.3	33.59	161	104	P	V
	*	2412	96.87	-	-	86.98	27.18	16.3	33.59	161	104	A	V
													V
													V
		2389.38	59.97	-14.03	74	50.15	27.13	16.29	33.6	155	360	P	H
		2389.94	51.01	-2.99	54	41.18	27.13	16.29	33.59	155	360	A	H
	*	2437	119.96	-	-	109.97	27.27	16.31	33.59	155	360	P	H
	*	2437	114.17	-	-	104.18	27.27	16.31	33.59	155	360	A	H
802.11n		2484	64.59	-9.41	74	54.5	27.36	16.31	33.58	155	360	P	H
HT20		2483.76	51.3	-2.7	54	41.21	27.36	16.31	33.58	155	360	A	H
CH 06		2389.94	53.69	-20.31	74	43.86	27.13	16.29	33.59	397	66	P	V
2437MHz		2389.94	43.69	-10.31	54	33.86	27.13	16.29	33.59	397	66	A	V
	*	2437	113.99	-	-	104	27.27	16.31	33.59	397	66	P	V
	*	2437	105.5	-	-	95.51	27.27	16.31	33.59	397	66	A	V
		2483.84	56.31	-17.69	74	46.22	27.36	16.31	33.58	397	66	P	V
		2483.52	45.25	-8.75	54	35.16	27.36	16.31	33.58	397	66	A	V

	*	2462	113.08	-	-	103.04	27.31	16.31	33.58	160	5	P	H
	*	2462	105.02	-	-	94.98	27.31	16.31	33.58	160	5	A	H
		2483.6	62.05	-11.95	74	51.96	27.36	16.31	33.58	160	5	P	H
		2483.65	51.45	-2.55	54	41.36	27.36	16.31	33.58	160	5	A	H
802.11n													H
HT20													H
CH 11	*	2462	105.56	-	-	95.52	27.31	16.31	33.58	174	96	P	V
2462MHz	*	2462	98.63	-	-	88.59	27.31	16.31	33.58	174	96	A	V
		2483.6	55.73	-18.27	74	45.64	27.36	16.31	33.58	174	96	P	V
		2485	44.86	-9.14	54	34.76	27.36	16.32	33.58	174	96	A	V
													V
													V

Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		2388.72	64.55	-9.45	74	54.73	27.13	16.29	33.6	152	360	P	H
		2390	52.58	-1.42	54	42.75	27.13	16.29	33.59	152	360	A	H
	*	2417	118.6	-	-	108.71	27.18	16.3	33.59	152	360	P	H
	*	2417	111.81	-	-	101.92	27.18	16.3	33.59	152	360	A	H
802.11n													H
HT20													H
CH 02		2390	58.1	-15.9	74	48.27	27.13	16.29	33.59	388	72	P	V
2417MHz		2390	45.11	-8.89	54	35.28	27.13	16.29	33.59	388	72	A	V
	*	2417	108.86	-	-	98.97	27.18	16.3	33.59	388	72	P	V
	*	2417	101.04	-	-	91.15	27.18	16.3	33.59	388	72	A	V
													V
													V
	*	2457	117.46	-	-	107.42	27.31	16.31	33.58	175	0	P	H
	*	2457	109.36	-	-	99.32	27.31	16.31	33.58	175	0	A	H
		2483.9	61.54	-12.46	74	51.45	27.36	16.31	33.58	175	0	P	H
		2483.65	52	-2	54	41.91	27.36	16.31	33.58	175	0	A	H
802.11n													H
HT20													H
CH 10	*	2457	109.65	-	-	99.61	27.31	16.31	33.58	172	93	P	V
2457MHz	*	2457	102	-	-	91.96	27.31	16.31	33.58	172	93	A	V
		2483.65	58.08	-15.92	74	47.99	27.36	16.31	33.58	172	93	P	V
		2483.75	44.49	-9.51	54	34.4	27.36	16.31	33.58	172	93	A	V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		4824	40.45	-33.55	74	57.71	31.29	10.02	58.57	100	0	P	H
													H
802.11n													H
HT20													H
CH 01		4824	38.67	-35.33	74	55.93	31.29	10.02	58.57	100	0	P	V
2412MHz													V
													V
													V
		4874	45.08	-28.92	74	62.26	31.38	9.99	58.55	100	0	P	H
		7311	48.47	-25.53	74	59.25	36.28	11.77	58.83	100	0	P	H
802.11n													H
HT20													H
CH 06		4874	40.69	-33.31	74	57.87	31.38	9.99	58.55	100	0	P	V
2437MHz		7311	42.13	-31.87	74	52.91	36.28	11.77	58.83	100	0	P	V
													V
													V
		4924	39.9	-34.1	74	56.96	31.48	9.99	58.53	100	0	P	H
		7386	41.58	-32.42	74	52.15	36.47	11.68	58.72	100	0	P	H
802.11n													H
HT20													H
CH 11		4924	39.6	-34.4	74	56.66	31.48	9.99	58.53	100	0	P	V
2462MHz		7386	42.49	-31.51	74	53.06	36.47	11.68	58.72	100	0	P	V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

Emission below 1GHz

2.4GHz WIFI 802.11n HT20 (LF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		106.95	35.53	-7.97	43.5	50.16	16.42	1.42	32.47	100	0	P	H
		156.63	28.06	-15.44	43.5	42.39	16.4	1.7	32.43			P	H
		197.13	24.33	-19.17	43.5	40.21	14.76	1.75	32.39			P	H
		532.4	24.99	-21.01	46	30.49	23.92	2.99	32.41			P	H
		729.1	31.39	-14.61	46	32.98	27.27	3.53	32.39			P	H
		953.1	33.47	-12.53	46	29.81	30.76	4.07	31.17			P	H
													H
													H
													H
													H
2.4GHz													H
802.11n													H
HT20		40.8	36.33	-3.67	40	49.31	18.68	0.83	32.49	100	0	P	V
LF		61.86	35.1	-4.9	40	54.96	11.59	1.04	32.49			P	V
		67.8	27.23	-12.77	40	46.8	11.88	1.04	32.49			P	V
		474.3	24.08	-21.92	46	30.28	23.36	2.81	32.37			P	V
		652.8	27.15	-18.85	46	30.04	26.27	3.31	32.47			P	V
		923.7	32.2	-13.8	46	30.24	29.45	3.95	31.44			P	V
													V
													V
													V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against limit line.

Note symbol

*	**Fundamental Frequency** which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is **over limit** line.
P/A	**P**eak or **A**verage
H/V	**H**orizontal or **V**ertical

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

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

1. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)
2. Level(dBμV/m) =

Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

3. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

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

Appendix C. Radiated Spurious Emission Plots

Test Engineer :	HAO HSU, Ken Wu, and Avis Chuan	**Temperature :**	21~26°C
		Relative Humidity :	51~56%

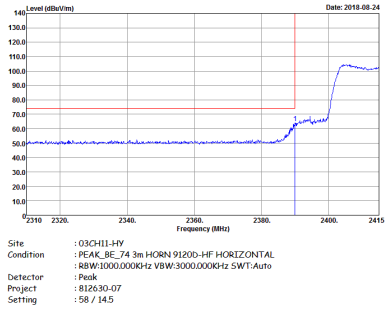
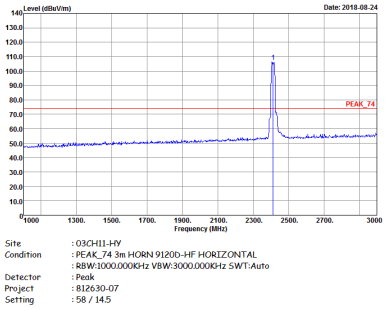
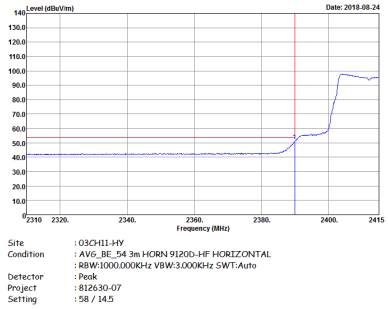
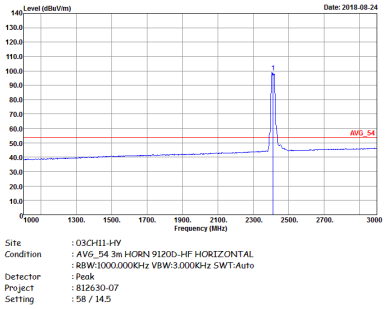
Note symbol

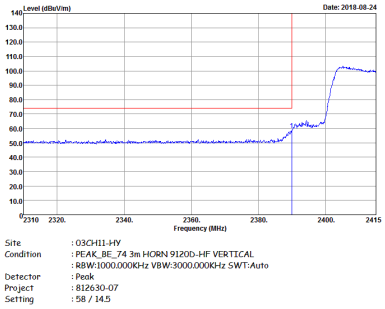
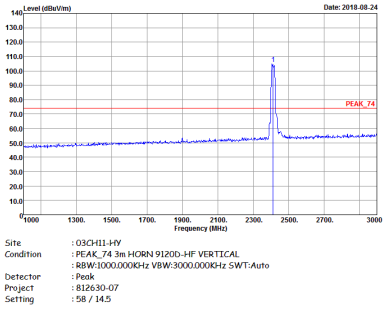
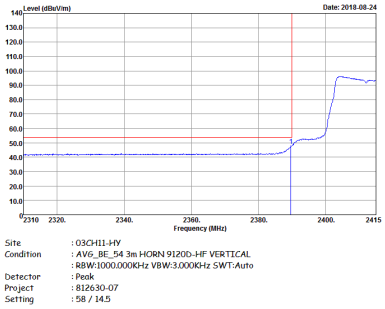
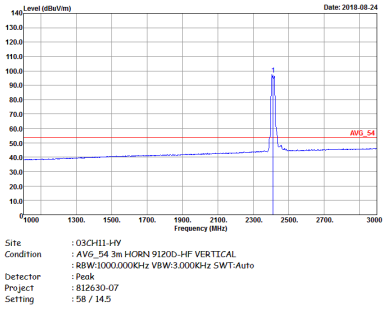
-L	**Low channel location**
-R	**High channel location**

<CDD Mode>

<SKU 1>

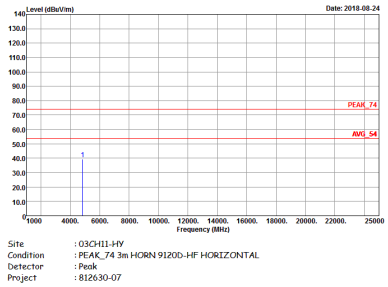
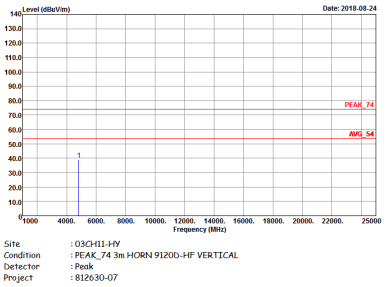
2.4GHz 2400~2483.5MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

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

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

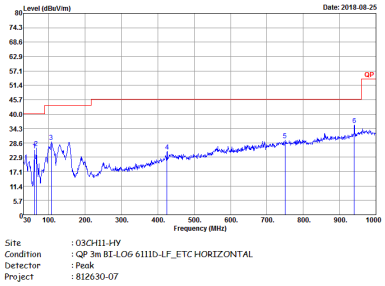
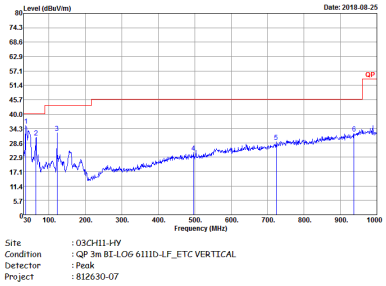
2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

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

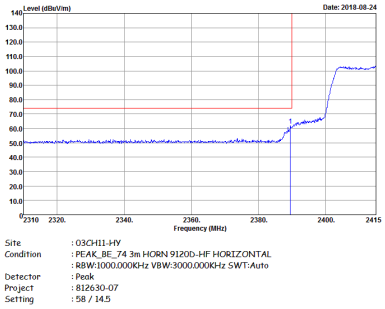
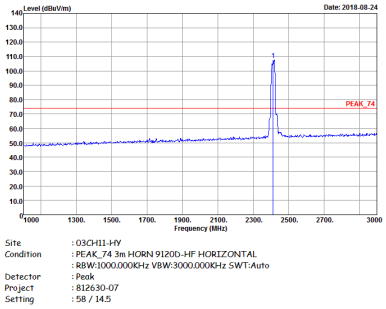
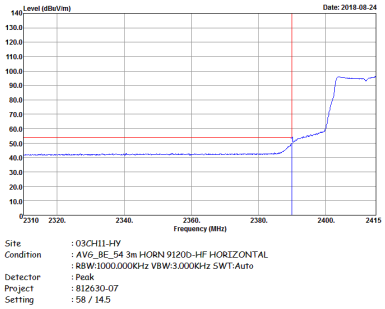
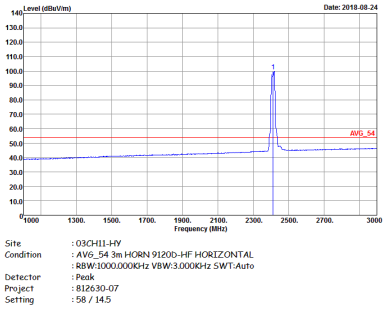
Emission below 1GHz

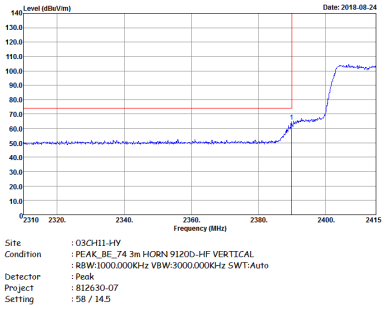
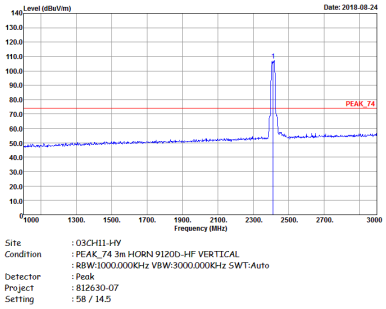
2.4GHz WIFI 802.11n HT20 (LF)

WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11n HT20 LF	
1	Horizontal	Vertical
QP / Peak		

<SKU 2>

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

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

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