



FCC RADIO TEST REPORT

FCC ID : UZ7CC6000
Equipment : Customer Concierge
Brand Name : ZEBRA
Model Name : CC6000
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 Jan. 11, 2019 and testing was started from Jan. 17, 2019 and completed on Mar. 04, 2019. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

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

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

Approved by: Jones Tsai

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

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



Table of Contents

History of this test report	3
Summary of Test Result	4
1 General Description	5
1.1 Product Feature of Equipment Under Test.....	5
1.2 Product Specification of Equipment Under Test.....	6
1.3 Modification of EUT	7
1.4 Testing Location.....	7
1.5 Applicable Standards	8
2 Test Configuration of Equipment Under Test	9
2.1 Carrier Frequency and Channel	9
2.2 Test Mode	10
2.3 Connection Diagram of Test System.....	17
2.4 Support Unit used in test configuration and system	18
2.5 EUT Operation Test Setup	19
2.6 Measurement Results Explanation Example	19
3 Test Result	20
3.1 6dB and 99% Bandwidth Measurement	20
3.2 Output Power Measurement	24
3.3 Power Spectral Density Measurement	28
3.4 Conducted Band Edges and Spurious Emission Measurement	32
3.5 Radiated Band Edges and Spurious Emission Measurement	93
3.6 AC Conducted Emission Measurement	98
3.7 Antenna Requirements	100
4 List of Measuring Equipment	102
5 Uncertainty of Evaluation	104
Appendix A. AC Conducted Emission Test Result	
Appendix B. Radiated Spurious Emission	
Appendix C. Radiated Spurious Emission Plots	
Appendix D. Duty Cycle Plots	
Appendix E. Setup Photographs	



History of this test report

Report No.	Version	Description	Issued Date
FR911104C	01	Initial issue of report	Mar. 26, 2019



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 1.05 dB at 2483.690 MHz
3.6	15.207	AC Conducted Emission	Pass	Under limit 5.73 dB at 0.564 MHz
3.7	15.203 & 15.247(b)	Antenna Requirement	Pass	-

Declaration of Conformity:

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

Comments and Explanations:

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

Reviewed by: Wii Chang

Report Producer: Maggie Chiang



1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Customer Concierge
Brand Name	ZEBRA
Model Name	CC6000
FCC ID	UZ7CC6000
EUT supports Radios application	NFC WLAN 11a/b/g/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE
HW Version	DV
SW Version	01-15-05.00.OG-U00-PRD
FW Version	FUSION_QA_2_1.4.0.002_O
MFD	21DEC18
EUT Stage	Engineering Sample

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

<Sample Information>

	Sample 1	Sample 2	Sample 3
Component Category	CC6000 Landscape Display with Camera	CC6000 Landscape Display, No Camera	CC6000 Portrait Display with Camera
Data capture options	SE4710	SE4710	SE4710
Camera	Front Facing ≥5 Mp	None	Front Facing ≥5 Mp

Supported Unit Used in Test Configuration and System				
AC Adapter	Brand Name	ZEBRA	Part Number	PWR-BUA5V16W0WW
DC Cable	Brand Name	ZEBRA	Part Number	CBL-DC-383A1-01
AC Cable	Brand Name	ZEBRA	Part Number	50-16000-182R
POE	Brand Name	Microsemi	Model Number	PD-9501GR/AC

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 : 21.05 dBm (0.1274 W) 802.11g : 18.15 dBm (0.0653 W) 802.11n HT20 : 17.85 dBm (0.0610 W) 802.11n HT40 : 18.95 dBm (0.0785 W) 802.11ac VHT20 : 17.95 dBm(0.0624 W) 802.11ac VHT40 : 19.05 dBm(0.0804 W) <Ant. 2> 802.11b : 21.55 dBm (0.1429 W) 802.11g : 18.05 dBm (0.0638 W) 802.11n HT20 : 17.75 dBm (0.0596 W) 802.11n HT40 : 17.25 dBm (0.0531 W) 802.11ac VHT20 : 17.85 dBm(0.0610 W) 802.11ac VHT40 : 17.35 dBm(0.0543 W) <MIMO Ant. 1 + 2> 802.11b : 24.19 dBm (0.2624 W) 802.11g : 20.96 dBm (0.1247 W) 802.11n HT20 : 20.86 dBm (0.1219 W) 802.11n HT40 : 19.01 dBm (0.0796 W) 802.11ac VHT20 : 21.06 dBm(0.1276 W) 802.11ac VHT40 : 19.06 dBm(0.0805 W)
Maximum (Average) Output Power to antenna <TXBF Mode>	<MIMO Ant. 1 + 2> 802.11ac VHT20 : 21.31 dBm(0.1352 W) 802.11ac VHT40 : 18.46 dBm(0.0701 W)
99% Occupied Bandwidth <CDD Mode>	<Ant. 1> 802.11b : 13.00MHz 802.11g : 16.80MHz 802.11ac VHT20 : 17.95MHz 802.11ac VHT40 : 36.60MHz <Ant. 2> 802.11b : 13.90MHz 802.11g : 16.80MHz 802.11ac VHT20 : 17.95MHz 802.11ac VHT40 : 36.60MHz <MIMO Ant. 1> 802.11b : 13.15MHz 802.11g : 16.75MHz 802.11ac VHT20 : 17.95MHz 802.11ac VHT40 : 36.60MHz <MIMO Ant. 2> 802.11b : 14.30MHz 802.11g : 16.75MHz 802.11ac VHT20 : 17.90MHz 802.11ac VHT40 : 36.50MHz

Standards-related Product Specification			
99% Occupied Bandwidth <TXBF Mode>	<MIMO Ant. 1> 802.11ac VHT20 : 17.90MHz 802.11ac VHT40 : 18.50MHz		
	<MIMO Ant. 2> 802.11ac VHT20 : 36.50MHz 802.11ac VHT40 : 36.50MHz		
Antenna Type / Gain	<Ant. 1> PIFA Antenna with gain 3.86 dBi <Ant. 2> PIFA Antenna with gain 3.24 dBi		
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac: OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)		
Antenna Function Description		Ant. 1	Ant. 2
	802.11 b/g/n/ac	V	V
	802.11 b/g/n/ac MIMO	V	V
	802.11 ac TXBF	V	V

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

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.		
	03CH15-HY		

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

FCC Designation No.: TW1190 and TW0007



1.5 Applicable Standards

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

- ♦ FCC Part 15 Subpart C §15.247
- ♦ FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v05r01
- ♦ 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 (Y plane for CDD Mode Ant. 1, Ant. 2, and TXBF Mode Ant. 1+ Ant. 2 ; X Plane for CDD Mode Ant. 1+2) 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 (Covered by VHT20)	MCS0
802.11n HT40 (Covered by VHT40)	MCS0
802.11ac VHT20	MCS0
802.11ac VHT40	MCS0

MIMO Mode

Modulation	Data Rate
802.11b	1 Mbps
802.11g	6 Mbps
802.11n HT20 (Covered by VHT20)	MCS0
802.11n HT40 (Covered by VHT40)	MCS0
802.11ac VHT20	MCS0
802.11ac VHT40	MCS0

TXBF Mode

Modulation	Data Rate
802.11ac VHT20	MCS0
802.11ac VHT40	MCS0

Test Cases	
AC Conducted Emission	Mode 1: WLAN (2.4GHz) Link + Bluetooth Link + Scanner + USB (3.1/Type C) Data Link with Notebook (Notebook to eMMC) + USB (2.0/Type A) USB Flash Drive Load + USB (2.0/Type A) USB Flash Drive Load + POE + LAN Link with AP + Headset for Sample 1
Remark: 1. Data Linking with Notebook means data application transferred mode between EUT and Notebook. 2. For Radiated Test Cases, the tests were performed with Sample 1.	



<CDD Mode>

<Ant. 1>

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
Duty Cycle (%)		100.00				
CH 01	2412	21.05	CH 01	20.95	20.95	20.95
CH 06	2437	20.45				
CH 11	2462	20.05				

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	
Duty Cycle (%)		94.70									
CH 01	2412	18.15		CH 01	18.05	17.75	17.65	17.55	17.55	17.55	17.55
CH 06	2437	17.95									
CH 11	2462	17.85									

802.11n HT20 RF Avg Output Power (dBm)											
Power vs. Channel			Power vs Data Rate								
Channel	Frequency (MHz)	MCS Index	Channel	MCS Index							
		MCS 0		MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	
Duty Cycle (%)		95.27									
CH 01	2412	17.85		CH 01	17.65	17.75	17.65	17.55	17.55	17.55	17.55
CH 06	2437	17.55									
CH 11	2462	17.15									

802.11n HT40 RF Avg Output Power (dBm)										
Power vs. Channel			Power vs Data Rate							
Channel	Frequency (MHz)	MCS Index	Channel	MCS Index						
		MCS 0		MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7
Duty Cycle (%)		90.87								
CH 03	2422	18.95	CH 03	18.85	17.75	17.65	17.55	17.55	17.55	17.55
CH 06	2437	17.35								
CH 09	2452	14.85								



802.11ac VHT20 RF Avg Output Power (dBm)												
Power vs. Channel			Power vs Data Rate									
Channel	Frequency (MHz)	MCS Index	Channel	MCS Index								
		MCS 0		MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	MCS 8	
Duty Cycle (%)		94.35										
CH 01	2412	17.95		CH 01	17.75	17.65	17.55	17.55	17.55	17.55	17.55	17.55
CH 06	2437	17.65										
CH 11	2462	17.25										

802.11ac VHT40 RF Avg Output Power (dBm)													
Power vs. Channel			Power vs Data Rate										
Channel	Frequency (MHz)	MCS Index	Channel	MCS Index									
		MCS 0		MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	MCS 8	MCS 9	
Duty Cycle (%)		90.48											
CH 03	2422	19.05		CH 03	18.95	17.55	17.55	17.55	17.55	17.55	17.55	17.65	17.65
CH 06	2437	17.45											
CH 09	2452	14.95											

<Ant. 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
Duty Cycle (%)		100.00				
CH 01	2412	21.55	CH 01	21.45	21.45	21.45
CH 06	2437	20.55				
CH 11	2462	19.95				

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
Duty Cycle (%)		95.58	CH 06	17.95	17.95	17.85	17.75	17.85	17.85	17.85
CH 01	2412	17.85								
CH 06	2437	18.05								
CH 11	2462	16.65								

802.11n HT20 RF Avg Output Power (dBm)											
Power vs. Channel			Power vs Data Rate								
Channel	Frequency (MHz)	MCS Index	Channel	MCS Index							
		MCS 0		MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	
Duty Cycle (%)		95.09									
CH 01	2412	16.95		CH 06	17.65	17.55	17.45	17.65	17.65	17.65	17.65
CH 06	2437	17.75									
CH 11	2462	15.75									

802.11n HT40 RF Avg Output Power (dBm)											
Power vs. Channel			Power vs Data Rate								
Channel	Frequency (MHz)	MCS Index	Channel	MCS Index							
		MCS 0		MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	
Duty Cycle (%)		90.48									
CH 03	2422	14.75		CH 06	17.15	17.15	17.15	16.85	16.85	16.85	16.85
CH 06	2437	17.25									
CH 09	2452	13.95									



802.11ac VHT20 RF Avg Output Power (dBm)												
Power vs. Channel			Power vs Data Rate									
Channel	Frequency (MHz)	MCS Index	Channel	MCS Index								
		MCS 0		MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	MCS 8	
Duty Cycle (%)		94.31										
CH 01	2412	17.05		CH 06	17.85	17.85	17.85	17.85	17.85	17.85	17.85	17.85
CH 06	2437	17.85										
CH 11	2462	15.85										

802.11ac VHT40 RF Avg Output Power (dBm)													
Power vs. Channel			Power vs Data Rate										
Channel	Frequency (MHz)	MCS Index	Channel	MCS Index									
		MCS 0		MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	MCS 8	MCS 9	
Duty Cycle (%)		90.05											
CH 03	2422	14.85											
CH 06	2437	17.35		CH 06	17.25	17.25	17.25	16.95	16.95	16.95	16.95	16.95	16.95
CH 09	2452	14.05											

MIMO <Ant. 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	24.19	CH 01	24.09	24.09	24.09
CH 06	2437	23.61				
CH 11	2462	22.76				

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	20.56	CH 06	20.86	20.86	20.86	20.66	20.86	20.86	20.86
CH 06	2437	20.96								
CH 11	2462	19.01								

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	18.76	CH 06	20.66	20.56	20.56	20.66	20.66	20.76	20.76
CH 06	2437	20.86								
CH 11	2462	18.71								

802.11n HT40 RF 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 03	2422	16.66	CH 06	17.15	17.15	17.15	16.85	16.85	16.85	16.85
CH 06	2437	19.01								
CH 09	2452	16.41								

802.11ac VHT20 RF Avg Output Power (dBm)											
Power vs. Channel			Power vs Data Rate								
Channel	Frequency (MHz)	MCS Index	Channel	MCS Index							
		MCS 0		MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	MCS 8
CH 01	2412	18.82	CH 06	20.96	20.96	20.96	20.96	20.96	20.96	20.96	20.86
CH 06	2437	21.06									
CH 11	2462	18.76									

802.11ac VHT40 RF Avg Output Power (dBm)												
Power vs. Channel			Power vs Data Rate									
Channel	Frequency (MHz)	MCS Index	Channel	MCS Index								
		MCS 0		MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	MCS 8	MCS 9
CH 03	2422	16.71	CH 06	18.96	18.96	18.96	18.66	18.66	18.66	18.66	18.66	18.66
CH 06	2437	19.06										
CH 09	2452	16.51										

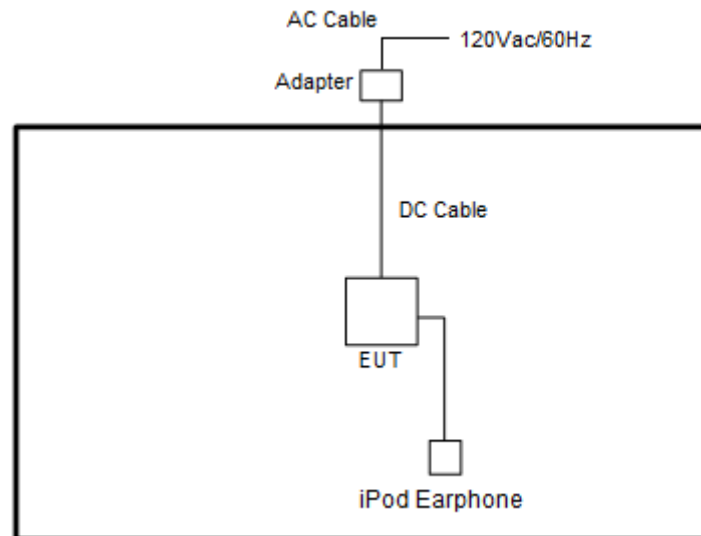
<TXBF Modes>
MIMO <Ant. 1+2>

802.11ac VHT20 RF Avg Output Power (dBm)											
Power vs. Channel			Power vs Data Rate								
Channel	Frequency (MHz)	MCS Index	Channel	MCS Index							
		MCS 0		MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	MCS 8
CH 01	2412	20.81	CH 06	21.11	21.21	21.11	21.11	21.21	21.11	21.21	21.21
CH 06	2437	21.31									
CH 11	2462	20.79									

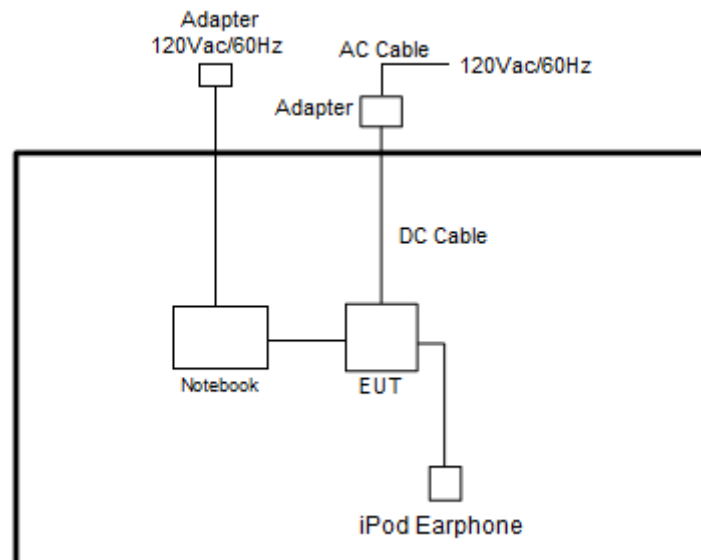
802.11ac VHT40 RF Avg Output Power (dBm)												
Power vs. Channel			Power vs Data Rate									
Channel	Frequency (MHz)	MCS Index	Channel	MCS Index								
		MCS 0		MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	MCS 8	MCS 9
CH 03	2422	15.61	CH 06	18.41	18.36	18.41	18.36	18.41	18.41	18.41	18.41	18.36
CH 06	2437	18.46										
CH 09	2452	16.86										

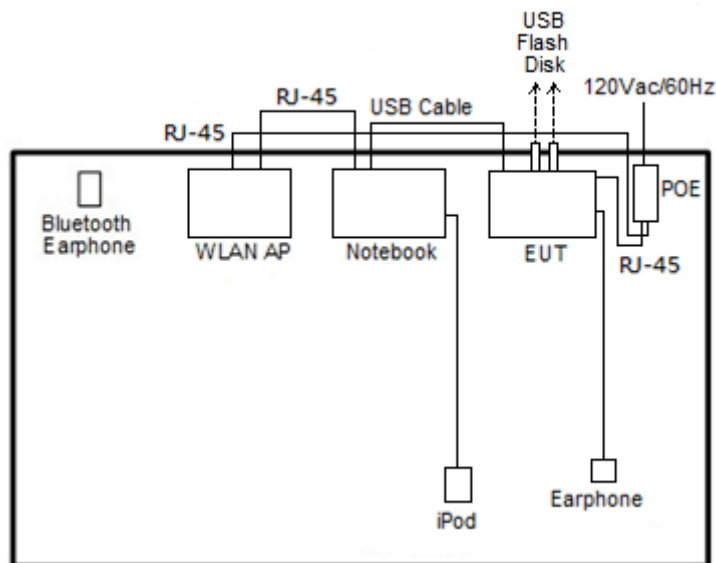
2.3 Connection Diagram of Test System

<WLAN Tx for CDD Mode>



<WLAN Tx for TXBF Mode>



<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.	Notebook	DELL	Latitude E6320	FCC DoC/ Contains FCC ID: QDS-BRCM1054	N/A	AC I/P: Unshielded, 1.2m DC O/P: Shielded, 1.8m
2.	Notebook	ASUS	P2430U	FCC DoC	N/A	AC I/P: Unshielded, 1.2m DC O/P: Shielded, 1.8m
3.	Notebook	Lenovo	L570	NA	N/A	AC I/P: Unshielded, 1.2m DC O/P: Shielded, 1.8m
4.	USB Flash Drive	TOSHIBA	TOSHIBA 32G	FCC DoC	N/A	N/A
5.	USB Flash Drive	SanDisk	Cruzer Glide 3.0 16G	FCC DoC	NA	N/A
6.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
7.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8m
8.	iPod	Apple	A1285	FCC DoC	Shielded, 1.0m	N/A
9.	iPod Earphone	Apple	N/A	Verification	Unshielded, 1.0m	N/A
10.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A



2.5 EUT Operation Test Setup

The RF test items, utility “QRCT” 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 “adb” 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.

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

3 Test Result

3.1 6dB and 99% Bandwidth Measurement

3.1.1 Limit of 6dB and 99% Bandwidth

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

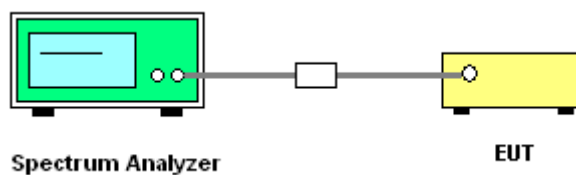
3.1.2 Measuring Instruments

See list of measuring equipment of this test report.

3.1.3 Test Procedures

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

3.1.4 Test Setup



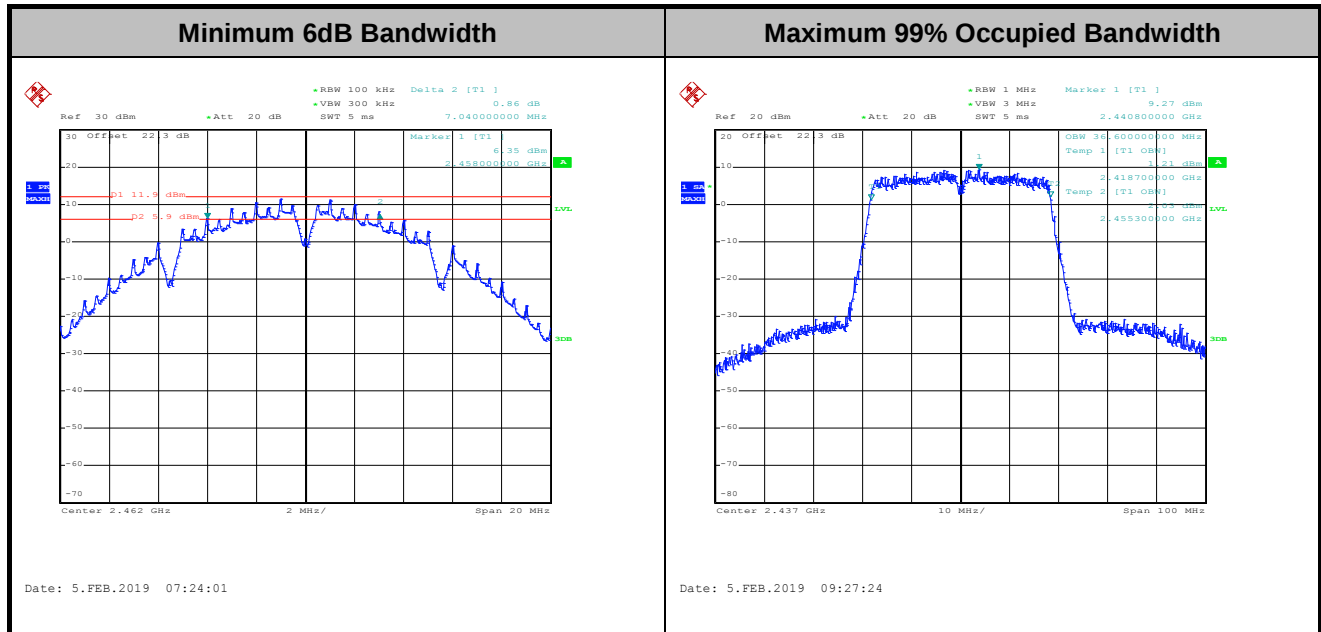


3.1.5 Test Result of 6dB and 99% Occupied Bandwidth

Test Engineer :	Kai Liao, Luffy Lin, and Allen Lin	Temperature :	21~25°C
		Relative Humidity :	51~54%

<CDD Mode>

2.4GHz Band										
Mod.	Data Rate	N _{TX}	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	13.00	13.90	8.02	8.04	0.50	Pass
11b	1Mbps	1	6	2437	12.90	13.30	8.04	8.06	0.50	Pass
11b	1Mbps	1	11	2462	13.00	13.35	8.04	8.06	0.50	Pass
11g	6Mbps	1	1	2412	16.75	16.75	15.12	15.40	0.50	Pass
11g	6Mbps	1	6	2437	16.80	16.80	15.28	15.06	0.50	Pass
11g	6Mbps	1	11	2462	16.75	16.80	14.82	15.36	0.50	Pass
VHT20	MCS0	1	1	2412	17.95	17.90	15.96	15.32	0.50	Pass
VHT20	MCS0	1	6	2437	17.90	17.95	16.00	15.92	0.50	Pass
VHT20	MCS0	1	11	2462	17.95	17.95	15.98	15.98	0.50	Pass
VHT40	MCS0	1	3	2422	36.60	36.40	35.12	35.12	0.50	Pass
VHT40	MCS0	1	6	2437	36.60	36.60	35.40	35.72	0.50	Pass
VHT40	MCS0	1	9	2452	36.50	36.50	35.12	35.12	0.50	Pass
11b	1Mbps	2	1	2412	13.15	14.30	8.02	8.06	0.50	Pass
11b	1Mbps	2	6	2437	13.05	13.35	8.06	8.06	0.50	Pass
11b	1Mbps	2	11	2462	13.05	13.60	7.04	8.06	0.50	Pass
11g	6Mbps	2	1	2412	16.70	16.70	15.42	15.12	0.50	Pass
11g	6Mbps	2	6	2437	16.70	16.75	15.30	15.12	0.50	Pass
11g	6Mbps	2	11	2462	16.75	16.65	15.66	15.70	0.50	Pass
VHT20	MCS0	2	1	2412	17.90	17.85	15.34	15.08	0.50	Pass
VHT20	MCS0	2	6	2437	17.90	17.90	16.92	16.52	0.50	Pass
VHT20	MCS0	2	11	2462	17.95	17.85	15.96	15.96	0.50	Pass
VHT40	MCS0	2	3	2422	36.50	36.50	35.16	35.12	0.50	Pass
VHT40	MCS0	2	6	2437	36.60	36.40	35.72	35.68	0.50	Pass
VHT40	MCS0	2	9	2452	36.50	36.50	35.12	35.72	0.50	Pass



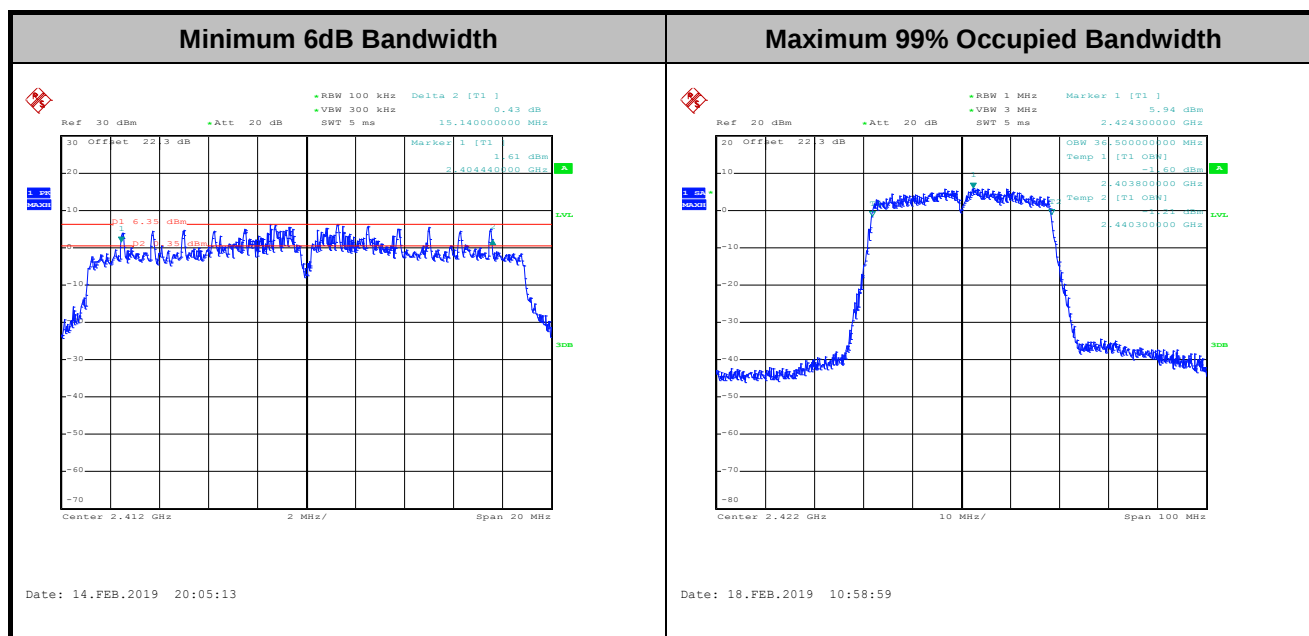
Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.



Test Engineer :	Allen Lin and AnAn Wu	Temperature :	21~25°C
		Relative Humidity :	51~54%

<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		
VHT20	MCS0	2	1	2412	17.65	18.35	15.14	17.54	0.50	Pass
VHT20	MCS0	2	6	2437	17.65	18.45	15.14	17.58	0.50	Pass
VHT20	MCS0	2	11	2462	17.90	18.50	15.17	17.68	0.50	Pass
VHT40	MCS0	2	3	2422	36.50	36.40	35.12	35.68	0.50	Pass
VHT40	MCS0	2	6	2437	36.50	36.50	35.48	35.92	0.50	Pass
VHT40	MCS0	2	9	2452	36.50	36.40	35.12	35.64	0.50	Pass



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.

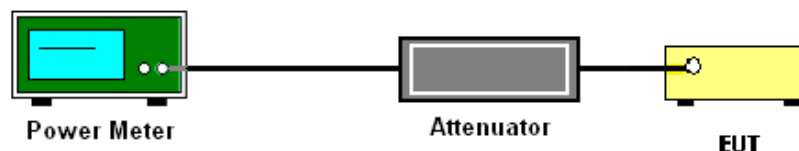
3.2.2 Measuring Instruments

See list of measuring equipment of this test report.

3.2.3 Test Procedures

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

3.2.4 Test Setup





3.2.5 Test Result of Average output Power

Test Engineer :	Kai Liao, Luffy Lin, and Allen Lin	Temperature :	21~25°C
		Relative Humidity :	51~54%

<CDD 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		
11b	1Mbps	1	1	2412	21.05	21.55	-	30.00	30.00	3.86	3.24	24.91	24.79	36.00	36.00	Pass	
11b	1Mbps	1	6	2437	20.45	20.55		30.00	30.00	3.86	3.24	24.31	23.79	36.00	36.00	Pass	
11b	1Mbps	1	11	2462	20.05	19.95		30.00	30.00	3.86	3.24	23.91	23.19	36.00	36.00	Pass	
11g	6Mbps	1	1	2412	18.15	17.85		30.00	30.00	3.86	3.24	22.01	21.09	36.00	36.00	Pass	
11g	6Mbps	1	6	2437	17.95	18.05		30.00	30.00	3.86	3.24	21.81	21.29	36.00	36.00	Pass	
11g	6Mbps	1	11	2462	17.85	16.65		30.00	30.00	3.86	3.24	21.71	19.89	36.00	36.00	Pass	
HT20	MCS0	1	1	2412	17.85	16.95		30.00	30.00	3.86	3.24	21.71	20.19	36.00	36.00	Pass	
HT20	MCS0	1	6	2437	17.55	17.75		30.00	30.00	3.86	3.24	21.41	20.99	36.00	36.00	Pass	
HT20	MCS0	1	11	2462	17.15	15.75		30.00	30.00	3.86	3.24	21.01	18.99	36.00	36.00	Pass	
HT40	MCS0	1	3	2422	18.95	14.75		30.00	30.00	3.86	3.24	22.81	17.99	36.00	36.00	Pass	
HT40	MCS0	1	6	2437	17.35	17.25		30.00	30.00	3.86	3.24	21.21	20.49	36.00	36.00	Pass	
HT40	MCS0	1	9	2452	14.85	13.95		30.00	30.00	3.86	3.24	18.71	17.19	36.00	36.00	Pass	
VHT20	MCS0	1	1	2412	17.95	17.05		30.00	30.00	3.86	3.24	21.81	20.29	36.00	36.00	Pass	
VHT20	MCS0	1	6	2437	17.65	17.85		30.00	30.00	3.86	3.24	21.51	21.09	36.00	36.00	Pass	
VHT20	MCS0	1	11	2462	17.25	15.85		30.00	30.00	3.86	3.24	21.11	19.09	36.00	36.00	Pass	
VHT40	MCS0	1	3	2422	19.05	14.85		30.00	30.00	3.86	3.24	22.91	18.09	36.00	36.00	Pass	
VHT40	MCS0	1	6	2437	17.45	17.35		30.00	30.00	3.86	3.24	21.31	20.59	36.00	36.00	Pass	
VHT40	MCS0	1	9	2452	14.95	14.05		30.00	30.00	3.86	3.24	18.81	17.29	36.00	36.00	Pass	



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	
11b	1Mbps	2	1	2412	20.65	21.65	24.19	30.00		3.86		28.05		36.00		Pass
11b	1Mbps	2	6	2437	20.55	20.65	23.61	30.00		3.86		27.47		36.00		Pass
11b	1Mbps	2	11	2462	19.55	19.95	22.76	30.00		3.86		26.62		36.00		Pass
11g	6Mbps	2	1	2412	17.45	17.65	20.56	30.00		3.86		24.42		36.00		Pass
11g	6Mbps	2	6	2437	17.85	18.05	20.96	30.00		3.86		24.82		36.00		Pass
11g	6Mbps	2	11	2462	15.95	16.05	19.01	30.00		3.86		22.87		36.00		Pass
HT20	MCS0	2	1	2412	15.55	15.95	18.76	30.00		3.86		22.62		36.00		Pass
HT20	MCS0	2	6	2437	17.75	17.95	20.86	30.00		3.86		24.72		36.00		Pass
HT20	MCS0	2	11	2462	15.65	15.75	18.71	30.00		3.86		22.57		36.00		Pass
HT40	MCS0	2	3	2422	13.55	13.75	16.66	30.00		3.86		20.52		36.00		Pass
HT40	MCS0	2	6	2437	15.85	16.15	19.01	30.00		3.86		22.87		36.00		Pass
HT40	MCS0	2	9	2452	13.35	13.45	16.41	30.00		3.86		20.27		36.00		Pass
VHT20	MCS0	2	1	2412	15.55	16.05	18.82	30.00		3.86		22.68		36.00		Pass
VHT20	MCS0	2	6	2437	17.95	18.15	21.06	30.00		3.86		24.92		36.00		Pass
VHT20	MCS0	2	11	2462	15.75	15.75	18.76	30.00		3.86		22.62		36.00		Pass
VHT40	MCS0	2	3	2422	13.65	13.75	16.71	30.00		3.86		20.57		36.00		Pass
VHT40	MCS0	2	6	2437	15.85	16.25	19.06	30.00		3.86		22.92		36.00		Pass
VHT40	MCS0	2	9	2452	13.45	13.55	16.51	30.00		3.86		20.37		36.00		Pass



Test Engineer :	Allen Lin and AnAn Wu	Temperature :	21~25℃
		Relative Humidity :	51~54%

<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	
VHT20	MCS0	2	1	2412	16.75	18.65	20.81	29.43		6.57		27.38		36.00		Pass
VHT20	MCS0	2	6	2437	17.25	19.15	21.31	29.43		6.57		27.88		36.00		Pass
VHT20	MCS0	2	11	2462	16.85	18.55	20.79	29.43		6.57		27.36		36.00		Pass
VHT40	MCS0	2	3	2422	12.45	12.75	15.61	29.43		6.57		22.18		36.00		Pass
VHT40	MCS0	2	6	2437	15.35	15.55	18.46	29.43		6.57		25.03		36.00		Pass
VHT40	MCS0	2	9	2452	13.75	13.95	16.86	29.43		6.57		23.43		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

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

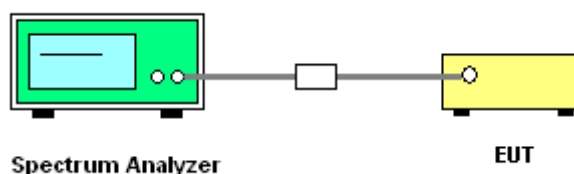
If measurements performed using method (2) plus $10 \log(N)$ exceeds the emission limit, the test should choose method (1) before declaring that the device fails the emission limit.

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

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

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

3.3.4 Test Setup





3.3.5 Test Result of Power Spectral Density

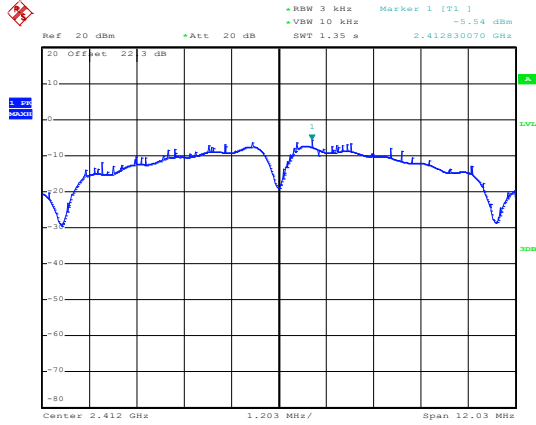
Test Engineer :	Kai Liao, Luffy Lin, and Allen Lin	Temperature :	21~25°C
		Relative Humidity :	51~54%

<CDD Mode>

2.4GHz Band												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak PSD (dBm/3kHz)			DG (dBi)		Peak PSD Limit (dBm/3kHz)		Pass/Fail
					Ant 1	Ant 2	Worse + 3.01	Ant 1	Ant 2	Ant 1	Ant 2	
11b	1Mbps	1	1	2412	-3.40	-4.48	-	3.86	3.24	8.00	8.00	Pass
11b	1Mbps	1	6	2437	-4.15	-5.52	-	3.86	3.24	8.00	8.00	Pass
11b	1Mbps	1	11	2462	-4.69	-5.33	-	3.86	3.24	8.00	8.00	Pass
11g	6Mbps	1	1	2412	-8.12	-9.06	-	3.86	3.24	8.00	8.00	Pass
11g	6Mbps	1	6	2437	-9.45	-8.42	-	3.86	3.24	8.00	8.00	Pass
11g	6Mbps	1	11	2462	-9.78	-10.93	-	3.86	3.24	8.00	8.00	Pass
VHT20	MCS0	1	1	2412	-8.63	-10.16	-	3.86	3.24	8.00	8.00	Pass
VHT20	MCS0	1	6	2437	-9.97	-8.87	-	3.86	3.24	8.00	8.00	Pass
VHT20	MCS0	1	11	2462	-10.16	-11.54	-	3.86	3.24	8.00	8.00	Pass
VHT40	MCS0	1	3	2422	-10.52	-15.47	-	3.86	3.24	8.00	8.00	Pass
VHT40	MCS0	1	6	2437	-13.63	-13.63	-	3.86	3.24	8.00	8.00	Pass
VHT40	MCS0	1	9	2452	-14.62	-16.14	-	3.86	3.24	8.00	8.00	Pass
11b	1Mbps	2	1	2412	-5.54	-4.91	-1.90	6.57		7.43		Pass
11b	1Mbps	2	6	2437	-5.36	-5.34	-2.33	6.57		7.43		Pass
11b	1Mbps	2	11	2462	-6.61	-5.09	-2.08	6.57		7.43		Pass
11g	6Mbps	2	1	2412	-10.82	-10.57	-7.56	6.57		7.43		Pass
11g	6Mbps	2	6	2437	-9.68	-9.49	-6.48	6.57		7.43		Pass
11g	6Mbps	2	11	2462	-11.74	-11.61	-8.60	6.57		7.43		Pass
VHT20	MCS0	2	1	2412	-11.06	-11.85	-8.05	6.57		7.43		Pass
VHT20	MCS0	2	6	2437	-10.55	-8.74	-5.73	6.57		7.43		Pass
VHT20	MCS0	2	11	2462	-11.61	-10.67	-7.66	6.57		7.43		Pass
VHT40	MCS0	2	3	2422	-16.21	-16.03	-13.02	6.57		7.43		Pass
VHT40	MCS0	2	6	2437	-14.61	-14.71	-11.60	6.57		7.43		Pass
VHT40	MCS0	2	9	2452	-17.46	-16.61	-13.60	6.57		7.43		Pass

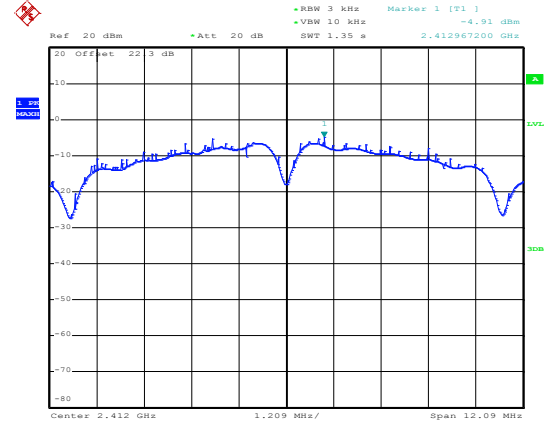


Worst Case Power Density (dBm/3kHz)
for MIMO Ant. 1



Date: 5.FEB.2019 07:07:27

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



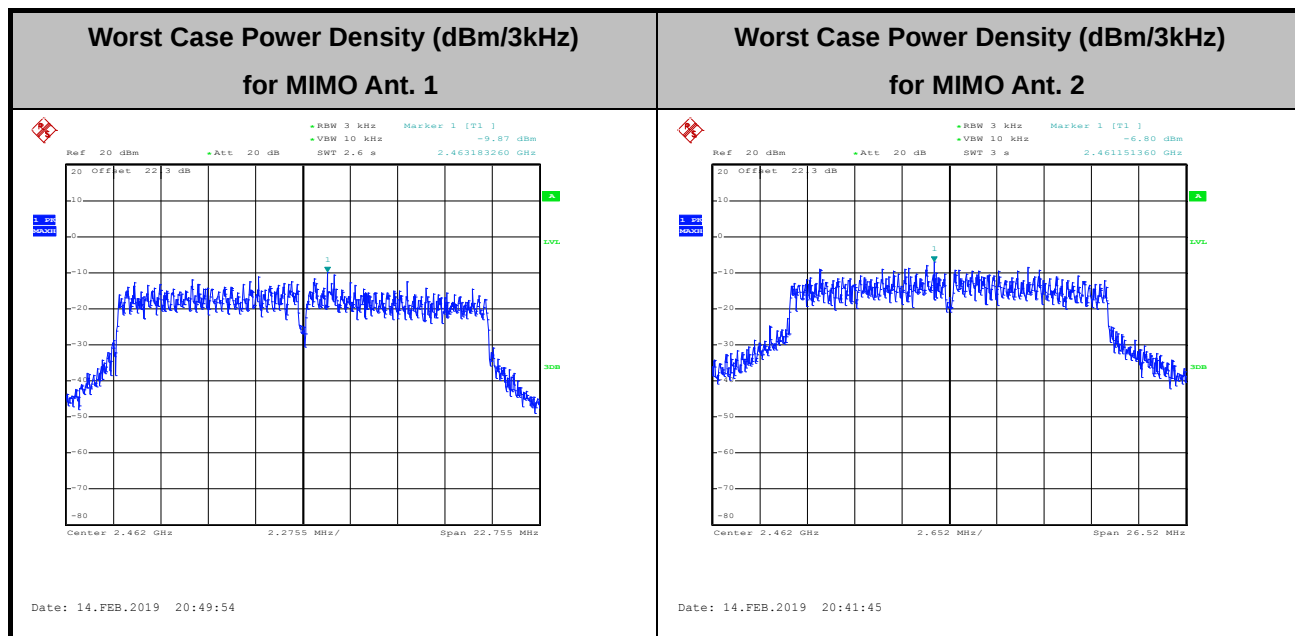
Date: 5.FEB.2019 07:11:55



Test Engineer :	Allen Lin and AnAn Wu	Temperature :	21~25°C
		Relative Humidity :	51~54%

<TXBF Mode>

2.4GHz Band												
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Peak PSD (dBm/3kHz)			DG (dBi)		Peak PSD Limit (dBm/3kHz)		Pass/Fail
					Ant 1	Ant 2	Worse + 3.01	Ant 1	Ant 2	Ant 1	Ant 2	
VHT20	MCS0	2	1	2412	-9.58	-8.27	-5.26	6.57		7.43		Pass
VHT20	MCS0	2	6	2437	-8.94	-7.75	-4.74	6.57		7.43		Pass
VHT20	MCS0	2	11	2462	-9.87	-6.80	-3.79	6.57		7.43		Pass
VHT40	MCS0	2	3	2422	-16.37	-15.93	-12.92	6.57		7.43		Pass
VHT40	MCS0	2	6	2437	-13.70	-13.91	-10.69	6.57		7.43		Pass
VHT40	MCS0	2	9	2452	-14.04	-14.95	-11.03	6.57		7.43		Pass



3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

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

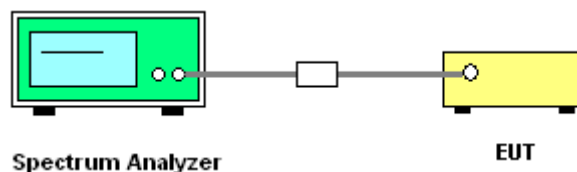
3.4.2 Measuring Instruments

See list of measuring equipment of this test report.

3.4.3 Test Procedures

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

3.4.4 Test Setup



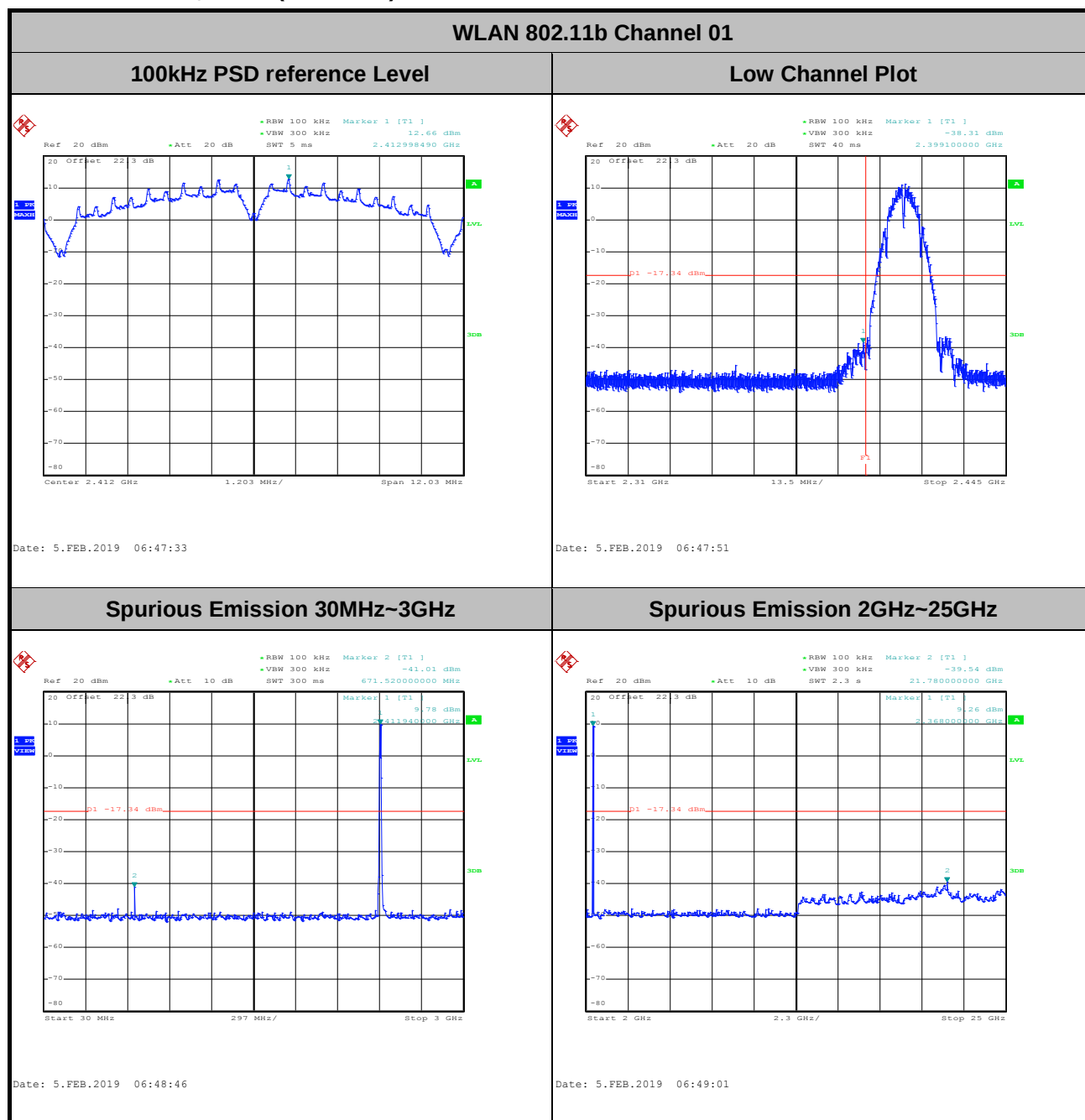


3.4.5 Test Result of Conducted Band Edges and Spurious Emission

Test Engineer :	Kai Liao, Luffy Lin, and Allen Lin	Temperature :	21~25°C
		Relative Humidity :	51~54%

<CDD Mode>

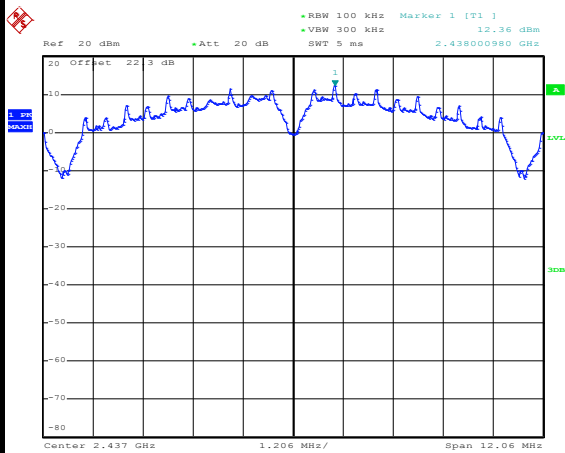
Number of TX = 1, Ant. 1 (Measured)





WLAN 802.11b Channel 06

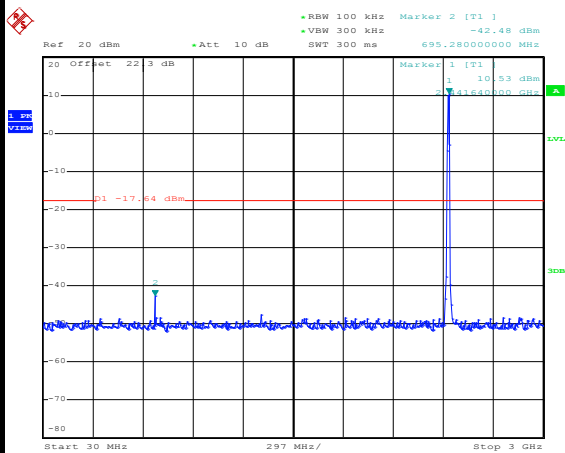
100kHz PSD reference Level



Date: 5.FEB.2019 06:52:28

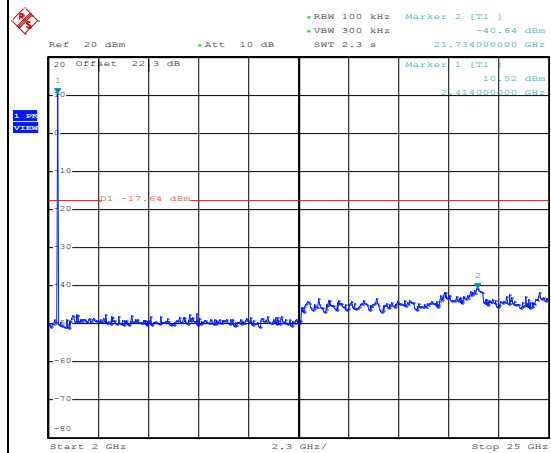
Mid Channel Plot

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 06:52:43

Spurious Emission 2GHz~25GHz

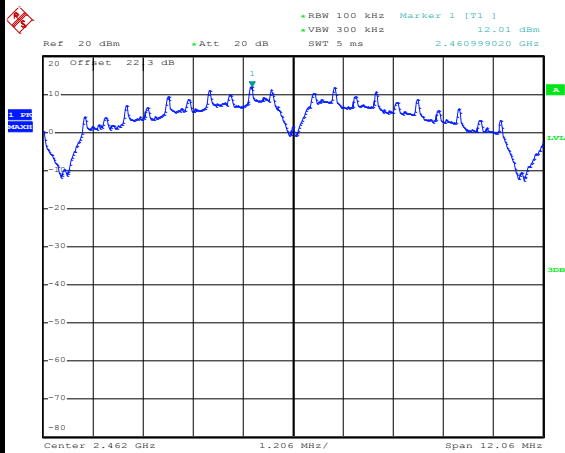


Date: 5.FEB.2019 06:52:58



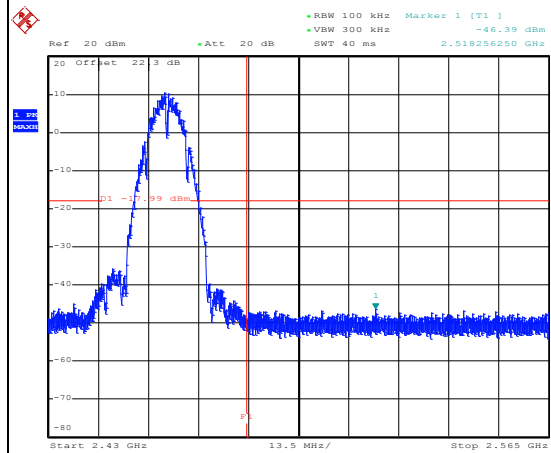
WLAN 802.11b Channel 11

100kHz PSD reference Level



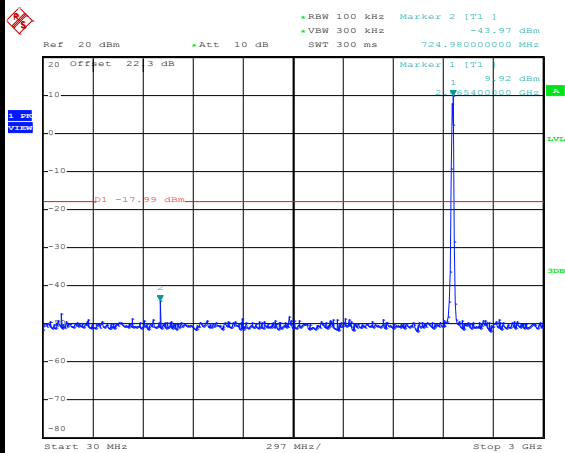
Date: 5.FEB.2019 06:54:58

High Channel Plot



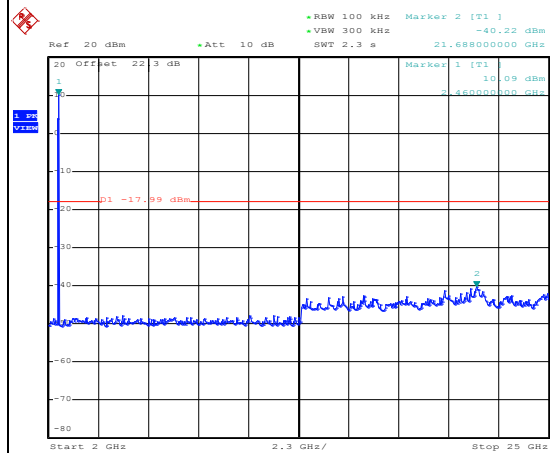
Date: 5.FEB.2019 06:55:11

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 06:55:30

Spurious Emission 2GHz~25GHz

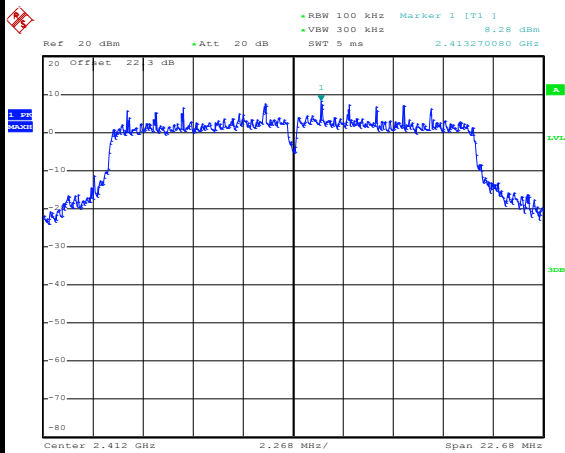


Date: 5.FEB.2019 06:55:44



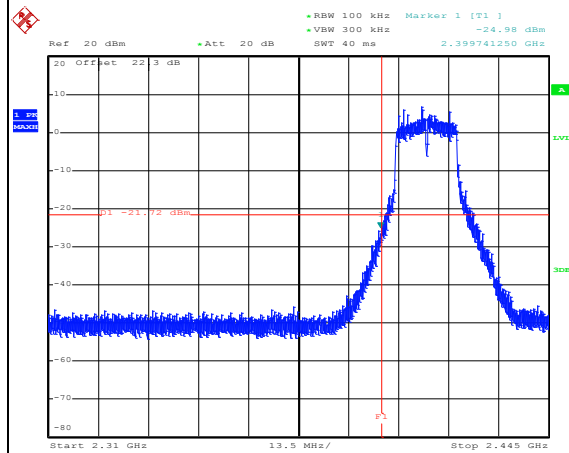
WLAN 802.11g Channel 01

100kHz PSD reference Level



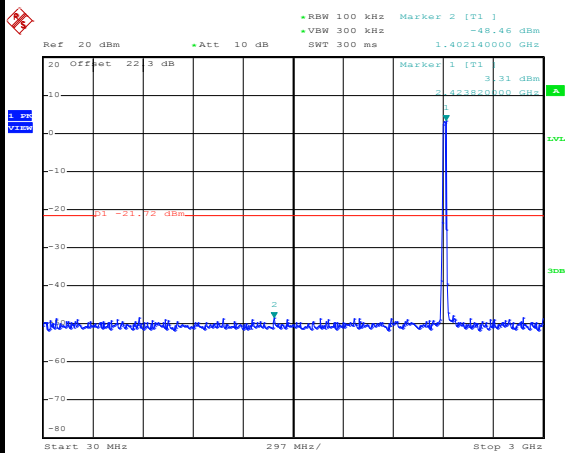
Date: 5.FEB.2019 07:54:55

Low Channel Plot



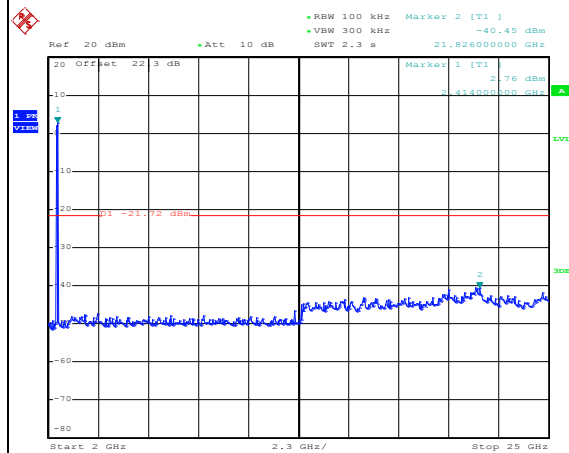
Date: 5.FEB.2019 07:55:07

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 07:56:02

Spurious Emission 2GHz~25GHz

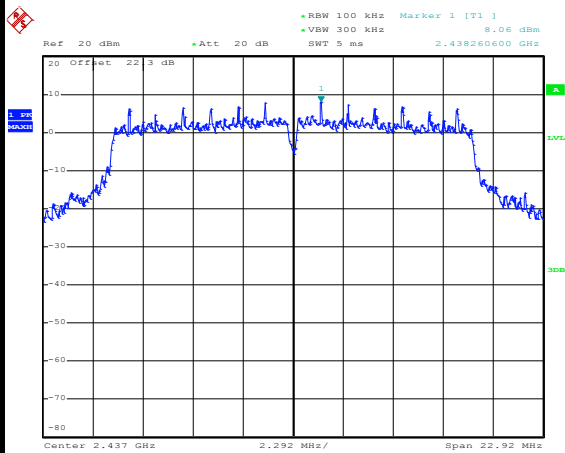


Date: 5.FEB.2019 07:56:34



WLAN 802.11g Channel 06

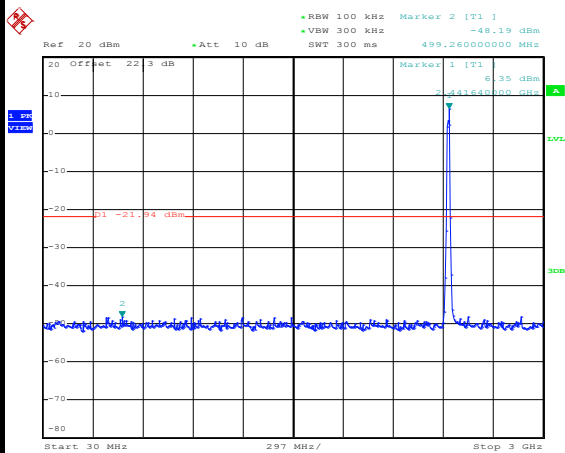
100kHz PSD reference Level



Date: 5.FEB.2019 07:58:51

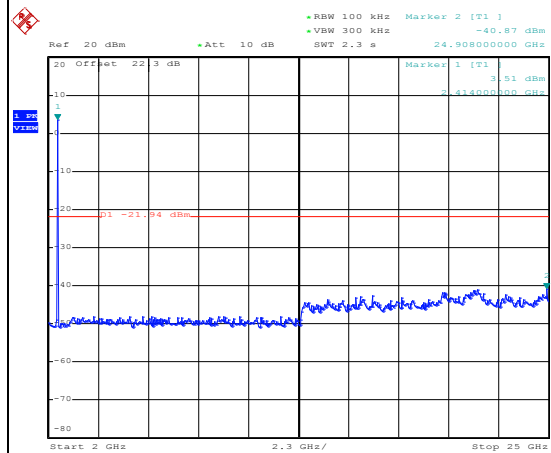
Mid Channel Plot

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 07:59:09

Spurious Emission 2GHz~25GHz

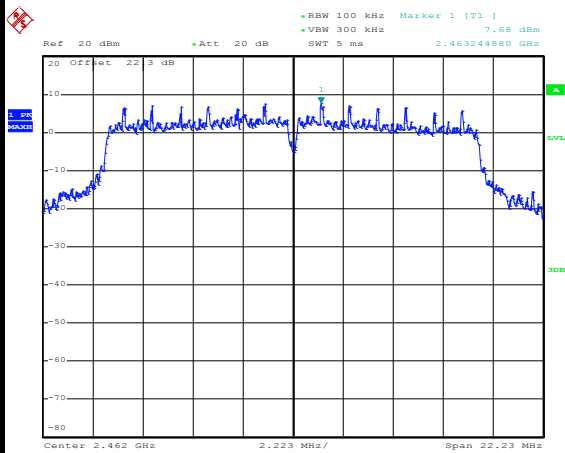


Date: 5.FEB.2019 07:59:23



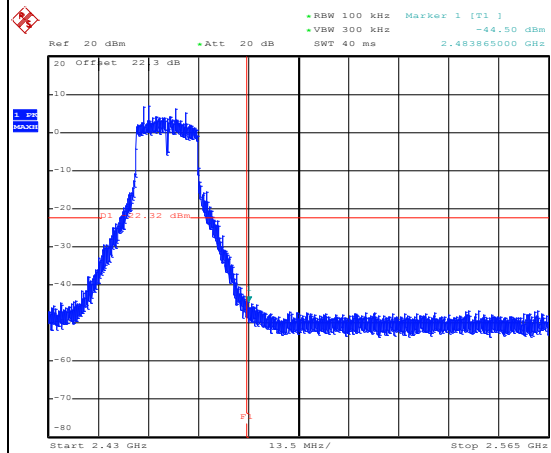
WLAN 802.11g Channel 11

100kHz PSD reference Level



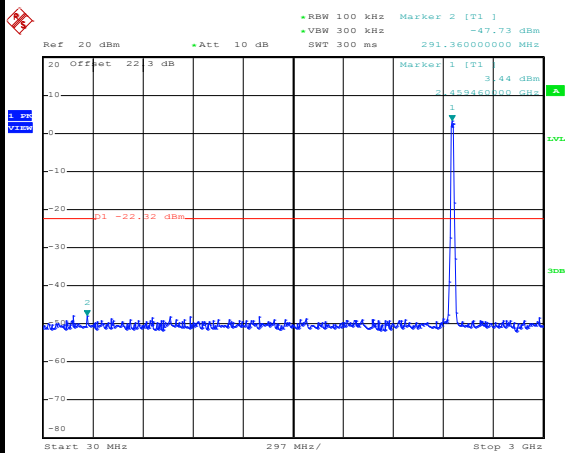
Date: 5.FEB.2019 08:01:47

High Channel Plot



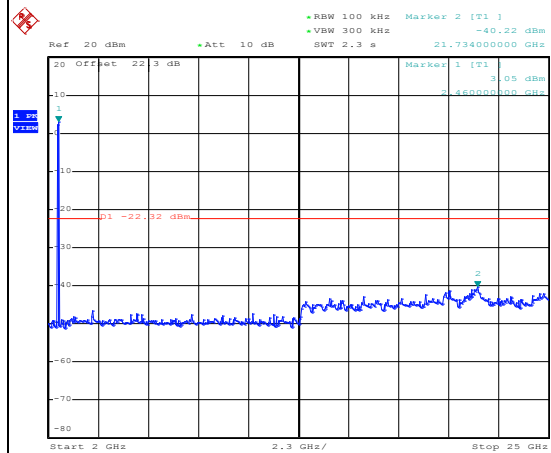
Date: 5.FEB.2019 08:02:03

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 08:02:21

Spurious Emission 2GHz~25GHz

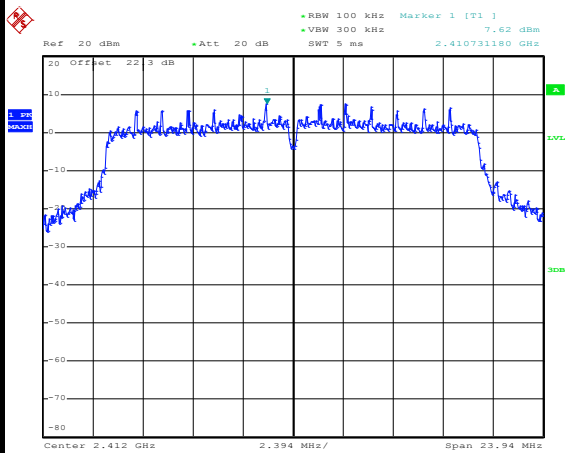


Date: 5.FEB.2019 08:02:34



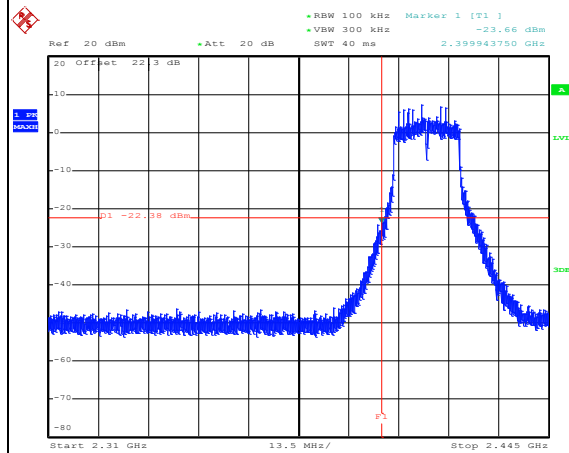
WLAN 802.11ac VHT20 Channel 01

100kHz PSD reference Level



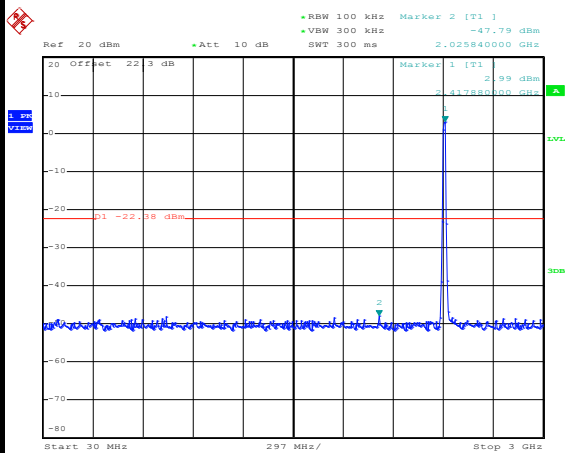
Date: 5.FEB.2019 08:42:10

Low Channel Plot



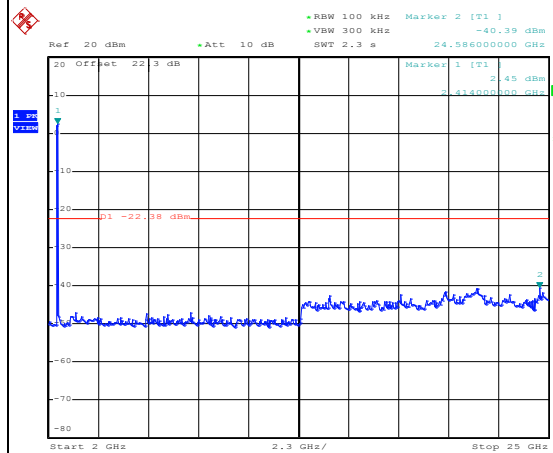
Date: 5.FEB.2019 08:42:46

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 08:43:07

Spurious Emission 2GHz~25GHz

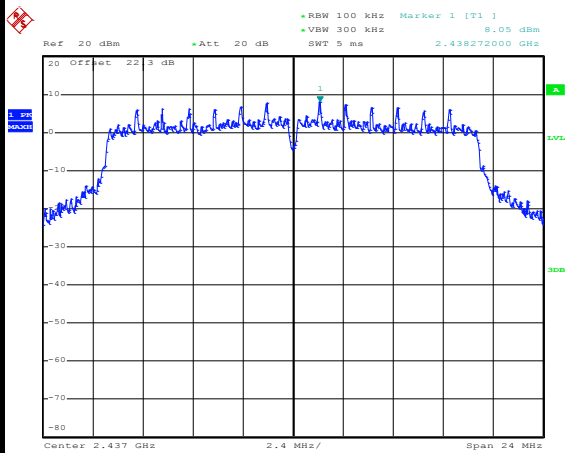


Date: 5.FEB.2019 08:43:21



WLAN 802.11ac VHT20 Channel 06

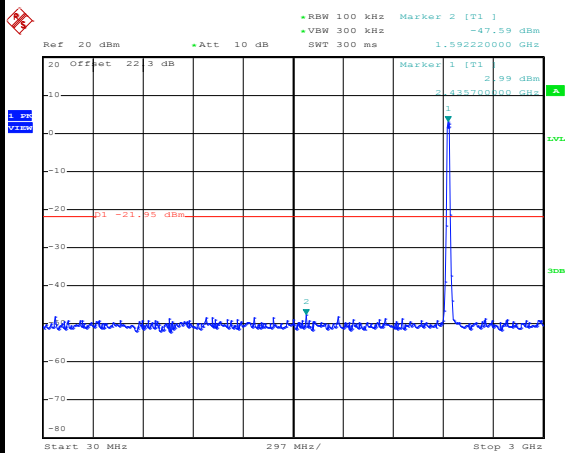
100kHz PSD reference Level



Date: 5.FEB.2019 08:45:16

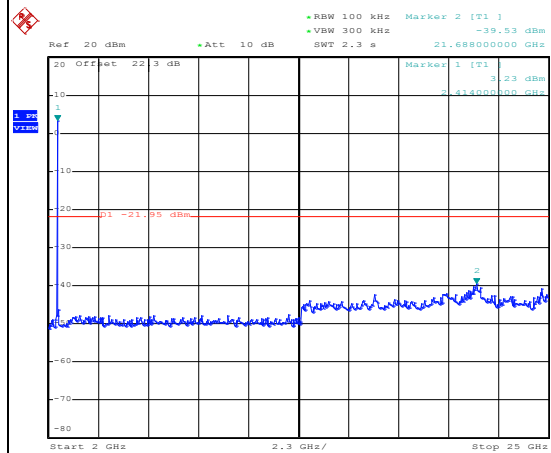
Mid Channel Plot

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 08:45:33

Spurious Emission 2GHz~25GHz

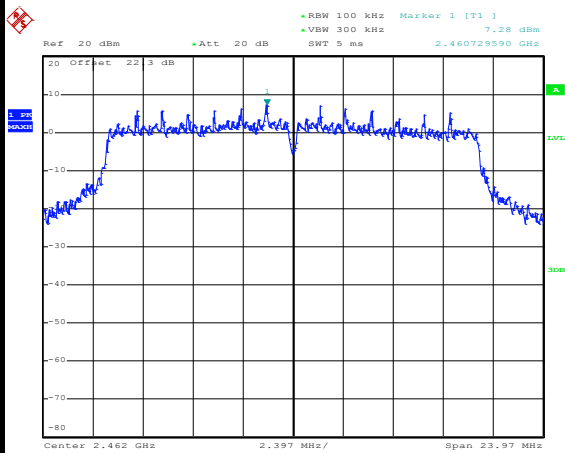


Date: 5.FEB.2019 08:45:48



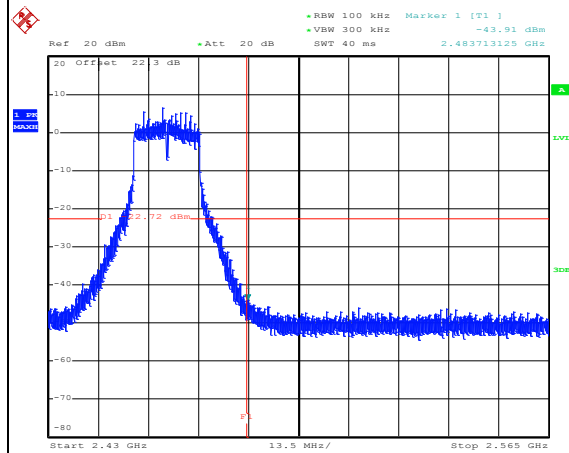
WLAN 802.11ac VHT20 Channel 11

100kHz PSD reference Level



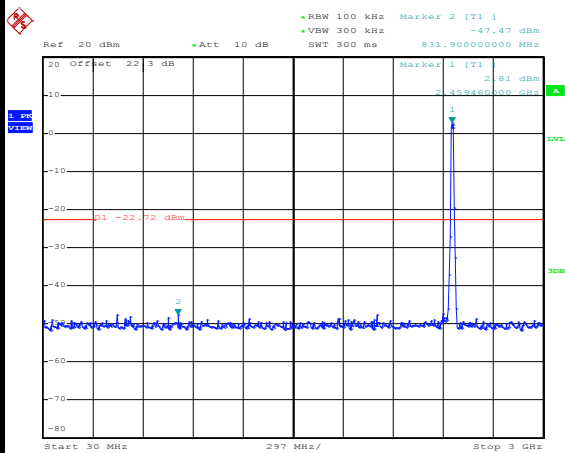
Date: 5.FEB.2019 08:47:40

High Channel Plot



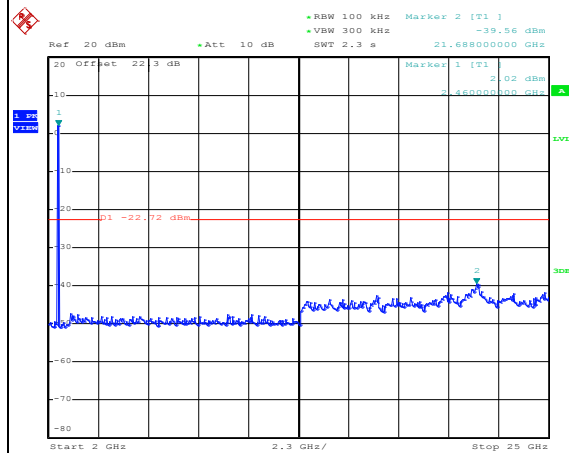
Date: 5.FEB.2019 08:47:52

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 08:48:12

Spurious Emission 2GHz~25GHz

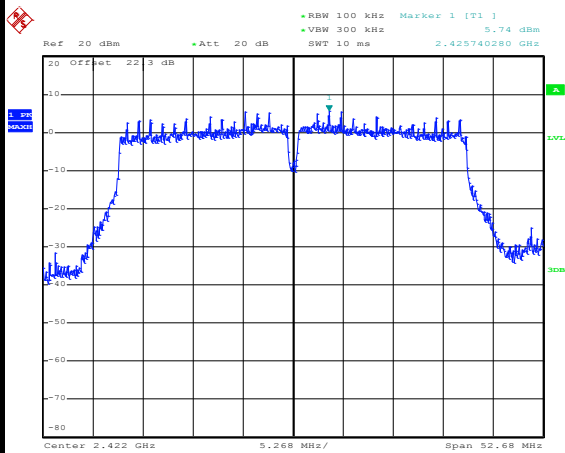


Date: 5.FEB.2019 08:48:33



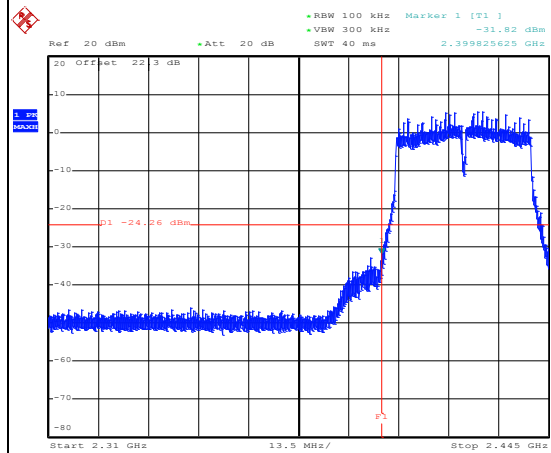
WLAN 802.11ac VHT40 Channel 03

100kHz PSD reference Level



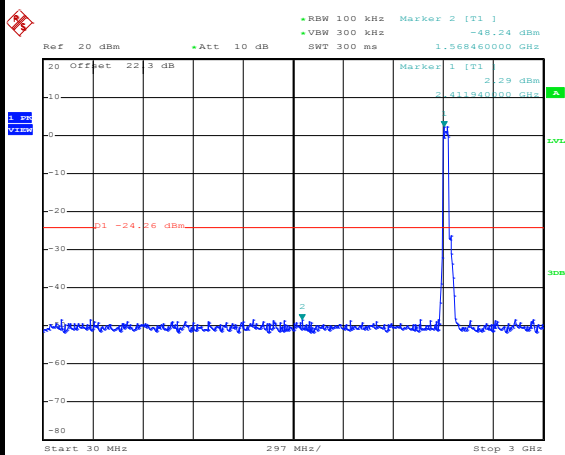
Date: 5.FEB.2019 09:43:48

Low Channel Plot



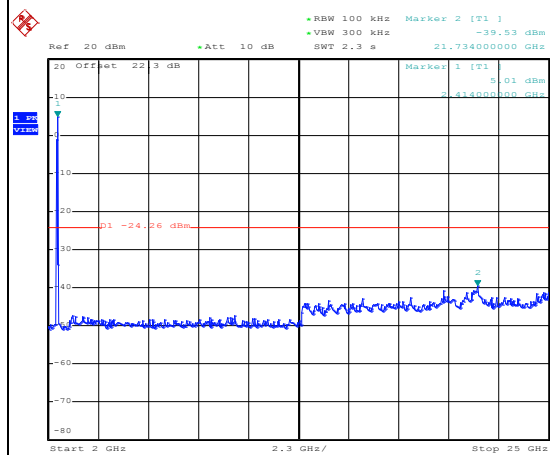
Date: 5.FEB.2019 09:44:42

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 09:47:01

Spurious Emission 2GHz~25GHz

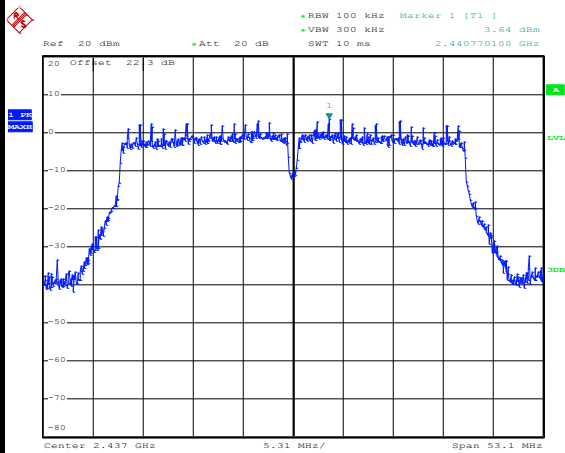


Date: 5.FEB.2019 09:47:16



WLAN 802.11ac VHT40 Channel 06

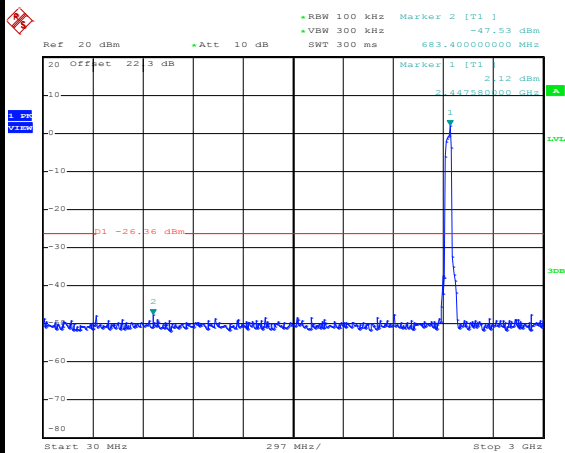
100kHz PSD reference Level



Date: 5.FEB.2019 09:53:09

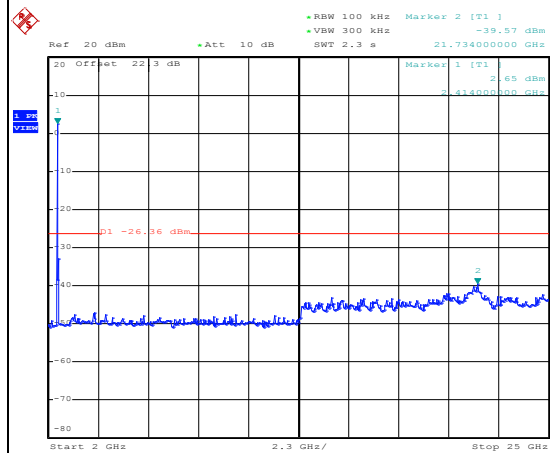
Mid Channel Plot

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 09:53:29

Spurious Emission 2GHz~25GHz

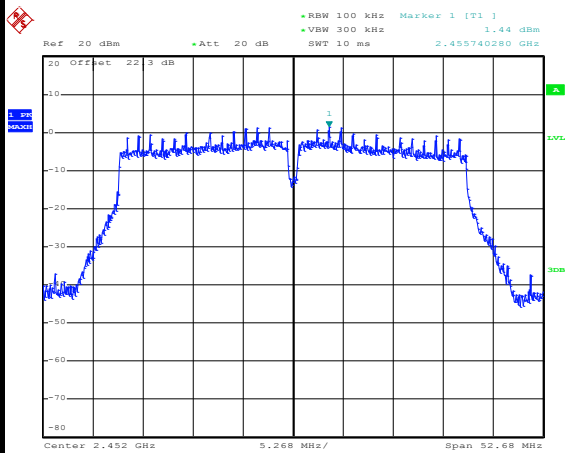


Date: 5.FEB.2019 09:53:45



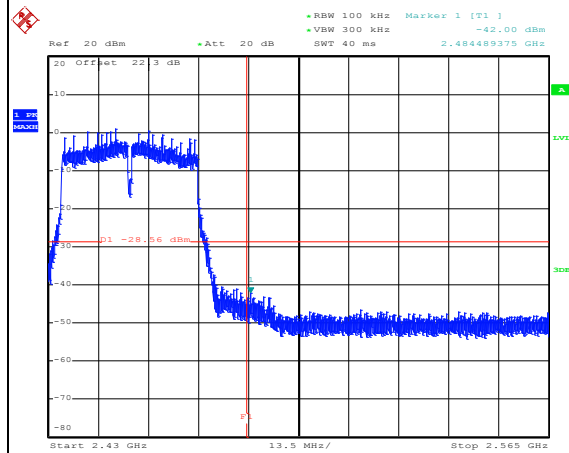
WLAN 802.11ac VHT40 Channel 09

100kHz PSD reference Level



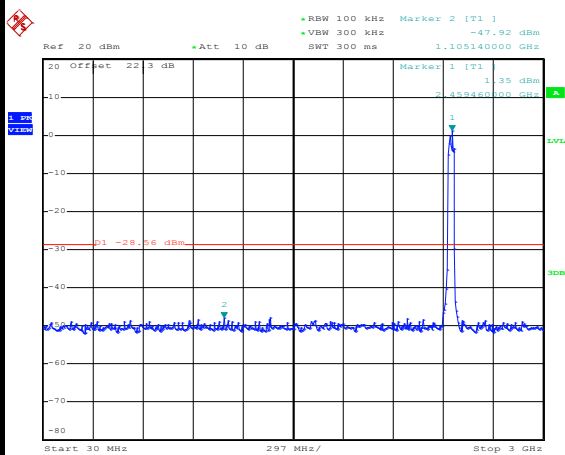
Date: 5.FEB.2019 09:56:53

High Channel Plot



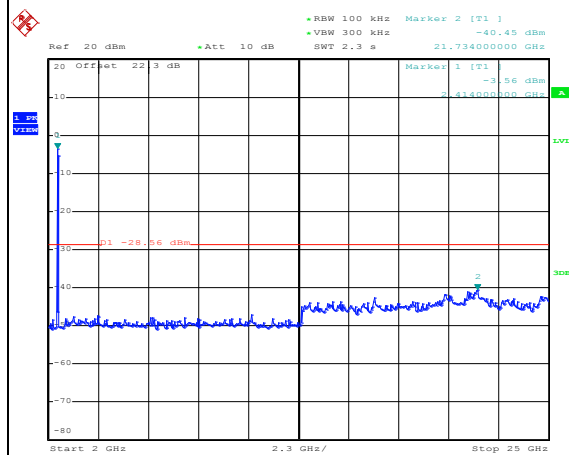
Date: 5.FEB.2019 09:57:12

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 09:57:27

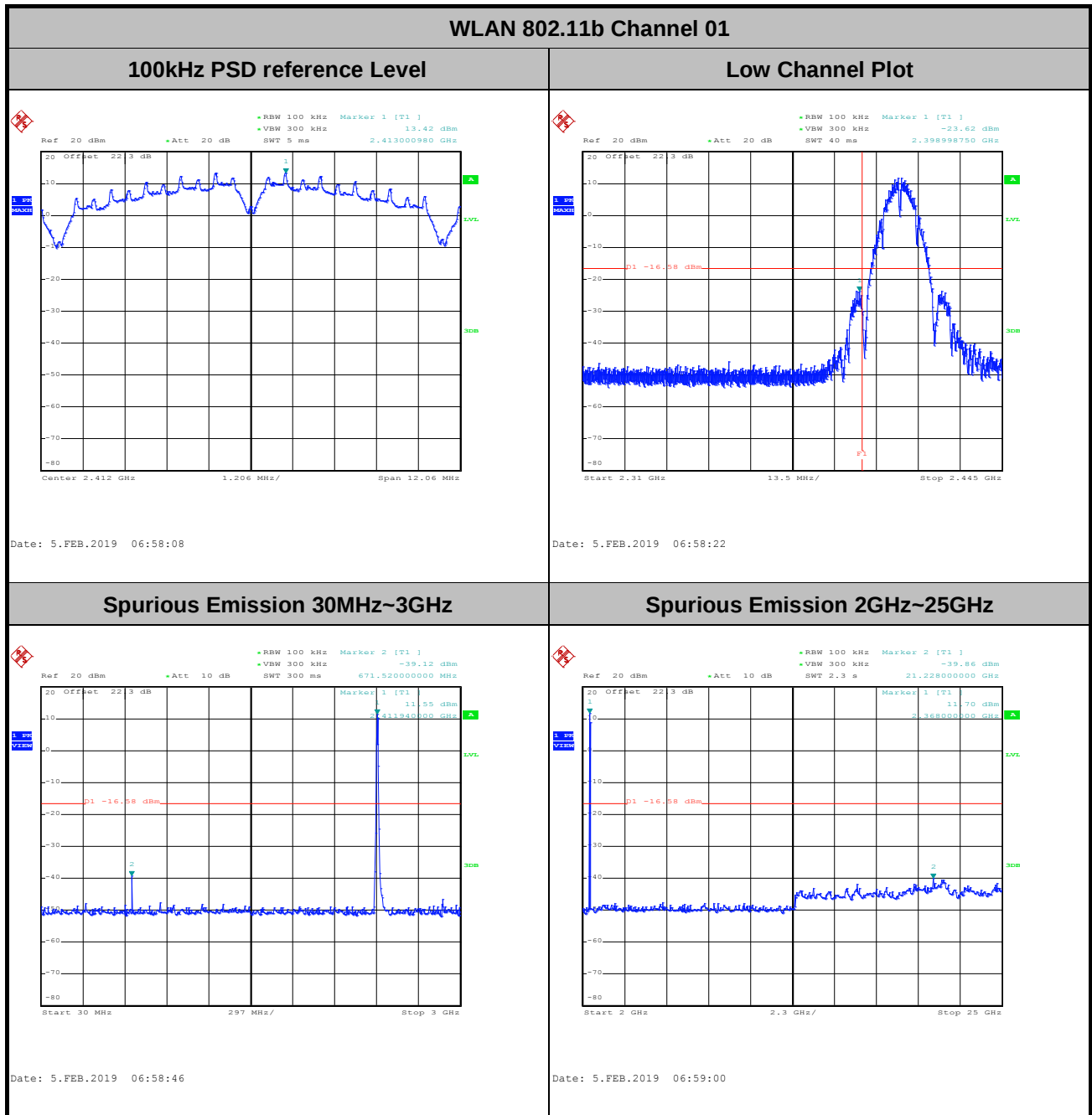
Spurious Emission 2GHz~25GHz



Date: 5.FEB.2019 09:57:41



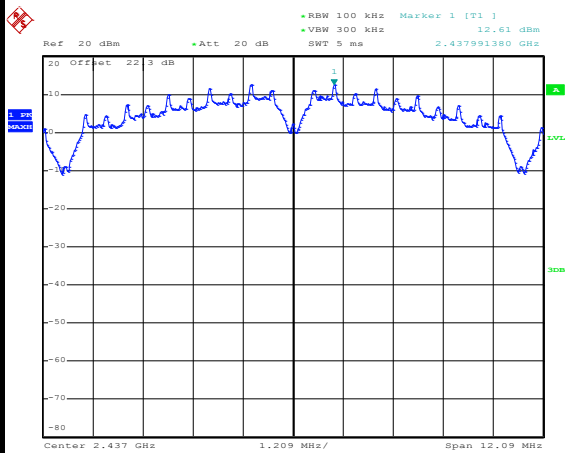
Number of TX = 1, Ant. 2 (Measured)





WLAN 802.11b Channel 06

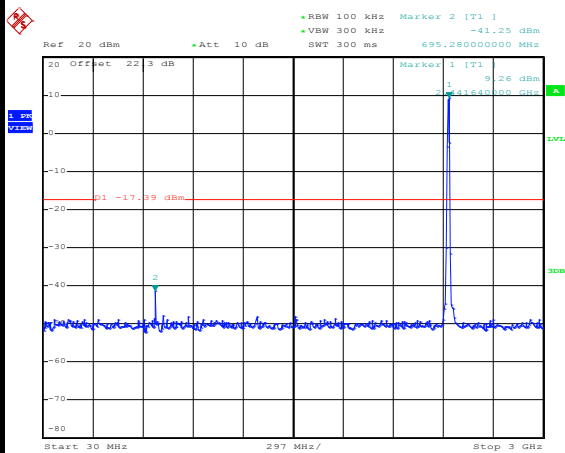
100kHz PSD reference Level



Date: 5.FEB.2019 07:01:20

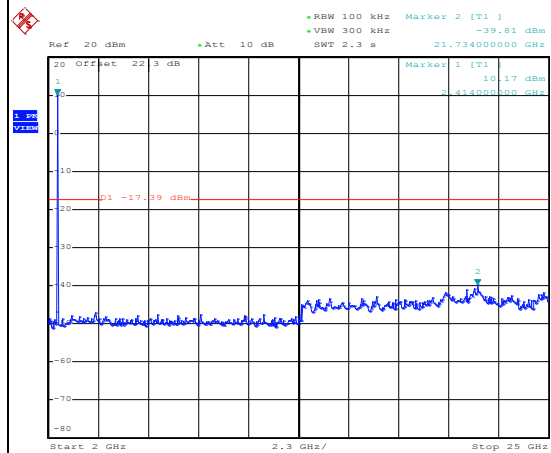
Mid Channel Plot

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 07:01:36

Spurious Emission 2GHz~25GHz

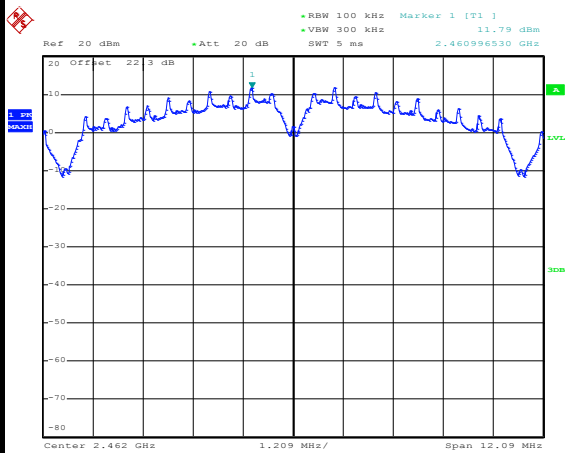


Date: 5.FEB.2019 07:01:51



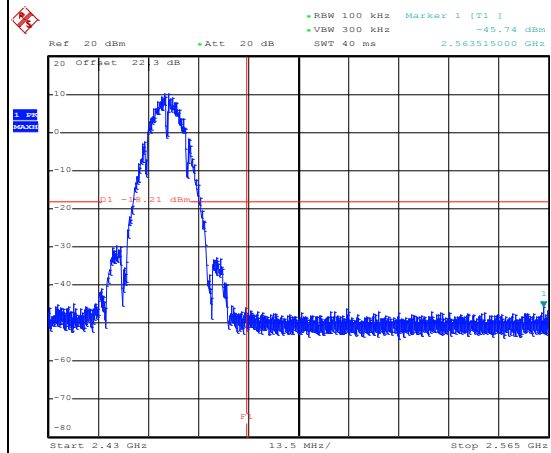
WLAN 802.11b Channel 11

100kHz PSD reference Level



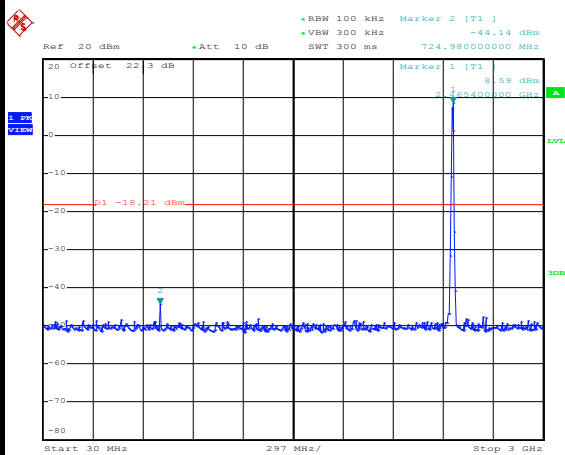
Date: 5.FEB.2019 07:03:44

High Channel Plot



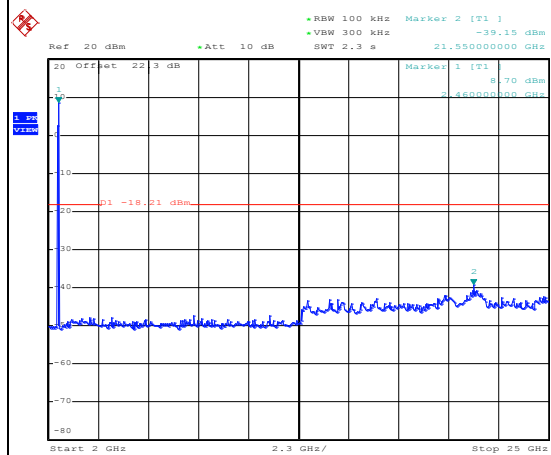
Date: 5.FEB.2019 07:03:59

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 07:04:16

Spurious Emission 2GHz~25GHz

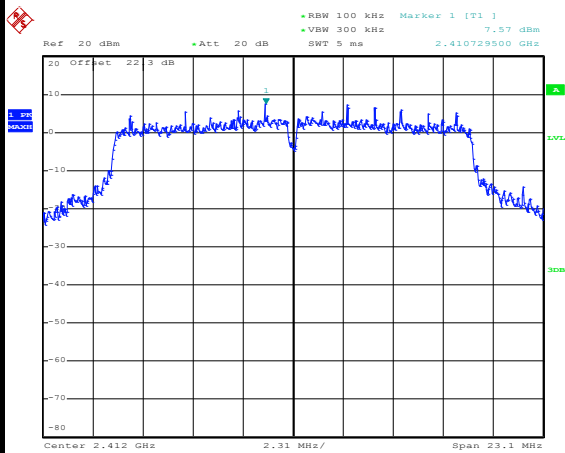


Date: 5.FEB.2019 07:04:30



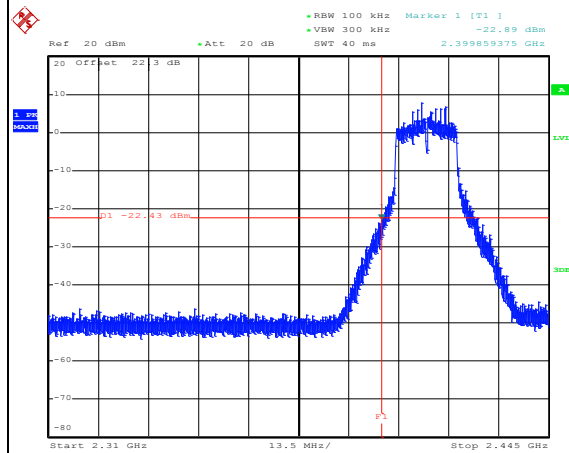
WLAN 802.11g Channel 01

100kHz PSD reference Level



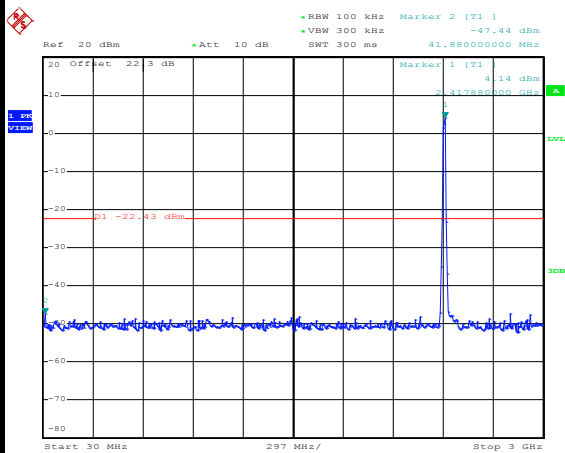
Date: 5.FEB.2019 08:04:38

Low Channel Plot



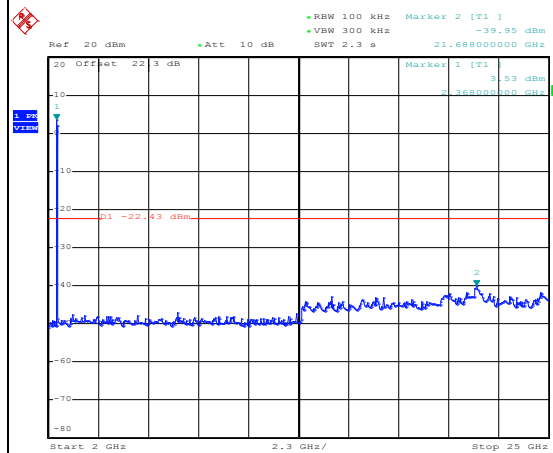
Date: 5.FEB.2019 08:04:51

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 08:05:15

Spurious Emission 2GHz~25GHz

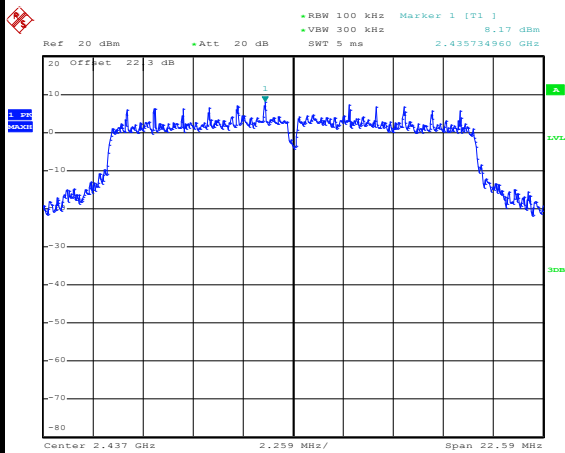


Date: 5.FEB.2019 08:05:29



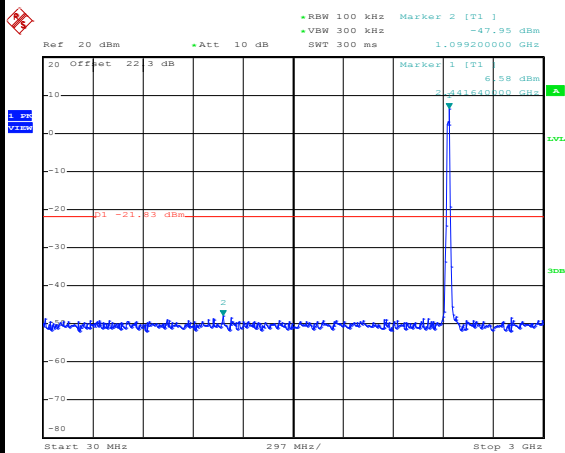
WLAN 802.11g Channel 06

100kHz PSD reference Level

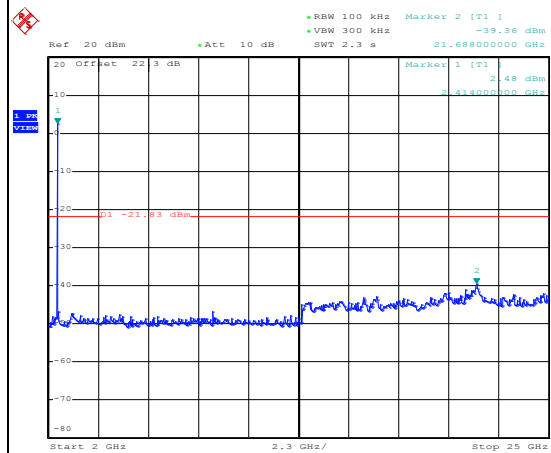


Mid Channel Plot

Spurious Emission 30MHz~3GHz



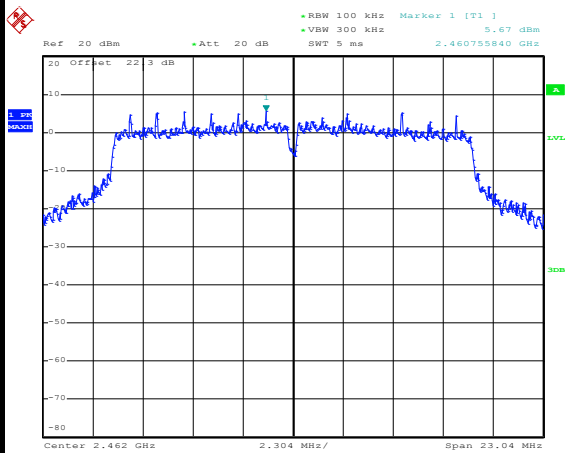
Spurious Emission 2GHz~25GHz





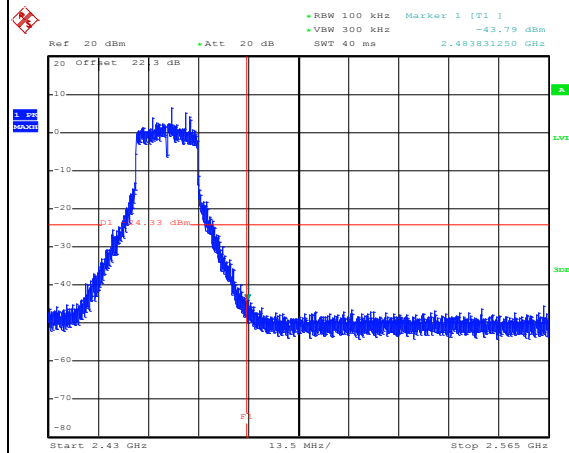
WLAN 802.11g Channel 11

100kHz PSD reference Level



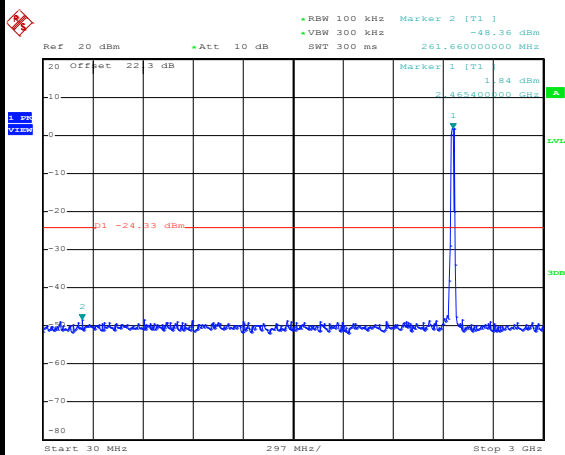
Date: 5.FEB.2019 08:10:33

High Channel Plot



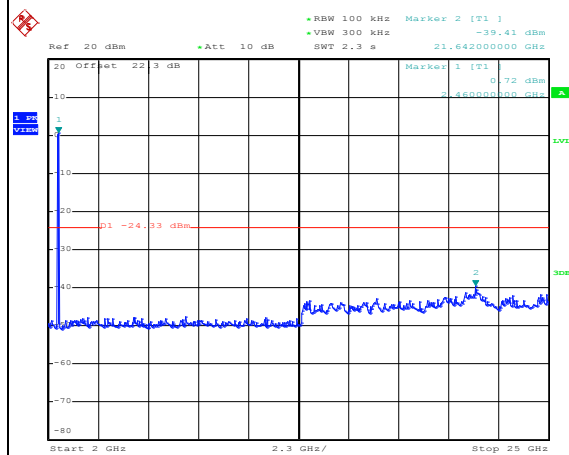
Date: 5.FEB.2019 08:10:47

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 08:11:02

Spurious Emission 2GHz~25GHz

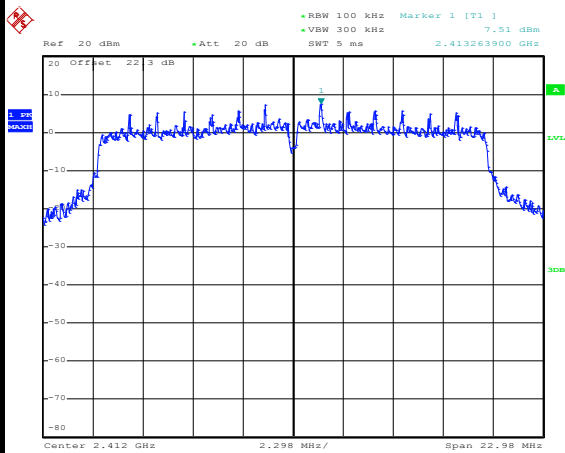


Date: 5.FEB.2019 08:11:15



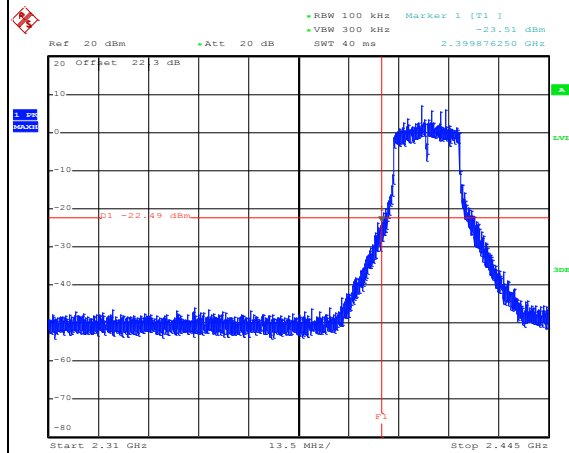
WLAN 802.11ac VHT20 Channel 01

100kHz PSD reference Level



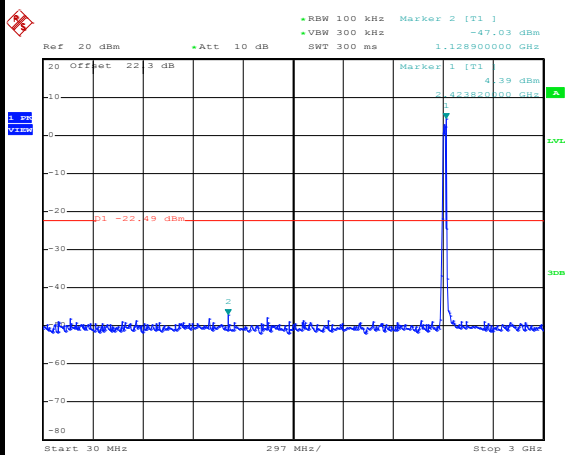
Date: 5.FEB.2019 08:55:47

Low Channel Plot



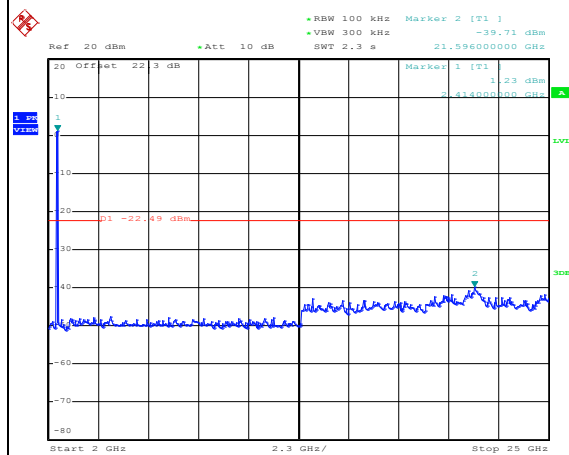
Date: 5.FEB.2019 08:56:19

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 08:57:20

Spurious Emission 2GHz~25GHz

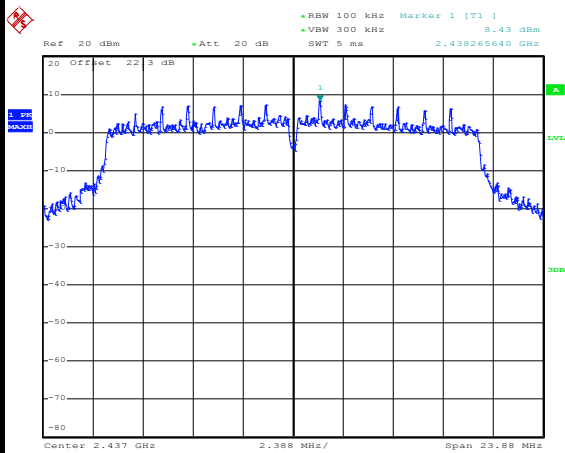


Date: 5.FEB.2019 08:57:41



WLAN 802.11ac VHT20 Channel 06

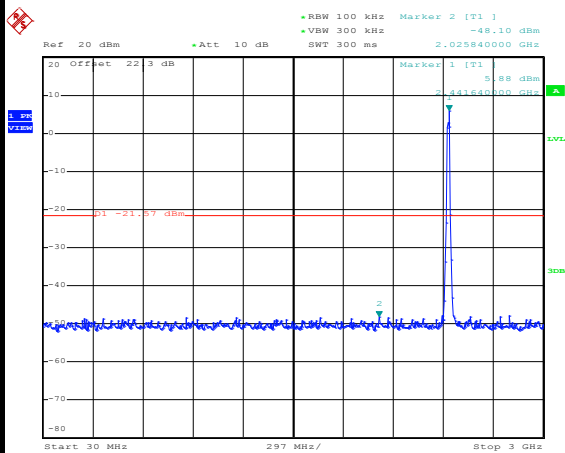
100kHz PSD reference Level



Date: 5.FEB.2019 09:02:06

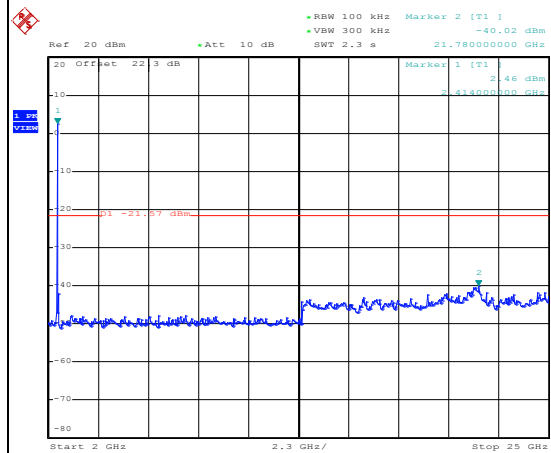
Mid Channel Plot

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 09:02:34

Spurious Emission 2GHz~25GHz

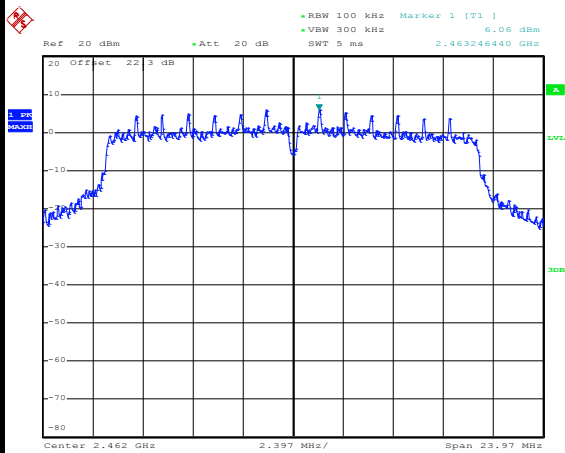


Date: 5.FEB.2019 09:02:49



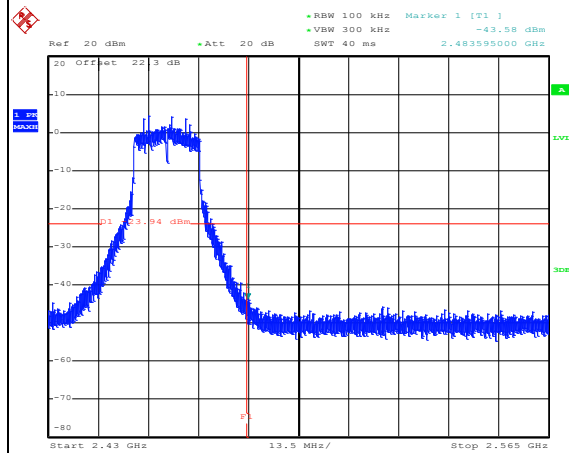
WLAN 802.11ac VHT20 Channel 11

100kHz PSD reference Level



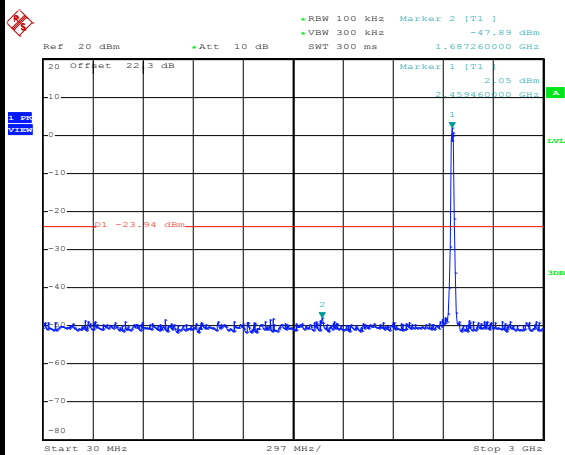
Date: 5.FEB.2019 09:07:38

High Channel Plot



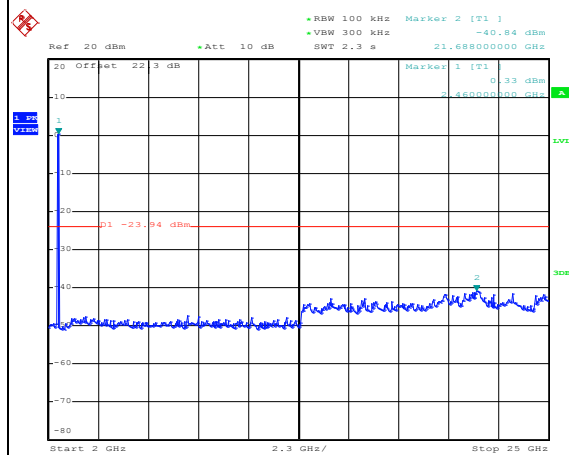
Date: 5.FEB.2019 09:08:25

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 09:09:07

Spurious Emission 2GHz~25GHz

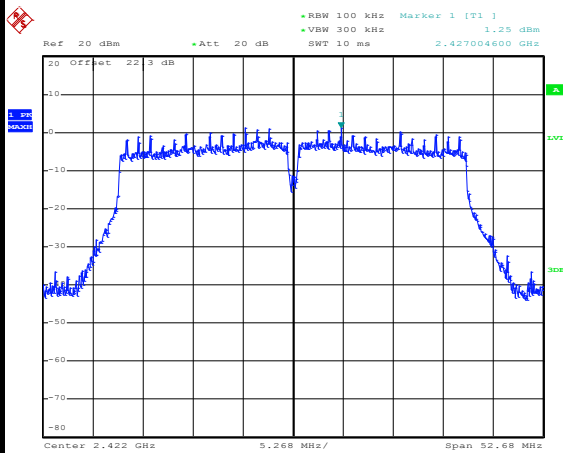


Date: 5.FEB.2019 09:09:48



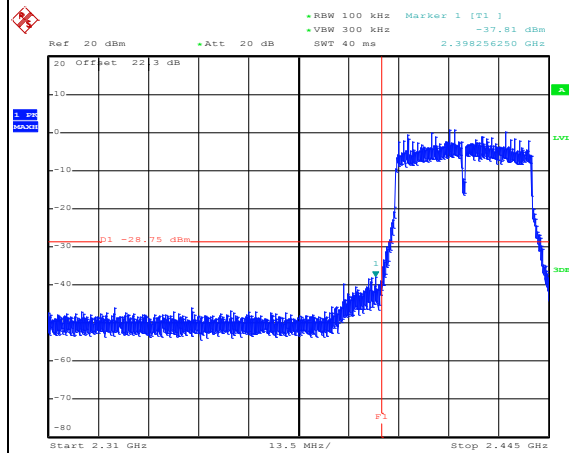
WLAN 802.11ac VHT40 Channel 03

100kHz PSD reference Level



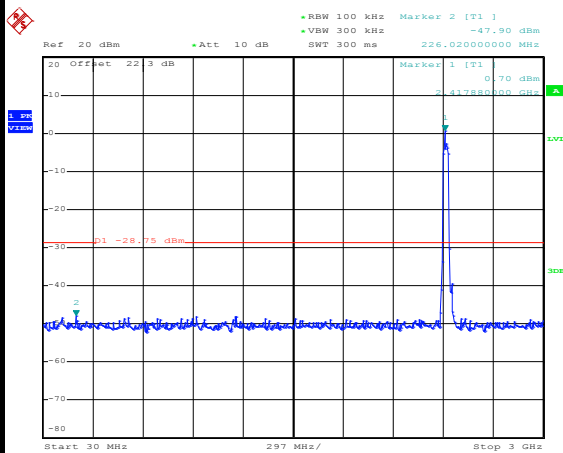
Date: 5.FEB.2019 10:01:29

Low Channel Plot



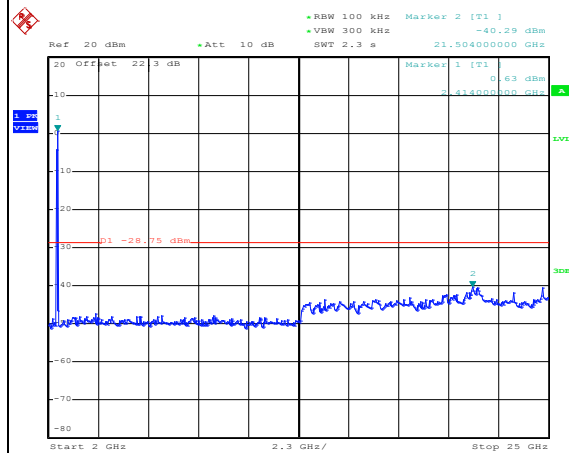
Date: 5.FEB.2019 10:03:46

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 10:04:06

Spurious Emission 2GHz~25GHz

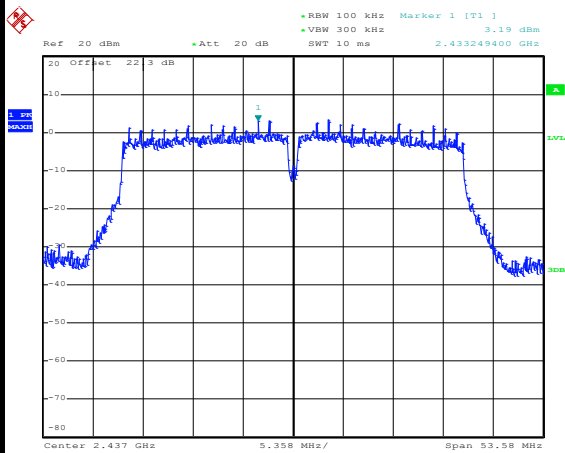


Date: 5.FEB.2019 10:04:19



WLAN 802.11ac VHT40 Channel 06

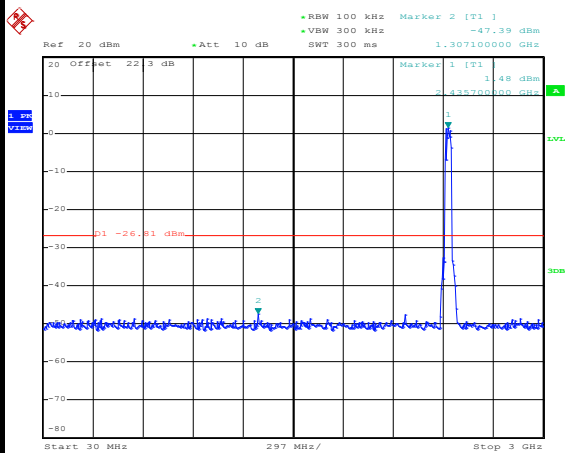
100kHz PSD reference Level



Date: 5.FEB.2019 10:06:27

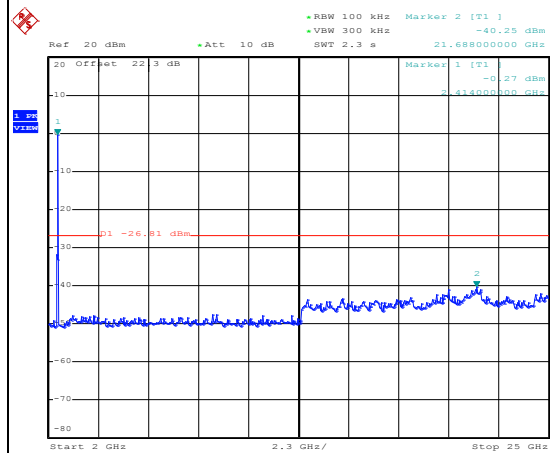
Mid Channel Plot

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 10:06:55

Spurious Emission 2GHz~25GHz

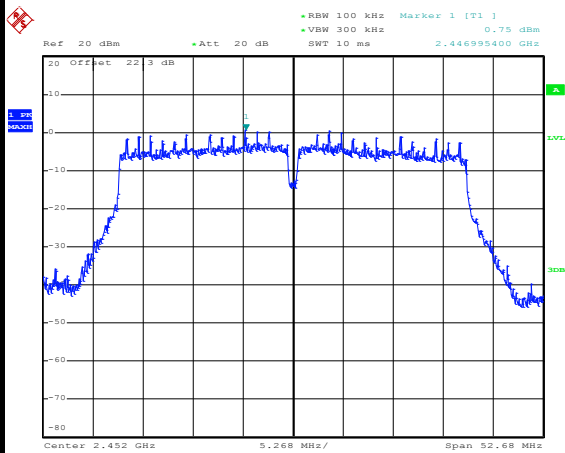


Date: 5.FEB.2019 10:07:09



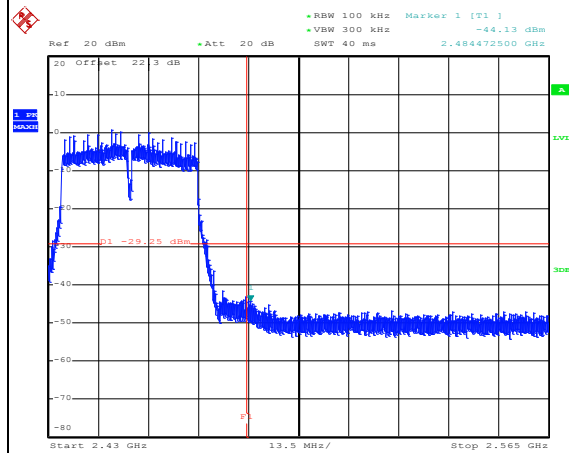
WLAN 802.11ac VHT40 Channel 09

100kHz PSD reference Level



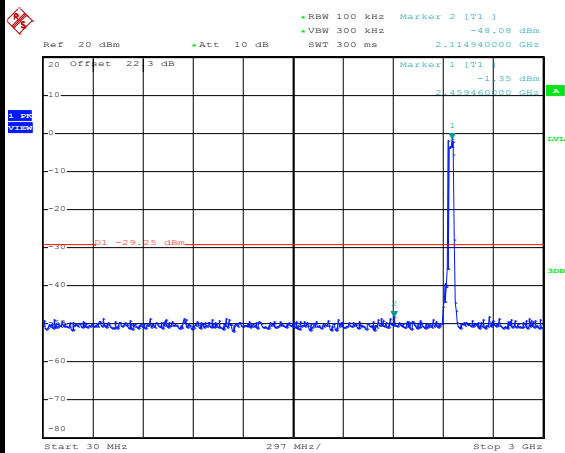
Date: 5.FEB.2019 10:09:05

High Channel Plot



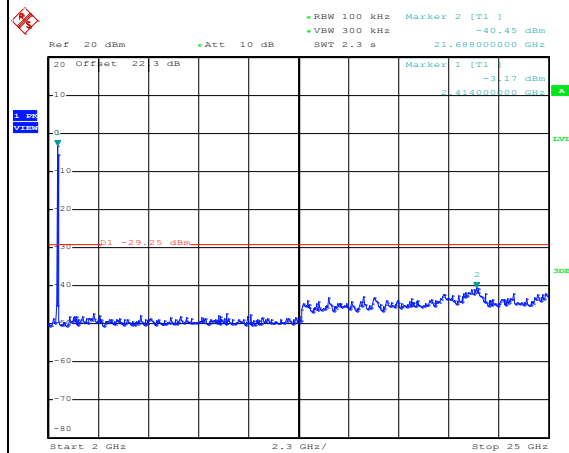
Date: 5.FEB.2019 10:09:36

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 10:09:53

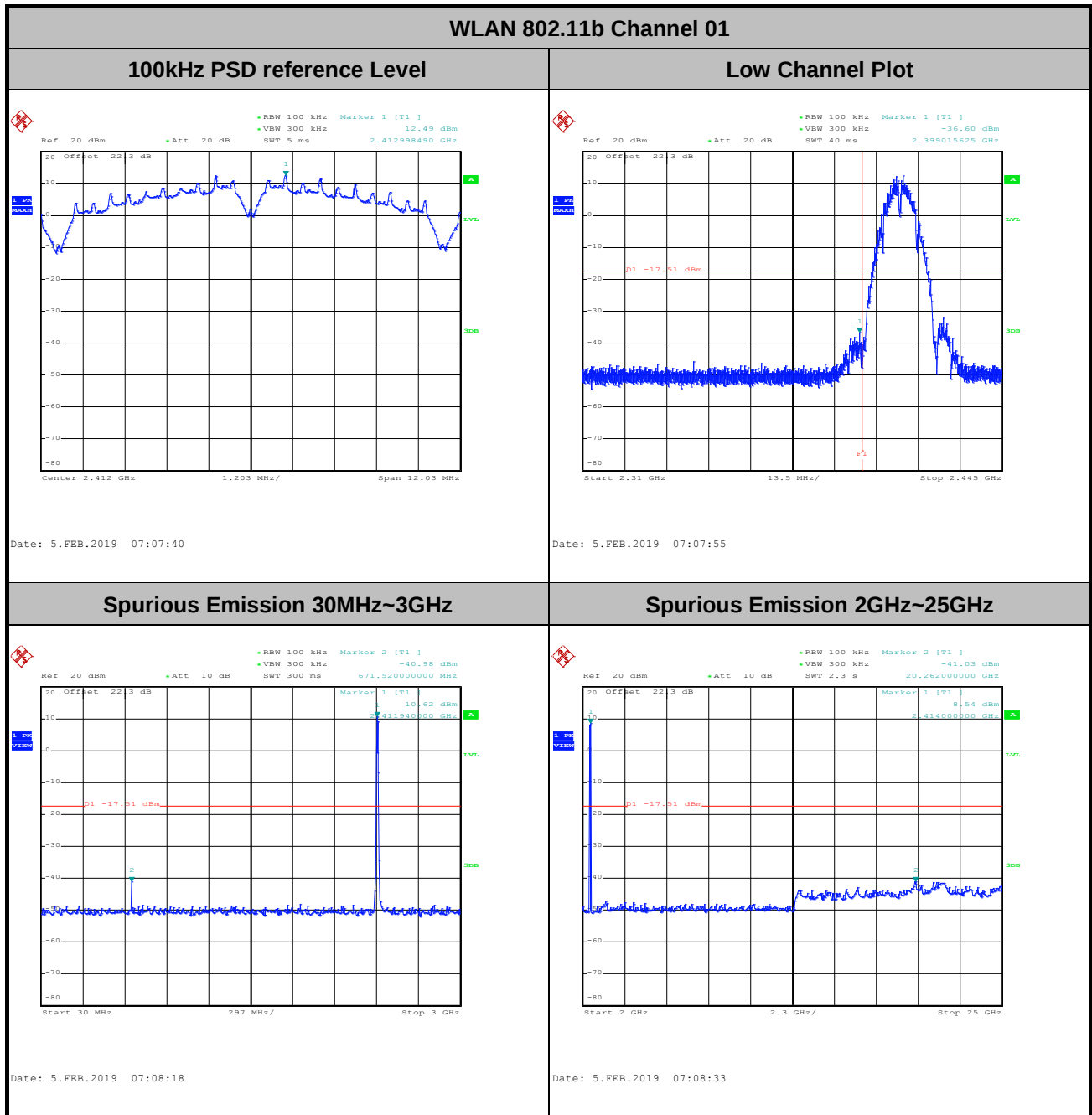
Spurious Emission 2GHz~25GHz



Date: 5.FEB.2019 10:10:08



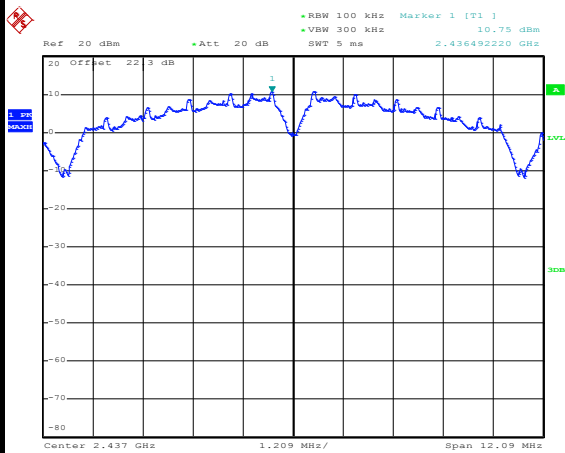
Number of TX = 2, Ant. 1 (Measured)





WLAN 802.11b Channel 06

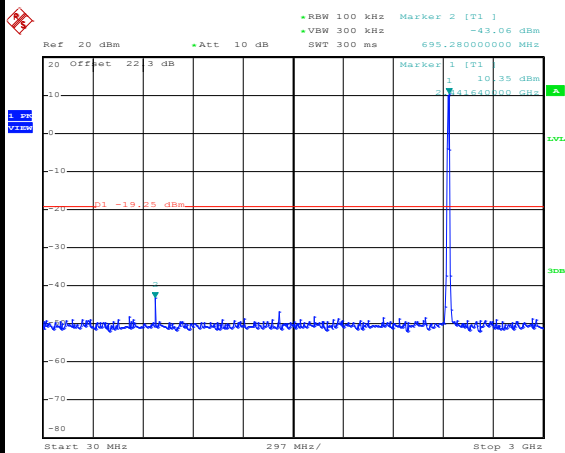
100kHz PSD reference Level



Date: 5.FEB.2019 07:15:23

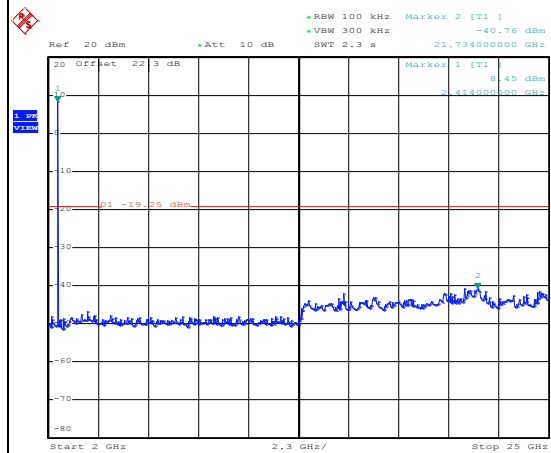
Mid Channel Plot

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 07:15:48

Spurious Emission 2GHz~25GHz

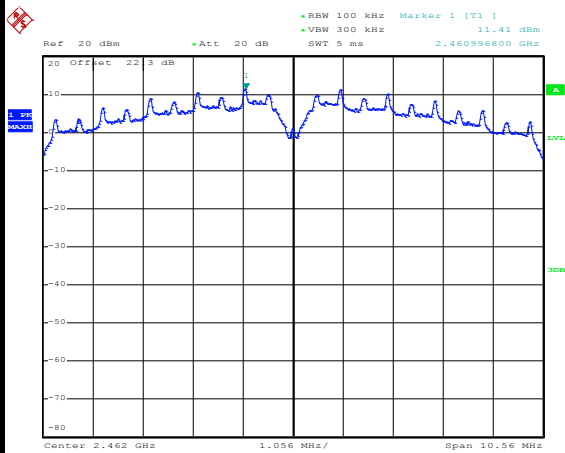


Date: 5.FEB.2019 07:16:15



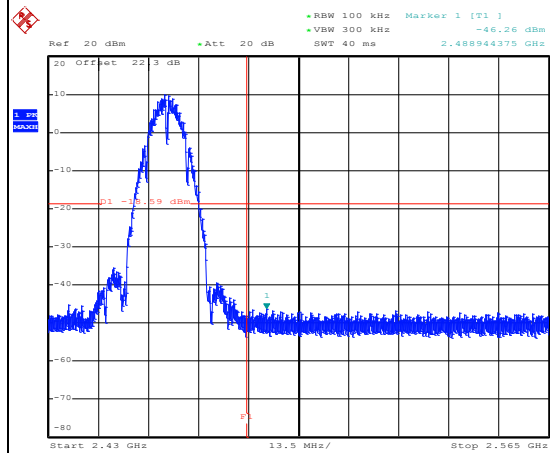
WLAN 802.11b Channel 11

100kHz PSD reference Level



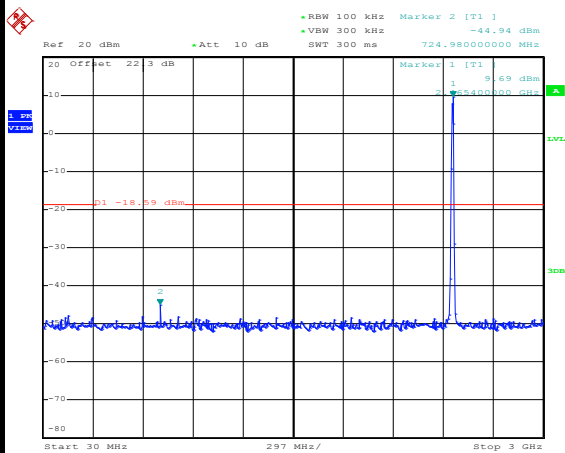
Date: 5.FEB.2019 07:24:48

High Channel Plot



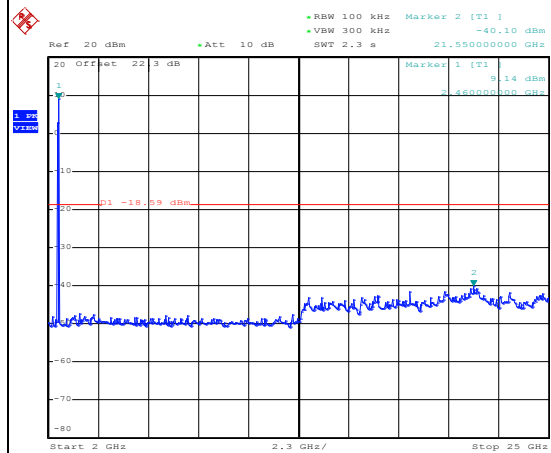
Date: 5.FEB.2019 07:25:01

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 07:25:17

Spurious Emission 2GHz~25GHz

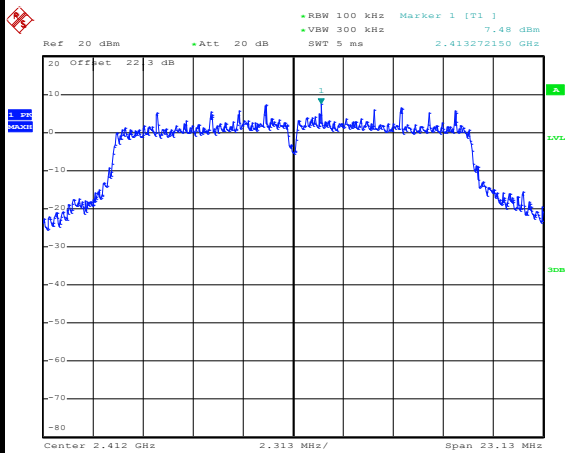


Date: 5.FEB.2019 07:25:31



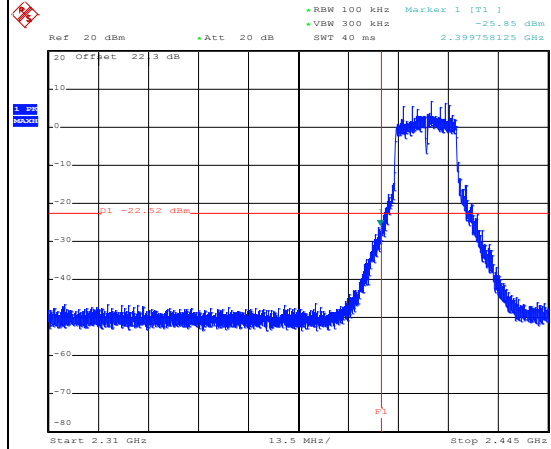
WLAN 802.11g Channel 01

100kHz PSD reference Level



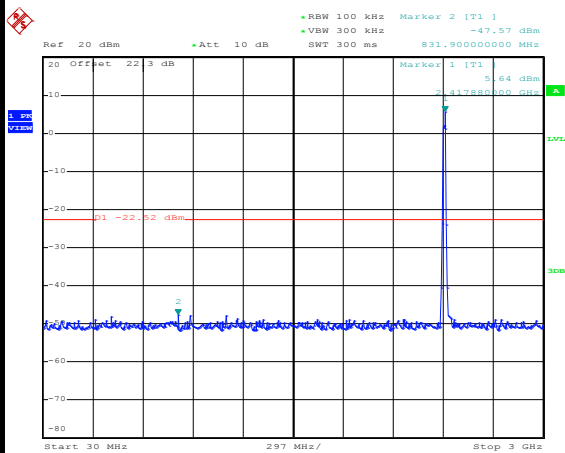
Date: 5.FEB.2019 07:32:29

Low Channel Plot



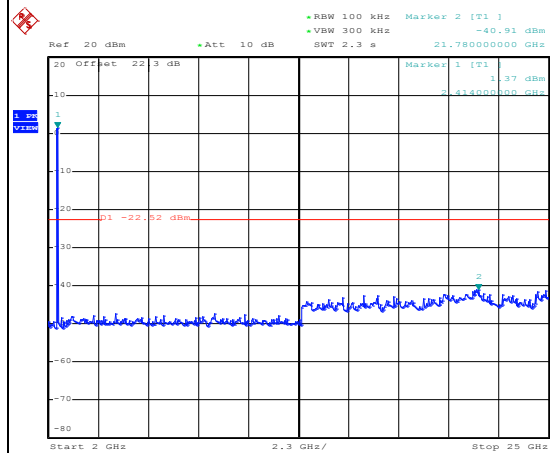
Date: 5.FEB.2019 07:33:22

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 07:33:47

Spurious Emission 2GHz~25GHz

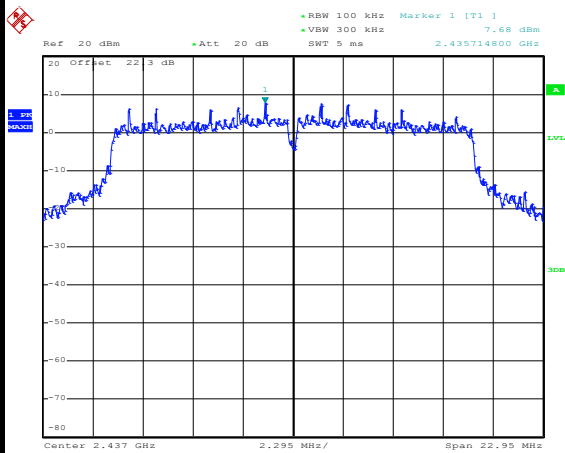


Date: 5.FEB.2019 07:34:01



WLAN 802.11g Channel 06

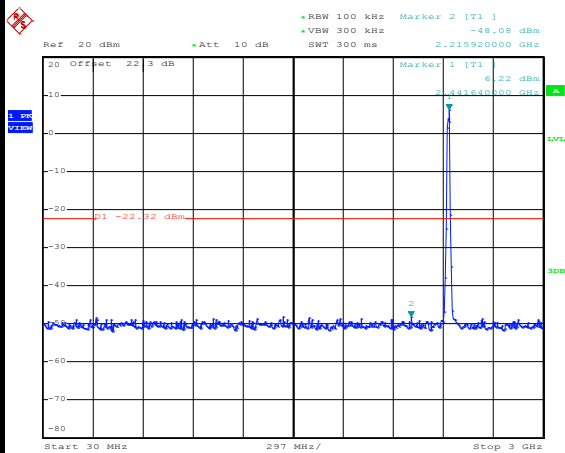
100kHz PSD reference Level



Date: 5.FEB.2019 07:42:11

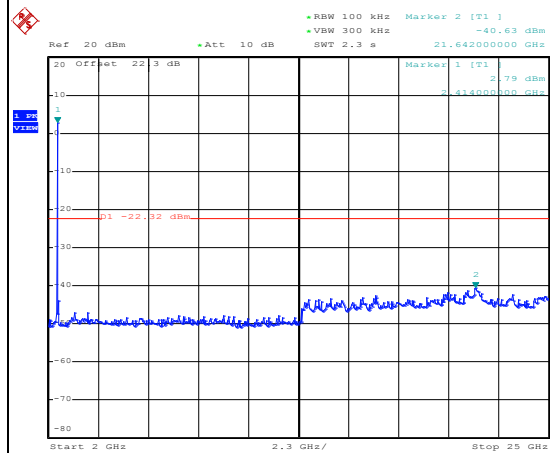
Mid Channel Plot

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 07:42:27

Spurious Emission 2GHz~25GHz

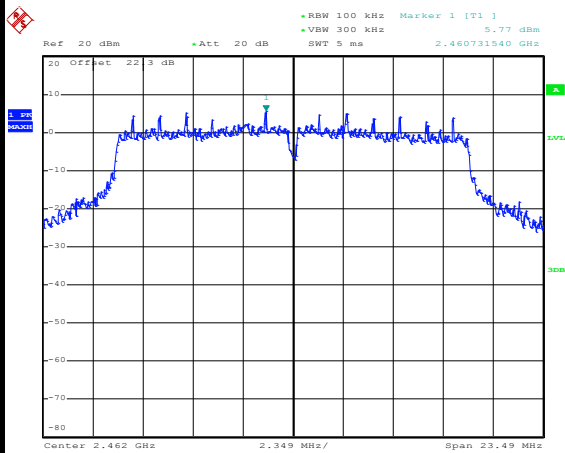


Date: 5.FEB.2019 07:42:41



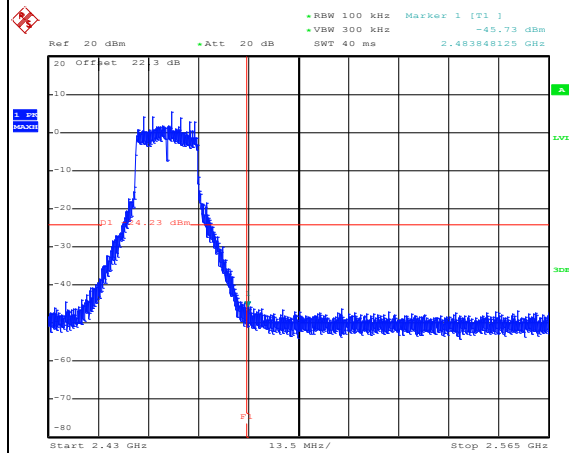
WLAN 802.11g Channel 11

100kHz PSD reference Level



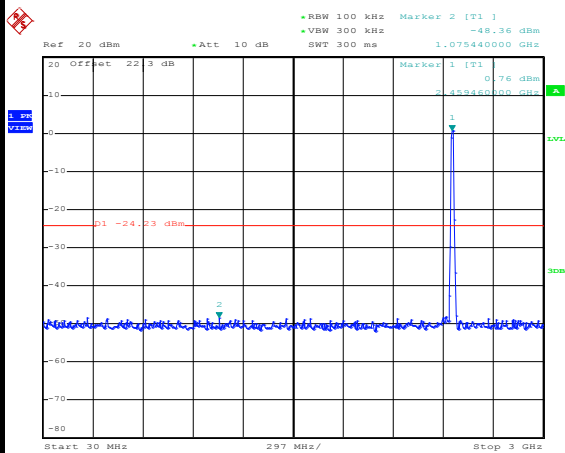
Date: 5.FEB.2019 07:47:10

High Channel Plot



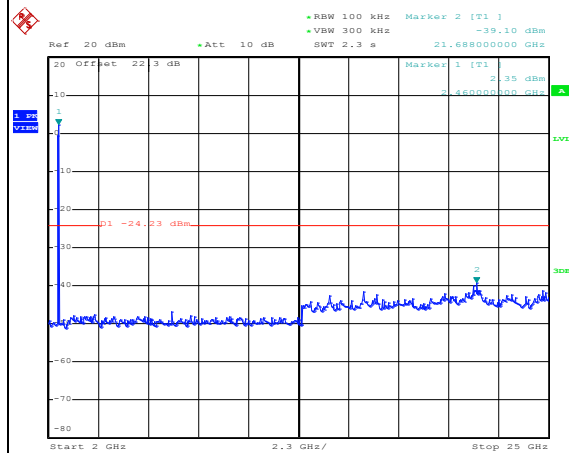
Date: 5.FEB.2019 07:47:29

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 07:47:51

Spurious Emission 2GHz~25GHz

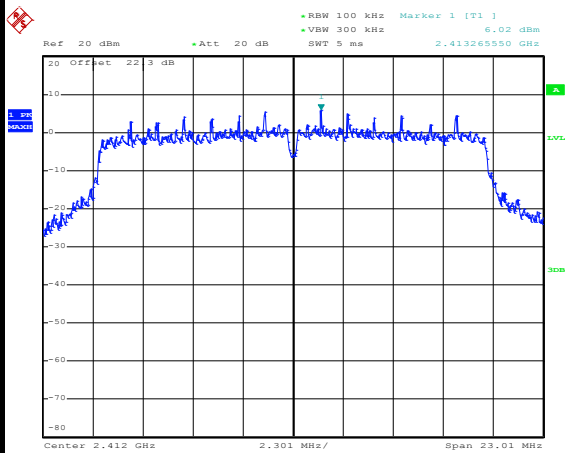


Date: 5.FEB.2019 07:48:06



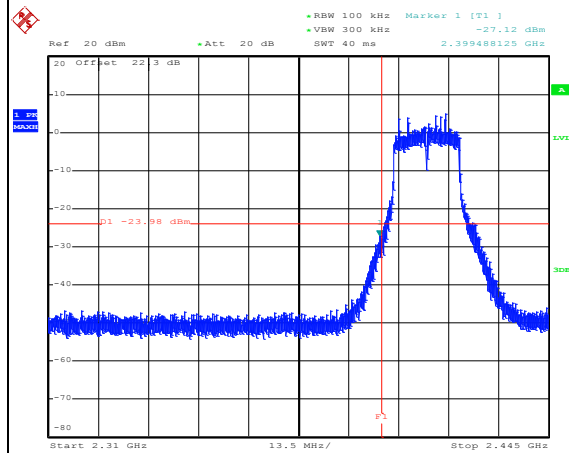
WLAN 802.11ac VHT20 Channel 01

100kHz PSD reference Level



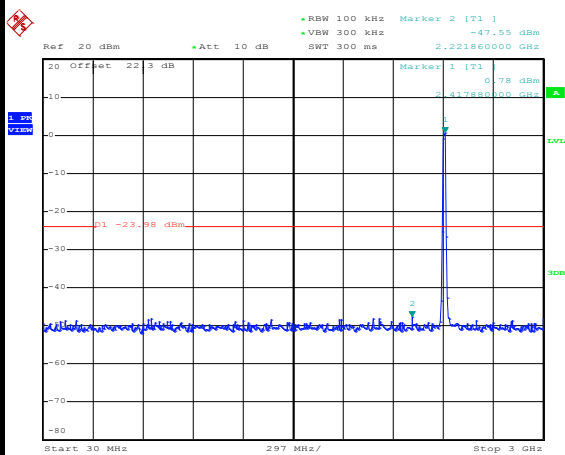
Date: 5.FEB.2019 08:13:36

Low Channel Plot



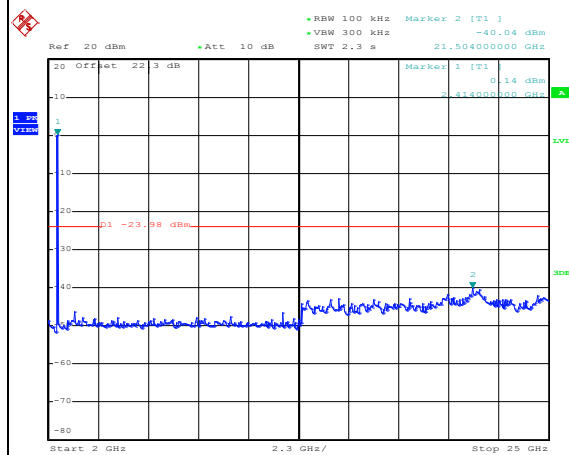
Date: 5.FEB.2019 08:13:49

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 08:14:10

Spurious Emission 2GHz~25GHz

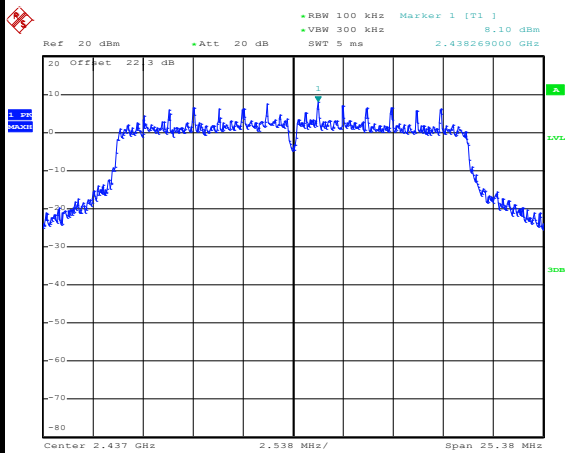


Date: 5.FEB.2019 08:14:24



WLAN 802.11ac VHT20 Channel 06

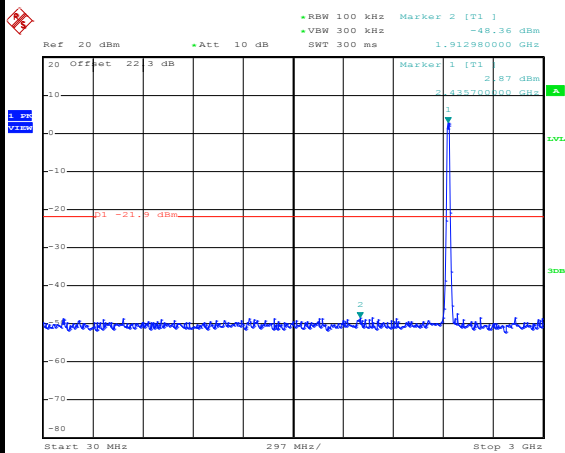
100kHz PSD reference Level



Date: 5.FEB.2019 08:19:54

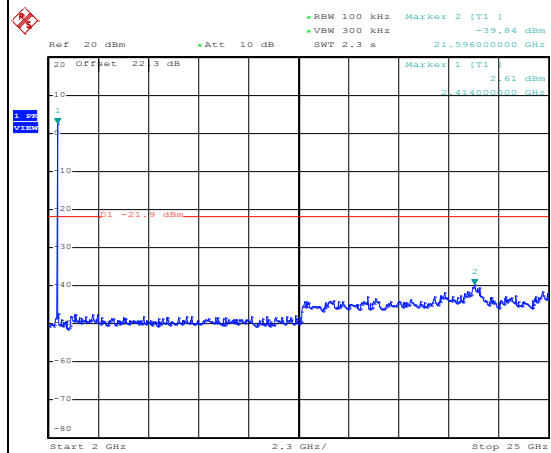
Mid Channel Plot

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 08:20:09

Spurious Emission 2GHz~25GHz

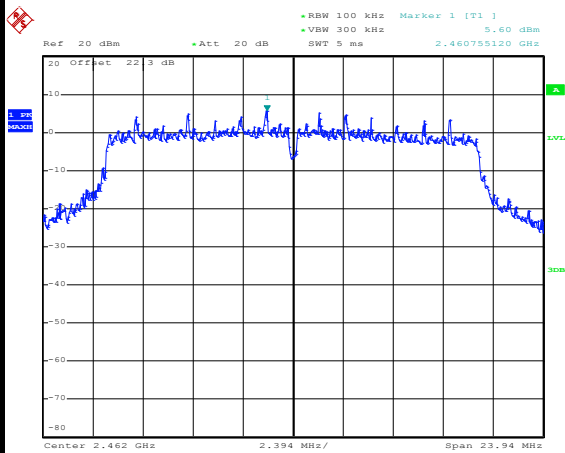


Date: 5.FEB.2019 08:20:23



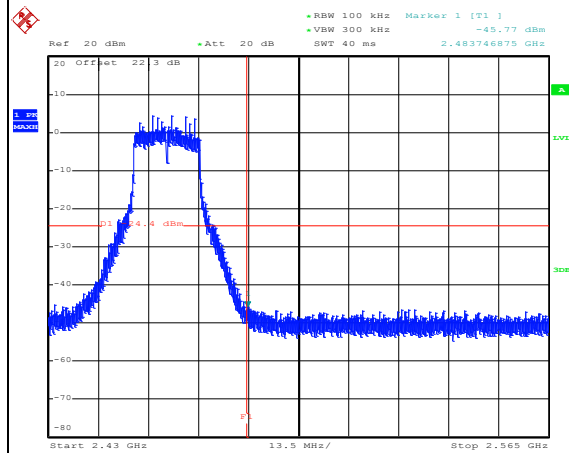
WLAN 802.11ac VHT20 Channel 11

100kHz PSD reference Level



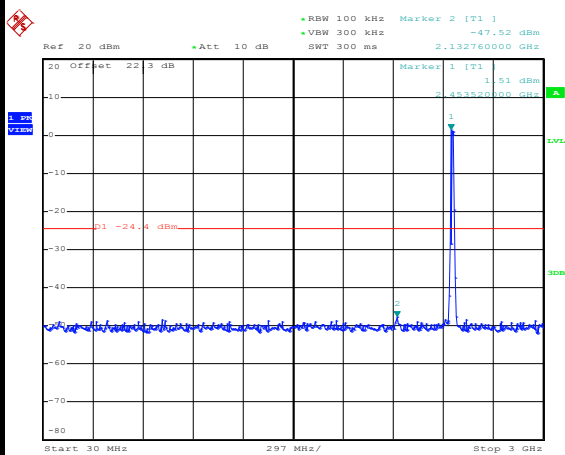
Date: 5.FEB.2019 08:26:57

High Channel Plot



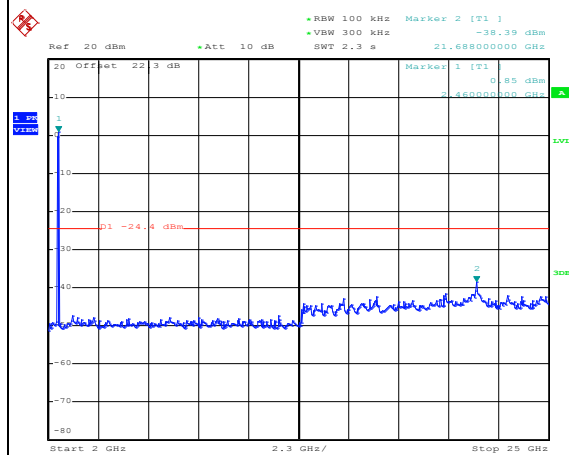
Date: 5.FEB.2019 08:27:09

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 08:28:20

Spurious Emission 2GHz~25GHz

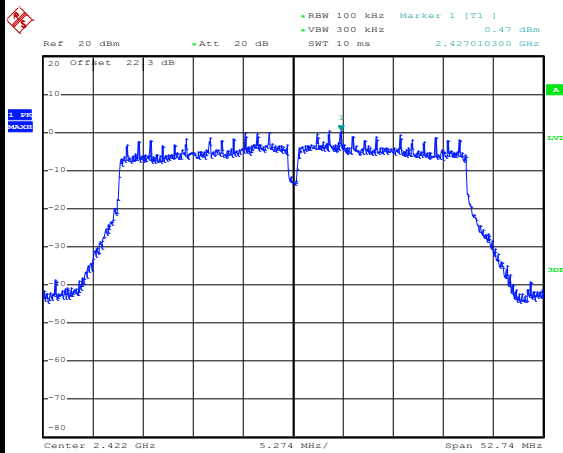


Date: 5.FEB.2019 08:28:45



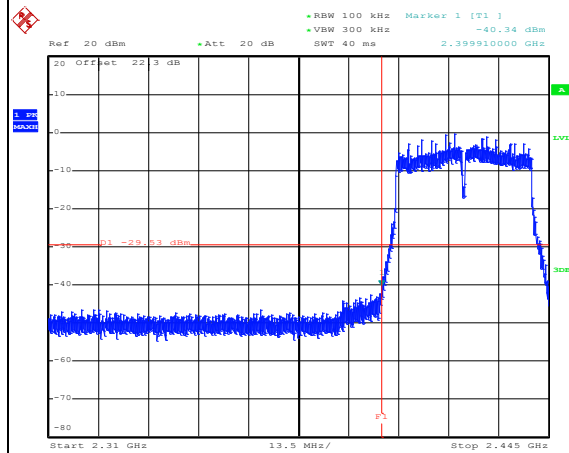
WLAN 802.11ac VHT40 Channel 03

100kHz PSD reference Level



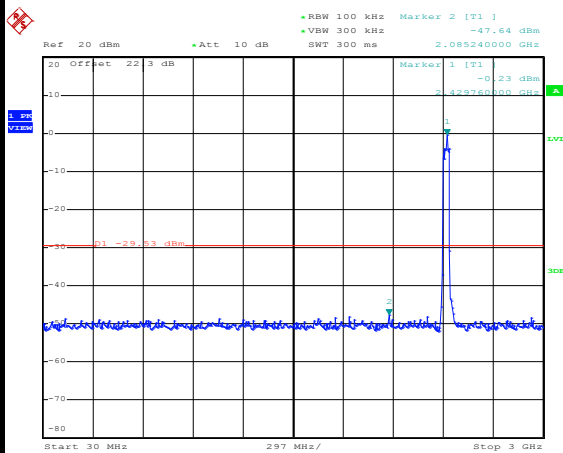
Date: 5.FEB.2019 09:19:32

Low Channel Plot



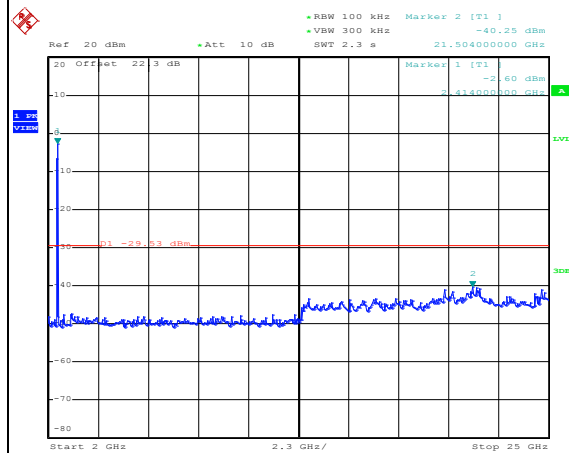
Date: 5.FEB.2019 09:19:47

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 09:20:06

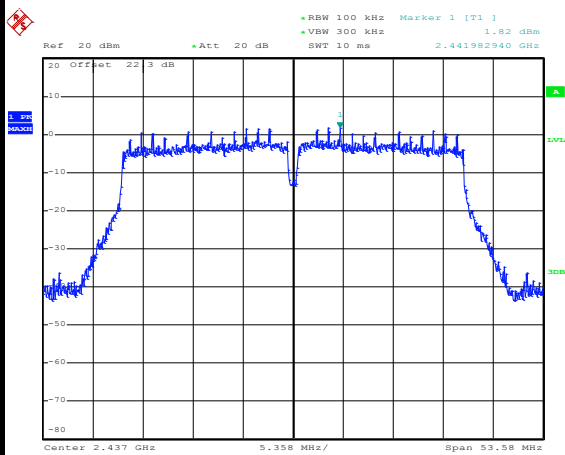
Spurious Emission 2GHz~25GHz



Date: 5.FEB.2019 09:20:45

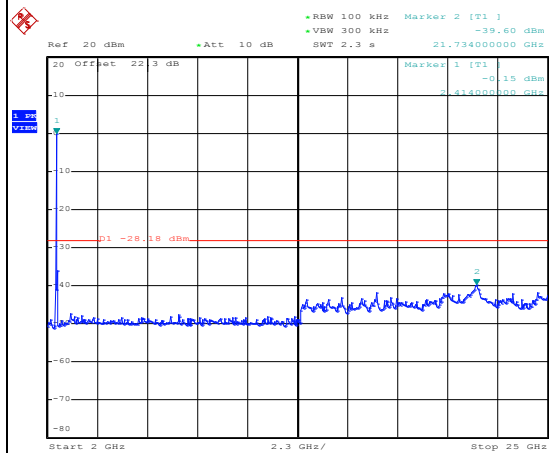
WLAN 802.11ac VHT40 Channel 06

100kHz PSD reference Level



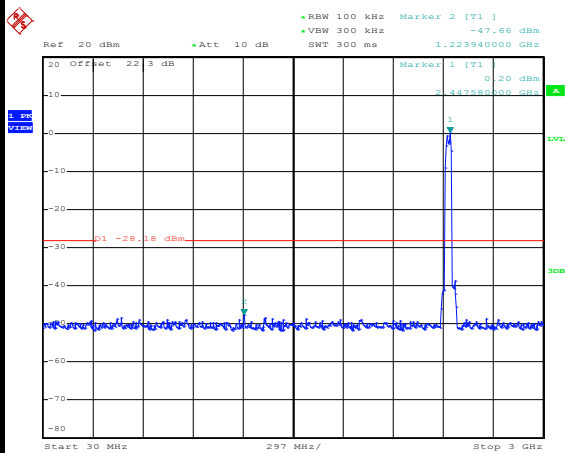
Date: 5.FEB.2019 09:26:37

Mid Channel Plot



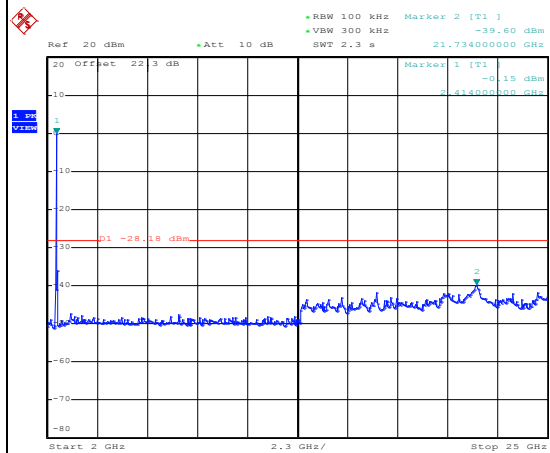
Date: 5.FEB.2019 09:27:11

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 09:26:56

Spurious Emission 2GHz~25GHz

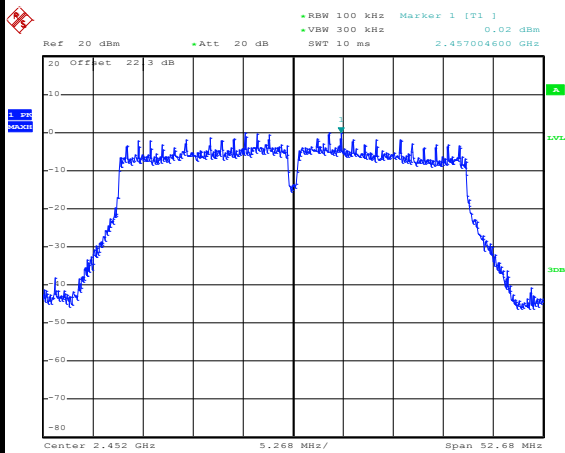


Date: 5.FEB.2019 09:27:11



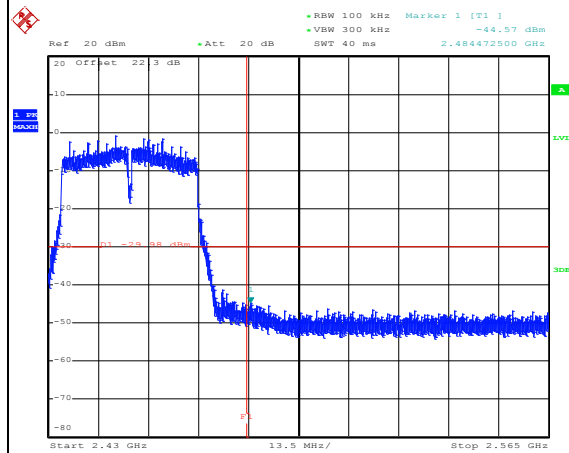
WLAN 802.11ac VHT40 Channel 09

100kHz PSD reference Level



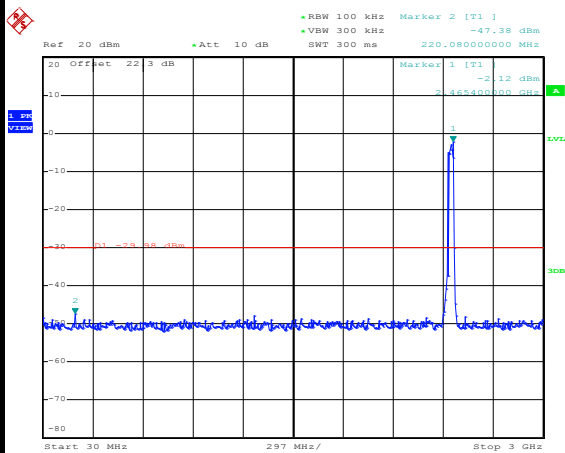
Date: 5.FEB.2019 09:34:18

High Channel Plot



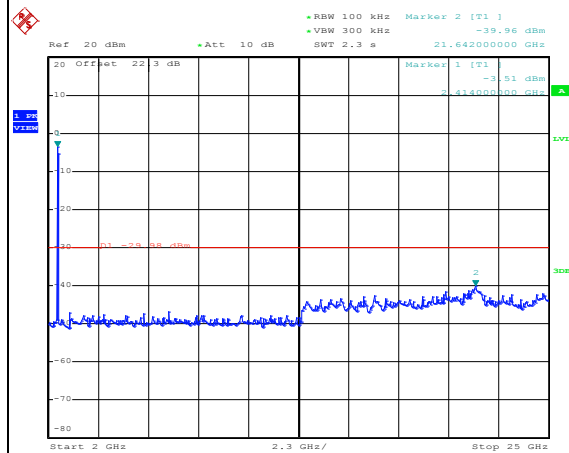
Date: 5.FEB.2019 09:34:31

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 09:34:46

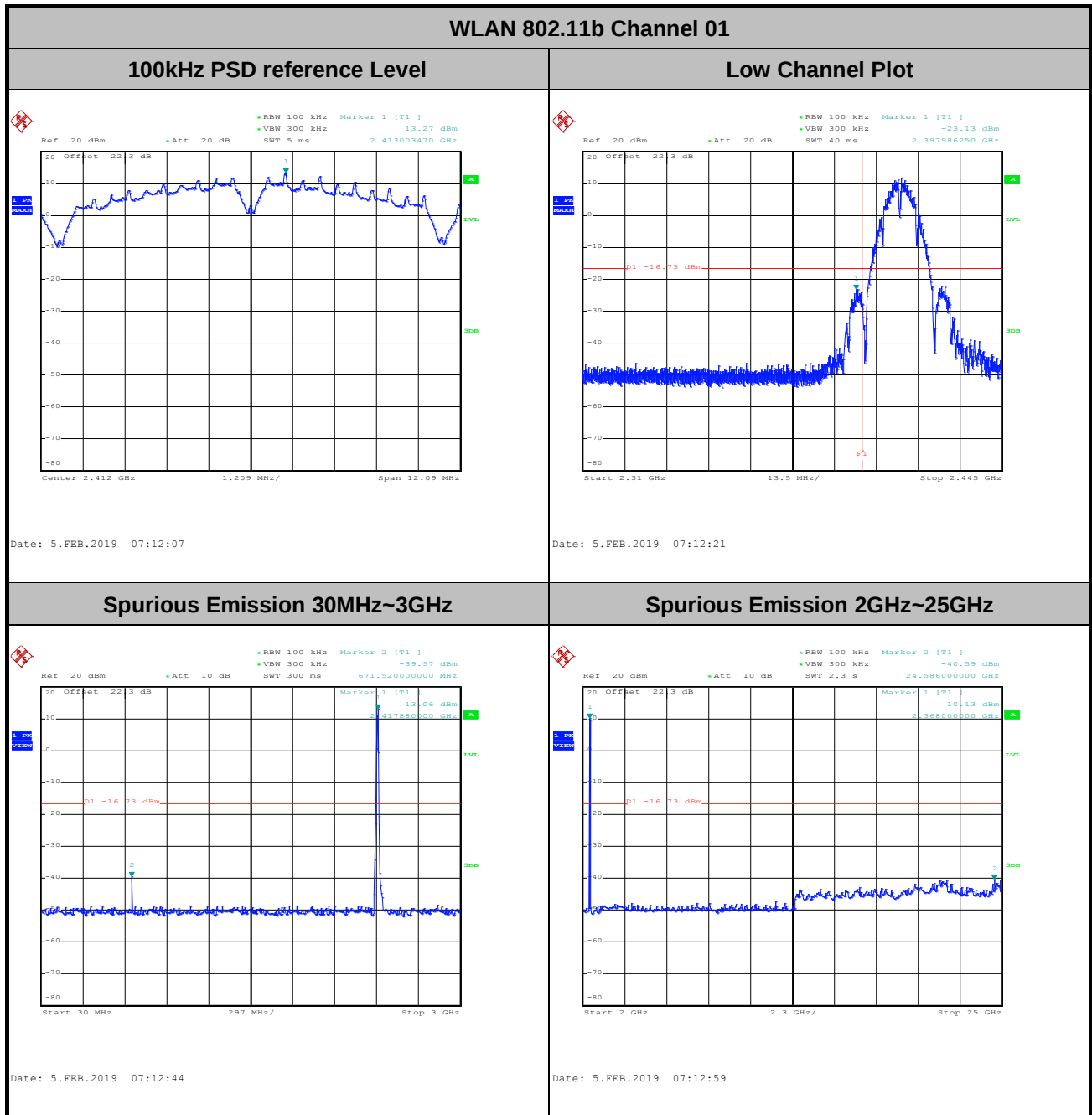
Spurious Emission 2GHz~25GHz



Date: 5.FEB.2019 09:34:59



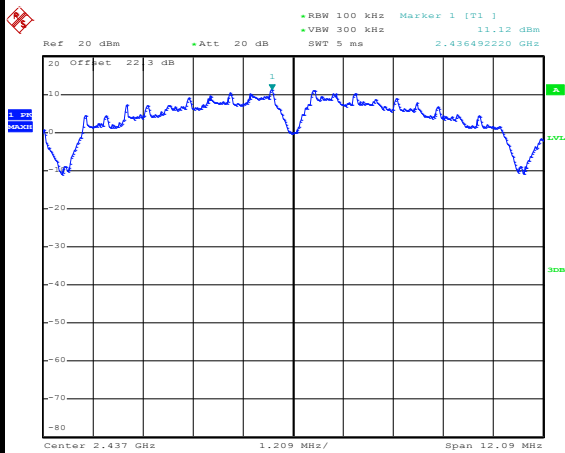
Number of TX = 2, Ant. 2 (Measured)





WLAN 802.11b Channel 06

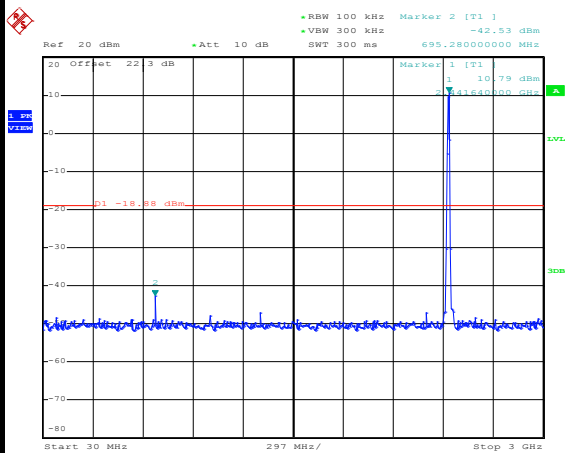
100kHz PSD reference Level



Date: 5.FEB.2019 07:22:02

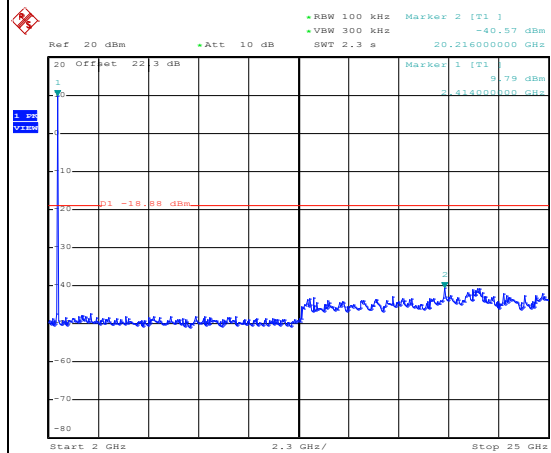
Mid Channel Plot

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 07:22:19

Spurious Emission 2GHz~25GHz

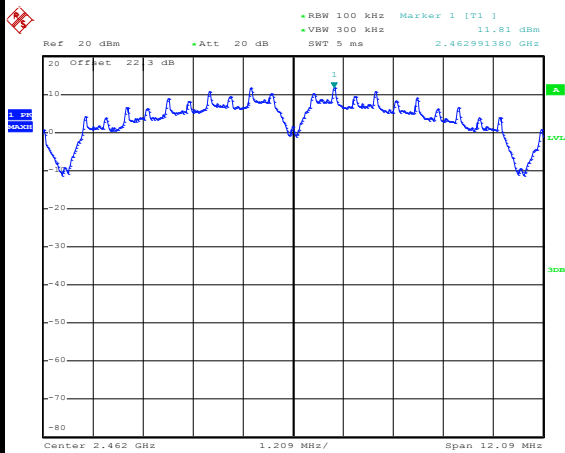


Date: 5.FEB.2019 07:22:34



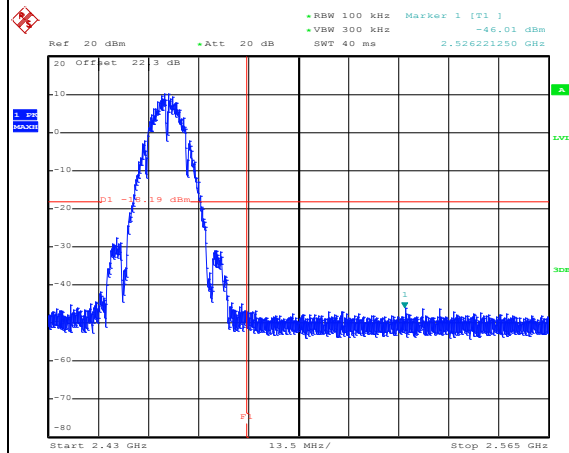
WLAN 802.11b Channel 11

100kHz PSD reference Level



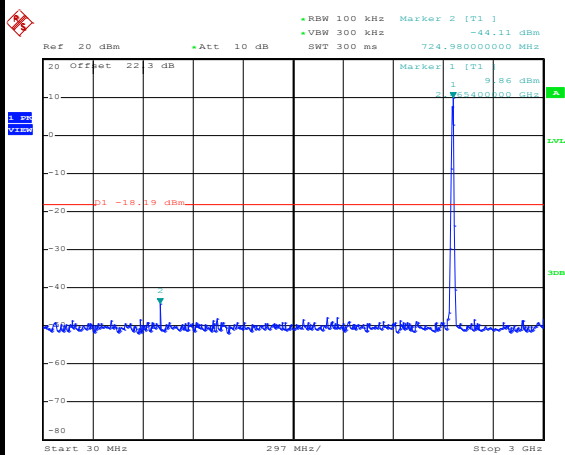
Date: 5.FEB.2019 07:27:18

High Channel Plot



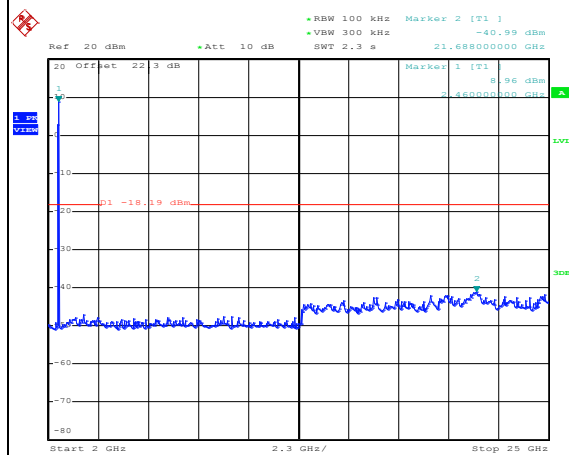
Date: 5.FEB.2019 07:27:32

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 07:27:49

Spurious Emission 2GHz~25GHz

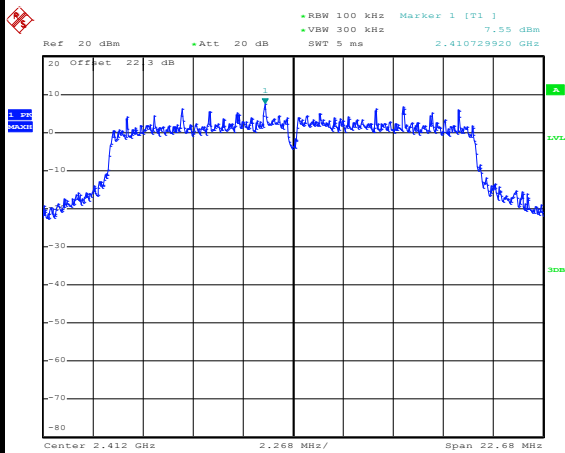


Date: 5.FEB.2019 07:28:04



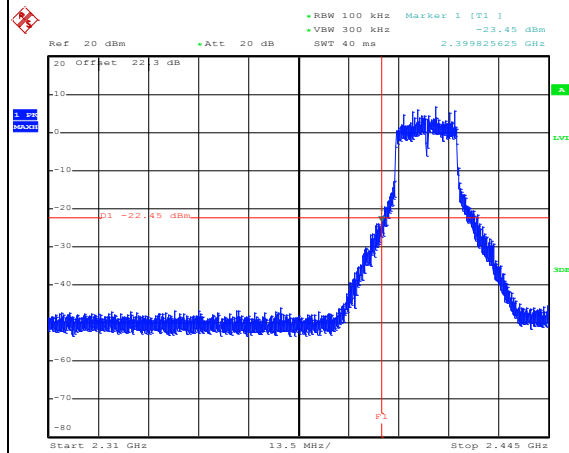
WLAN 802.11g Channel 01

100kHz PSD reference Level



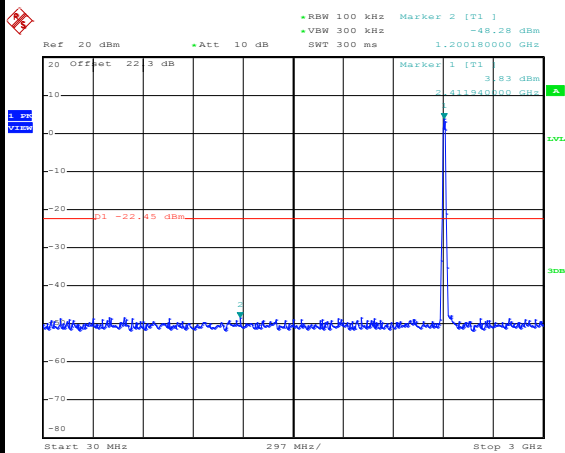
Date: 5.FEB.2019 07:37:44

Low Channel Plot



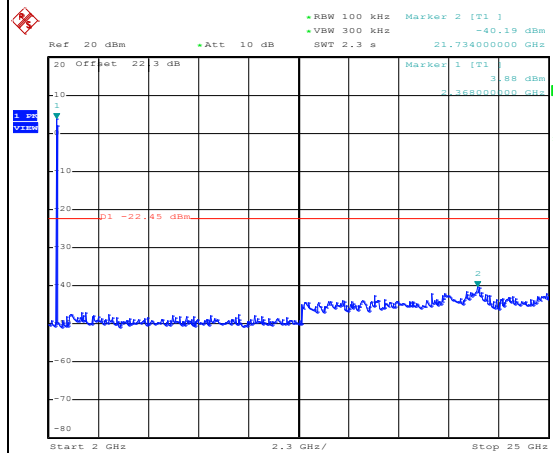
Date: 5.FEB.2019 07:37:57

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 07:38:44

Spurious Emission 2GHz~25GHz

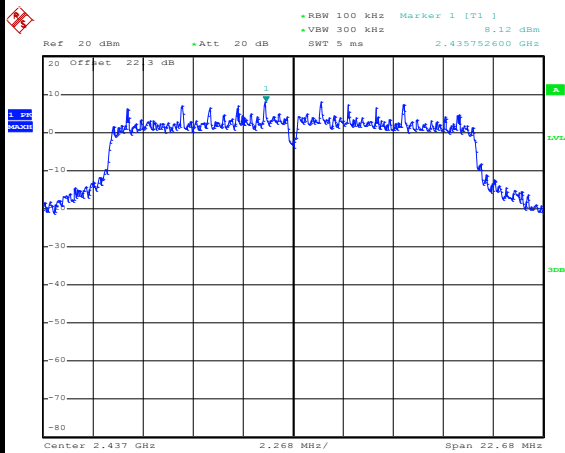


Date: 5.FEB.2019 07:38:58



WLAN 802.11g Channel 06

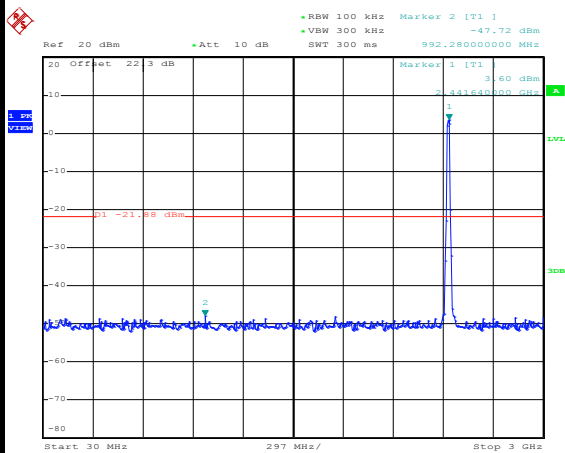
100kHz PSD reference Level



Date: 5.FEB.2019 07:44:32

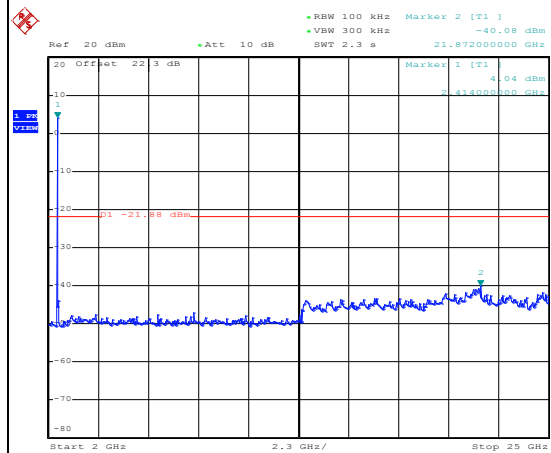
Mid Channel Plot

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 07:44:50

Spurious Emission 2GHz~25GHz

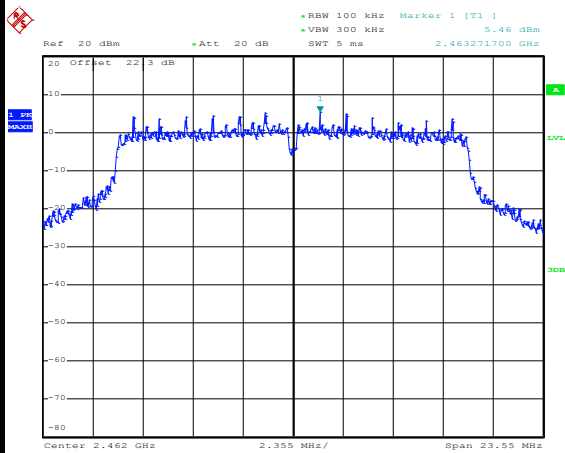


Date: 5.FEB.2019 07:45:03



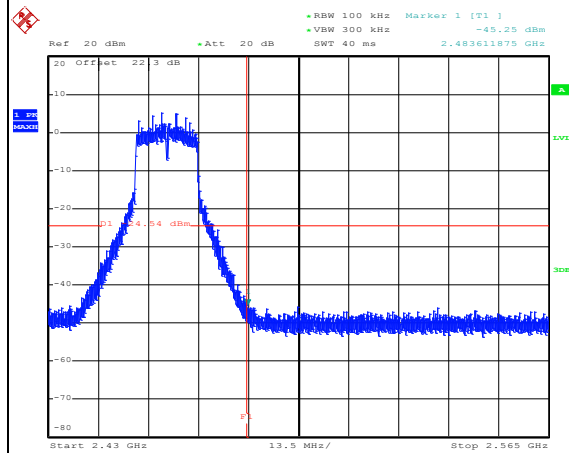
WLAN 802.11g Channel 11

100kHz PSD reference Level



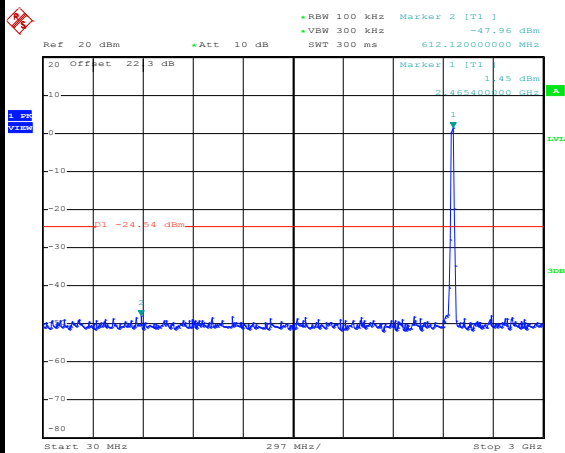
Date: 5.FEB.2019 07:51:42

High Channel Plot



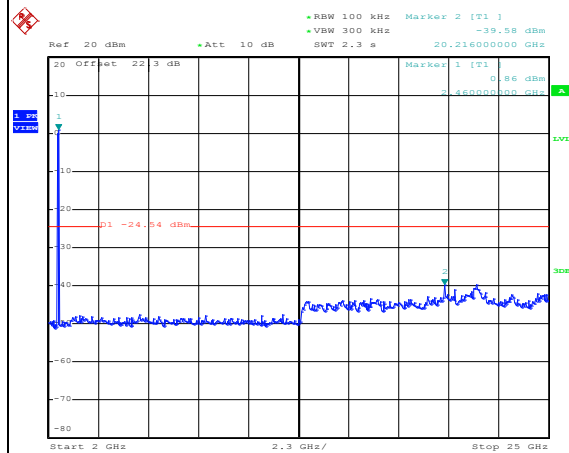
Date: 5.FEB.2019 07:52:13

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 07:52:38

Spurious Emission 2GHz~25GHz

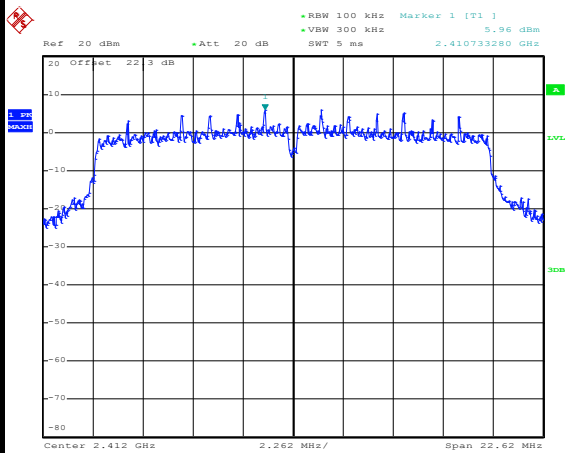


Date: 5.FEB.2019 07:52:52



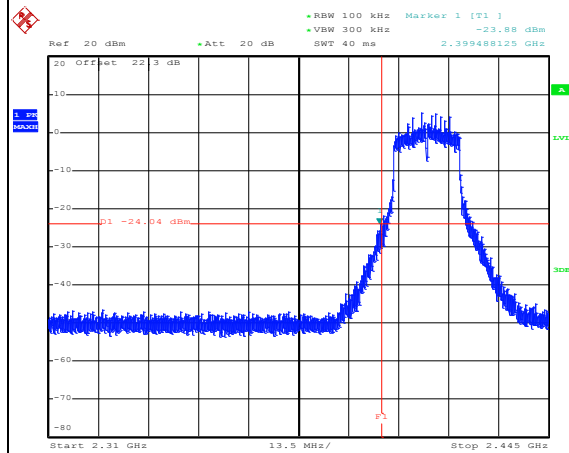
WLAN 802.11ac VHT20 Channel 01

100kHz PSD reference Level



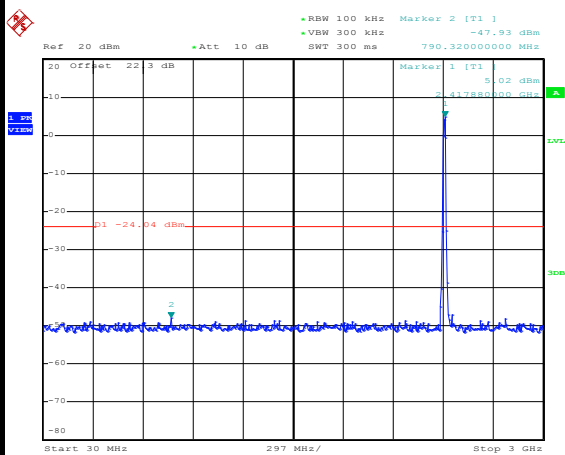
Date: 5.FEB.2019 08:16:22

Low Channel Plot



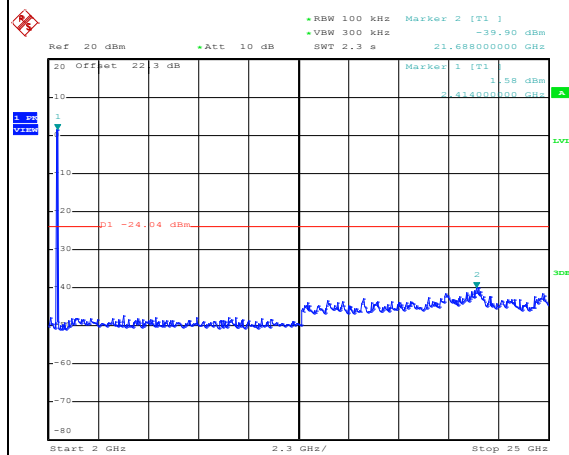
Date: 5.FEB.2019 08:16:39

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 08:17:13

Spurious Emission 2GHz~25GHz

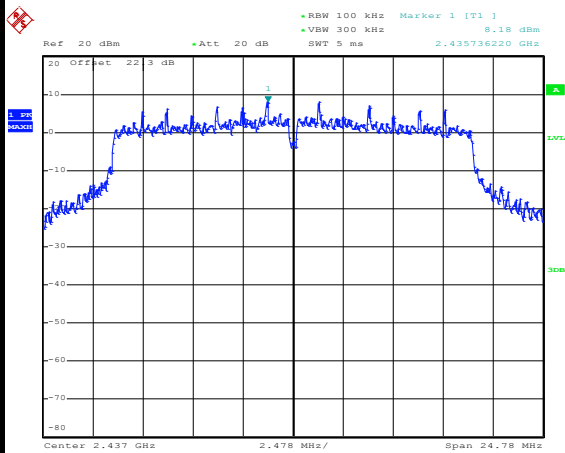


Date: 5.FEB.2019 08:17:27



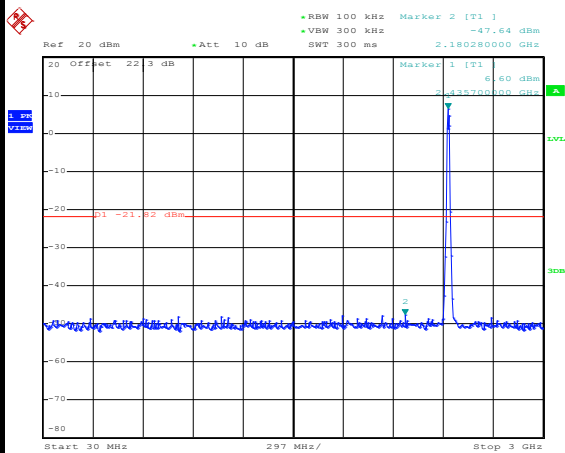
WLAN 802.11ac VHT20 Channel 06

100kHz PSD reference Level

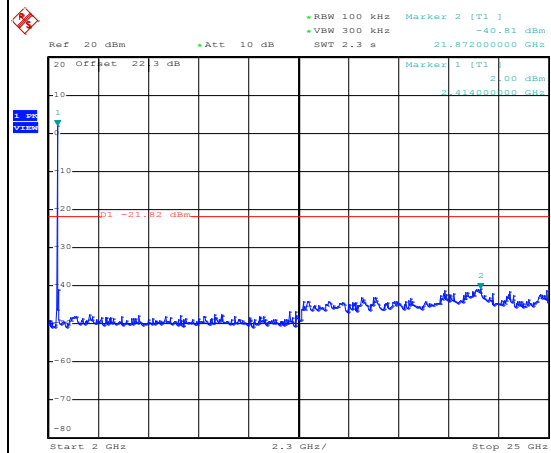


Mid Channel Plot

Spurious Emission 30MHz~3GHz



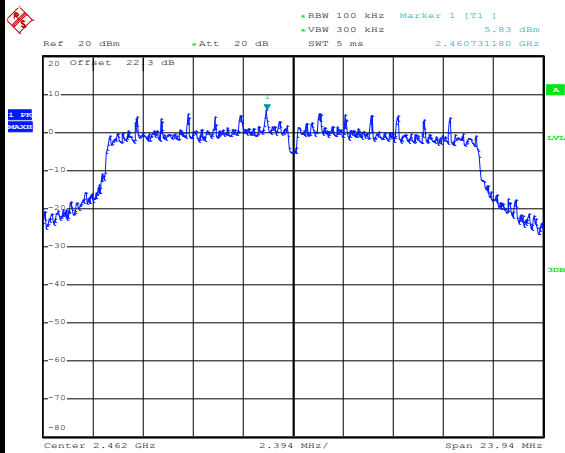
Spurious Emission 2GHz~25GHz





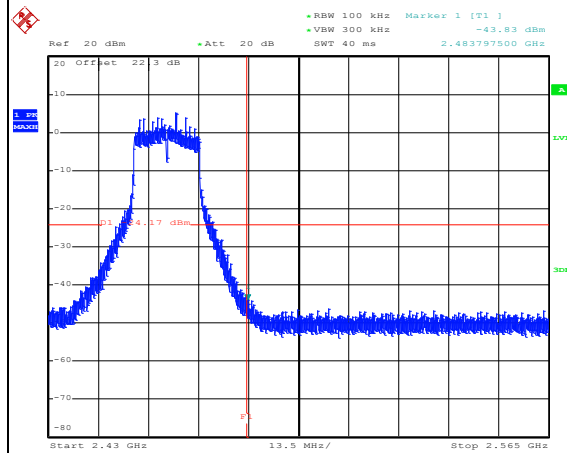
WLAN 802.11ac VHT20 Channel 11

100kHz PSD reference Level



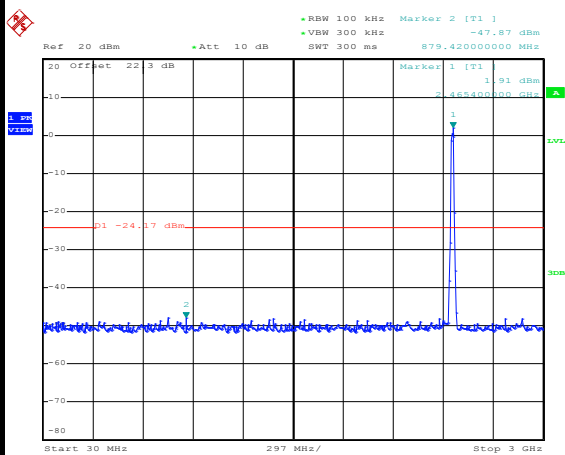
Date: 5.FEB.2019 08:32:44

High Channel Plot



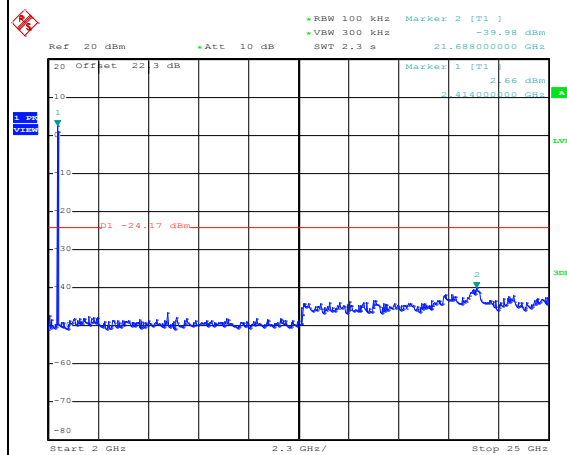
Date: 5.FEB.2019 08:33:26

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 08:33:52

Spurious Emission 2GHz~25GHz

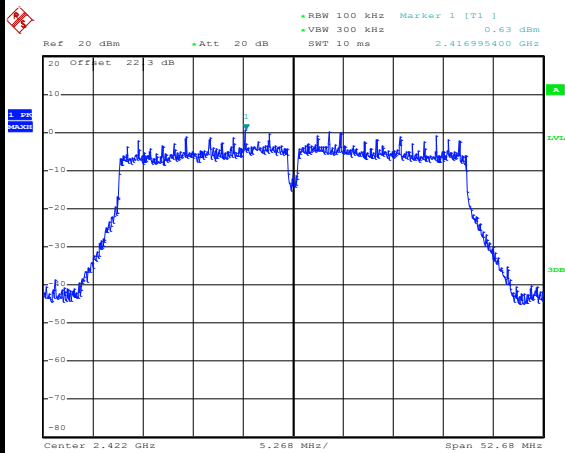


Date: 5.FEB.2019 08:34:09



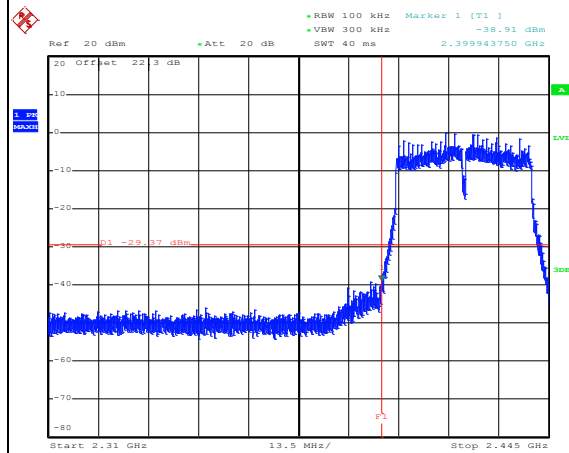
WLAN 802.11ac VHT40 Channel 03

100kHz PSD reference Level



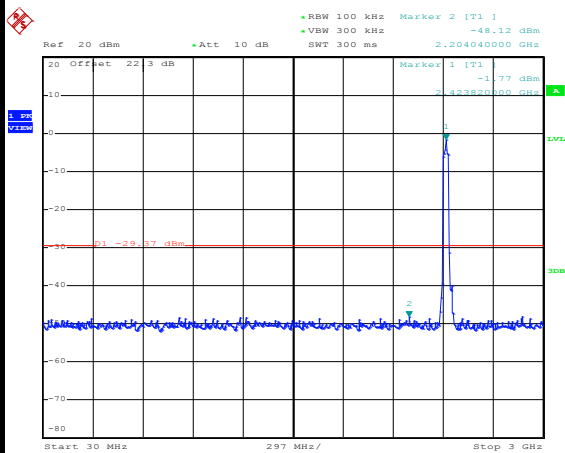
Date: 5.FEB.2019 09:23:37

Low Channel Plot



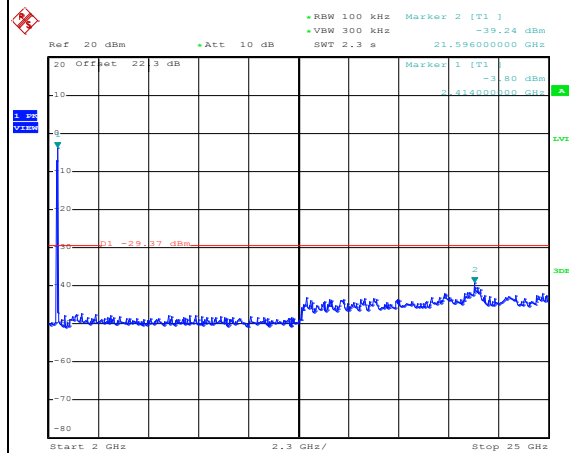
Date: 5.FEB.2019 09:23:51

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 09:24:14

Spurious Emission 2GHz~25GHz

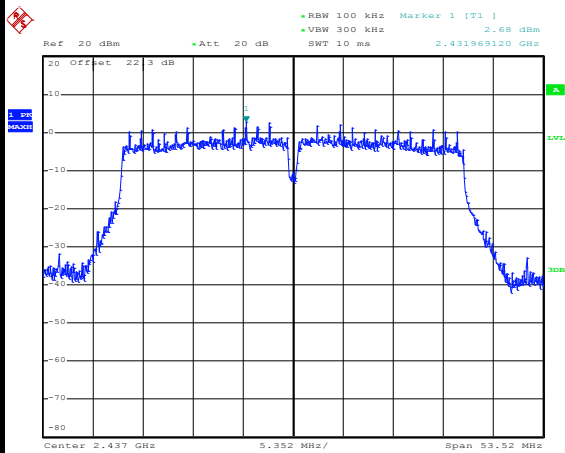


Date: 5.FEB.2019 09:24:28



WLAN 802.11ac VHT40 Channel 06

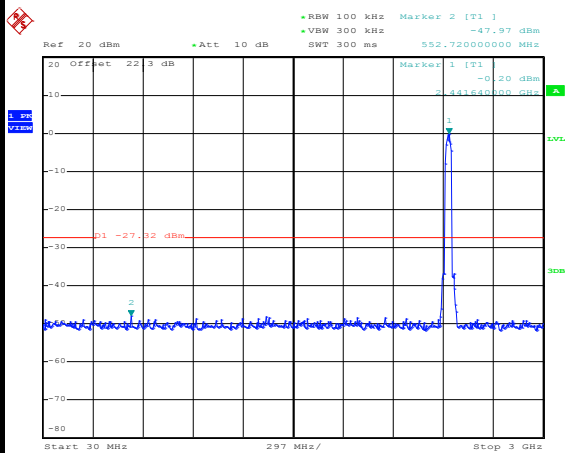
100kHz PSD reference Level



Date: 5.FEB.2019 09:31:12

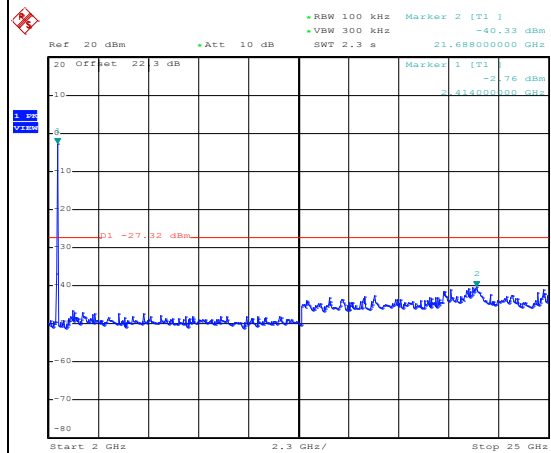
Mid Channel Plot

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 09:31:51

Spurious Emission 2GHz~25GHz

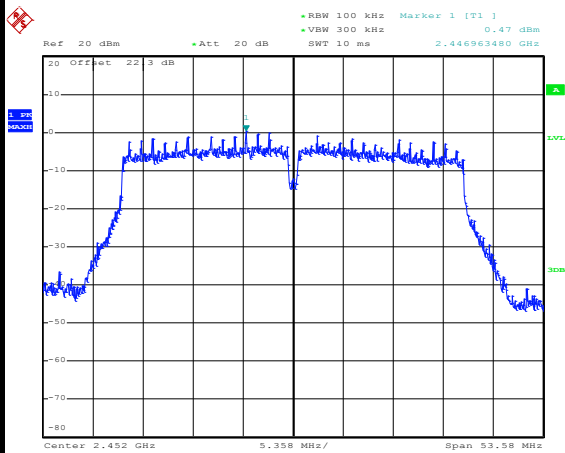


Date: 5.FEB.2019 09:32:06



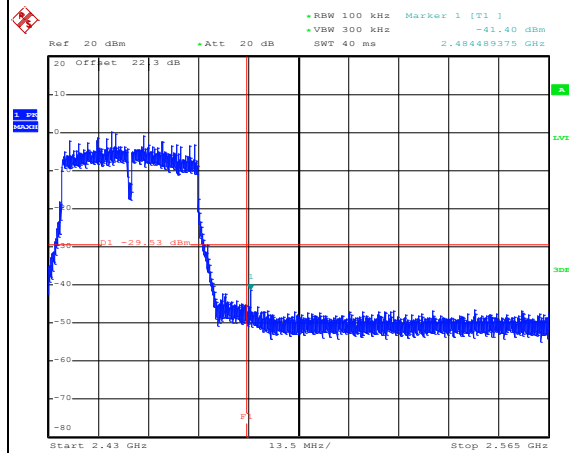
WLAN 802.11ac VHT40 Channel 09

100kHz PSD reference Level



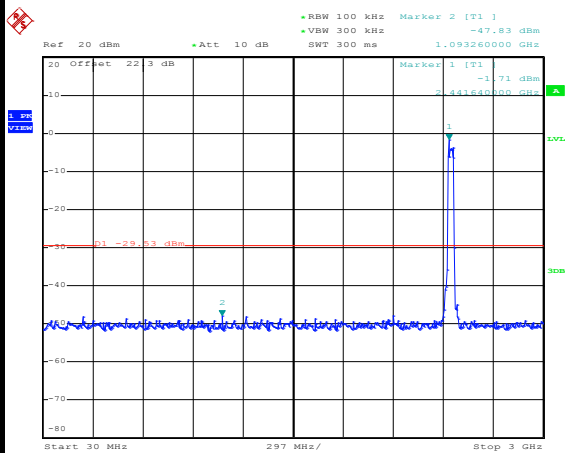
Date: 5.FEB.2019 09:37:03

High Channel Plot



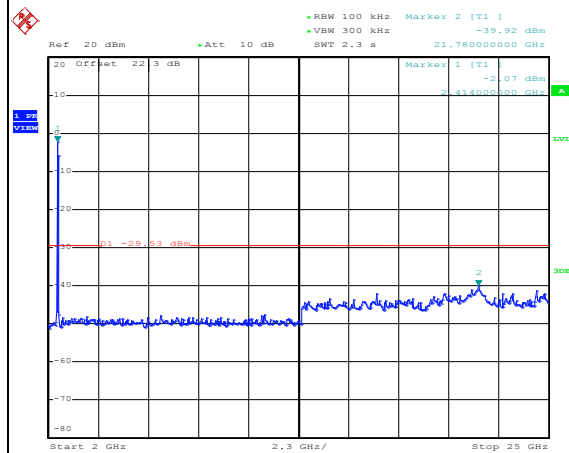
Date: 5.FEB.2019 09:37:16

Spurious Emission 30MHz~3GHz



Date: 5.FEB.2019 09:37:32

Spurious Emission 2GHz~25GHz



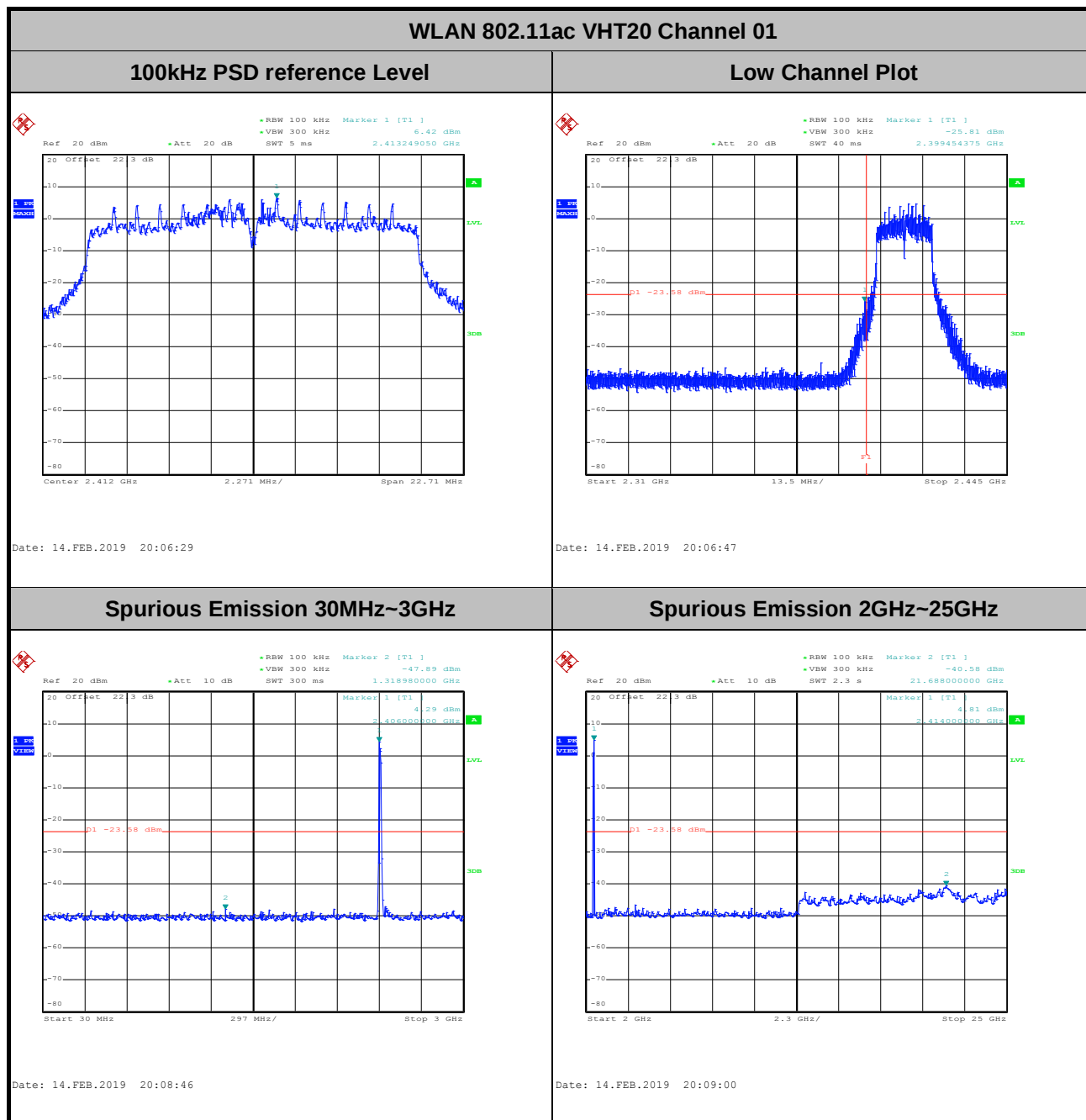
Date: 5.FEB.2019 09:37:46



Test Engineer :	Allen Lin and AnAn Wu	Temperature :	21~25°C
		Relative Humidity :	51~54%

<TXBF Mode>

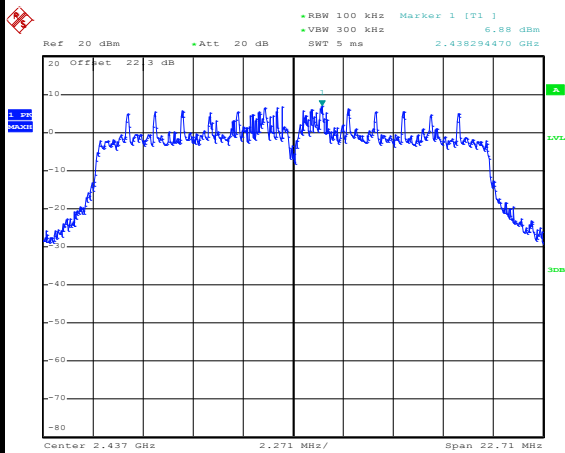
Number of TX = 2, Ant. 1 (Measured)





WLAN 802.11ac VHT20 Channel 06

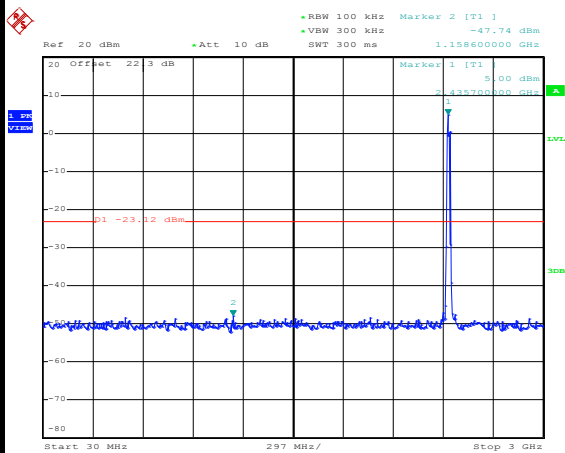
100kHz PSD reference Level



Date: 14.FEB.2019 20:34:16

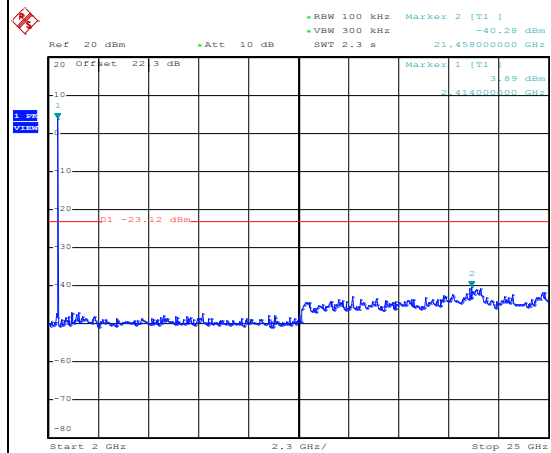
Mid Channel Plot

Spurious Emission 30MHz~3GHz



Date: 14.FEB.2019 20:35:35

Spurious Emission 2GHz~25GHz

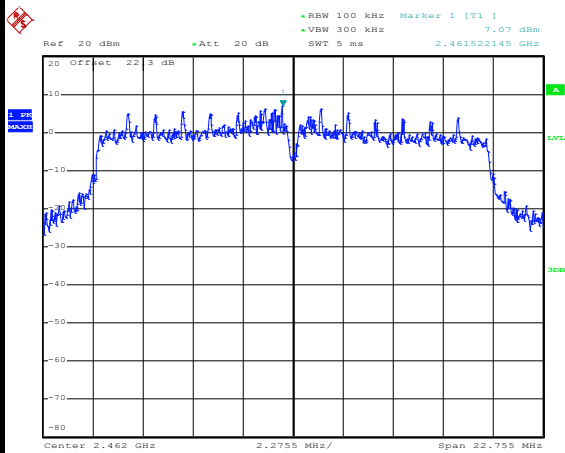


Date: 14.FEB.2019 20:35:51



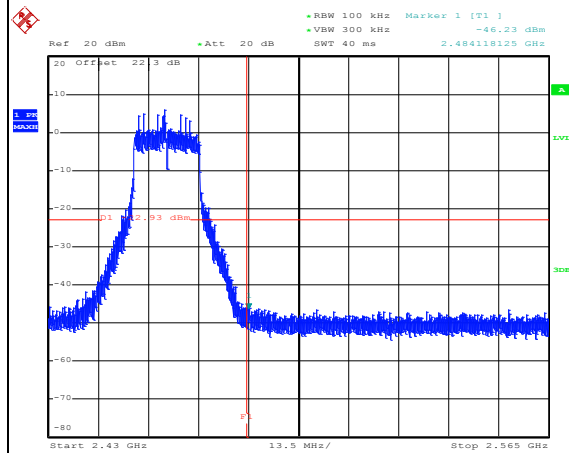
WLAN 802.11ac VHT20 Channel 11

100kHz PSD reference Level



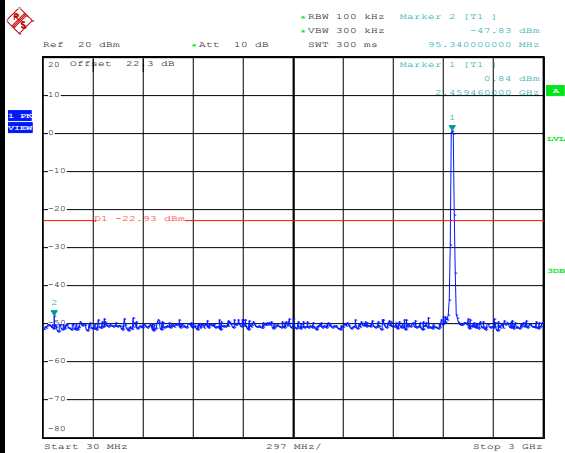
Date: 14.FEB.2019 20:50:10

High Channel Plot



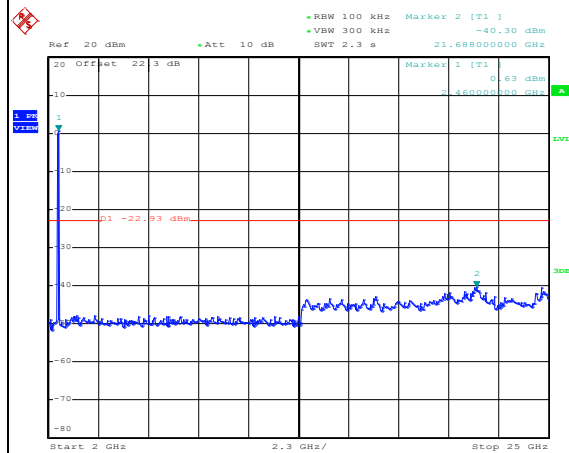
Date: 14.FEB.2019 20:50:23

Spurious Emission 30MHz~3GHz



Date: 14.FEB.2019 20:50:51

Spurious Emission 2GHz~25GHz

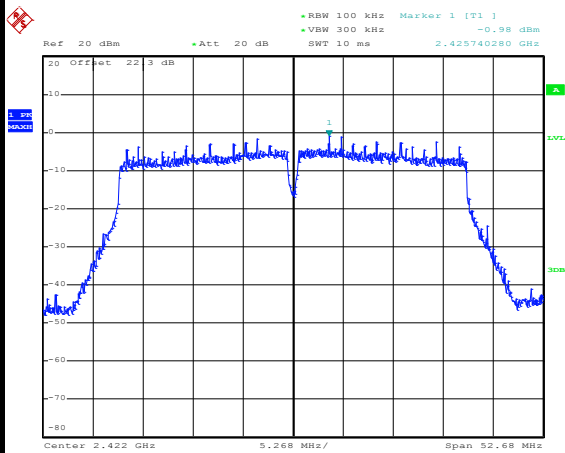


Date: 14.FEB.2019 20:51:05



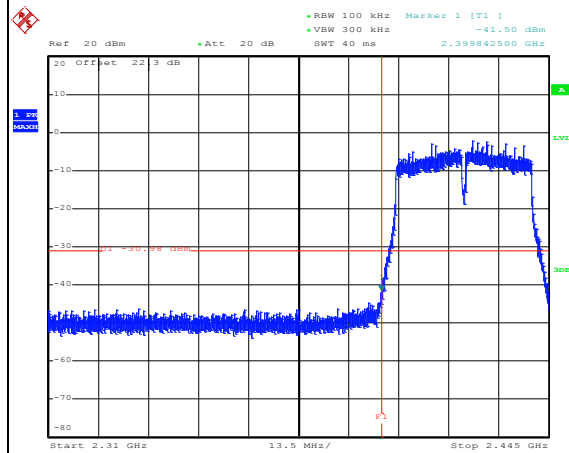
WLAN 802.11ac VHT40 Channel 03

100kHz PSD reference Level



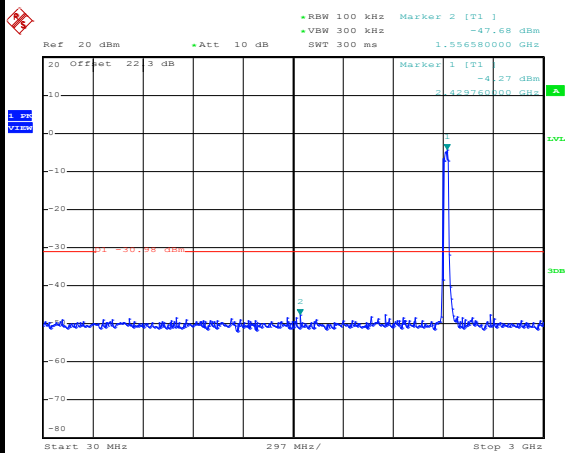
Date: 18.FEB.2019 10:57:27

Low Channel Plot



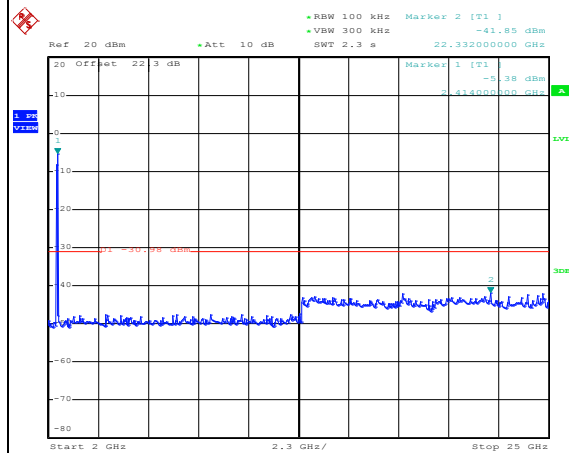
Date: 18.FEB.2019 10:57:48

Spurious Emission 30MHz~3GHz



Date: 18.FEB.2019 10:58:29

Spurious Emission 2GHz~25GHz

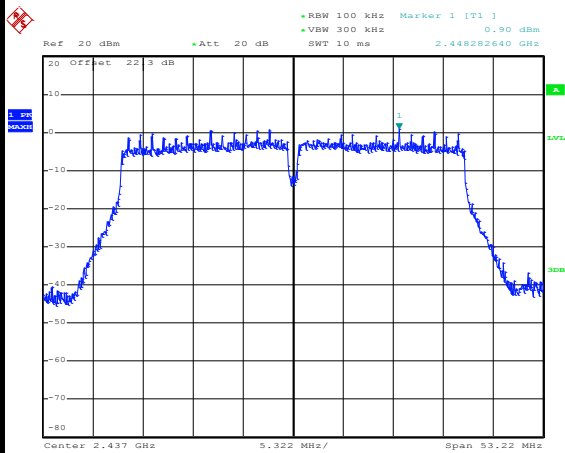


Date: 18.FEB.2019 10:58:44



WLAN 802.11ac VHT40 Channel 06

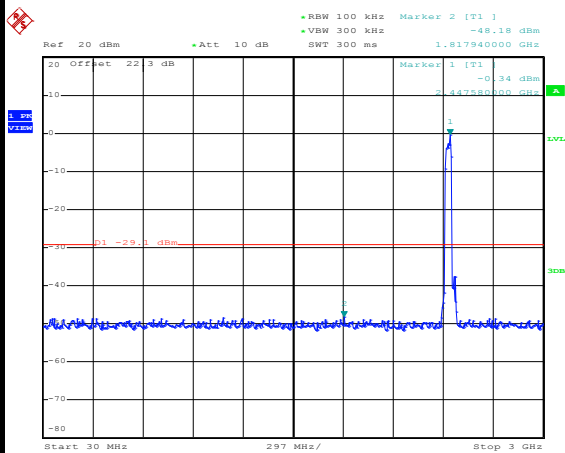
100kHz PSD reference Level



Date: 18.FEB.2019 11:11:59

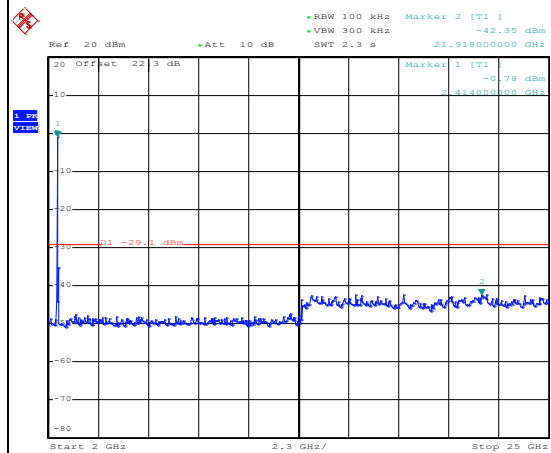
Mid Channel Plot

Spurious Emission 30MHz~3GHz



Date: 18.FEB.2019 11:12:22

Spurious Emission 2GHz~25GHz

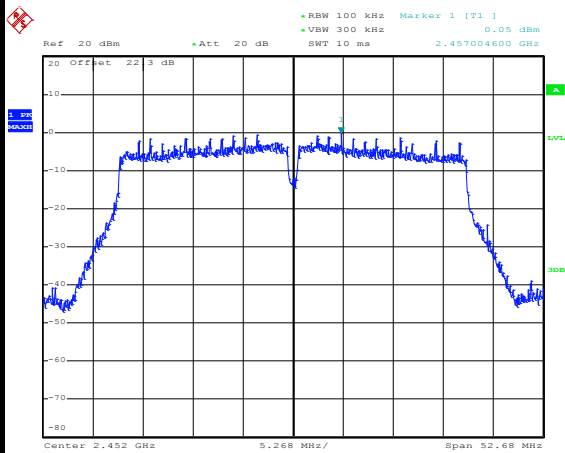


Date: 18.FEB.2019 11:12:37



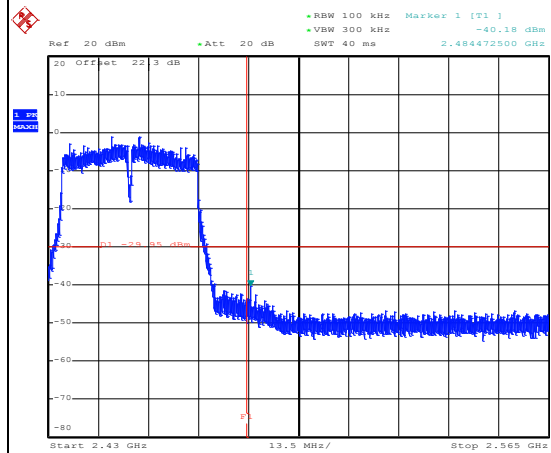
WLAN 802.11ac VHT40 Channel 09

100kHz PSD reference Level



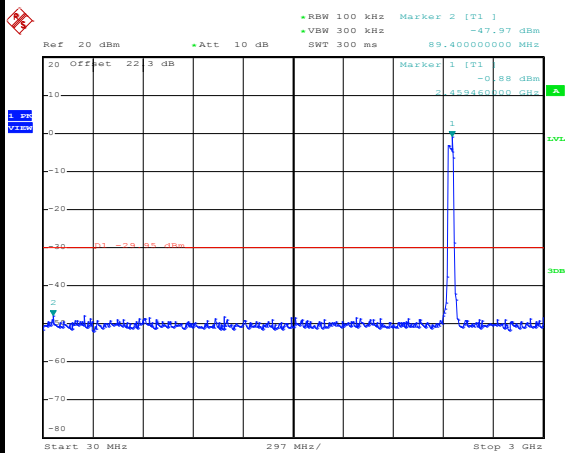
Date: 18.FEB.2019 11:20:55

High Channel Plot



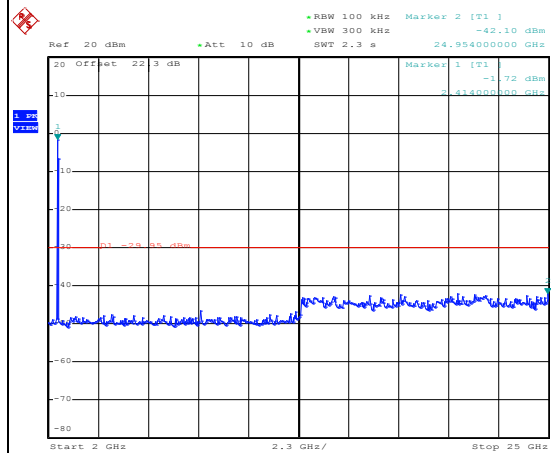
Date: 18.FEB.2019 11:21:28

Spurious Emission 30MHz~3GHz

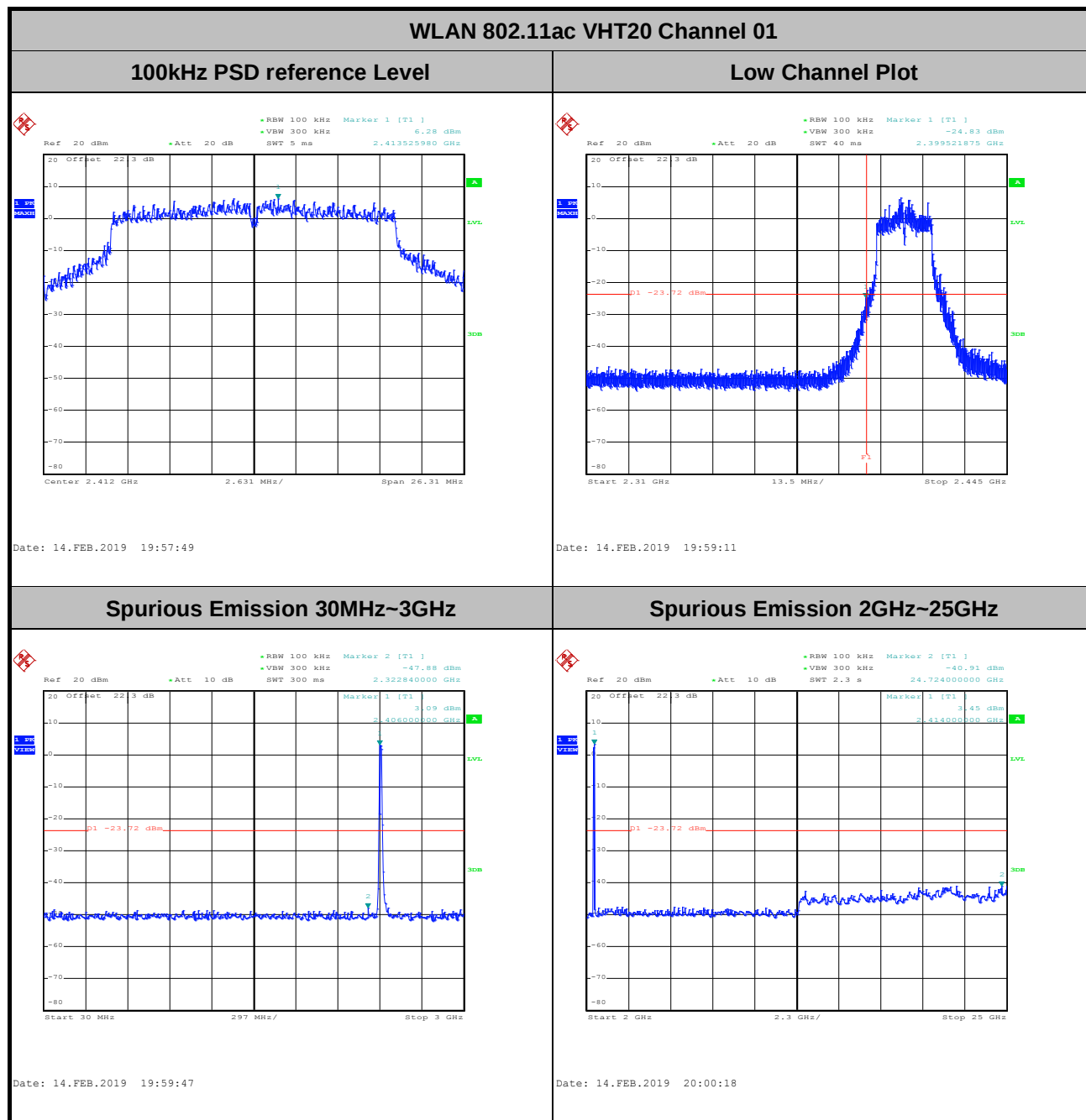


Date: 18.FEB.2019 11:21:57

Spurious Emission 2GHz~25GHz



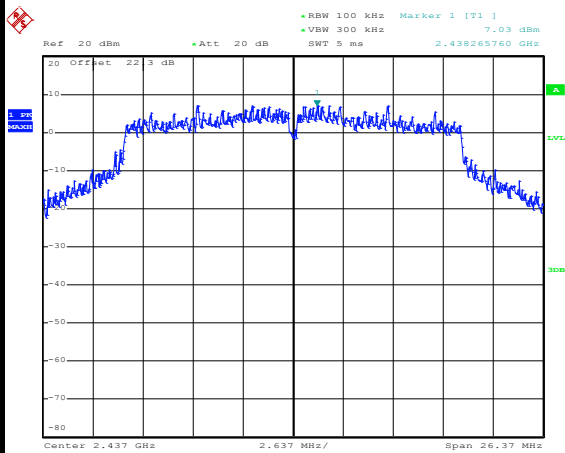
Date: 18.FEB.2019 11:22:14

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




WLAN 802.11ac VHT20 Channel 06

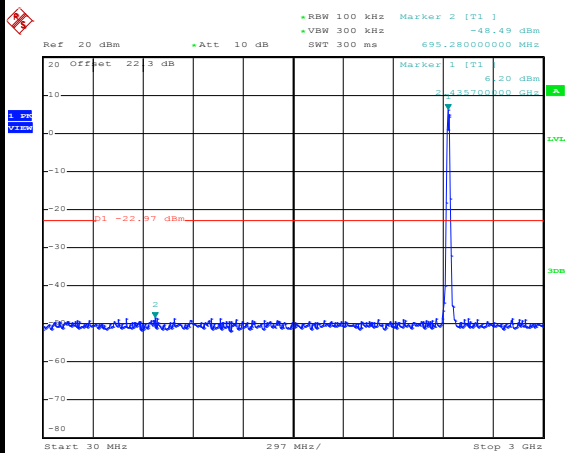
100kHz PSD reference Level



Date: 14.FEB.2019 20:26:49

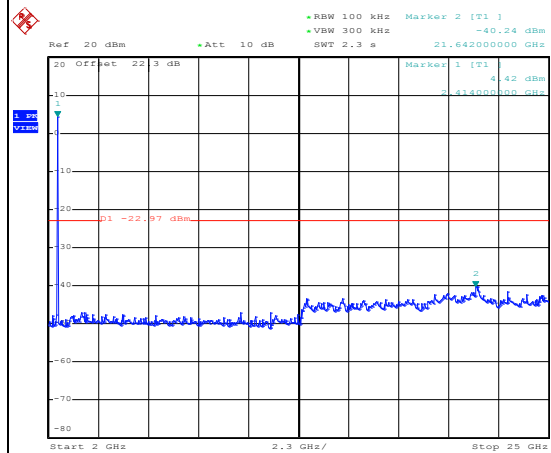
Mid Channel Plot

Spurious Emission 30MHz~3GHz



Date: 14.FEB.2019 20:29:08

Spurious Emission 2GHz~25GHz

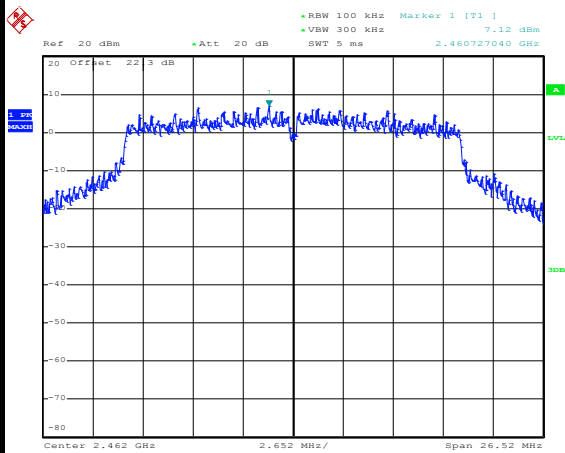


Date: 14.FEB.2019 20:29:22



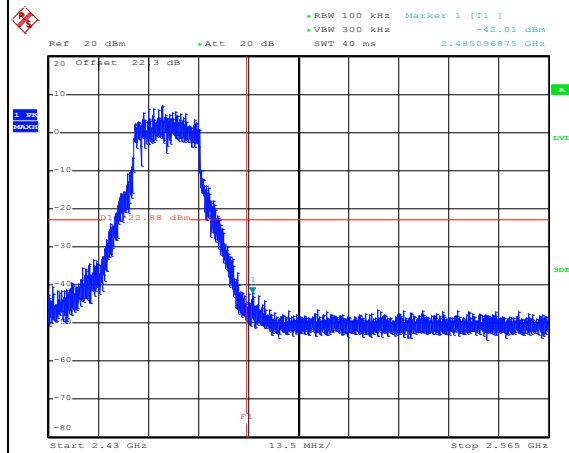
WLAN 802.11ac VHT20 Channel 11

100kHz PSD reference Level



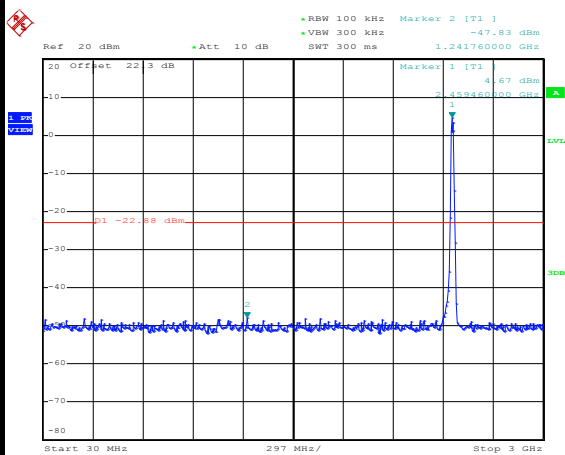
Date: 14.FEB.2019 20:42:00

High Channel Plot



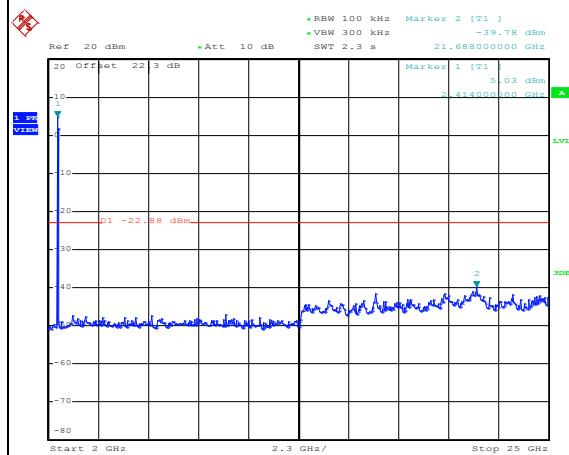
Date: 14.FEB.2019 20:42:12

Spurious Emission 30MHz~3GHz



Date: 14.FEB.2019 20:46:42

Spurious Emission 2GHz~25GHz

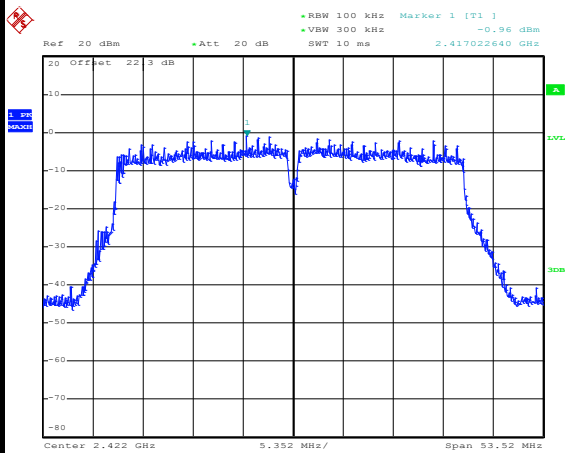


Date: 14.FEB.2019 20:46:57



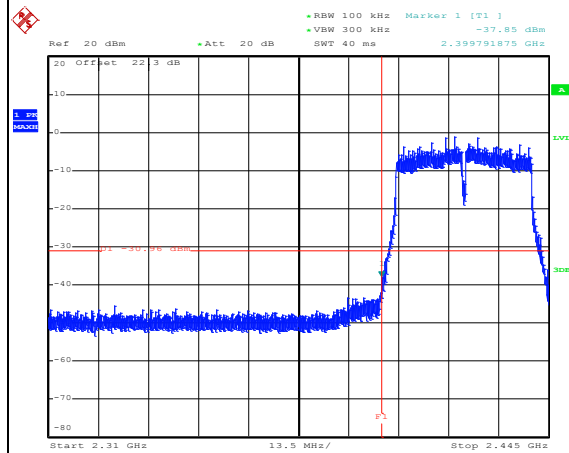
WLAN 802.11ac VHT40 Channel 03

100kHz PSD reference Level



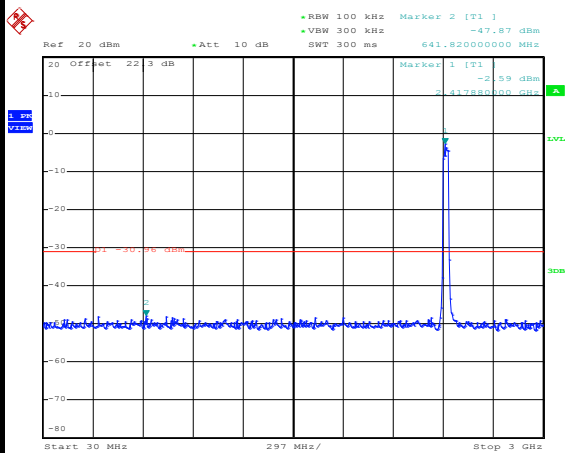
Date: 18.FEB.2019 11:04:00

Low Channel Plot



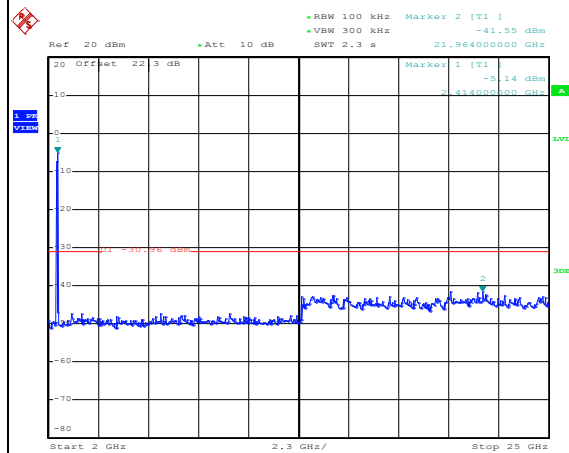
Date: 18.FEB.2019 11:04:19

Spurious Emission 30MHz~3GHz



Date: 18.FEB.2019 11:04:59

Spurious Emission 2GHz~25GHz

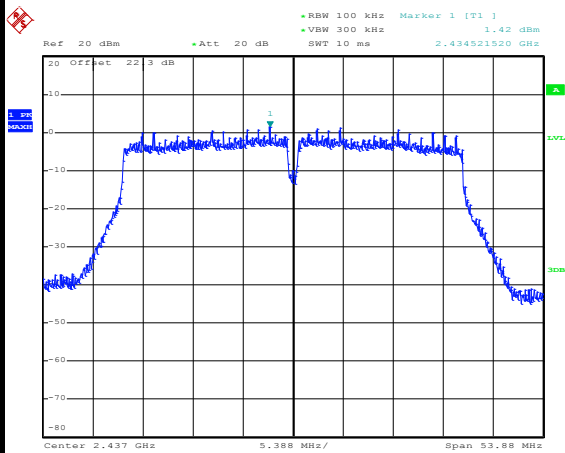


Date: 18.FEB.2019 11:05:45



WLAN 802.11ac VHT40 Channel 06

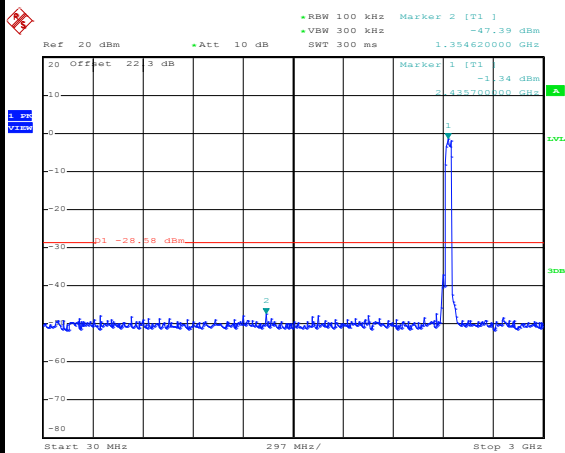
100kHz PSD reference Level



Date: 18.FEB.2019 11:14:56

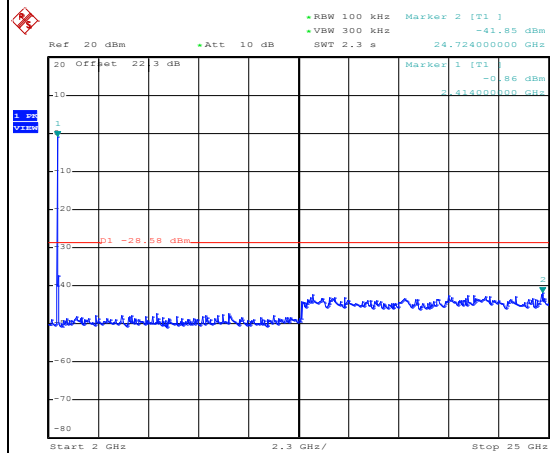
Mid Channel Plot

Spurious Emission 30MHz~3GHz



Date: 18.FEB.2019 11:15:22

Spurious Emission 2GHz~25GHz

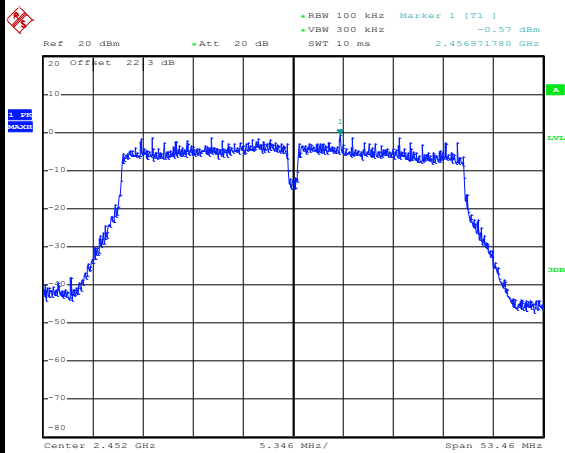


Date: 18.FEB.2019 11:15:35



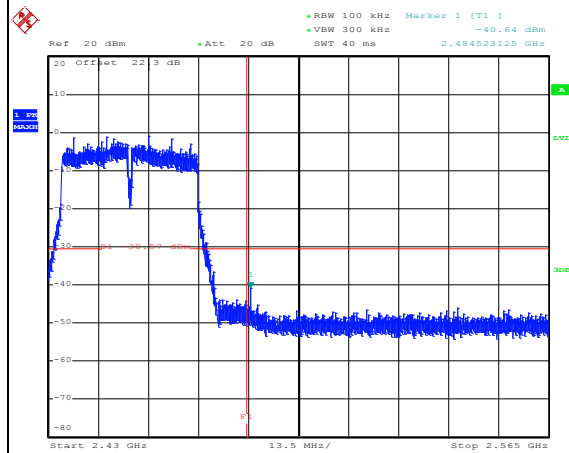
WLAN 802.11ac VHT40 Channel 09

100kHz PSD reference Level



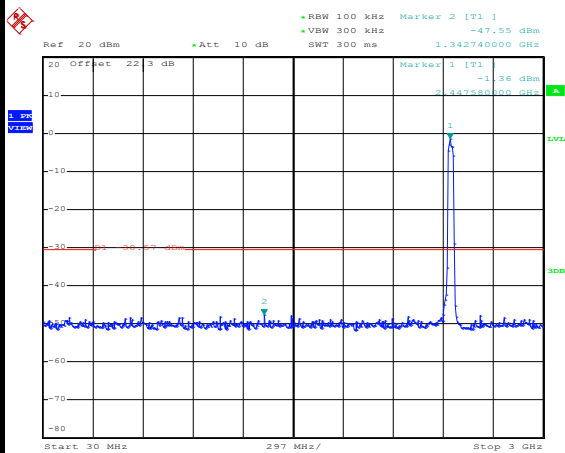
Date: 18.FEB.2019 11:24:01

High Channel Plot



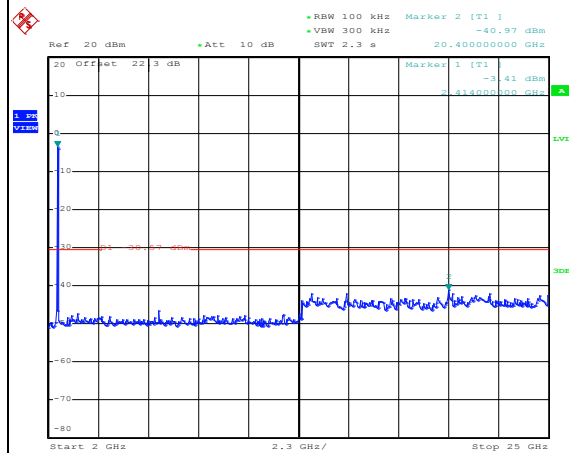
Date: 18.FEB.2019 11:24:14

Spurious Emission 30MHz~3GHz



Date: 18.FEB.2019 11:24:38

Spurious Emission 2GHz~25GHz



Date: 18.FEB.2019 11:24:52

3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

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

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

3.5.2 Measuring Instruments

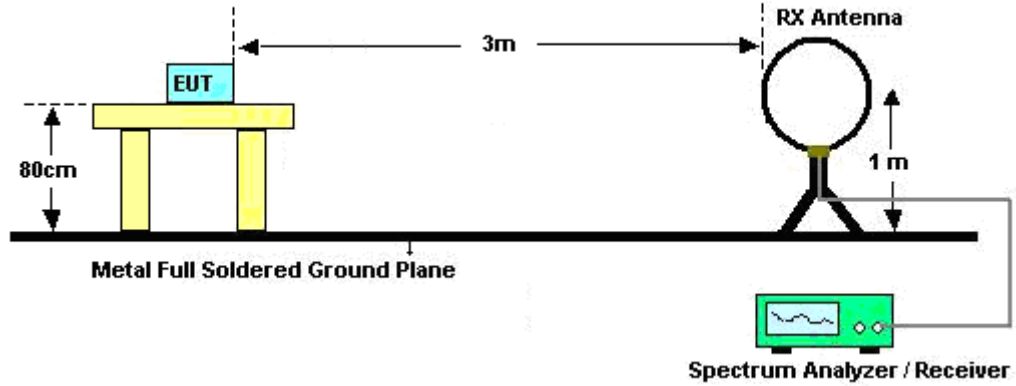
See list of measuring equipment of this test report.

3.5.3 Test Procedures

1. The testing follows the ANSI C63.10 Section 11.12.1 Radiated emission measurements
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
8. Use the following spectrum analyzer settings:
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Set RBW=100 kHz for $f < 1$ GHz; $VBW \geq RBW$; Sweep = auto; Detector function = peak; Trace = max hold;
 - (3) Set RBW = 1 MHz, VBW= 3MHz for $f \geq 1$ GHz for peak measurement.
For average measurement:
 - $VBW = 10$ Hz, when duty cycle is no less than 98 percent.
 - $VBW \geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

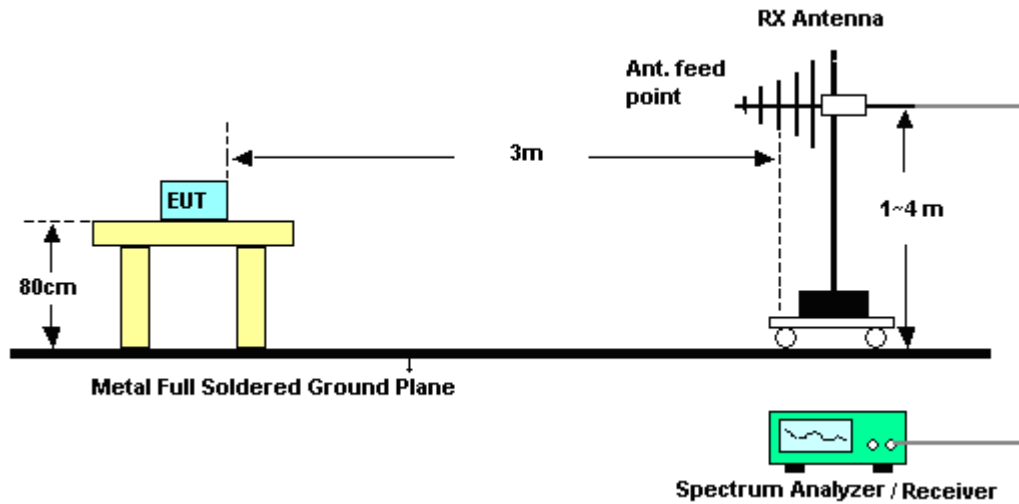
3.5.4 Test Setup

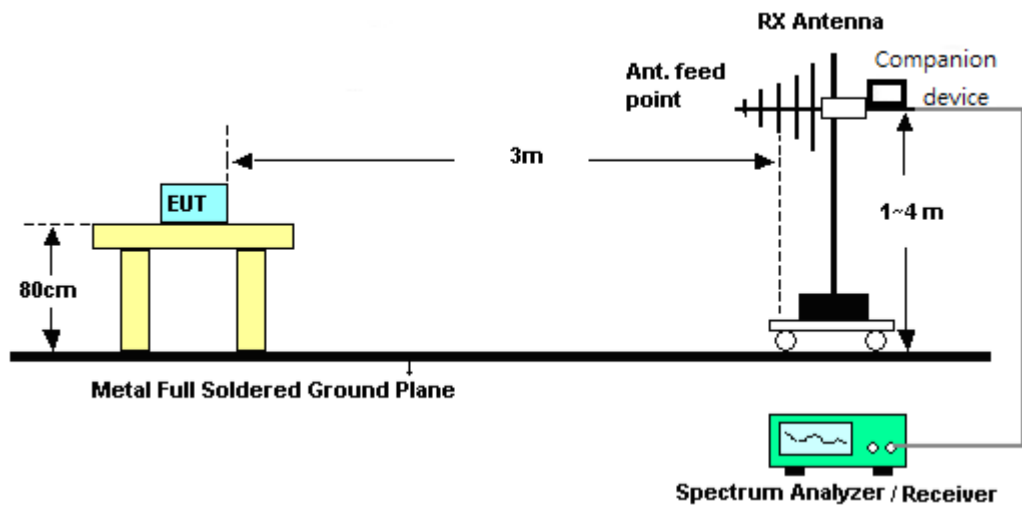
For radiated emissions below 30MHz



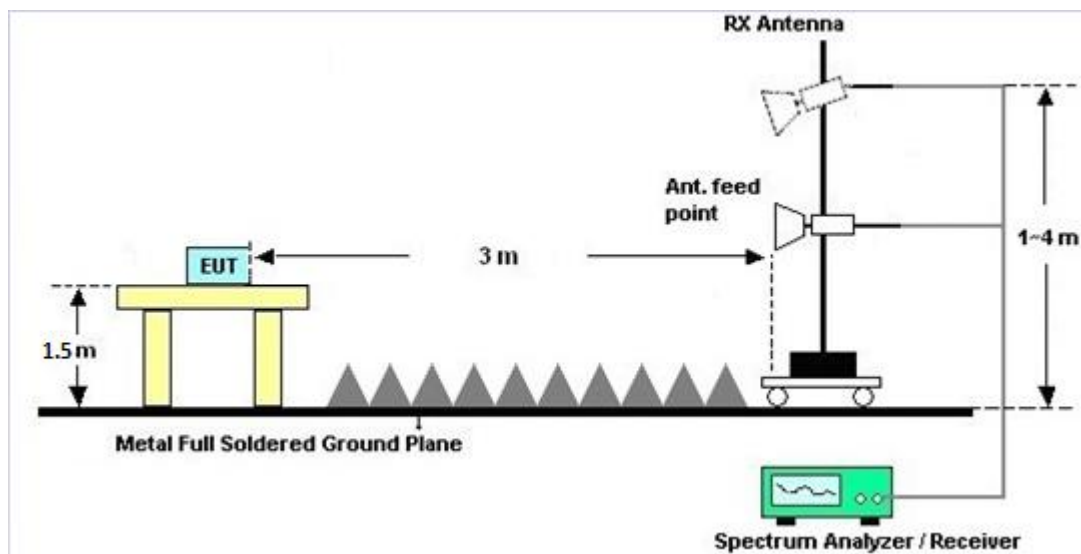
For radiated emissions from 30MHz to 1GHz

<CDD Mode>

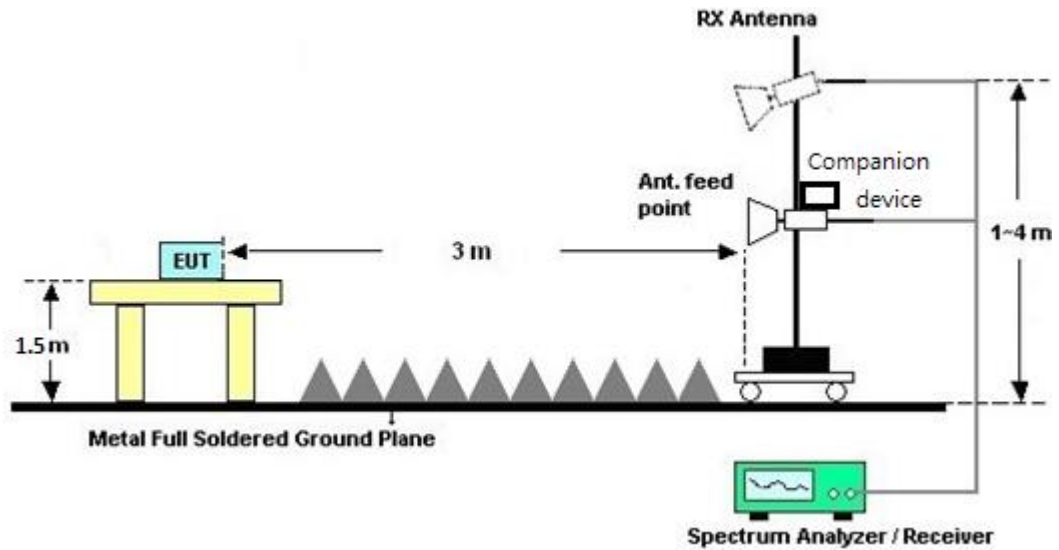


<TXBF Mode>


For radiated emissions above 1GHz

<CDD Mode>


<TXBF Mode>



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 (dB μ V)	
	Quasi-Peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

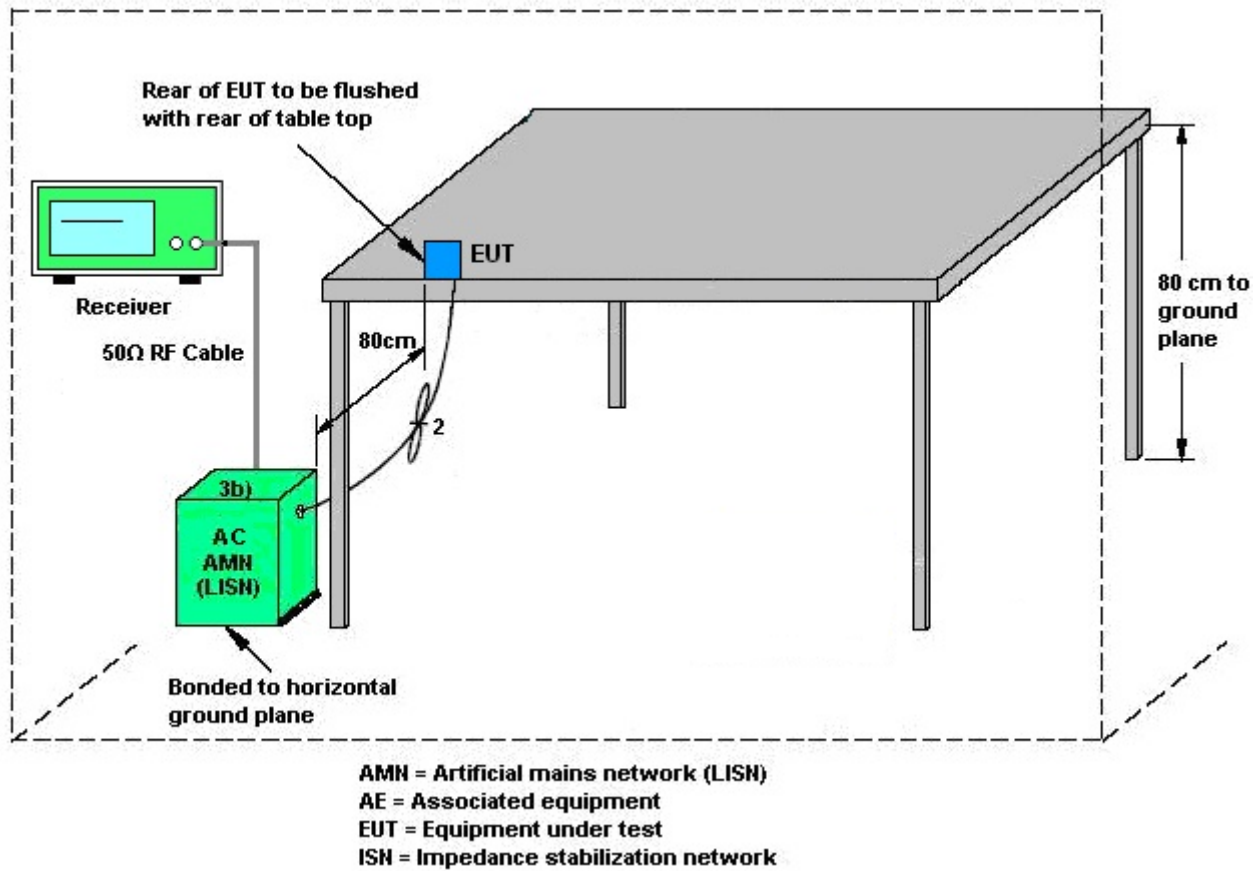
3.6.2 Measuring Instruments

See list of measuring equipment of this test report.

3.6.3 Test Procedures

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

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Please refer to Appendix 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 Mode>

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	DG	Power	PSD
			for	for	Limit	Limit
	Ant. 1	Ant. 2	Power	PSD	Reduction	Reduction
	(dBi)	(dBi)	(dBi)	(dBi)	(dB)	(dB)
2.4 GHz	3.86	3.24	3.86	6.57	0.00	0.57

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

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

<TXBF Mode>

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 k th antenna is being fed by spatial stream j , or zero if it is not;
 G_k is the gain in dBi of the k th 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	3.86	3.24	6.57	6.57	0.57	0.57

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
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Feb. 20, 2019	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9KHz~3.6GHz	Nov. 12, 2018	Feb. 20, 2019	Nov. 11, 2019	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 14, 2018	Feb. 20, 2019	Nov. 13, 2019	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Nov. 09, 2018	Feb. 20, 2019	Nov. 08, 2019	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Feb. 20, 2019	N/A	Conduction (CO05-HY)
LF Cable	HUBER + SUHNER	RG-214/U	LF01	N/A	Dec. 31, 2018	Feb. 20, 2019	Dec. 30, 2019	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Dec. 31, 2018	Feb. 20, 2019	Dec. 30, 2019	Conduction (CO05-HY)
Loop Antenna	TESEQ	HLA 6120	31244	9 kHz~30 MHz	Mar. 29, 2018	Jan. 23, 2019~Feb. 19, 2019	Mar. 28, 2019	Radiation (03CH15-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz ~ 40GHz	Dec. 06, 2018	Jan. 23, 2019~Feb. 19, 2019	Dec. 05, 2019	Radiation (03CH15-HY)
Bilog Antenna	TESEQ	CBL6111D&00802N1D01N-06	47020&06	30MHz to 1GHz	Oct. 13, 2018	Jan. 23, 2019~Feb. 19, 2019	Oct. 12, 2019	Radiation (03CH15-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1620	1G~18GHz	Oct. 17, 2018	Jan. 23, 2019~Feb. 19, 2019	Oct. 16, 2019	Radiation (03CH15-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170576	18GHz ~ 40GHz	May 08, 2018	Jan. 23, 2019~Feb. 19, 2019	May 07, 2019	Radiation (03CH15-HY)
Amplifier	SONOMA	310N	363440	9kHz~1GHz	Dec. 28, 2018	Jan. 23, 2019~Feb. 19, 2019	Dec. 27, 2019	Radiation (03CH15-HY)
Preamplifier	Jet-Power	JPA0118-55-303	17100018000550006	1GHz~18GHz	Jul. 10, 2018	Jan. 23, 2019~Feb. 19, 2019	Jul. 09, 2019	Radiation (03CH15-HY)
Preamplifier	Keysight	83017A	MY53270195	1GHz~26.5GHz	Aug. 23, 2018	Jan. 23, 2019~Feb. 19, 2019	Aug. 22, 2019	Radiation (03CH15-HY)
EMI Test Receiver	Keysight	N9038A (MXE)	MY54130085	20Hz ~ 8.4GHz	Nov. 01, 2018	Jan. 23, 2019~Feb. 19, 2019	Oct. 31, 2019	Radiation (03CH15-HY)
Spectrum Analyzer	Agilent	E4446A	MY50180136	3Hz~44GHz	Apr. 25, 2018	Jan. 23, 2019~Feb. 19, 2019	Apr. 24, 2019	Radiation (03CH15-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Jan. 23, 2019~Feb. 19, 2019	N/A	Radiation (03CH15-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Jan. 23, 2019~Feb. 19, 2019	N/A	Radiation (03CH15-HY)
Software	Audix	E3 6.2009-8-24	RK-000451	N/A	N/A	Jan. 23, 2019~Feb. 19, 2019	N/A	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY36980/4	30M-18G	Apr. 16, 2018	Jan. 23, 2019~Feb. 19, 2019	Apr. 15, 2019	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9838/4	30M-18G	Apr. 16, 2018	Jan. 23, 2019~Feb. 19, 2019	Apr. 15, 2019	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	MTJ	000000-MT18A-100D3210	30M-18G	Apr. 16, 2018	Jan. 23, 2019~Feb. 19, 2019	Apr. 15, 2019	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2859/2	30MHz-40GHz	Mar. 14, 2018	Jan. 23, 2019~Feb. 19, 2019	Mar. 13, 2019	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY4274/2	30MHz-40GHz	Mar. 14, 2018	Jan. 23, 2019~Feb. 19, 2019	Mar. 13, 2019	Radiation (03CH15-HY)
Filter	Wainwright	WHKX12-2700-3000-18000-60SS	SN2	3.0 GHz High pass	Jul. 16, 2018	Jan. 23, 2019~Feb. 19, 2019	Jul. 15, 2019	Radiation (03CH15-HY)
Filter	Wainwright	WLK4-1000-1530-8000-40SS	SN11	1G Low Pass	Sep. 16, 2018	Jan. 23, 2019~Feb. 19, 2019	Sep. 15, 2019	Radiation (03CH15-HY)



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
<CDD Mode>								
Power Sensor	DARE	RadiPower	15I00041SNO09	10MHz~6GHz	May 07, 2018	Jan. 17, 2019~ Feb. 04, 2019	May 06, 2019	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100057	9kHz-40GHz	Nov. 21, 2018	Jan. 17, 2019~ Feb. 04, 2019	Nov. 20, 2019	Conducted (TH05-HY)
Switch Box & RF Cable	Burgeon	ETF-058	EC1300484	N/A	Mar. 01, 2018	Jan. 17, 2019~ Feb. 04, 2019	Feb. 28, 2019	Conducted (TH05-HY)
<TXBF Mode>								
Power Sensor	DARE	RadiPower	15I00041SNO09	10MHz~6GHz	May 07, 2018	Jan. 31, 2019~ Mar. 04, 2019	May 06, 2019	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100057	9kHz-40GHz	Nov. 21, 2018	Jan. 31, 2019~ Mar. 04, 2019	Nov. 20, 2019	Conducted (TH05-HY)
Switch Box & RF Cable	Burgeon	ETF-058	EC1300484	N/A	Mar. 01, 2018	Jan. 31, 2019~ Mar. 04, 2019	Feb. 28, 2019	Conducted (TH05-HY)



5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.2
--	-----

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.2
--	-----

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.5
--	-----

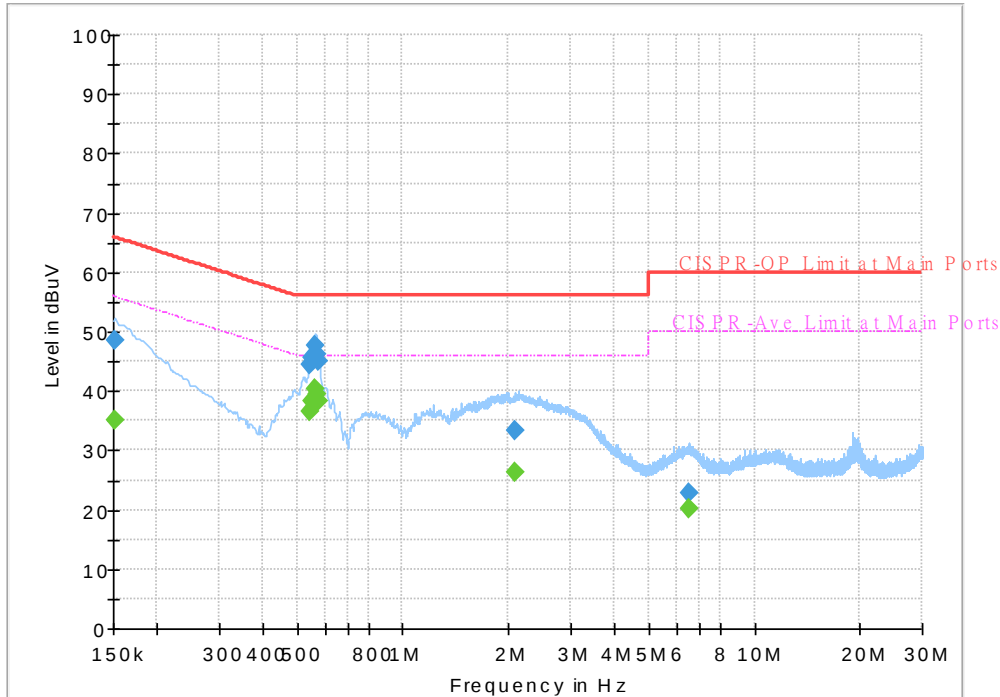
Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.2
--	-----



Appendix A. AC Conducted Emission Test Results

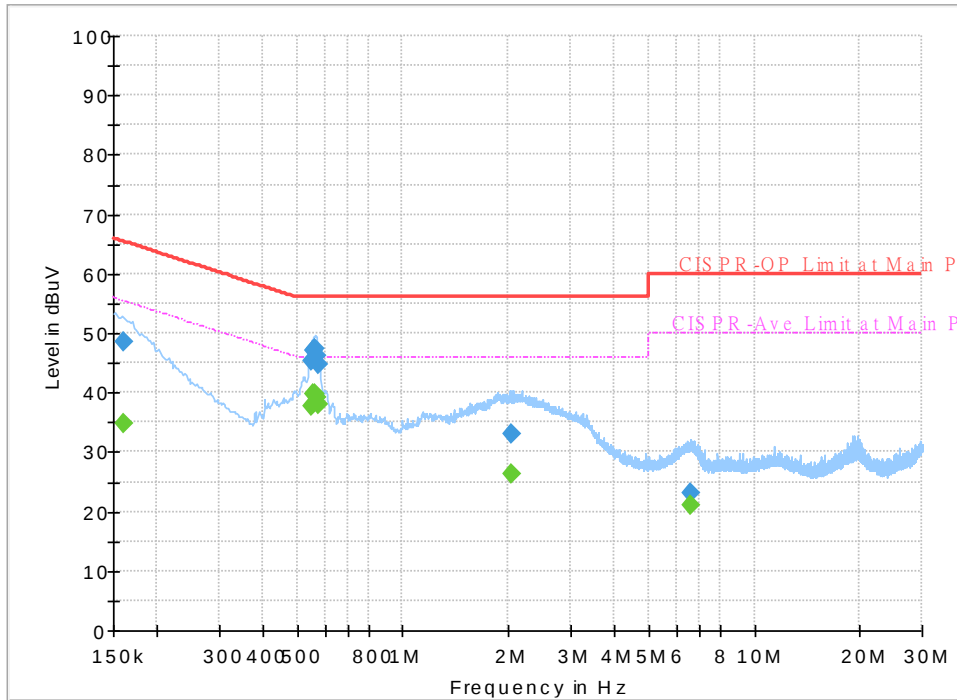
Test Engineer :	Rick Lin	Temperature :	23~24°C
		Relative Humidity :	51~53%
Test Voltage :	120Vac / 60Hz	Phase :	Line



Final Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.152250	---	35.18	55.88	20.70	L1	OFF	19.5
0.152250	48.64	---	65.88	17.24	L1	OFF	19.5
0.546000	---	36.42	46.00	9.58	L1	OFF	19.5
0.546000	44.32	---	56.00	11.68	L1	OFF	19.5
0.550500	---	38.28	46.00	7.72	L1	OFF	19.5
0.550500	45.60	---	56.00	10.40	L1	OFF	19.5
0.564000	---	40.27	46.00	5.73	L1	OFF	19.5
0.564000	47.61	---	56.00	8.39	L1	OFF	19.5
0.570750	---	39.42	46.00	6.58	L1	OFF	19.5
0.570750	46.33	---	56.00	9.67	L1	OFF	19.5
0.575250	---	38.29	46.00	7.71	L1	OFF	19.5
0.575250	45.09	---	56.00	10.91	L1	OFF	19.5
2.080500	---	26.27	46.00	19.73	L1	OFF	19.4
2.080500	33.37	---	56.00	22.63	L1	OFF	19.4
6.492750	---	20.14	50.00	29.86	L1	OFF	19.6
6.492750	22.67	---	60.00	37.33	L1	OFF	19.6

Test Engineer :	Rick Lin	Temperature :	23~24°C
		Relative Humidity :	51~53%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral


Final Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.161250	---	34.91	55.40	20.49	N	OFF	19.5
0.161250	48.51	---	65.40	16.89	N	OFF	19.5
0.548250	---	37.70	46.00	8.30	N	OFF	19.5
0.548250	45.32	---	56.00	10.68	N	OFF	19.5
0.557250	---	39.78	46.00	6.22	N	OFF	19.5
0.557250	47.01	---	56.00	8.99	N	OFF	19.5
0.564000	---	39.74	46.00	6.26	N	OFF	19.5
0.564000	47.24	---	56.00	8.76	N	OFF	19.5
0.570750	---	39.32	46.00	6.68	N	OFF	19.5
0.570750	46.30	---	56.00	9.70	N	OFF	19.5
0.575250	---	38.09	46.00	7.91	N	OFF	19.5
0.575250	44.82	---	56.00	11.18	N	OFF	19.5
2.037750	---	26.25	46.00	19.75	N	OFF	19.5
2.037750	33.16	---	56.00	22.84	N	OFF	19.5
6.609750	---	21.02	50.00	28.98	N	OFF	19.6
6.609750	23.09	---	60.00	36.91	N	OFF	19.6



Appendix B. Radiated Spurious Emission

Test Engineer :	Watt Tseng, Karl Hou, and BigShow Wang	Temperature :	23~26°C
		Relative Humidity :	50~57%

<CDD Mode>

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	Preampl 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		2359.665	53.49	-20.51	74	40.97	27.67	15.73	30.88	348	307	P	H
		2389.275	42.98	-11.02	54	30.47	27.6	15.77	30.86	348	307	A	H
	*	2412	109.78	-	-	97.22	27.6	15.81	30.85	348	307	P	H
	*	2412	106.82	-	-	94.26	27.6	15.81	30.85	348	307	A	H
													H
		2339.085	53.64	-20.36	74	41.12	27.7	15.7	30.88	353	325	P	V
		2389.17	43.13	-10.87	54	30.62	27.6	15.77	30.86	353	325	A	V
	*	2412	111.88	-	-	99.32	27.6	15.81	30.85	353	325	P	V
	*	2412	108.99	-	-	96.43	27.6	15.81	30.85	353	325	A	V
													V
802.11b CH 06 2437MHz		2371.18	54.31	-19.69	74	41.79	27.63	15.75	30.86	340	308	P	H
		2388.82	42.35	-11.65	54	29.84	27.6	15.77	30.86	340	308	A	H
	*	2437	109.77	-	-	97.17	27.6	15.84	30.84	340	308	P	H
	*	2437	106.46	-	-	93.86	27.6	15.84	30.84	340	308	A	H
		2488.45	52.63	-21.37	74	40.14	27.4	15.91	30.82	340	308	P	H
		2488.94	42.19	-11.81	54	29.7	27.4	15.91	30.82	340	308	A	H
		2338.84	53.89	-20.11	74	41.37	27.7	15.7	30.88	346	338	P	V
		2389.8	42.58	-11.42	54	30.06	27.6	15.77	30.85	346	338	A	V
	*	2437	111.49	-	-	98.89	27.6	15.84	30.84	346	338	P	V
	*	2437	108.17	-	-	95.57	27.6	15.84	30.84	346	338	A	V
		2487.82	53.63	-20.37	74	41.14	27.4	15.91	30.82	346	338	P	V
		2485.09	42.7	-11.3	54	30.14	27.47	15.91	30.82	346	338	A	V



802.11b CH 11 2462MHz	*	2462	109.73	-	-	97.15	27.53	15.88	30.83	328	240	P	H
	*	2462	106.68	-	-	94.1	27.53	15.88	30.83	328	240	A	H
		2485.36	55.02	-18.98	74	42.46	27.47	15.91	30.82	328	240	P	H
		2483.52	43.83	-10.17	54	31.27	27.47	15.91	30.82	328	240	A	H
													H
													H
	*	2462	112.12	-	-	99.54	27.53	15.88	30.83	377	333	P	V
	*	2462	108.96	-	-	96.38	27.53	15.88	30.83	377	333	A	V
		2487.16	58.44	-15.56	74	45.88	27.47	15.91	30.82	377	333	P	V
		2483.52	44.93	-9.07	54	32.37	27.47	15.91	30.82	377	333	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	42.48	-31.52	74	60.74	31.3	8.5	58.06	100	0	P	H
													H
													H
													H
		4824	45.88	-28.12	74	64.14	31.3	8.5	58.06	100	0	P	V
													V
													V
													V
802.11b CH 06 2437MHz		4874	40.57	-33.43	74	58.72	31.3	8.65	58.1	100	0	P	H
		7311	43.67	-30.33	74	54.54	36.2	11.27	58.34	100	0	P	H
													H
													H
		4874	46.13	-27.87	74	64.28	31.3	8.65	58.1	100	0	P	V
		7311	43.81	-30.19	74	54.68	36.2	11.27	58.34	100	0	P	V
													V
													V
802.11b CH 11 2462MHz		4924	40.36	-33.64	74	58.33	31.37	8.8	58.14	100	0	P	H
		7386	44.88	-29.12	74	55.42	36.5	11.28	58.32	100	0	P	H
													H
													H
		4924	47.25	-26.75	74	65.22	31.37	8.8	58.14	100	0	P	V
		7386	44.34	-29.66	74	54.88	36.5	11.28	58.32	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		2390	58.97	-15.03	74	46.44	27.6	15.78	30.85	331	243	P	H
		2390	47.72	-6.28	54	35.19	27.6	15.78	30.85	331	243	A	H
	*	2412	110.2	-	-	97.64	27.6	15.81	30.85	331	243	P	H
	*	2412	102.15	-	-	89.59	27.6	15.81	30.85	331	243	A	H
													H
													H
		2390	56.89	-17.11	74	44.36	27.6	15.78	30.85	343	326	P	V
		2389.905	46.75	-7.25	54	34.23	27.6	15.77	30.85	343	326	A	V
	*	2412	111.95	-	-	99.39	27.6	15.81	30.85	343	326	P	V
	*	2412	103.2	-	-	90.64	27.6	15.81	30.85	343	326	A	V
													V
													V
802.11g CH 06 2437MHz		2365.44	53.13	-20.87	74	40.58	27.67	15.74	30.86	297	243	P	H
		2389.66	43.57	-10.43	54	31.06	27.6	15.77	30.86	297	243	A	H
	*	2437	110.45	-	-	97.85	27.6	15.84	30.84	297	243	P	H
	*	2437	102.17	-	-	89.57	27.6	15.84	30.84	297	243	A	H
		2483.9	58.68	-15.32	74	46.12	27.47	15.91	30.82	297	243	P	H
		2483.55	44.35	-9.65	54	31.79	27.47	15.91	30.82	297	243	A	H
		2377.2	53.87	-20.13	74	41.34	27.63	15.76	30.86	340	337	P	V
		2377.06	43.54	-10.46	54	31.01	27.63	15.76	30.86	340	337	A	V
	*	2437	111.09	-	-	98.49	27.6	15.84	30.84	340	337	P	V
	*	2437	102.95	-	-	90.35	27.6	15.84	30.84	340	337	A	V
		2484.6	58.51	-15.49	74	45.95	27.47	15.91	30.82	340	337	P	V
		2484.39	44.72	-9.28	54	32.16	27.47	15.91	30.82	340	337	A	V



802.11g CH 11 2462MHz	*	2462	110.33	-	-	97.75	27.53	15.88	30.83	287	243	P	H
	*	2462	102.14	-	-	89.56	27.53	15.88	30.83	287	243	A	H
		2483.92	62.85	-11.15	74	50.29	27.47	15.91	30.82	287	243	P	H
		2483.56	50.13	-3.87	54	37.57	27.47	15.91	30.82	287	243	A	H
													H
													H
	*	2462	111.35	-	-	98.77	27.53	15.88	30.83	300	340	P	V
	*	2462	103.26	-	-	90.68	27.53	15.88	30.83	300	340	A	V
		2483.76	65.22	-8.78	74	52.66	27.47	15.91	30.82	300	340	P	V
		2483.52	52.14	-1.86	54	39.58	27.47	15.91	30.82	300	340	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	38.43	-35.57	74	56.69	31.3	8.5	58.06	100	0	P	H
													H
													H
													H
		4824	42.28	-31.72	74	60.54	31.3	8.5	58.06	100	0	P	V
													V
													V
													V
802.11g CH 06 2437MHz		4874	40.12	-33.88	74	58.27	31.3	8.65	58.1	100	0	P	H
		7311	44.34	-29.66	74	55.21	36.2	11.27	58.34	100	0	P	H
													H
													H
		4874	40.86	-33.14	74	59.01	31.3	8.65	58.1	100	0	P	V
		7311	43.94	-30.06	74	54.81	36.2	11.27	58.34	100	0	P	V
													V
													V
802.11g CH 11 2462MHz		4924	40.44	-33.56	74	58.41	31.37	8.8	58.14	100	0	P	H
		7386	45.59	-28.41	74	56.13	36.5	11.28	58.32	100	0	P	H
													H
													H
		4924	40.67	-33.33	74	58.64	31.37	8.8	58.14	100	0	P	V
		7386	44.3	-29.7	74	54.84	36.5	11.28	58.32	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 802.11ac VHT20 (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)
802.11ac VHT20 CH 01 2412MHz		2389.8	59.15	-14.85	74	46.63	27.6	15.77	30.85	294	241	P	H
		2390	48.28	-5.72	54	35.75	27.6	15.78	30.85	294	241	A	H
	*	2412	109.51	-	-	96.95	27.6	15.81	30.85	294	241	P	H
	*	2412	101.12	-	-	88.56	27.6	15.81	30.85	294	241	A	H
													H
													H
		2390	62.13	-11.87	74	49.6	27.6	15.78	30.85	395	324	P	V
		2390	50.05	-3.95	54	37.52	27.6	15.78	30.85	395	324	A	V
	*	2412	111.51	-	-	98.95	27.6	15.81	30.85	395	324	P	V
	*	2412	103.64	-	-	91.08	27.6	15.81	30.85	395	324	A	V
													V
													V
802.11ac VHT20 CH 06 2437MHz		2382.66	53.33	-20.67	74	40.8	27.63	15.76	30.86	350	242	P	H
		2319.66	43.19	-10.81	54	30.64	27.77	15.67	30.89	350	242	A	H
	*	2437	107.44	-	-	94.84	27.6	15.84	30.84	350	242	P	H
	*	2437	99.79	-	-	87.19	27.6	15.84	30.84	350	242	A	H
		2487.82	53.2	-20.8	74	40.71	27.4	15.91	30.82	350	242	P	H
		2483.97	43.86	-10.14	54	31.3	27.47	15.91	30.82	350	242	A	H
		2369.64	53.91	-20.09	74	41.4	27.63	15.74	30.86	346	333	P	V
		2389.94	43.34	-10.66	54	30.82	27.6	15.77	30.85	346	333	A	V
	*	2437	109.28	-	-	96.68	27.6	15.84	30.84	346	333	P	V
	*	2437	101.52	-	-	88.92	27.6	15.84	30.84	346	333	A	V
		2485.79	53.82	-20.18	74	41.26	27.47	15.91	30.82	346	333	P	V
		2486.42	43.95	-10.05	54	31.39	27.47	15.91	30.82	346	333	A	V



802.11ac VHT20 CH 11 2462MHz	*	2462	108.6	-	-	96.02	27.53	15.88	30.83	356	243	P	H
	*	2462	101.09	-	-	88.51	27.53	15.88	30.83	356	243	A	H
		2483.84	59.9	-14.1	74	47.34	27.47	15.91	30.82	356	243	P	H
		2483.52	50.28	-3.72	54	37.72	27.47	15.91	30.82	356	243	A	H
													H
													H
	*	2462	110.69	-	-	98.11	27.53	15.88	30.83	376	336	P	V
	*	2462	102.63	-	-	90.05	27.53	15.88	30.83	376	336	A	V
		2483.56	61.58	-12.42	74	49.02	27.47	15.91	30.82	376	336	P	V
		2483.52	51.73	-2.27	54	39.17	27.47	15.91	30.82	376	336	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 802.11ac VHT20 (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)
802.11ac VHT20 CH 01 2412MHz		4824	39.12	-34.88	74	57.38	31.3	8.5	58.06	100	0	P	H
													H
													H
													H
		4824	40.18	-33.82	74	58.44	31.3	8.5	58.06	100	0	P	V
													V
													V
802.11ac VHT20 CH 06 2437MHz		4874	39.09	-34.91	74	57.24	31.3	8.65	58.1	100	0	P	H
		7311	44.34	-29.66	74	55.21	36.2	11.27	58.34	100	0	P	H
													H
													H
		4874	38.86	-35.14	74	57.01	31.3	8.65	58.1	100	0	P	V
		7311	44.06	-29.94	74	54.93	36.2	11.27	58.34	100	0	P	V
													V
802.11ac VHT20 CH 11 2462MHz		4924	39.58	-34.42	74	57.55	31.37	8.8	58.14	100	0	P	H
		7386	43.92	-30.08	74	54.46	36.5	11.28	58.32	100	0	P	H
													H
													H
		4924	38.85	-35.15	74	56.82	31.37	8.8	58.14	100	0	P	V
		7386	45.99	-28.01	74	56.53	36.5	11.28	58.32	100	0	P	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 802.11ac VHT40 (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)
802.11ac VHT40 CH 03 2422MHz		2389.94	60.51	-13.49	74	47.99	27.6	15.77	30.85	392	304	P	H
		2389.94	52.82	-1.18	54	40.3	27.6	15.77	30.85	392	304	A	H
	*	2422	108	-	-	95.42	27.6	15.82	30.84	392	304	P	H
	*	2422	101.07	-	-	88.49	27.6	15.82	30.84	392	304	A	H
		2497.62	53.64	-20.36	74	41.12	27.4	15.93	30.81	392	304	P	H
		2485.16	44.38	-9.62	54	31.82	27.47	15.91	30.82	392	304	A	H
		2389.24	60.13	-13.87	74	47.62	27.6	15.77	30.86	344	342	P	V
		2389.8	52.76	-1.24	54	40.24	27.6	15.77	30.85	344	342	A	V
	*	2422	109.72	-	-	97.14	27.6	15.82	30.84	344	342	P	V
	*	2422	101.88	-	-	89.3	27.6	15.82	30.84	344	342	A	V
		2483.97	54.01	-19.99	74	41.45	27.47	15.91	30.82	344	342	P	V
		2486.35	45.56	-8.44	54	33	27.47	15.91	30.82	344	342	A	V
802.11ac VHT40 CH 06 2437MHz		2389.38	57.37	-16.63	74	44.86	27.6	15.77	30.86	344	303	P	H
		2389.94	48.28	-5.72	54	35.76	27.6	15.77	30.85	344	303	A	H
	*	2437	105.63	-	-	93.03	27.6	15.84	30.84	344	303	P	H
	*	2437	98.18	-	-	85.58	27.6	15.84	30.84	344	303	A	H
		2483.5	56.97	-17.03	74	44.41	27.47	5.99	30.82	344	303	P	H
		2483.55	48.64	-5.36	54	36.08	27.47	15.91	30.82	344	303	A	H
		2389.1	56.59	-17.41	74	44.08	27.6	15.77	30.86	344	326	P	V
		2389.94	47.97	-6.03	54	35.45	27.6	15.77	30.85	344	326	A	V
	*	2437	107.65	-	-	95.05	27.6	15.84	30.84	344	326	P	V
	*	2437	100.19	-	-	87.59	27.6	15.84	30.84	344	326	A	V
		2485.23	62.15	-11.85	74	49.59	27.47	15.91	30.82	344	326	P	V
		2483.69	52.95	-1.05	54	40.39	27.47	15.91	30.82	344	326	A	V



802.11ac VHT40 CH 09 2452MHz		2383.5	54	-20	74	41.46	27.63	15.77	30.86	286	245	P	H
		2351.3	44.59	-9.41	54	32.05	27.7	15.72	30.88	286	245	A	H
	*	2452	105.88	-	-	93.25	27.6	15.86	30.83	286	245	P	H
	*	2452	98.24	-	-	85.61	27.6	15.86	30.83	286	245	A	H
		2485.37	59.8	-14.2	74	47.24	27.47	15.91	30.82	286	245	P	H
		2483.5	51.85	-2.15	54	39.29	27.47	15.91	30.82	286	245	A	H
		2369.22	53.92	-20.08	74	41.41	27.63	15.74	30.86	375	336	P	V
		2322.88	44.54	-9.46	54	31.99	27.77	15.67	30.89	375	336	A	V
	*	2452	106.24	-	-	93.61	27.6	15.86	30.83	375	336	P	V
	*	2452	99.06	-	-	86.43	27.6	15.86	30.83	375	336	A	V
		2483.5	60.44	-13.56	74	47.88	27.47	15.91	30.82	375	336	P	V
		2483.5	52.72	-1.28	54	40.16	27.47	15.91	30.82	375	336	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11ac VHT40 (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)
802.11ac VHT40 CH 03 2422MHz		4844	38.62	-35.38	74	56.84	31.3	8.56	58.08	100	0	P	H
		7266	43.98	-30.02	74	54.87	36.2	11.26	58.35	100	0	P	H
													H
													H
		4844	39.85	-34.15	74	58.07	31.3	8.56	58.08	100	0	P	V
		7266	44.46	-29.54	74	55.35	36.2	11.26	58.35	100	0	P	V
													V
													V
802.11ac VHT40 CH 06 2437MHz		4874	38.83	-35.17	74	56.98	31.3	8.65	58.1	100	0	P	H
		7311	44.87	-29.13	74	55.74	36.2	11.27	58.34	100	0	P	H
													H
													H
		4874	39.68	-34.32	74	57.83	31.3	8.65	58.1	100	0	P	V
		7311	44.28	-29.72	74	55.15	36.2	11.27	58.34	100	0	P	V
													V
													V
802.11ac VHT40 CH 09 2452MHz		4904	39.38	-34.62	74	57.43	31.33	8.74	58.12	100	0	P	H
		7356	44.11	-29.89	74	54.86	36.3	11.28	58.33	100	0	P	H
													H
													H
		4904	39.13	-34.87	74	57.18	31.33	8.74	58.12	100	0	P	V
		7356	44	-30	74	54.75	36.3	11.28	58.33	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 802.11ac VHT40 (LF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11ac VHT40 LF		81.3	33.02	-6.98	40	50.9	13.48	1.09	32.54	-	-	P	H
		120.18	39.22	-4.28	43.5	52.83	17.53	1.31	32.51	100	0	P	H
		141.24	38.34	-5.16	43.5	51.87	17.44	1.43	32.5	-	-	P	H
		498.1	33.75	-12.25	46	39.66	23.92	2.63	32.57	-	-	P	H
		710.9	33.58	-12.42	46	35.87	26.83	3.14	32.38	-	-	P	H
		902	35.36	-10.64	46	34.18	29.09	3.52	31.63	-	-	P	H
													H
													H
													H
													H
													H
													H
		36.21	35.51	-4.49	40	45.93	21.44	0.74	32.61	100	0	P	V
		119.64	33.31	-10.19	43.5	46.99	17.45	1.31	32.51	-	-	P	V
		140.97	36.47	-7.03	43.5	50.03	17.42	1.42	32.5	-	-	P	V
		498.1	36.3	-9.7	46	42.21	23.92	2.63	32.57	-	-	P	V
		568.8	37.43	-8.57	46	41.12	25.91	2.82	32.59	-	-	P	V
		721.4	36.01	-9.99	46	37.9	27.19	3.16	32.36	-	-	P	V
													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		2389.065	55.09	-18.91	74	42.58	27.6	15.77	30.86	146	229	P	H
		2390	47.3	-6.7	54	34.77	27.6	15.78	30.85	146	229	A	H
	*	2412	113.1	-	-	100.54	27.6	15.81	30.85	146	229	P	H
	*	2412	109.95	-	-	97.39	27.6	15.81	30.85	146	229	A	H
													H
													H
		2388.75	55.7	-18.3	74	43.19	27.6	15.77	30.86	262	65	P	V
		2389.275	48.93	-5.07	54	36.42	27.6	15.77	30.86	262	65	A	V
	*	2412	116.22	-	-	103.66	27.6	15.81	30.85	262	65	P	V
	*	2412	112.99	-	-	100.43	27.6	15.81	30.85	262	65	A	V
													V
													V
802.11b CH 06 2437MHz		2375.66	53.59	-20.41	74	41.07	27.63	15.75	30.86	148	229	P	H
		2389.94	42.98	-11.02	54	30.46	27.6	15.77	30.85	148	229	A	H
	*	2437	112.24	-	-	99.64	27.6	15.84	30.84	148	229	P	H
	*	2437	109.09	-	-	96.49	27.6	15.84	30.84	148	229	A	H
		2489.29	53.2	-20.8	74	40.7	27.4	15.92	30.82	148	229	P	H
		2484.18	42.96	-11.04	54	30.4	27.47	15.91	30.82	148	229	A	H
		2354.38	53.37	-20.63	74	40.86	27.67	15.72	30.88	294	61	P	V
		2389.94	43.23	-10.77	54	30.71	27.6	15.77	30.85	294	61	A	V
	*	2437	115.78	-	-	103.18	27.6	15.84	30.84	294	61	P	V
	*	2437	112.62	-	-	100.02	27.6	15.84	30.84	294	61	A	V
		2484.46	53.43	-20.57	74	40.87	27.47	15.91	30.82	294	61	P	V
		2483.5	43.29	-10.71	54	30.73	27.47	15.91	30.82	294	61	A	V



802.11b CH 11 2462MHz	*	2462	112.16	-	-	99.58	27.53	15.88	30.83	100	246	P	H
	*	2462	109.01	-	-	96.43	27.53	15.88	30.83	100	246	A	H
		2483.72	55.53	-18.47	74	42.97	27.47	15.91	30.82	100	246	P	H
		2483.52	47.08	-6.92	54	34.52	27.47	15.91	30.82	100	246	A	H
													H
													H
	*	2462	114.81	-	-	102.23	27.53	15.88	30.83	258	62	P	V
	*	2462	111.61	-	-	99.03	27.53	15.88	30.83	258	62	A	V
		2483.56	56.42	-17.58	74	43.86	27.47	15.91	30.82	258	62	P	V
		2483.52	48.76	-5.24	54	36.2	27.47	15.91	30.82	258	62	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11b (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	42.65	-31.35	74	60.91	31.3	8.5	58.06	100	0	P	H
													H
													H
													H
		4824	43.61	-30.39	74	61.87	31.3	8.5	58.06	100	0	P	V
													V
													V
													V
802.11b CH 06 2437MHz		4874	48.74	-25.26	74	66.89	31.3	8.65	58.1	100	0	P	H
		7311	44	-30	74	54.87	36.2	11.27	58.34	100	0	P	H
													H
													H
		4874	48.67	-25.33	74	66.82	31.3	8.65	58.1	100	0	P	V
		7311	43.99	-30.01	74	54.86	36.2	11.27	58.34	100	0	P	V
													V
													V
802.11b CH 11 2462MHz		4924	49.73	-24.27	74	67.7	31.37	8.8	58.14	100	0	P	H
		7386	45.71	-28.29	74	56.25	36.5	11.28	58.32	100	0	P	H
													H
													H
		4924	51.71	-22.29	74	69.68	31.37	8.8	58.14	305	91	P	V
		4924	48.85	-5.15	54	66.82	31.37	8.8	58.14	305	91	A	V
		7386	45.75	-28.25	74	56.29	36.5	11.28	58.32	100	0	P	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 01 2412MHz		2389.905	58.96	-15.04	74	46.44	27.6	15.77	30.85	198	239	P	H
		2390	50.52	-3.48	54	37.99	27.6	15.78	30.85	198	239	A	H
	*	2412	112.48	-	-	99.92	27.6	15.81	30.85	198	239	P	H
	*	2412	104.8	-	-	92.24	27.6	15.81	30.85	198	239	A	H
													H
													H
		2390	60.96	-13.04	74	48.43	27.6	15.78	30.85	259	62	P	V
		2390	51.65	-2.35	54	39.12	27.6	15.78	30.85	259	62	A	V
	*	2412	113.81	-	-	101.25	27.6	15.81	30.85	259	62	P	V
	*	2412	106.73	-	-	94.17	27.6	15.81	30.85	259	62	A	V
													V
													V
802.11g CH 06 2437MHz		2383.64	53.58	-20.42	74	41.04	27.63	15.77	30.86	156	237	P	H
		2389.94	44.05	-9.95	54	31.53	27.6	15.77	30.85	156	237	A	H
	*	2437	112.41	-	-	99.81	27.6	15.84	30.84	156	237	P	H
	*	2437	104.81	-	-	92.21	27.6	15.84	30.84	156	237	A	H
		2486.42	55.2	-18.8	74	42.64	27.47	15.91	30.82	156	237	P	H
		2483.5	45.61	-8.39	54	33.05	27.47	15.91	30.82	156	237	A	H
		2340.8	54.3	-19.7	74	41.78	27.7	15.7	30.88	288	62	P	V
		2390	44.7	-9.3	54	32.17	27.6	15.78	30.85	288	62	A	V
	*	2437	114.62	-	-	102.02	27.6	15.84	30.84	288	62	P	V
	*	2437	107.09	-	-	94.49	27.6	15.84	30.84	288	62	A	V
		2483.5	56.1	-17.9	74	43.54	27.47	15.91	30.82	288	62	P	V
		2483.5	45.79	-8.21	54	33.23	27.47	15.91	30.82	288	62	A	V



802.11g CH 11 2462MHz	*	2462	110.19	-	-	97.61	27.53	15.88	30.83	100	233	P	H
	*	2462	102.43	-	-	89.85	27.53	15.88	30.83	100	233	A	H
		2483.5	60.45	-13.55	74	47.89	27.47	15.91	30.82	100	233	P	H
		2483.5	49.76	-4.24	54	37.2	27.47	15.91	30.82	100	233	A	H
													H
													H
	*	2462	113.25	-	-	100.67	27.53	15.88	30.83	261	58	P	V
	*	2462	105.9	-	-	93.32	27.53	15.88	30.83	261	58	A	V
		2483.5	61.04	-12.96	74	48.48	27.47	15.91	30.82	261	58	P	V
		2483.5	52.1	-1.9	54	39.54	27.47	15.91	30.82	261	58	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. 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	39.65	-34.35	74	57.91	31.3	8.5	58.06	100	0	P	H
													H
													H
													H
		4824	39.08	-34.92	74	57.34	31.3	8.5	58.06	100	0	P	V
													V
													V
													V
802.11g CH 06 2437MHz		4874	39.05	-34.95	74	57.2	31.3	8.65	58.1	100	0	P	H
		7311	44.02	-29.98	74	54.89	36.2	11.27	58.34	100	0	P	H
													H
													H
		4874	39.62	-34.38	74	57.77	31.3	8.65	58.1	100	0	P	V
		7311	44.71	-29.29	74	55.58	36.2	11.27	58.34	100	0	P	V
													V
													V
802.11g CH 11 2462MHz		4924	39.84	-34.16	74	57.81	31.37	8.8	58.14	100	0	P	H
		7386	45.31	-28.69	74	55.85	36.5	11.28	58.32	100	0	P	H
													H
													H
		4924	40.55	-33.45	74	58.52	31.37	8.8	58.14	100	0	P	V
		7386	45.49	-28.51	74	56.03	36.5	11.28	58.32	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 802.11ac VHT20 (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)
802.11ac VHT20 CH 01 2412MHz		2389.905	58.8	-15.2	74	46.28	27.6	15.77	30.85	225	243	P	H
		2390	50.14	-3.86	54	37.61	27.6	15.78	30.85	225	243	A	H
	*	2412	111.53	-	-	98.97	27.6	15.81	30.85	225	243	P	H
	*	2412	103.64	-	-	91.08	27.6	15.81	30.85	225	243	A	H
													H
													H
		2389.8	60.74	-13.26	74	48.22	27.6	15.77	30.85	262	63	P	V
		2390	51.66	-2.34	54	39.13	27.6	15.78	30.85	262	63	A	V
	*	2412	113.55	-	-	100.99	27.6	15.81	30.85	262	63	P	V
	*	2412	105.83	-	-	93.27	27.6	15.81	30.85	262	63	A	V
													V
													V
802.11ac VHT20 CH 06 2437MHz		2379.86	53.63	-20.37	74	41.1	27.63	15.76	30.86	199	241	P	H
		2389.94	44.34	-9.66	54	31.82	27.6	15.77	30.85	199	241	A	H
	*	2437	112.41	-	-	99.81	27.6	15.84	30.84	199	241	P	H
	*	2437	104.92	-	-	92.32	27.6	15.84	30.84	199	241	A	H
		2487.33	55.4	-18.6	74	42.84	27.47	15.91	30.82	199	241	P	H
		2483.5	45.91	-8.09	54	33.35	27.47	15.91	30.82	199	241	A	H
		2345.42	54.38	-19.62	74	41.85	27.7	15.71	30.88	292	58	P	V
		2389.8	44.45	-9.55	54	31.93	27.6	15.77	30.85	292	58	A	V
	*	2437	114.1	-	-	101.5	27.6	15.84	30.84	292	58	P	V
	*	2437	106.67	-	-	94.07	27.6	15.84	30.84	292	58	A	V
		2485.51	55.3	-18.7	74	42.74	27.47	15.91	30.82	292	58	P	V
		2483.83	45.99	-8.01	54	33.43	27.47	15.91	30.82	292	58	A	V



802.11ac VHT20 CH 11 2462MHz	*	2462	109.38	-	-	96.8	27.53	15.88	30.83	100	231	P	H
	*	2462	101.83	-	-	89.25	27.53	15.88	30.83	100	231	A	H
		2484.6	58.96	-15.04	74	46.4	27.47	15.91	30.82	100	231	P	H
		2483.6	49.69	-4.31	54	37.13	27.47	15.91	30.82	100	231	A	H
													H
													H
	*	2462	113.4	-	-	100.82	27.53	15.88	30.83	260	59	P	V
	*	2462	105.18	-	-	92.6	27.53	15.88	30.83	260	59	A	V
		2483.84	61.03	-12.97	74	48.47	27.47	15.91	30.82	260	59	P	V
		2483.52	52.01	-1.99	54	39.45	27.47	15.91	30.82	260	59	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 802.11ac VHT20 (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)
802.11ac VHT20 CH 01 2412MHz		4824	39.39	-34.61	74	57.65	31.3	8.5	58.06	100	0	P	H
													H
													H
													H
		4824	39.5	-34.5	74	57.76	31.3	8.5	58.06	100	0	P	V
													V
													V
802.11ac VHT20 CH 06 2437MHz		4874	40.05	-33.95	74	58.2	31.3	8.65	58.1	100	0	P	H
		7311	44.68	-29.32	74	55.55	36.2	11.27	58.34	100	0	P	H
													H
													H
		4874	40.35	-33.65	74	58.5	31.3	8.65	58.1	100	0	P	V
		7311	44.43	-29.57	74	55.3	36.2	11.27	58.34	100	0	P	V
													V
802.11ac VHT20 CH 11 2462MHz		4924	39.79	-34.21	74	57.76	31.37	8.8	58.14	100	0	P	H
		7386	44.08	-29.92	74	54.62	36.5	11.28	58.32	100	0	P	H
													H
													H
		4924	39.04	-34.96	74	57.01	31.37	8.8	58.14	100	0	P	V
		7386	44.94	-29.06	74	55.48	36.5	11.28	58.32	100	0	P	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 802.11ac VHT40 (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)
802.11ac VHT40 CH 03 2422MHz		2389.8	57.24	-16.76	74	44.72	27.6	15.77	30.85	130	229	P	H
		2389.94	50.05	-3.95	54	37.53	27.6	15.77	30.85	130	229	A	H
	*	2422	105.03	-	-	92.45	27.6	15.82	30.84	130	229	P	H
	*	2422	97.03	-	-	84.45	27.6	15.82	30.84	130	229	A	H
		2486.49	53.36	-20.64	74	40.8	27.47	15.91	30.82	130	229	P	H
		2487.68	44.86	-9.14	54	32.37	27.4	15.91	30.82	130	229	A	H
		2389.52	59.58	-14.42	74	47.07	27.6	15.77	30.86	266	61	P	V
		2389.52	52.51	-1.49	54	40	27.6	15.77	30.86	266	61	A	V
	*	2422	108.11	-	-	95.53	27.6	15.82	30.84	266	61	P	V
	*	2422	100.93	-	-	88.35	27.6	15.82	30.84	266	61	A	V
		2484.6	53.64	-20.36	74	41.08	27.47	15.91	30.82	266	61	P	V
		2484.04	45.7	-8.3	54	33.14	27.47	15.91	30.82	266	61	A	V
802.11ac VHT40 CH 06 2437MHz		2389.94	55.21	-18.79	74	42.69	27.6	15.77	30.85	137	229	P	H
		2389.94	46.96	-7.04	54	34.44	27.6	15.77	30.85	137	229	A	H
	*	2437	107.9	-	-	95.3	27.6	15.84	30.84	137	229	P	H
	*	2437	99.41	-	-	86.81	27.6	15.84	30.84	137	229	A	H
		2483.5	60.34	-13.66	74	47.78	27.47	15.91	30.82	137	229	P	H
		2483.5	50.04	-3.96	54	37.48	27.47	15.91	30.82	137	229	A	H
		2389.94	56.26	-17.74	74	43.74	27.6	15.77	30.85	290	63	P	V
		2389.94	48.52	-5.48	54	36	27.6	15.77	30.85	290	63	A	V
	*	2437	110.95	-	-	98.35	27.6	15.84	30.84	290	63	P	V
	*	2437	103.37	-	-	90.77	27.6	15.84	30.84	290	63	A	V
		2483.62	60.2	-13.8	74	47.64	27.47	15.91	30.82	290	63	P	V
		2483.5	51.8	-2.2	54	39.24	27.47	15.91	30.82	290	63	A	V



802.11ac VHT40 CH 09 2452MHz		2388.26	53.4	-20.6	74	40.89	27.6	15.77	30.86	121	230	P	H
		2389.66	44.59	-9.41	54	32.08	27.6	15.77	30.86	121	230	A	H
	*	2452	104.93	-	-	92.3	27.6	15.86	30.83	121	230	P	H
	*	2452	97.3	-	-	84.67	27.6	15.86	30.83	121	230	A	H
		2484.39	57.78	-16.22	74	45.22	27.47	15.91	30.82	121	230	P	H
		2484.53	49.75	-4.25	54	37.19	27.47	15.91	30.82	121	230	A	H
		2385.74	53.7	-20.3	74	41.19	27.6	15.77	30.86	259	62	P	V
		2389.52	44.69	-9.31	54	32.18	27.6	15.77	30.86	259	62	A	V
	*	2452	108.81	-	-	96.18	27.6	15.86	30.83	259	62	P	V
	*	2452	100.56	-	-	87.93	27.6	15.86	30.83	259	62	A	V
		2483.76	59.45	-14.55	74	46.89	27.47	15.91	30.82	259	62	P	V
		2484.46	51.92	-2.08	54	39.36	27.47	15.91	30.82	259	62	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11ac VHT40 (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)
802.11ac VHT40 CH 03 2422MHz		4844	40.06	-33.94	74	58.28	31.3	8.56	58.08	100	0	P	H
		7266	45.22	-28.78	74	56.11	36.2	11.26	58.35	100	0	P	H
													H
													H
		4844	38.32	-35.68	74	56.54	31.3	8.56	58.08	100	0	P	V
		7266	44.65	-29.35	74	55.54	36.2	11.26	58.35	100	0	P	V
													V
													V
802.11ac VHT40 CH 06 2437MHz		4874	39.06	-34.94	74	57.21	31.3	8.65	58.1	100	0	P	H
		7311	43.81	-30.19	74	54.68	36.2	11.27	58.34	100	0	P	H
													H
													H
		4874	39.77	-34.23	74	57.92	31.3	8.65	58.1	100	0	P	V
		7311	44.38	-29.62	74	55.25	36.2	11.27	58.34	100	0	P	V
													V
													V
802.11ac VHT40 CH 09 2452MHz		4904	38.96	-35.04	74	57.01	31.33	8.74	58.12	100	0	P	H
		7356	43.43	-30.57	74	54.18	36.3	11.28	58.33	100	0	P	H
													H
													H
		4904	39.3	-34.7	74	57.35	31.33	8.74	58.12	100	0	P	V
		7356	44.31	-29.69	74	55.06	36.3	11.28	58.33	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 802.11ac VHT40 (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 802.11ac VHT40 LF		81.3	32.71	-7.29	40	50.59	13.48	1.09	32.54	-	-	P	H
		119.91	39.13	-4.37	43.5	52.73	17.53	1.31	32.51	100	0	P	H
		136.11	38.13	-5.37	43.5	51.72	17.43	1.4	32.5	-	-	P	H
		497.4	33.36	-12.64	46	39.29	23.9	2.63	32.57	-	-	P	H
		721.4	33.59	-12.41	46	35.48	27.19	3.16	32.36	-	-	P	H
		896.4	35.83	-10.17	46	34.76	29.02	3.51	31.67	-	-	P	H
													H
													H
													H
													H
													H
													H
		36.48	34.2	-5.8	40	45.2	20.86	0.74	32.61	100	0	P	V
		78.6	33.04	-6.96	40	51.22	13.2	1.07	32.54	-	-	P	V
		138.81	35.32	-8.18	43.5	48.9	17.42	1.41	32.5	-	-	P	V
		498.1	36.86	-9.14	46	42.77	23.92	2.63	32.57	-	-	P	V
		568.8	37.11	-8.89	46	40.8	25.91	2.82	32.59	-	-	P	V
		975.5	32.6	-21.4	54	28.77	30.88	3.69	31.01	-	-	P	V
													V
													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		2390	55.98	-18.02	74	43.45	27.6	15.78	30.85	100	101	P	H
		2389.275	49.14	-4.86	54	36.63	27.6	15.77	30.86	100	101	A	H
	*	2412	113.74	-	-	101.18	27.6	15.81	30.85	100	101	P	H
	*	2412	111.26	-	-	98.7	27.6	15.81	30.85	100	101	A	H
													H
													H
		2388.645	56.5	-17.5	74	43.99	27.6	15.77	30.86	368	300	P	V
		2389.17	49.03	-4.97	54	36.52	27.6	15.77	30.86	368	300	A	V
	*	2412	112.49	-	-	99.93	27.6	15.81	30.85	368	300	P	V
	*	2412	110.24	-	-	97.68	27.6	15.81	30.85	368	300	A	V
													V
													V
802.11b CH 06 2437MHz		2316.3	53.63	-20.37	74	41.03	27.83	15.66	30.89	100	225	P	H
		2389.8	42.9	-11.1	54	30.38	27.6	15.77	30.85	100	225	A	H
	*	2437	113.09	-	-	100.49	27.6	15.84	30.84	100	225	P	H
	*	2437	110.54	-	-	97.94	27.6	15.84	30.84	100	225	A	H
		2493.84	53.58	-20.42	74	41.07	27.4	15.92	30.81	100	225	P	H
		2483.62	43.3	-10.7	54	30.74	27.47	15.91	30.82	100	225	A	H
		2371.6	53.53	-20.47	74	41.01	27.63	15.75	30.86	360	302	P	V
		2389.52	42.82	-11.18	54	30.31	27.6	15.77	30.86	360	302	A	V
	*	2437	112.33	-	-	99.73	27.6	15.84	30.84	360	302	P	V
	*	2437	110.03	-	-	97.43	27.6	15.84	30.84	360	302	A	V
		2497.76	53.09	-20.91	74	40.57	27.4	15.93	30.81	360	302	P	V
		2483.55	42.92	-11.08	54	30.36	27.47	15.91	30.82	360	302	A	V



802.11b CH 11 2462MHz	*	2462	111.87	-	-	99.29	27.53	15.88	30.83	100	242	P	H
	*	2462	109.56	-	-	96.98	27.53	15.88	30.83	100	242	A	H
		2484.24	56.79	-17.21	74	44.23	27.47	15.91	30.82	100	242	P	H
		2483.52	48.18	-5.82	54	35.62	27.47	15.91	30.82	100	242	A	H
													H
													H
	*	2462	110.11	-	-	97.53	27.53	15.88	30.83	400	303	P	V
	*	2462	108.07	-	-	95.49	27.53	15.88	30.83	400	303	P	V
		2484.08	56.03	-17.97	74	43.47	27.47	15.91	30.82	400	303	P	V
		2483.52	47.87	-6.13	54	35.31	27.47	15.91	30.82	400	303	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	45.55	-28.45	74	63.81	31.3	8.5	58.06	100	0	P	H
													H
													H
													H
		4824	43.38	-30.62	74	61.64	31.3	8.5	58.06	100	0	P	V
													V
													V
													V
802.11b CH 06 2437MHz		4874	51.05	-22.95	74	69.2	31.3	8.65	58.1	100	248	P	H
		4874	47.93	-6.07	54	66.08	31.3	8.65	58.1	100	248	A	H
		7311	44.35	-29.65	74	55.22	36.2	11.27	58.34	100	0	P	H
													H
		4874	47.42	-26.58	74	65.57	31.3	8.65	58.1	100	0	P	V
		7311	45.62	-28.38	74	56.49	36.2	11.27	58.34	100	0	P	V
													V
													V
802.11b CH 11 2462MHz		4924	53.35	-20.65	74	71.32	31.37	8.8	58.14	100	251	P	H
		4924	50.9	-3.1	54	68.87	31.37	8.8	58.14	100	251	A	H
		7386	45.14	-28.86	74	55.68	36.5	11.28	58.32	100	0	P	H
													H
		4924	50.63	-23.37	74	68.6	31.37	8.8	58.14	196	300	P	V
		4924	47.56	-6.44	54	65.53	31.37	8.8	58.14	196	300	A	V
		7386	44.27	-29.73	74	54.81	36.5	11.28	58.32	100	0	P	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		2388.75	59.48	-14.52	74	46.97	27.6	15.77	30.86	100	57	P	H
		2390	50.92	-3.08	54	38.39	27.6	15.78	30.85	100	57	A	H
	*	2412	113.76	-	-	101.2	27.6	15.81	30.85	100	57	P	H
	*	2412	106.5	-	-	93.94	27.6	15.81	30.85	100	57	A	H
													H
													H
		2389.485	56.95	-17.05	74	44.44	27.6	15.77	30.86	391	262	P	V
		2390	48.6	-5.4	54	36.07	27.6	15.78	30.85	391	262	A	V
	*	2412	110.96	-	-	98.4	27.6	15.81	30.85	391	262	P	V
	*	2412	103.97	-	-	91.41	27.6	15.81	30.85	391	262	A	V
													V
													V
802.11g CH 06 2437MHz		2389.66	53.58	-20.42	74	41.07	27.6	15.77	30.86	100	69	P	H
		2389.94	44.69	-9.31	54	32.17	27.6	15.77	30.85	100	69	A	H
	*	2437	115.57	-	-	102.97	27.6	15.84	30.84	100	69	P	H
	*	2437	107.83	-	-	95.23	27.6	15.84	30.84	100	69	A	H
		2489.08	54.51	-19.49	74	42.02	27.4	15.91	30.82	100	69	P	H
		2483.97	45.56	-8.44	54	33	27.47	15.91	30.82	100	69	A	H
		2356.06	54.14	-19.86	74	41.63	27.67	15.72	30.88	400	189	P	V
		2339.4	43.7	-10.3	54	31.18	27.7	15.7	30.88	400	189	A	V
	*	2437	112.77	-	-	100.17	27.6	15.84	30.84	400	189	P	V
	*	2437	105.54	-	-	92.94	27.6	15.84	30.84	400	189	A	V
		2483.5	53.72	-20.28	74	41.16	27.47	15.91	30.82	400	189	P	V
		2483.69	44.45	-9.55	54	31.89	27.47	15.91	30.82	400	189	A	V



802.11g CH 11 2462MHz	*	2462	113.06	-	-	100.48	27.53	15.88	30.83	100	68	P	H
	*	2462	105.59	-	-	93.01	27.53	15.88	30.83	100	68	A	H
		2483.6	62.79	-11.21	74	50.23	27.47	15.91	30.82	100	68	P	H
		2483.56	52.05	-1.95	54	39.49	27.47	15.91	30.82	100	68	A	H
													H
													H
	*	2462	109.98	-	-	97.4	27.53	15.88	30.83	392	263	P	V
	*	2462	103.09	-	-	90.51	27.53	15.88	30.83	392	263	A	V
		2484.32	57.9	-16.1	74	45.34	27.47	15.91	30.82	392	263	P	V
		2484.56	47.8	-6.2	54	35.24	27.47	15.91	30.82	392	263	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	39.49	-34.51	74	57.75	31.3	8.04	58.06	100	0	P	H
													H
													H
													H
		4824	40.26	-33.74	74	58.52	31.3	8.04	58.06	100	0	P	V
													V
													V
													V
802.11g CH 06 2437MHz		4874	40.89	-33.11	74	59.04	31.3	8.65	58.1	100	0	P	H
		7311	44.35	-29.65	74	55.22	36.2	11.27	58.34	100	0	P	H
													H
													H
		4874	39.7	-34.3	74	57.85	31.3	8.65	58.1	100	0	P	V
		7311	45.25	-28.75	74	56.12	36.2	11.27	58.34	100	0	P	V
													V
													V
802.11g CH 11 2462MHz		4924	39.69	-34.31	74	57.66	31.37	8.8	58.14	100	0	P	H
		7386	44.81	-29.19	74	55.35	36.5	11.28	58.32	100	0	P	H
													H
													H
		4924	40.2	-33.8	74	58.17	31.37	8.8	58.14	100	0	P	V
		7386	43.72	-30.28	74	54.26	36.5	11.28	58.32	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 802.11ac VHT20 (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)
802.11ac VHT20 CH 01 2412MHz		2390	62.57	-11.43	74	50.04	27.6	15.78	30.85	109	245	P	H
		2390	52.31	-1.69	54	39.78	27.6	15.78	30.85	109	245	A	H
	*	2412	112.03	-	-	99.47	27.6	15.81	30.85	109	245	P	H
	*	2412	104.53	-	-	91.97	27.6	15.81	30.85	109	245	A	H
													H
													H
		2389.905	54.73	-19.27	74	42.21	27.6	15.77	30.85	100	10	P	V
		2390	45.71	-8.29	54	33.18	27.6	15.78	30.85	100	10	A	V
	*	2412	107.02	-	-	94.46	27.6	15.81	30.85	100	10	P	V
	*	2412	100.03	-	-	87.47	27.6	15.81	30.85	100	10	A	V
													V
													V
802.11ac VHT20 CH 06 2437MHz		2374.82	53.89	-20.11	74	41.37	27.63	15.75	30.86	100	236	P	H
		2389.94	44.71	-9.29	54	32.19	27.6	15.77	30.85	100	236	A	H
	*	2437	112.41	-	-	99.81	27.6	15.84	30.84	100	236	P	H
	*	2437	105.02	-	-	92.42	27.6	15.84	30.84	100	236	A	H
		2486.84	54.67	-19.33	74	42.11	27.47	15.91	30.82	100	236	P	H
		2483.5	45.62	-8.38	54	33.06	27.47	15.91	30.82	100	236	A	H
		2320.64	53.91	-20.09	74	41.36	27.77	15.67	30.89	100	24	P	V
		2389.94	44.13	-9.87	54	31.61	27.6	15.77	30.85	100	24	A	V
	*	2437	108.96	-	-	96.36	27.6	15.84	30.84	100	24	P	V
	*	2437	102.07	-	-	89.47	27.6	15.84	30.84	100	24	A	V
		2483.69	55.13	-18.87	74	42.57	27.47	15.91	30.82	100	24	P	V
		2484.53	45.46	-8.54	54	32.9	27.47	15.91	30.82	100	24	A	V



802.11ac VHT20 CH 11 2462MHz	*	2462	109.87	-	-	97.29	27.53	15.88	30.83	100	237	P	H
	*	2462	102.21	-	-	89.63	27.53	15.88	30.83	100	237	A	H
		2484.12	62.8	-11.2	74	50.24	27.47	15.91	30.82	100	237	P	H
		2483.56	52.27	-1.73	54	39.71	27.47	15.91	30.82	100	237	A	H
													H
													H
	*	2462	107.23	-	-	94.65	27.53	15.88	30.83	100	338	P	V
	*	2462	100.09	-	-	87.51	27.53	15.88	30.83	100	338	A	V
		2484.4	55.97	-18.03	74	43.41	27.47	15.91	30.82	100	338	P	V
		2483.52	47.63	-6.37	54	35.07	27.47	15.91	30.82	100	338	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 802.11ac VHT20 (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)
802.11ac VHT20 CH 01 2412MHz		4824	39.49	-34.51	74	57.75	31.3	8.04	58.06	100	0	P	H
													H
													H
													H
		4824	40.26	-33.74	74	58.52	31.3	8.04	58.06	100	0	P	V
													V
													V
802.11ac VHT20 CH 06 2437MHz		4874	39.59	-34.41	74	57.74	31.3	8.65	58.1	100	0	P	H
		7311	44.63	-29.37	74	55.5	36.2	11.27	58.34	100	0	P	H
													H
													H
		4874	39.54	-34.46	74	57.69	31.3	8.65	58.1	100	0	P	V
		7311	45.94	-28.06	74	56.81	36.2	11.27	58.34	100	0	P	V
													V
802.11ac VHT20 CH 11 2462MHz		4924	40.16	-33.84	74	58.13	31.37	8.8	58.14	100	0	P	H
		7386	45.46	-28.54	74	56	36.5	11.28	58.32	100	0	P	H
													H
													H
		4924	39.78	-34.22	74	57.75	31.37	8.8	58.14	100	0	P	V
		7386	45.21	-28.79	74	55.75	36.5	11.28	58.32	100	0	P	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 802.11ac VHT40 (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)
802.11ac VHT40 CH 03 2422MHz		2389.66	60.7	-13.3	74	48.19	27.6	15.77	30.86	100	244	P	H
		2389.38	52.64	-1.36	54	40.13	27.6	15.77	30.86	100	244	A	H
	*	2422	105.8	-	-	93.22	27.6	15.82	30.84	100	244	P	H
	*	2422	99.16	-	-	86.58	27.6	15.82	30.84	100	244	A	H
		2484.6	54.57	-19.43	74	42.01	27.47	15.91	30.82	100	244	P	H
		2486.21	45.36	-8.64	54	32.8	27.47	15.91	30.82	100	244	A	H
		2389.94	55.79	-18.21	74	43.27	27.6	15.77	30.85	100	10	P	V
		2389.52	47.39	-6.61	54	34.88	27.6	15.77	30.86	100	10	A	V
	*	2422	104.81	-	-	92.23	27.6	15.82	30.84	100	10	P	V
	*	2422	97.96	-	-	85.38	27.6	15.82	30.84	100	10	A	V
		2484.25	53.43	-20.57	74	40.87	27.47	15.91	30.82	100	10	P	V
		2487.89	44.86	-9.14	54	32.37	27.4	15.91	30.82	100	10	A	V
802.11ac VHT40 CH 06 2437MHz		2389.94	56.03	-17.97	74	43.51	27.6	15.77	30.85	100	246	P	H
		2389.94	47.44	-6.56	54	34.92	27.6	15.77	30.85	100	246	A	H
	*	2437	109	-	-	96.4	27.6	15.84	30.84	100	246	P	H
	*	2437	102.58	-	-	89.98	27.6	15.84	30.84	100	246	A	H
		2484.53	61.1	-12.9	74	48.54	27.47	15.91	30.82	100	246	P	H
		2483.62	52.14	-1.86	54	39.58	27.47	15.91	30.82	100	246	A	H
		2389.1	56.23	-17.77	74	43.72	27.6	15.77	30.86	124	19	P	V
		2388.82	45.98	-8.02	54	33.47	27.6	15.77	30.86	124	19	A	V
	*	2437	105.16	-	-	92.56	27.6	15.84	30.84	124	19	P	V
	*	2437	98.43	-	-	85.83	27.6	15.84	30.84	124	19	A	V
		2483.97	60.81	-13.19	74	48.25	27.47	15.91	30.82	124	19	P	V
		2483.5	51.4	-2.6	54	38.84	27.47	15.91	30.82	124	19	A	V



802.11ac VHT40 CH 09 2452MHz		2320.64	53.93	-20.07	74	41.38	27.77	15.67	30.89	100	110	P	H
		2365.16	44.66	-9.34	54	32.11	27.67	15.74	30.86	100	110	A	H
	*	2452	105.78	-	-	93.15	27.6	15.86	30.83	100	110	P	H
	*	2452	99.12	-	-	86.49	27.6	15.86	30.83	100	110	A	H
		2483.97	60.91	-13.09	74	48.35	27.47	15.91	30.82	100	110	P	H
		2484.6	52.55	-1.45	54	39.99	27.47	15.91	30.82	100	110	A	H
		2371.6	54.26	-19.74	74	41.74	27.63	15.75	30.86	100	11	P	V
		2333.94	44.76	-9.24	54	32.19	27.77	15.69	30.89	100	11	A	V
	*	2452	104.11	-	-	91.48	27.6	15.86	30.83	100	11	P	V
	*	2452	97.35	-	-	84.72	27.6	15.86	30.83	100	11	A	V
		2484.11	59	-15	74	46.44	27.47	15.91	30.82	100	11	P	V
		2484.04	50.48	-3.52	54	37.92	27.47	15.91	30.82	100	11	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												