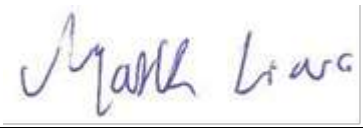
FCC RADIO TEST REPORT

Applicant	:	Ubiquiti Inc.
Address	:	685 Third Avenue, New York, New York 10017, USA
Equipment	:	UniFi Display Cast Pro
Model No.	:	UC-Cast-Pro
Trade Name	:	UBIQUITI
FCC ID	:	SWX-UCCASTP

I HEREBY CERTIFY THAT :

The sample was received on Aug. 13, 2024 and the testing was completed on Sep. 11, 2024 at Cerpass Technology Corp. The test result refers exclusively to the test presented test model / sample. Without written approval of Cerpass Technology Corp., the test report shall not be reproduced except in full.

Approved by:



Mark Liao / Supervisor

Laboratory Accreditation:

Cerpass Technology Corporation Test Laboratory

Contents

History of this test report

Report No.	Issued Date	Description
24010270-TRFCC03	Mar. 08, 2022	Original
24080208-TRFCC03	Sep. 24, 2024	1. 2.4G Add 802.11ac/ax Mode 2. 5G Add 802.11ax Mode

1. Summary of Test Procedure and Test Results

1.1 Applicable Standards

ANSI C63.10:2013

FCC Rules and Regulations Part 15 Subpart C §15.247

FCC Rule	. Description of Test	Result
15.203	. Antenna Requirement	PASS
15.207	. AC Power Line Conducted Emission	PASS
15.209 15.205	. Radiated Spurious Emission	PASS
15.247(d)	. Conducted Spurious Emission	PASS
15.247(a)(2)	. 6dB Bandwidth	PASS
15.247(b)	. Output Power	PASS
15.247(e)	. Power Spectral Density	PASS
2.1091	. Radio Frequency Exposure	PASS

*The lab has reduced the uncertainty risk factor from test equipment, environment and staff technicians which according to the standard on contract. Therefore, the test result will only be determined by standard requirement,measurement uncertainty evaluation is not considered.

The difference is list below:

1. 2.4G Add 802.11ac/ax Mode

After engineering evaluation, For 802.11ax the All item need to add test.

Refer to original report for other Modulation Type test categories. Test report number: 24010270-TRFCC03

2. Test Configuration of Equipment under Test

2.1 Feature of Equipment under Test

Operation Frequency Range	BT / BLE: 2400-2483.5MHz 2.4GHz: 802.11b/g/n/ac/ax: 2400-2483.5MHz 5GHz: 802.11a/n/ac/ax: 5150-5250MHz, 5250-5350MHz, 5470-5725MHz, 5725-5850MHz
Center Frequency Range	BT / BLE: 2402MHz-2480MHz 2.4GHz:802.11b/g/n/ac/ax: 2412MHz-2462MHz 5GHz:802.11a/n/ac/ax: 5180-5240MHz, 5260-5320MHz, 5500-5720MHz, 5745-5825MHz
Modulation Type	BT: GFSK, π/4-DQPSK, 8DPSK BLE: GFSK WLAN: 2.4GHz: 802.11b: CCK, DQPSK, DBPSK 802.11g/n: BPSK, QPSK, 16QAM, 64QAM, 256QAM 802.11ac BPSK, QPSK, 16QAM, 64QAM, 256QAM 802.11ax: BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM 5GHz: 802.11a/n: BPSK, QPSK, 16QAM, 64QAM 802.11ac: BPSK, QPSK, 16QAM, 64QAM, 256QAM 802.11ax: BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM
Modulation Technology	DSSS, OFDM, FHSS, DTS, OFDMA
Data Rate	BT: GFSK: 1Mbps, π/4-DQPSK: 2Mbps, 8DPSK: 3Mbps BLE: GFSK: 1Mbps WLAN: 2.4GHz: 802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS15, HT20/40 802.11ac:MCS0 – MCS9, VHT20/40 802.11ax: MCS0 – MCS11,HE20/40 5GHz: 802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS15, HT20/40 802.11ac: MCS0 – MCS9, VHT20/40/80 802.11ax: MCS0 – MCS11,HE20/40/80
Antenna Type	Dipole Antenna
Antenna Gain	BT / BLE: 2400-2500MHz: ANT A: 3dBi WLAN: 2400-2500MHz: ANT A: 3dBi, ANT B: 3dBi 5150-5850MHz: ANT A: 5dBi, ANT B: 5dBi

Note:
1. EUT supports TPC function.
2. WLAN and BT can simultaneously transmission.
3. EUT supports DFS client mode, without radar detection.
4. For more details, please refer to the user's manual of the EUT.

2.2 Carrier Frequency of Channels

802.11b, 802.11g, 802.11n HT20 , 802.11ac VHT20, 802.11ax HE20 (2412MHz-2462MHz)

Channel	Frequency(MHz)	Channel	Frequency(MHz)
***01**	**2412**	07	2442
02	2417	08	2447
03	2422	09	2452
04	2427	10	2457
05	2432	***11**	**2462**
***06**	**2437**	---	---

802.11n HT40, 802.11ac VHT40, 802.11ax HE40 (2422MHz-2452MHz)

Channel	Frequency(MHz)	Channel	Frequency(MHz)
---	---	07	2442
---	---	08	2447
***03**	**2422**	***09**	**2452**
04	2427	---	---
05	2432	---	---
***06**	**2437**	---	---

Note: Channels remarked * are selected to perform test.

2.3 Test Mode and Test Software

a. During testing, the interface cables and equipment positions were varied according to ANSI C63.10.
b. The complete test system included remote workstation and EUT for RF test. The remote workstation included Notebook.
c. An executive program, ” wifitest command” under Windows OS system was executed to transmit and receive data via WLAN.
d. The following test modes were performed for the test:

For 24010270-TRFCC03

Conducted Emissions from the AC mains power ports	
Test Mode	Operating Description
1	802.11b (1Mbps)
2	802.11g (6Mbps)
3	802.11n HT20 (6.5Mbps)
4	802.11n HT40 (13.5Mbps)
caused “Test Mode 1” generated the worst case, it was reported as the final data.	
Radiation Emissions (Below 1GHz)	
Test Mode	Operating Description
1	802.11b (1Mbps)
2	802.11g (6Mbps)
3	802.11n HT20 (6.5Mbps)
4	802.11n HT40 (13.5Mbps)
caused “Test Mode 1” generated the worst case, it was reported as the final data.	
Radiation Emissions (Above 1GHz)	
Test Mode	Operating Description
1	802.11b (1Mbps)
2	802.11g (6Mbps)
3	802.11n HT20 (6.5Mbps)
4	802.11n HT40 (13.5Mbps)
caused “Test Mode 1~4” generated the worst case, they were reported as the final data.	

Note:
1.There are two kinds of EUT Power Type: Power From Adapter and Power From PoE
For AC Power Line Conducted Emission, Power From PoE is worst case.
For Radiated Spurious Emission, Power From Adapter is worst case.
2.There are two kinds of test voltage: AC 120V / 60Hz and AC 240V / 60Hz.
For AC Power Line Conducted Emission, AC 120V / 60Hz is worst case.
For Radiated Spurious Emission, AC 120V / 60Hz is worst case.

The EUT incorporates a MIMO function

Modulation Type	TX CONFIGURATION
802.11b	2TX
802.11g	2TX
802.11n HT20	2TX
802.11n HT40	2TX

For 802.11ax add test

Conducted Emissions from the AC mains power ports	
Test Mode	Operating Description
1	802.11ax HE20 (7.3Mbps)
2	802.11ax HE40 (14.6Mbps)
caused “Test Mode 1” generated the worst case, it was reported as the final data.	
Radiation Emissions (Below 1GHz)	
Test Mode	Operating Description
1	802.11ax HE20 (7.3Mbps)
2	802.11ax HE40 (14.6Mbps)
caused “Test Mode 1” generated the worst case, it was reported as the final data.	
Radiation Emissions (Above 1GHz)	
Test Mode	Operating Description
1	802.11ax HE20 (7.3Mbps)
2	802.11ax HE40 (14.6Mbps)
caused “Test Mode 1~2” generated the worst case, they were reported as the final data.	

Note:

1.There are two kinds of EUT Power Type: Power From Adapter and Power From PoE

For AC Power Line Conducted Emission, Power From PoE is worst case.

For Radiated Spurious Emission, Power From Adapter is worst case.

2.There are two kinds of test voltage: AC 120V / 60Hz and AC 240V / 60Hz.

For AC Power Line Conducted Emission, AC 120V / 60Hz is worst case.

For Radiated Spurious Emission, AC 240V / 60Hz is worst case.

The EUT incorporates a MIMO function

Modulation Type	TX CONFIGURATION
802.11ac VHT20	2TX
802.11ac VHT40	2TX
802.11ax HE20	2TX
802.11ax HE40	2TX

2.4 Description of Test System

For 24010270-TRFCC03

RF Conducted				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	lenovo	S1GL2W	N/A	N/A
Type-c USB	kolin	KEX-DLCP08	1m / NS	N/A
RJ45 Cable	TE CONNECTIVITY	CAT5E	1.2m / NS	N/A
POE	UBIQUITI	GP-H480-050G	N/A	0.6m / NS
Radiated Emissions				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	DELL	Latitude E5470	N/A	Adapter / 1.8m / NS
RJ45 Cable	TE CONNECTIVITY	CAT5E	1.2m / NS	N/A
Power Cord	Longwell	LS-33	1.8/NS	N/A
Type-C Adapter	UI	GP-M015-QC	N/A	Adapter / 1.8m / NS
POE	UI	GP-V480-032G	N/A	N/A
Type-c USB	kolin	KEX-DLCP08	1m / NS	N/A
AC Power Line Conducted Emission				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	DELL	Latitude E5470	N/A	Adapter / 1.8m / NS
RJ45 Cable	TE CONNECTIVITY	CAT5E	1.2m / NS	N/A
Power Cord	Longwell	LS-33	1.8/NS	N/A
Type-C Adapter	UI	GP-M015-QC	N/A	Adapter / 1.8m / NS
POE	UI	GP-V480-032G	N/A	N/A
Type-c USB	kolin	KEX-DLCP08	1m / NS	N/A

For 802.11ax add test

RF Conducted				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	lenovo	S1GL2W	N/A	Adapter / 1.8m / NS
RJ45 Cable	TE CONNECTIVITY	CAT5E	1.2m / NS	N/A
Type-c USB	kolin	KEX-DLCP08	1m / NS	N/A
Radiated Emissions				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	DELL	Latitude E5470	N/A	Adapter / 1.8m / NS
Type-c USB	kolin	KEX-DLCP08	1m / NS	N/A
POE	UI	GP-V480-032G	N/A	N/A
RJ45 Cable	TE CONNECTIVITY	CAT5E	1.2m / NS	N/A
Type-C Adapter	UI	GP-M015-QC	N/A	Adapter / 1.8m / NS
AC Power Line Conducted Emission				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	lenovo	S1GL2W	N/A	Adapter / 1.8m / NS
POE	UI	GP-V480-032G	N/A	N/A
RJ45 Cable	TE CONNECTIVITY	CAT5E	1.2m / NS	N/A
Type-c USB	kolin	KEX-DLCP08	1m / NS	N/A

2.5 General Information of Test

☒ Test Site	Cerpass Technology Corporation Test Laboratory Address: No.10, Ln. 2, Lianfu St., Luzhu Dist., Taoyuan City 33848, Taiwan (R.O.C.) Tel: +886-3-3226-888 Fax: +886-3-3226-881	
	FCC	TW1439, TW1079
	IC	4934E-1, 4934E-2
Frequency Range Investigated	Conducted: from 150kHz to 30 MHz Radiation: from 9kHz to 25,000MHz	
Test Distance	The test distance of radiated emission from antenna to EUT is 3 M.	

For 24010270-TRFCC03

Test Item	Test Site	Test period	Environmental Conditions	Tested By
RF Conducted	RFCON01-NK	2024/1/24~2024/1/25	21.2~23.2℃ / 46~54%	Leon Huang
Radiated Emissions	3M02-NK	2024/1/22~2024/1/30	18.5~19.1℃ / 48~52%	Leon Huang
AC Power Line Conducted Emission	CON02-NK	2024/01/30	17.5°C / 50%	Leon Huang

For 802.11ax add test

Test Item	Test Site	Test period	Environmental Conditions	Tested By
RF Conducted	RFCON01-NK	2024/9/2~2024/9/3	28.8~30.5°C / 42~44%	Sheng Hsu
RF Conducted	RFCON01-NK	2024/09/11	26.1°C / 45%	Leon Huang
Radiated Emissions	3M02-NK	2024/08/23	19.7°C / 42%	Park Chen
Radiated Emissions	3M02-NK	2024/08/29	24.9°C / 52%	Park Chen
AC Power Line Conducted Emission	CON02-NK	2024/09/05	24℃ / 48%	Eason Hsu

2.6 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Measurement Item	Uncertainty
AC Power Line Conduction(150K~30MHz)	±3.12dB
Radiated Spurious Emission(9KHz~30MHz)	±3.5dB
Radiated Spurious Emission(30MHz~1GHz)	±5.1dB
Radiated Spurious Emission(1GHz~40GHz)	±5.2dB
Conducted Spurious Emission	±2.1dB
6dB Bandwidth	±5.4%
20dB Bandwidth	±4.4%
Occupied Bandwidth	±4.5%
Peak Output Power(Conducted Power Meter)	±1.1dB
Dwell Time / Deactivation Time	±7.6%
Power Spectral Density	±2.0dB
Duty Cycle	±3.5%

3. Test Equipment and Ancillaries Used for Tests

For 24010270-TRFCC03

Test Item	Radiated Emissions				
Test Site	Semi Anechoic Room(3M02-NK)				
Instrument	**Manufacturer**	**Model No**	**Serial No**	**Calibration Date**	**Valid Date**
Bilog Antenna	Schwarzbeck	VULB9168	369	2023/03/15	2024/03/14
Active Loop Antenna	Schwarzbeck	FMZB 1513	414	2023/02/03	2024/02/02
Horn Antenna	EMCO	3115	31589	2023/03/23	2024/03/22
Horn Antenna	EMCO	3116	31970	2023/03/03	2024/03/02
EMI Receiver	ROHDE & SCHWARZ	ESCI	101423	2023/07/05	2024/07/04
Spectrum Analyzer	ROHDE & SCHWARZ	FSV 40-N	102151	2023/08/15	2024/08/14
Preamplifier	Agilent	8449B	3008A01954	2023/03/08	2024/03/07
Preamplifier	EMC INSTRUMENTS	EMC184045	980065	2023/10/13	2024/10/12
Preamplifier	EM Electronics corp.	EM330	60659	2023/03/10	2024/03/09
Cable-6m(9k~300M)	NA	EMC5D-BM-BM-6	130606	2023/03/13	2024/03/12
Cable-3in1(30M-1G)	HARBOUR INDUSTRIES	LL142	CCE1315	2023/02/25	2024/02/24
Cable-0.5m(1G-40G)	HUBER SUHNER	SUCOFLEX 104	805443/4	2023/03/07	2024/03/06
Cable-3m(1G-40G)	HUBER SUHNER	SUCOFLEX 104	805796/4	2023/03/07	2024/03/06
Cable-8m(1G-26.5G)	WOKEN	WCBA-WCA203SM	CCE1374	2023/03/07	2024/03/06
Cable-1m(1G-40G)	HUBER SUHNER	HUBER SUHNER / SF102	552450	2023/06/08	2024/06/07
Cable-3m(1G-40G)	HUBER SUHNER	HUBER SUHNER / SF102	552451	2023/06/08	2024/06/07
E3	AUDIX	v8.2014-8-6	RK-000529	NA	NA
High Pass Filter	Warison	WFIL-H3000-18000F-03	WRJ5CFWC2J1	2023/07/03	2024/07/02
Notch Filter	Warison	WFIL-N5925-7125F-04	WRQ4BFWC4M1	2023/03/13	2024/03/12
Hipass Filter	Warison	WFIL-H7500-18000F	WRQ4BFWC2J1	2023/03/13	2024/03/12

Test Item	RF Conducted				
Test Site	RFCON01-NK				
Instrument	**Manufacturer**	**Model No**	**Serial No**	**Calibration Date**	**Valid Date**
Spectrum Analyzer	ROHDE & SCHWARZ	FSP 40	100047	2023/02/24	2024/02/23
Attenuator	KEYSIGHT	8491B	MY39250703	2023/03/07	2024/03/06
Cable-0.5m(1G-26.5G)	HUBER SUHNER	SUCOFLEX 102	28422/2	2023/03/07	2024/03/06
Power Meter	Anritsu	ML2495A	1224005	2023/03/07	2024/03/06
Power Sensor	Anritsu	MA2411B	1207295	2023/03/07	2024/03/06
Switch Box	Theda	1 月 4 日	TW5451159	NA	NA

For 24010270-TRFCC03

Test Item	AC Power Line Conducted Emission				
Test Site	CON02-NK				
Instrument	**Manufacturer**	**Model No**	**Serial No**	**Calibration Date**	**Valid Date**
EMI Receiver	ROHDE & SCHWARZ	ESR 7	101906	2023/05/08	2024/05/07
TWO-LINE V-NETWORK	ROHDE & SCHWARZ	ENV216	102185	2023/08/29	2024/08/28
Cable-4m(9k-3G)	EMEC	RG-223	18274M	2023/07/31	2024/07/30
E3	AUDIX	v8.2014-8-6	RK-000536	NA	NA

For 802.11ax add test

Test Item	Radiated Emissions				
Test Site	Semi Anechoic Room(3M02-NK)				
Instrument	**Manufacturer**	**Model No**	**Serial No**	**Calibration Date**	**Valid Date**
Bilog Antenna	Schwarzbeck	VULB9168	369	2024/02/19	2025/02/18
Active Loop Antenna	Schwarzbeck	FMZB 1513	414	2024/01/16	2025/01/15
Horn Antenna	EMCO	3115	31589	2024/02/26	2025/02/25
Horn Antenna	EMCO	3116	31974	2023/10/16	2024/10/15
EMI Receiver	ROHDE & SCHWARZ	ESR 7	101906	2024/05/13	2025/05/12
Spectrum Analyzer	ROHDE & SCHWARZ	FSV 40-N	101329	2024/07/16	2025/07/15
Preamplifier	Agilent	8449B	3008A01954	2024/03/01	2025/02/28
Preamplifier	EMC INSTRUMENTS	EMC184045	980065	2023/10/13	2024/10/12
Preamplifier	EM Electronics corp.	EM330	60659	2024/02/17	2025/02/16
Cable-6m(9k~300M)	N/A	EMC5D-BM-BM-6	130606	2024/03/13	2025/03/12
Cable-3in1(30M-1G)	HARBOUR INDUSTRIES	LL142	CCE1315	2024/02/23	2025/02/22
Cable-0.5m(1G-40G)	HUBER SUHNER	SUCOFLEX 104	805443/4	2024/03/05	2025/03/04
Cable-3m(1G-40G)	HUBER SUHNER	SUCOFLEX 104	805796/4	2024/03/05	2025/03/04
Cable-8m(1G-26.5G)	WOKEN	WCBA-WCA203SM	CCE1374	2024/03/05	2025/03/04
Cable-1m(1G-40G)	HUBER SUHNER	HUBER SUHNER / SF102	804398/2	2023/10/12	2024/10/11
Cable-3m(1G-40G)	HUBER SUHNER	HUBER SUHNER / SF102	804619/2	2023/10/12	2024/10/11
E3	AUDIX	v8.2014-8-6	RK-000529	NA	NA
High Pass Filter	Warison	WFIL-H3000-18000F-03	WRJ5CFWC2J1	2024/07/03	2025/07/02
Notch Filter	Warison	WFIL-N5925-7125F-04	WRQ4BFWC4M1	2024/03/11	2025/03/10
Hipass Filter	Warison	WFIL-H7500-18000F	WRQ4BFWC2J1	2024/03/11	2025/03/10

Test Item	RF Conducted				
Test Site	RFCON01-NK				
Instrument	**Manufacturer**	**Model No**	**Serial No**	**Calibration Date**	**Valid Date**
CAX Signal Analyzer	KEYSIGHT	N9000B	MY57100339	2023/11/06	2024/11/05
Power Meter	Anritsu	ML2495A	1224005	2024/02/17	2025/02/16
Power Sensor	Anritsu	MA2411B	1207295	2024/02/17	2025/02/16
Attenuator	KEYSIGHT	8491B	MY39250703	2024/02/20	2025/02/19

Test Item	AC Power Line Conducted Emission				
Test Site	CON02-NK				
Instrument	**Manufacturer**	**Model No**	**Serial No**	**Calibration Date**	**Valid Date**
EMI Receiver	ROHDE & SCHWARZ	ESR 7	101906	2024/05/13	2025/05/12
Line Impedance Stabilization Network	Schwarzbeck	NSLK 8127	8127740	2024/08/27	2025/08/26
Line Impedance Stabilization Network	Schwarzbeck	NSLK 8127	8127516	2023/10/03	2024/10/02
Pulse Limiter	ROHDE & SCHWARZ	ESH3-Z2	101934	2024/03/01	2025/02/28
Cable-6m(9k~300M)	N/A	EMC5D-BM-BM-6	130606	2024/03/13	2025/03/12
E3	AUDIX	v8.2014-8-6	RK-000536	NA	NA

4. Antenna Requirements

4.1 Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

4.2 Antenna Construction and Directional Gain

Antenna Type	Dipole Antenna
Antenna Gain	2400-2500MHz: ANT A: 3dBi, ANT B: 3dBi

2400-2500MHz
For Power directional gain= G_{ant}= 3 dBi
For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2 / N_{ANT}]$
= 6.01 (dBi)
*MIMO type: Cyclic Delay Diversity (CDD) mode.

5. Test of AC Power Line Conducted Emission

5.1 Test Limit

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 KHz, according to the methods defined in ANSI C63.10-2013. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

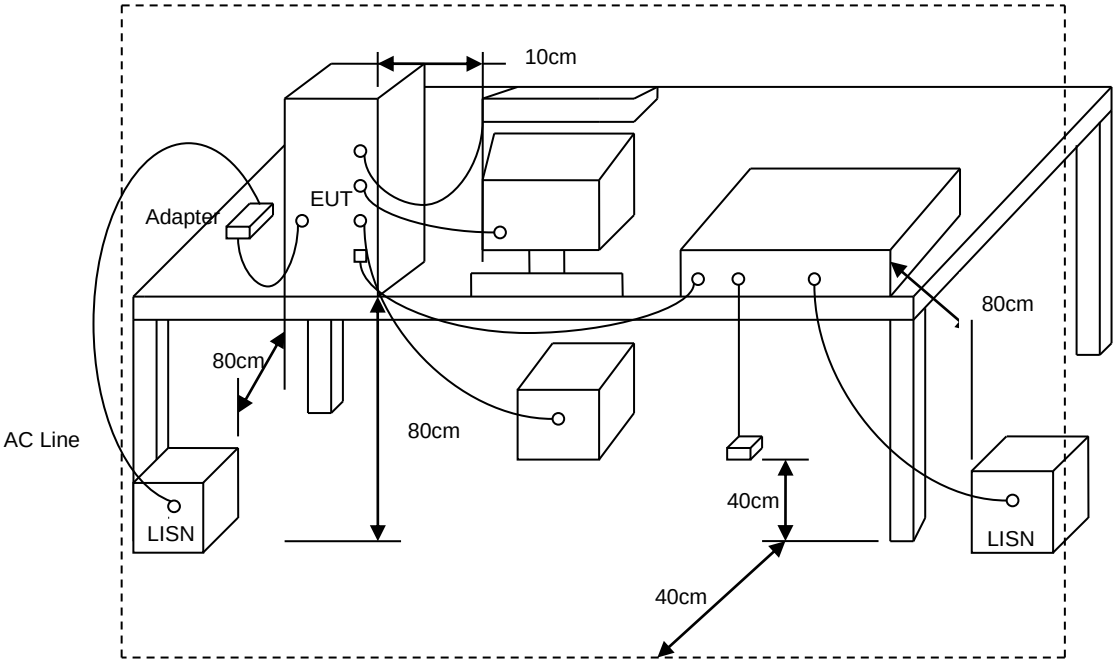
Frequency (MHz)	Quasi Peak (dB μ V)	Average (dB μ V)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

*Decreases with the logarithm of the frequency.

5.2 Test Procedures

a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
b. Connect EUT to the power mains through a line impedance stabilization network (LISN).
c. All the support units are connecting to the other LISN.
d. The LISN provides 50 ohm coupling impedance for the measuring instrument.
e. The FCC states that a 50 ohm, 50 micro-Henry LISN should be used.
f. Both sides of AC line were checked for maximum conducted interference.
g. The frequency range from 150 kHz to 30 MHz was searched.
h. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

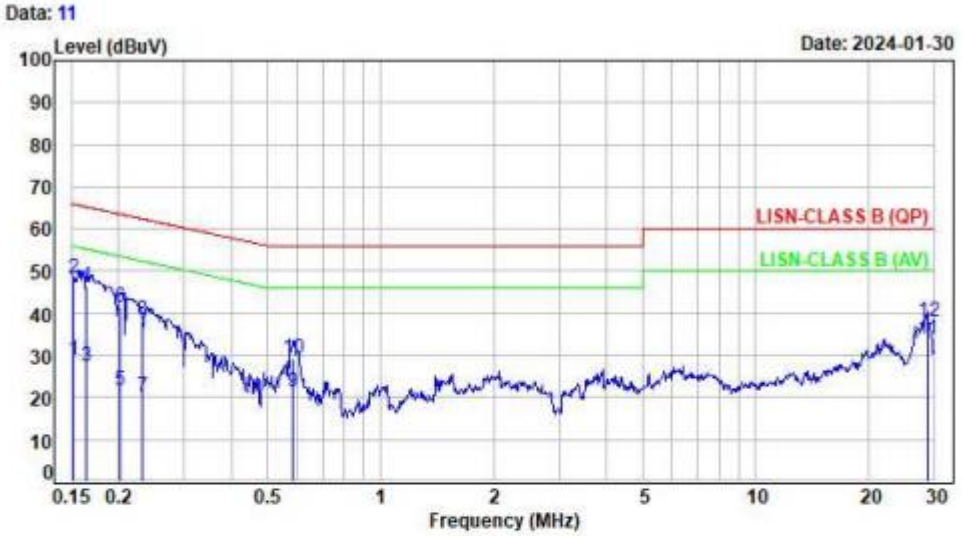
5.3 Typical Test Setup



5.4 Test Result and Data

For 24010270-TRFCC03

Test Mode : 2TX 11b CH11 1Mbps
Voltage : From POE(AC 120V/60Hz)
Phase : Line

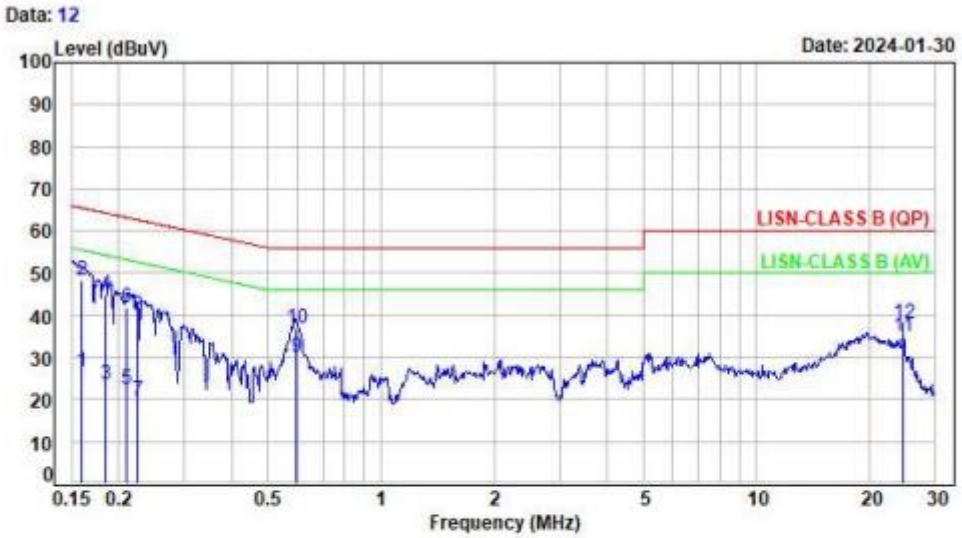


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1519	9.66	19.20	28.86	55.90	-27.04	Average	P
2	0.1519	9.66	38.55	48.21	65.90	-17.69	QP	P
3	0.1643	9.65	17.83	27.48	55.25	-27.77	Average	P
4	0.1643	9.65	36.65	46.30	65.25	-18.95	QP	P
5	0.2020	9.64	12.07	21.71	53.53	-31.82	Average	P
6	0.2020	9.64	31.91	41.55	63.53	-21.98	QP	P
7	0.2311	9.64	10.46	20.10	52.41	-32.31	Average	P
8	0.2311	9.64	28.83	38.47	62.41	-23.94	QP	P
9	0.5853	9.65	11.50	21.15	46.00	-24.85	Average	P
10	0.5853	9.65	19.56	29.21	56.00	-26.79	QP	P
11	28.6704	9.95	24.01	33.96	50.00	-16.04	Average	P
12	28.6704	9.95	27.94	37.89	60.00	-22.11	QP	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=(LISN or ISN or Current Probe)Factor + Cable Loss

For 24010270-TRFCC03

Test Mode : 2TX 11b CH11 1Mbps
Voltage : From POE(AC 120V/60Hz)
Phase : Neutral



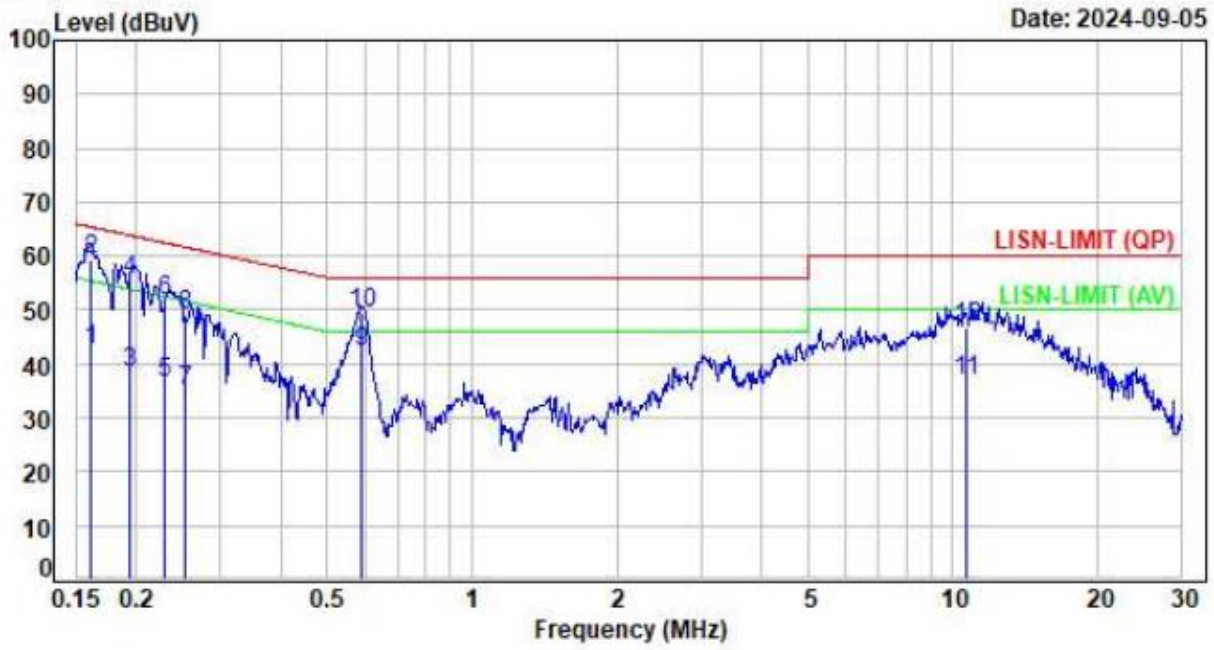
No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1590	9.57	17.16	26.73	55.52	-28.79	Average	P
2	0.1590	9.57	38.78	48.35	65.52	-17.17	QP	P
3	0.1841	9.58	14.16	23.74	54.30	-30.56	Average	P
4	0.1841	9.58	35.34	44.92	64.30	-19.38	QP	P
5	0.2100	9.59	12.72	22.31	53.21	-30.90	Average	P
6	0.2100	9.59	32.38	41.97	63.21	-21.24	QP	P
7	0.2251	9.58	10.09	19.67	52.63	-32.96	Average	P
8	0.2251	9.58	30.49	40.07	62.63	-22.56	QP	P
9	0.5965	9.58	20.30	29.88	46.00	-16.12	Average	P
10	0.5965	9.58	27.16	36.74	56.00	-19.26	QP	P
11	24.5781	10.03	24.93	34.96	50.00	-15.04	Average	P
12	24.5781	10.03	27.99	38.02	60.00	-21.98	QP	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=(LISN or ISN or Current Probe)Factor + Cable Loss

For 802.11ax add test

Test Mode : 2TX 11ax20 CH06 NSS1 MCS0
Voltage : From POE(AC 120V/60Hz)
Phase : Line

Data: 3

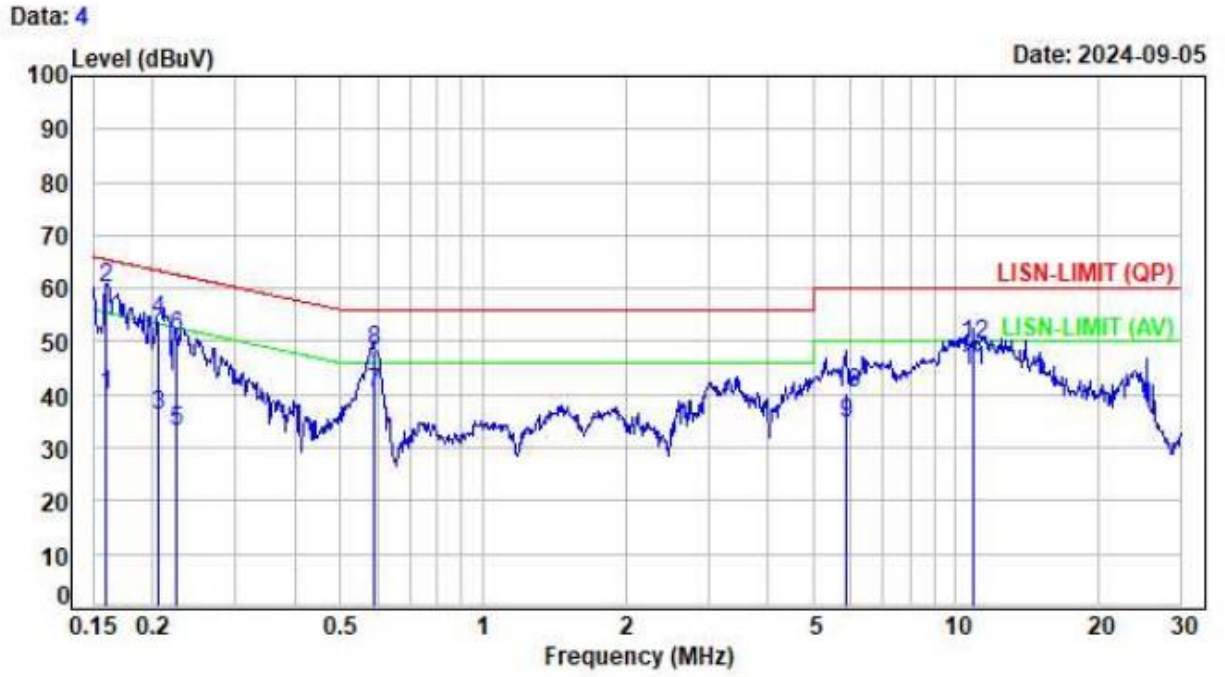


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1618	19.50	23.14	42.64	55.37	-12.73	Average	P
2	0.1618	19.50	39.90	59.40	65.37	-5.97	QP	P
3	0.1939	19.50	18.80	38.30	53.87	-15.57	Average	P
4	0.1939	19.50	35.86	55.36	63.87	-8.51	QP	P
5	0.2301	19.50	17.04	36.54	52.45	-15.91	Average	P
6	0.2301	19.50	32.06	51.56	62.45	-10.89	QP	P
7	0.2541	19.50	15.58	35.08	51.62	-16.54	Average	P
8	0.2541	19.50	29.70	49.20	61.62	-12.42	QP	P
9	0.5905	19.52	22.75	42.27	46.00	-3.73	Average	P
10	0.5905	19.52	30.06	49.58	56.00	-6.42	QP	P
11	10.6644	19.73	17.01	36.74	50.00	-13.26	Average	P
12	10.6644	19.73	27.01	46.74	60.00	-13.26	QP	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=(LISN or ISN or Current Probe)Factor + Cable Loss

For 802.11ax add test

Test Mode : 2TX 11ax20 CH06 NSS1 MCS0
Voltage : From POE(AC 120V/60Hz)
Phase : Neutral



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1593	19.48	20.39	39.87	55.50	-15.63	Average	P
2	0.1593	19.48	40.74	60.22	65.50	-5.28	QP	P
3	0.2068	19.48	16.61	36.09	53.33	-17.24	Average	P
4	0.2068	19.48	34.60	54.08	63.33	-9.25	QP	P
5	0.2250	19.48	13.71	33.19	52.63	-19.44	Average	P
6	0.2250	19.48	31.46	50.94	62.63	-11.69	QP	P
7	0.5885	19.49	20.94	40.43	46.00	-5.57	Average	P
8	0.5885	19.49	28.81	48.30	56.00	-7.70	QP	P
9	5.8680	19.64	15.13	34.77	50.00	-15.23	Average	P
10	5.8680	19.64	20.68	40.32	60.00	-19.68	QP	P
11	10.8801	19.75	24.64	44.39	50.00	-5.61	Average	P
12	10.8801	19.75	29.71	49.46	60.00	-10.54	QP	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=(LISN or ISN or Current Probe)Factor + Cable Loss

6. Test of Radiated Spurious Emission

6.1 Test Limit

In any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. If the transmitter measurement is based on the maximum conducted output power, the attenuation required under this paragraph shall be 30dB instead of 20dB. In addition, radiated emissions which fall in section 15.205(a) the restricted bands must also comply with the radiated emission limit specified in section 15.209(a).

Frequency (MHz)	Field Strength (microvolt/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

6.2 Test Procedures

a. The EUT was placed on a rotatable table top 0.8 meter above ground.

b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.

c. The table was rotated 360 degrees to determine the position of the highest radiation.

d. The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.

e. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.

f. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.

g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.

h. 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 peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

i. “Cone of radiation” has been considered to be 3dB bandwidth of the measurement antenna.

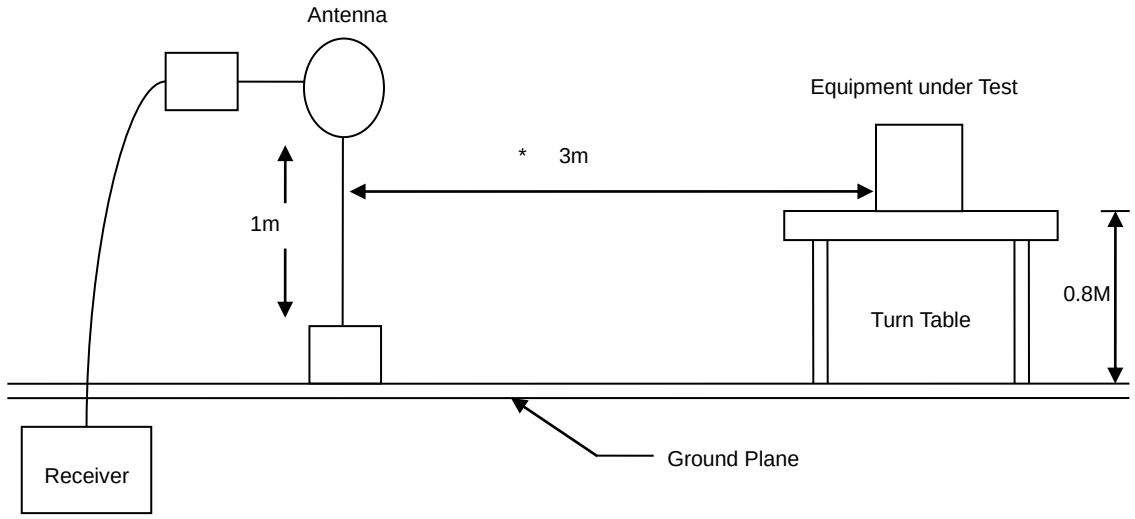
Note:

1.The supporting fixture shall permit orientation of the EUT in each of three orthogonal axis positions such that emissions from the EUT are maximized.
(Z-AXIS is the worst.)

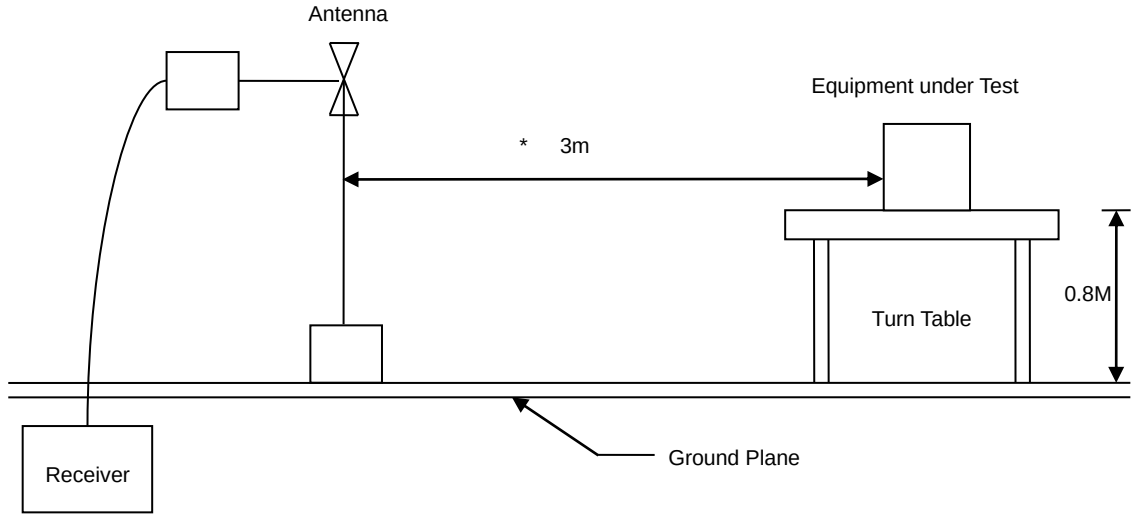
2.Due to the test software function limit the operation band setting(200dBuV/m).
There's no corresponding limitation in the actual test item.

6.3 Typical Test Setup

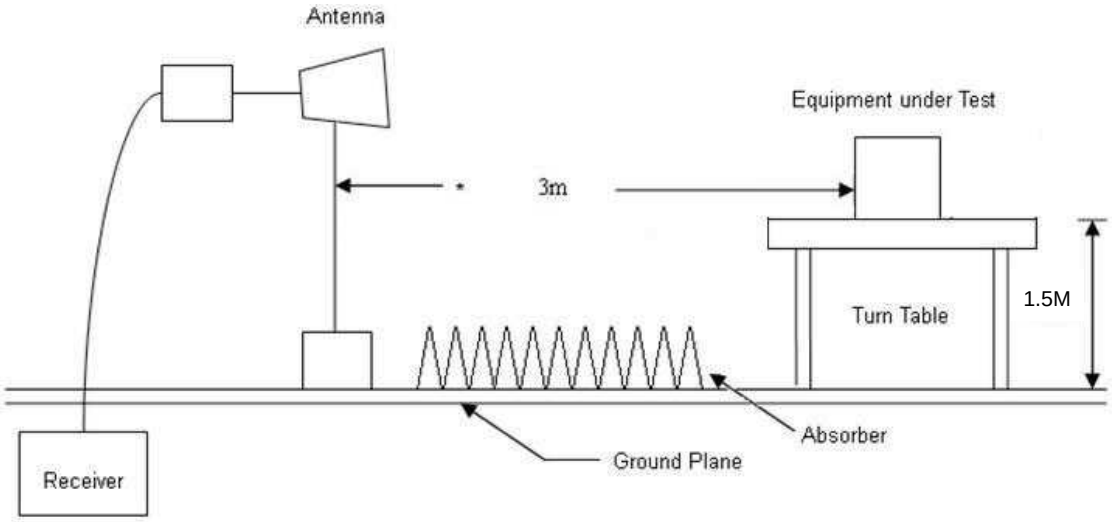
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup



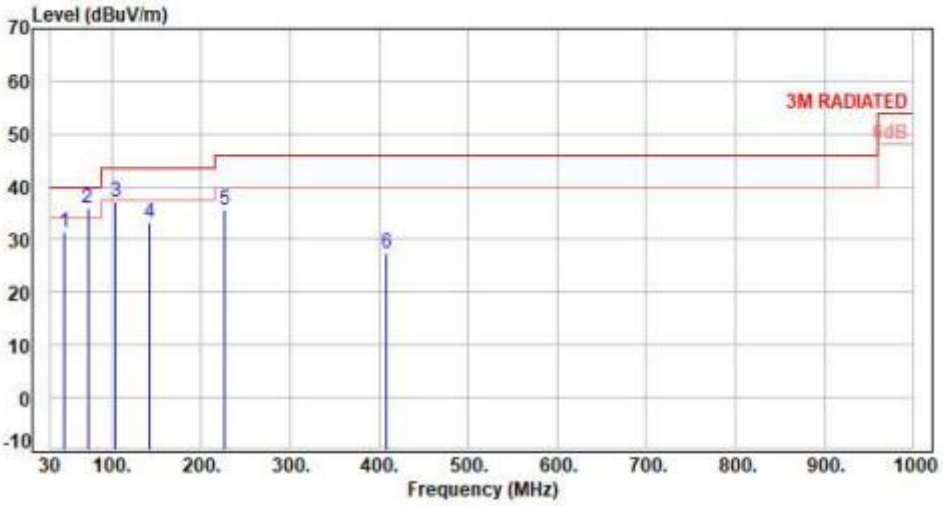
6.4 Test Result and Data (9KHz ~ 30MHz)

The 9kHz - 30MHz spurious emission is under limit 20dB more.

6.5 Test Result and Data (30MHz ~ 1GHz)

For 24010270-TRFCC03

Test Mode : 2TX 11b CH11 1Mbps
Voltage : Adapter(AC120V/60Hz)
Pol : Vertical

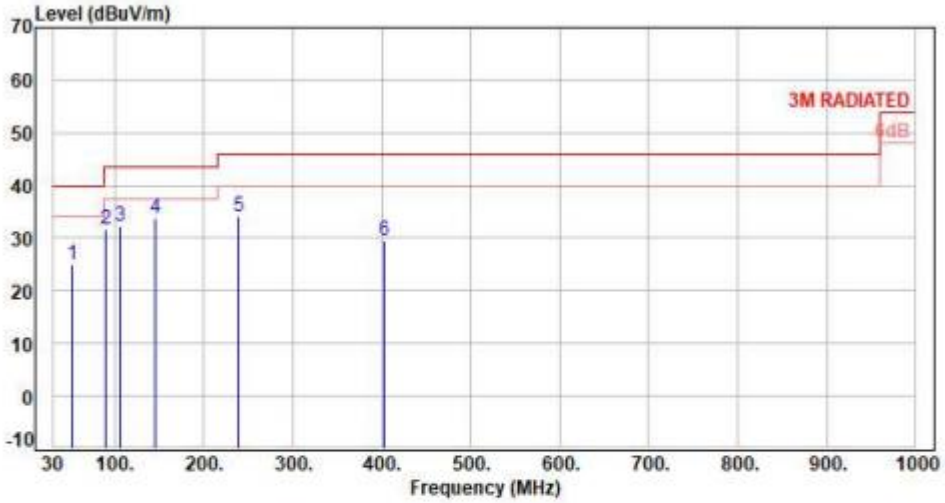


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	47.46	-8.30	39.56	31.26	40.00	-8.74	Peak	400	360	P
2	72.68	-12.44	48.32	35.88	40.00	-4.12	Peak	400	360	P
3	103.72	-13.33	50.51	37.18	43.50	-6.32	Peak	400	360	P
4	142.52	-9.54	42.80	33.26	43.50	-10.24	Peak	400	360	P
5	225.94	-11.51	47.13	35.62	46.00	-10.38	Peak	400	360	P
6	408.30	-5.28	32.70	27.42	46.00	-18.58	Peak	400	360	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

For 24010270-TRFCC03

Test Mode : 2TX 11b CH11 1Mbps
Voltage : Adapter(AC120V/60Hz)
Pol : Horizontal

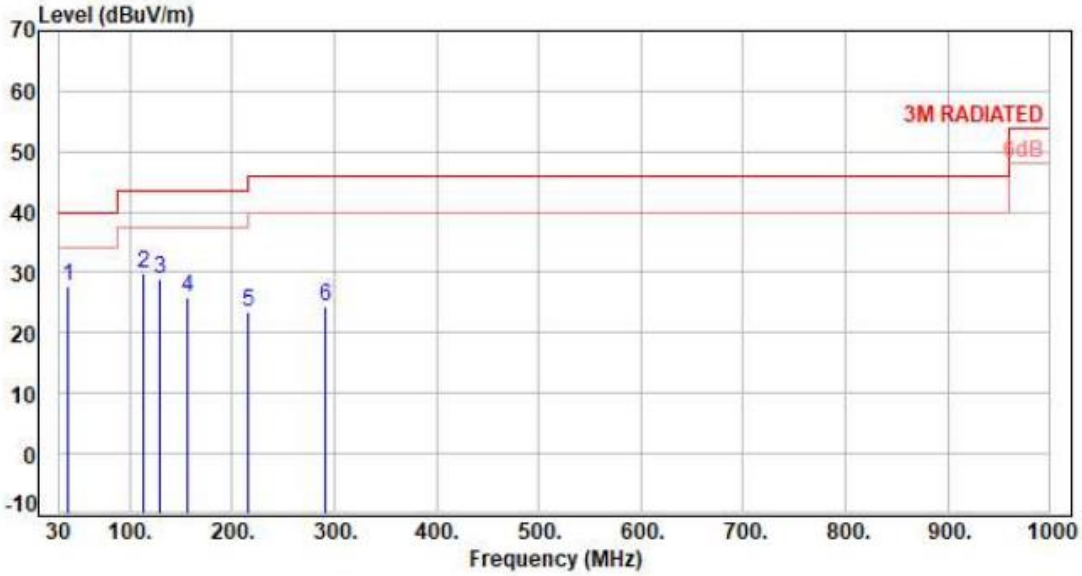


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	51.34	-8.40	33.42	25.02	40.00	-14.98	Peak	400	360	P
2	90.14	-15.46	47.23	31.77	43.50	-11.73	Peak	400	360	P
3	105.66	-13.10	45.44	32.34	43.50	-11.16	Peak	400	360	P
4	145.56	-9.35	43.20	33.85	43.50	-9.65	QP	200	249	P
5	239.52	-10.01	44.05	34.04	46.00	-11.96	Peak	400	360	P
6	402.48	-5.48	35.09	29.61	46.00	-16.39	Peak	400	360	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

For 802.11ax add test

Test Mode : 2TX 11ax20 CH06 NSS1 MCS0
Voltage : From Adapter(AC240V/60Hz)
Pol : Vertical

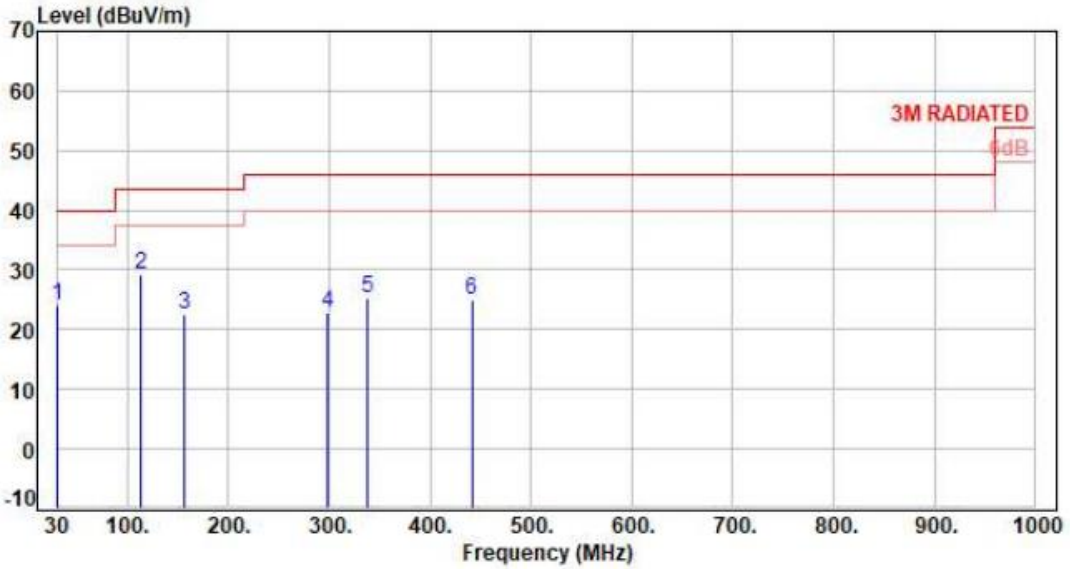


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	39.70	-9.84	37.70	27.86	40.00	-12.14	Peak	100	360	P
2	113.42	-12.71	42.44	29.73	43.50	-13.77	Peak	100	360	P
3	128.94	-11.37	40.35	28.98	43.50	-14.52	Peak	100	360	P
4	156.10	-9.44	35.22	25.78	43.50	-17.72	Peak	100	360	P
5	216.24	-11.95	35.55	23.60	46.00	-22.40	Peak	100	360	P
6	291.90	-8.68	33.07	24.39	46.00	-21.61	Peak	100	360	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

For 802.11ax add test

Test Mode : 2TX 11ax20 CH06 NSS1 MCS0
Voltage : From Adapter(AC240V/60Hz)
Pol : Horizontal



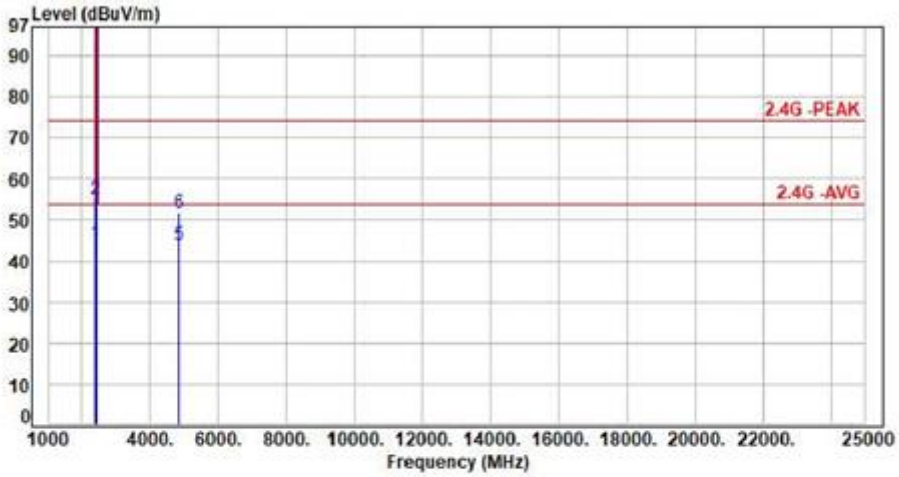
No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	30.00	-10.01	34.10	24.09	40.00	-15.91	Peak	100	360	P
2	113.42	-12.71	41.93	29.22	43.50	-14.28	Peak	100	360	P
3	156.10	-9.44	31.87	22.43	43.50	-21.07	Peak	100	360	P
4	297.72	-8.63	31.61	22.98	46.00	-23.02	Peak	100	360	P
5	338.46	-7.37	32.54	25.17	46.00	-20.83	Peak	100	360	P
6	441.28	-4.58	29.48	24.90	46.00	-21.10	Peak	100	360	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

6.6 Test Result and Data (1GHz ~ 25GHz)

For 24010270-TRFCC03

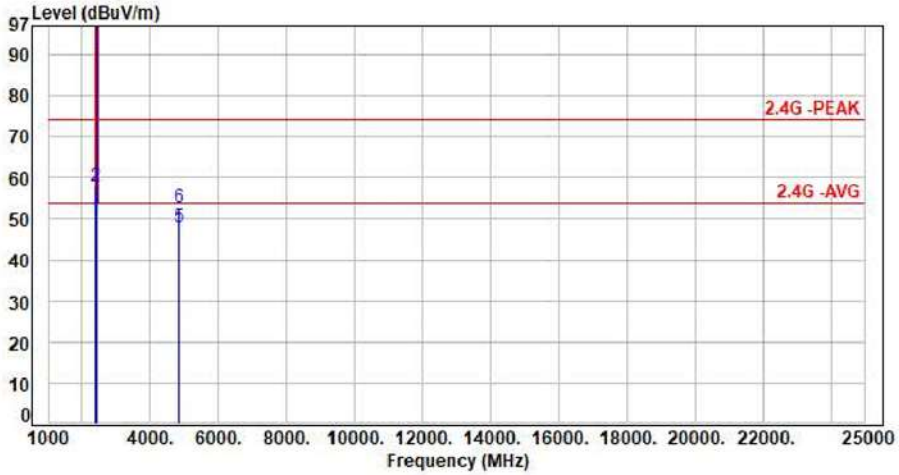
Test Mode : 2TX 11b CH01 1Mbps
Voltage : From Adapter(AC120V/60Hz)
Pol : Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.12	46.31	44.19	54.00	-9.81	Average	316	207	P
2	2390.00	-2.12	56.97	54.85	74.00	-19.15	Peak	316	207	P
3	2412.00	-2.10	105.17	103.07	200.00	-96.93	Average	316	207	P
4	2412.00	-2.10	107.75	105.65	200.00	-94.35	Peak	316	207	P
5	4824.00	6.09	37.77	43.86	54.00	-10.14	Average	188	83	P
6	4824.00	6.09	45.44	51.53	74.00	-22.47	Peak	188	83	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

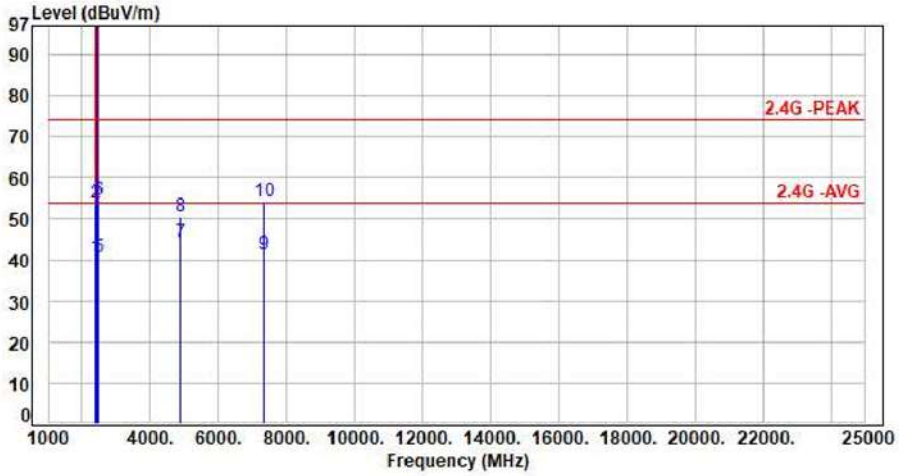
Test Mode : 2TX 11b CH01 1Mbps
Voltage : From Adapter(AC120V/60Hz)
Pol : Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.12	52.33	50.21	54.00	-3.79	Average	302	287	P
2	2390.00	-2.12	59.87	57.75	74.00	-16.25	Peak	302	287	P
3	2412.00	-2.10	110.34	108.24	200.00	-91.76	Average	302	287	P
4	2412.00	-2.10	112.85	110.75	200.00	-89.25	Peak	302	287	P
5	4824.00	6.09	41.80	47.89	54.00	-6.11	Average	111	242	P
6	4824.00	6.09	46.81	52.90	74.00	-21.10	Peak	111	242	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

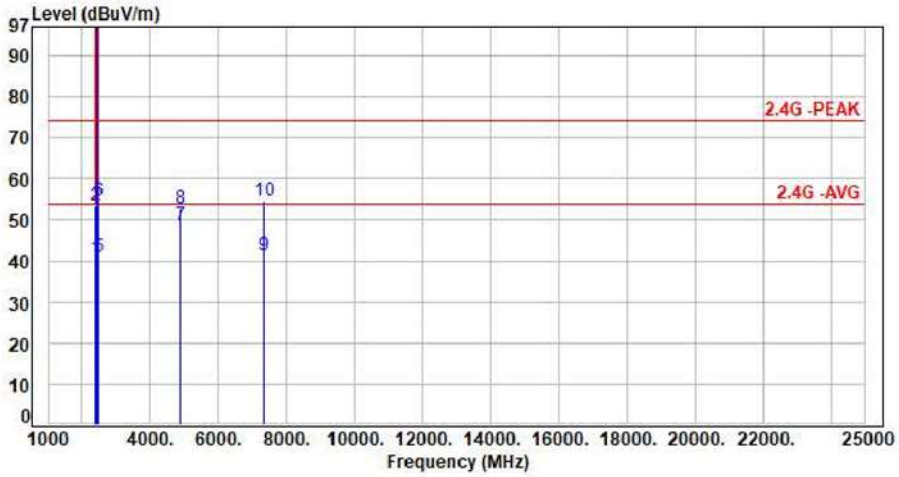
Test Mode : 2TX 11b CH06 1Mbps
Voltage : From Adapter(AC120V/60Hz)
Pol : Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.12	42.82	40.70	54.00	-13.30	Average	289	178	P
2	2390.00	-2.12	55.79	53.67	74.00	-20.33	Peak	289	178	P
3	2437.00	-2.07	103.66	101.59	200.00	-98.41	Average	289	178	P
4	2437.00	-2.07	106.10	104.03	200.00	-95.97	Peak	289	178	P
5	2483.50	-1.98	42.69	40.71	54.00	-13.29	Average	289	178	P
6	2483.50	-1.98	56.57	54.59	74.00	-19.41	Peak	289	178	P
7	4874.00	6.36	37.74	44.10	54.00	-9.90	Average	184	80	P
8	4874.00	6.36	44.07	50.43	74.00	-23.57	Peak	184	80	P
9	7311.00	11.42	29.76	41.18	54.00	-12.82	Average	100	152	P
10	7311.00	11.42	42.88	54.30	74.00	-19.70	Peak	100	152	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

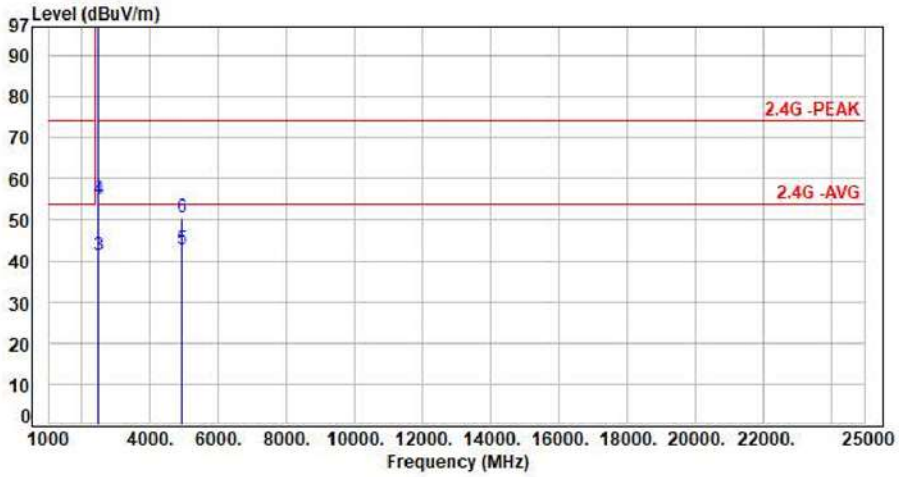
Test Mode : 2TX 11b CH06 1Mbps
Voltage : From Adapter(AC120V/60Hz)
Pol : Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.12	42.83	40.71	54.00	-13.29	Average	297	277	P
2	2390.00	-2.12	55.74	53.62	74.00	-20.38	Peak	297	277	P
3	2437.00	-2.07	106.61	104.54	200.00	-95.46	Average	297	277	P
4	2437.00	-2.07	109.26	107.19	200.00	-92.81	Peak	297	277	P
5	2483.50	-1.98	42.90	40.92	54.00	-13.08	Average	297	277	P
6	2483.50	-1.98	56.42	54.44	74.00	-19.56	Peak	297	277	P
7	4874.00	6.36	42.25	48.61	54.00	-5.39	Average	290	238	P
8	4874.00	6.36	46.53	52.89	74.00	-21.11	Peak	290	238	P
9	7311.00	11.42	29.80	41.22	54.00	-12.78	Average	100	196	P
10	7311.00	11.42	43.03	54.45	74.00	-19.55	Peak	100	196	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

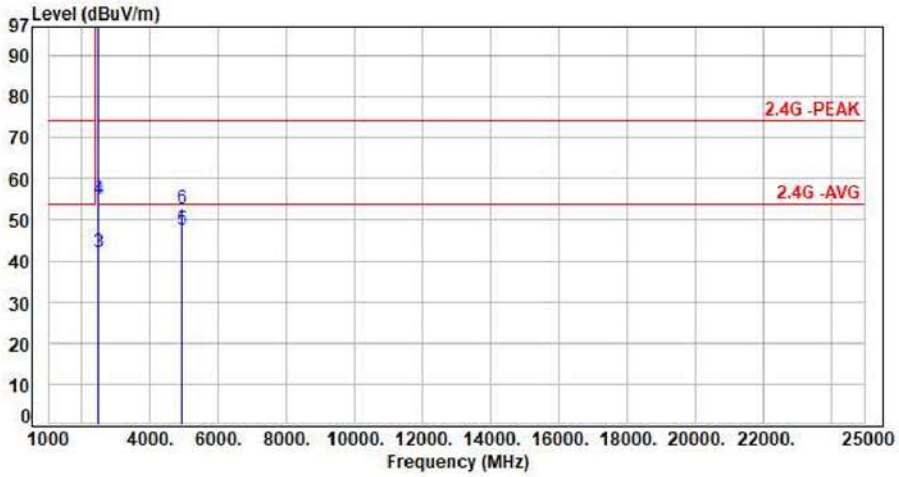
Test Mode : 2TX 11b CH11 1Mbps
Voltage : From Adapter(AC120V/60Hz)
Pol : Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2462.00	-2.02	102.48	100.46	200.00	-99.54	Average	271	174	P
2	2462.00	-2.02	105.06	103.04	200.00	-96.96	Peak	271	174	P
3	2483.50	-1.98	43.28	41.30	54.00	-12.70	Average	271	174	P
4	2483.50	-1.98	56.77	54.79	74.00	-19.21	Peak	271	174	P
5	4924.00	6.48	36.13	42.61	54.00	-11.39	Average	100	85	P
6	4924.00	6.48	44.12	50.60	74.00	-23.40	Peak	100	85	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

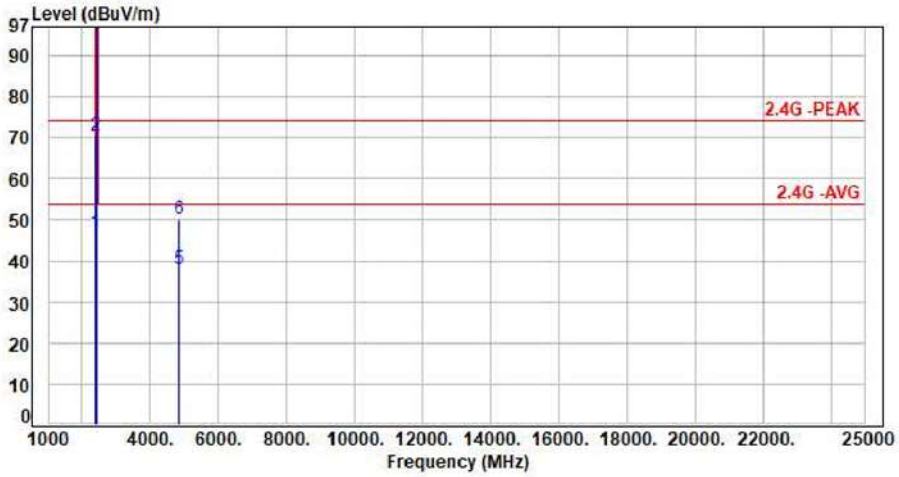
Test Mode : 2TX 11b CH11 1Mbps
Voltage : From Adapter(AC120V/60Hz)
Pol : Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2462.00	-2.02	106.26	104.24	200.00	-95.76	Average	122	284	P
2	2462.00	-2.02	108.86	106.84	200.00	-93.16	Peak	122	284	P
3	2483.50	-1.98	44.20	42.22	54.00	-11.78	Average	122	284	P
4	2483.50	-1.98	56.96	54.98	74.00	-19.02	Peak	122	284	P
5	4924.00	6.48	41.24	47.72	54.00	-6.28	Average	252	241	P
6	4924.00	6.48	46.28	52.76	74.00	-21.24	Peak	252	241	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

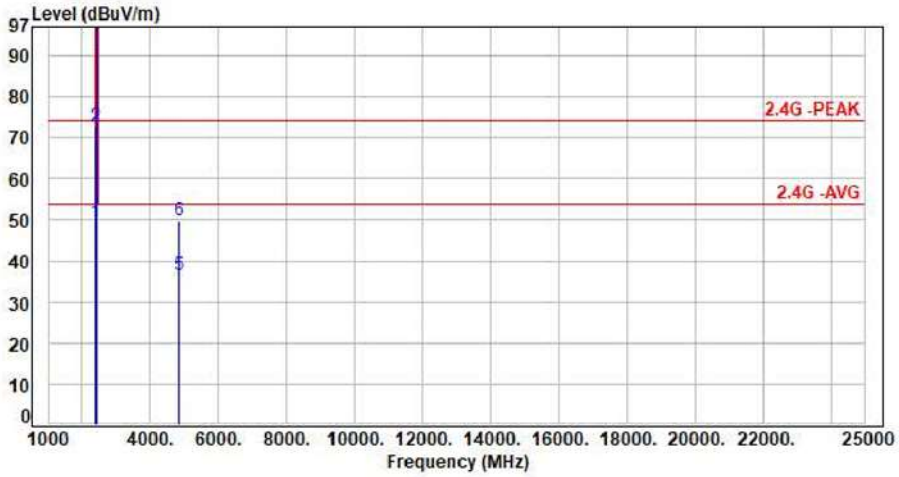
Test Mode : 2TX 11g CH01 6Mbps
Voltage : From Adapter(AC120V/60Hz)
Pol : Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.12	49.01	46.89	54.00	-7.11	Average	294	173	P
2	2390.00	-2.12	72.52	70.40	74.00	-3.60	Peak	294	173	P
3	2412.00	-2.10	101.27	99.17	200.00	-100.83	Average	294	173	P
4	2412.00	-2.10	110.97	108.87	200.00	-91.13	Peak	294	173	P
5	4824.00	6.09	31.73	37.82	54.00	-16.18	Average	288	254	P
6	4824.00	6.09	44.05	50.14	74.00	-23.86	Peak	288	254	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

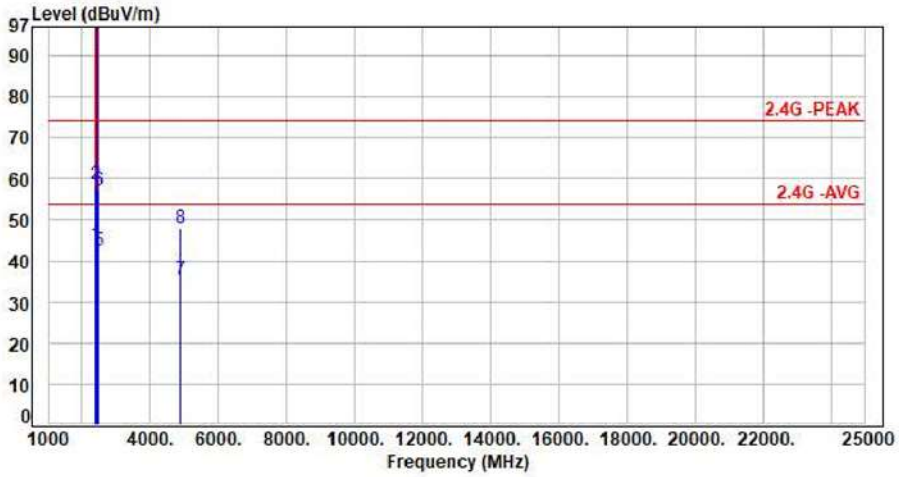
Test Mode : 2TX 11g CH01 6Mbps
Voltage : From Adapter(AC120V/60Hz)
Pol : Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.12	51.43	49.31	54.00	-4.69	Average	118	76	P
2	2390.00	-2.12	74.69	72.57	74.00	-1.43	Peak	118	76	P
3	2412.00	-2.10	103.95	101.85	200.00	-98.15	Average	118	76	P
4	2412.00	-2.10	113.42	111.32	200.00	-88.68	Peak	118	76	P
5	4824.00	6.09	30.55	36.64	54.00	-17.36	Average	225	82	P
6	4824.00	6.09	43.61	49.70	74.00	-24.30	Peak	225	82	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

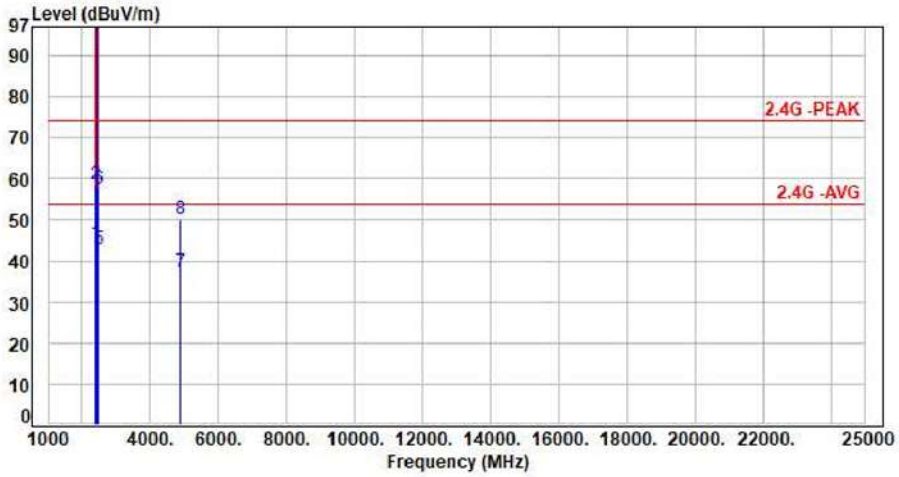
Test Mode : 2TX 11g CH06 6Mbps
Voltage : From Adapter(AC120V/60Hz)
Pol : Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.12	46.06	43.94	54.00	-10.06	Average	279	179	P
2	2390.00	-2.12	60.80	58.68	74.00	-15.32	Peak	279	179	P
3	2437.00	-2.07	100.19	98.12	200.00	-101.88	Average	279	179	P
4	2437.00	-2.07	109.66	107.59	200.00	-92.41	Peak	279	179	P
5	2483.50	-1.98	44.24	42.26	54.00	-11.74	Average	279	179	P
6	2483.50	-1.98	59.23	57.25	74.00	-16.75	Peak	279	179	P
7	4874.00	6.36	29.16	35.52	54.00	-18.48	Average	100	152	P
8	4874.00	6.36	41.60	47.96	74.00	-26.04	Peak	100	152	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

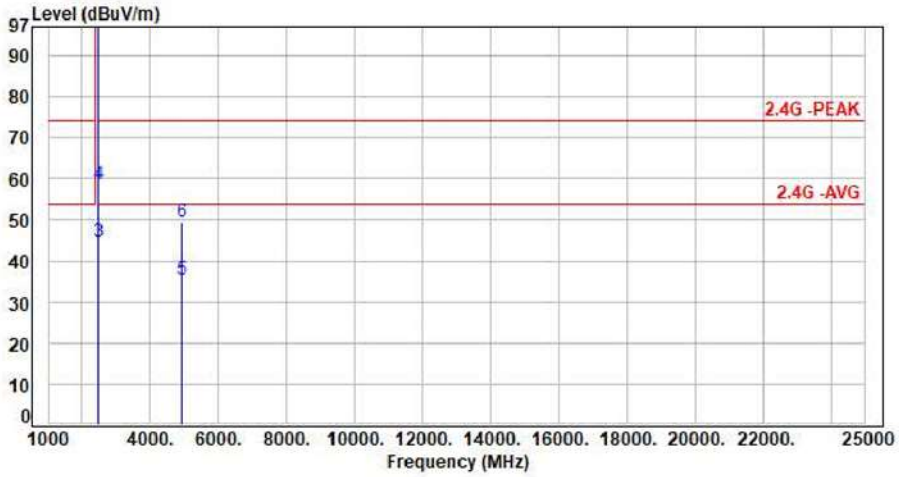
Test Mode : 2TX 11g CH06 6Mbps
Voltage : From Adapter(AC120V/60Hz)
Pol : Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.12	46.52	44.40	54.00	-9.60	Average	299	296	P
2	2390.00	-2.12	60.78	58.66	74.00	-15.34	Peak	299	296	P
3	2437.00	-2.07	100.96	98.89	200.00	-101.11	Average	299	296	P
4	2437.00	-2.07	109.68	107.61	200.00	-92.39	Peak	299	296	P
5	2483.50	-1.98	44.94	42.96	54.00	-11.04	Average	299	296	P
6	2483.50	-1.98	59.45	57.47	74.00	-16.53	Peak	299	296	P
7	4874.00	6.36	30.80	37.16	54.00	-16.84	Average	100	254	P
8	4874.00	6.36	43.66	50.02	74.00	-23.98	Peak	100	254	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

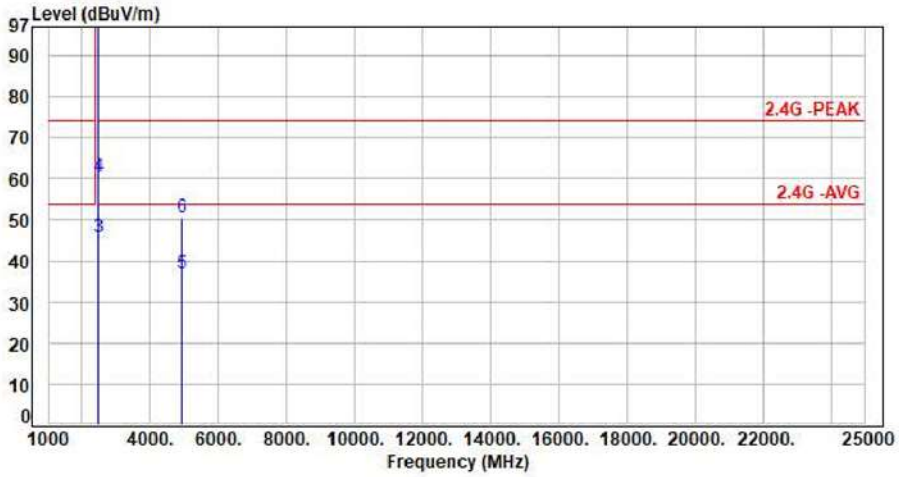
Test Mode : 2TX 11g CH11 6Mbps
Voltage : From Adapter(AC120V/60Hz)
Pol : Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2462.00	-2.02	99.09	97.07	200.00	-102.93	Average	274	171	P
2	2462.00	-2.02	108.55	106.53	200.00	-93.47	Peak	274	171	P
3	2483.50	-1.98	46.48	44.50	54.00	-9.50	Average	274	171	P
4	2483.50	-1.98	60.47	58.49	74.00	-15.51	Peak	274	171	P
5	4924.00	6.48	29.10	35.58	54.00	-18.42	Average	100	152	P
6	4924.00	6.48	42.93	49.41	74.00	-24.59	Peak	100	152	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

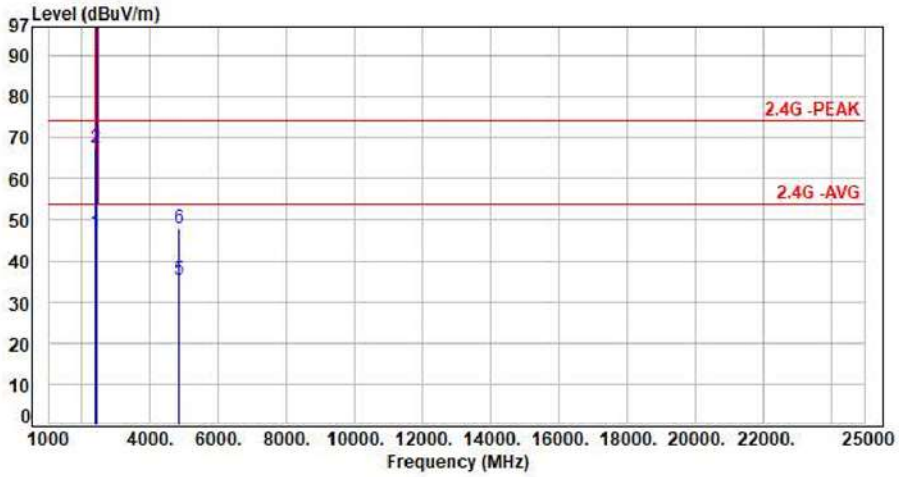
Test Mode : 2TX 11g CH11 6Mbps
Voltage : From Adapter(AC120V/60Hz)
Pol : Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2462.00	-2.02	101.56	99.54	200.00	-100.46	Average	137	80	P
2	2462.00	-2.02	111.46	109.44	200.00	-90.56	Peak	137	80	P
3	2483.50	-1.98	47.86	45.88	54.00	-8.12	Average	137	80	P
4	2483.50	-1.98	62.43	60.45	74.00	-13.55	Peak	137	80	P
5	4924.00	6.48	30.55	37.03	54.00	-16.97	Average	100	288	P
6	4924.00	6.48	43.89	50.37	74.00	-23.63	Peak	100	288	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

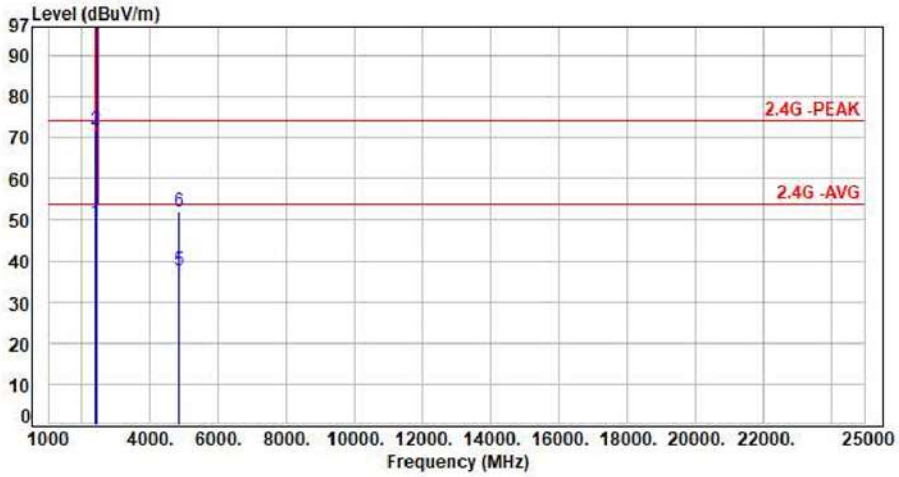
Test Mode : 2TX 11n20 CH01 MCS0
Voltage : From Adapter(AC120V/60Hz)
Pol : Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.12	49.13	47.01	54.00	-6.99	Average	290	171	P
2	2390.00	-2.12	69.67	67.55	74.00	-6.45	Peak	290	171	P
3	2412.00	-2.10	100.33	98.23	200.00	-101.77	Average	290	171	P
4	2412.00	-2.10	109.59	107.49	200.00	-92.51	Peak	290	171	P
5	4824.00	6.09	29.17	35.26	54.00	-18.74	Average	100	135	P
6	4824.00	6.09	41.81	47.90	74.00	-26.10	Peak	100	135	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

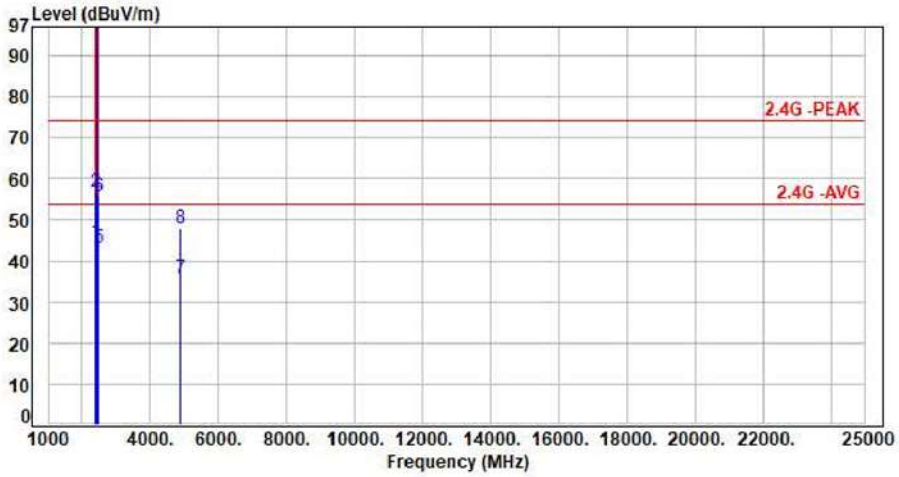
Test Mode : 2TX 11n20 CH01 MCS0
Voltage : From Adapter(AC120V/60Hz)
Pol : Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.12	51.69	49.57	54.00	-4.43	Average	122	77	P
2	2390.00	-2.12	74.19	72.07	74.00	-1.93	Peak	122	77	P
3	2412.00	-2.10	102.23	100.13	200.00	-99.87	Average	122	77	P
4	2412.00	-2.10	112.47	110.37	200.00	-89.63	Peak	122	77	P
5	4824.00	6.09	31.47	37.56	54.00	-16.44	Average	100	240	P
6	4824.00	6.09	45.97	52.06	74.00	-21.94	Peak	100	240	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

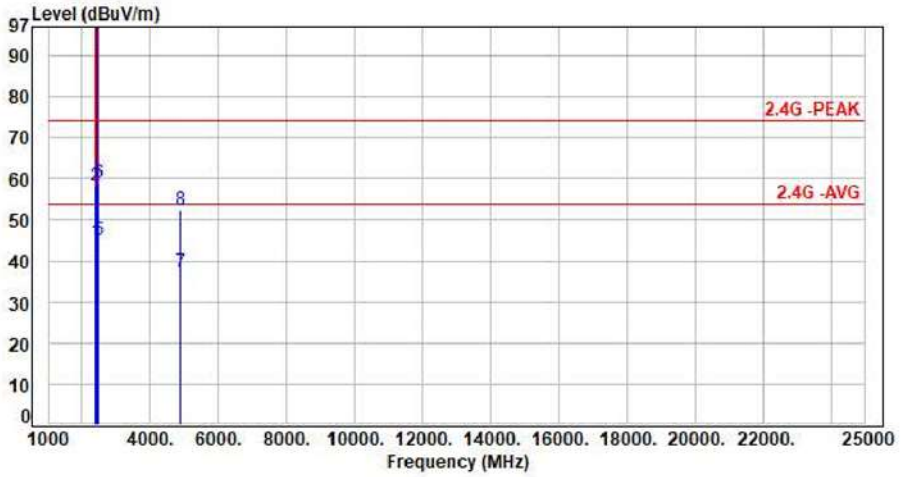
Test Mode : 2TX 11n20 CH06 MCS0
Voltage : From Adapter(AC120V/60Hz)
Pol : Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.12	46.75	44.63	54.00	-9.37	Average	281	174	P
2	2390.00	-2.12	58.79	56.67	74.00	-17.33	Peak	281	174	P
3	2437.00	-2.07	99.68	97.61	200.00	-102.39	Average	281	174	P
4	2437.00	-2.07	109.24	107.17	200.00	-92.83	Peak	281	174	P
5	2483.50	-1.98	45.11	43.13	54.00	-10.87	Average	281	174	P
6	2483.50	-1.98	57.74	55.76	74.00	-18.24	Peak	281	174	P
7	4874.00	6.36	29.27	35.63	54.00	-18.37	Average	10	135	P
8	4874.00	6.36	41.74	48.10	74.00	-25.90	Peak	10	135	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

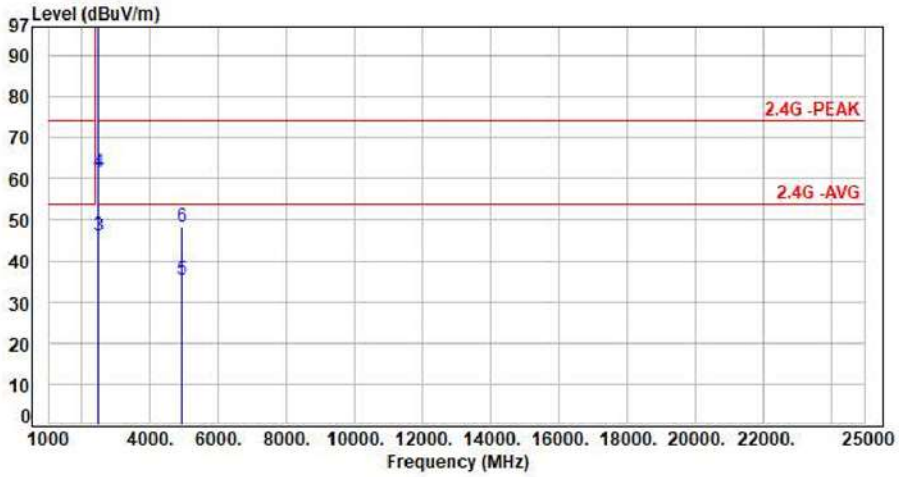
Test Mode : 2TX 11n20 CH06 MCS0
Voltage : From Adapter(AC120V/60Hz)
Pol : Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.12	46.89	44.77	54.00	-9.23	Average	100	285	P
2	2390.00	-2.12	60.22	58.10	74.00	-15.90	Peak	100	285	P
3	2437.00	-2.07	101.56	99.49	200.00	-100.51	Average	100	285	P
4	2437.00	-2.07	111.21	109.14	200.00	-90.86	Peak	100	285	P
5	2483.50	-1.98	46.96	44.98	54.00	-9.02	Average	100	285	P
6	2483.50	-1.98	61.15	59.17	74.00	-14.83	Peak	100	285	P
7	4874.00	6.36	30.76	37.12	54.00	-16.88	Average	100	242	P
8	4874.00	6.36	46.19	52.55	74.00	-21.45	Peak	100	242	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

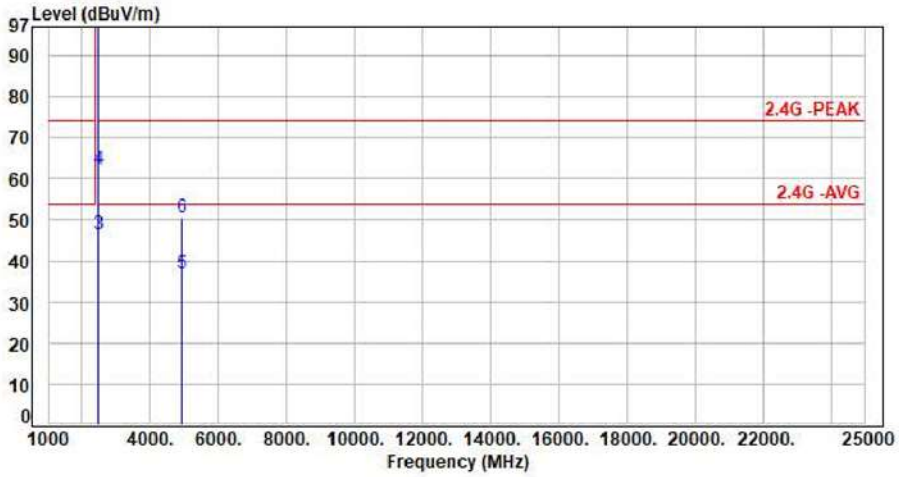
Test Mode : 2TX 11n20 CH11 MCS0
Voltage : From Adapter(AC120V/60Hz)
Pol : Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2462.00	-2.02	98.71	96.69	200.00	-103.31	Average	275	169	P
2	2462.00	-2.02	108.42	106.40	200.00	-93.60	Peak	275	169	P
3	2483.50	-1.98	48.01	46.03	54.00	-7.97	Average	275	169	P
4	2483.50	-1.98	63.50	61.52	74.00	-12.48	Peak	275	169	P
5	4924.00	6.48	29.10	35.58	54.00	-18.42	Average	100	152	P
6	4924.00	6.48	41.82	48.30	74.00	-25.70	Peak	100	152	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

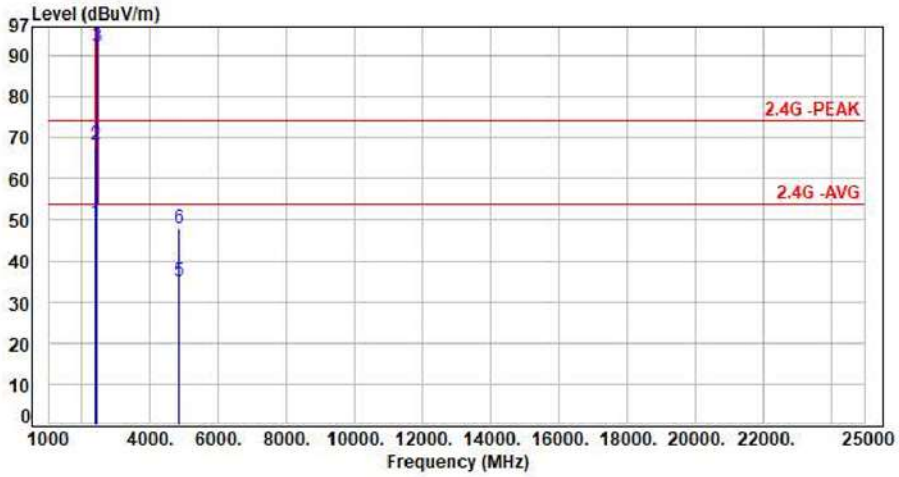
Test Mode : 2TX 11n20 CH11 MCS0
Voltage : From Adapter(AC120V/60Hz)
Pol : Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2462.00	-2.02	99.93	97.91	200.00	-102.09	Average	294	288	P
2	2462.00	-2.02	109.64	107.62	200.00	-92.38	Peak	294	288	P
3	2483.50	-1.98	48.47	46.49	54.00	-7.51	Average	294	288	P
4	2483.50	-1.98	64.29	62.31	74.00	-11.69	Peak	294	288	P
5	4924.00	6.48	30.26	36.74	54.00	-17.26	Average	100	223	P
6	4924.00	6.48	44.09	50.57	74.00	-23.43	Peak	100	223	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

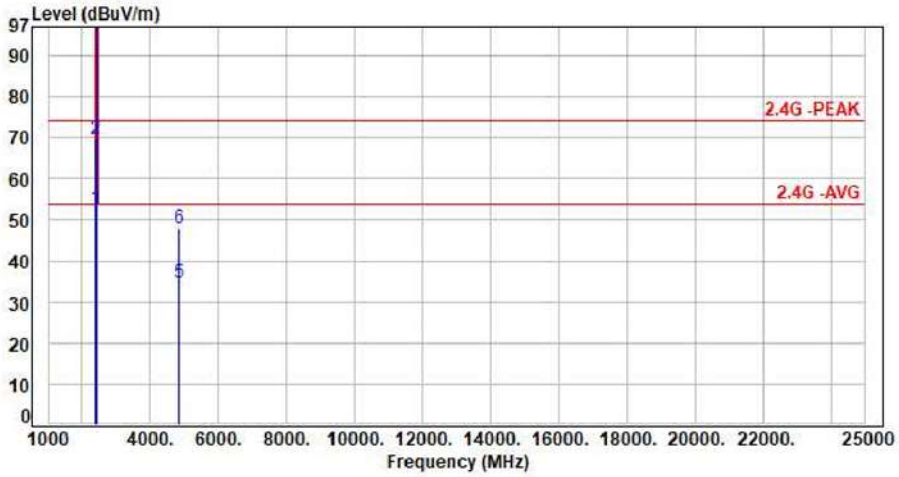
Test Mode : 2TX 11n40 CH03 MCS0
Voltage : From Adapter(AC120V/60Hz)
Pol : Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.12	51.48	49.36	54.00	-4.64	Average	289	170	P
2	2390.00	-2.12	70.36	68.24	74.00	-5.76	Peak	289	170	P
3	2422.00	-2.08	94.32	92.24	200.00	-107.76	Average	289	170	P
4	2422.00	-2.08	106.60	104.52	200.00	-95.48	Peak	289	170	P
5	4844.00	6.23	28.69	34.92	54.00	-19.08	Average	100	121	P
6	4844.00	6.23	41.85	48.08	74.00	-25.92	Peak	100	121	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

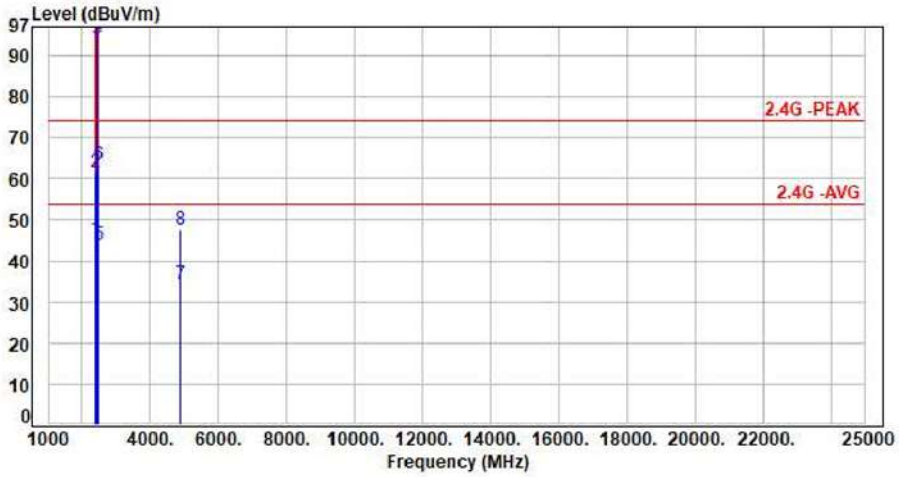
Test Mode : 2TX 11n40 CH03 MCS0
Voltage : From Adapter(AC120V/60Hz)
Pol : Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.12	54.69	52.57	54.00	-1.43	Average	142	76	P
2	2390.00	-2.12	71.81	69.69	74.00	-4.31	Peak	142	76	P
3	2422.00	-2.08	98.95	96.87	200.00	-103.13	Average	142	76	P
4	2422.00	-2.08	108.40	106.32	200.00	-93.68	Peak	142	76	P
5	4844.00	6.23	28.57	34.80	54.00	-19.20	Average	100	132	P
6	4844.00	6.23	41.76	47.99	74.00	-26.01	Peak	100	132	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

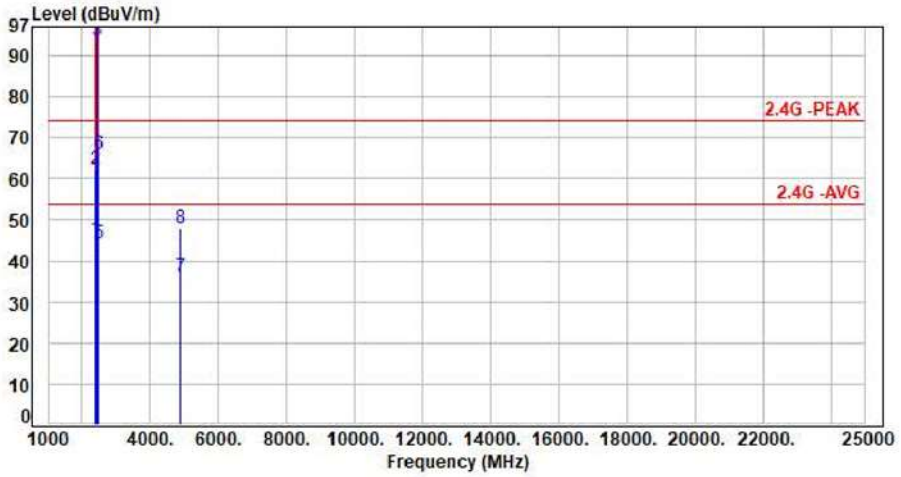
Test Mode : 2TX 11n40 CH06 MCS0
Voltage : From Adapter(AC120V/60Hz)
Pol : Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.12	47.40	45.28	54.00	-8.72	Average	293	174	P
2	2390.00	-2.12	63.80	61.68	74.00	-12.32	Peak	293	174	P
3	2437.00	-2.07	96.07	94.00	200.00	-106.00	Average	293	174	P
4	2437.00	-2.07	105.22	103.15	200.00	-96.85	Peak	293	174	P
5	2483.50	-1.98	45.86	43.88	54.00	-10.12	Average	293	174	P
6	2483.50	-1.98	65.60	63.62	74.00	-10.38	Peak	293	174	P
7	4874.00	6.36	28.07	34.43	54.00	-19.57	Average	100	142	P
8	4874.00	6.36	41.31	47.67	74.00	-26.33	Peak	100	142	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

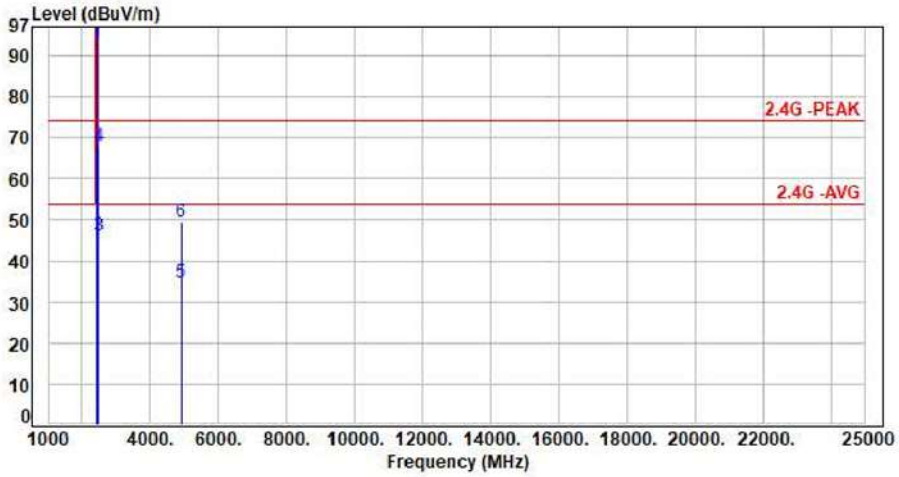
Test Mode : 2TX 11n40 CH06 MCS0
Voltage : From Adapter(AC120V/60Hz)
Pol : Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.12	47.37	45.25	54.00	-8.75	Average	333	294	P
2	2390.00	-2.12	64.34	62.22	74.00	-11.78	Peak	333	294	P
3	2437.00	-2.07	95.83	93.76	200.00	-106.24	Average	333	294	P
4	2437.00	-2.07	107.16	105.09	200.00	-94.91	Peak	333	294	P
5	2483.50	-1.98	46.27	44.29	54.00	-9.71	Average	333	294	P
6	2483.50	-1.98	67.93	65.95	74.00	-8.05	Peak	333	294	P
7	4874.00	6.36	29.74	36.10	54.00	-17.90	Average	100	121	P
8	4874.00	6.36	41.57	47.93	74.00	-26.07	Peak	100	121	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

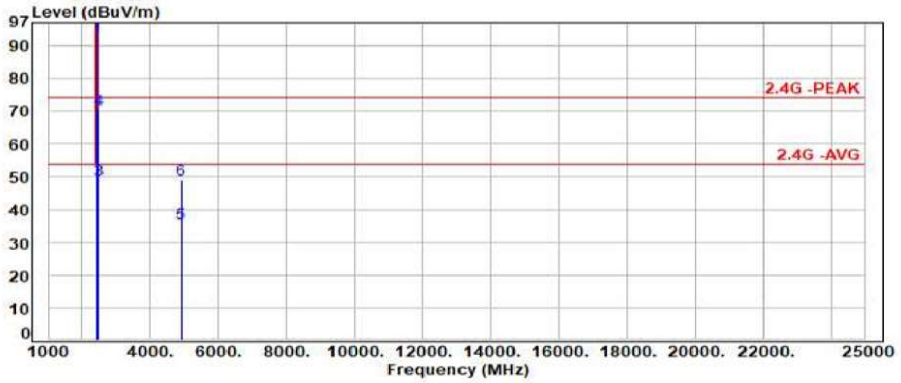
Test Mode : 2TX 11n40 CH09 MCS0
Voltage : From Adapter(AC120V/60Hz)
Pol : Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2452.00	-2.05	95.44	93.39	200.00	-106.61	Average	269	171	P
2	2452.00	-2.05	105.36	103.31	200.00	-96.69	Peak	269	171	P
3	2483.50	-1.98	48.02	46.04	54.00	-7.96	Average	269	171	P
4	2483.50	-1.98	69.97	67.99	74.00	-6.01	Peak	269	171	P
5	4904.00	6.46	28.13	34.59	54.00	-19.41	Average	100	162	P
6	4904.00	6.46	42.83	49.29	74.00	-24.71	Peak	100	162	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Test Mode : 2TX 11n40 CH09 MCS0
Voltage : From Adapter(AC120V/60Hz)
Pol : Horizontal

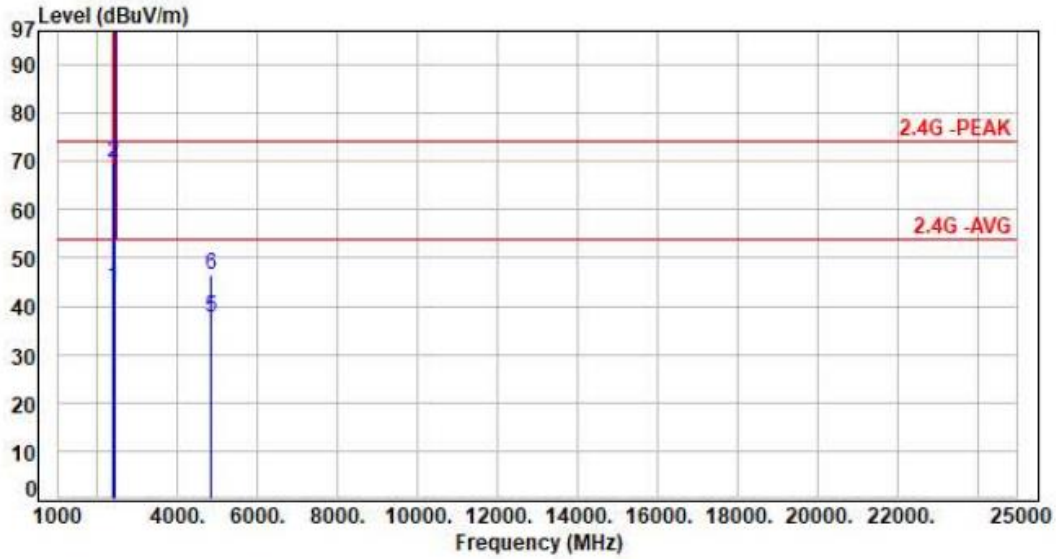


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2452.00	-2.05	95.54	93.49	200.00	-106.51	Average	148	80	P
2	2452.00	-2.05	107.28	105.23	200.00	-94.77	Peak	148	80	P
3	2483.50	-1.98	51.14	49.16	54.00	-4.84	Average	148	80	P
4	2483.50	-1.98	72.35	70.37	74.00	-3.63	Peak	148	80	P
5	4904.00	6.46	29.29	35.75	54.00	-18.25	Average	100	125	P
6	4904.00	6.46	42.66	49.12	74.00	-24.88	Peak	100	125	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

For 802.11ax add test

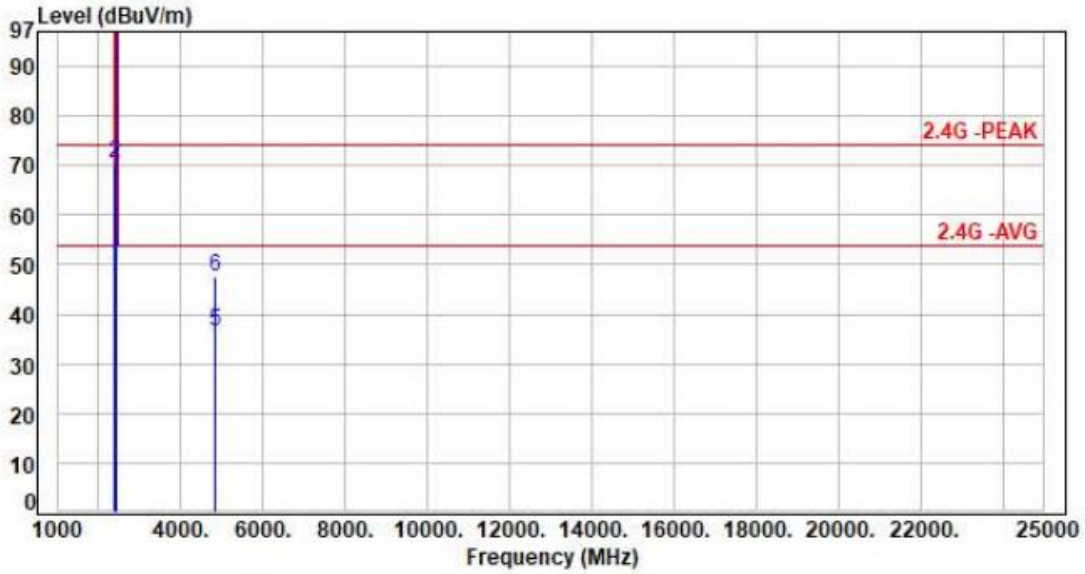
Test Mode : 2TX 11ax20 CH01 NSS1 MCS0
Voltage : From Adapter(AC120V/60Hz)
Pol : Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.33	46.33	44.00	54.00	-10.00	Average	338	36	P
2	2390.00	-2.33	71.86	69.53	74.00	-4.47	Peak	338	36	P
3	2412.00	-2.29	98.26	95.97	200.00	-104.03	Average	338	36	P
4	2412.00	-2.29	110.94	108.65	200.00	-91.35	Peak	338	36	P
5	4824.00	5.95	31.51	37.46	54.00	-16.54	Average	100	216	P
6	4824.00	5.95	40.52	46.47	74.00	-27.53	Peak	100	216	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

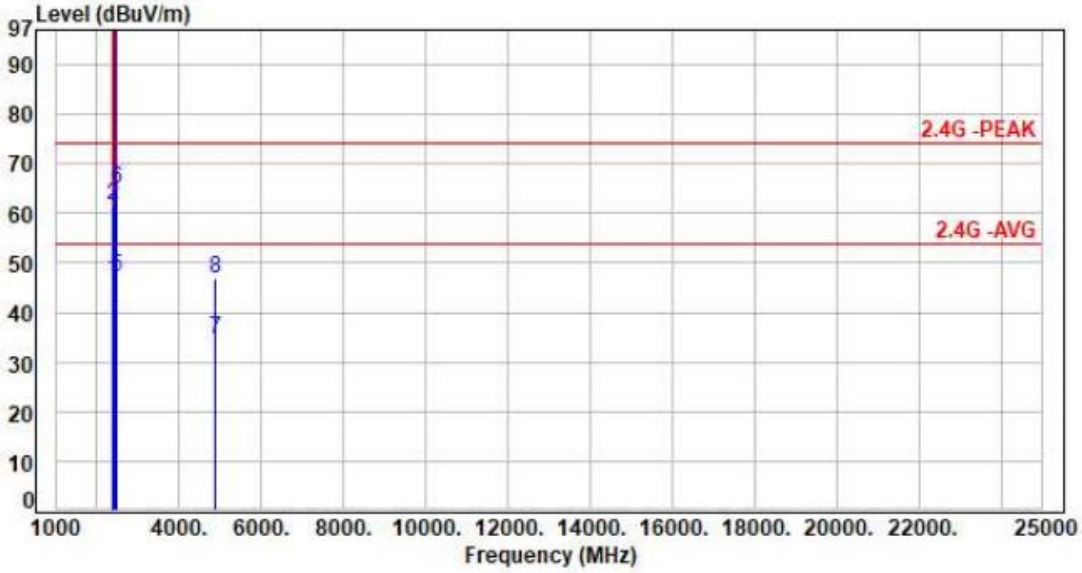
Test Mode : 2TX 11ax20 CH01 NSS1 MCS0
Voltage : From Adapter(AC120V/60Hz)
Pol : Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.33	52.42	50.09	54.00	-3.91	Average	332	270	P
2	2390.00	-2.33	72.87	70.54	74.00	-3.46	Peak	332	270	P
3	2412.00	-2.29	101.73	99.44	200.00	-100.56	Average	332	270	P
4	2412.00	-2.29	113.90	111.61	200.00	-88.39	Peak	332	270	P
5	4824.00	5.95	30.48	36.43	54.00	-17.57	Average	100	318	P
6	4824.00	5.95	41.48	47.43	74.00	-26.57	Peak	100	318	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

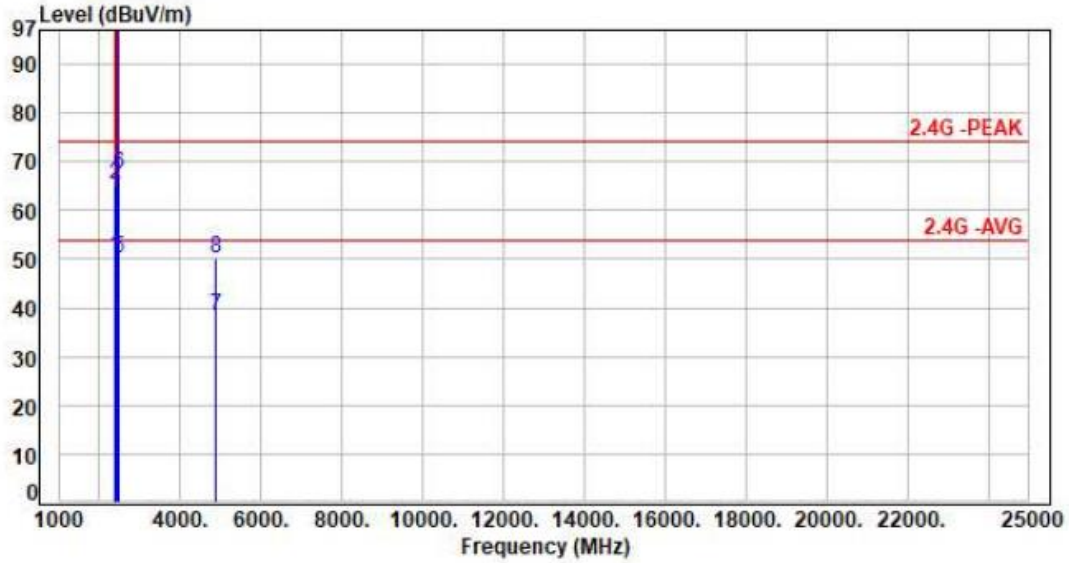
Test Mode : 2TX 11ax20 CH06 NSS1 MCS0
Voltage : From Adapter(AC120V/60Hz)
Pol : Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.33	48.89	46.56	54.00	-7.44	Average	329	24	P
2	2390.00	-2.33	64.03	61.70	74.00	-12.30	Peak	329	24	P
3	2437.00	-2.17	102.66	100.49	200.00	-99.51	Average	329	24	P
4	2437.00	-2.17	115.65	113.48	200.00	-86.52	Peak	329	24	P
5	2483.50	-2.01	49.15	47.14	54.00	-6.86	Average	329	24	P
6	2483.50	-2.01	67.04	65.03	74.00	-8.97	Peak	329	24	P
7	4874.00	6.10	28.62	34.72	54.00	-19.28	Average	100	215	P
8	4874.00	6.10	40.85	46.95	74.00	-27.05	Peak	100	215	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

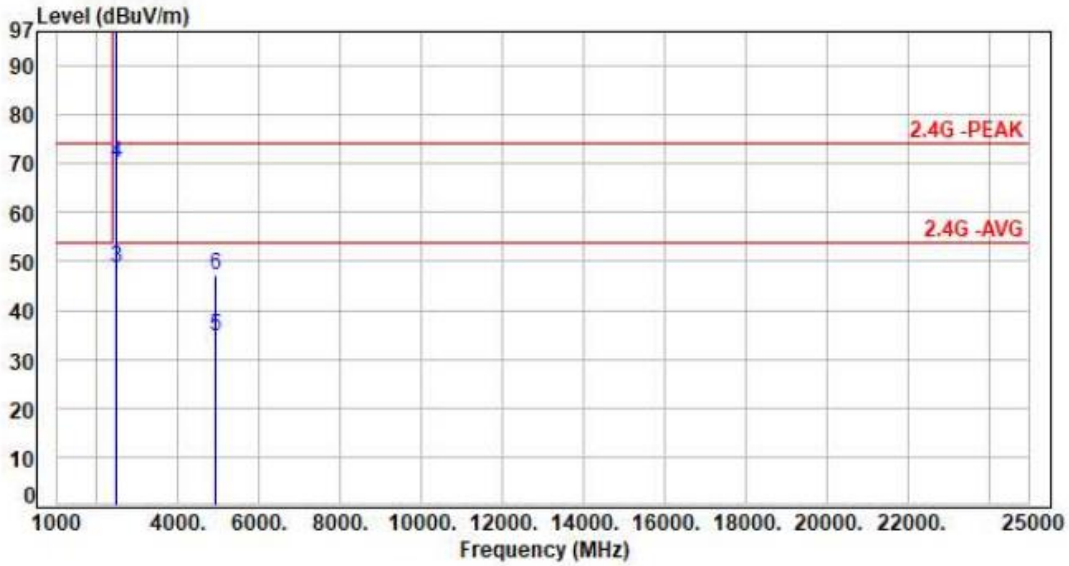
Test Mode : 2TX 11ax20 CH06 NSS1 MCS0
Voltage : From Adapter(AC120V/60Hz)
Pol : Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.33	52.83	50.50	54.00	-3.50	Average	324	284	P
2	2390.00	-2.33	67.52	65.19	74.00	-8.81	Peak	324	284	P
3	2437.00	-2.17	105.09	102.92	200.00	-97.08	Average	324	284	P
4	2437.00	-2.17	117.55	115.38	200.00	-84.62	Peak	324	284	P
5	2483.50	-2.01	52.25	50.24	54.00	-3.76	Average	324	284	P
6	2483.50	-2.01	69.55	67.54	74.00	-6.46	Peak	324	284	P
7	4874.00	6.10	32.36	38.46	54.00	-15.54	Average	100	311	P
8	4874.00	6.10	44.21	50.31	74.00	-23.69	Peak	100	311	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

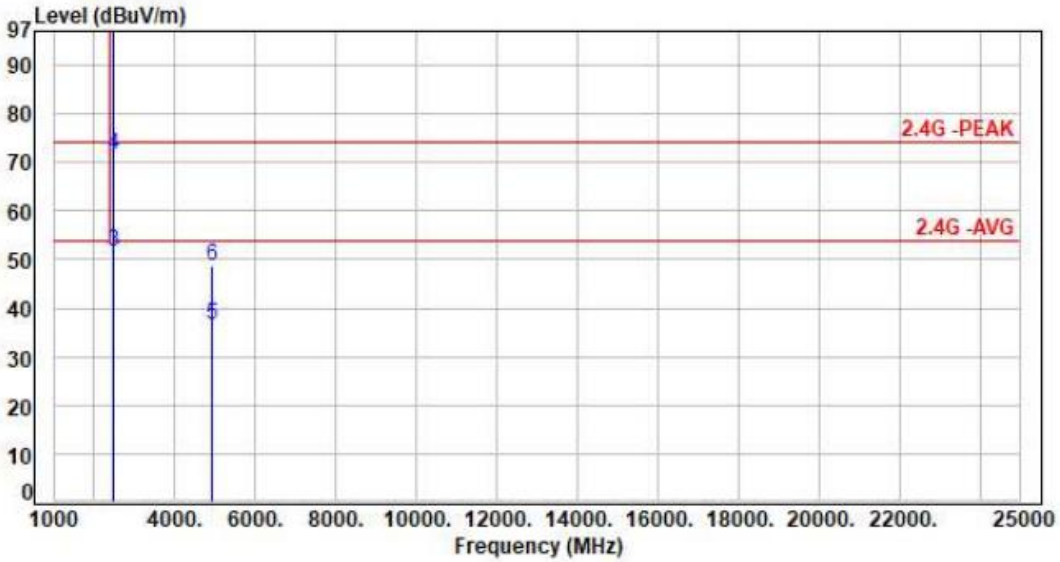
Test Mode : 2TX 11ax20 CH11 NSS1 MCS0
Voltage : From Adapter(AC120V/60Hz)
Pol : Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2462.00	-2.04	98.91	96.87	200.00	-103.13	Average	318	25	P
2	2462.00	-2.04	111.48	109.44	200.00	-90.56	Peak	318	25	P
3	2483.50	-2.01	50.81	48.80	54.00	-5.20	Average	318	25	P
4	2483.50	-2.01	71.93	69.92	74.00	-4.08	Peak	318	25	P
5	4924.00	6.26	28.33	34.59	54.00	-19.41	Average	100	211	P
6	4924.00	6.26	41.10	47.36	74.00	-26.64	Peak	100	211	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

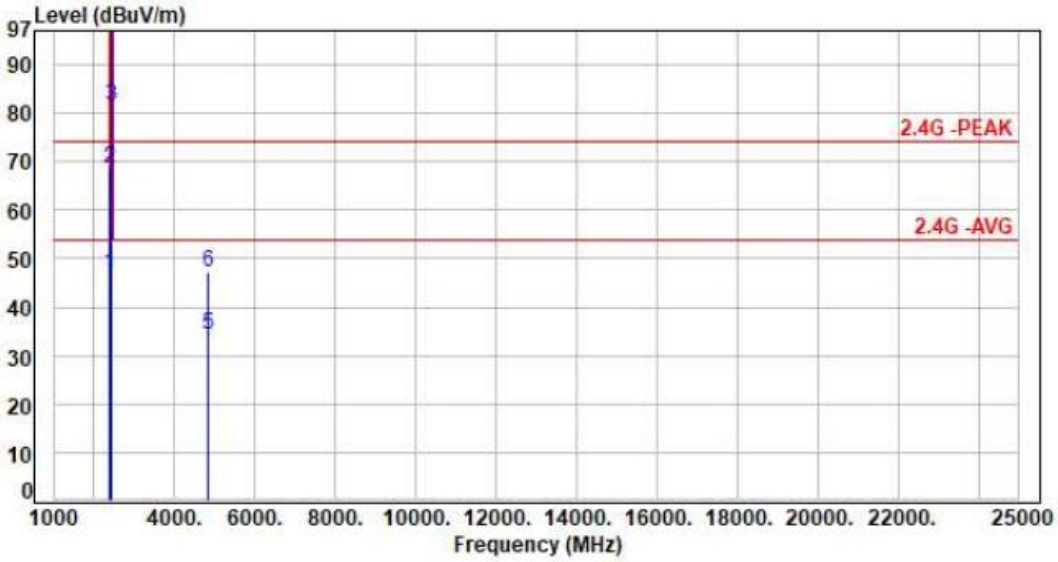
Test Mode : 2TX 11ax20 CH11 NSS1 MCS0
Voltage : From Adapter(AC120V/60Hz)
Pol : Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2462.00	-2.04	101.33	99.29	200.00	-100.71	Average	288	267	P
2	2462.00	-2.04	112.97	110.93	200.00	-89.07	Peak	288	267	P
3	2483.50	-2.01	53.47	51.46	54.00	-2.54	Average	288	267	P
4	2483.50	-2.01	73.45	71.44	74.00	-2.56	Peak	288	267	P
5	4924.00	6.26	30.38	36.64	54.00	-17.36	Average	100	316	P
6	4924.00	6.26	42.54	48.80	74.00	-25.20	Peak	100	316	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

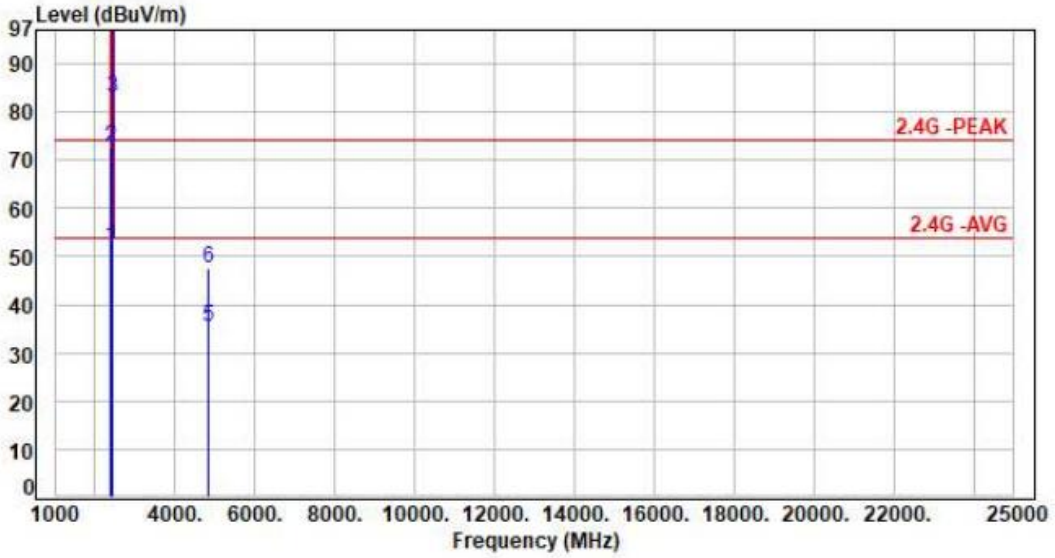
Test Mode : 2TX 11ax40 CH03 NSS1 MCS0
Voltage : From Adapter(AC120V/60Hz)
Pol : Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.33	49.31	46.98	54.00	-7.02	Average	288	37	P
2	2390.00	-2.33	70.77	68.44	74.00	-5.56	Peak	288	37	P
3	2422.00	-2.19	83.52	81.33	200.00	-118.67	Average	288	37	P
4	2422.00	-2.19	105.85	103.66	200.00	-96.34	Peak	288	37	P
5	4844.00	6.01	28.18	34.19	54.00	-19.81	Average	100	219	P
6	4844.00	6.01	41.28	47.29	74.00	-26.71	Peak	100	219	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

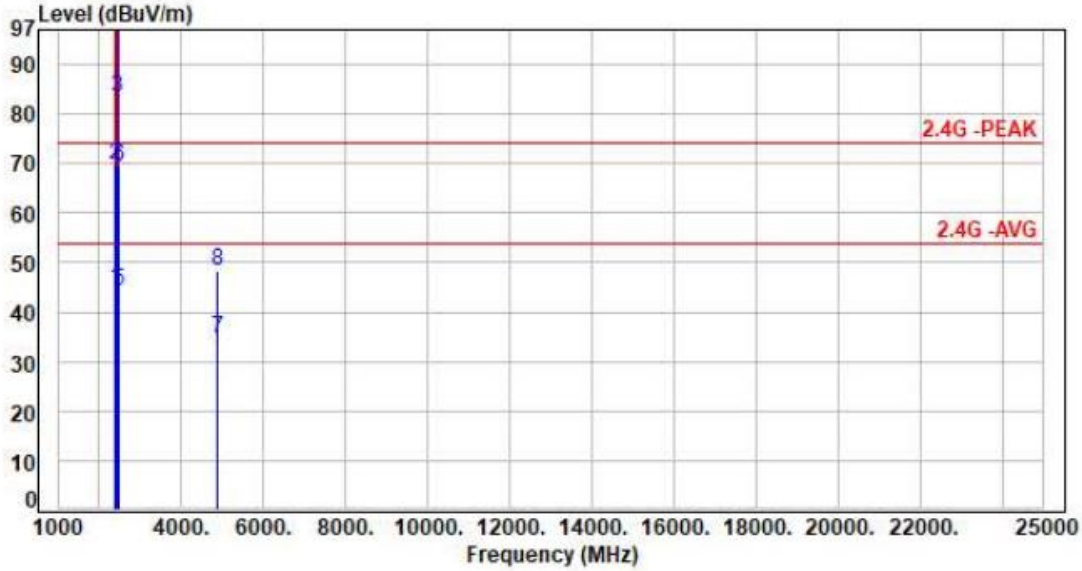
Test Mode : 2TX 11ax40 CH03 NSS1 MCS0
Voltage : From Adapter(AC120V/60Hz)
Pol : Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.33	54.37	52.04	54.00	-1.96	Average	297	269	P
2	2390.00	-2.33	75.12	72.79	74.00	-1.21	Peak	297	269	P
3	2422.00	-2.19	85.20	83.01	200.00	-116.99	Average	297	269	P
4	2422.00	-2.19	111.63	109.44	200.00	-90.56	Peak	297	269	P
5	4844.00	6.01	29.45	35.46	54.00	-18.54	Average	100	315	P
6	4844.00	6.01	41.63	47.64	74.00	-26.36	Peak	100	315	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

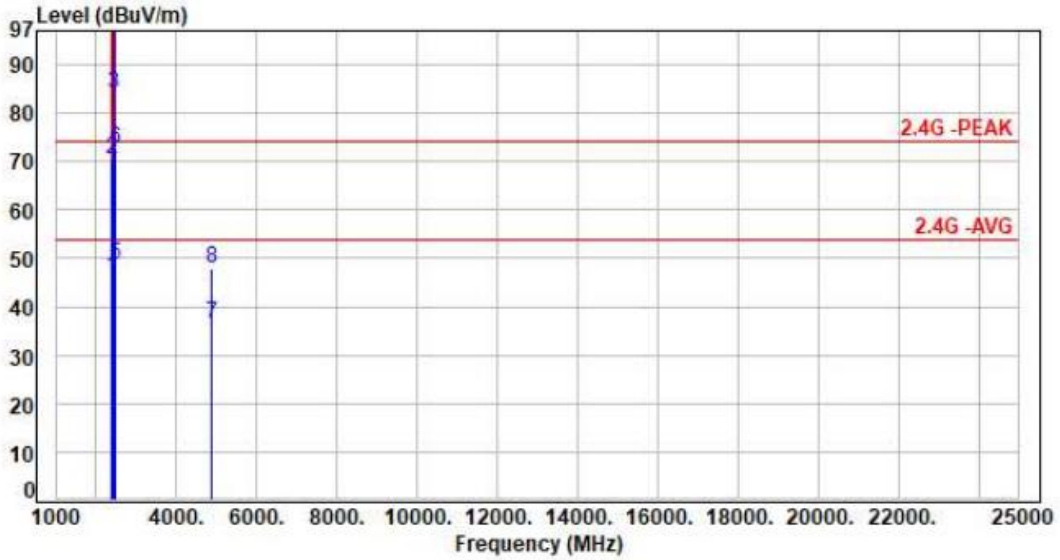
Test Mode : 2TX 11ax40 CH06 NSS1 MCS0
Voltage : From Adapter(AC120V/60Hz)
Pol : Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.33	46.82	44.49	54.00	-9.51	Average	375	24	P
2	2390.00	-2.33	72.16	69.83	74.00	-4.17	Peak	375	24	P
3	2437.00	-2.17	85.56	83.39	200.00	-116.61	Average	375	24	P
4	2437.00	-2.17	108.62	106.45	200.00	-93.55	Peak	375	24	P
5	2483.50	-2.01	46.18	44.17	54.00	-9.83	Average	375	24	P
6	2483.50	-2.01	71.26	69.25	74.00	-4.75	Peak	375	24	P
7	4874.00	6.10	28.61	34.71	54.00	-19.29	Average	100	218	P
8	4874.00	6.10	42.39	48.49	74.00	-25.51	Peak	100	218	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

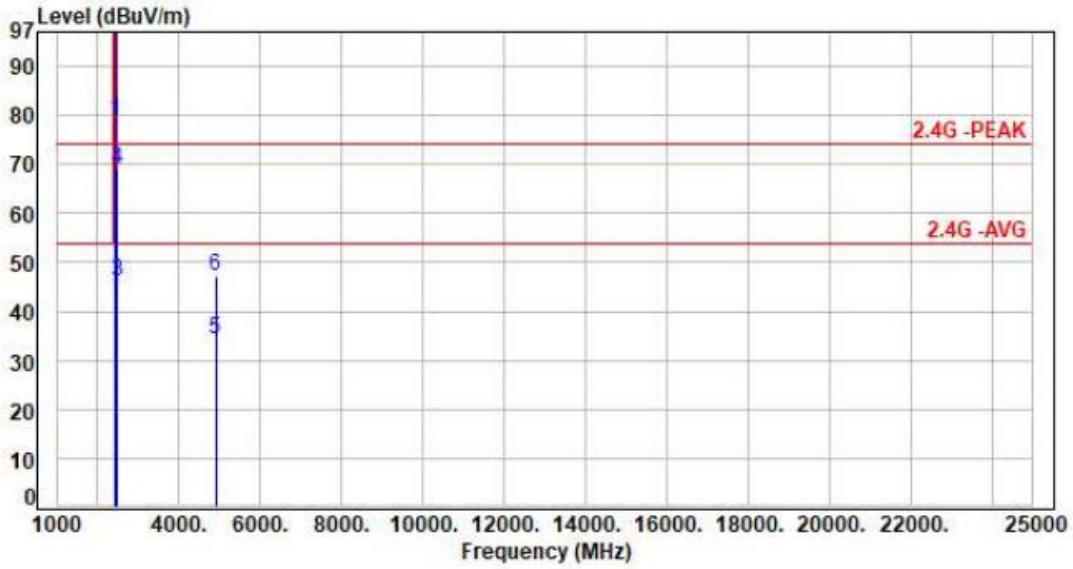
Test Mode : 2TX 11ax40 CH06 NSS1 MCS0
Voltage : From Adapter(AC120V/60Hz)
Pol : Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.33	48.40	46.07	54.00	-7.93	Average	321	284	P
2	2390.00	-2.33	72.85	70.52	74.00	-3.48	Peak	321	284	P
3	2437.00	-2.17	86.25	84.08	200.00	-115.92	Average	321	284	P
4	2437.00	-2.17	112.45	110.28	200.00	-89.72	Peak	321	284	P
5	2483.50	-2.01	50.85	48.84	54.00	-5.16	Average	321	284	P
6	2483.50	-2.01	74.64	72.63	74.00	-1.37	Peak	321	284	P
7	4874.00	6.10	30.40	36.50	54.00	-17.50	Average	100	315	P
8	4874.00	6.10	41.86	47.96	74.00	-26.04	Peak	100	315	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

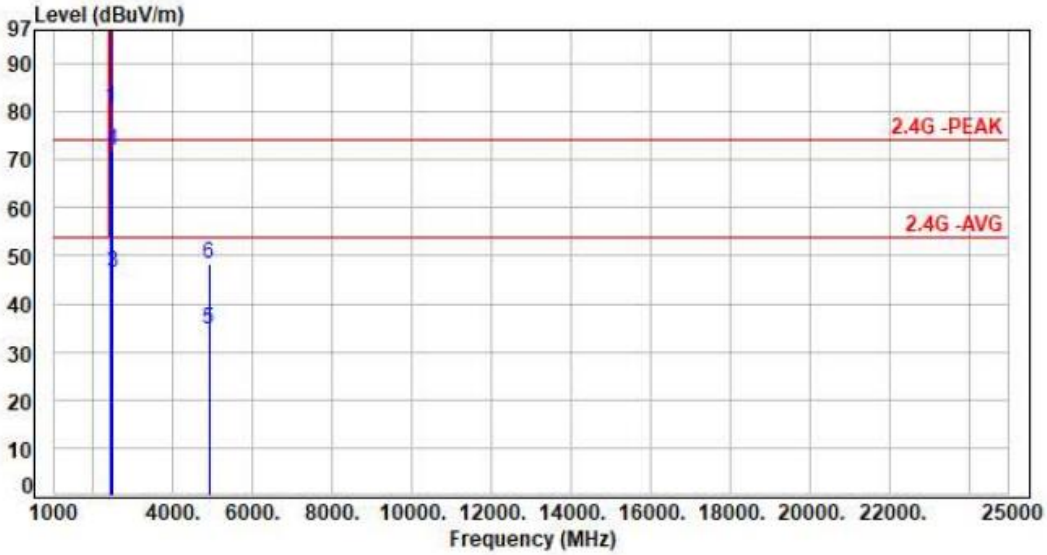
Test Mode : 2TX 11ax40 CH09 NSS1 MCS0
Voltage : From Adapter(AC120V/60Hz)
Pol : Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2452.00	-2.13	81.07	78.94	200.00	-121.06	Average	318	25	P
2	2452.00	-2.13	105.49	103.36	200.00	-96.64	Peak	318	25	P
3	2483.50	-2.01	48.11	46.10	54.00	-7.90	Average	318	25	P
4	2483.50	-2.01	71.02	69.01	74.00	-4.99	Peak	318	25	P
5	4904.00	6.20	28.25	34.45	54.00	-19.55	Average	100	220	P
6	4904.00	6.20	41.14	47.34	74.00	-26.66	Peak	100	220	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Test Mode : 2TX 11ax40 CH09 NSS1 MCS0
Voltage : From Adapter(AC120V/60Hz)
Pol : Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2452.00	-2.13	83.04	80.91	200.00	-119.09	Average	289	284	P
2	2452.00	-2.13	105.58	103.45	200.00	-96.55	Peak	289	284	P
3	2483.50	-2.01	48.50	46.49	54.00	-7.51	Average	289	284	P
4	2483.50	-2.01	73.89	71.88	74.00	-2.12	Peak	289	284	P
5	4904.00	6.20	28.34	34.54	54.00	-19.46	Average	100	313	P
6	4904.00	6.20	42.28	48.48	74.00	-25.52	Peak	100	313	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

6.7 Restricted Bands of Operation

Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.09000 – 0.11000	16.42000 – 16.42300	399.9 – 410.0	4.500 – 5.250
0.49500 – 0.505**	16.69475 – 16.69525	608.0 – 614.0	5.350 – 5.460
2.17350 – 2.19050	16.80425 – 16.80475	960.0 – 1240.0	7.250 – 7.750
4.12500 – 4.12800	25.50000 – 25.67000	1300.0 – 1427.0	8.025 – 8.500
4.17725 – 4.17775	37.50000 – 38.25000	1435.0 – 1626.5	9.000 – 9.200
4.20725 – 4.20775	73.00000 – 74.60000	1645.5 – 1646.5	9.300 – 9.500
6.21500 – 6.21800	74.80000 – 75.20000	1660.0 – 1710.0	10.600 – 12.700
6.26775 – 6.26825	108.00000 – 121.94000	1718.8 – 1722.2	13.250 – 13.400
6.31175 – 6.31225	123.00000 – 138.00000	2200.0 – 2300.0	14.470 – 14.500
8.29100 – 8.29400	149.90000 – 150.05000	2310.0 – 2390.0	15.350 – 16.200
8.36200 – 8.36600	156.52475 – 156.52525	2483.5 – 2500.0	17.700 – 21.400
8.37625 – 8.38675	156.70000 – 156.90000	2655.0 – 2900.0	22.010 – 23.120
8.41425 – 8.41475	162.01250 – 167.17000	3260.0 – 3267.0	23.600 – 24.000
12.29000 – 12.29300	167.72000 – 173.20000	3332.0 – 3339.0	31.200 – 31.800
12.51975 – 12.52025	240.00000 – 285.00000	3345.8 – 3358.0	36.430 – 36.500
12.57675 – 12.57725	322.00000 – 335.40000	3600.0 – 4400.0	Above 38.6
13.36000 – 13.41000			

**: Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

7. Test of Conducted Spurious Emission

7.1 Test Limit

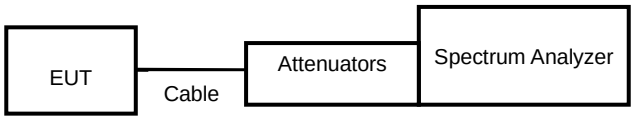
According to the methods defined in ANSI C63.10-2013 Section 11.11.1
Below –30dB of the highest emission level of operating band (In 100 kHz Resolution Bandwidth)

7.2 Test Procedure

According to the methods defined in ANSI C63.10-2013 Section 11.11.2 & 11.11.3

a. The transmitter output was connected to the spectrum analyzer via a low loss cable.
b. Set RBW of spectrum analyzer to 100 KHz and VBW of spectrum analyzer to 300 KHz with convenient frequency span including 100 KHz bandwidth from band edge.
c. Peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 30dB relative to the maximum measured in-band peak PSD level.
d. The band edges was measured and recorded.

7.3 Test Setup Layout

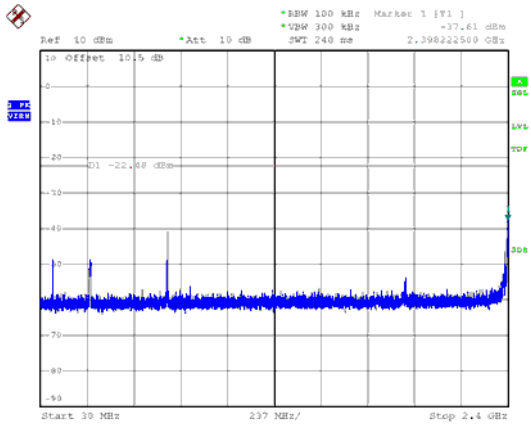


7.4 Test Result and Data

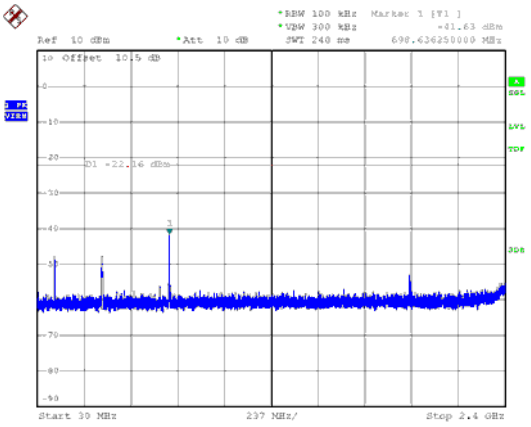
Note: Test plots refers to the following pages.

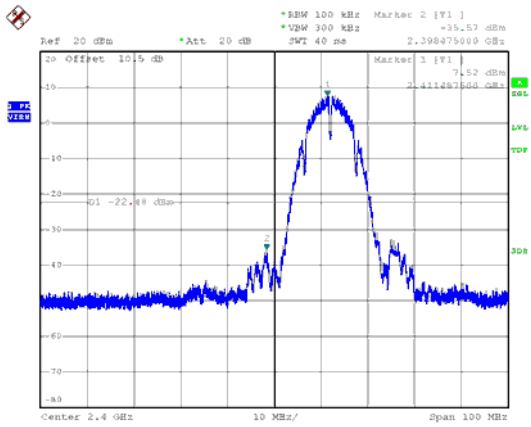
For 24010270-TRFCC03-ANT A

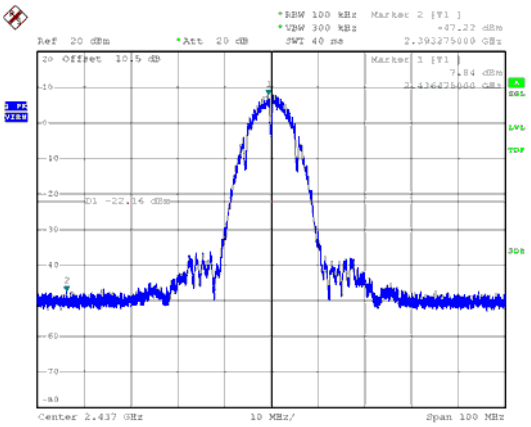
Modulation Type: 802.11b, CH 01

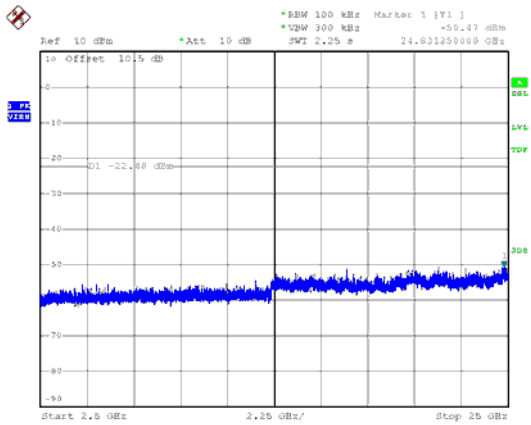


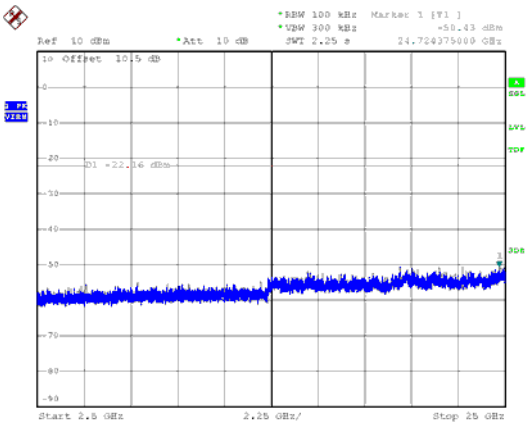
Modulation Type: 802.11b, CH 06



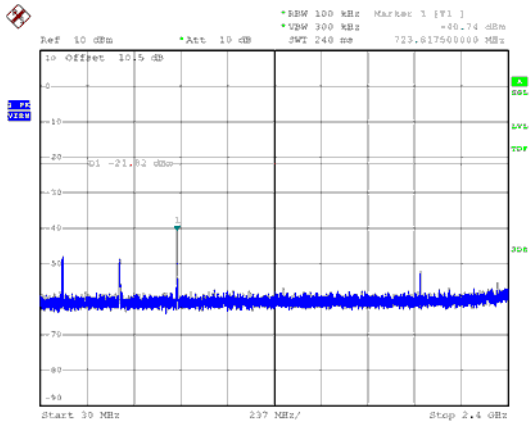


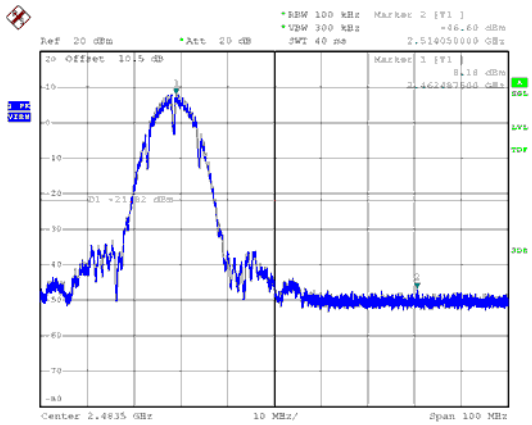


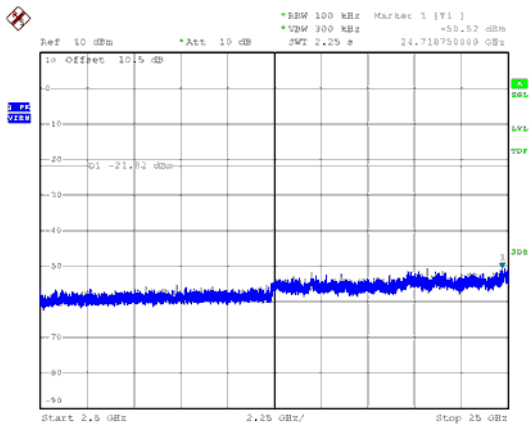




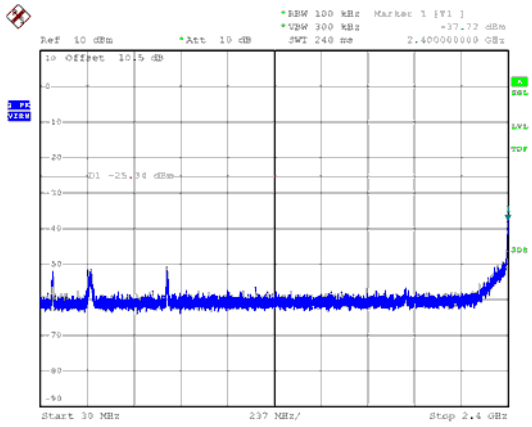
Modulation Type: 802.11b, CH 11



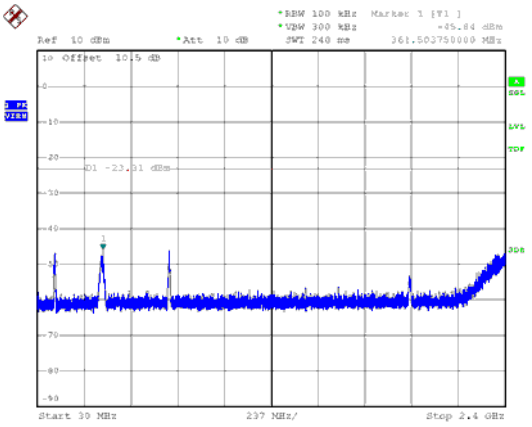


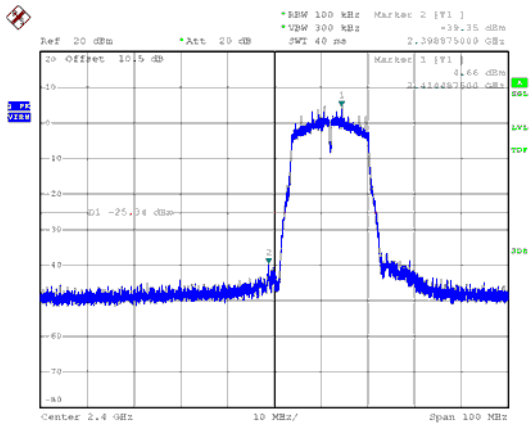


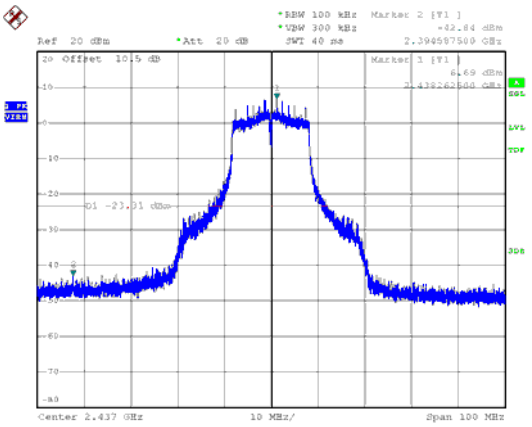
Modulation Type: 802.11g, CH 01

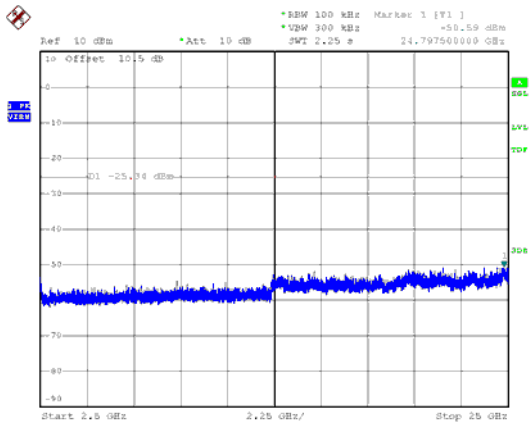


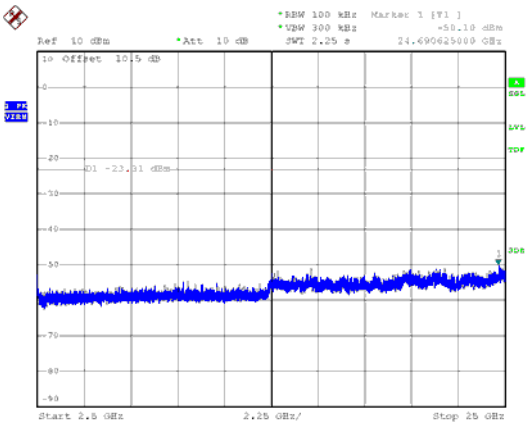
Modulation Type: 802.11g, CH 06



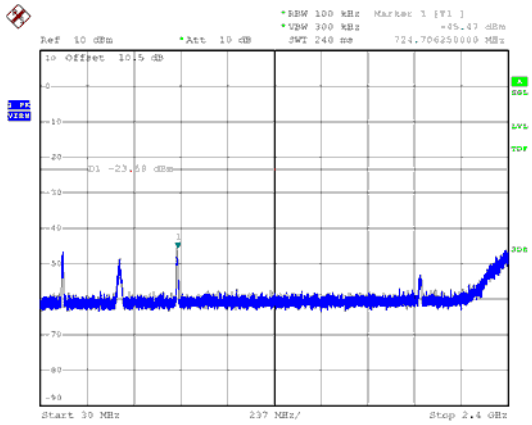


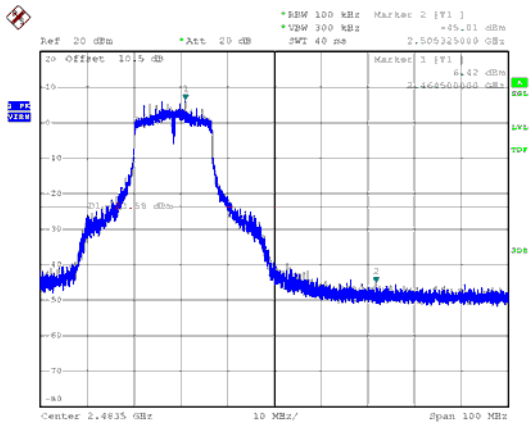


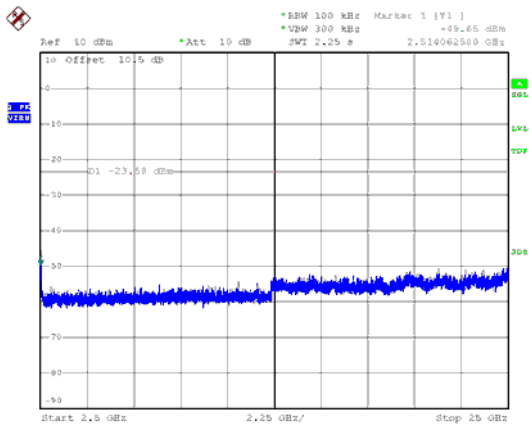




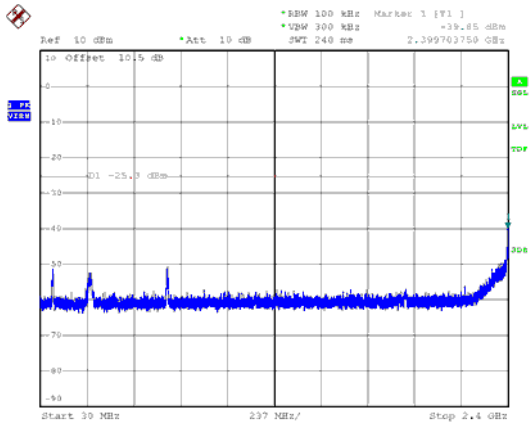
Modulation Type: 802.11g, CH 11



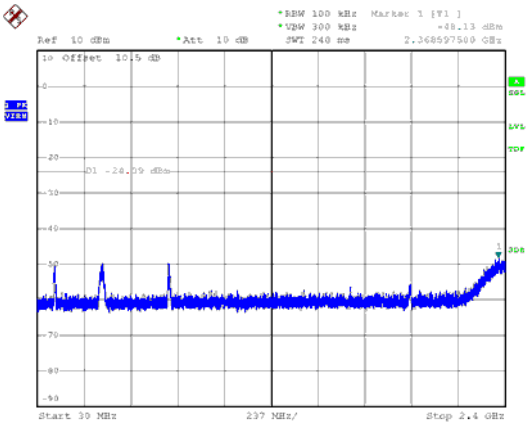


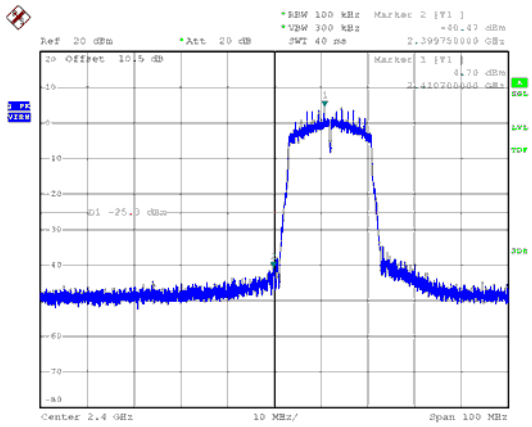


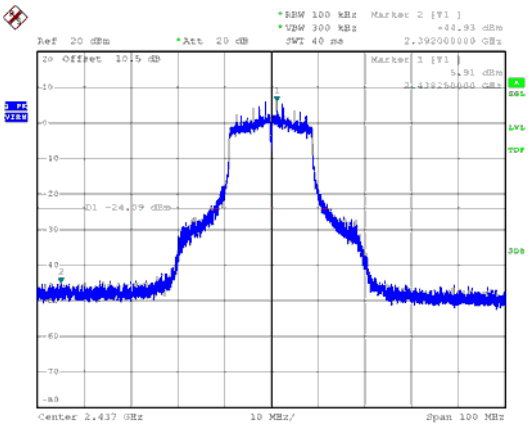
Modulation Type: 802.11n HT20, CH01

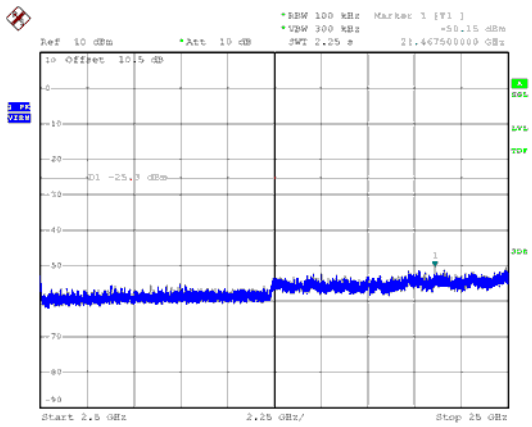


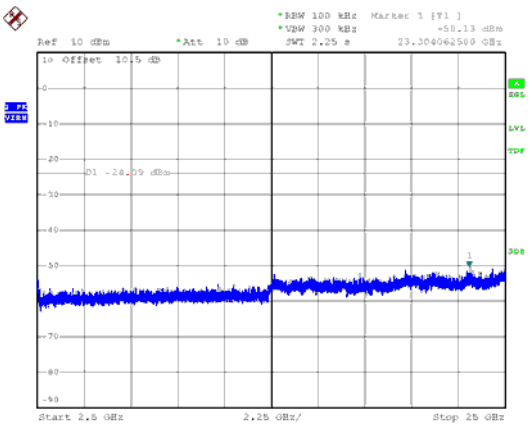
Modulation Type: 802.11n HT20, CH06



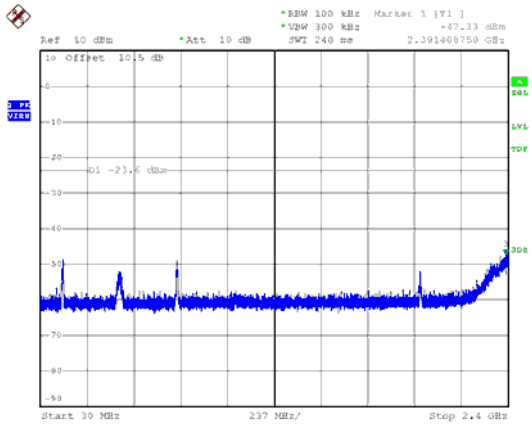


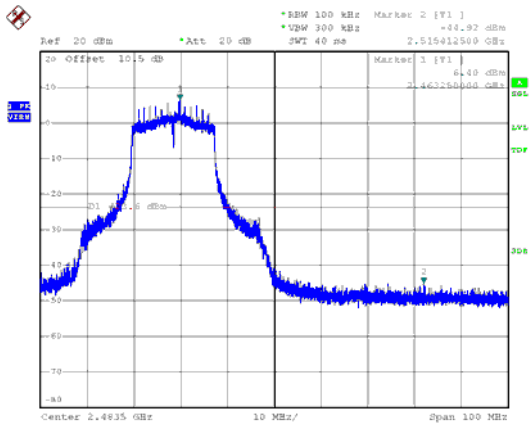


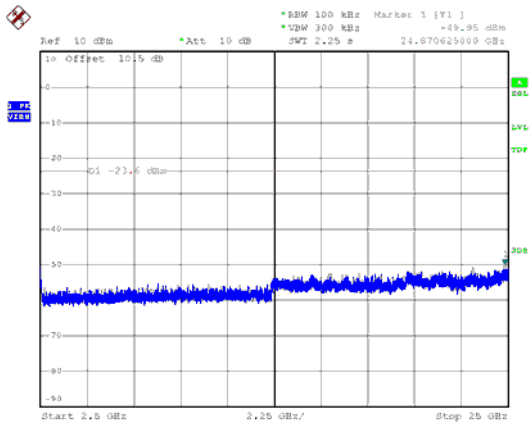




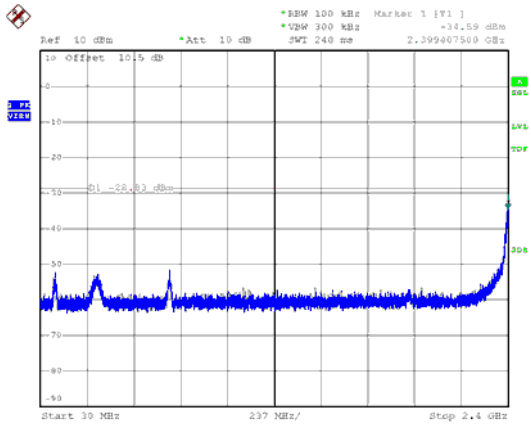
Modulation Type: 802.11n HT20, CH11



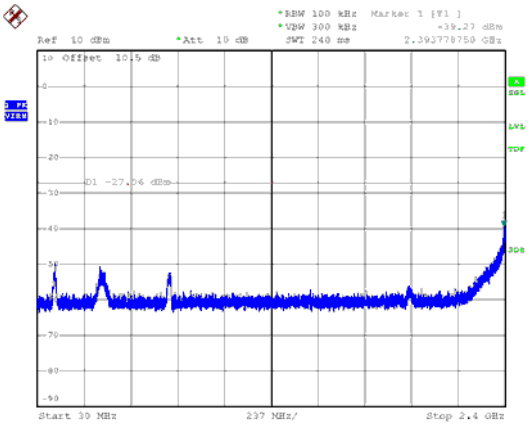


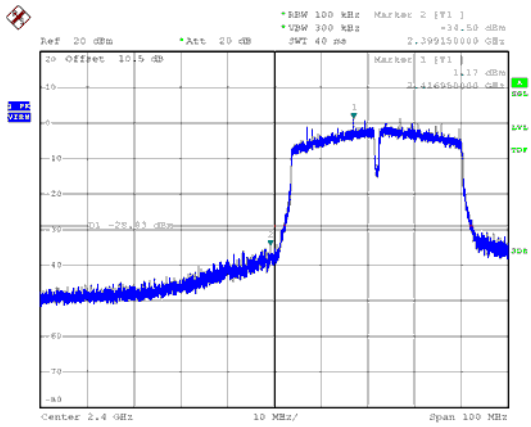


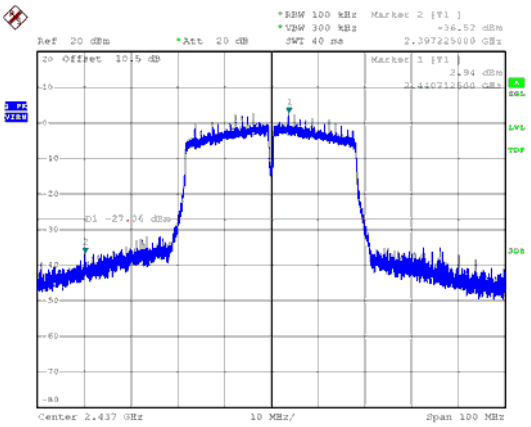
Modulation Type: 802.11n HT40, CH03

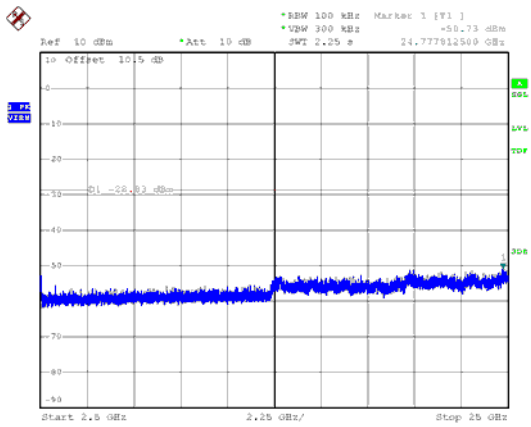


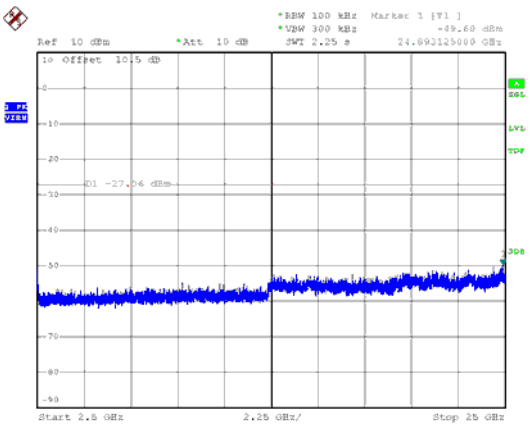
Modulation Type: 802.11n HT40, CH06



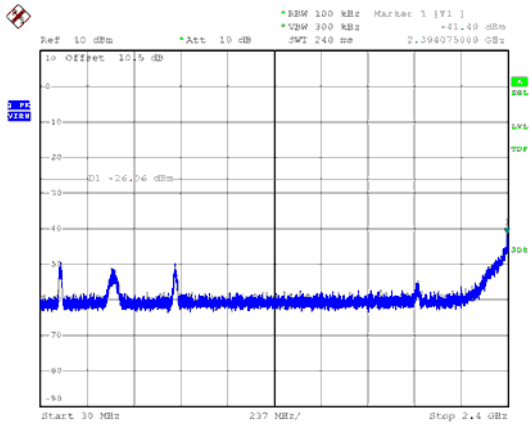


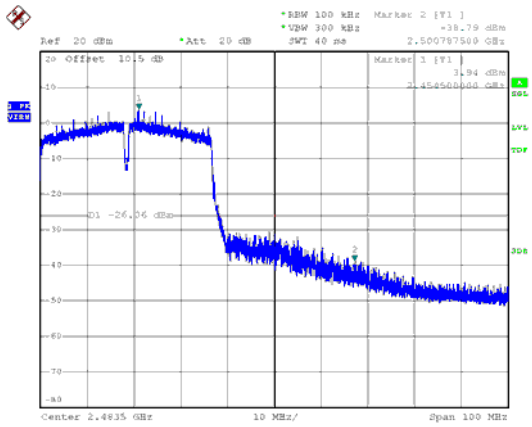


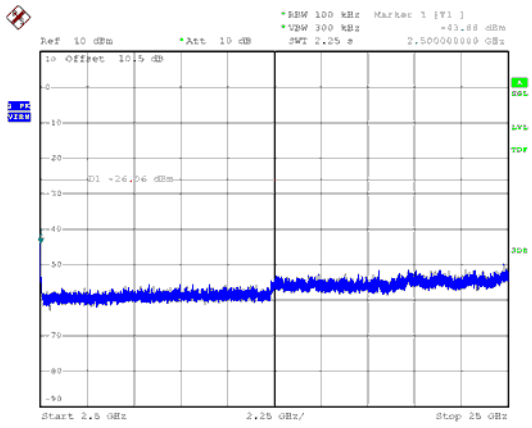




Modulation Type: 802.11n HT40, CH09

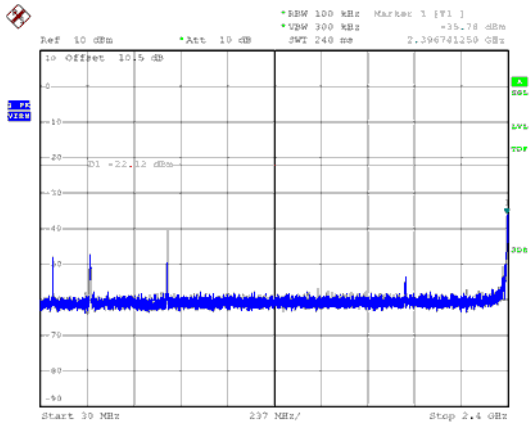




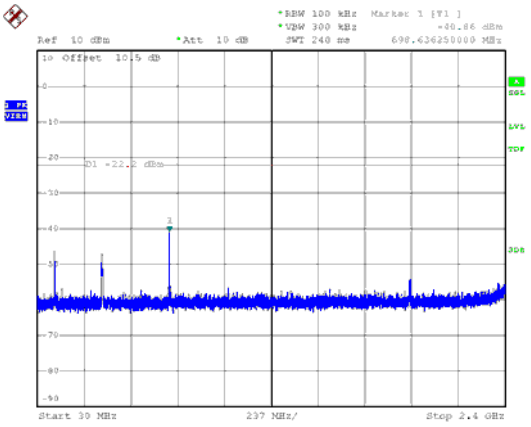


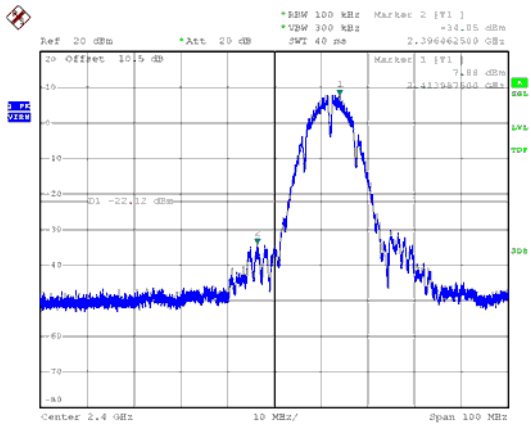
ANT B

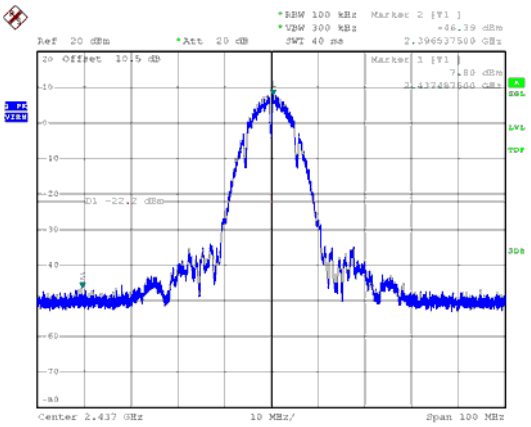
Modulation Type: 802.11b, CH 01

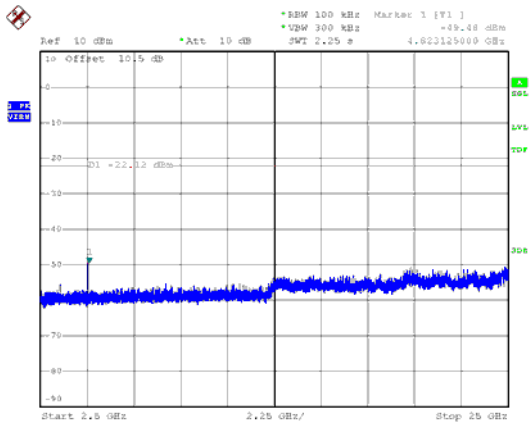


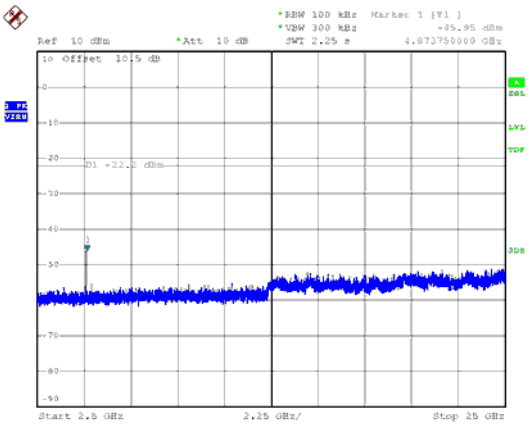
Modulation Type: 802.11b, CH 06



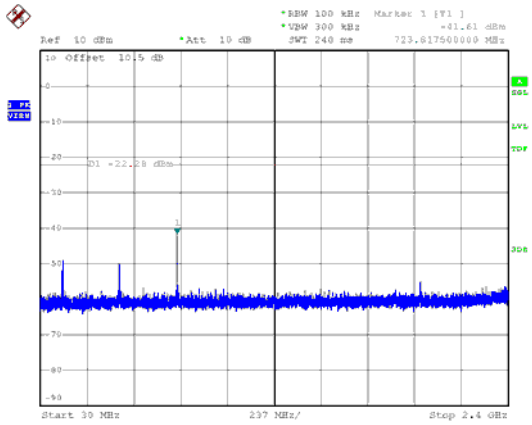


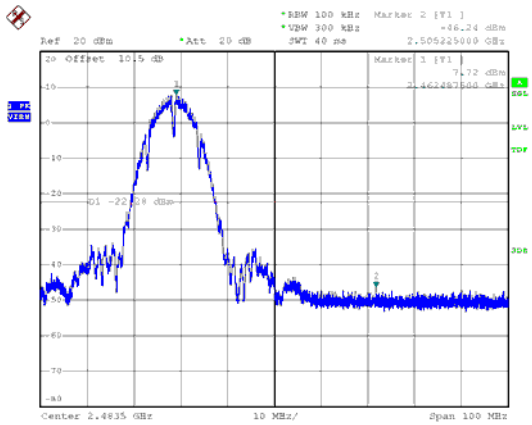


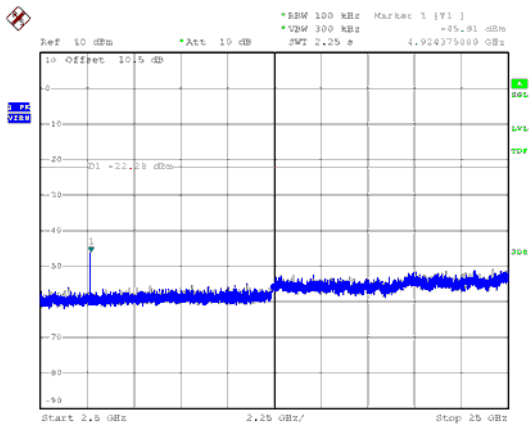




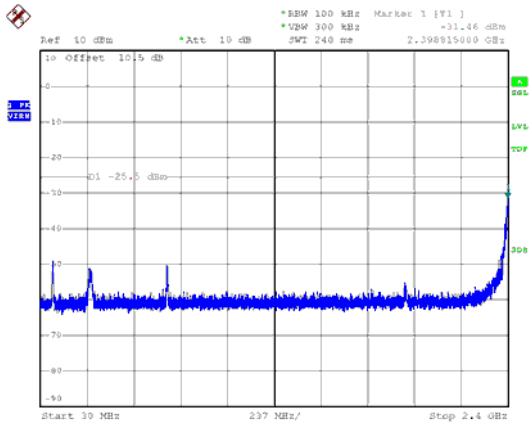
Modulation Type: 802.11b, CH 11



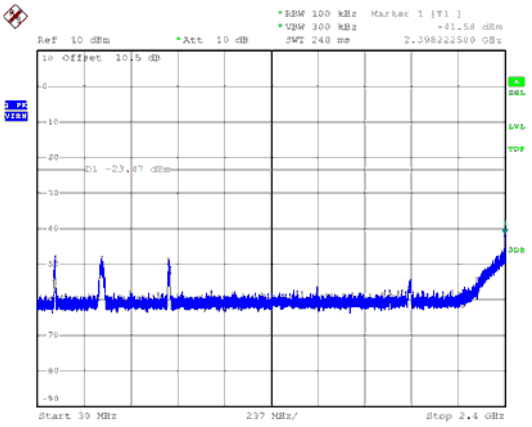


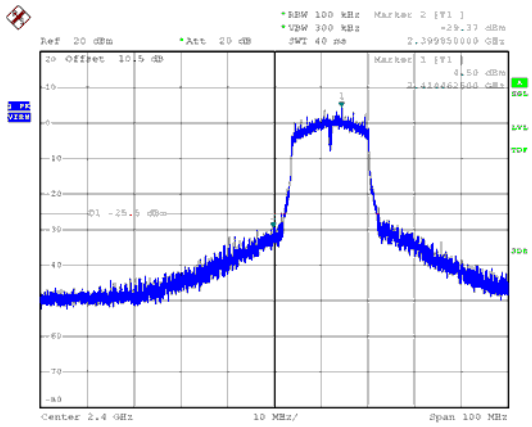


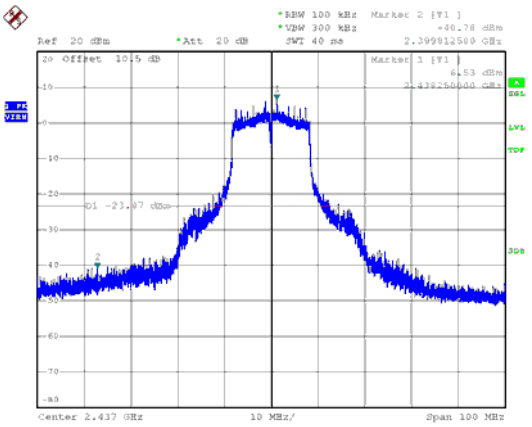
Modulation Type: 802.11g, CH 01

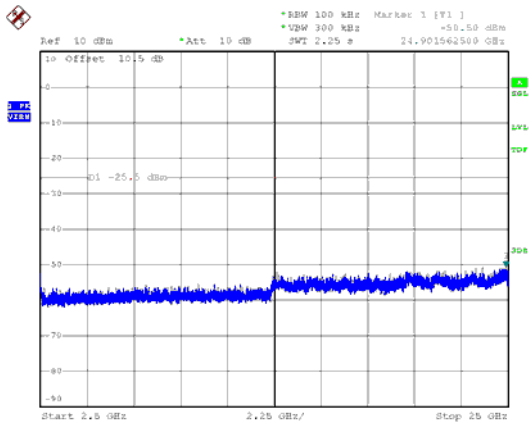


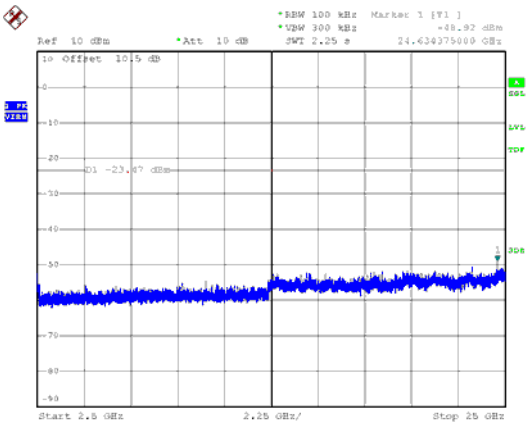
Modulation Type: 802.11g, CH 06



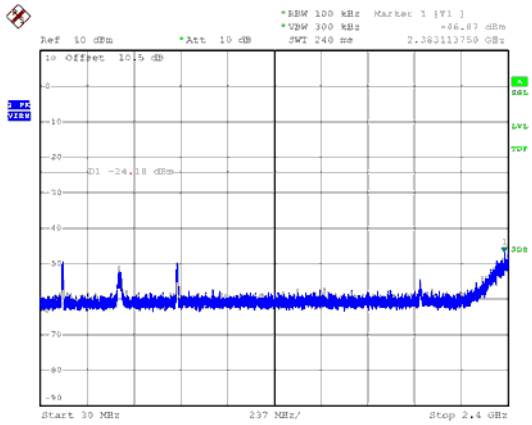


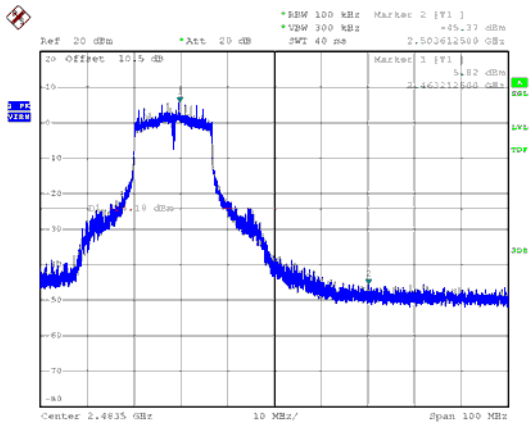


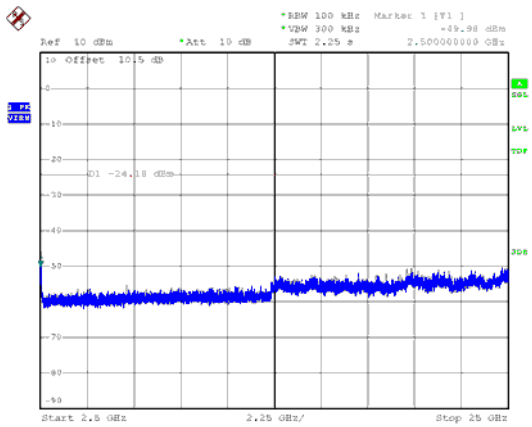




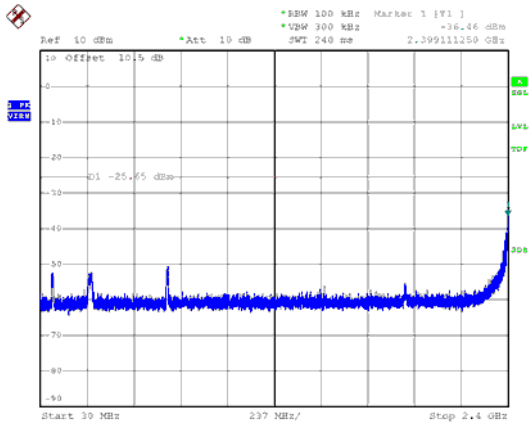
Modulation Type: 802.11g, CH 11



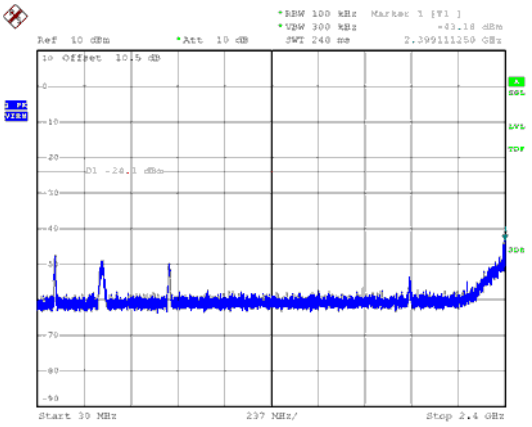


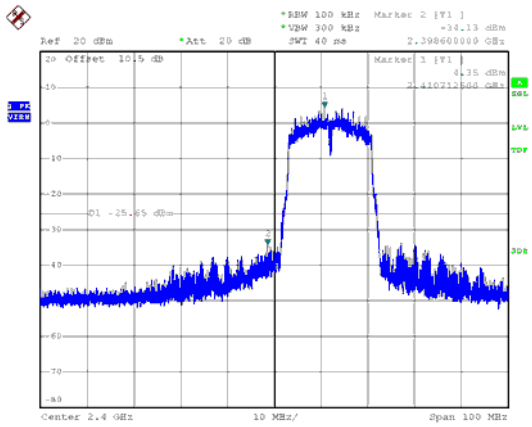


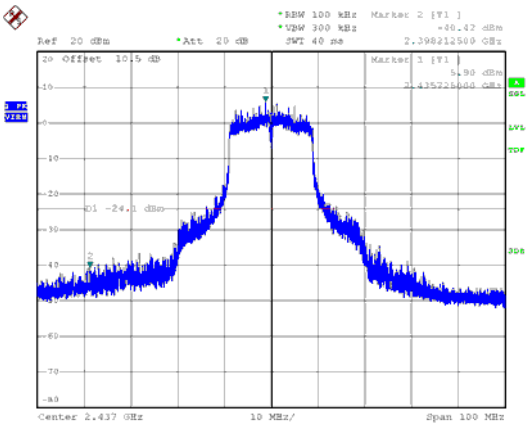
Modulation Type: 802.11n HT20, CH01

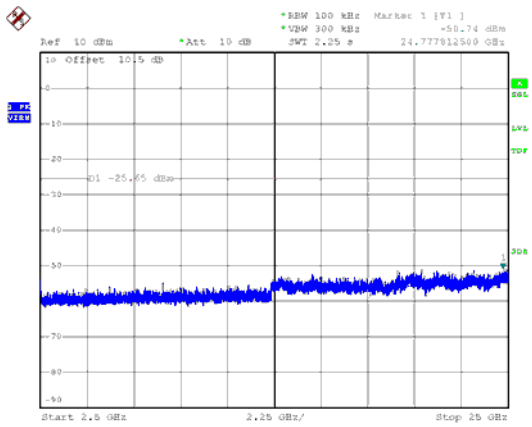


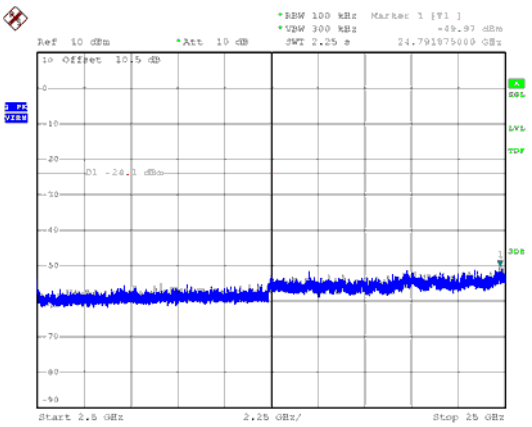
Modulation Type: 802.11n HT20, CH06



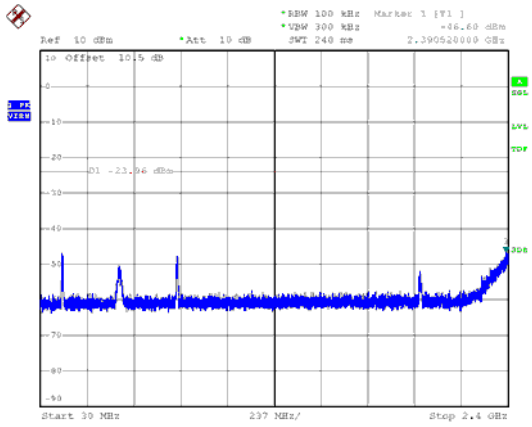


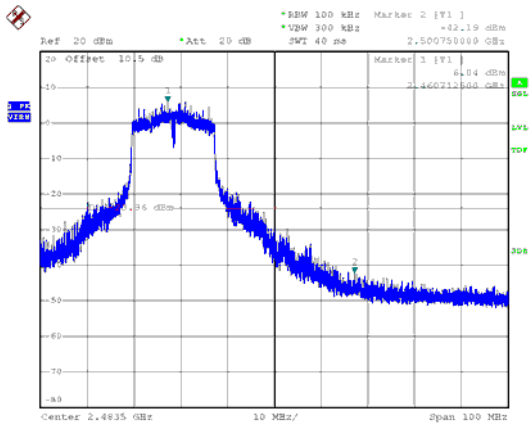


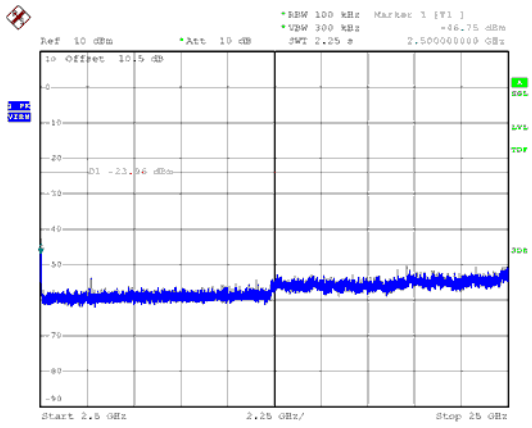




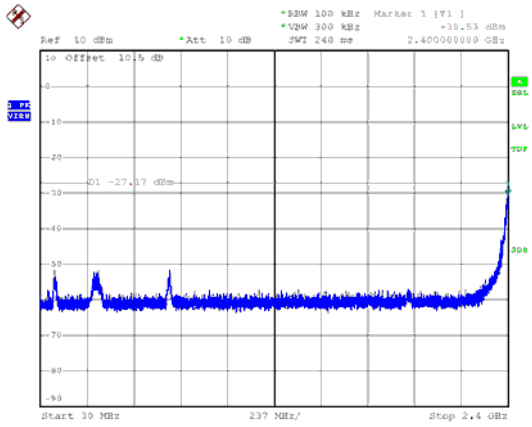
Modulation Type: 802.11n HT20, CH11



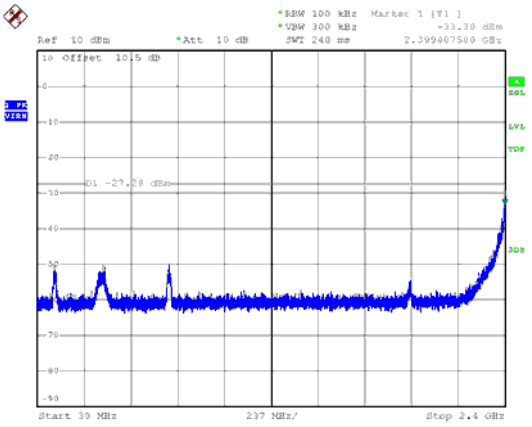


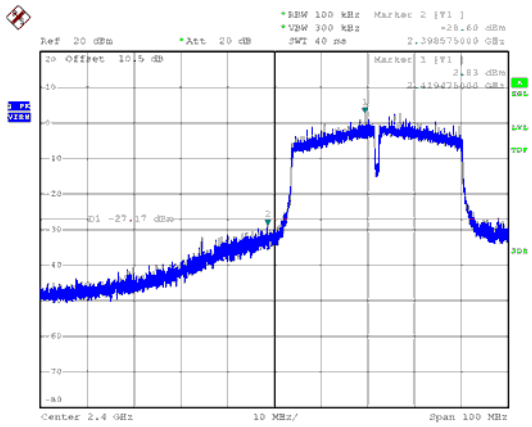


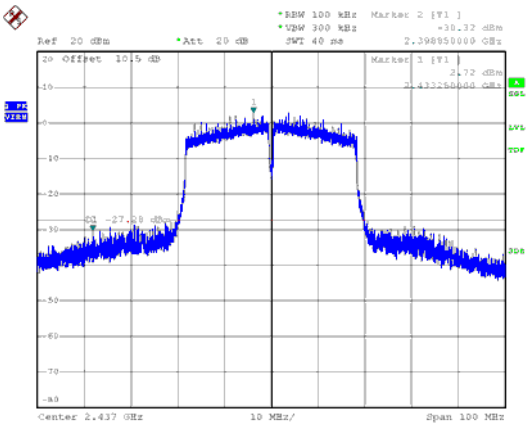
Modulation Type: 802.11n HT40, CH03

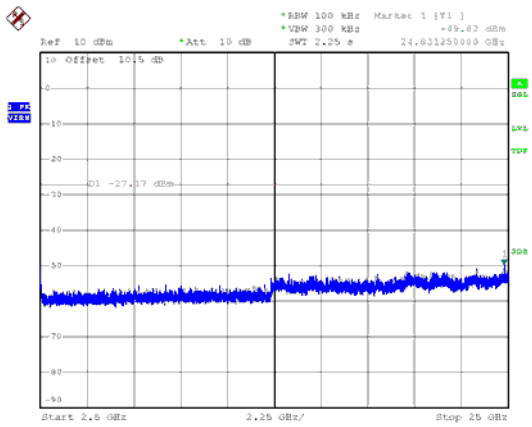


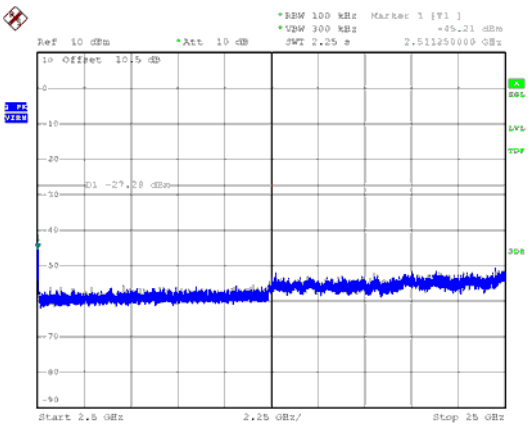
Modulation Type: 802.11n HT40, CH06



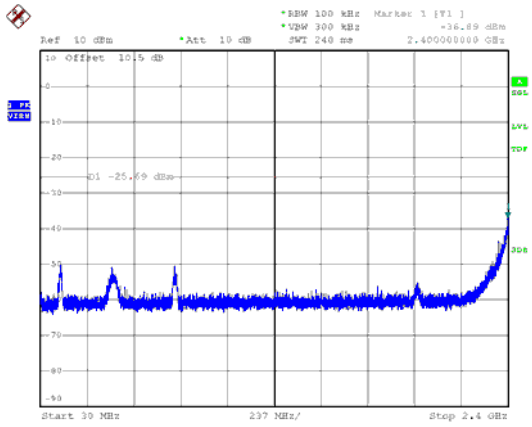


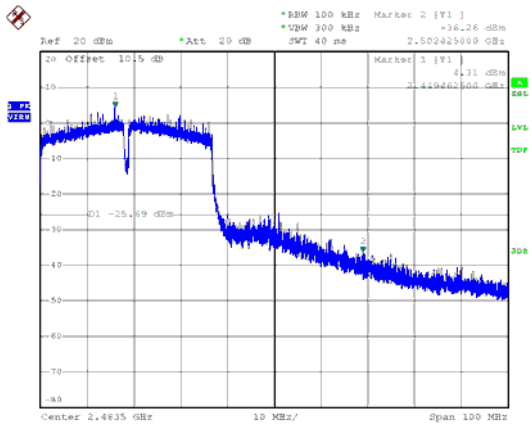


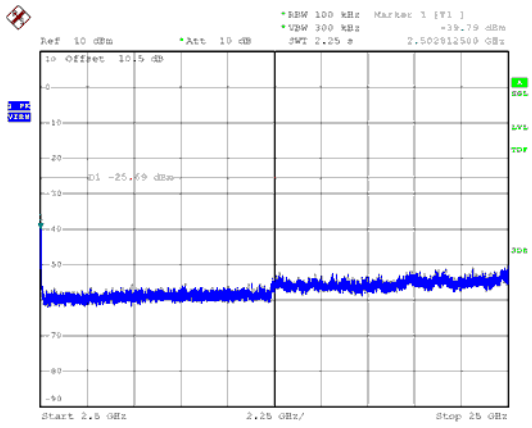




Modulation Type: 802.11n HT40, CH09

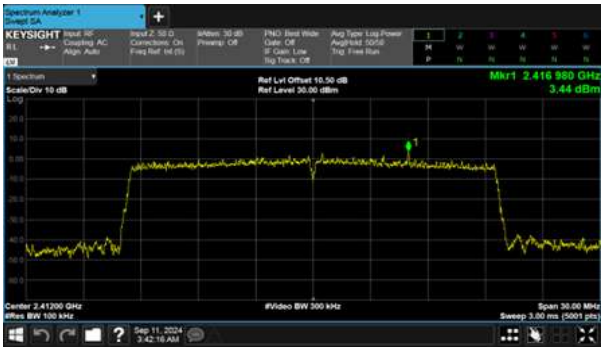




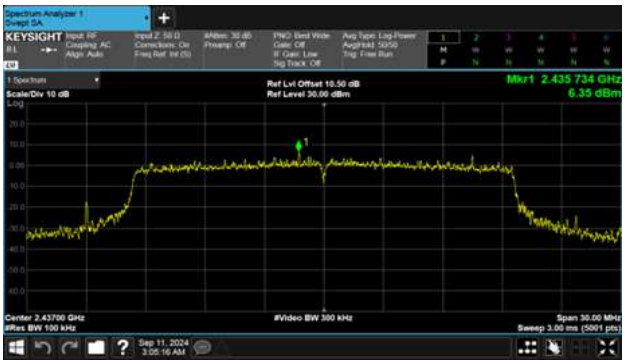


For 802.11ax add test-ANT A

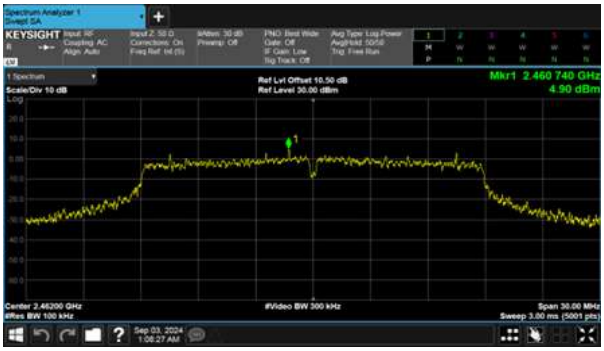
Modulation Type: 802. 11ax HE20, CH01



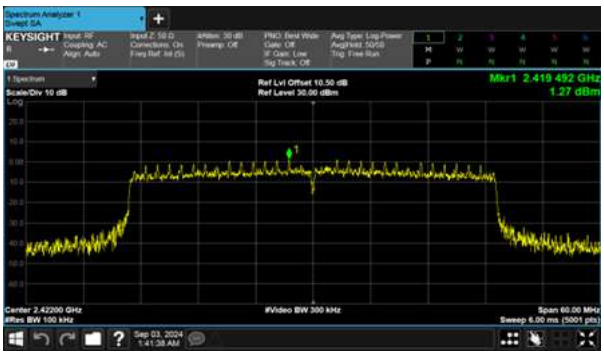
Modulation Type: 802. 11ax HE20, CH06



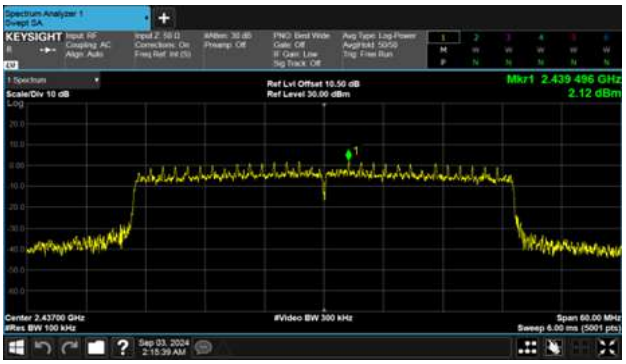
Modulation Type: 802. 11ax HE20 CH11



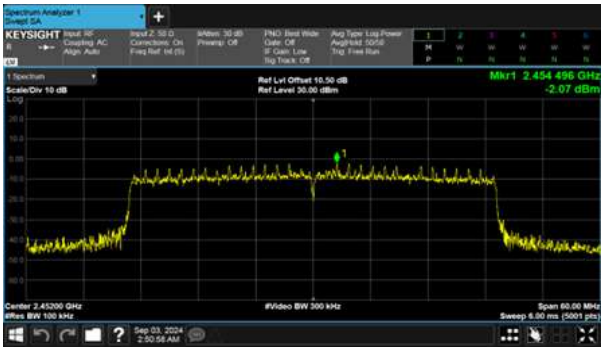
Modulation Type: 802. 11ax HE40, CH03



Modulation Type: 802. 11ax HE40, CH06

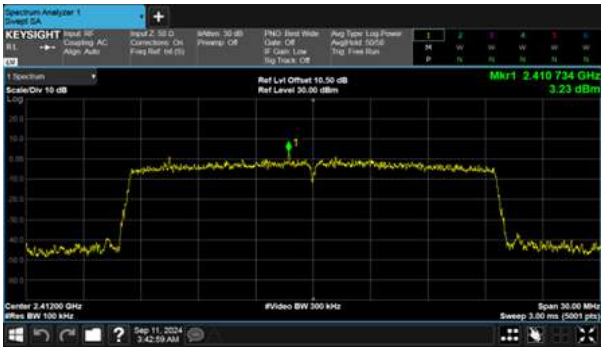


Modulation Type: 802. 11ax HE40, CH09

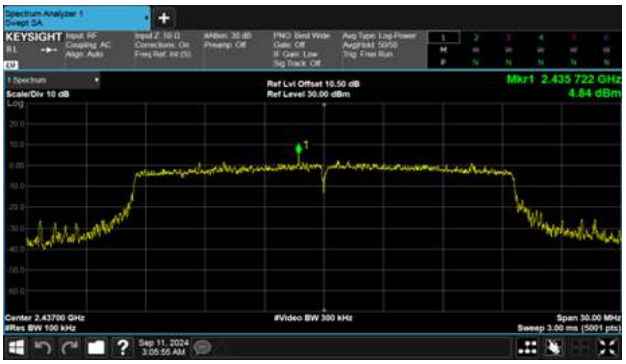


For 802.11ax add test-ANT B

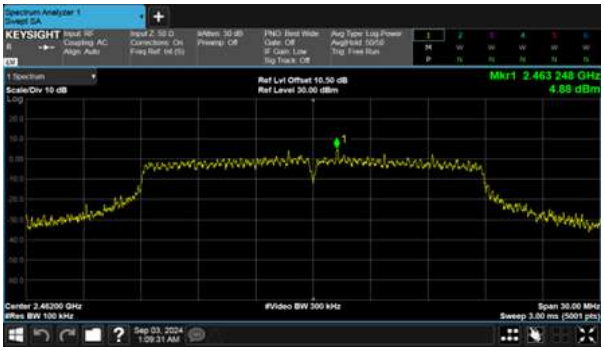
Modulation Type: 802. 11ax HE20, CH01



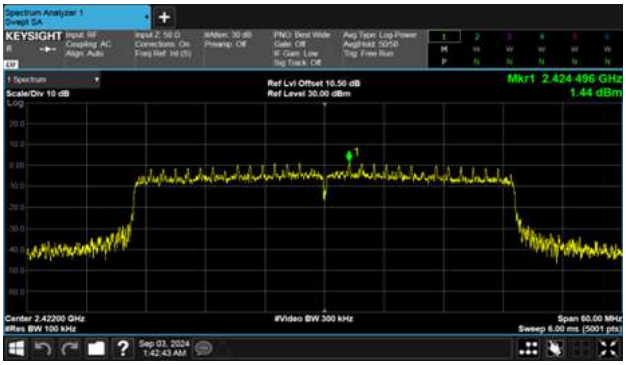
Modulation Type: 802. 11ax HE20, CH06



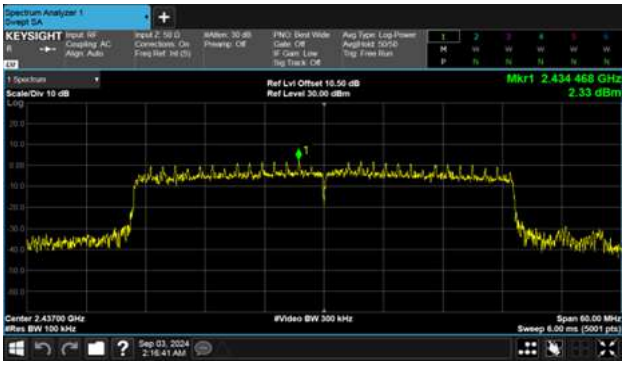
Modulation Type: 802. 11ax HE20 CH11



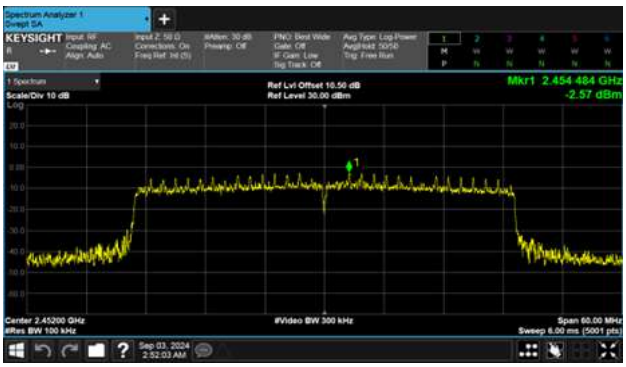
Modulation Type: 802. 11ax HE40, CH03

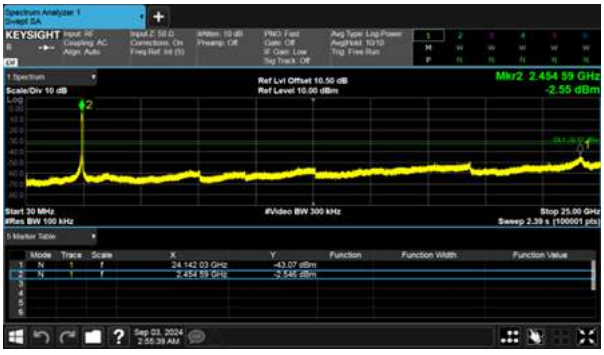


Modulation Type: 802. 11ax HE40, CH06



Modulation Type: 802. 11ax HE40, CH09





8. On Time, Duty Cycle and Measurement methods

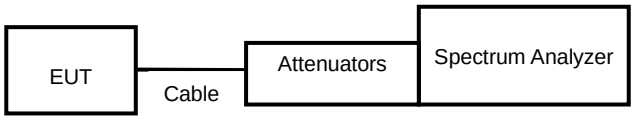
8.1 Test Limit

None; for reporting purposes only.

8.2 Test Procedure

According to the methods defined in ANSI C63.10-2013 Section 11.6 Zero-Span Spectrum Analyzer Method.

8.3 Test Setup Layout



8.4 Test Result and Data

For 24010270-TRFCC03

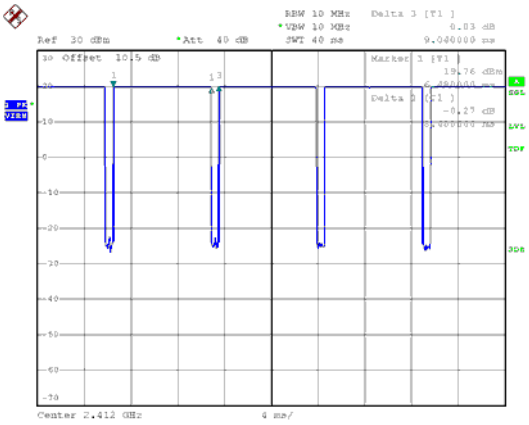
Modulation Type	On Time (msec)	Period Time (msec)	Duty Cycle (%)
11b,1M	8.40	9.04	92.92%
11g,6M	1.40	2.05	68.40%
11n HT20	1.30	1.97	66.33%
11n HT40	4.58	5.50	83.27%

For 802.11ax add test

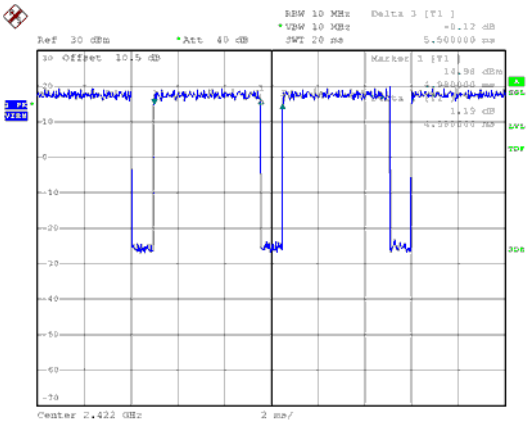
Modulation Type	On Time (msec)	Period Time (msec)	Duty Cycle (%)
11ax HE20	1.02	1.64	61.96%
11ax HE40	0.07	0.09	78.77%

For 24010270-TRFCC03

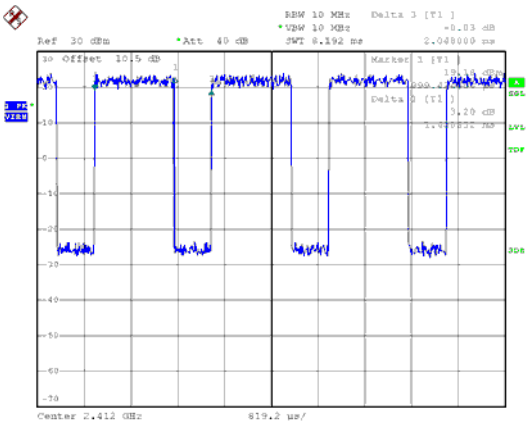
Modulation Type: 802.11b(1Mbps)



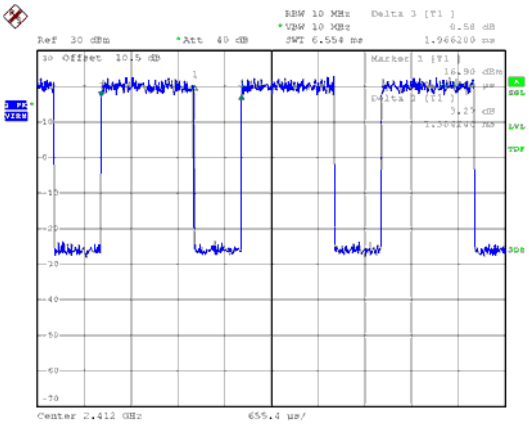
Modulation Type: 802.11n HT40(13.5Mbps)



Modulation Type: 802.11g(6Mbps)



Modulation Type: 802.11n HT20(6.5Mbps)



For 802.11ax add test
Modulation Type: 11ax HE20 (7.3Mbps)

Modulation Type: 11ax HE40 (14.6Mbps)

9. 6dB Bandwidth Measurement Data

9.1 Test Limit

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

9.2 Test Procedures

According to the methods defined in ANSI C63.10-2013 Section 11.8

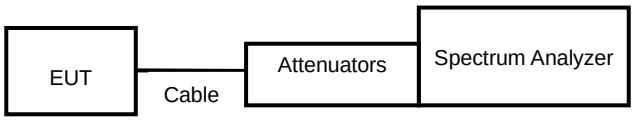
a. The transmitter output was connected to the spectrum analyzer.

b. Set RBW of spectrum analyzer to 100 KHz and VBW to 300 KHz.

c. The 6 dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6 dB.

d. The 6dB Bandwidth was measured and recorded.

9.3 Test Setup Layout



9.4 Test Result and Data

For 24010270-TRFCC03

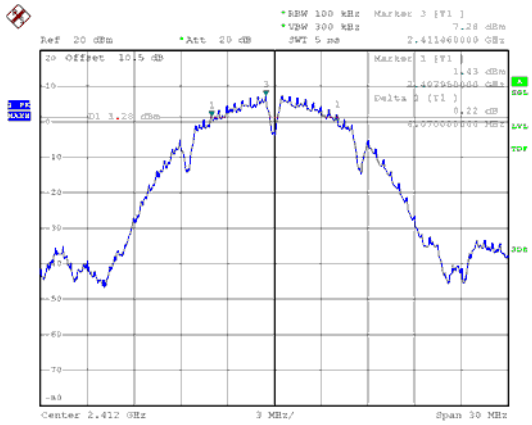
Modulation Type	Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Limit (MHz)
			ANT A	ANT B	
11b	1	2412	8.07	8.07	0.5
	6	2437	8.07	9.03	0.5
	11	2462	8.07	8.07	0.5
11g	1	2412	15.12	15.12	0.5
	6	2437	15.45	16.29	0.5
	11	2462	15.45	15.66	0.5
11n HT20	1	2412	13.83	15.66	0.5
	6	2437	17.31	16.56	0.5
	11	2462	15.78	16.56	0.5
11n HT40	3	2422	35.10	35.16	0.5
	6	2437	33.72	34.44	0.5
	9	2452	35.10	35.10	0.5

For 802.11ax add test

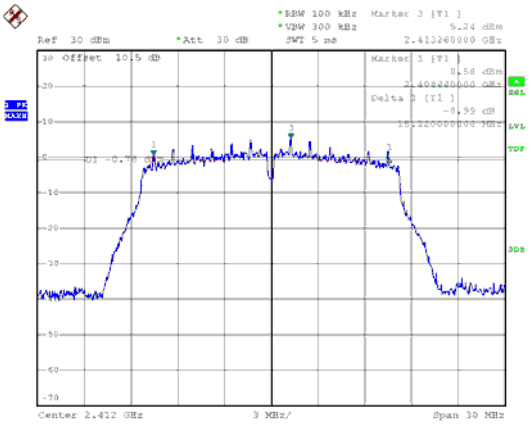
Modulation Type	Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Limit (MHz)
			ANT A	ANT B	
11ax HE20	1	2412	15.13	16.29	0.5
	6	2437	18.48	17.72	0.5
	11	2462	15.16	16.58	0.5
11ax HE40	3	2422	36.60	36.39	0.5
	6	2437	37.05	36.39	0.5
	9	2452	37.39	37.22	0.5

ANT A-For 24010270-TRFCC03
6dB Bandwidth

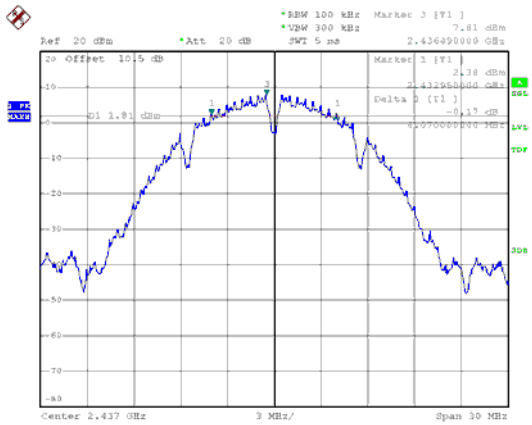
Modulation Type: 802.11b
CH01



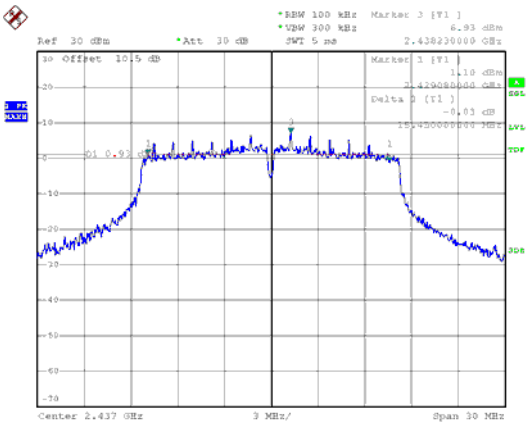
Modulation Type: 802.11g
CH01



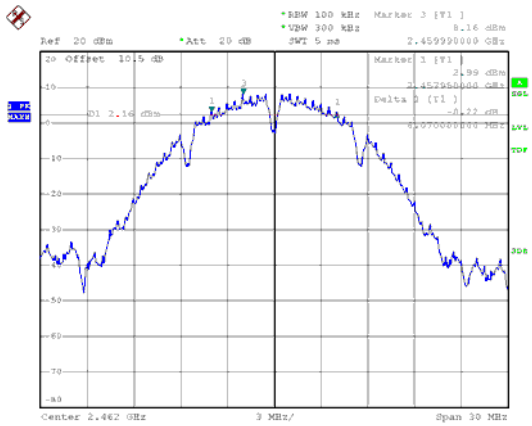
CH06



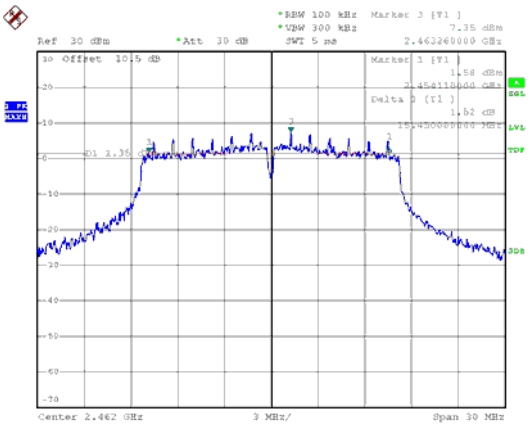
CH06



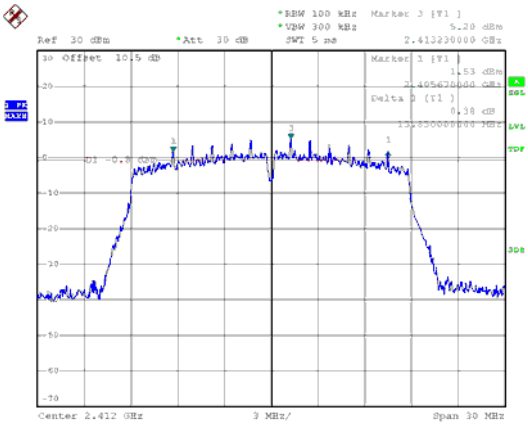
CH11



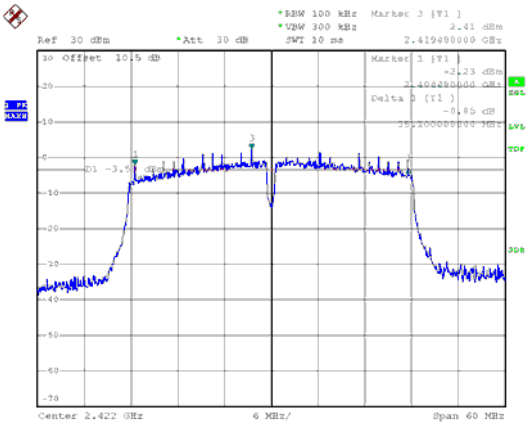
CH11



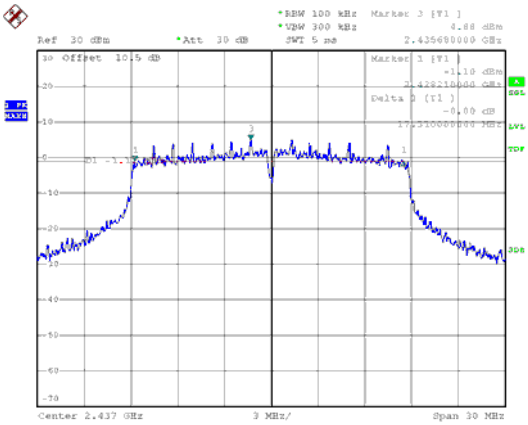
Modulation Type: 802.11n HT20
CH01



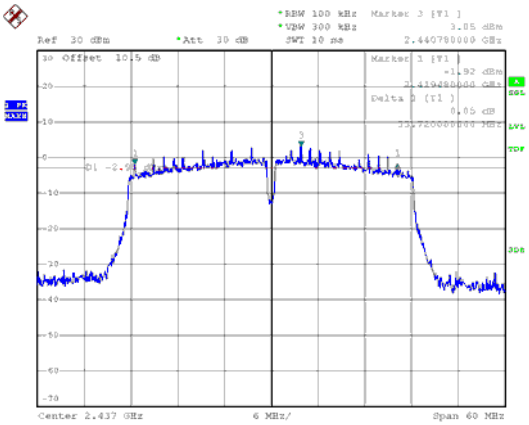
Modulation Type: 802.11n HT40
CH03



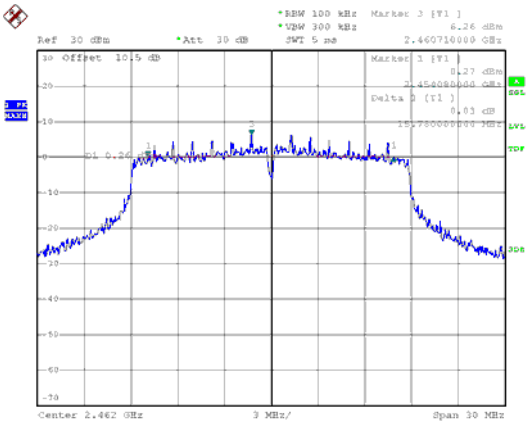
CH06



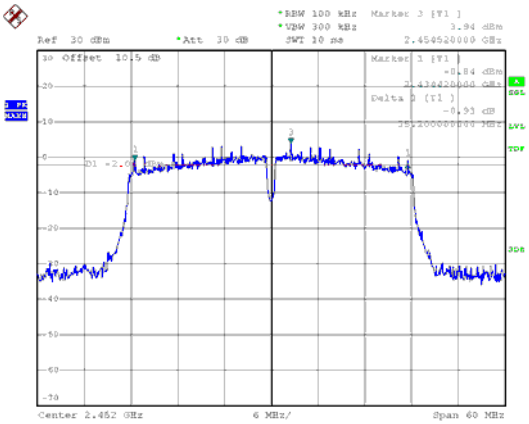
CH06



CH11

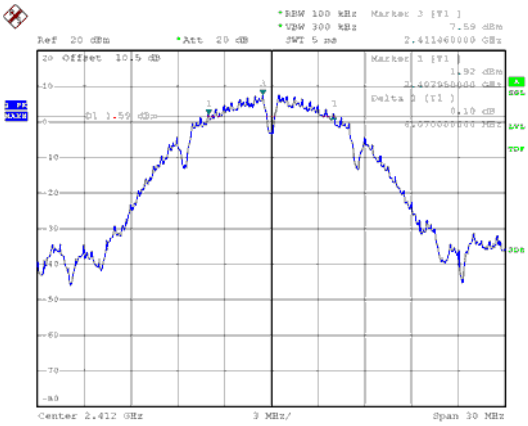


CH09

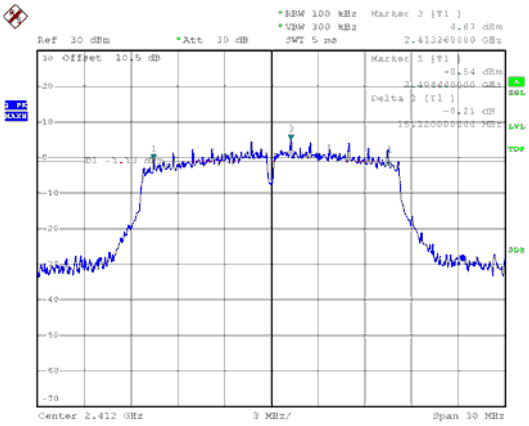


ANT B-For 24010270-TRFCC03
6dB Bandwidth

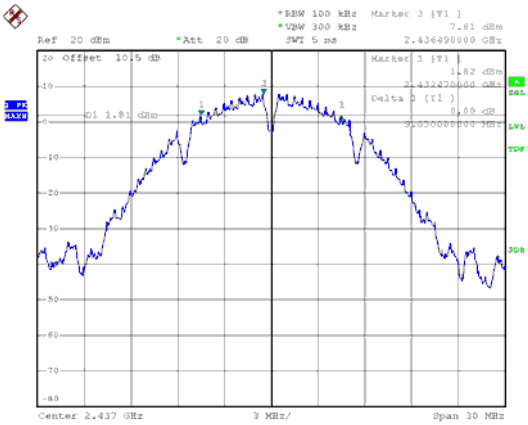
Modulation Type: 802.11b
CH01



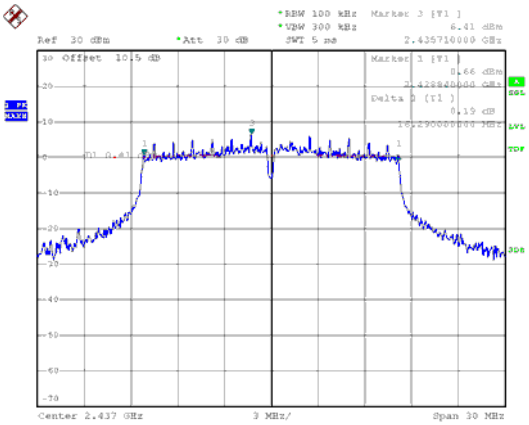
Modulation Type: 802.11g
CH01



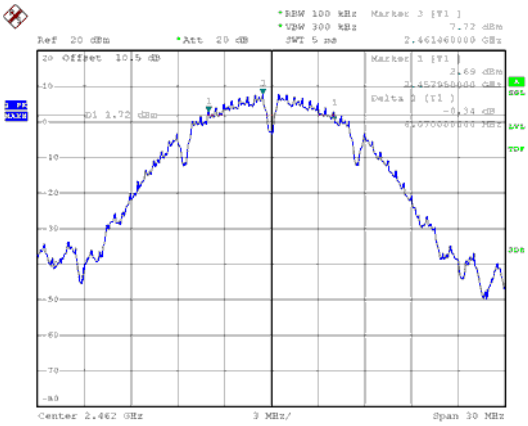
CH06



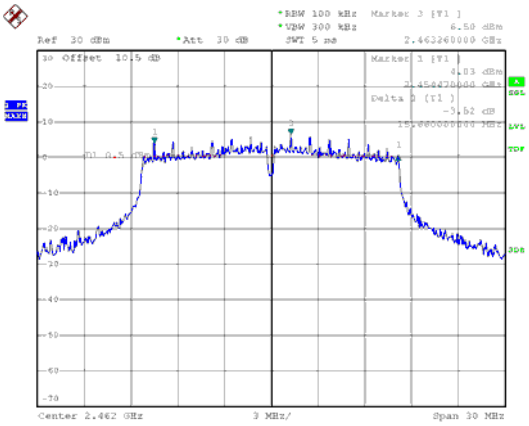
CH06



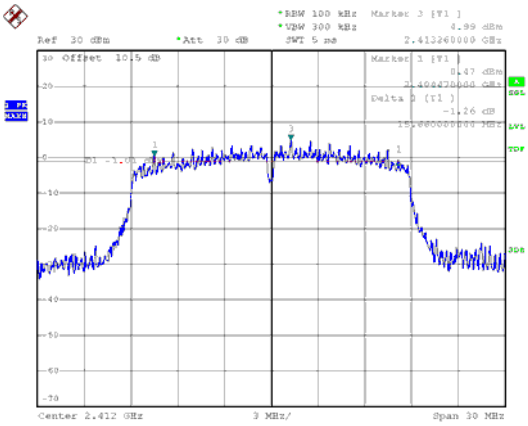
CH11



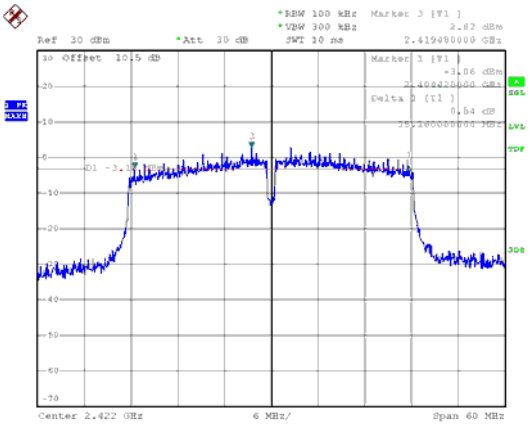
CH11



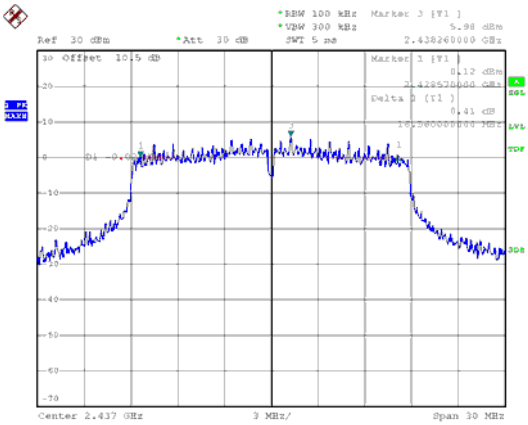
Modulation Type: 802.11n HT20
CH01



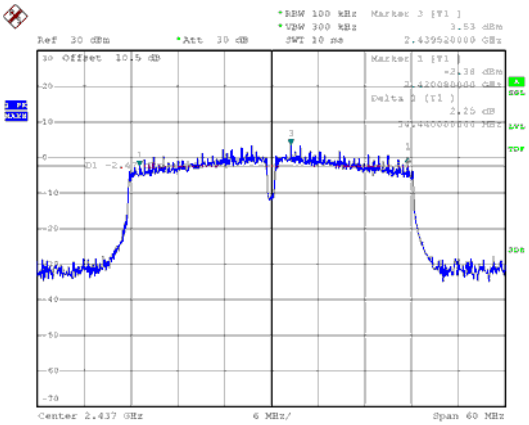
Modulation Type: 802.11n HT40
CH03



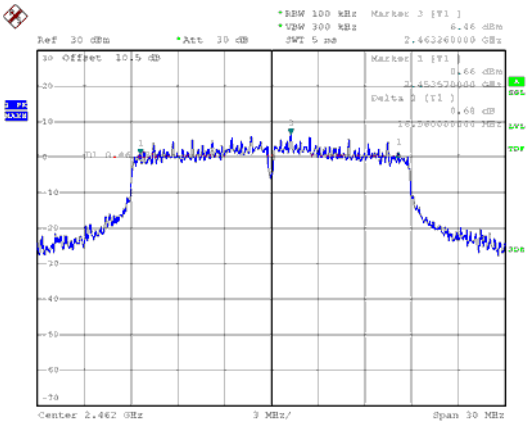
CH06



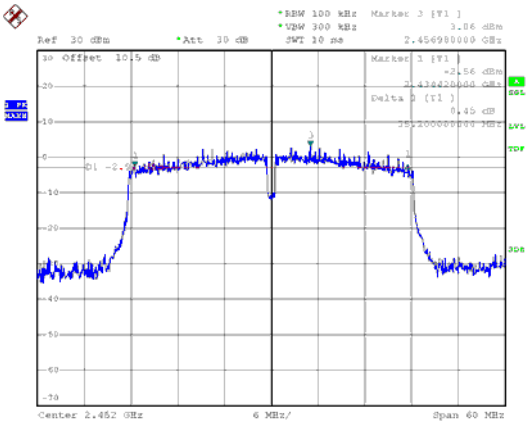
CH06



CH11



CH09



For 802.11ax add test ANT A

Modulation Type: 802. 11ax HE20, CH01

Modulation Type: 802. 11ax HE40, CH03

Modulation Type: 802. 11ax HE20, CH06

Modulation Type: 802. 11ax HE40, CH06

Modulation Type: 802. 11ax HE20 CH11

Modulation Type: 802. 11ax HE40, CH09

For 802.11ax add test ANT B

Modulation Type: 802. 11ax HE20, CH01

Modulation Type: 802. 11ax HE40, CH03

Modulation Type: 802. 11ax HE20, CH06

Modulation Type: 802. 11ax HE40, CH06

Modulation Type: 802. 11ax HE20 CH11

Modulation Type: 802. 11ax HE40, CH09

10. Maximum Average Output Power

10.1 Test Limit

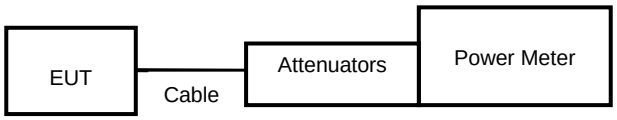
The Maximum Average Output Power Measurement is 30dBm.
If transmitting antennas of directional gain greater than 6 dBi are used, the average output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi

10.2 Test Procedures

According to the methods defined in ANSI C63.10-2013 Section 11.9.2.3.2

The antenna port (RF output) of the EUT was connected to the input (RF input) of a power meter. Power was read directly from the meter and cable loss connection was added to the reading to obtain power at the EUT antenna terminal. The EUT Output Power was set to maximum to produce the worse case test result.

10.3 Test Setup Layout



10.4 Test Result and Data

For 24010270-TRFCC03

Setting	Modulation Mode	Channel	Frequency (MHz)	Conducted(average) output power (dBm)		Total AV power (dBm)	Total AV power (mW)	Powe Limit (dBm)
				ANT A	ANT B			
17	11b	1	2412	16.96	17.25	20.12	102.748	30.00
17		6	2437	16.92	17.28	20.11	102.660	30.00
17		11	2462	17.46	17.19	20.34	108.079	30.00
15.5	11g	1	2412	15.36	15.39	18.39	68.950	30.00
17		6	2437	17.12	16.91	20.03	100.614	30.00
17		11	2462	17.42	17.02	20.23	105.558	30.00
15.5	11n HT20	1	2412	15.22	15.46	18.35	68.422	30.00
17		6	2437	17.03	17.04	20.05	101.049	30.00
17		11	2462	17.29	17.08	20.20	104.630	30.00
16	11n HT40	3	2422	15.77	16.15	18.97	78.967	30.00
17		6	2437	17.27	16.87	20.08	101.974	30.00
17		9	2452	17.30	17.47	20.40	109.550	30.00

For 802.11ax add test

Setting	Modulation Mode	Channel	Frequency (MHz)	Conducted(average) output power (dBm)		Total AV power (dBm)	Total AV power (mW)	Powe Limit (dBm)
				ANT A	ANT B			
14	11ax HE20	1	2412	15.52	14.63	18.11	64.685	30.00
15		6	2437	17.67	16.29	20.04	101.039	30.00
15.5		11	2462	17.21	16.28	19.78	95.064	30.00
15	11ax HE40	3	2422	15.16	15.12	18.15	65.318	30.00
16		6	2437	16.36	16.01	19.20	83.154	30.00
11		9	2452	11.03	10.78	13.92	24.644	30.00

11. Power Spectral Density

11.1 Test Limit

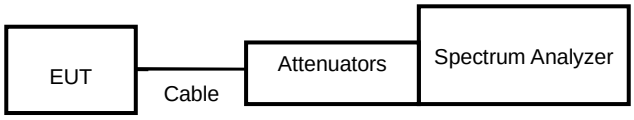
The Maximum of Power Spectral Density Measurement is 8dBm.

If transmitting antennas of directional gain greater than 6 dBi are used, the power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi

11.2 Test Procedures

According to the methods defined in ANSI C63.10-2013 Section 11.10

11.3 Test Setup Layout



11.4 Test Result and Data

For 24010270-TRFCC03

Modulation Type	Channel	Frequency (MHz)	Maximum Power Density of 3KHz Bandwidth(dBm)		Sum chain (dBm)	Duty Cycle CF(dB)	Total PSD (dBm)	Limit (dBm)
			ANT A	ANT B				
11b	1	2412	-15.29	-14.96	-12.11	0.32	-11.79	7.99
	6	2437	-14.76	-14.77	-11.75	0.32	-11.43	7.99
	11	2462	-14.69	-15.11	-11.88	0.32	-11.56	7.99
11g	1	2412	-20.01	-20.09	-17.04	1.65	-15.39	7.99
	6	2437	-18.22	-18.47	-15.33	1.65	-13.68	7.99
	11	2462	-17.71	-18.76	-15.19	1.65	-13.54	7.99
11n HT20	1	2412	-20.41	-19.74	-17.05	1.78	-15.27	7.99
	6	2437	-19.44	-18.44	-15.90	1.78	-14.12	7.99
	11	2462	-18.83	-18.06	-15.42	1.78	-13.64	7.99
11n HT40	3	2422	-22.08	-22.07	-19.06	0.79	-18.27	7.99
	6	2437	-21.36	-21.16	-18.25	0.79	-17.46	7.99
	9	2452	-20.59	-20.71	-17.64	0.79	-16.85	7.99

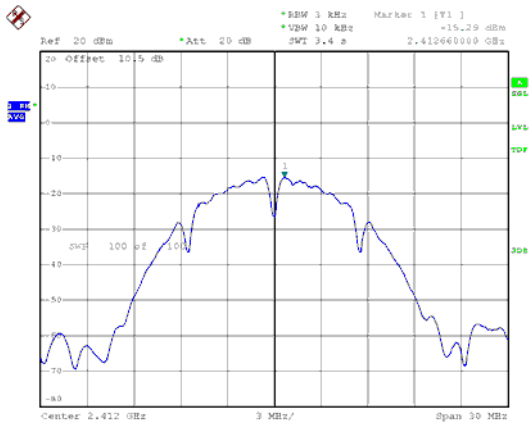
For 802.11ax add test

Modulation Type	Channel	Frequency (MHz)	Maximum Power Density of 3KHz Bandwidth(dBm)		Sum chain (dBm)	Duty Cycle CF(dB)	Total PSD (dBm)	Limit (dBm)
			ANT A	ANT B				
11ax HE20	1	2412	-19.763	-20.484	-17.10	2.08	-15.02	7.99
	6	2437	-17.842	-18.662	-15.22	2.08	-13.14	7.99
	11	2462	-17.424	-18.599	-14.96	2.08	-12.88	7.99
11ax HE40	3	2422	-11.104	-10.703	-7.89	1.03	-6.86	7.99
	6	2437	-10.168	-9.826	-6.98	1.03	-5.95	7.99
	9	2452	-14.744	-15.249	-11.98	1.03	-10.95	7.99

For 24010270-TRFCC03-ANT A

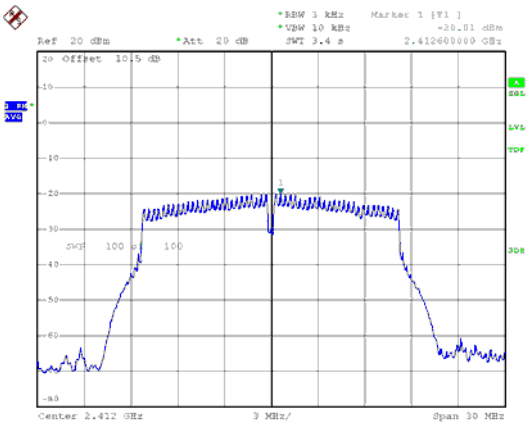
Modulation Type: 802.11b

CH01

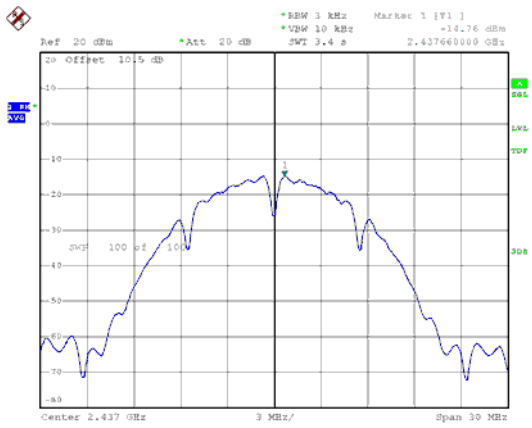


Modulation Type: 802.11g

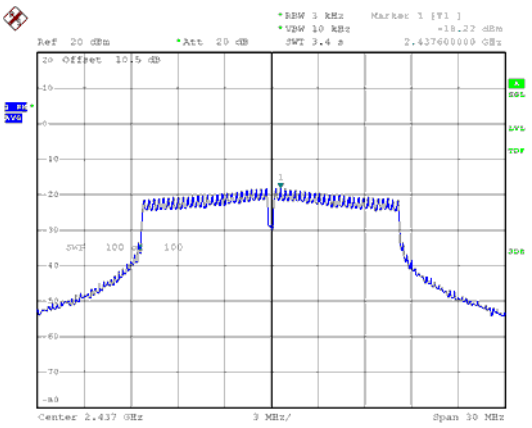
CH01



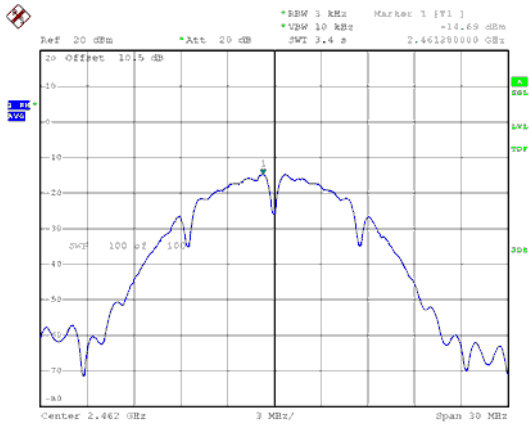
CH06



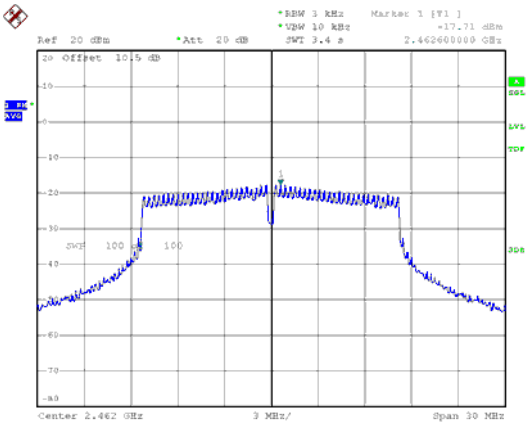
CH06



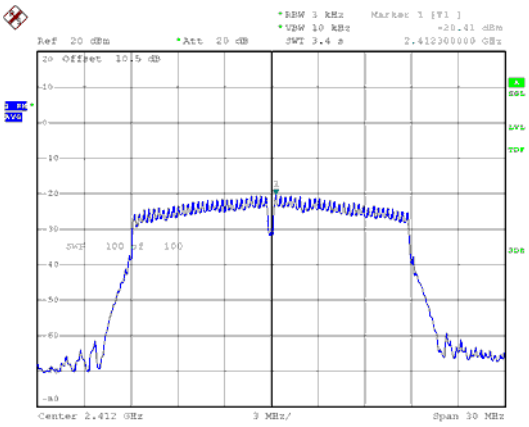
CH11



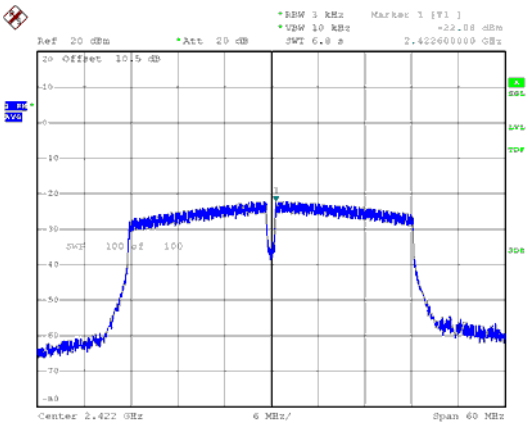
CH11



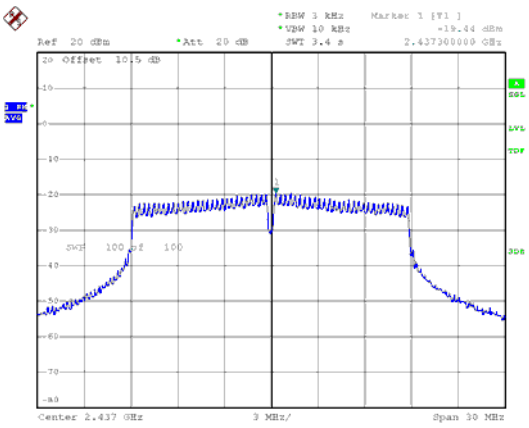
Modulation Type: 802.11n HT20
CH01



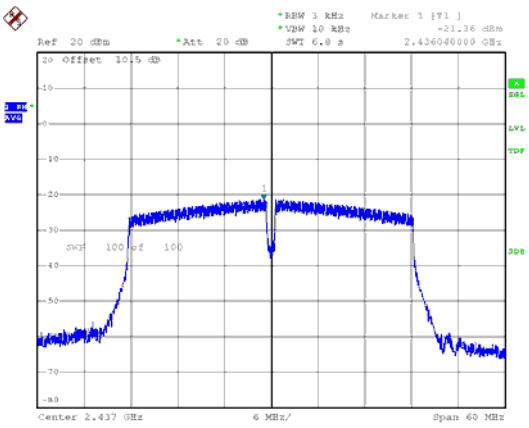
Modulation Type: 802.11n HT40
CH03



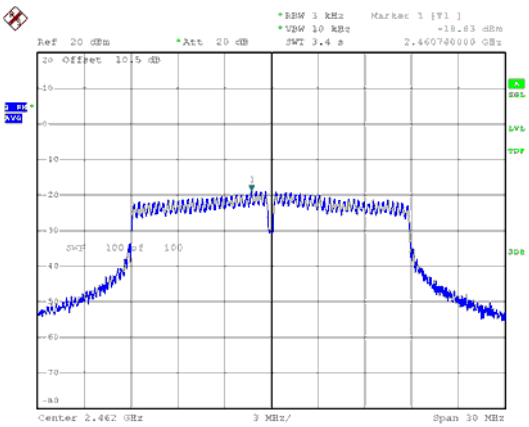
CH06



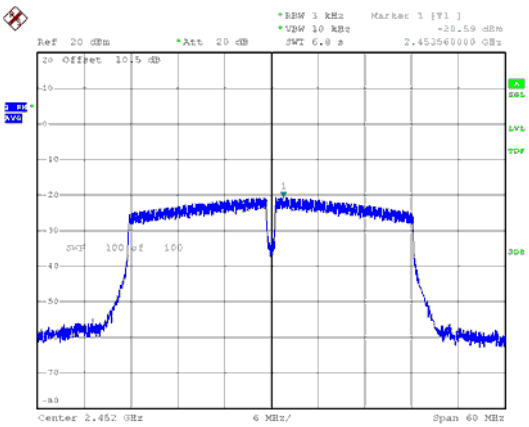
CH06



CH11



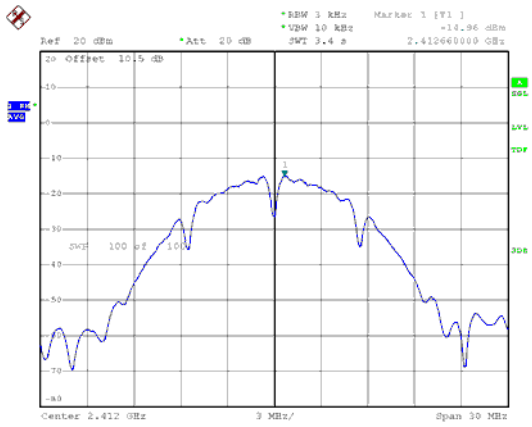
CH09



For 24010270-TRFCC03-ANT B

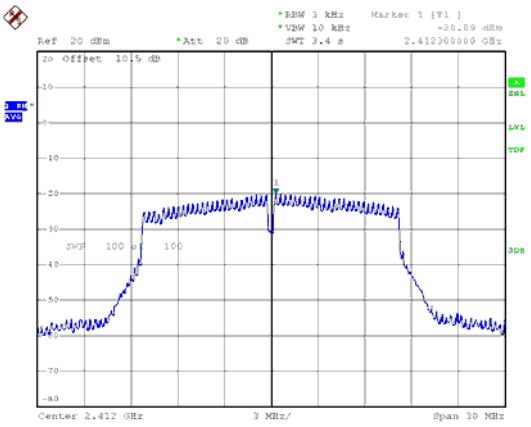
Modulation Type: 802.11b

CH01

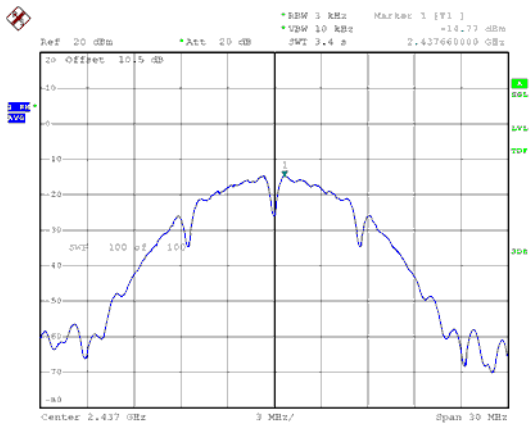


Modulation Type: 802.11g

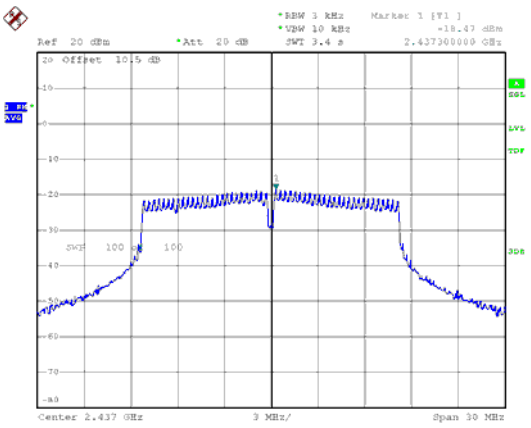
CH01



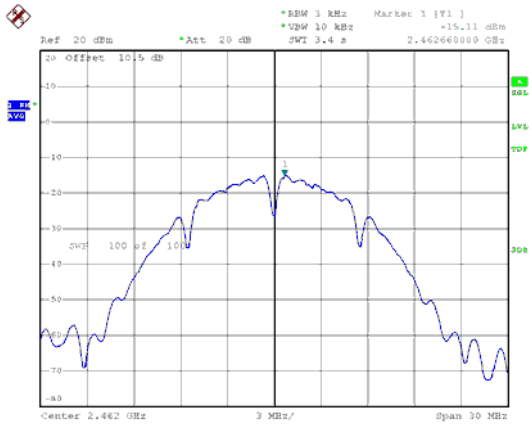
CH06



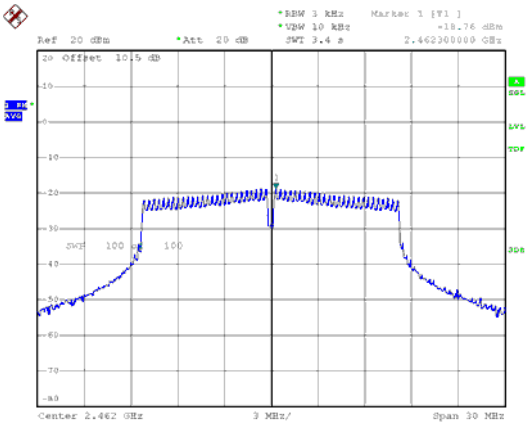
CH06



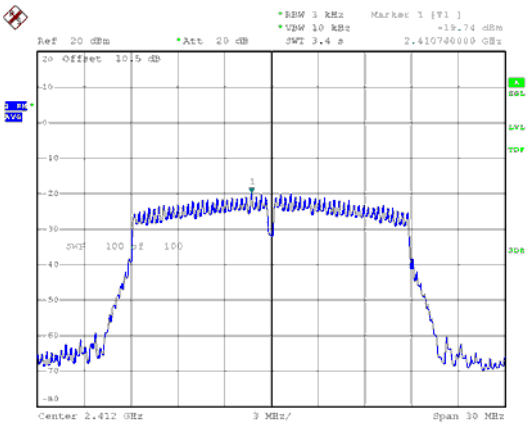
CH11



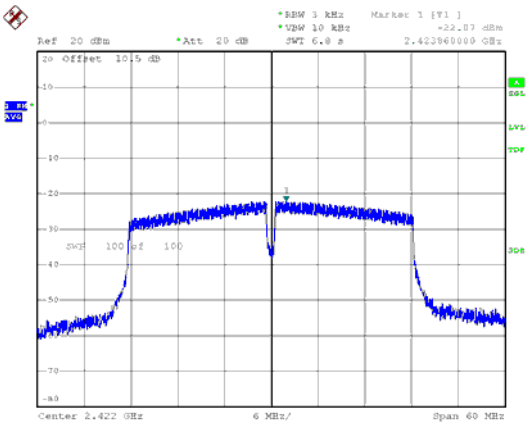
CH11



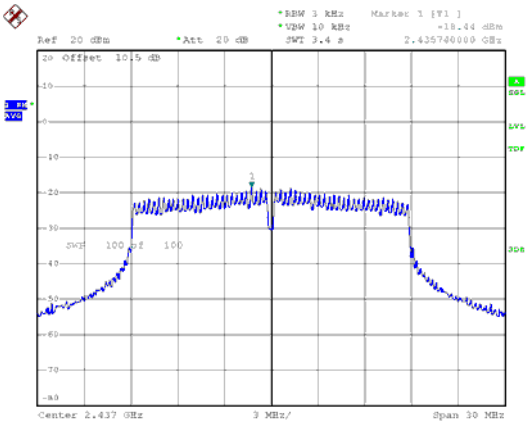
Modulation Type: 802.11n HT20
CH01



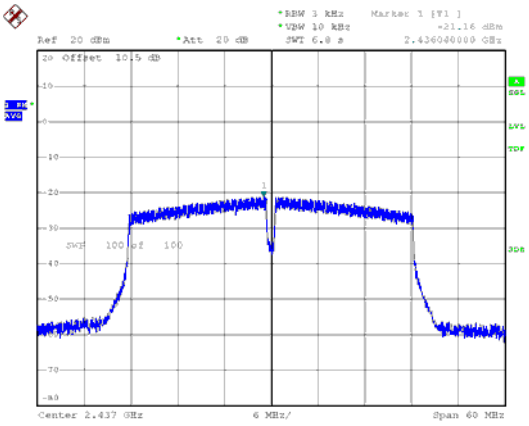
Modulation Type: 802.11n HT40
CH03



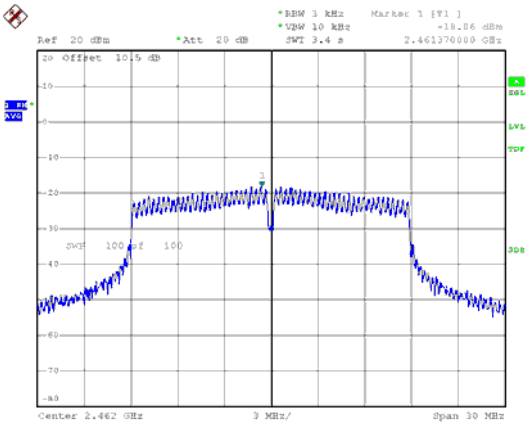
CH06



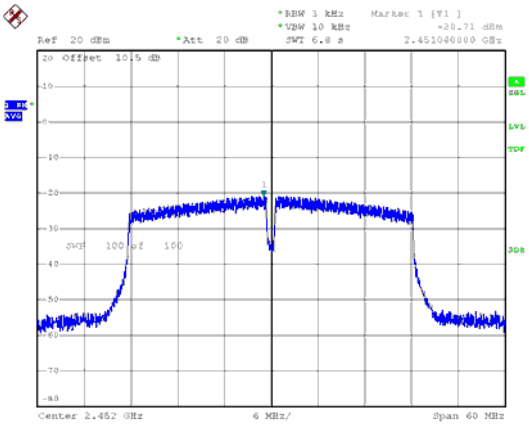
CH06



CH11

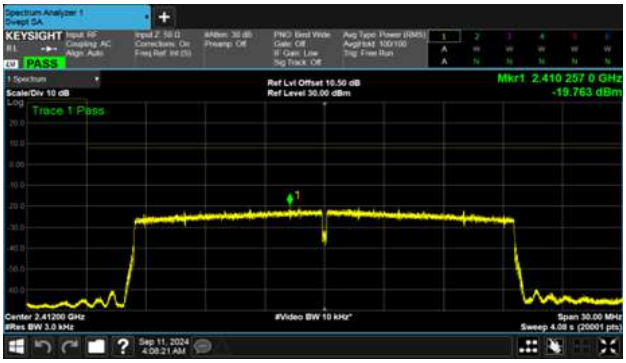


CH09

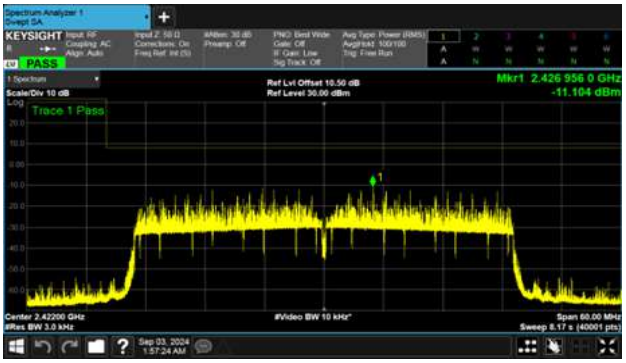


For 802.11ax add test ANT A

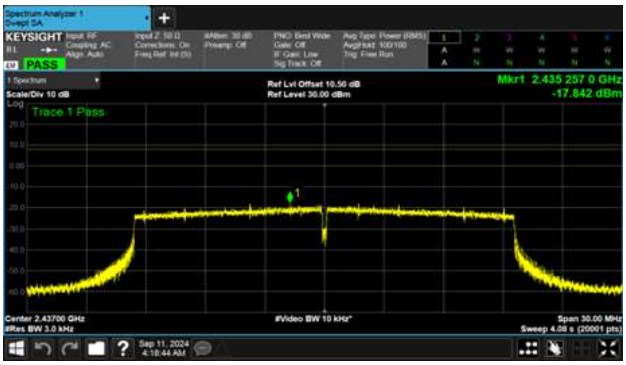
Modulation Type: 802. 11ax HE20, CH01



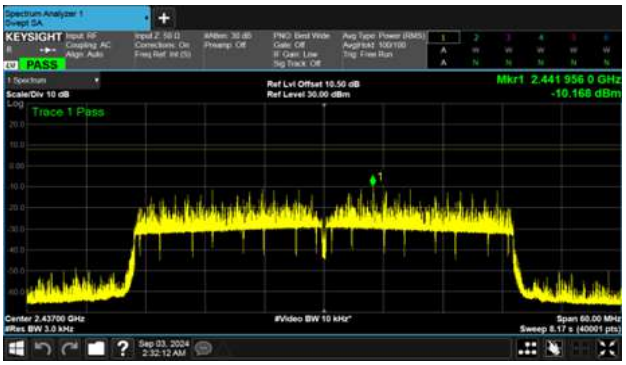
Modulation Type: 802. 11ax HE40, CH03



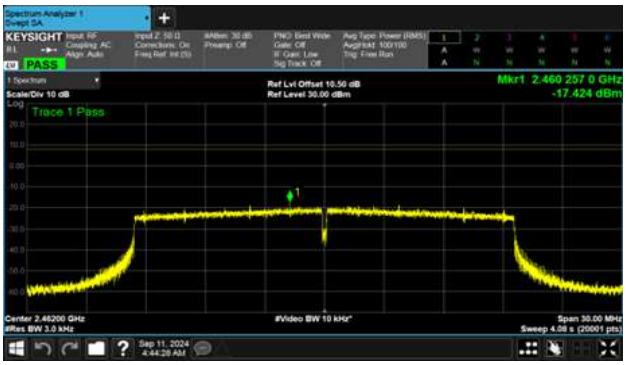
Modulation Type: 802. 11ax HE20, CH06



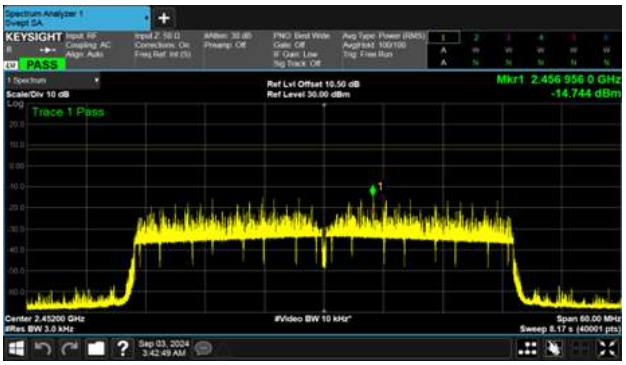
Modulation Type: 802. 11ax HE40, CH06



Modulation Type: 802. 11ax HE20 CH11

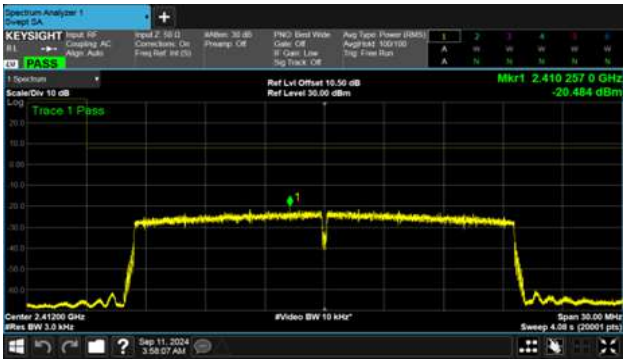


Modulation Type: 802. 11ax HE40, CH09

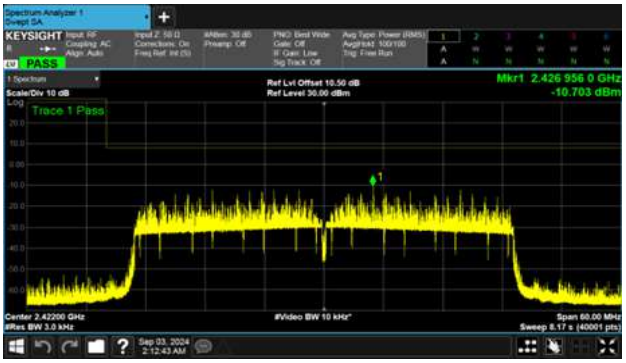


For 802.11ax add test ANT B

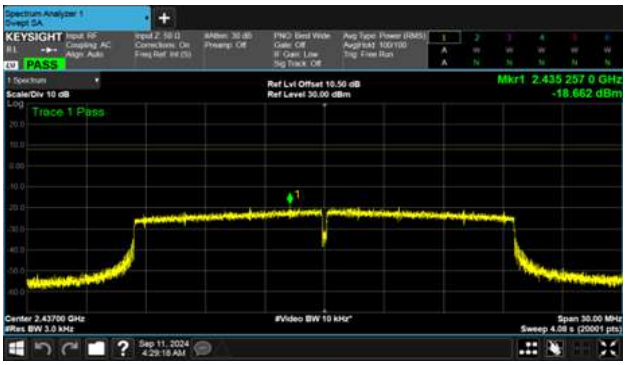
Modulation Type: 802. 11ax HE20, CH01



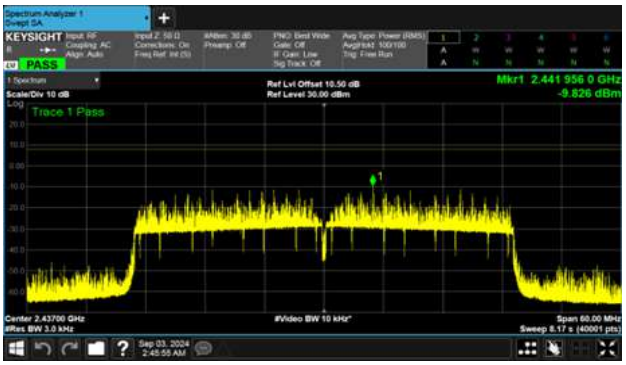
Modulation Type: 802. 11ax HE40, CH03



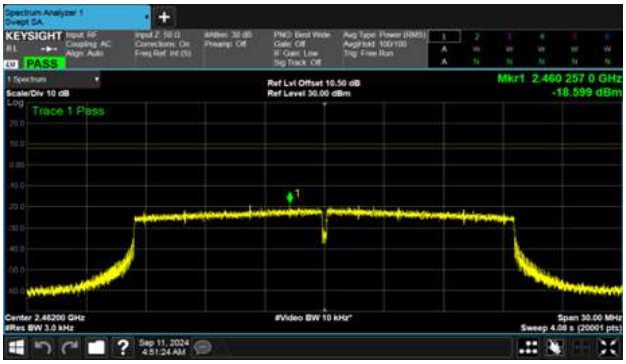
Modulation Type: 802. 11ax HE20, CH06



Modulation Type: 802. 11ax HE40, CH06



Modulation Type: 802. 11ax HE20 CH11



Modulation Type: 802. 11ax HE40, CH09