



FCC RADIO TEST REPORT

Applicant : TRENDnet, Inc.

Address : 20675 Manhattan Place, Torrance, CA 90501 U.S.A.

Equipment : AC2200 Tri-Band PoE+ Indoor Wireless Access Point

Model No. : TEW-826DAP

Trade Name : TRENDnet

FCC ID : XU8TEW826DAP

I HEREBY CERTIFY THAT :

The sample was received on Jul. 07, 2018 and the testing was carried out on Aug. 20, 2018 at CerpPASS Technology Corp. The test result refers exclusively to the test presented test model / sample. Without written approval of CerpPASS Technology Corp., the test report shall not be reproduced except in full.

Approved by:

Mark Liao / Assistant Manager

Tested by:

Spree Yei / Engineer

Laboratory Accreditation:

CerpPASS Technology Corporation Test Laboratory





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History of this test report

[illegible]



1. Summary of Test Procedure and Test Results

1.1 Applicable Standards

ANSI C63.4:2014

ANSI C63.10:2013

FCC Rules and Regulations Part 15 Subpart C §15.247

KDB558074

KDB662911

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)	. Maximum Peak and Average Output Power	Pass
15.247(e)	. Power Spectral Density	Pass
2.1091	. Radio Frequency Exposure	Pass

This EUT has been also tested and compiled with the requirement of FCC Part 15, Subpart B, recorded in a separate test report.



2. Test Configuration of Equipment under Test

2.1 Feature of Equipment and Model Description

Equipment	AC2200 Tri-Band PoE+ Indoor Wireless Access Point
Model No.	TEW-826DAP
Brand Name	TRENDnet
Product Description	Please refer to User's Manual.
Connecting I/O Port(s)	Please refer to User's Manual.
AC ADAPTER	Adapter Brand: APD Model No.: WA-24Q12R I/P: AC 100-240V~, 50-60Hz, 0.7A MAX. ; O/P: DC 12V, 2.0A
PoE	48Vdc/0.67A
Memo	1.0R
Frequency Range	802.11b/g/n: 2400~2483.5 MHz 802.11a/n/ac: 5150~5250 MHz, 5725~5850 MHz
Modulation Type	OFDM, DSSS
Data Rate	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, VHT20/40 5GHz: 802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS15, HT20/40 802.11ac: MCS0 – MCS9, VHT20/40/80
Antenna Type	PIFA Antenna
Antenna Gain	2.4GHz: ANT A: 4.85 dBi ; ANT B: 4.4 dBi 5150MHz-5250MHz: ANT A: 4.18 dBi ; ANT B: 4.81 dBi 5725MHz-5850MHz: ANT A: 4.9 dBi ; ANT B: 4.18 dBi

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.



2.2 Carrier Frequency of Channels

802.11b, 802.11g, 802.11n HT20, VHT20 (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, VHT40 (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

- During testing, the interface cables and equipment positions were varied according to ANSI C63.4.
- The complete test system included remote workstation and EUT for RF test. The remote workstation included Notebook.
- An executive program, "QDART:39.1" under WIN 8 was executed to transmit and receive data via WLAN.
- The following test modes were performed for the test:

Conducted Emissions from the AC mains power ports	
Test Mode	Operating Description
1	802.11b (1Mbps)
2	802.11g (6Mbps)
3	VHT20 (6.5Mbps)
4	VHT40 (13.5Mbps)
caused "Test Mode 1" generated the worst case, it was reported as the final data.	
Radiation Emissions (30MHz ~ 1GHz)	
Test Mode	Operating Description
1	802.11b (1Mbps), Power from Adapter
2	802.11g (6Mbps), Power from Adapter
3	VHT20 (6.5Mbps), Power from Adapter
4	VHT40 (13.5Mbps), Power from Adapter
5	802.11b (1Mbps), Power from PoE
6	802.11g (6Mbps), Power from PoE
7	VHT20 (6.5Mbps), Power from PoE
8	VHT40 (13.5Mbps), Power from PoE
caused "Test Mode 1,5" generated the worst case, they were reported as the final data.	
Radiation Emissions (1GHz ~ 25GHz)	
Test Mode	Operating Description
1	802.11b (1Mbps), Power from Adapter
2	802.11g (6Mbps), Power from Adapter
3	VHT20 (6.5Mbps), Power from Adapter
4	VHT40 (13.5Mbps), Power from Adapter
caused "Test Mode 1~4" generated the worst case, they were reported as the final data.	

- Note: 1. Non-Beamforming was used for the test result.
2. The Thermal Pad of P300K was the worst case, so it was used for the test result.

2.4 Description of Test System

Device	Manufacturer	Model No.	Description
Remote workstation			
Notebook	DELL	LatitudeE5450/5450	Power Cable, Unshielding, 1.8m



2.5 General Information of Test

Test Site	CerpPASS 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 Address: No.68-1, Shihbachongsi, Shihding Township, New Taipei City 223, Taiwan, R.O.C. Tel: +886-2-2663-8582	
	FCC	TW1079, TW1061, TW1439
	IC	4934E-1, 4934E-2
	VCCI	T-2205 for Telecommunication Test C-4663 for Conducted emission test R-4399, R-4218 for Radiated emission test G-10812, G-10813 for radiated disturbance above 1GHz
Frequency Range Investigated:	Conducted: from 150kHz to 30 MHz Radiation: from 30 MHz to 25,000MHz	
Test Distance:	The test distance of radiated emission from antenna to EUT is 3 M.	

2.6 Measurement Uncertainty

Measurement Item	Uncertainty
Radiated Spurious Emission(9KHz~30MHz)	±5.007dB
Radiated Spurious Emission(30MHz~1GHz)	±5.157dB
Radiated Spurious Emission(1GHz~18GHz)	±6.383dB
Radiated Spurious Emission(18GHz~40GHz)	±6.648dB
Conducted Spurious Emission	±1.253dB
6dB Bandwidth	±6.89%
Power Spectral Density	±0.630dB
26 dB Occupied Bandwidth	±6.10%
Frequency Stability	±375KHz
Channel Frequencies Separation	±6.10%
20dB Bandwidth	±6.12%
Dwell Time	±1.34%
Peak Output Power(Conducted Power Meter)	±0.86dB
Temperature	±1.2°C
Humidity	±2.7%
Channel Move Time	±4.53%
Channel Closing Transmission Time	±6.61%
Threshold	±0.631dB
Non occupancy period	±1.17%



3. Test Equipment and Ancillaries Used for Tests

Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
EMI Receiver	R&S	ESCI3	100821	2017/09/08	2018/09/07
LISN	Schwarzbeck	NSLK 8127	8127-568	2018/02/26	2019/02/25
Pulse Limiter	R&S	ESH3-Z2	101934	2018/02/22	2019/02/21
Bilog Antenna	Schwarzbeck	VULB9168	275	2017/08/31	2018/08/30
Active Loop Antenna	EMCO	6507	40855	2018/05/22	2019/05/21
Horn Antenna	EMCO	3115	31601	2017/09/11	2018/09/10
Horn Antenna	EMCO	3116	31970	2018/03/23	2019/03/22
Preamplifier	EM	EM330	60658	2017/09/08	2018/09/07
Preamplifier	EMC INSTRUMENTS	EMC051845SE	980333	2017/09/20	2018/09/19
Preamplifier	EMC INSTRUMENTS	EMC184045	980065	2017/11/10	2018/11/09
MXG MW Analog Signal Generator	KEYSIGHT	N5183A	MY50142931	2018/04/10	2019/04/09
Spectrum Analyzer	R&S	FSP40	100219	2018/07/03	2019/07/02
BLUETOOTH TESTER	R&S	CBT	101133	2018/04/02	2019/04/01
Attenuator	KEYSIGHT	8491B	MY39250705	2017/09/04	2018/09/03
Rotary Attenuator	Agilent	8495B	MY42146680	2018/03/29	2019/03/28
Temp & Humi chamber	T-MACHINE	TMJ-9712	T-12-040111	2017/09/04	2018/09/03
Series Power Meter	Anritsu	ML2495A	1224005	2018/03/23	2019/03/22
Power Sensor	Anritsu	MA2411B	1207295	2018/03/23	2019/03/22
Software	Farad	Ez-EMC	ver.ct3a1	N/A	N/A
Software	AUDIX	E3	V8.2014-8-6	N/A	N/A
Software	Keysight	N7607B Signal Studio	V3.0.0.0	N/A	N/A
Software	Keysight	Inservice MonitorUtility	N/A	N/A	N/A



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	PIFA Antenna
Antenna Gain	2.4GHz: ANT A: 4.85 dBi ; ANT B: 4.4 dBi 5150MHz-5250MHz: ANT A: 4.18 dBi ; ANT B: 4.81 dBi 5725MHz-5850MHz: ANT A: 4.9 dBi ; ANT B: 4.18 dBi

(Non-Beamforming)

2412-2462MHz
For Power directional gain= $G_{ant}= 4.85 \text{ dBi}$ For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT]$ = 7.64 (dBi)
5150MHz -5250MHz
For Power directional gain= $G_{ant}= 4.81 \text{ dBi}$ For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT]$ = 7.51 (dBi)
5725MHz -5850MHz
For Power directional gain= $G_{ant}= 4.9 \text{ dBi}$ For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT]$ = 7.56 (dBi)

(Beamforming)

2412-2462MHz
For Power directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT] = 7.64 \text{ dBi}$ For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT] = 7.64 \text{ (dBi)}$
5150MHz -5250MHz
For Power directional gain= $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT] = 7.51 \text{ (dBi)}$ For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT] = 7.51 \text{ (dBi)}$
5725MHz -5850MHz
For Power directional gain= $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT] = 7.56 \text{ (dBi)}$ For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT] = 7.56 \text{ (dBi)}$



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 C63.4-2014. 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

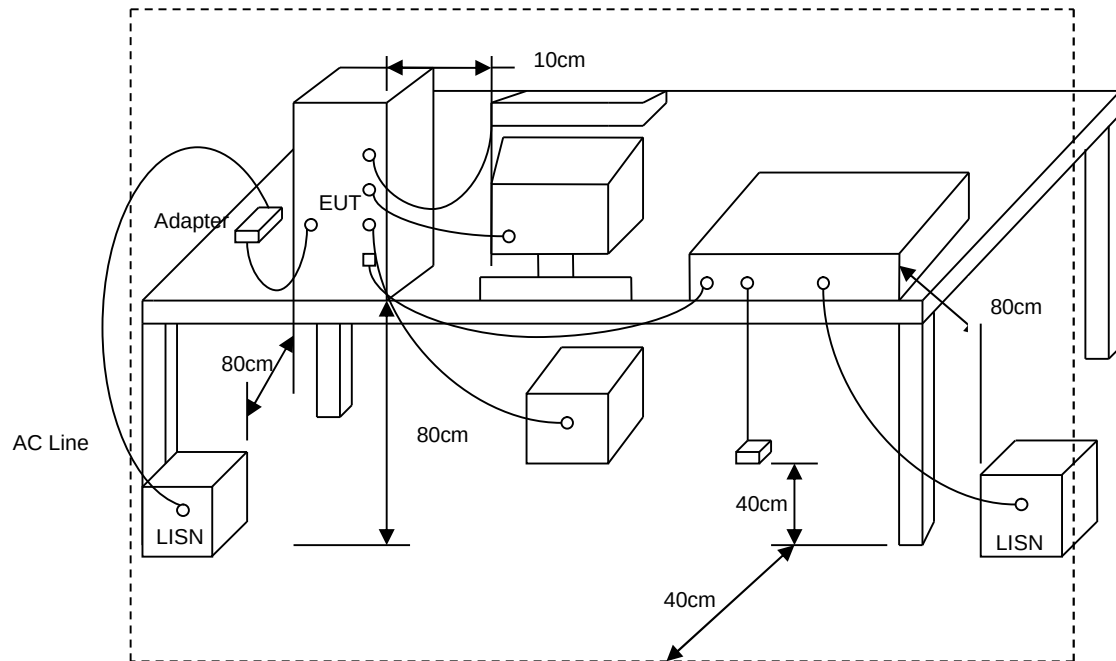
*Decreases with the logarithm of the frequency.

5.2 Test Procedures

- 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.
- Connect EUT to the power mains through a line impedance stabilization network (LISN).
- All the support units are connecting to the other LISN.
- The LISN provides 50 ohm coupling impedance for the measuring instrument.
- The FCC states that a 50 ohm, 50 micro-Henry LISN should be used.
- Both sides of AC line were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched.
- Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.



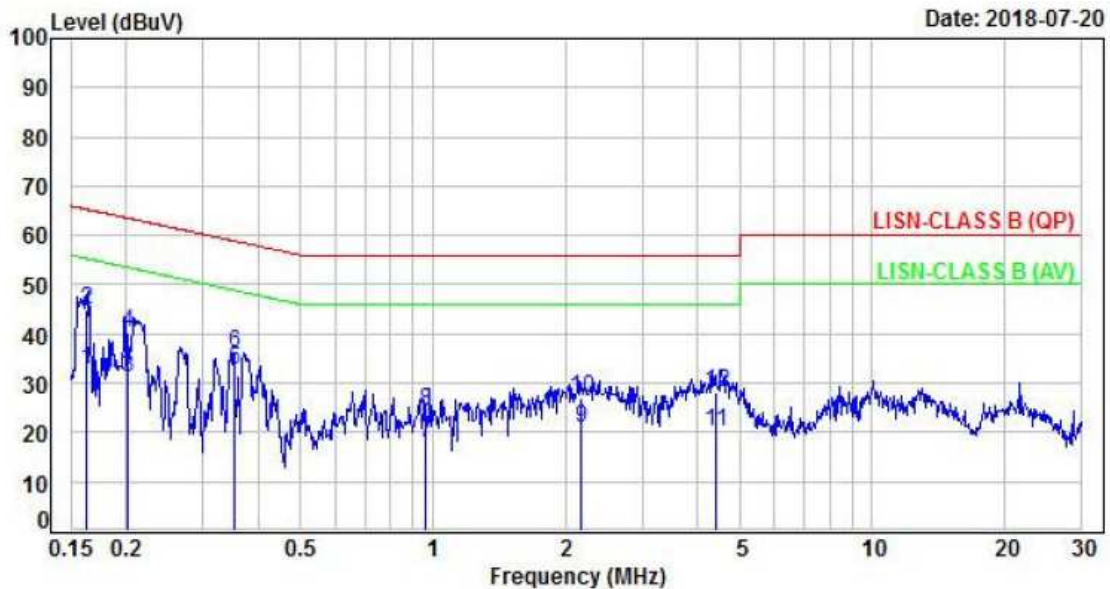
5.3 Typical Test Setup





5.4 Test Result and Data

Power	: AC 120V	Pol/Phase	: LINE
Test Mode	: Mode 1	Temperature	: 20 °C
Test Date	: Jul. 20, 2018	Humidity	: 40 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.16	9.70	22.86	32.56	55.36	-22.80	Average	P
2	0.16	9.70	35.00	44.70	65.36	-20.66	QP	P
3	0.20	9.69	21.36	31.05	53.53	-22.48	Average	P
4	0.20	9.69	30.69	40.38	63.53	-23.15	QP	P
5	0.35	9.70	22.82	32.52	48.89	-16.37	Average	P
6	0.35	9.70	26.57	36.27	58.89	-22.62	QP	P
7	0.96	9.73	8.31	18.04	46.00	-27.96	Average	P
8	0.96	9.73	14.77	24.50	56.00	-31.50	QP	P
9	2.18	9.80	11.09	20.89	46.00	-25.11	Average	P
10	2.18	9.80	17.32	27.12	56.00	-28.88	QP	P
11	4.42	9.85	10.18	20.03	46.00	-25.97	Average	P
12	4.42	9.85	18.40	28.25	56.00	-27.75	QP	P

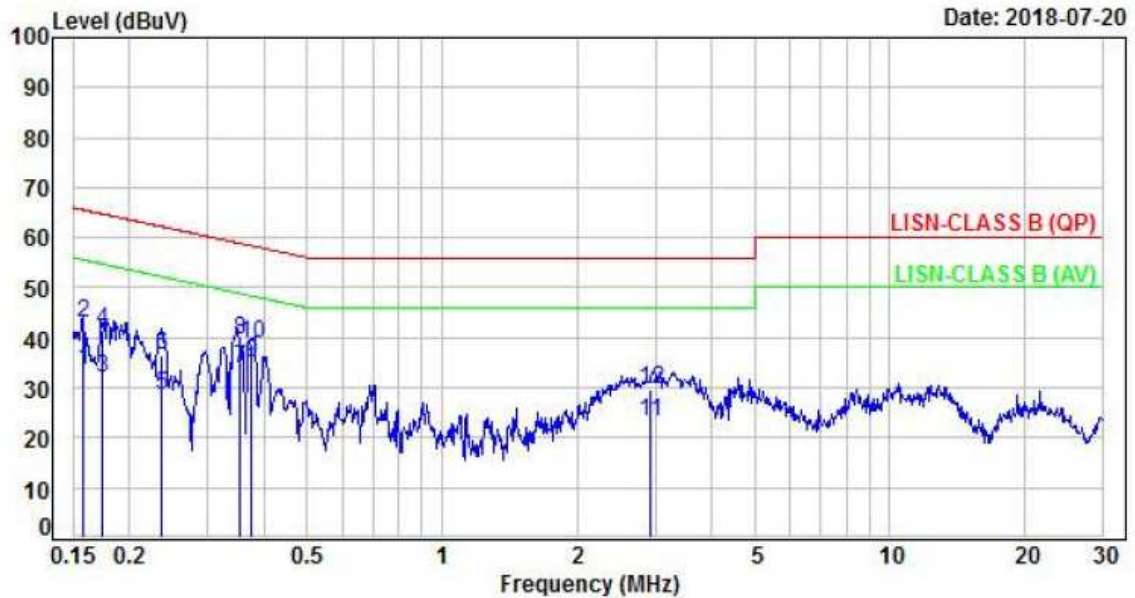
Note: Level = Reading + Factor

Margin = Level – Limit

Factor = (LISN, ISN, PLC or current probe) Factor + Cable Loss+ Attenuator



Power	: AC 120V	Pol/Phase	: NEUTRAL
Test Mode	: Mode 1	Temperature	: 20 °C
Test Date	: Jul. 20, 2018	Humidity	: 40 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.16	9.70	23.80	33.50	55.56	-22.06	Average	P
2	0.16	9.70	33.45	43.15	65.56	-22.41	QP	P
3	0.17	9.70	22.22	31.92	54.79	-22.87	Average	P
4	0.17	9.70	31.89	41.59	64.79	-23.20	QP	P
5	0.24	9.70	18.89	28.59	52.23	-23.64	Average	P
6	0.24	9.70	26.86	36.56	62.23	-25.67	QP	P
7	0.35	9.70	24.13	33.83	48.85	-15.02	Average	P
8	0.35	9.70	29.75	39.45	58.85	-19.40	QP	P
9	0.38	9.70	25.37	35.07	48.37	-13.30	Average	P
10	0.38	9.70	29.05	38.75	58.37	-19.62	QP	P
11	2.92	9.83	13.30	23.13	46.00	-22.87	Average	P
12	2.92	9.83	19.77	29.60	56.00	-26.40	QP	P

Note: Level = Reading + Factor

Margin = Level – Limit

Factor = (LISN, ISN, PLC or current probe) Factor + Cable Loss+ Attenuator



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

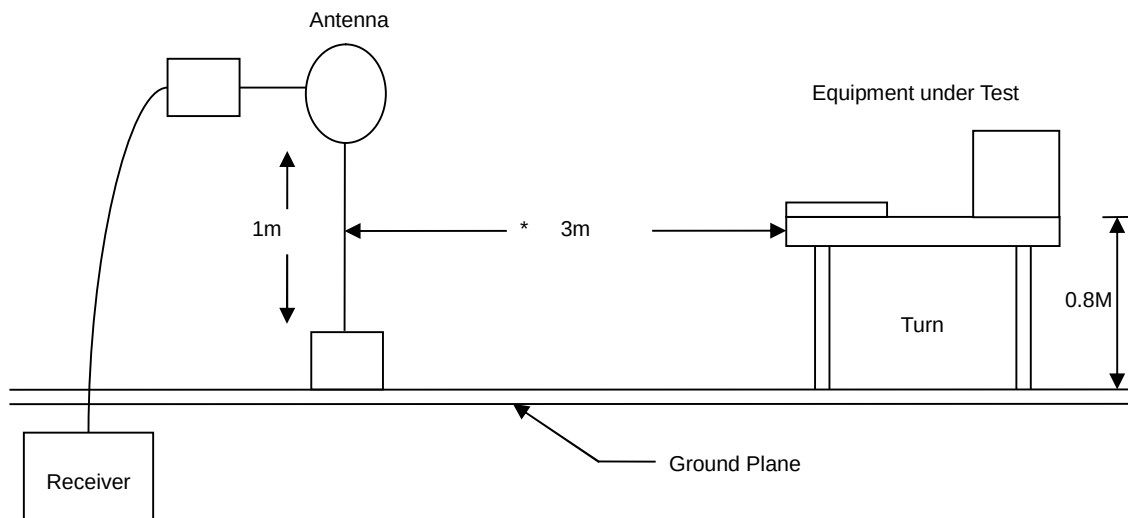
6.2 Test Procedures

- The EUT was placed on a rotatable table top 0.8 meter above ground.
- The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
- The table was rotated 360 degrees to determine the position of the highest radiation.
- 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.
- 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.
- Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
- 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.
- 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.
- "Cone of radiation" has been considered to be 3dB bandwidth of the measurement antenna.

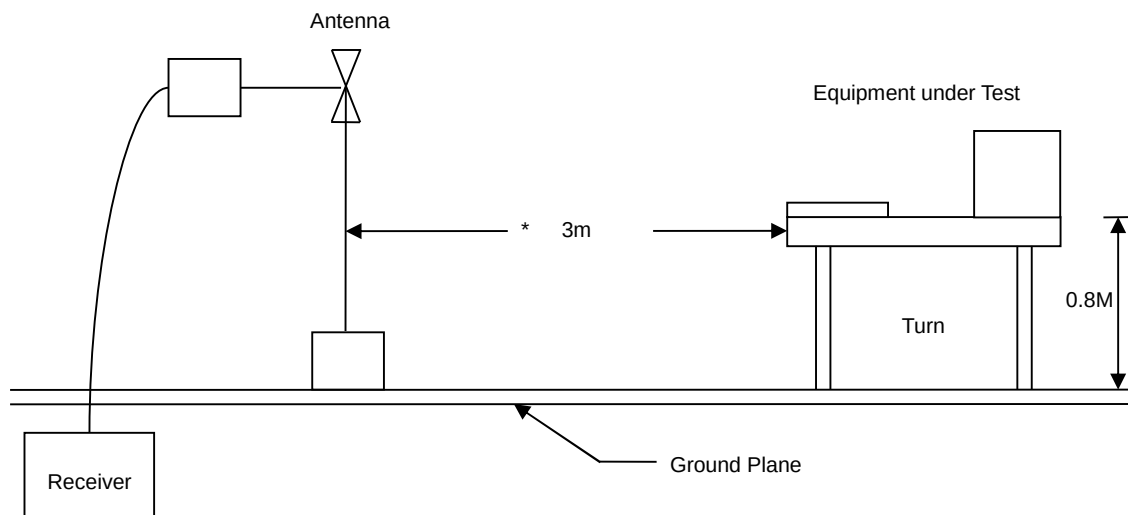


6.3 Typical Test Setup

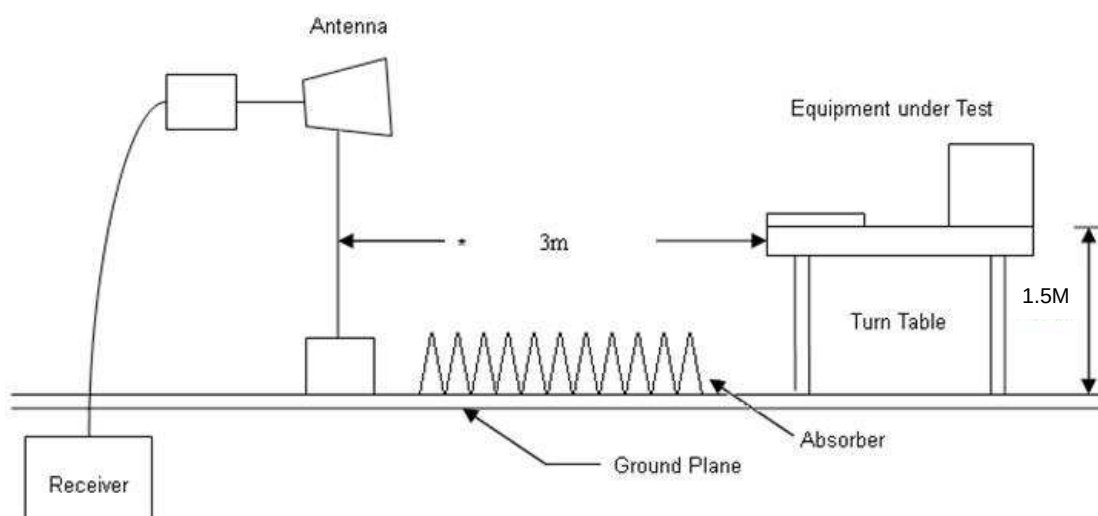
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup



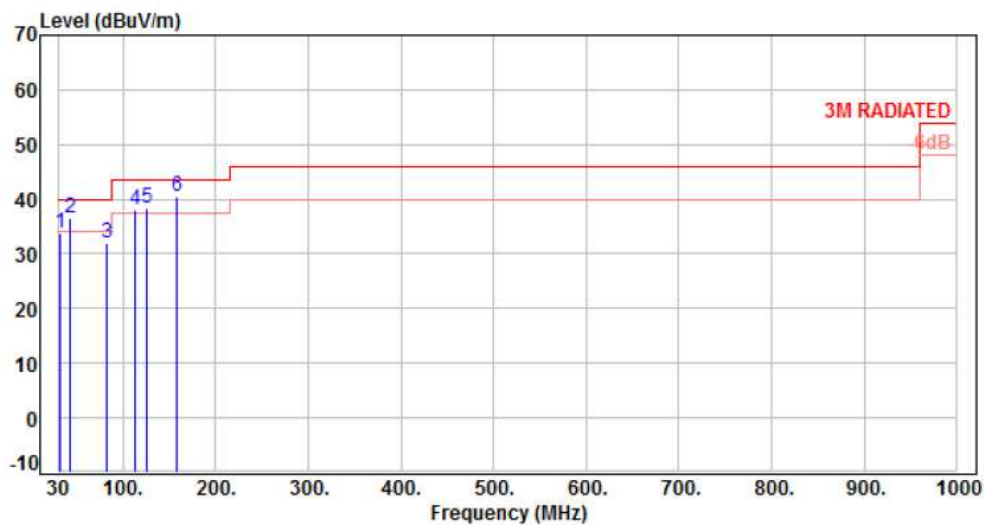


6.4 Test Result and Data (9KHz ~ 30MHz)

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

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

Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1	Temperature	: 23 °C
Test Date	: Jul. 07, 2018	Humidity	: 61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	32.91	-11.64	45.30	33.66	40.00	-6.34	QP	100	173	P
2	42.61	-10.93	47.33	36.40	40.00	-3.60	QP	100	152	P
3	82.38	-15.56	47.51	31.95	40.00	-8.05	QP	103	33	P
4	112.45	-14.00	52.04	38.04	43.50	-5.46	Peak	400	0	P
5	125.06	-12.88	51.10	38.22	43.50	-5.28	Peak	400	0	P
6	158.04	-10.88	51.34	40.46	43.50	-3.04	QP	100	20	P

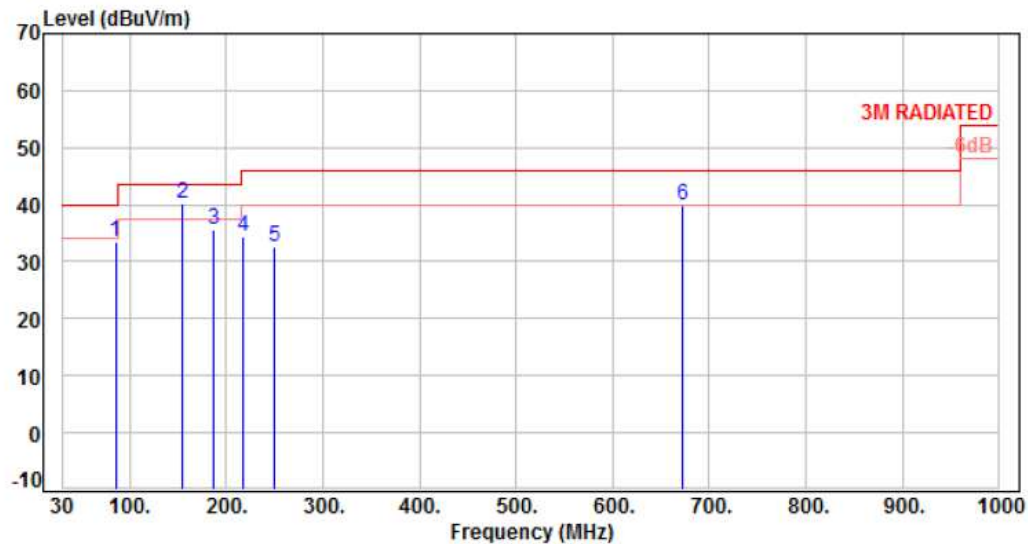
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1	Temperature	: 23 °C
Test Date	: Jul. 07, 2018	Humidity	: 61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	85.29	-16.00	49.58	33.58	40.00	-6.42	Peak	100	0	P
2	155.13	-10.95	51.06	40.11	43.50	-3.39	QP	150	126	P
3	186.17	-12.58	48.15	35.57	43.50	-7.93	Peak	100	0	P
4	218.18	-12.90	47.17	34.27	46.00	-11.73	Peak	100	0	P
5	250.19	-11.64	44.15	32.51	46.00	-13.49	Peak	100	0	P
6	672.14	-1.80	41.70	39.90	46.00	-6.10	Peak	100	0	P

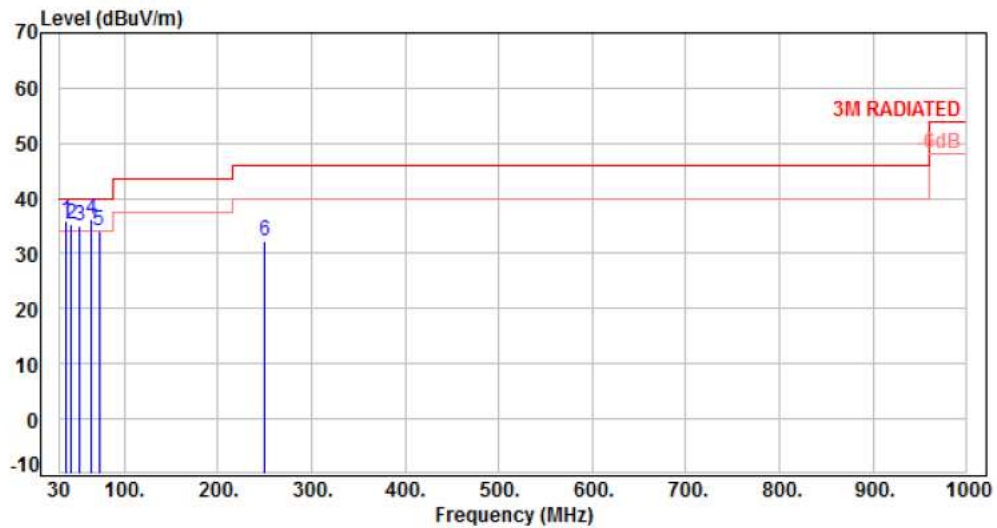
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: PoE	Pol/Phase	: VERTICAL
Test Mode	: Mode 5	Temperature	: 23 °C
Test Date	: Jul. 07, 2018	Humidity	: 61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	36.79	-11.44	47.34	35.90	40.00	-4.10	QP	100	285	P
2	43.58	-10.86	46.16	35.30	40.00	-4.70	QP	100	266	P
3	51.34	-10.69	45.64	34.95	40.00	-5.05	QP	100	325	P
4	64.92	-12.05	48.43	36.38	40.00	-3.62	Peak	400	0	P
5	72.68	-13.52	47.52	34.00	40.00	-6.00	Peak	400	0	P
6	250.19	-11.64	43.82	32.18	46.00	-13.82	Peak	400	0	P

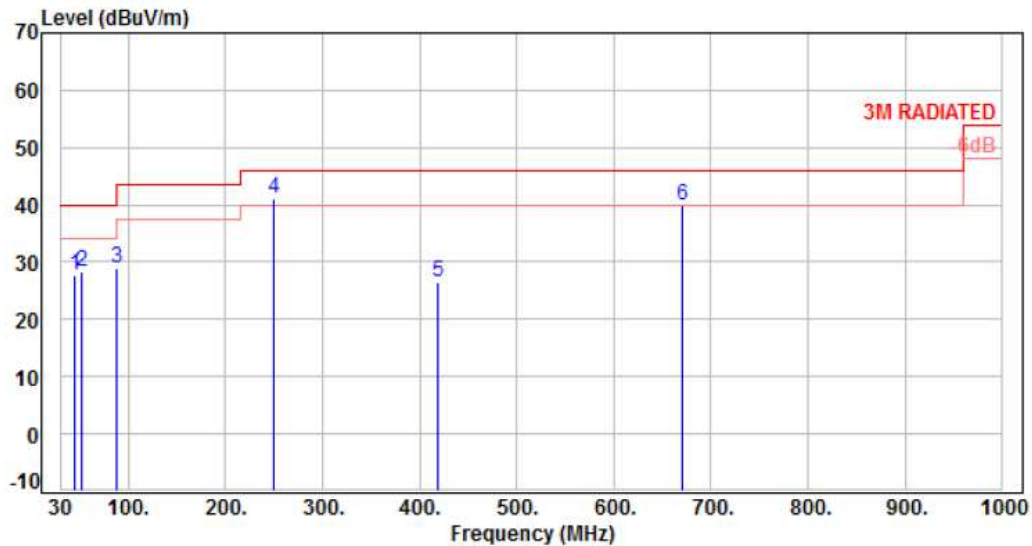
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: PoE	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 5	Temperature	: 23 °C
Test Date	: Jul. 07, 2018	Humidity	: 61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	44.55	-10.80	38.45	27.65	40.00	-12.35	Peak	100	0	P
2	51.34	-10.69	39.02	28.33	40.00	-11.67	Peak	100	0	P
3	88.20	-16.43	45.37	28.94	43.50	-14.56	Peak	100	0	P
4	250.19	-11.64	52.86	41.22	46.00	-4.78	Peak	100	0	P
5	418.97	-6.61	32.98	26.37	46.00	-19.63	Peak	100	0	P
6	670.20	-1.83	41.80	39.97	46.00	-6.03	Peak	100	0	P

Note: Level=Reading+Factor

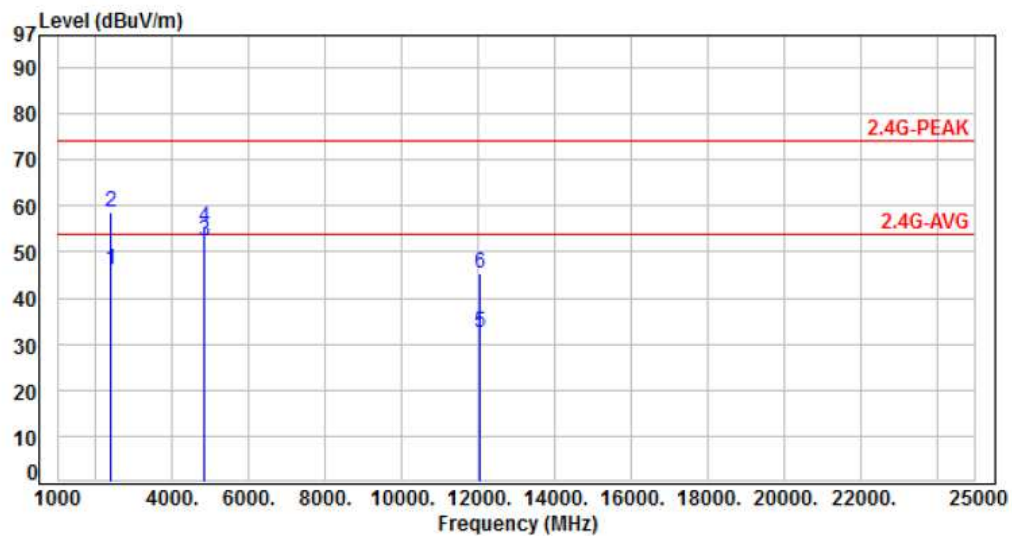
Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



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

Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH01	Temperature	: 23 °C
Test Date	: Jul. 07, 2018	Humidity	: 61 %



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	-15.96	61.93	45.97	54.00	-8.03	Average	359	360	P
2	2390.00	-15.96	74.54	58.58	74.00	-15.42	Peak	359	360	P
3	4824.00	-8.80	61.33	52.53	54.00	-1.47	Average	132	314	P
4	4824.00	-8.80	63.99	55.19	74.00	-18.81	Peak	132	314	P
5	12060.00	1.21	31.12	32.33	54.00	-21.67	Average	100	360	P
6	12060.00	1.21	44.09	45.30	74.00	-28.70	Peak	100	360	P

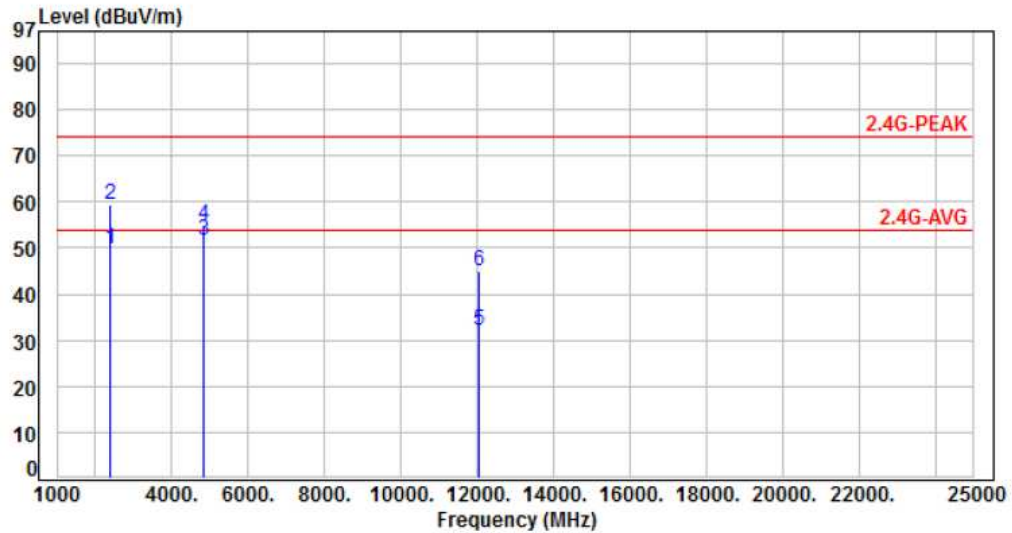
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH01	Temperature	: 23 °C
Test Date	: Jul. 07, 2018	Humidity	: 61 %



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	-15.96	65.90	49.94	54.00	-4.06	Average	177	286	P
2	2390.00	-15.96	75.28	59.32	74.00	-14.68	Peak	177	286	P
3	4824.00	-8.80	60.57	51.77	54.00	-2.23	Average	116	337	P
4	4824.00	-8.80	63.60	54.80	74.00	-19.20	Peak	116	337	P
5	12060.00	1.21	30.70	31.91	54.00	-22.09	Average	100	120	P
6	12060.00	1.21	43.94	45.15	74.00	-28.85	Peak	100	120	P

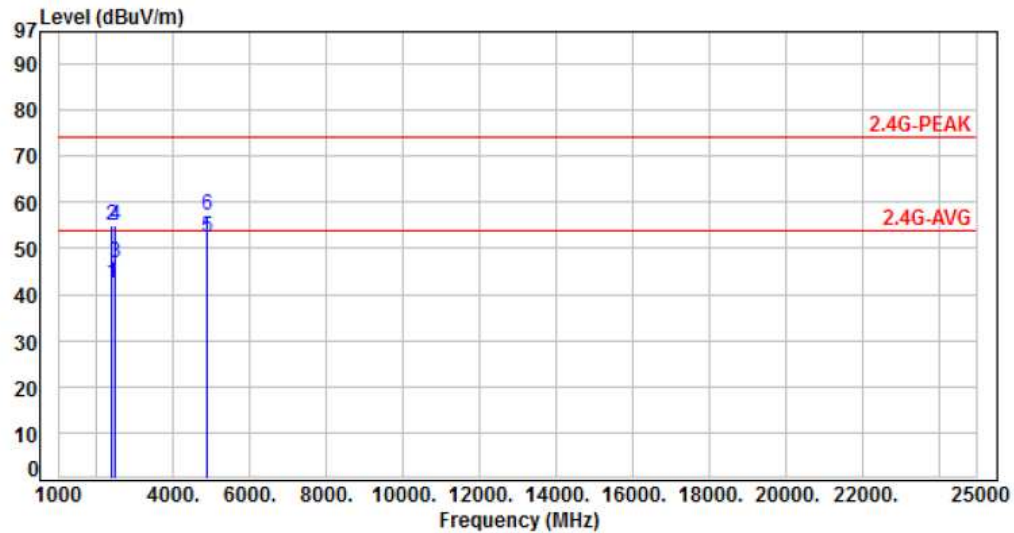
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH06	Temperature	: 23 °C
Test Date	: Jul. 07, 2018	Humidity	: 61 %



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	-15.96	58.21	42.25	54.00	-11.75	Average	151	32	P
2	2390.00	-15.96	71.10	55.14	74.00	-18.86	Peak	151	32	P
3	2483.50	-15.65	62.43	46.78	54.00	-7.22	Average	151	32	P
4	2483.50	-15.65	70.69	55.04	74.00	-18.96	Peak	151	32	P
5	4874.00	-8.65	61.00	52.35	54.00	-1.65	Average	114	313	P
6	4874.00	-8.65	65.65	57.00	74.00	-17.00	Peak	114	313	P

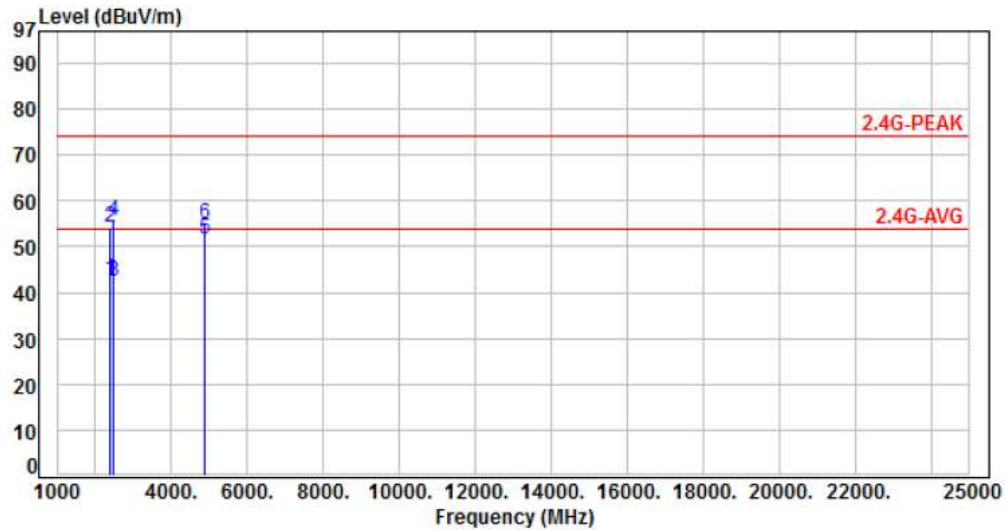
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH06	Temperature	: 23 °C
Test Date	: Jul. 07, 2018	Humidity	: 61 %



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	-15.96	58.66	42.70	54.00	-11.30	Average	263	354	P
2	2390.00	-15.96	70.35	54.39	74.00	-19.61	Peak	263	354	P
3	2483.50	-15.65	58.15	42.50	54.00	-11.50	Average	263	354	P
4	2483.50	-15.65	71.36	55.71	74.00	-18.29	Peak	263	354	P
5	4874.00	-8.65	60.44	51.79	54.00	-2.21	Average	130	334	P
6	4874.00	-8.65	63.55	54.90	74.00	-19.10	Peak	130	334	P

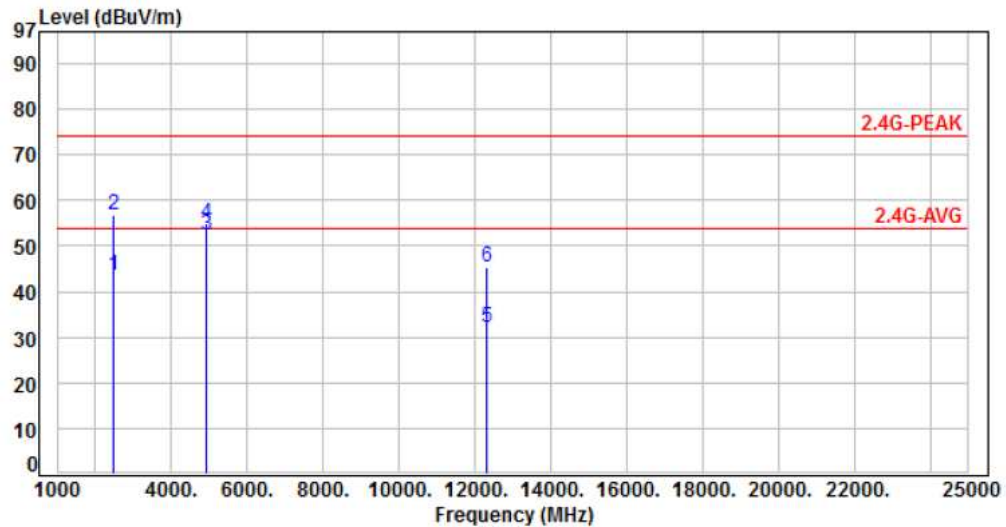
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH11	Temperature	: 23 °C
Test Date	: Jul. 07, 2018	Humidity	: 61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBUV)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.65	59.20	43.55	54.00	-10.45	Average	337	360	P
2	2483.50	-15.65	72.60	56.95	74.00	-17.05	Peak	337	360	P
3	4924.00	-8.49	60.85	52.36	54.00	-1.64	Average	170	318	P
4	4924.00	-8.49	63.59	55.10	74.00	-18.90	Peak	170	318	P
5	12310.00	1.44	30.59	32.03	54.00	-21.97	Average	100	351	P
6	12310.00	1.44	43.82	45.26	74.00	-28.74	Peak	100	351	P

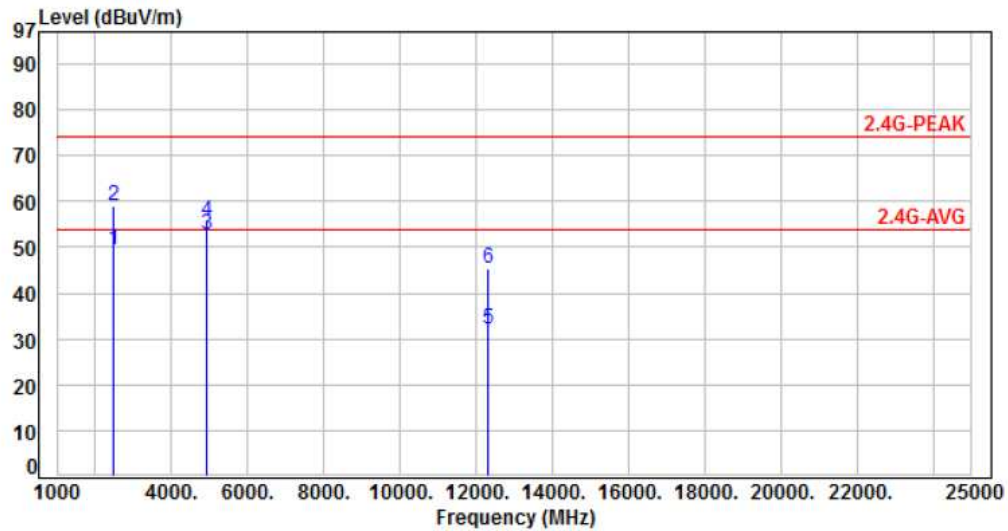
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH11	Temperature	: 23 °C
Test Date	: Jul. 07, 2018	Humidity	: 61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBUV)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.65	64.95	49.30	54.00	-4.70	Average	188	296	P
2	2483.50	-15.65	74.60	58.95	74.00	-15.05	Peak	188	296	P
3	4924.00	-8.49	61.39	52.90	54.00	-1.10	Average	197	191	P
4	4924.00	-8.49	64.34	55.85	74.00	-18.15	Peak	197	191	P
5	12310.00	1.44	30.53	31.97	54.00	-22.03	Average	100	136	P
6	12310.00	1.44	43.86	45.30	74.00	-28.70	Peak	100	136	P

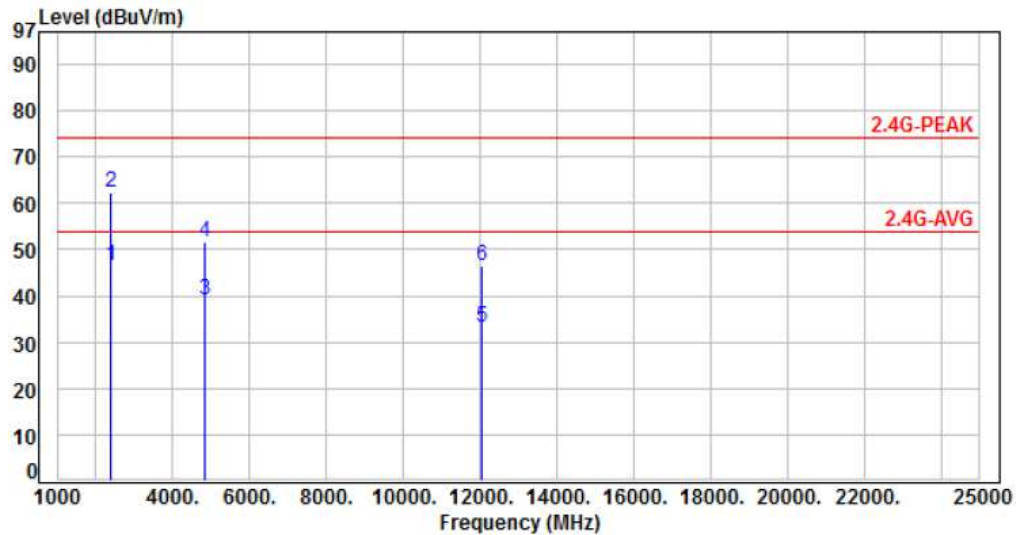
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH01	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %



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	-15.96	62.43	46.47	54.00	-7.53	Average	309	316	P
2	2390.00	-15.96	78.35	62.39	74.00	-11.61	Peak	309	316	P
3	4824.00	-8.80	47.86	39.06	54.00	-14.94	Average	119	350	P
4	4824.00	-8.80	60.50	51.70	74.00	-22.30	Peak	119	350	P
5	12060.00	1.21	31.98	33.19	54.00	-20.81	Average	112	326	P
6	12060.00	1.21	45.40	46.61	74.00	-27.39	Peak	112	326	P

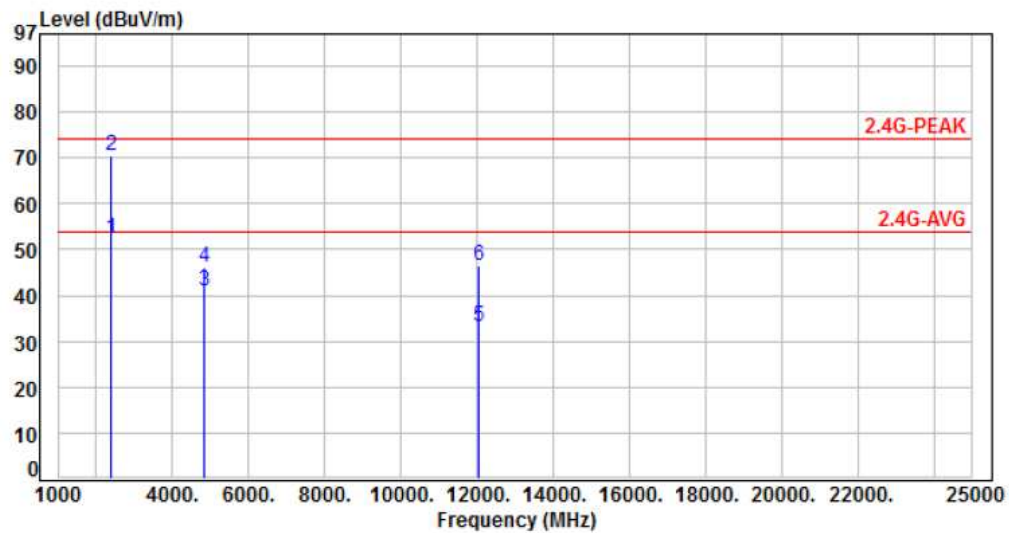
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH01	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %



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	-15.96	68.42	52.46	54.00	-1.54	Average	101	31	P
2	2390.00	-15.96	86.32	70.36	74.00	-3.64	Peak	101	31	P
3	4824.00	-8.80	49.71	40.91	54.00	-13.09	Average	100	123	P
4	4824.00	-8.80	54.82	46.02	74.00	-27.98	Peak	100	123	P
5	12060.00	1.21	32.08	33.29	54.00	-20.71	Average	106	38	P
6	12060.00	1.21	45.19	46.40	74.00	-27.60	Peak	106	38	P

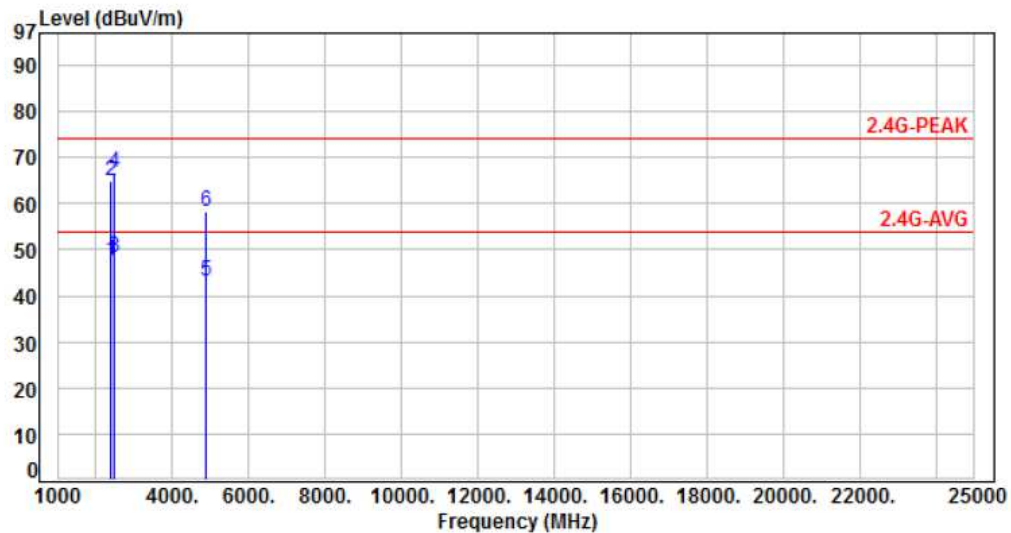
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH06	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %



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	-15.96	63.46	47.50	54.00	-6.50	Average	359	329	P
2	2390.00	-15.96	80.95	64.99	74.00	-9.01	Peak	359	329	P
3	2483.50	-15.65	64.05	48.40	54.00	-5.60	Average	370	360	P
4	2483.50	-15.65	82.32	66.67	74.00	-7.33	Peak	370	360	P
5	4874.00	-8.65	51.73	43.08	54.00	-10.92	Average	395	324	P
6	4874.00	-8.65	66.82	58.17	74.00	-15.83	Peak	395	324	P

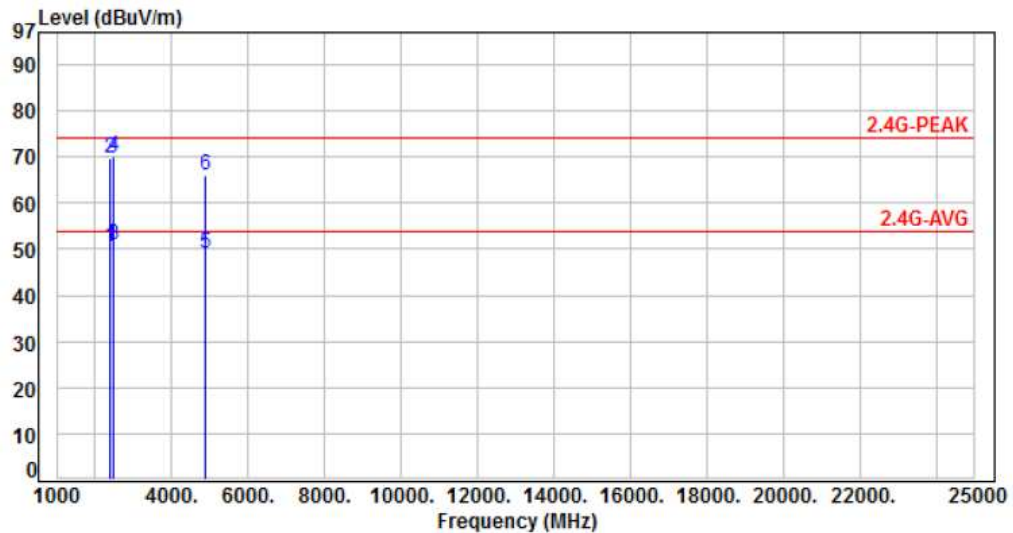
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH06	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %



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	-15.96	66.52	50.56	54.00	-3.44	Average	177	288	P
2	2390.00	-15.96	85.58	69.62	74.00	-4.38	Peak	177	288	P
3	2483.50	-15.65	66.51	50.86	54.00	-3.14	Average	216	304	P
4	2483.50	-15.65	85.61	69.96	74.00	-4.04	Peak	216	304	P
5	4874.00	-8.65	57.75	49.10	54.00	-4.90	Average	158	358	P
6	4874.00	-8.65	74.78	66.13	74.00	-7.87	Peak	158	358	P

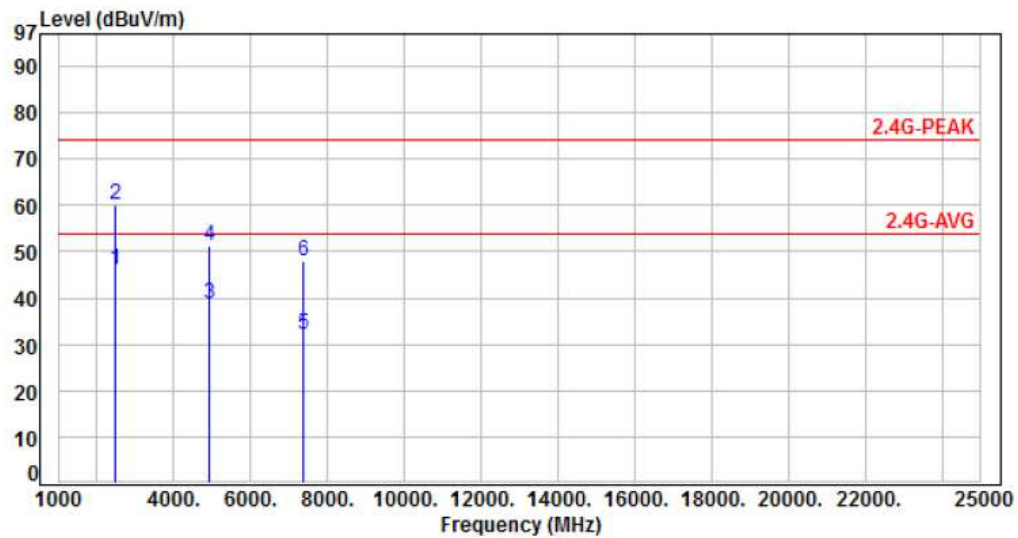
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH11	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.65	61.79	46.14	54.00	-7.86	Average	238	13	P
2	2483.50	-15.65	75.71	60.06	74.00	-13.94	Peak	238	13	P
3	4924.00	-8.49	47.10	38.61	54.00	-15.39	Average	100	349	P
4	4924.00	-8.49	59.77	51.28	74.00	-22.72	Peak	100	349	P
5	7386.00	-4.48	36.57	32.09	54.00	-21.91	Average	100	331	P
6	7386.00	-4.48	52.26	47.78	74.00	-26.22	Peak	100	331	P

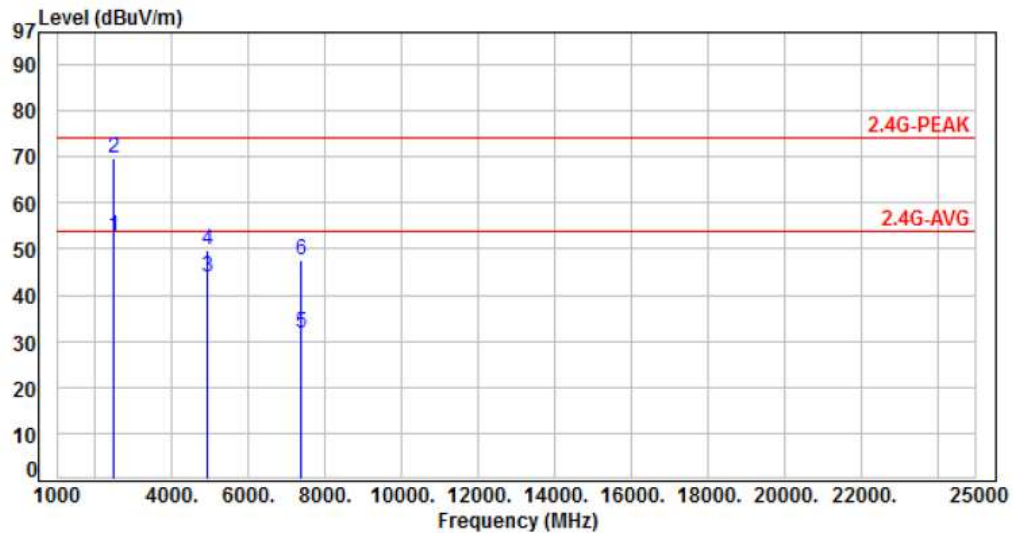
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH11	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.65	68.23	52.58	54.00	-1.42	Average	101	309	P
2	2483.50	-15.65	85.50	69.85	74.00	-4.15	Peak	101	309	P
3	4924.00	-8.49	52.53	44.04	54.00	-9.96	Average	131	81	P
4	4924.00	-8.49	58.34	49.85	74.00	-24.15	Peak	131	81	P
5	7386.00	-4.48	36.36	31.88	54.00	-22.12	Average	128	97	P
6	7386.00	-4.48	51.97	47.49	74.00	-26.51	Peak	128	97	P

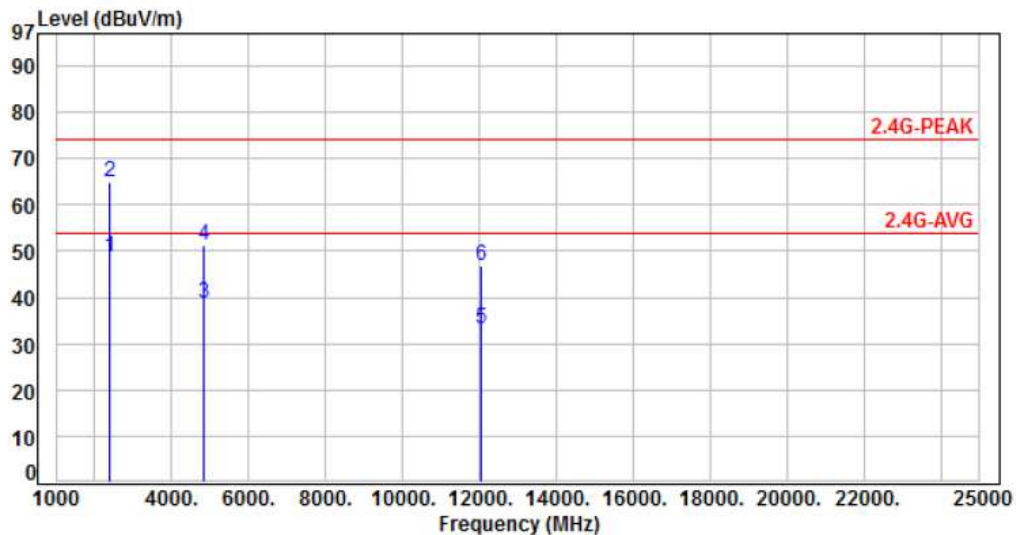
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH01	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %



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	-15.96	64.59	48.63	54.00	-5.37	Average	305	314	P
2	2390.00	-15.96	80.96	65.00	74.00	-9.00	Peak	305	314	P
3	4824.00	-8.80	47.51	38.71	54.00	-15.29	Average	104	348	P
4	4824.00	-8.80	60.14	51.34	74.00	-22.66	Peak	104	348	P
5	12060.00	1.21	31.90	33.11	54.00	-20.89	Average	113	332	P
6	12060.00	1.21	45.46	46.67	74.00	-27.33	Peak	113	332	P

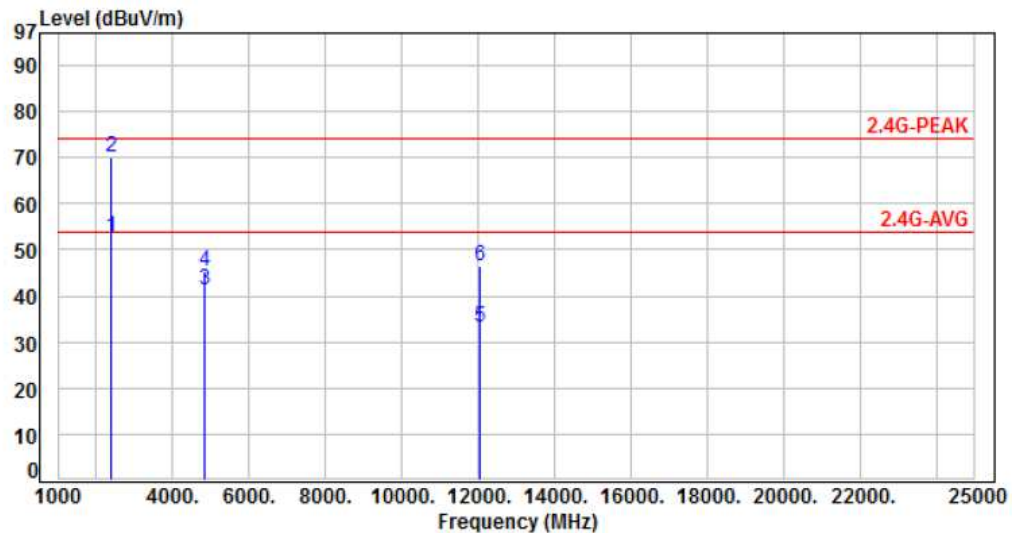
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH01	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %



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	-15.96	68.59	52.63	54.00	-1.37	Average	243	289	P
2	2390.00	-15.96	86.10	70.14	74.00	-3.86	Peak	243	289	P
3	4824.00	-8.80	49.93	41.13	54.00	-12.87	Average	100	120	P
4	4824.00	-8.80	54.19	45.39	74.00	-28.61	Peak	100	120	P
5	12060.00	1.21	32.16	33.37	54.00	-20.63	Average	112	298	P
6	12060.00	1.21	45.44	46.65	74.00	-27.35	Peak	112	298	P

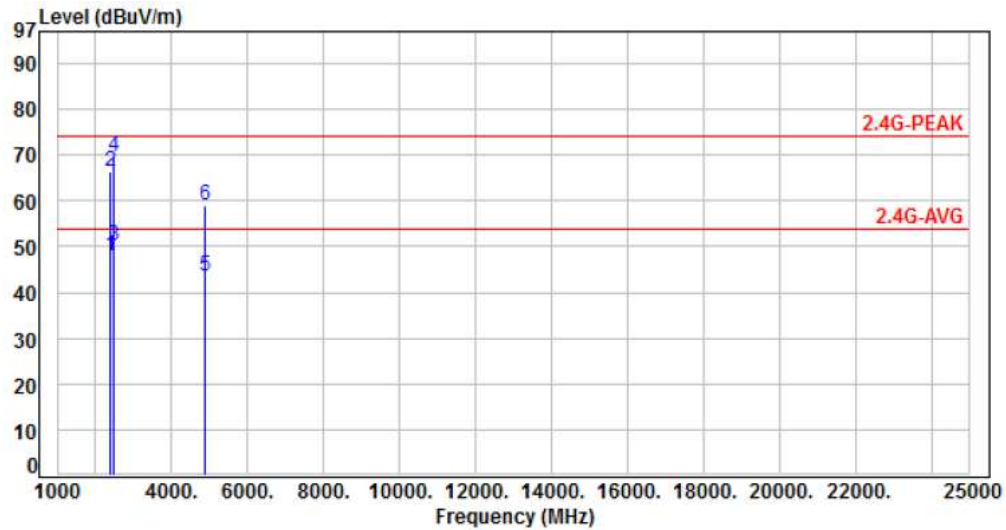
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH06	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %



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	-15.96	63.78	47.82	54.00	-6.18	Average	300	323	P
2	2390.00	-15.96	82.21	66.25	74.00	-7.75	Peak	300	323	P
3	2483.50	-15.65	65.87	50.22	54.00	-3.78	Average	300	323	P
4	2483.50	-15.65	85.34	69.69	74.00	-4.31	Peak	300	323	P
5	4874.00	-8.65	52.33	43.68	54.00	-10.32	Average	100	345	P
6	4874.00	-8.65	67.48	58.83	74.00	-15.17	Peak	100	345	P

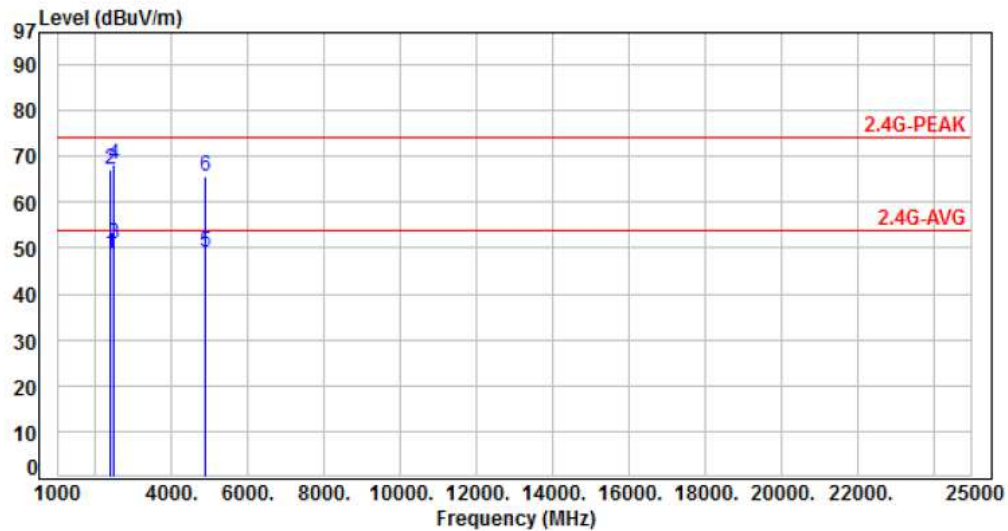
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH06	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %



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	-15.96	64.82	48.86	54.00	-5.14	Average	257	298	P
2	2390.00	-15.96	82.94	66.98	74.00	-7.02	Peak	257	298	P
3	2483.50	-15.65	66.43	50.78	54.00	-3.22	Average	257	298	P
4	2483.50	-15.65	83.97	68.32	74.00	-5.68	Peak	257	298	P
5	4874.00	-8.65	57.66	49.01	54.00	-4.99	Average	109	336	P
6	4874.00	-8.65	74.16	65.51	74.00	-8.49	Peak	109	336	P

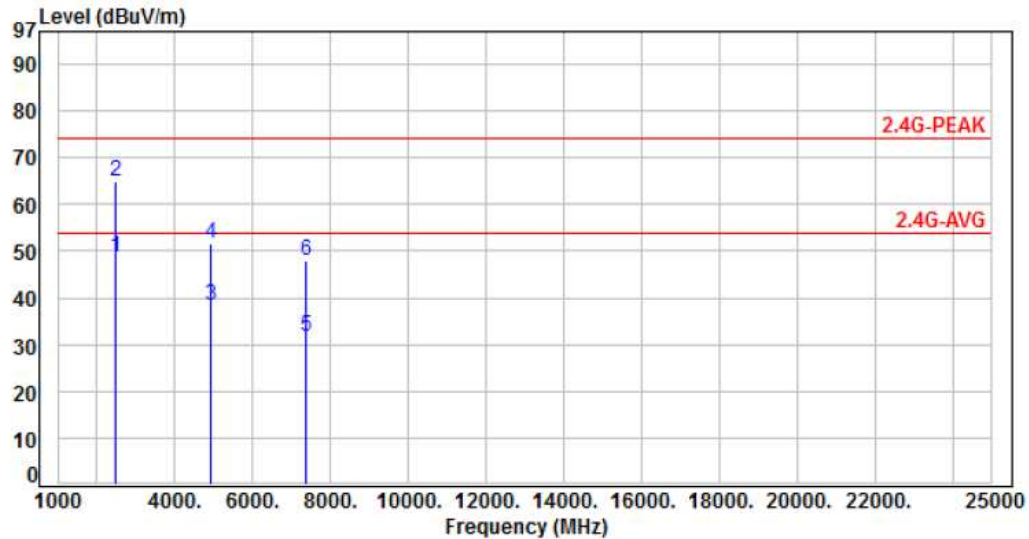
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH11	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.65	64.25	48.60	54.00	-5.40	Average	372	346	P
2	2483.50	-15.65	80.67	65.02	74.00	-8.98	Peak	372	346	P
3	4924.00	-8.49	46.88	38.39	54.00	-15.61	Average	106	342	P
4	4924.00	-8.49	59.97	51.48	74.00	-22.52	Peak	106	342	P
5	7386.00	-4.48	36.28	31.80	54.00	-22.20	Average	101	326	P
6	7386.00	-4.48	52.57	48.09	74.00	-25.91	Peak	101	326	P

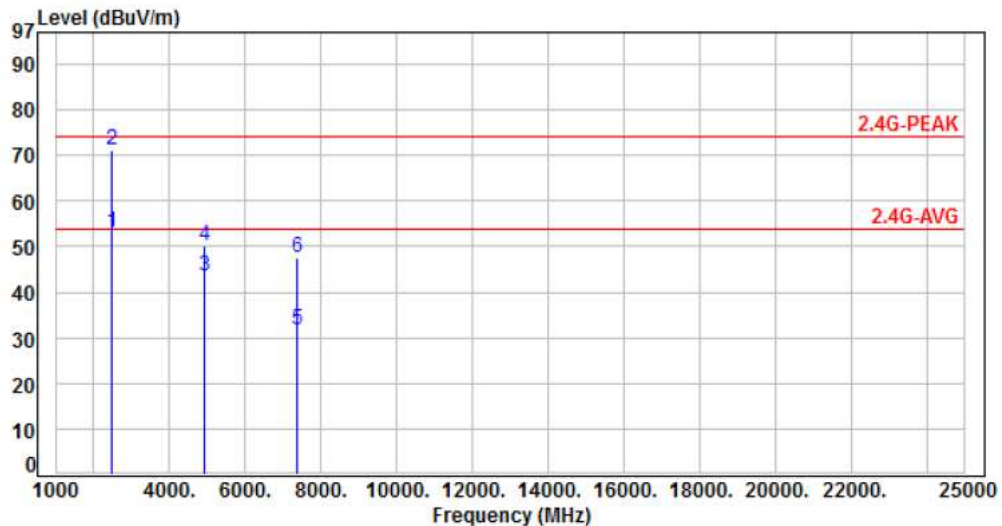
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH11	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBUV)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.65	68.70	53.05	54.00	-0.95	Average	209	303	P
2	2483.50	-15.65	86.79	71.14	74.00	-2.86	Peak	209	303	P
3	4924.00	-8.49	52.15	43.66	54.00	-10.34	Average	116	318	P
4	4924.00	-8.49	58.68	50.19	74.00	-23.81	Peak	116	318	P
5	7386.00	-4.48	36.16	31.68	54.00	-22.32	Average	106	332	P
6	7386.00	-4.48	52.22	47.74	74.00	-26.26	Peak	106	332	P

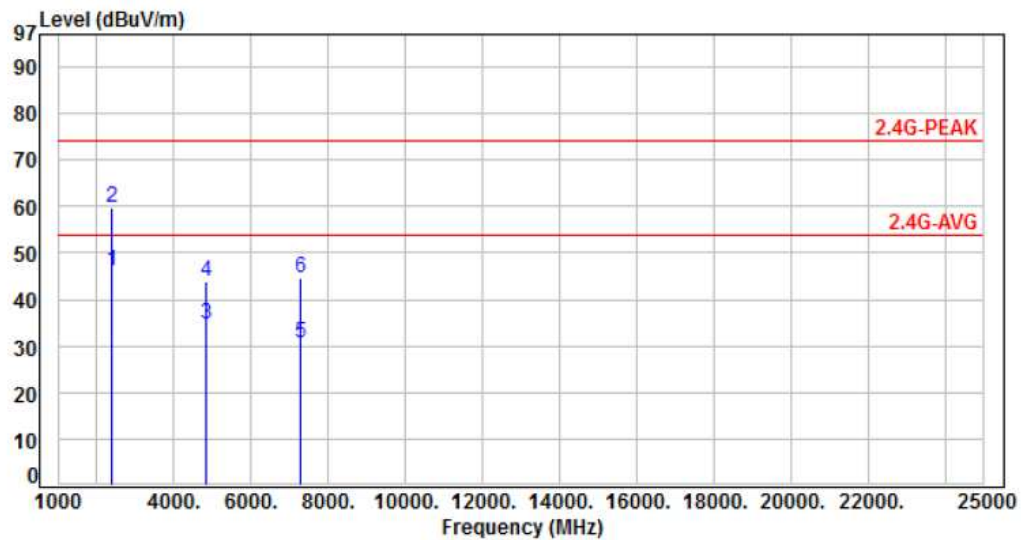
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 4, CH03	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %



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	-15.96	62.17	46.21	54.00	-7.79	Average	203	358	P
2	2390.00	-15.96	75.64	59.68	74.00	-14.32	Peak	203	358	P
3	4844.00	-8.74	43.52	34.78	54.00	-19.22	Average	131	279	P
4	4844.00	-8.74	52.68	43.94	74.00	-30.06	Peak	131	279	P
5	7266.00	-4.83	35.56	30.73	54.00	-23.27	Average	128	292	P
6	7266.00	-4.83	49.44	44.61	74.00	-29.39	Peak	128	292	P

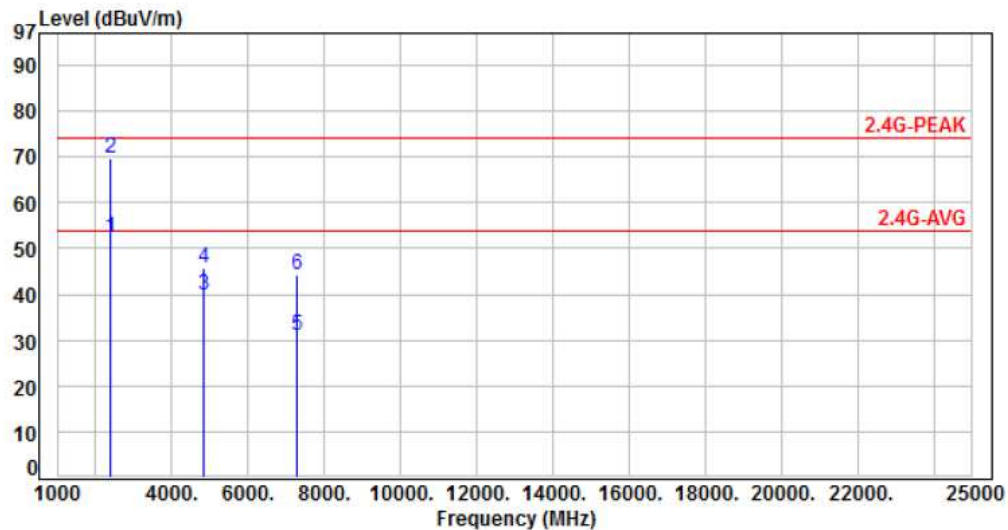
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 4, CH03	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %



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	-15.96	68.50	52.54	54.00	-1.46	Average	122	303	P
2	2390.00	-15.96	85.64	69.68	74.00	-4.32	Peak	122	303	P
3	4844.00	-8.74	48.67	39.93	54.00	-14.07	Average	102	128	P
4	4844.00	-8.74	54.39	45.65	74.00	-28.35	Peak	102	128	P
5	7266.00	-4.83	35.90	31.07	54.00	-22.93	Average	118	302	P
6	7266.00	-4.83	49.07	44.24	74.00	-29.76	Peak	118	302	P

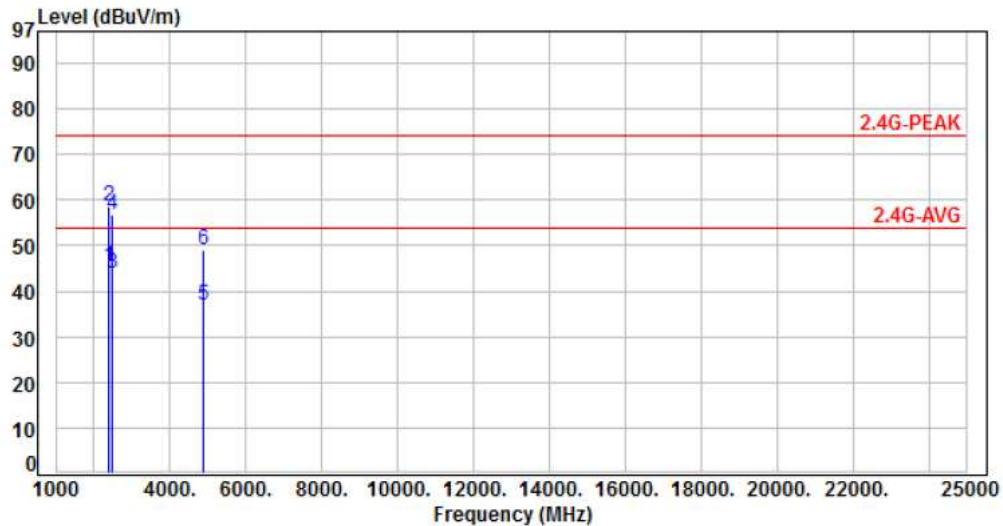
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 4, CH06	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %



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	-15.96	61.48	45.52	54.00	-8.48	Average	101	222	P
2	2390.00	-15.96	74.52	58.56	74.00	-15.44	Peak	101	222	P
3	2483.50	-15.65	59.41	43.76	54.00	-10.24	Average	101	222	P
4	2483.50	-15.65	72.39	56.74	74.00	-17.26	Peak	101	222	P
5	4874.00	-8.65	45.64	36.99	54.00	-17.01	Average	101	346	P
6	4874.00	-8.65	57.64	48.99	74.00	-25.01	Peak	101	346	P

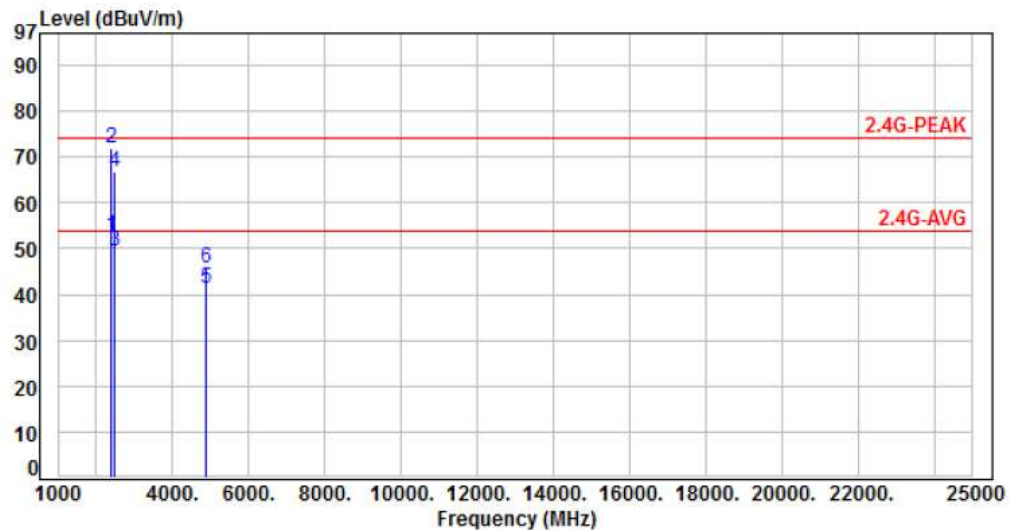
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 4, CH06	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %



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	-15.96	68.64	52.68	54.00	-1.32	Average	165	305	P
2	2390.00	-15.96	87.85	71.89	74.00	-2.11	Peak	165	305	P
3	2483.50	-15.65	65.11	49.46	54.00	-4.54	Average	165	305	P
4	2483.50	-15.65	82.27	66.62	74.00	-7.38	Peak	165	305	P
5	4874.00	-8.65	50.10	41.45	54.00	-12.55	Average	100	126	P
6	4874.00	-8.65	54.49	45.84	74.00	-28.16	Peak	100	126	P

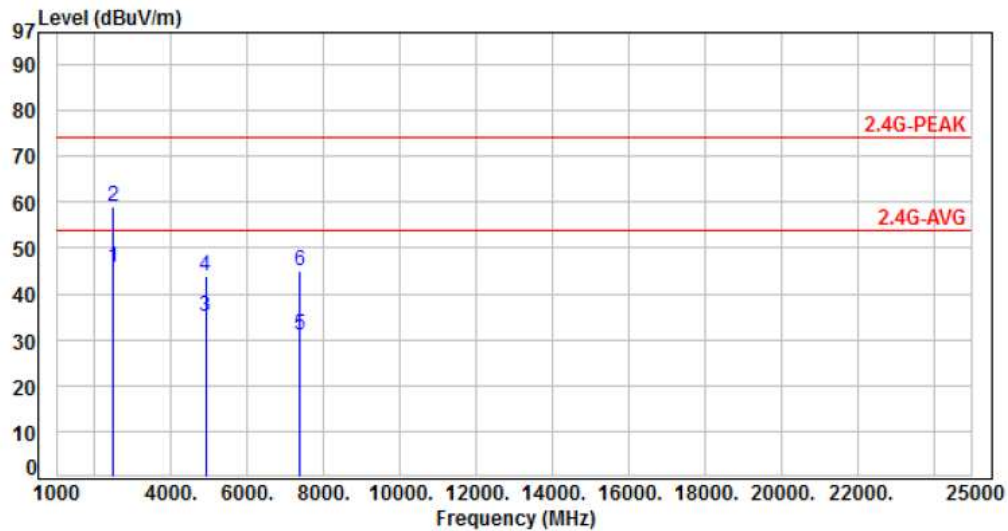
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 4, CH09	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.65	61.54	45.89	54.00	-8.11	Average	301	341	P
2	2483.50	-15.65	74.83	59.18	74.00	-14.82	Peak	301	341	P
3	4904.00	-8.56	43.57	35.01	54.00	-18.99	Average	133	282	P
4	4904.00	-8.56	52.50	43.94	74.00	-30.06	Peak	133	282	P
5	7356.00	-4.57	35.69	31.12	54.00	-22.88	Average	100	313	P
6	7356.00	-4.57	49.61	45.04	74.00	-28.96	Peak	100	313	P

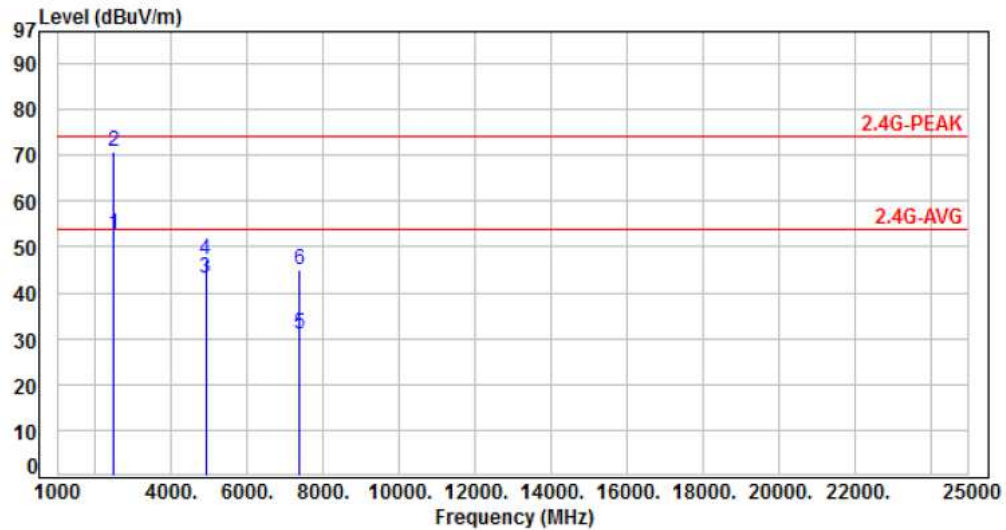
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 4, CH09	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.65	68.32	52.67	54.00	-1.33	Average	115	301	P
2	2483.50	-15.65	86.65	71.00	74.00	-3.00	Peak	115	301	P
3	4904.00	-8.56	51.56	43.00	54.00	-11.00	Average	100	125	P
4	4904.00	-8.56	55.82	47.26	74.00	-26.74	Peak	100	125	P
5	7356.00	-4.57	35.42	30.85	54.00	-23.15	Average	108	326	P
6	7356.00	-4.57	49.52	44.95	74.00	-29.05	Peak	108	326	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

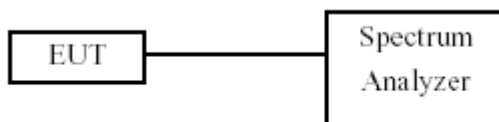
7.1 Test Limit

Below -30dB of the highest emission level of operating band (In 100 kHz Resolution Bandwidth)

7.2 Test Procedure

- The transmitter output was connected to the spectrum analyzer via a low lose cable.
- 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.
- 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.
- The band edges was measured and recorded.

7.3 Test Setup Layout



7.4 Test Result and Data

Test Result : PASS

Test Date : Aug. 20, 2018

Temperature : 23°C

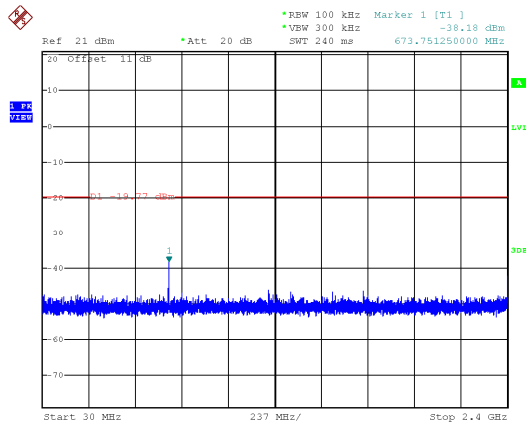
Humidity : 64%

Note: Test plots refers to the following pages.

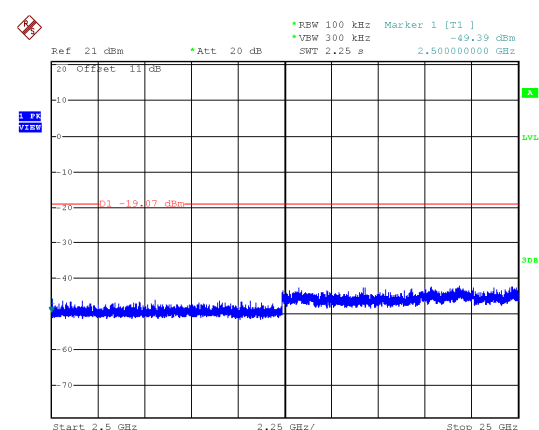
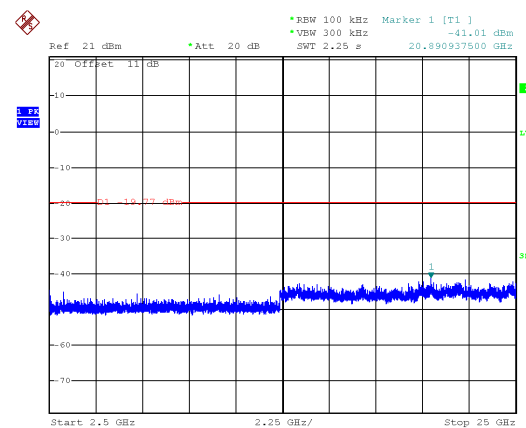
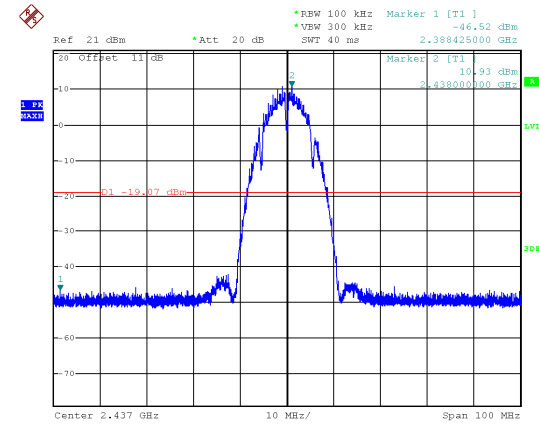
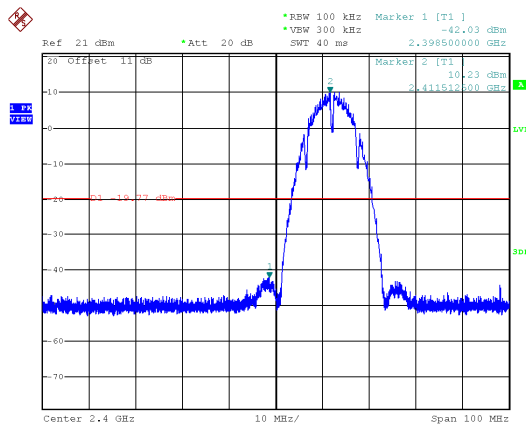
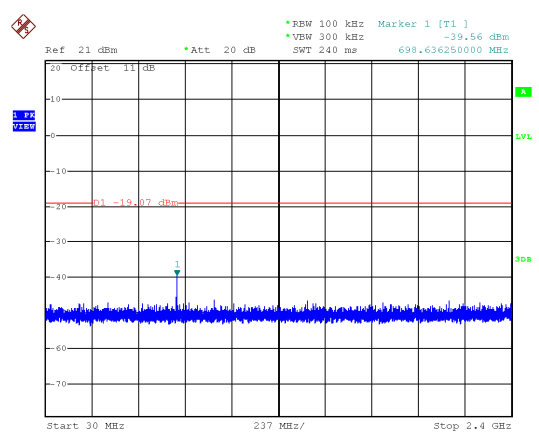


ANT A

Modulation Type: 802.11b, CH 01

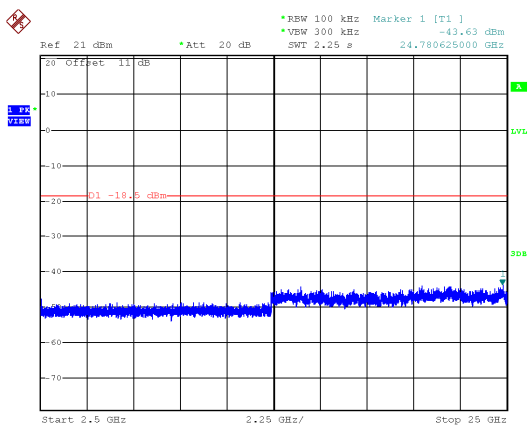
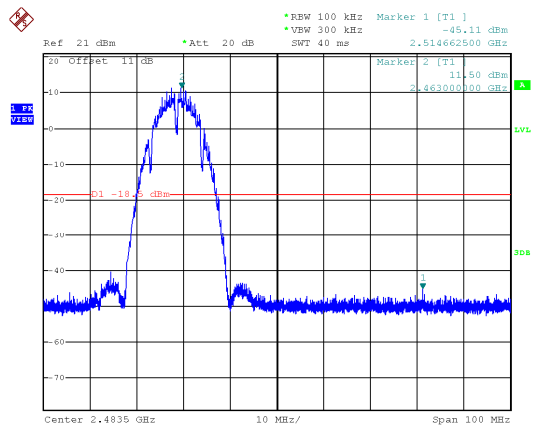
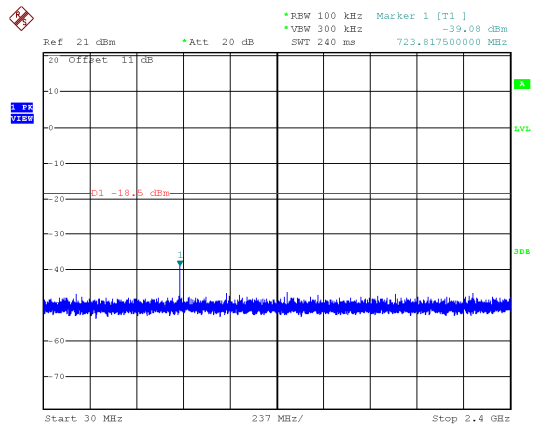


Modulation Type: 802.11b, CH 06





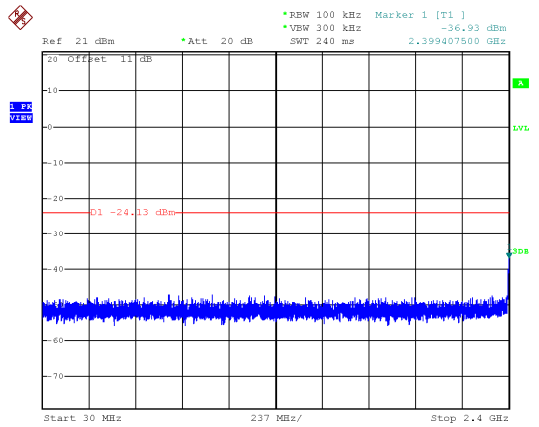
Modulation Type: 802.11b, CH 11



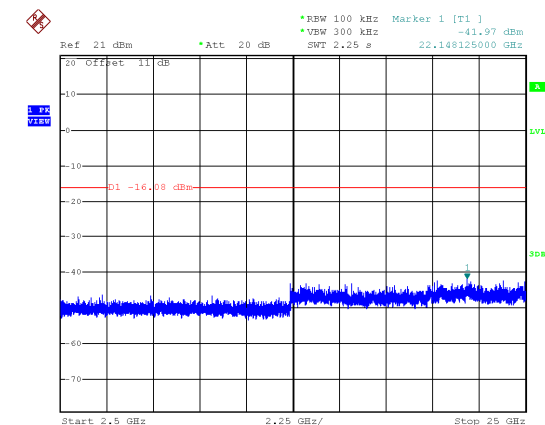
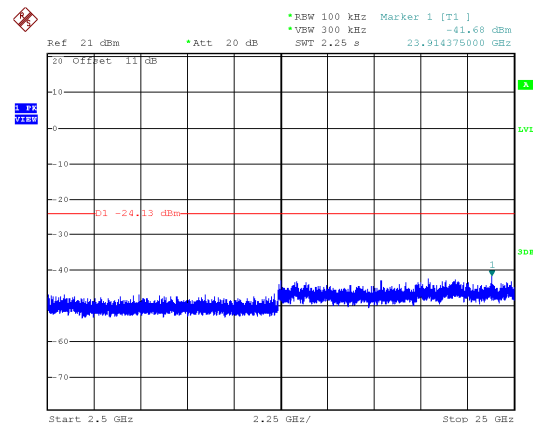
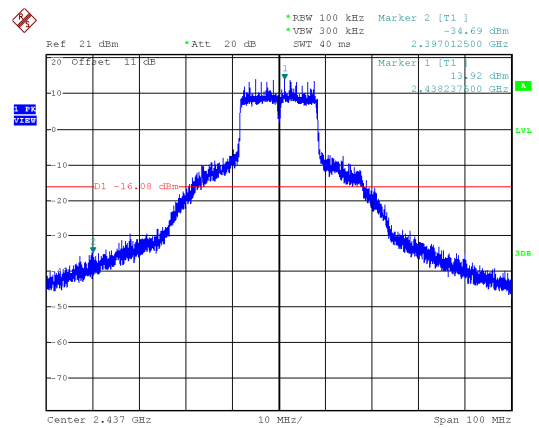
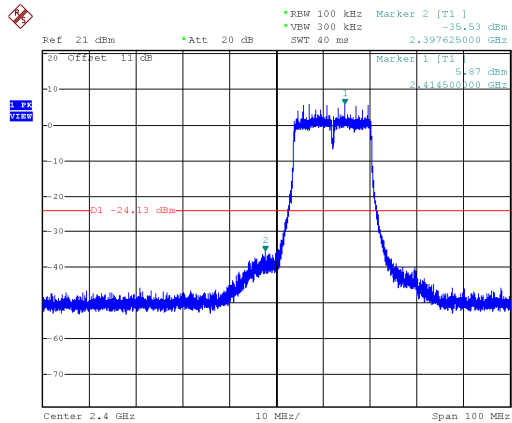
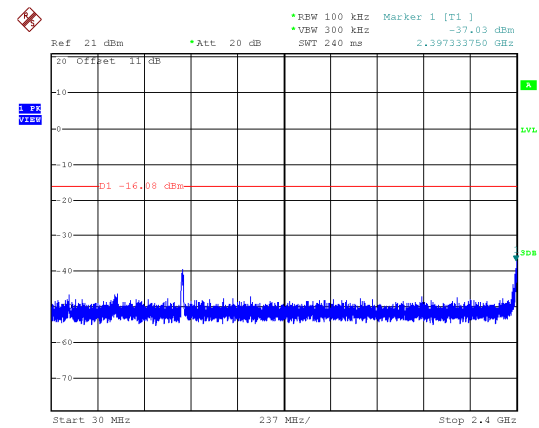


ANT A

Modulation Type: 802.11g, CH 01

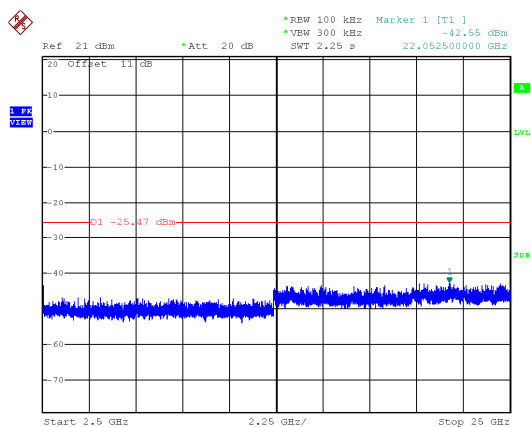
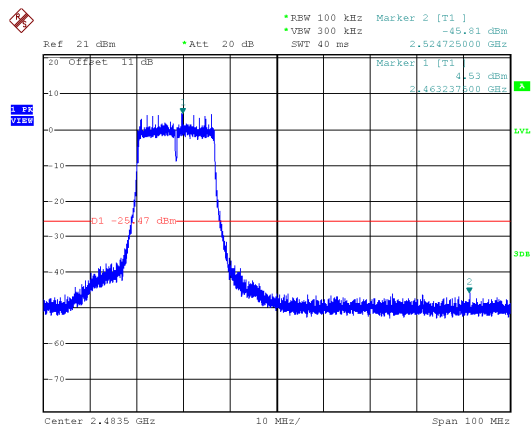
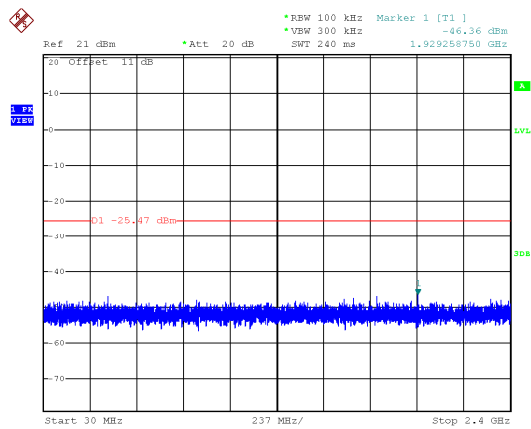


Modulation Type: 802.11g, CH 06





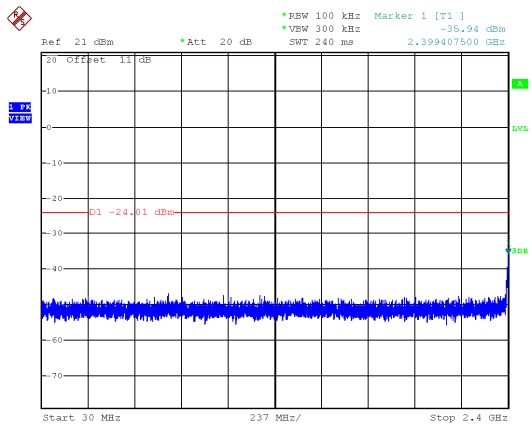
Modulation Type: 802.11g, CH 11



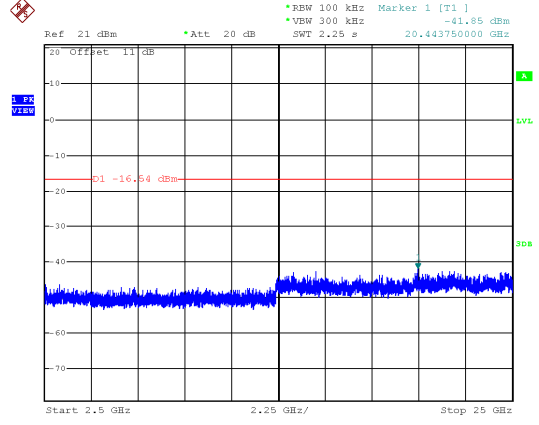
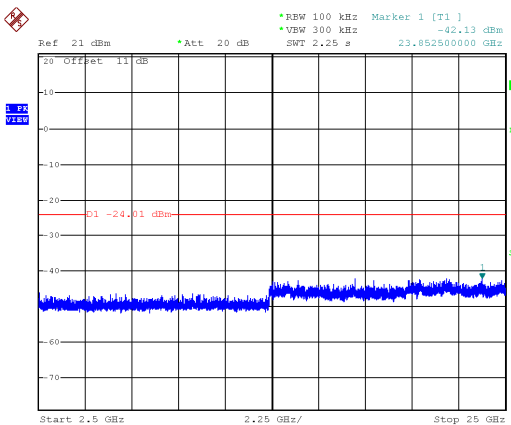
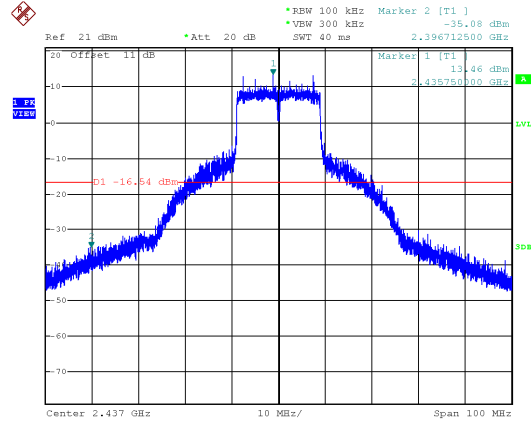
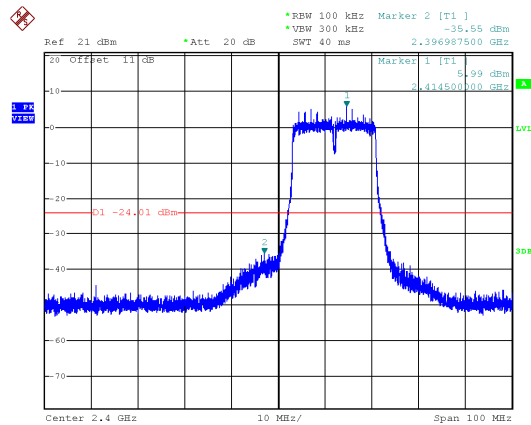
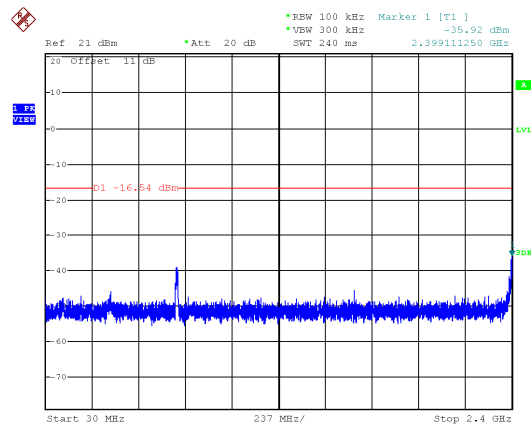


ANT A

Modulation Type: VHT20, CH01

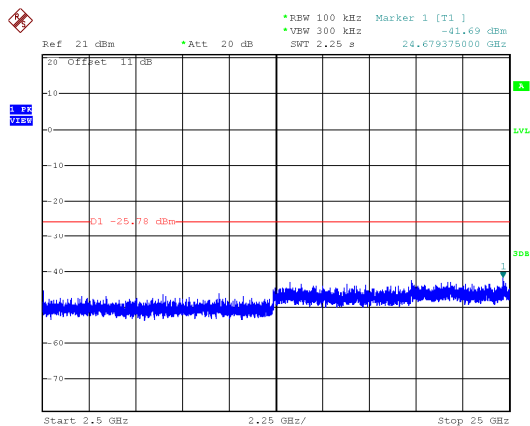
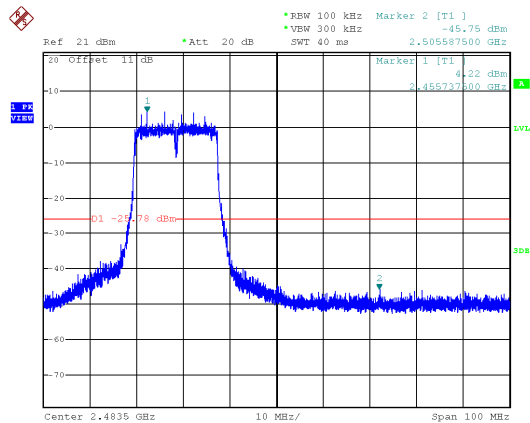
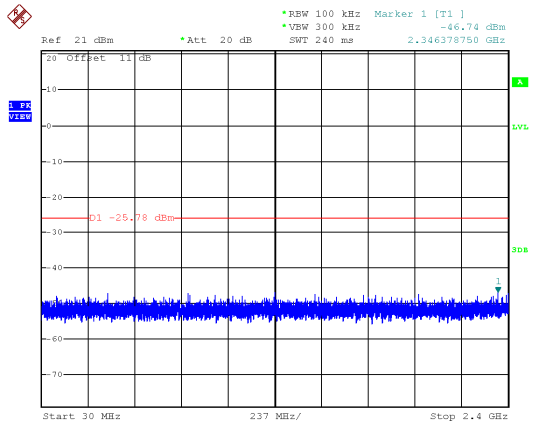


Modulation Type: VHT20, CH06





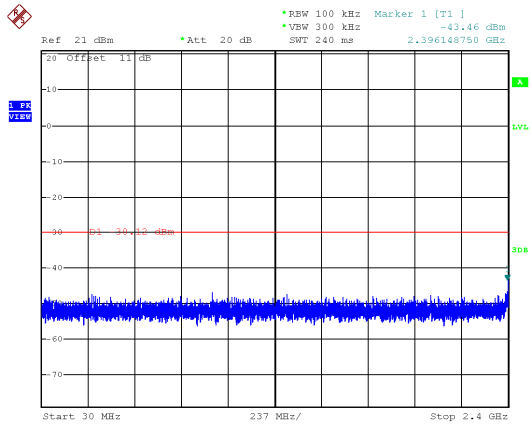
Modulation Type: VHT20, CH11



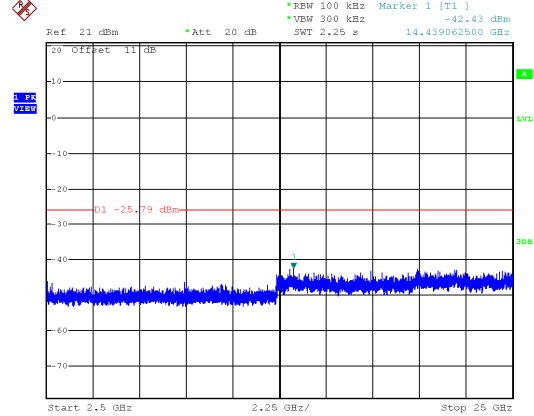
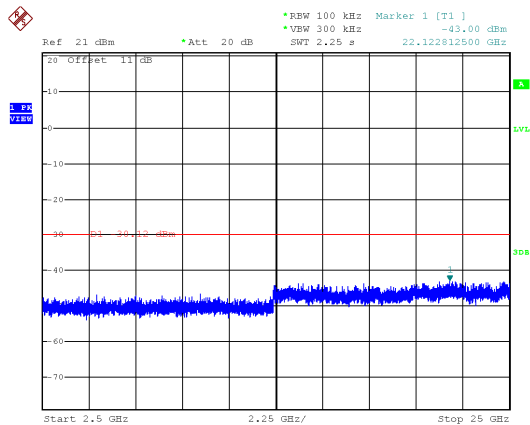
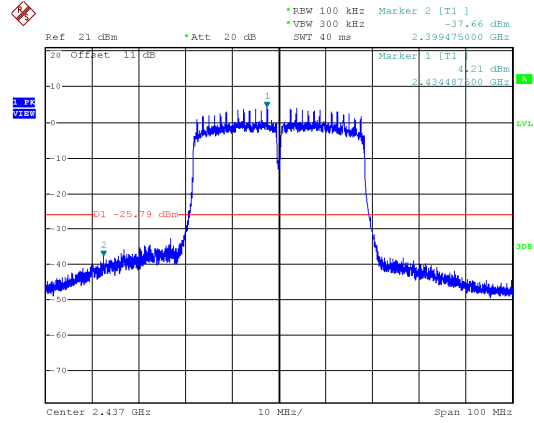
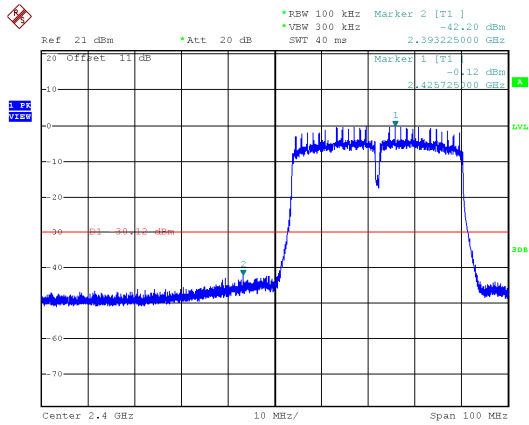
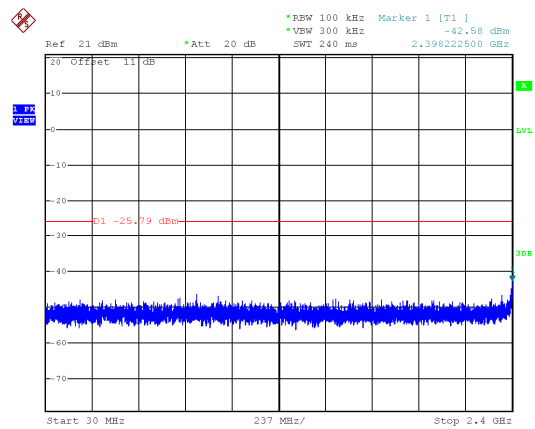


ANT A

Modulation Type: VHT40, CH03

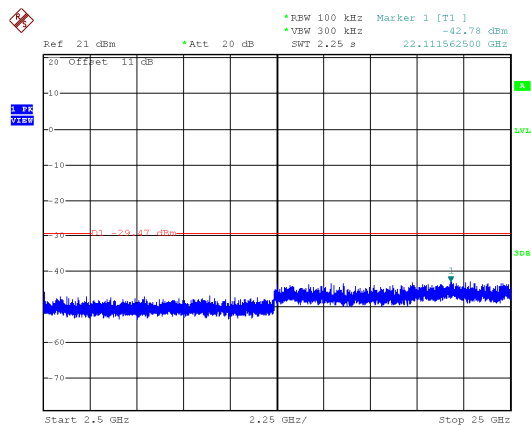
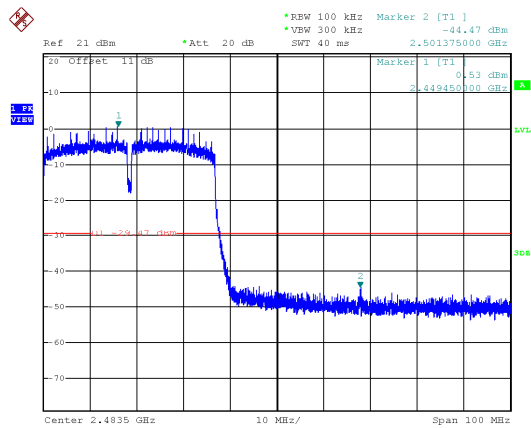
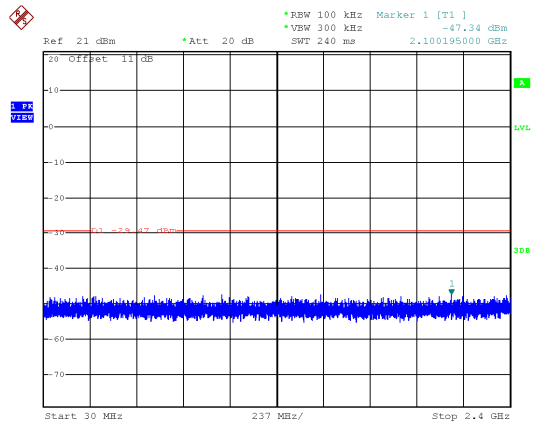


Modulation Type: VHT40, CH06





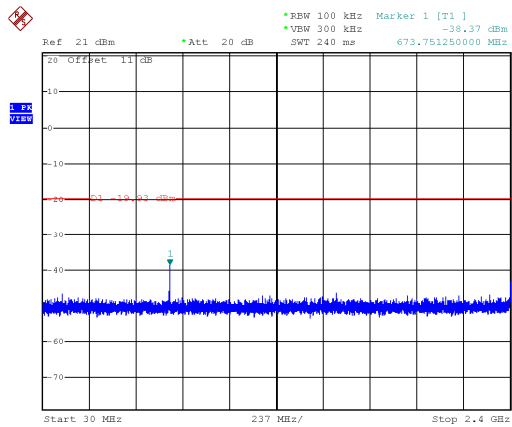
Modulation Type: VHT40, CH09



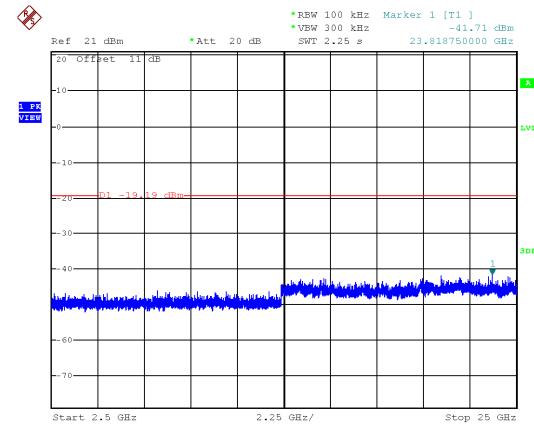
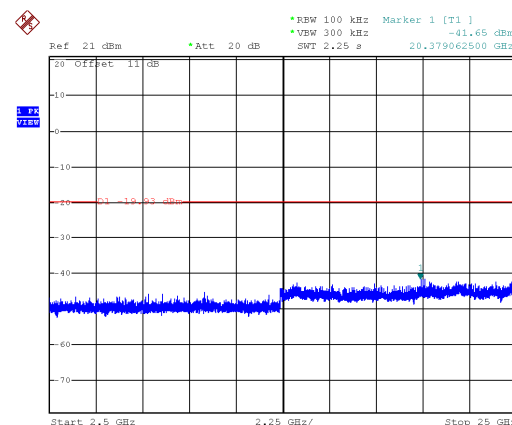
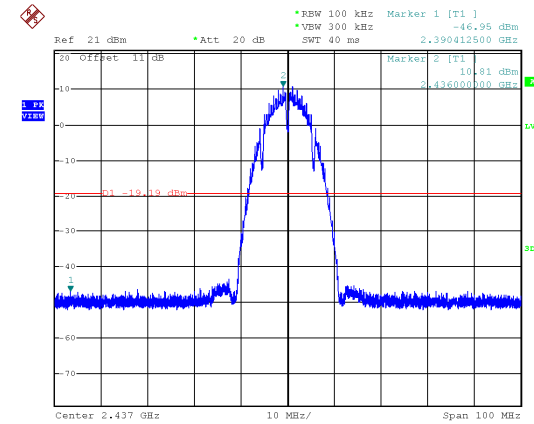
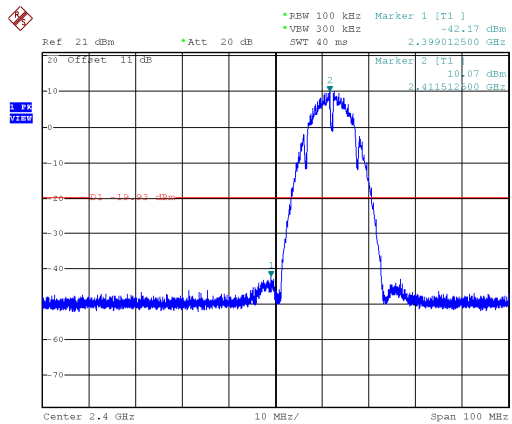
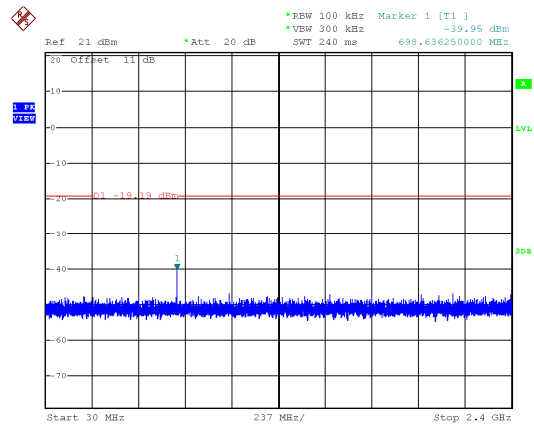


ANT B

Modulation Type: 802.11b, CH 01

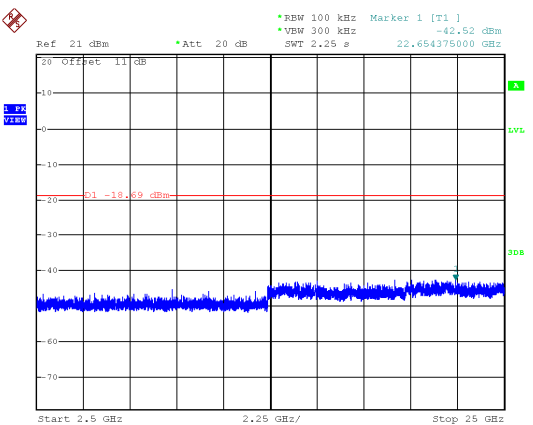
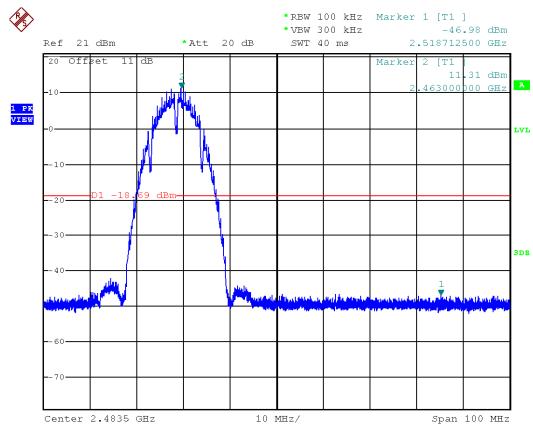
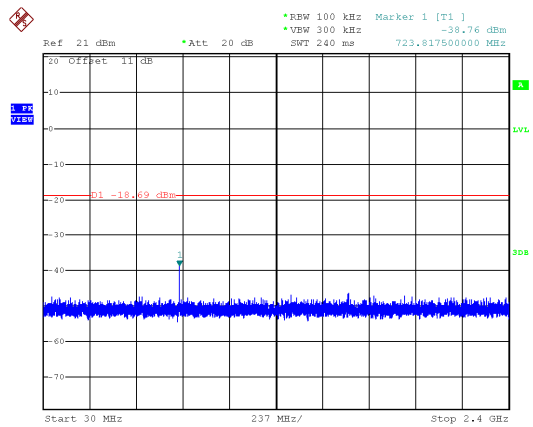


Modulation Type: 802.11b, CH 06





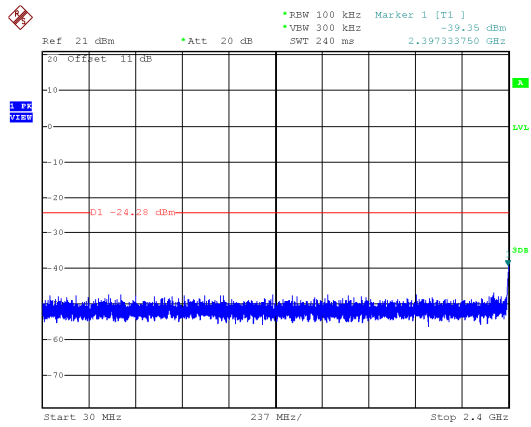
Modulation Type: 802.11b, CH 11



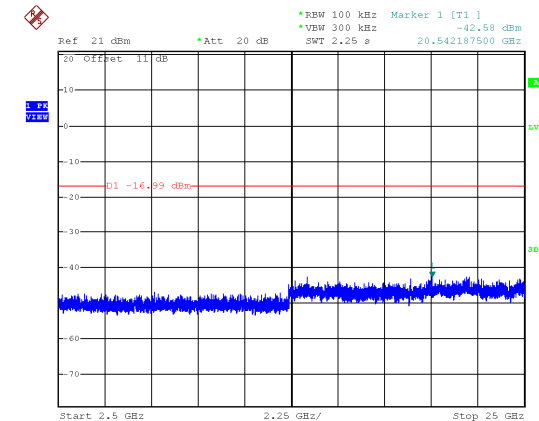
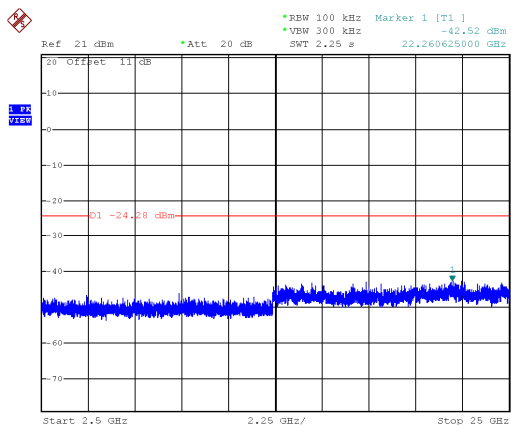
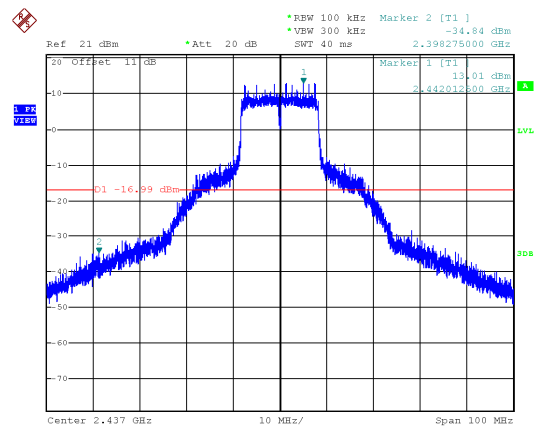
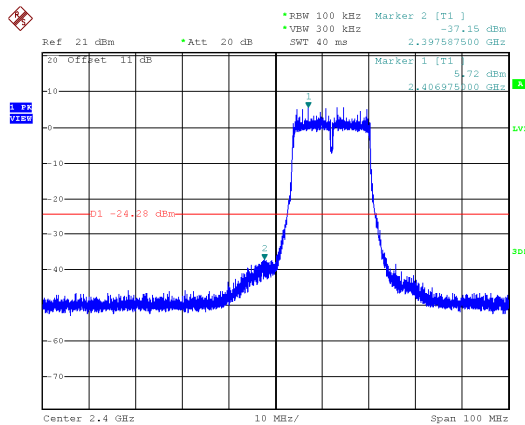
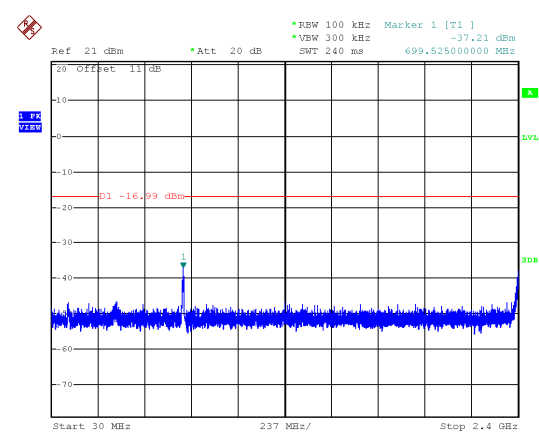


ANT B

Modulation Type: 802.11g, CH 01

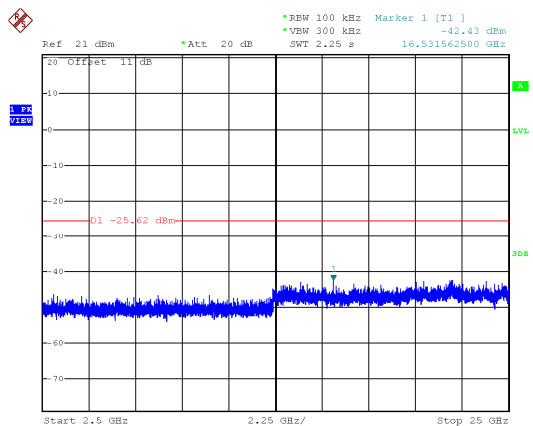
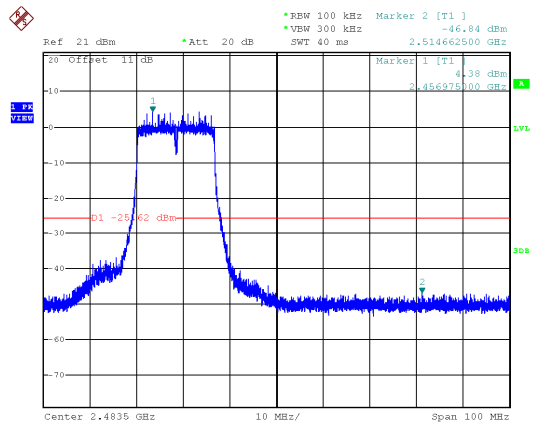
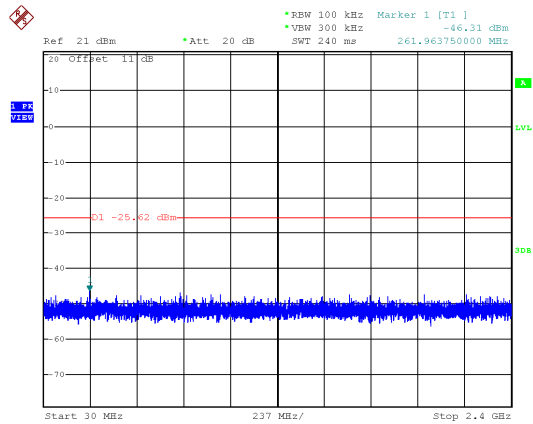


Modulation Type: 802.11g, CH 06





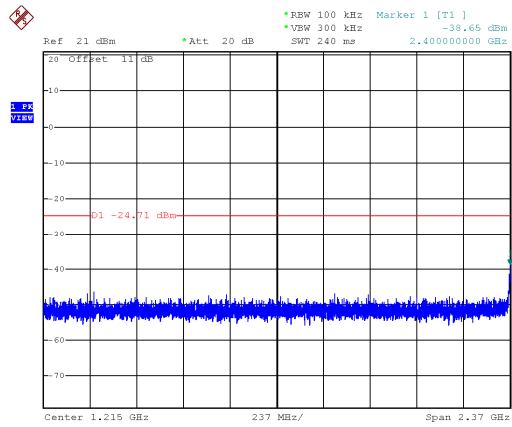
Modulation Type: 802.11g, CH 11



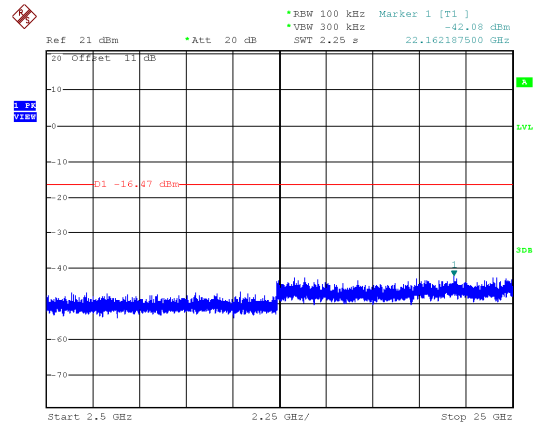
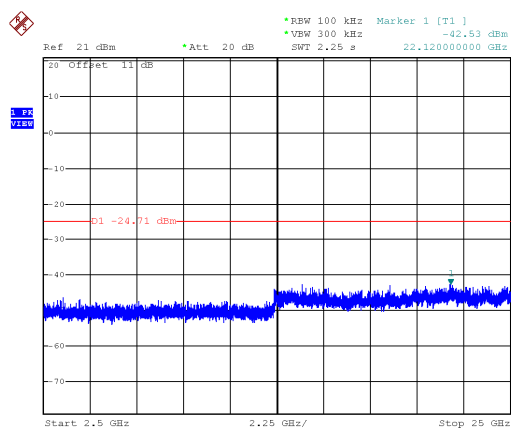
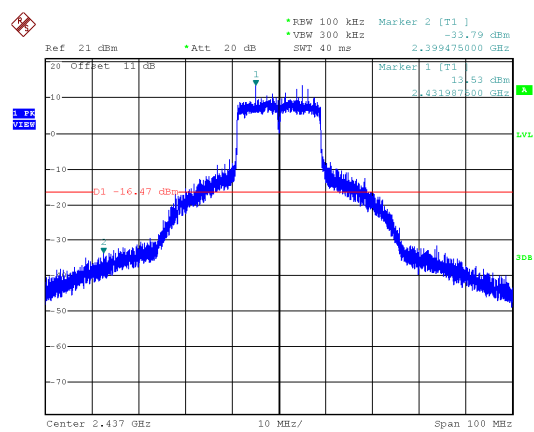
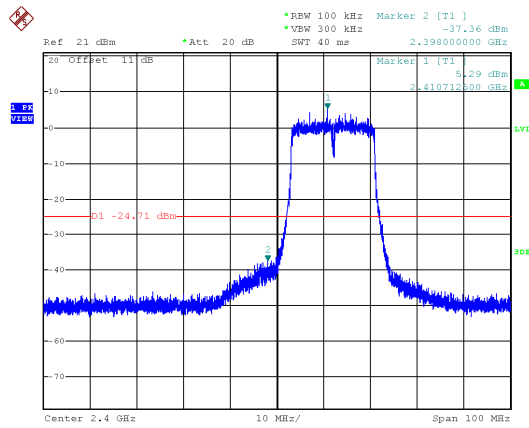
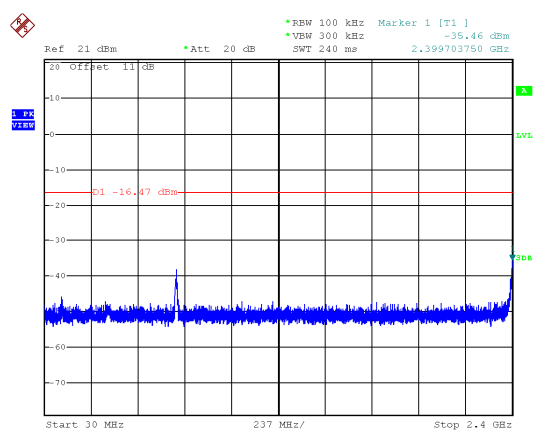


ANT B

Modulation Type: VHT20, CH01

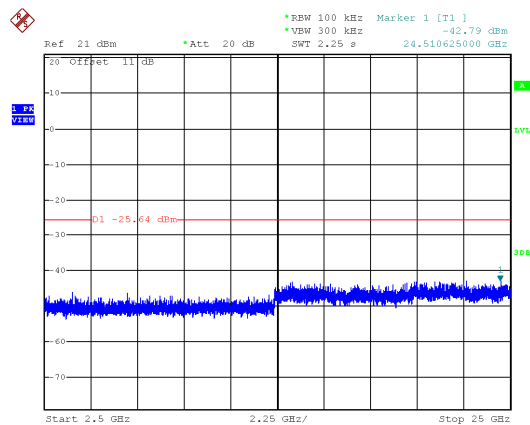
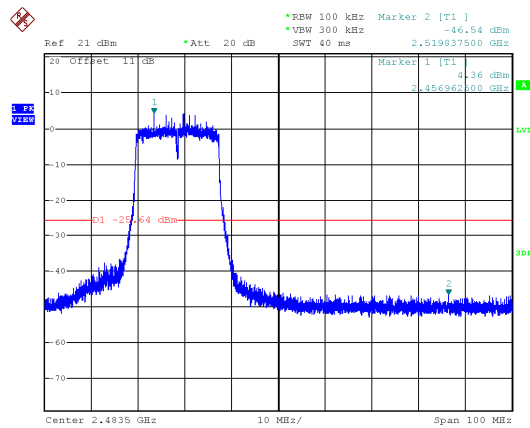
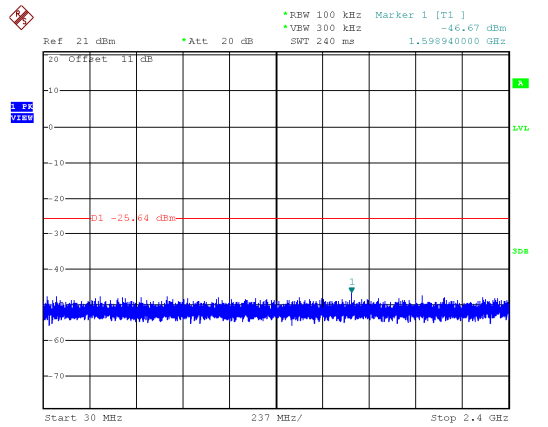


Modulation Type: VHT20, CH06





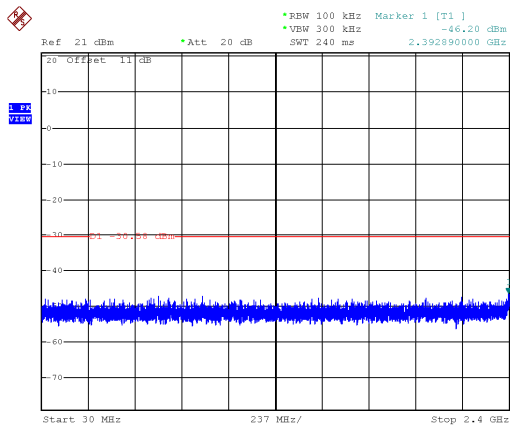
Modulation Type: VHT20, CH11



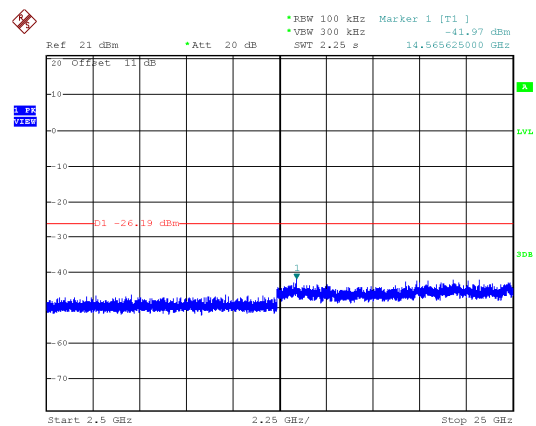
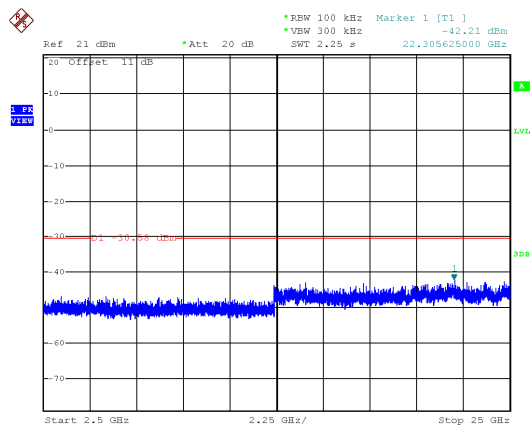
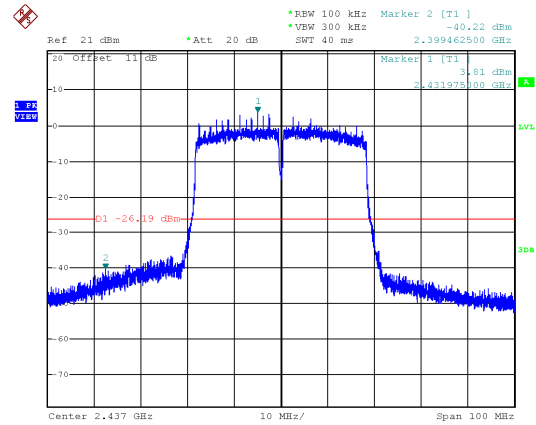
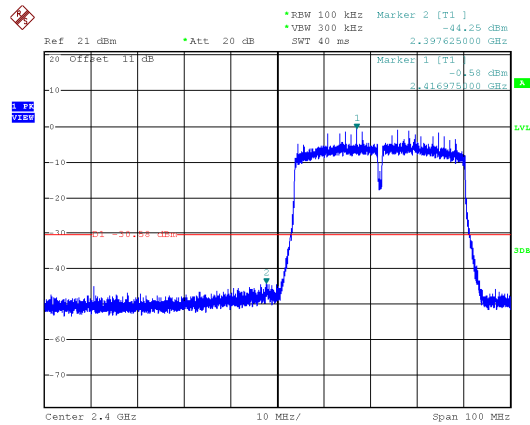
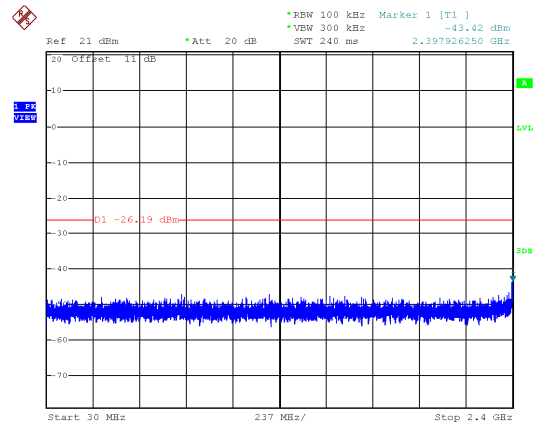


ANT B

Modulation Type: VHT40, CH03

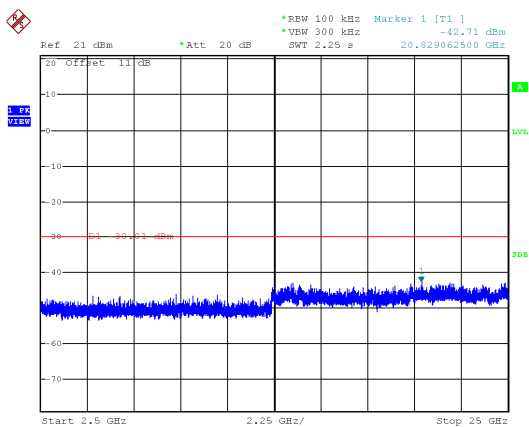
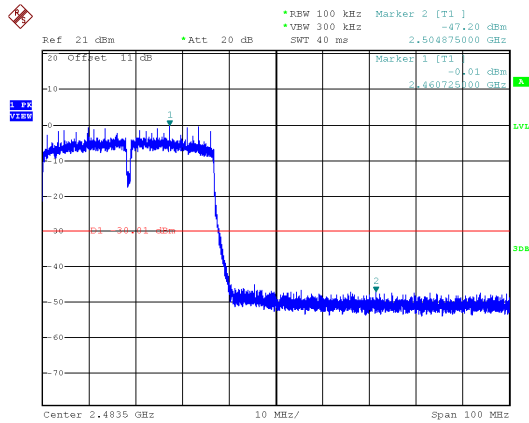
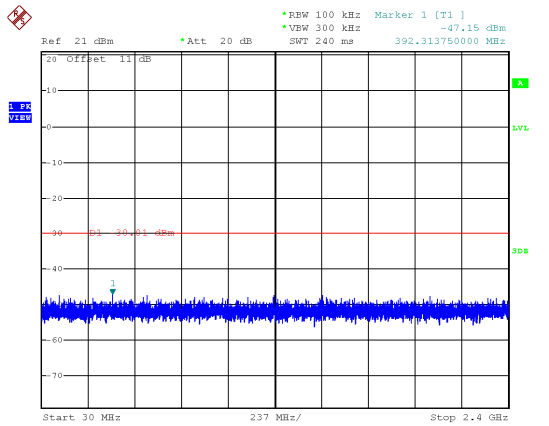


Modulation Type: VHT40, CH06





Modulation Type: VHT40, CH09





8. On Time, Duty Cycle and Measurement methods

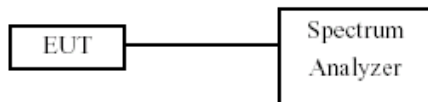
8.1 Test Limit

None; for reporting purposes only.

8.2 Test Procedure

KDB 558074 Zero-Span Spectrum Analyzer Method.

8.3 Test Setup Layout



8.4 Test Result and Data

Temperature : 23°C

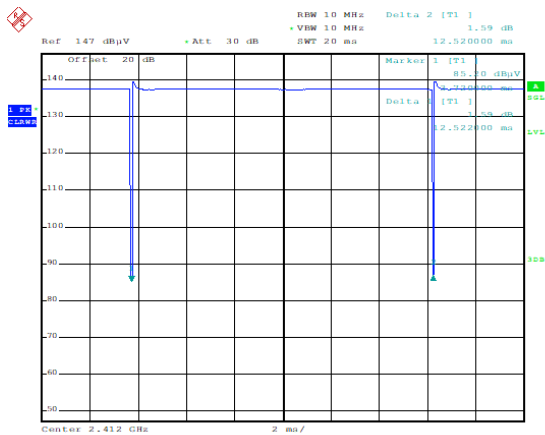
Humidity : 64%

Test Date : Aug. 20, 2018

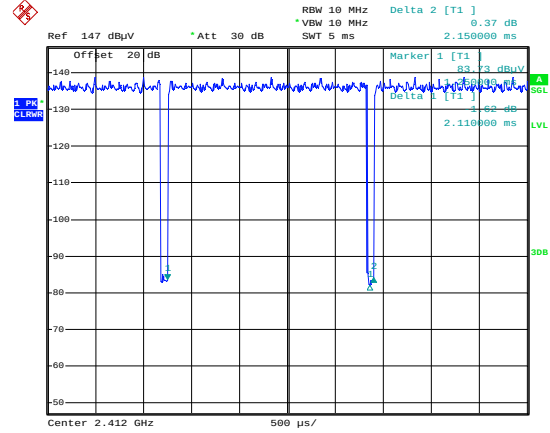
Modulation Type	On Time (msec)	Period Time (msec)	Duty Cycle (%)
802.11b	12.52	12.52	99.98%
802.11g	2.11	2.15	98.14%
VHT20	5.08	5.12	99.22%
VHT40	2.47	2.52	98.02%



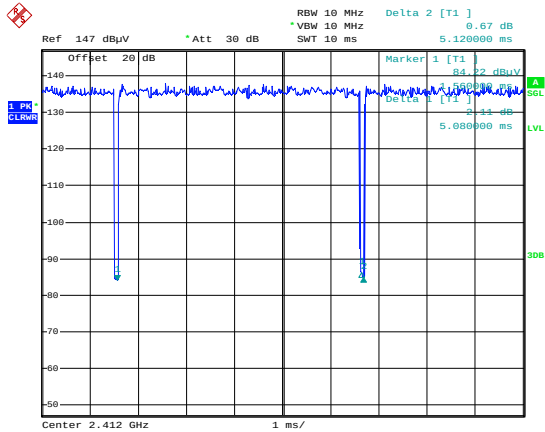
Modulation Standard: 802.11b (1Mbps)



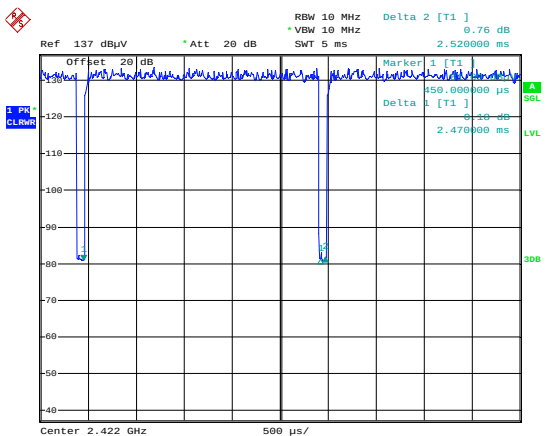
Modulation Standard: 802.11g (6Mbps)



Modulation Standard: VHT20 (6.5Mbps)



Modulation Standard: VHT40 (13.5Mbps)





9. 6dB Bandwidth & 99% Bandwidth Measurement Data

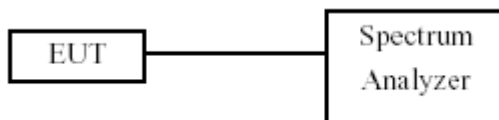
9.1 Test Limit

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

9.2 Test Procedures

- The transmitter output was connected to the spectrum analyzer.
- Set RBW of spectrum analyzer to 1~5% of the emission bandwidth and VBW $\geq 3 \times$ RBW.
- The 6 dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6 dB.
- The 6dB Bandwidth was measured and recorded.

9.3 Test Setup Layout



9.4 Test Result and Data (6dB Bandwidth)

Temperature : 23°C

Humidity : 64%

Test Date : Aug. 20, 2018

Modulation Type	Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Limit (MHz)
			ANT A	ANT B	
IEEE 802.11b (1Mbps)	01	2412	8.00	8.00	0.5
	06	2437	8.10	8.10	0.5
	11	2462	8.10	8.00	0.5
IEEE 802.11g (6Mbps)	01	2412	16.40	16.40	0.5
	06	2437	16.20	16.40	0.5
	11	2462	16.38	16.38	0.5
VHT20 (6.5Mbps)	01	2412	17.60	17.60	0.5
	06	2437	17.60	17.60	0.5
	11	2462	17.60	17.60	0.5
VHT40 (13.5Mbps)	03	2422	35.20	35.00	0.5
	06	2437	35.20	35.00	0.5
	09	2452	35.20	35.20	0.5



9.5 Test Result and Data (99% Bandwidth)

Temperature : 23°C

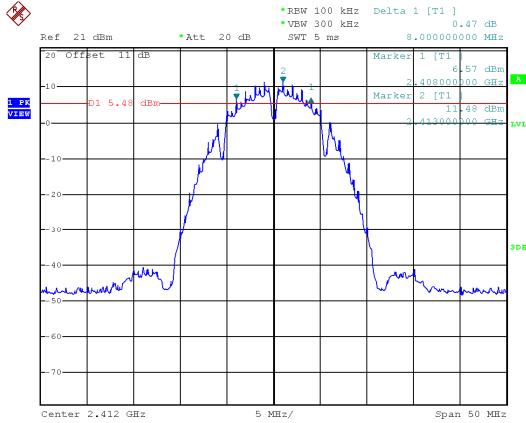
Humidity : 64%

Test Date : Aug. 20, 2018

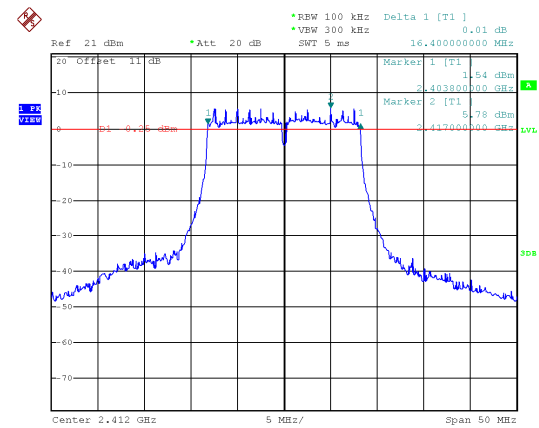
Modulation Type	Channel	Frequency (MHz)	99% Bandwidth (MHz)	
			ANT A	ANT B
IEEE 802.11b (1Mbps)	01	2412	13.00	13.00
	06	2437	12.80	12.80
	11	2462	13.00	13.00
IEEE 802.11g (6Mbps)	01	2412	16.50	16.50
	06	2437	17.90	17.30
	11	2462	16.50	16.50
VHT20 (6.5Mbps)	01	2412	17.70	17.70
	06	2437	18.80	18.50
	11	2462	17.70	17.70
VHT40 (13.5Mbps)	03	2422	36.40	36.20
	06	2437	36.20	36.20
	09	2452	36.20	36.20



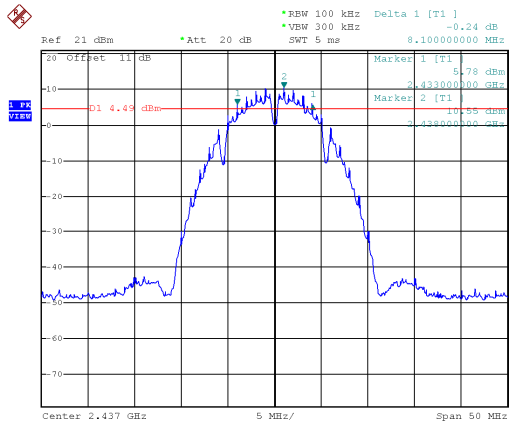
6dB Bandwidth
ANT A
Modulation Type: 802.11b
CH01



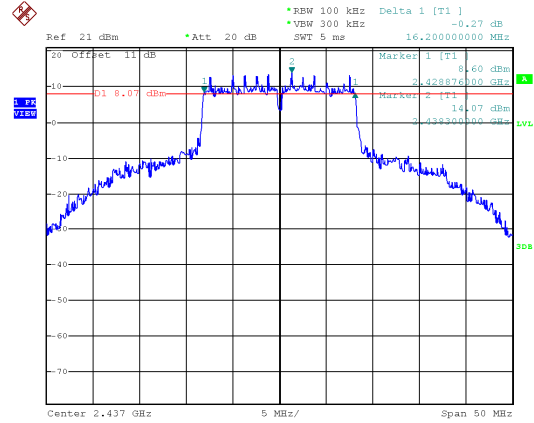
Modulation Type: 802.11g
CH01



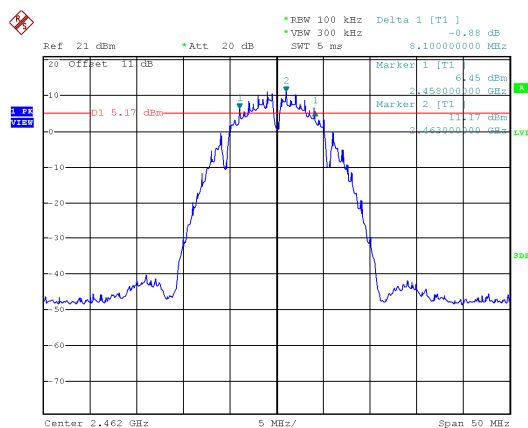
CH06



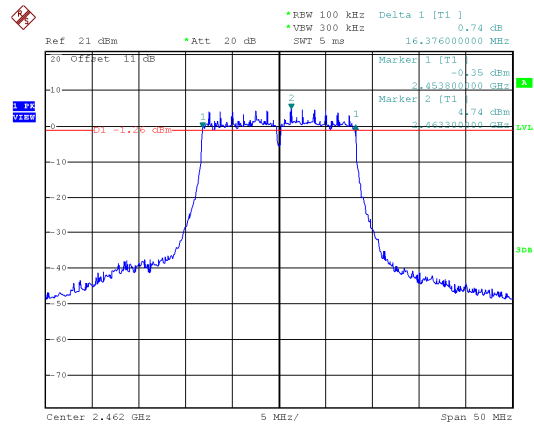
CH06

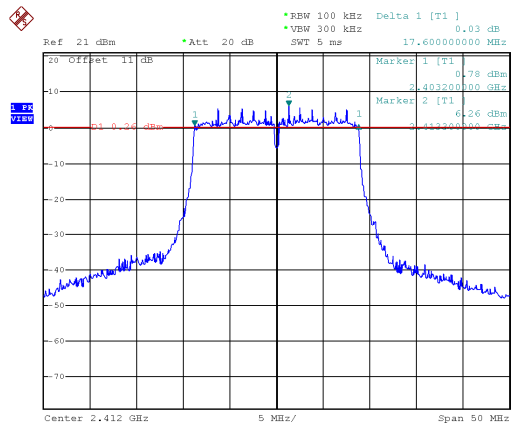
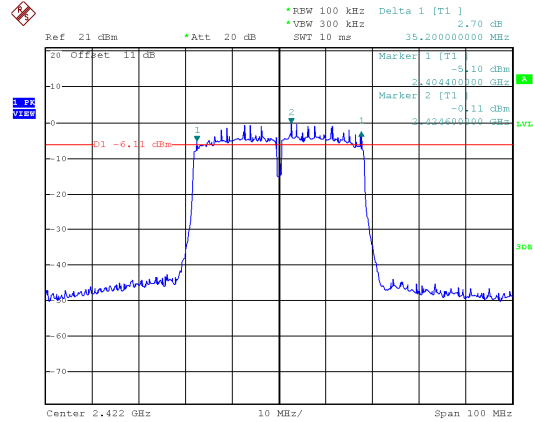


CH11

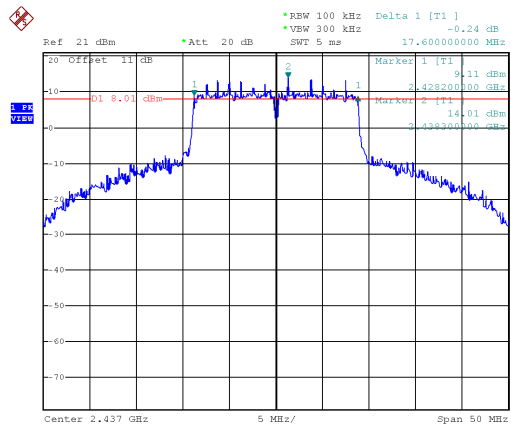


CH11

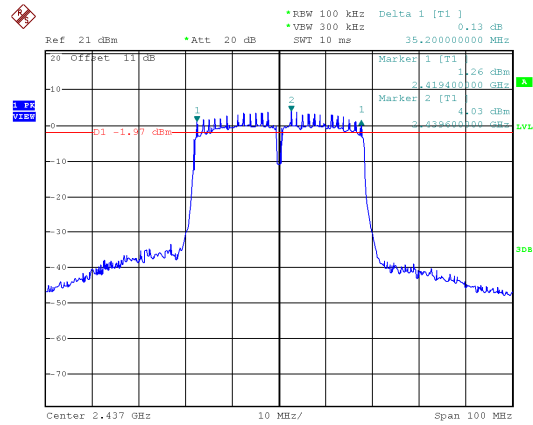


Modulation Type: VHT20
CH01Modulation Type: VHT40
CH03

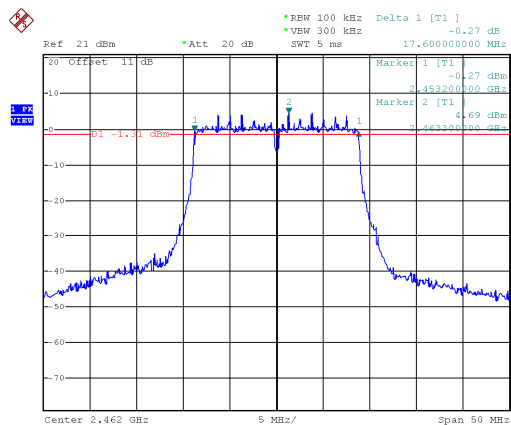
CH06



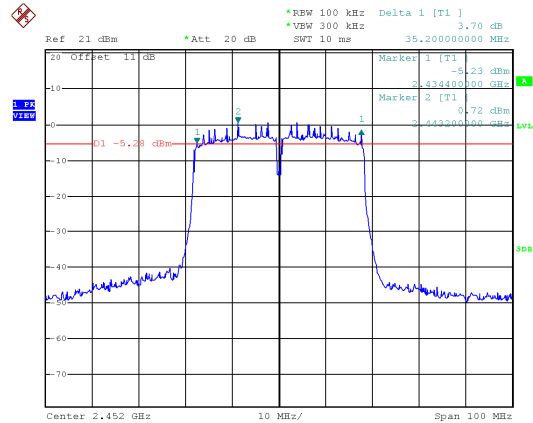
CH06



CH11

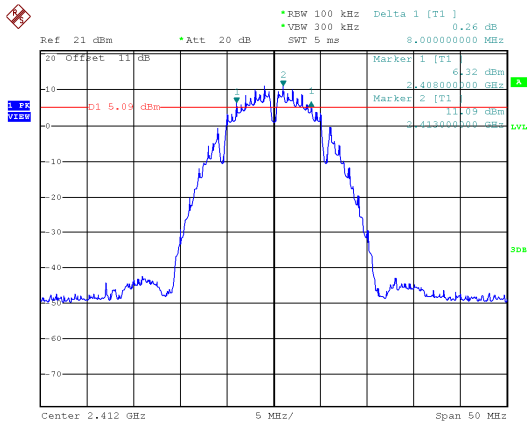
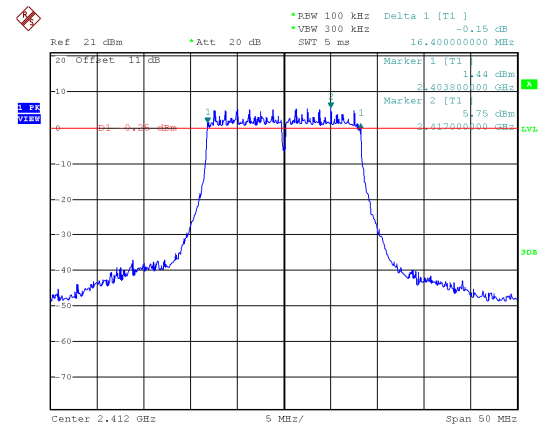


CH09

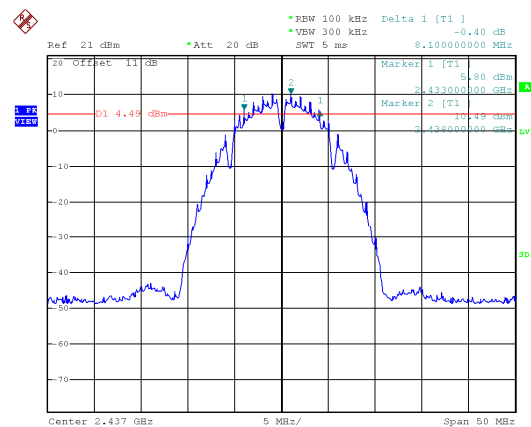




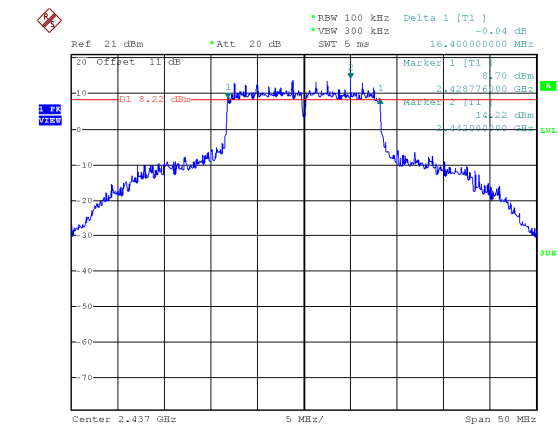
ANT B

Modulation Type: 802.11b
CH01Modulation Type: 802.11g
CH01

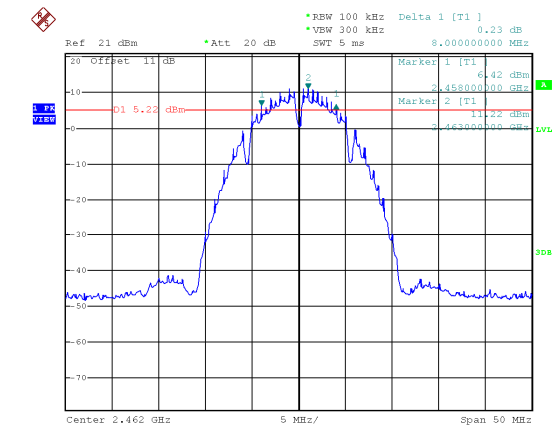
CH06



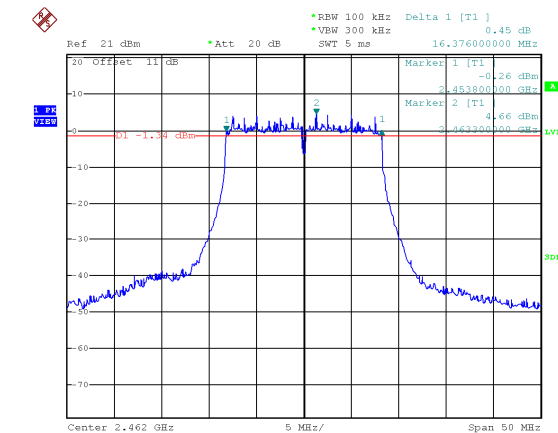
CH06

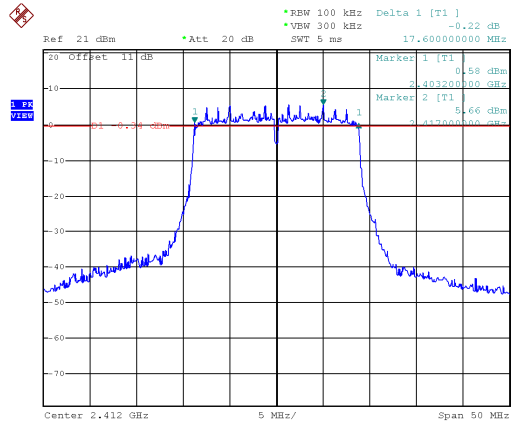
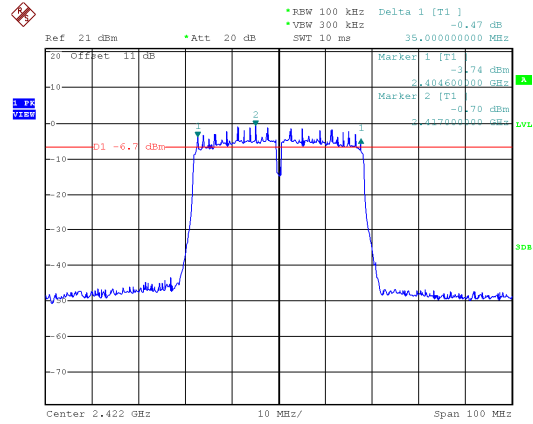


CH11

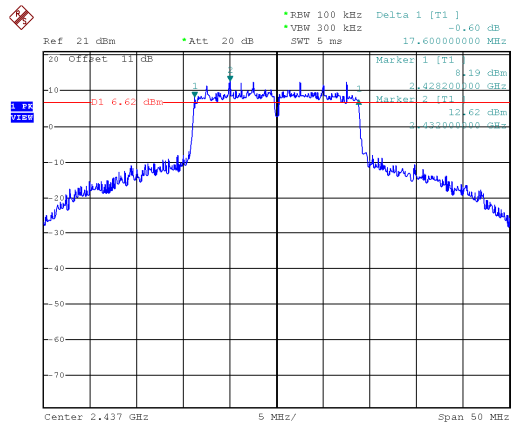


CH11

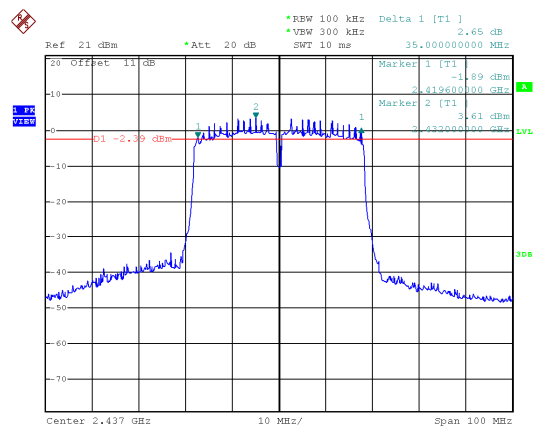


Modulation Type: VHT20
CH01Modulation Type: VHT40
CH03

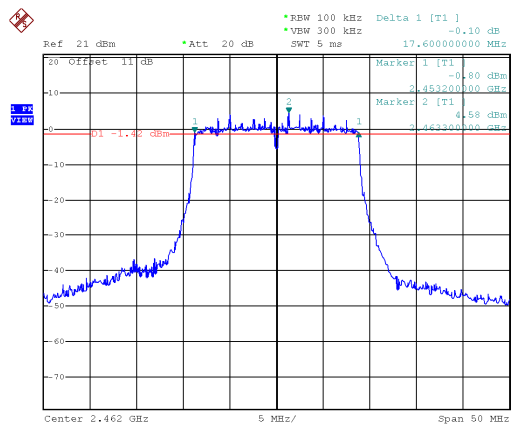
CH06



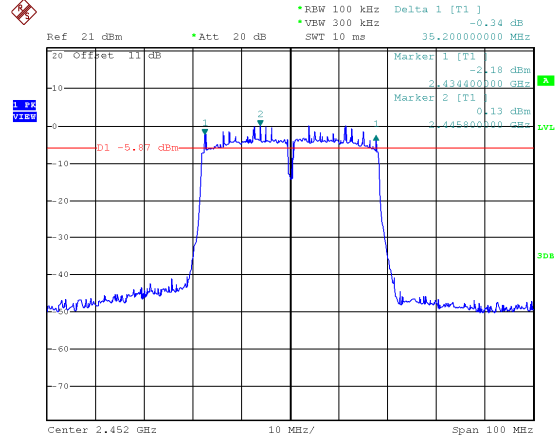
CH06



CH11

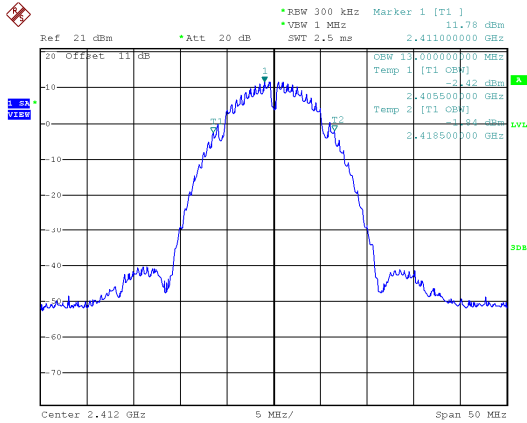


CH09

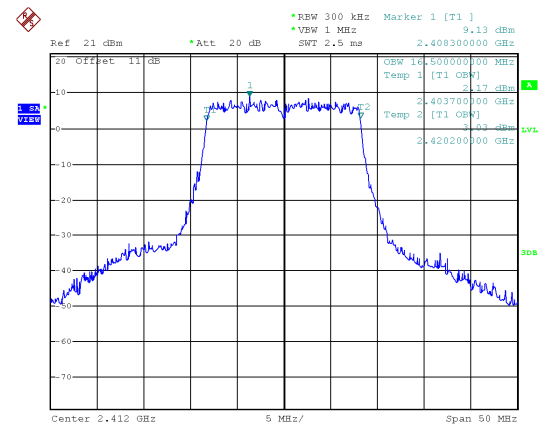




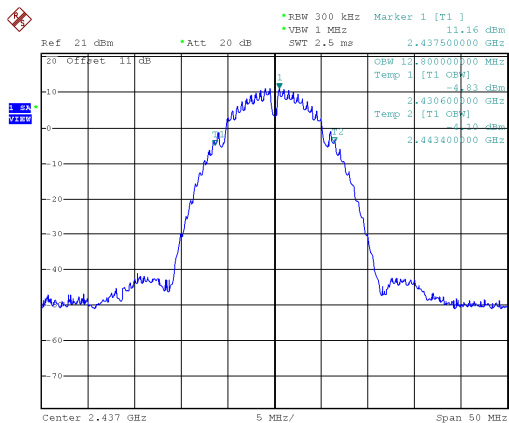
99% Bandwidth
ANT A
Modulation Type: 802.11b
CH01



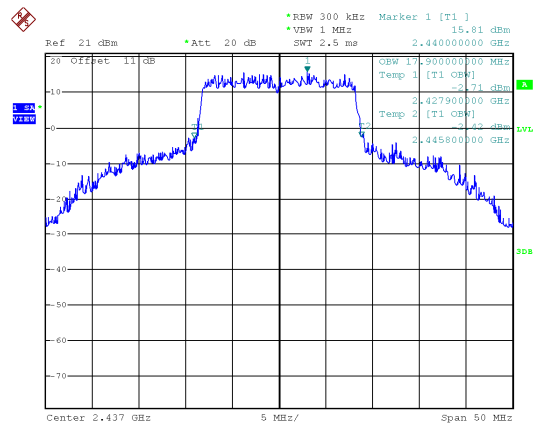
Modulation Type: 802.11g
CH01



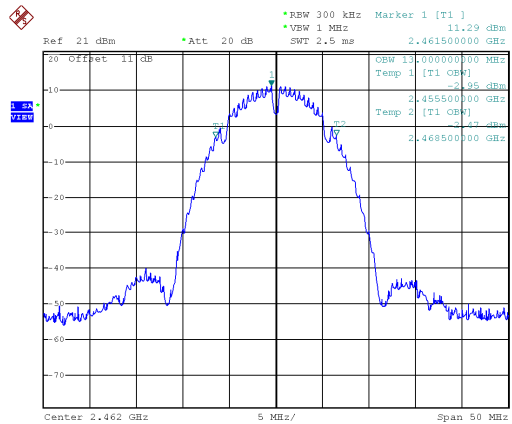
CH06



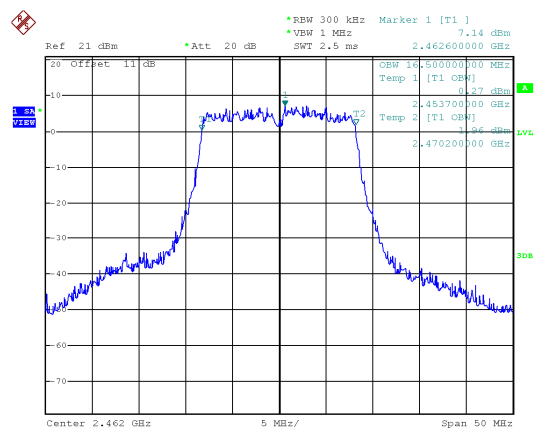
CH06

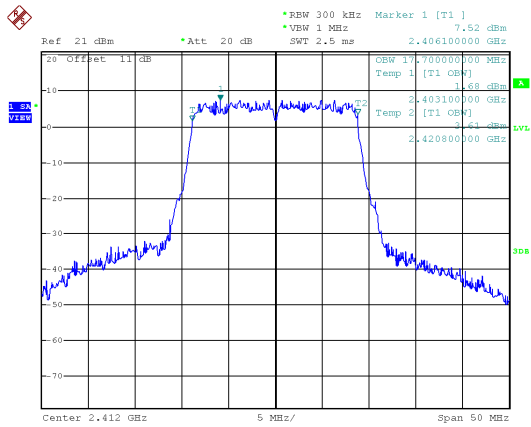
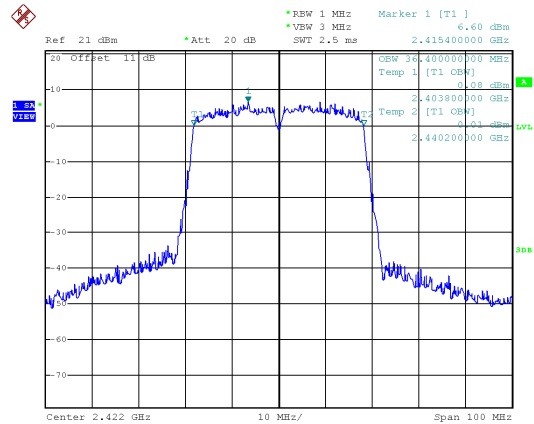


CH11

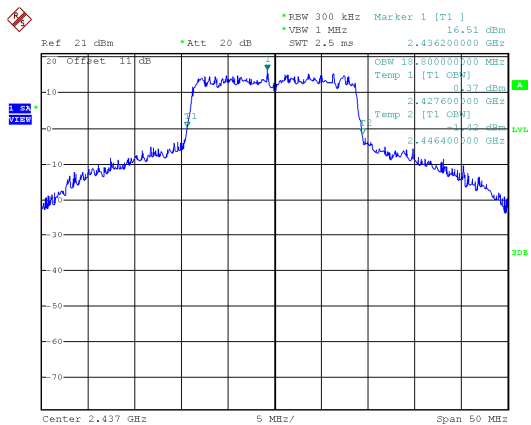


CH11

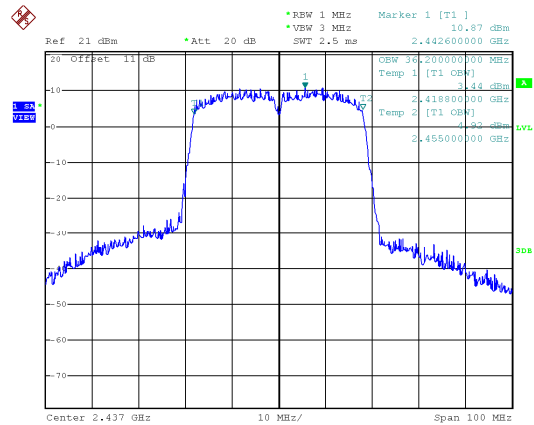


Modulation Type: VHT20
CH01Modulation Type: VHT40
CH03

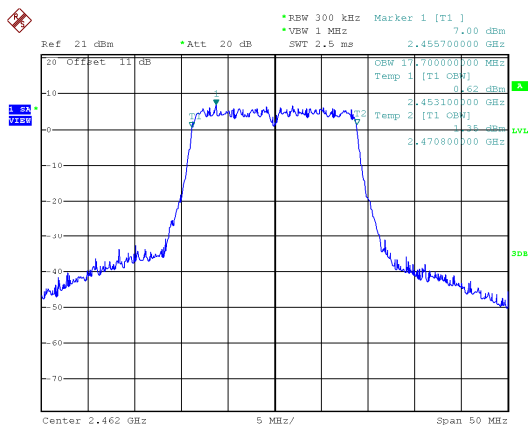
CH06



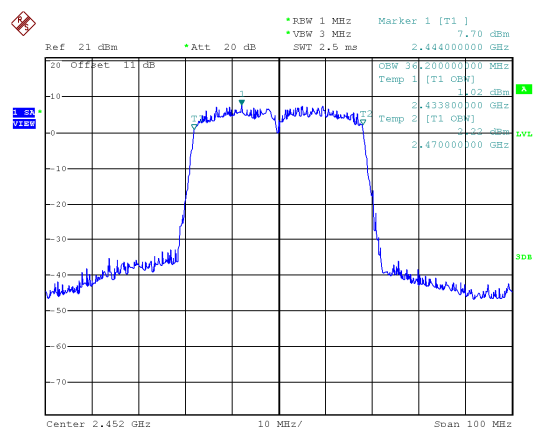
CH06



CH11

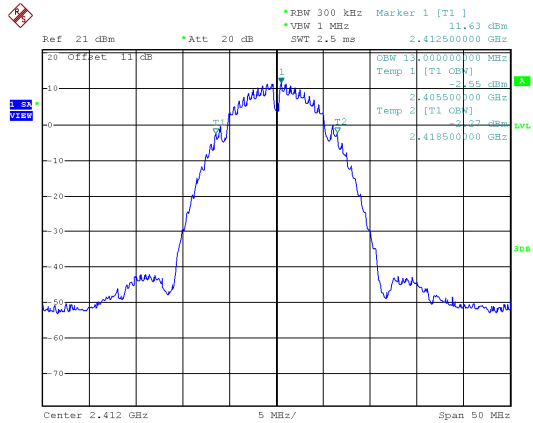


CH09

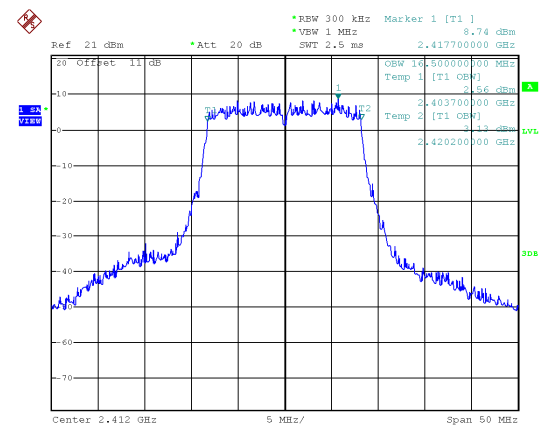




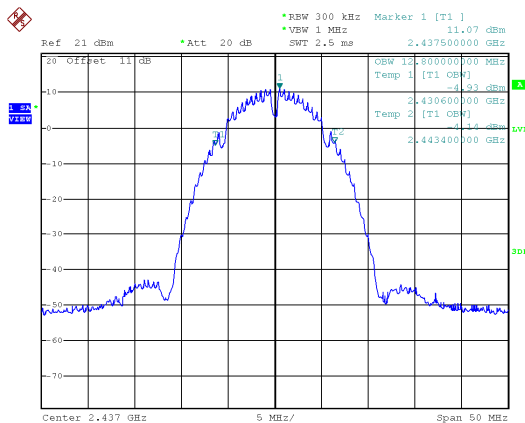
ANT B
Modulation Type: 802.11b
CH01



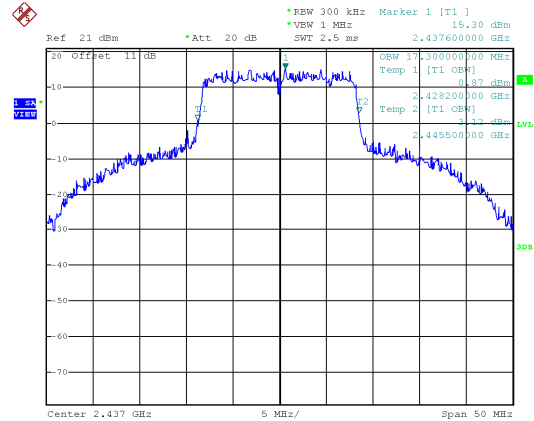
Modulation Type: 802.11g
CH01



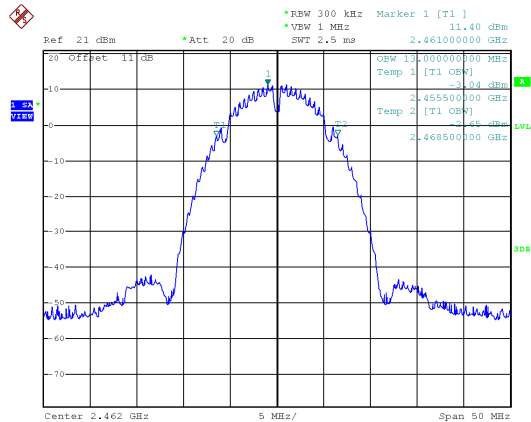
CH06



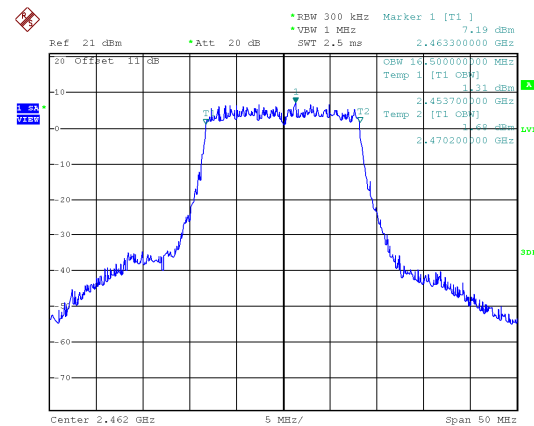
CH06

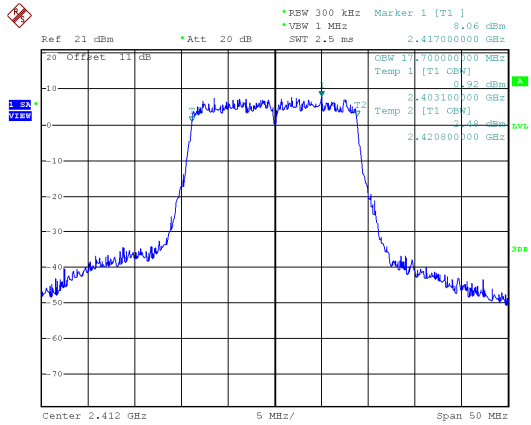
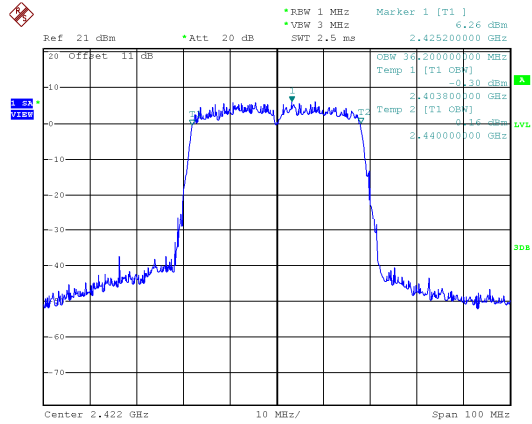


CH11

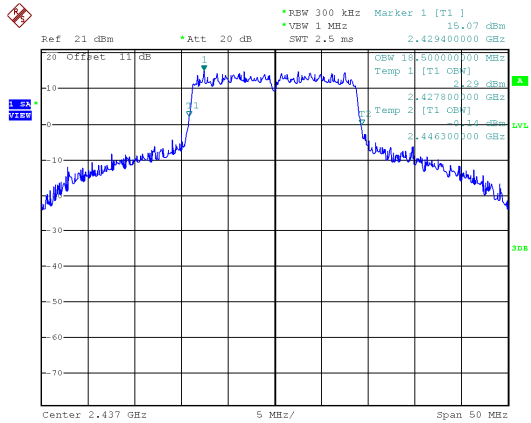


CH11

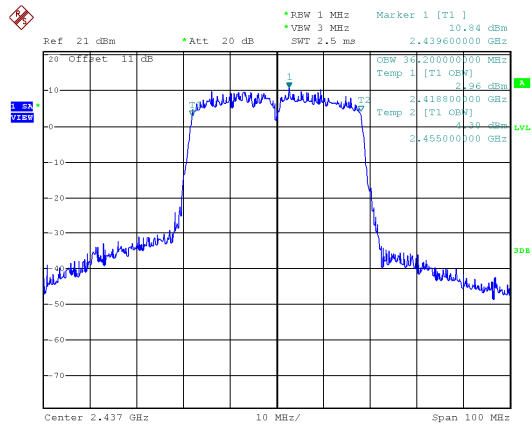


Modulation Type: VHT20
CH01Modulation Type: VHT40
CH03

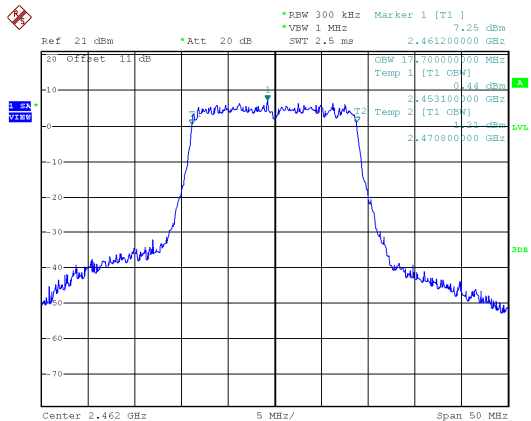
CH06



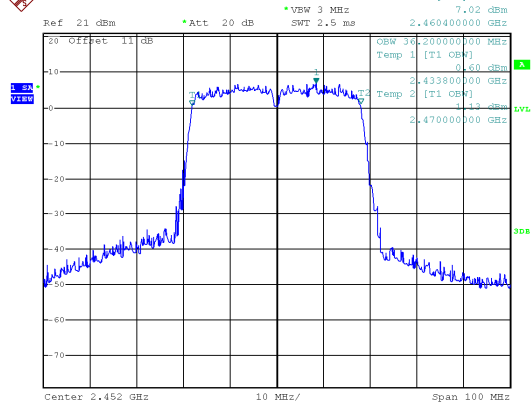
CH06



CH11



CH09





10. Maximum Average Output Power

10.1 Test Limit

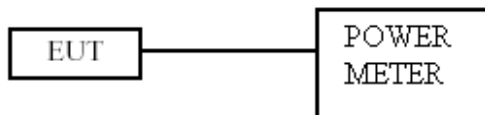
The Maximum Average Output Power Measurement is 30dBm.

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

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

Temperature : 23°C

Humidity : 64%

Test Date : Aug. 20, 2018

Test Mode : Non-Beamforming

Modulation Type	Channel	Frequency (MHz)	Avg. Power Output (dBm)		Total Power (dBm)	Total Power (mW)	Power Limit (dBm)
			ANT A	ANT B			
IEEE 802.11b (1Mbps)	01	2412	19.74	19.36	22.56	180.49	30.00
	06	2437	18.9	18.64	21.78	150.74	30.00
	11	2462	19.0	18.8	21.91	155.29	30.00
IEEE 802.11g (6Mbps)	01	2412	16.61	16.84	19.74	94.12	30.00
	06	2437	24.6	24.13	27.38	547.22	30.00
	11	2462	15.44	15.56	18.51	70.97	30.00
IEEE 802.11n HT20 (6.5Mbps)	01	2412	16.63	16.71	19.68	92.91	30.00
	06	2437	24.86	24.17	27.54	567.41	30.00
	11	2462	15.0	15.59	18.32	67.85	30.00
IEEE 802.11n HT40 (13.5Mbps)	03	2422	12.86	12.82	15.85	38.46	30.00
	06	2437	16.81	16.99	19.91	97.98	30.00
	09	2452	13.92	14.05	17.00	50.07	30.00
VHT20 (6.5Mbps)	01	2412	16.65	16.74	19.71	93.44	30.00
	06	2437	24.89	24.19	27.56	570.74	30.00
	11	2462	15.03	15.62	18.35	68.32	30.00
VHT40 (13.5Mbps)	03	2422	12.88	12.84	15.87	38.64	30.00
	06	2437	16.85	17.02	19.95	98.77	30.00
	09	2452	13.95	14.09	17.03	50.48	30.00



Temperature : 23°C

Humidity : 64%

Test Date : Aug. 20, 2018

Test Mode : Beamforming

Modulation Type	Channel	Frequency (MHz)	Avg. Power Output (dBm)		Total Power (dBm)	Total Power (mW)	Power Limit (dBm)
			ANT A	ANT B			
IEEE 802.11g (6Mbps)	01	2412	13.6	13.83	16.73	47.06	30.00
	06	2437	21.59	21.12	24.37	273.63	30.00
	11	2462	12.43	12.55	15.50	35.49	30.00
IEEE 802.11n HT20 (6.5Mbps)	01	2412	13.62	13.7	16.67	46.46	30.00
	06	2437	21.85	21.16	24.53	283.73	30.00
	11	2462	11.99	12.58	15.31	33.93	30.00
IEEE 802.11n HT40 (13.5Mbps)	03	2422	9.85	9.81	12.84	19.23	30.00
	06	2437	13.8	13.98	16.90	48.99	30.00
	09	2452	10.91	11.04	13.99	25.04	30.00
VHT20 (6.5Mbps)	01	2412	13.64	13.73	16.70	46.73	30.00
	06	2437	21.88	21.18	24.55	285.39	30.00
	11	2462	12.02	12.61	15.34	34.16	30.00
VHT40 (13.5Mbps)	03	2422	9.87	9.83	12.86	19.32	30.00
	06	2437	13.84	14.01	16.94	49.39	30.00
	09	2452	10.94	11.08	14.02	25.24	30.00



11. Power Spectral Density

11.1 Test Limit

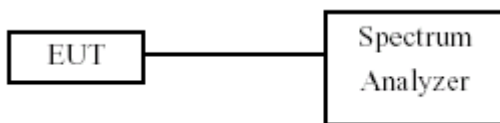
The Maximum of Power Spectral Density Measurement is 8dBm.

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

Reference to KDB558074 DTS Meas Guidance v04 D01

11.3 Test Setup Layout



11.4 Test Result and Data

Temperature : 23°C

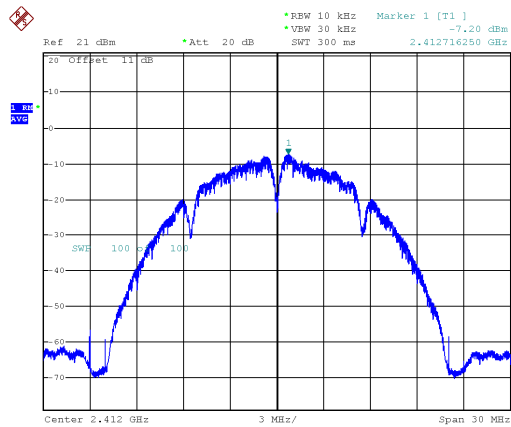
Humidity : 64%

Test Date : Aug. 20, 2018

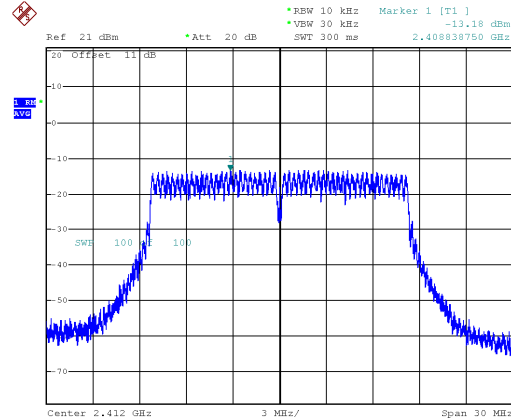
Modulation Type	Channel	Frequency (MHz)	Maximum Power Density of 3 kHz Bandwidth (dBm)		Sum chain (dBm)	Duty Cycle CF(dB)	Total PSD (dBm)	Limit (dBm)
			ANT A	ANT B				
IEEE 802.11b (1Mbps)	01	2412	-7.2	-7.57	-4.37	0.00	-4.37	6.36
	06	2437	-8.49	-8.09	-5.28	0.00	-5.28	6.36
	11	2462	-7.66	-7.83	-4.73	0.00	-4.73	6.36
IEEE 802.11g (6Mbps)	01	2412	-13.18	-13.24	-10.20	0.00	-10.20	6.36
	06	2437	-5.74	-5.78	-2.75	0.00	-2.75	6.36
	11	2462	-14.21	-14.36	-11.27	0.00	-11.27	6.36
VHT20 (6.5Mbps)	01	2412	-12.59	-12.77	-9.67	0.00	-9.67	6.36
	06	2437	-5.13	-5.63	-2.36	0.00	-2.36	6.36
	11	2462	-13.89	-13.89	-10.88	0.00	-10.88	6.36
VHT40 (6.5Mbps)	03	2422	-19.04	-20.04	-16.50	0.00	-16.50	6.36
	06	2437	-15.2	-15.27	-12.22	0.00	-12.22	6.36
	09	2452	-17.83	-18.73	-15.25	0.00	-15.25	6.36



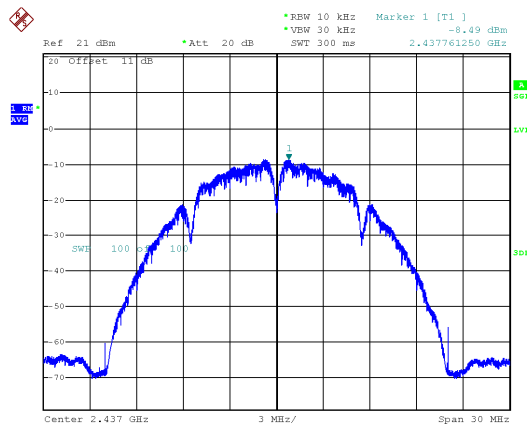
ANT A
Modulation Type: 802.11b
CH01



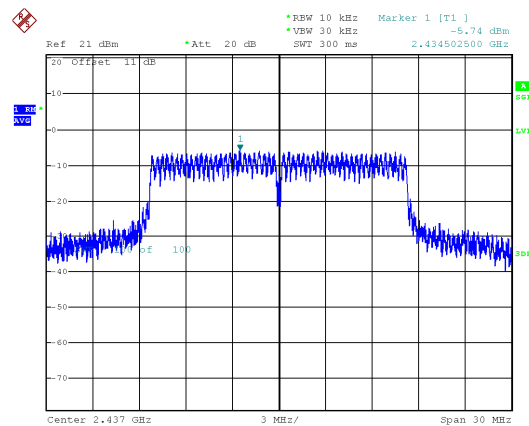
Modulation Type: 802.11b
CH01



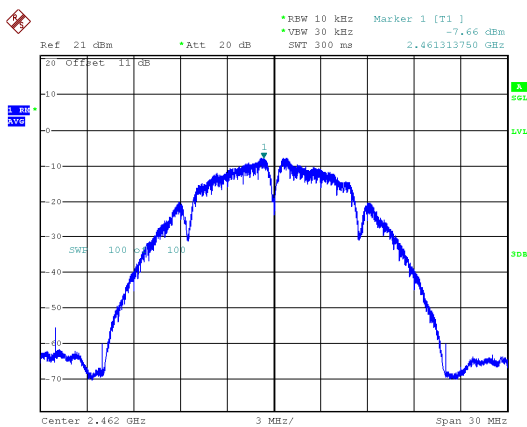
CH06



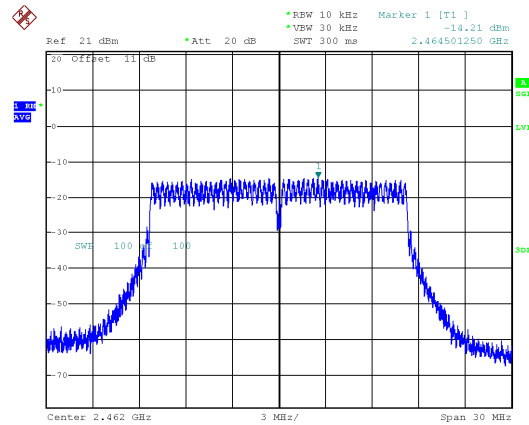
CH06

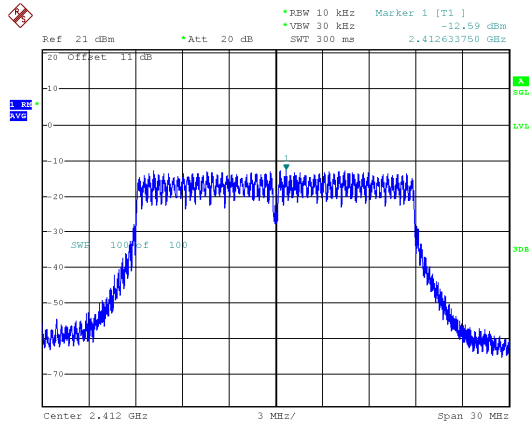
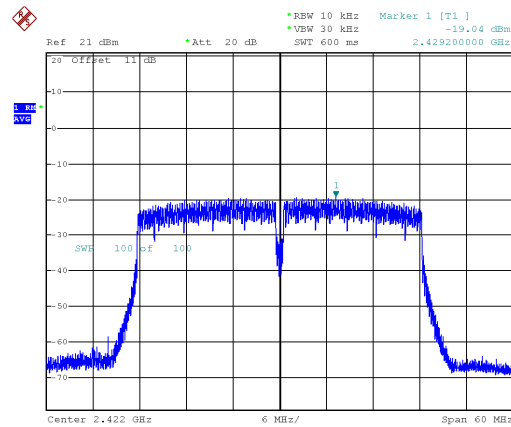


CH11

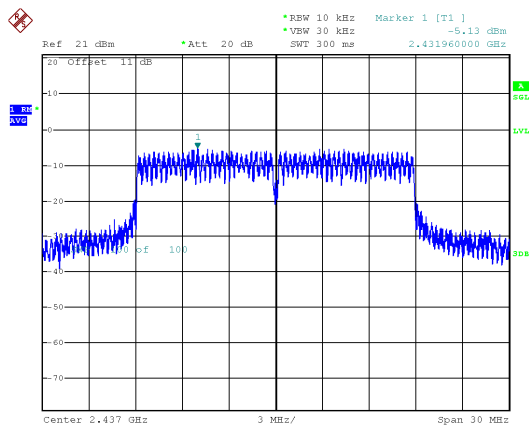


CH11

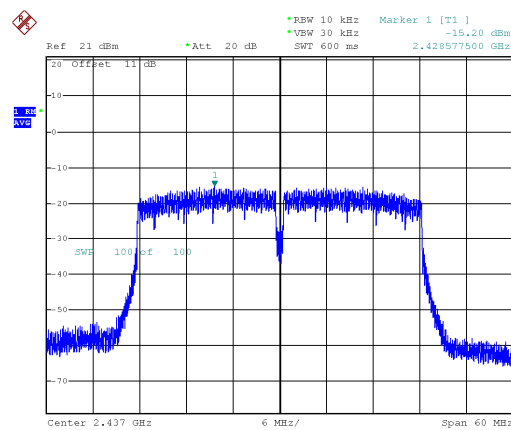


Modulation Type: VHT20
CH01Modulation Type: VHT40
CH03

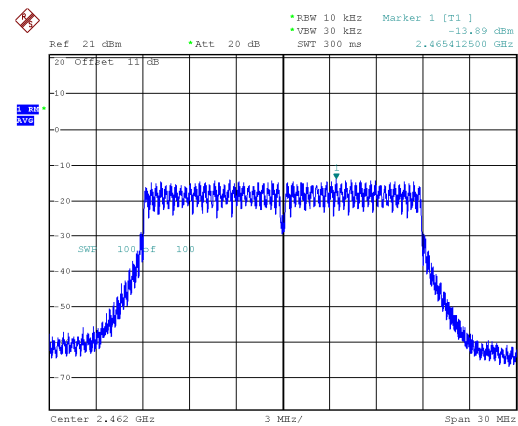
CH06



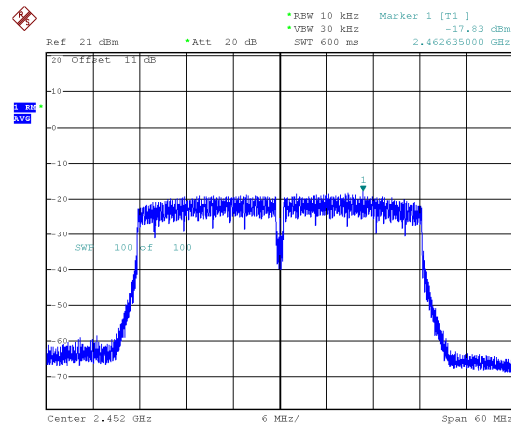
CH06



CH11



CH09

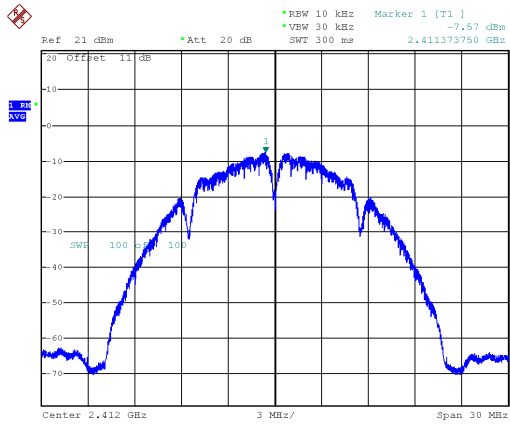




ANT B

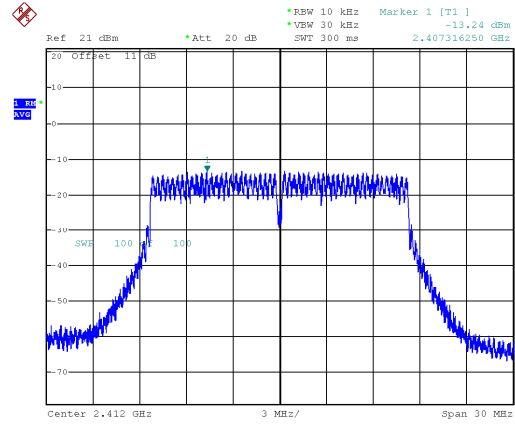
Modulation Type: 802.11b

CH01

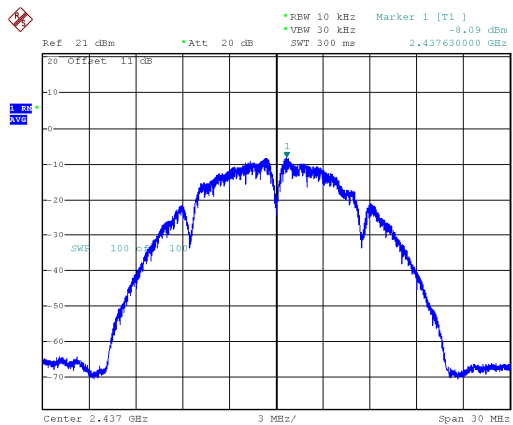


Modulation Type: 802.11g

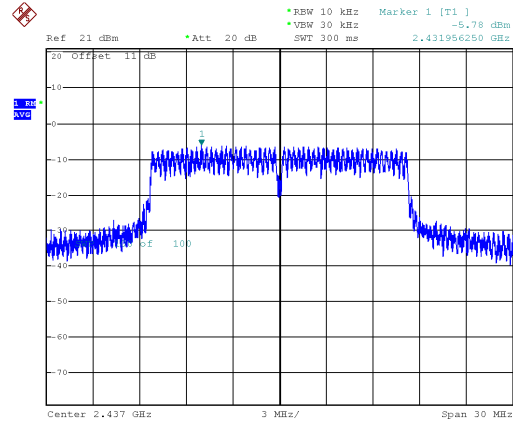
CH01



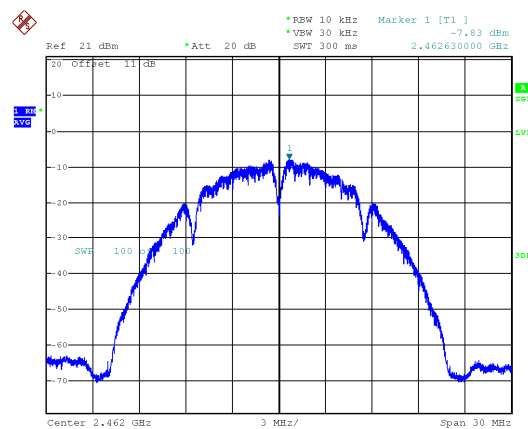
CH06



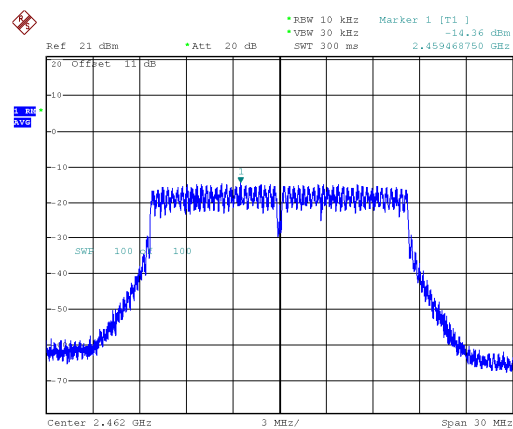
CH06

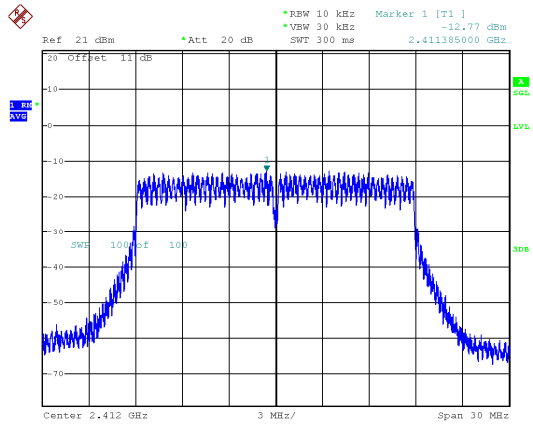
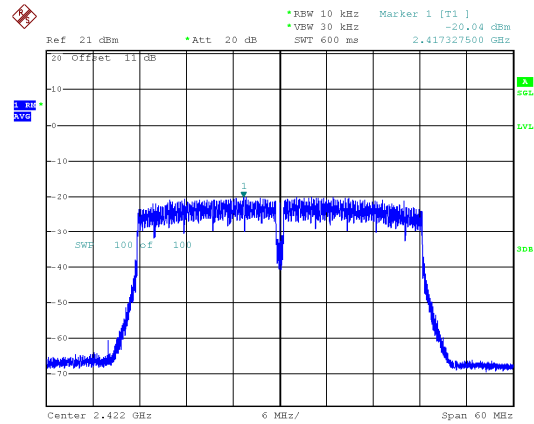


CH11

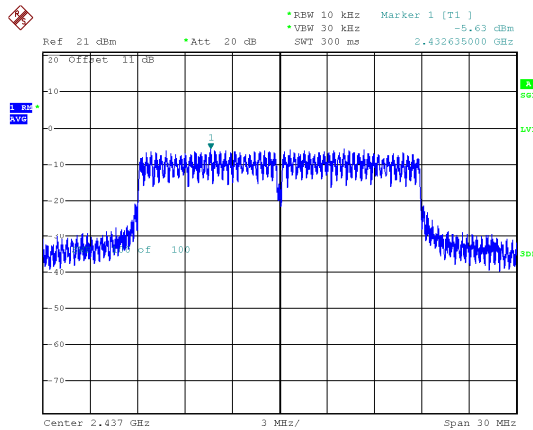


CH11

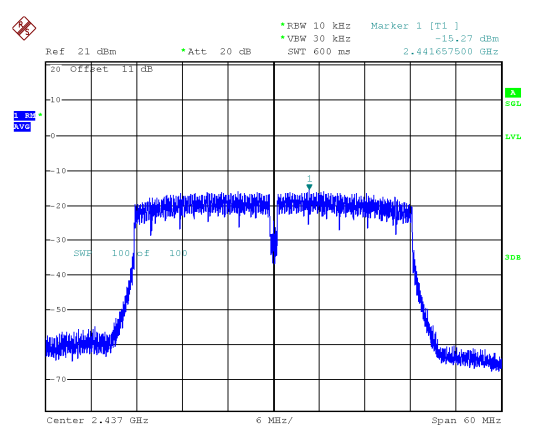


Modulation Type: VHT20
CH01Modulation Type: VHT40
CH03

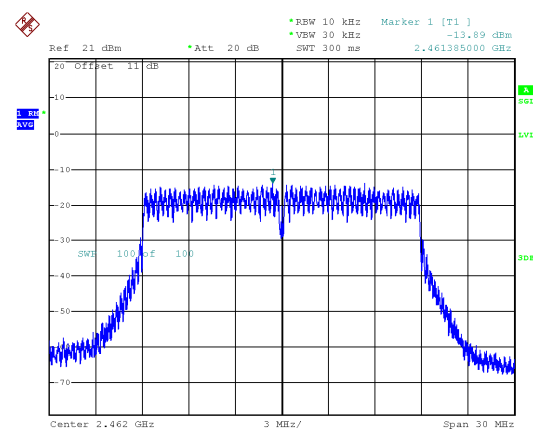
CH06



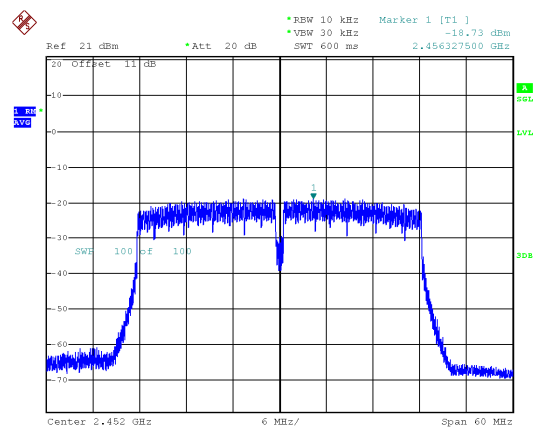
CH06



CH11



CH09





12. Radio Frequency Exposure

12.1 Applicable Standards

The measurements shown in this test report were made in accordance with the procedures given in FCC Part 2 (Section 2.1091)
KDB 447498

12.2 EUT Specification

Frequency band (Operating)	☒ WLAN: 2412MHz ~ 2462MHz ☒ WLAN: 5150MHz ~ 5250MHz ☐ WLAN: 5250MHz ~ 5350MHz ☐ WLAN: 5470MHz ~ 5725MHz ☒ WLAN: 5725MHz ~ 5850MHz ☐ Bluetooth: 2402MHz ~ 2480MHz
Device category	☐ Portable (<20cm separation) ☒ Mobile (>20cm separation)
Exposure classification	☐ Occupational/Controlled exposure ($S = 5\text{mW/cm}^2$) ☒ General Population/Uncontrolled exposure ($S=1\text{mW/cm}^2$)
Antenna diversity	☐ Single antenna ☒ Multiple antennas ☐ Tx diversity ☐ Rx diversity ☒ Tx/Rx diversity
Evaluation applied	☒ MPE Evaluation* ☐ SAR Evaluation ☐ N/A
Remark: 1. The maximum output power is <u>27.56dBm (570.74mW)</u> at <u>2437MHz</u> (with <u>numeric 4.85 antenna gain.</u>) 2. DTS device is not subject to routine RF evaluation; MPE estimate is used to justify the compliance. 3. For mobile or fixed location transmitters, no SAR consideration applied. The maximum power density is 1.0 mW/cm^2 even if the calculation indicates that the power density would be larger.	



12.3 Test Results

No non-compliance noted.

12.4 Calculation

$$\text{Given } E = \frac{\sqrt{30 \times P \times G}}{d} \quad \& \quad S = \frac{E^2}{3770}$$

Where E = Field strength in Volts / meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{3770 d^2}$$

Changing to units of mW and cm, using:

$P \text{ (mW)} = P \text{ (W)} / 1000$ and

$d \text{ (cm)} = d \text{ (m)} / 100$

Yields

$$S = \frac{30 \times (P / 1000) \times G}{3770 \times (d / 100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²



12.5 Maximum Permissible Exposure

Max. output power	Non-Beamforming 802.11b: 22.56 dBm (180.49mW) 802.11g: 27.38 dBm (547.22mW) 802.11n HT20: 27.54 dBm (567.41mW) 802.11n HT40: 19.91 dBm (97.98mW) VHT20: 27.56 dBm (570.74mW) VHT40: 19.95 dBm (98.77mW)
	Beamforming 802.11g: 24.37 dBm (273.63mW) 802.11n HT20: 24.53 dBm (283.73mW) 802.11n HT40: 16.90 dBm (48.99mW) VHT20: 24.55 dBm (285.39mW) VHT40: 16.94 dBm (49.39mW)
Antenna gain (Max)	ANT A: 4.85 dBi ; ANT B: 4.4 dBi

Maximum Permissible Exposure (Non-Beamforming)

Modulation Mode	Frequency band (MHz)	Max. Conducted output power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
802.11b	2412-2462	22.56	4.85	25	0.0702	1
802.11g	2412-2462	27.38	4.85	25	0.2129	1
802.11n HT20	2412-2462	27.54	4.85	25	0.2207	1
802.11n HT40	2422-2452	19.91	4.85	25	0.0381	1
VHT20	2412-2462	27.56	4.85	25	0.2220	1
VHT40	2422-2452	19.95	4.85	25	0.0384	1

Maximum Permissible Exposure (Beamforming)

Modulation Mode	Frequency band (MHz)	Max. Conducted output power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
802.11g	2412-2462	24.37	7.64	25	0.2023	1
802.11n HT20	2412-2462	24.53	7.64	25	0.2098	1
802.11n HT40	2422-2452	16.90	7.64	25	0.0362	1
VHT20	2412-2462	24.55	7.64	25	0.2110	1
VHT40	2422-2452	16.94	7.64	25	0.0365	1

**Maximum Permissible Exposure (Co-location)****(Non-Beamforming)**

Modulation Mode	Frequency band (MHz)	Max. Conducted output power (dBm)	Antenna Gain(dBi)	Distance (cm)	Power Density (mW/cm ²)
VHT20	2412-2462	27.56	4.85	25	0.2220
802.11ac VHT40	5150-5250	26.64	4.81	25	0.1777
802.11ac VHT20	5725-5850	28.47	4.9	25	0.2769
Co-location Total					0.6766
Maximum Permissible Exposure Limit					1

(Beamforming)

Modulation Mode	Frequency band (MHz)	Max. Conducted output power (dBm)	Antenna Gain(dBi)	Distance (cm)	Power Density (mW/cm ²)
VHT20	2412-2462	24.55	7.64	25	0.2110
802.11ac VHT40	5150-5250	23.63	7.51	25	0.1655
802.11ac VHT20	5725-5850	25.46	7.56	25	0.2555
Co-location Total					0.632
Maximum Permissible Exposure Limit					1