



FCC RADIO TEST REPORT

Applicant : Promethean Ltd
Address : Promethean House, Lower Philips Rd Whitebirk, Blackburn,
United Kingdom
Equipment : Promethean WiFi Module (Nickel/Cobalt)
Model No. : AP-WIFI-A
Trade Name : Promethean
FCC ID : QAM-AP-WIFI-A

I HEREBY CERTIFY THAT :

The sample was received on Nov. 22, 2018 and the testing was carried out on Dec. 13, 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:

Tested by:

Mark Liao / Assistant Manager

Amos Zhang / Engineer

Laboratory Accreditation:

CerpPASS Technology Corporation Test Laboratory

TAF LAB Code:	1439
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1. Summary of Test Procedure and Test Results

1.1. Applicable Standards

ANSI C63.4:2014

ANSI C63.10:2013&RSS-247

FCC Rules and Regulations Part 15 Subpart E §15.407

First R&O 14-30

KDB662911

KDB789033

KDB644545

FCC Rule	Description of Test	Result
15.203	Antenna Requirement	Pass
15.207(a)	AC Power Line Conducted Emission	Pass
15.407(b) 15.209	Radiated Spurious Emission	Pass
15.407(a)	26 dB Occupied Bandwidth	Pass
15.407	6 dB Bandwidth	Pass
15.407 (a) & (a)(3)	Average Power	Pass
15.407(a)	Output and PPSD	Pass
15.407(g)	Frequency Stability	Pass
15.407(c)	Automatically Discontinue Transmission	Pass
2.1091	Radio Frequency Exposure	Pass



2. Test Configuration of Equipment under Test

2.1. Feature of Equipment under Test

Main Chip	RTL8812AU-VS-CG
Host Interface	USB 2.0
IEEE Standards	IEEE 802.11a/b/g/n/ac
Operating Frequencies	2.4GHz~2.4835GHz / 5.15~5.85GHz
Modulation	802.11b: CCK, DQPSK, DBPSK 802.11a/g: 64-QAM,16-QAM, QPSK, BPSK 802.11n: 64-QAM,16-QAM, QPSK, BPSK 802.11ac: 256-QAM,64-QAM,16-QAM, QPSK, BPSK
Working Mode	Infrastructure, Ad-Hoc
Wireless Data Rate	802.11b: 1, 2, 5.5, 11Mbps 802.11a/g: 6,9,12,18,24,36,48,54Mbps 802.11n: HT20 reach up to144.4Mbps, HT40 reach up to300Mbps 802.11ac: VHT20 reach up to173.3Mbps, VHT40 reach up to400Mbps, VHT80 reach up to866.7Mbps
Rx Sensitivity	-95dBm (Min)
TX Power	18.5dBm (Max)
Antenna Type	Connect to external antenna through the IPEX connector
Dimension(L*W*H)	27.0*17.7*3.6mm (L*W*H) ,Tolerance: ± 0.15 mm
Power Supply	3.3V \pm 0.2V
Power Consumption	Standby 192mA@5V (Max) TX mode 908 mA@5V (Max)
Clock Source	40MHz
Working Temperature	-10 °C to +50 °C
Storage Temperature	-40 °C to +70 °C

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



2.2. Carrier Frequency of Channels

Band 1: 5150MHz-5250MHz

802.11a, 802.11n HT20, 802.11ac VHT20

Channel	Frequency(MHz)	Channel	Frequency(MHz)
*36	5180	*44	5220
40	5200	*48	5240

802.11n HT40, 802.11ac VHT40

Channel	Frequency(MHz)	Channel	Frequency(MHz)
*38	5190	*46	5230

802.11ac VHT80

Channel	Frequency(MHz)
*42	5210

Band 2: 5250MHz -5350MHz

802.11a, 802.11n HT20, 802.11ac VHT20

Channel	Frequency(MHz)	Channel	Frequency(MHz)
*52	5260	*60	5300
56	5280	*64	5320

802.11n HT40, 802.11ac VHT40

Channel	Frequency(MHz)	Channel	Frequency(MHz)
*54	5270	*62	5310

802.11ac VHT80

Channel	Frequency(MHz)
*58	5290

Band 3: 5470MHz -5725MHz

802.11a, 802.11n HT20, 802.11ac VHT20

Channel	Frequency(MHz)	Channel	Frequency(MHz)
*100	5500	*116	5580
104	5520	132	5660
108	5540	136	5680
112	5560	*140	5700

802.11n HT40, 802.11ac VHT40

Channel	Frequency(MHz)	Channel	Frequency(MHz)
*102	5510	*134	5670
*110	5550		

802.11ac VHT80

Channel	Frequency(MHz)
*106	5530

Band 4: 5725MHz -5850MHz

802.11a, 802.11n HT20, 802.11ac VHT20

Channel	Frequency(MHz)	Channel	Frequency(MHz)
*149	5745	161	5805
153	5765	*165	5825
*157	5785		

802.11n HT40, 802.11ac VHT40

Channel	Frequency(MHz)	Channel	Frequency(MHz)
*151	5755	*159	5795

802.11ac VHT80

Channel	Frequency(MHz)
*155	5775

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 C63.4.
- b. The complete test system included remote workstation and EUT for RF test. The remote workstation included Notebook.

An executive program, "REALTEK 11ac 8812AU USB WLAN NIC Massproduction Kit" under WIN 7 was executed to transmit and receive data via WLAN.

- c. The following test modes were performed for the test:

Conducted Emissions from the AC mains power ports	
Test Mode	Operating Description
1	802.11a (6Mbps)
2	802.11ac VHT20 (6.5Mbps)
3	802.11ac VHT40 (13.5Mbps)
4	802.11ac VHT80 (29.3Mbps)
5	802.11ac VHT20 (13Mbps)
6	802.11ac VHT40 (27Mbps)
7	802.11ac VHT80 (58.5Mbps)
caused "Test Mode 1" generated the worst case, it was reported as the final data.	
Radiation Emissions (30MHz ~ 1GHz)	
Test Mode	Operating Description
1	802.11a (6Mbps)
2	802.11ac VHT20 (6.5Mbps)
3	802.11ac VHT40 (13.5Mbps)
4	802.11ac VHT80 (29.3Mbps)
5	802.11ac VHT20 (13Mbps)
6	802.11ac VHT40 (27Mbps)
7	802.11ac VHT80 (58.5Mbps)
caused "Test Mode 1" generated the worst case, they were reported as the final data.	
Radiation Emissions (1GHz ~ 40GHz for 1TX)	
Test Mode	Operating Description
1	802.11a (6Mbps)
2	802.11ac VHT20 (6.5Mbps)
3	802.11ac VHT40 (13.5Mbps)
4	802.11ac VHT80 (29.3Mbps)
caused "Test Mode 1~4" generated the worst case, they were reported as the final data.	
Radiation Emissions (1GHz ~ 40GHz for 2TX)	
Test Mode	Operating Description
1	802.11ac VHT20 (13Mbps)
2	802.11ac VHT40 (27Mbps)
3	802.11ac VHT80 (58.5Mbps)
caused "Test Mode 1~3" generated the worst case, they were reported as the final data.	

2.4. Description of Test System

Device	Manufacturer	Model No.	Description
Notebook	SONY	PCG-71811P	Power Cable, Unshielding, 1.7m

**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 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 40,000MHz	
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	±1.2oC
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	100443	2018/03/15	2019/03/14
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	2018/09/17	2019/09/16
Active Loop Antenna	EMCO	6507	40855	2018/05/22	2019/05/21
Horn Antenna	EMCO	3115	31601	2018/09/26	2019/09/25
Horn Antenna	EMCO	3116	31970	2018/03/23	2019/03/22
Preamplifier	EM	EM330	60660	2018/03/08	2019/03/07
Preamplifier	EMC INSTRUMENTS	EMC051845SE	980333	2018/09/18	2019/09/17
Preamplifier	EMC INSTRUMENTS	EMC184045	980065	2018/10/31	2019/10/30
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	2018/09/04	2019/09/03
Rotary Attenuator	Agilent	8495B	MY42146680	2018/03/29	2019/03/28
Temp & Humi chamber	T-MACHINE	TMJ-9712	T-12-040111	2018/08/30	2019/08/29
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 15.407 (a), 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	2400MHz-2500MHz: ANT A: 2.0 dBi ; ANT B: 2.0 dBi 5150MHz-5250MHz: ANT A: 2.0 dBi ; ANT B: 2.0 dBi 5250MHz-5350MHz: ANT A: 2.0 dBi ; ANT B: 2.0 dBi 5470MHz-5725MHz: ANT A: 2.0 dBi ; ANT B: 2.0 dBi 5725MHz-5850MHz: ANT A: 2.0 dBi ; ANT B: 2.0 dBi

2412-2462MHz
For Power directional gain= $G_{ant} = 2.0$ dBi For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}]$ = 5.01 (dBi)
5150MHz -5250MHz
For Power directional gain= $G_{ant} = 2.0$ dBi For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}]$ = 5.01 (dBi)
5250MHz -5350MHz
For Power directional gain= $G_{ant} = 2.0$ dBi For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}]$ = 5.01 (dBi)
5470MHz -5725MHz
For Power directional gain= $G_{ant} = 2.0$ dBi For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}]$ = 5.01 (dBi)
5725MHz -5850MHz
For Power directional gain= $G_{ant} = 2.0$ dBi For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}]$ = 5.01 (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

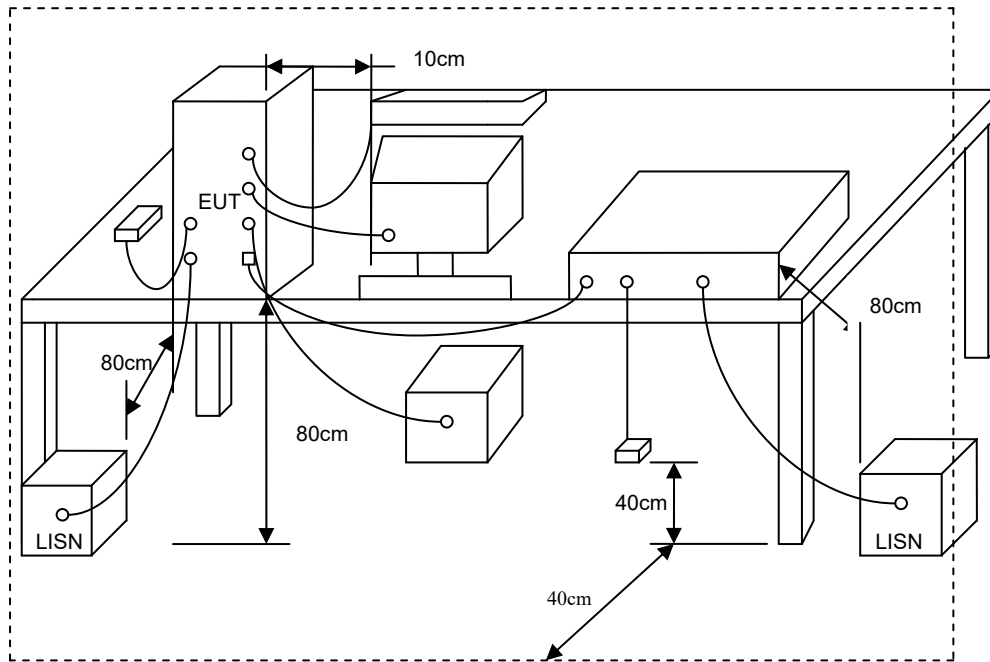
*Decreases with the logarithm of the frequency.

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.



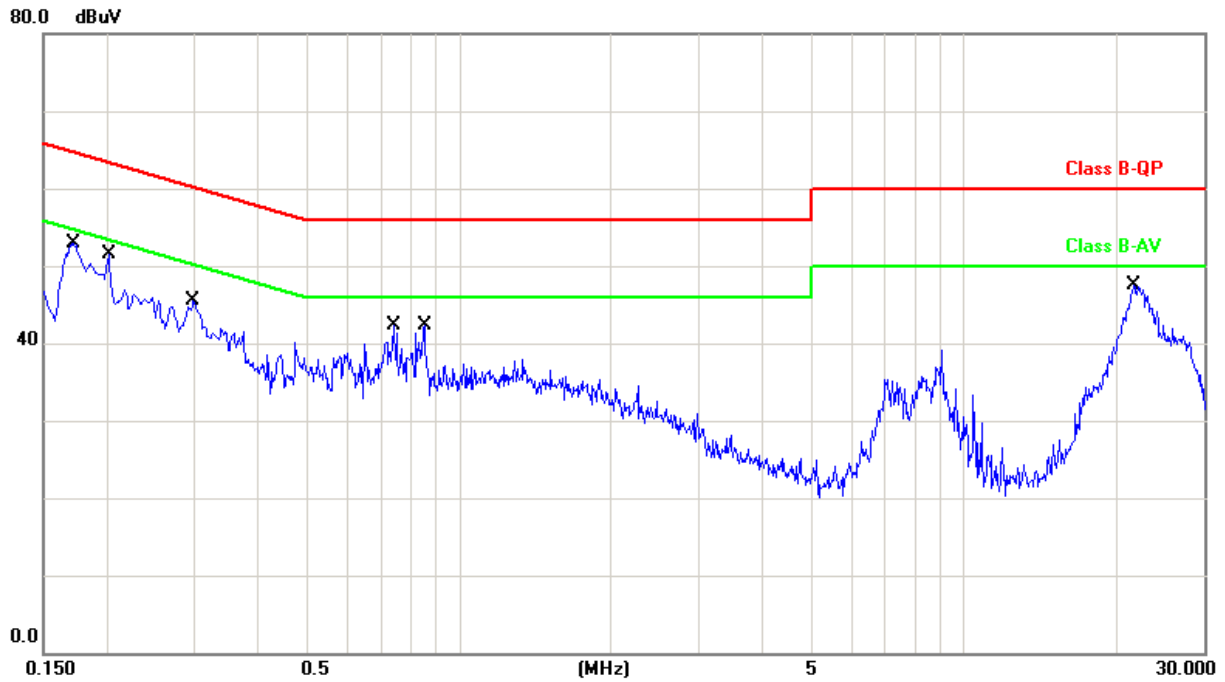
5.3. Typical Test Setup





5.4. Test Result and Data

Power	: AC 120V	Pol/Phase	: LINE
Test Mode	: Mode 1, Band 1	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

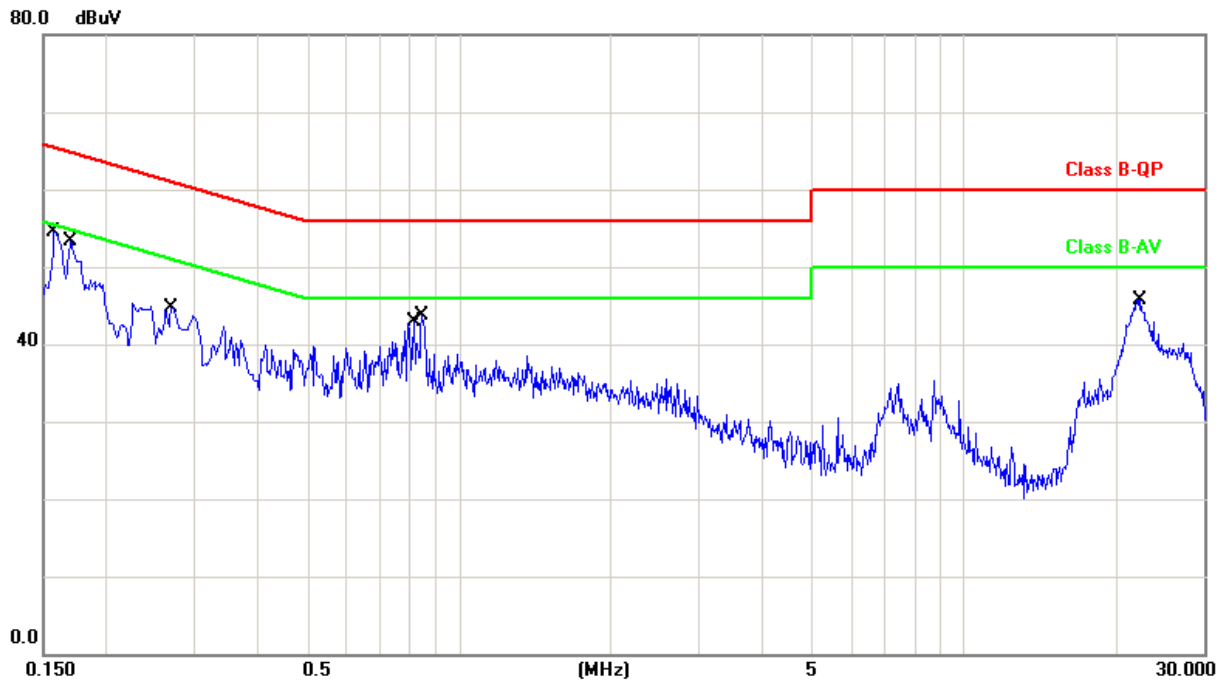


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1722	10.06	37.02	47.08	64.85	-17.77	QP
2	0.1722	10.06	22.66	32.72	54.85	-22.13	AVG
3	0.2020	10.06	34.79	44.85	63.52	-18.67	QP
4	0.2020	10.06	21.97	32.03	53.52	-21.49	AVG
5	0.2980	10.00	27.71	37.71	60.30	-22.59	QP
6	0.2980	10.00	17.98	27.98	50.30	-22.32	AVG
7	0.7460	10.08	22.81	32.89	56.00	-23.11	QP
8	0.7460	10.08	15.32	25.40	46.00	-20.60	AVG
9	0.8540	10.10	26.96	37.06	56.00	-18.94	QP
10	0.8540	10.10	16.21	26.31	46.00	-19.69	AVG
11	21.8180	10.58	28.21	38.79	60.00	-21.21	QP
12	21.8180	10.58	22.60	33.18	50.00	-16.82	AVG

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, Band 1	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

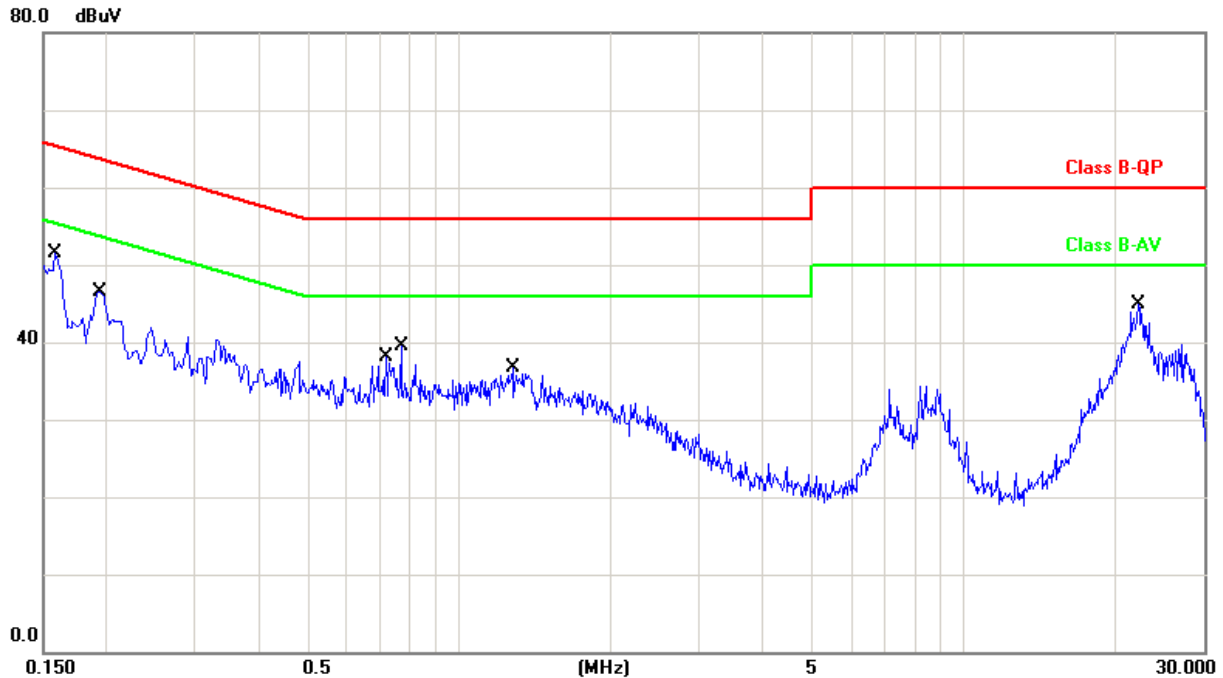


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1580	10.06	40.00	50.06	65.56	-15.50	QP
2	0.1580	10.06	24.68	34.74	55.56	-20.82	AVG
3	0.1700	10.06	38.54	48.60	64.96	-16.36	QP
4	0.1700	10.06	26.78	36.84	54.96	-18.12	AVG
5	0.2700	10.02	27.88	37.90	61.12	-23.22	QP
6	0.2700	10.02	18.49	28.51	51.12	-22.61	AVG
7	0.8139	10.09	24.71	34.80	56.00	-21.20	QP
8	0.8139	10.09	15.47	25.56	46.00	-20.44	AVG
9	0.8460	10.10	28.50	38.60	56.00	-17.40	QP
10	0.8460	10.10	16.62	26.72	46.00	-19.28	AVG
11	22.4619	10.58	28.48	39.06	60.00	-20.94	QP
12	22.4619	10.58	20.79	31.37	50.00	-18.63	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor = (LISN, ISN, PLC, or Current Probe) Factor + Cable Loss + Attenuator



Power	: AC 120V	Pol/Phase	: LINE
Test Mode	: Mode 1, Band 2	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

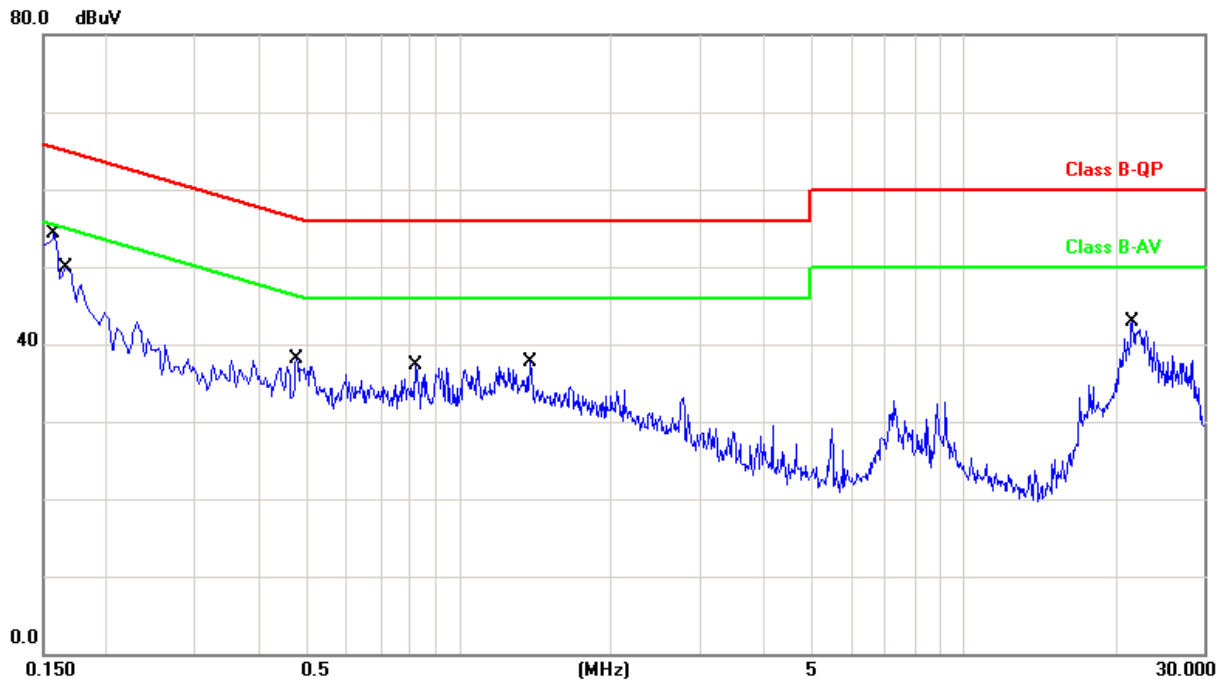


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1582	10.06	40.35	50.41	65.55	-15.14	QP
2	0.1582	10.06	28.00	38.06	55.55	-17.49	AVG
3	0.1940	10.06	32.71	42.77	63.86	-21.09	QP
4	0.1940	10.06	22.65	32.71	53.86	-21.15	AVG
5	0.7180	10.07	20.45	30.52	56.00	-25.48	QP
6	0.7180	10.07	14.57	24.64	46.00	-21.36	AVG
7	0.7700	10.08	19.88	29.96	56.00	-26.04	QP
8	0.7700	10.08	14.47	24.55	46.00	-21.45	AVG
9	1.2780	10.39	20.22	30.61	56.00	-25.39	QP
10	1.2780	10.39	15.15	25.54	46.00	-20.46	AVG
11	22.2820	10.58	27.15	37.73	60.00	-22.27	QP
12	22.2820	10.58	22.04	32.62	50.00	-17.38	AVG

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, Band 2	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

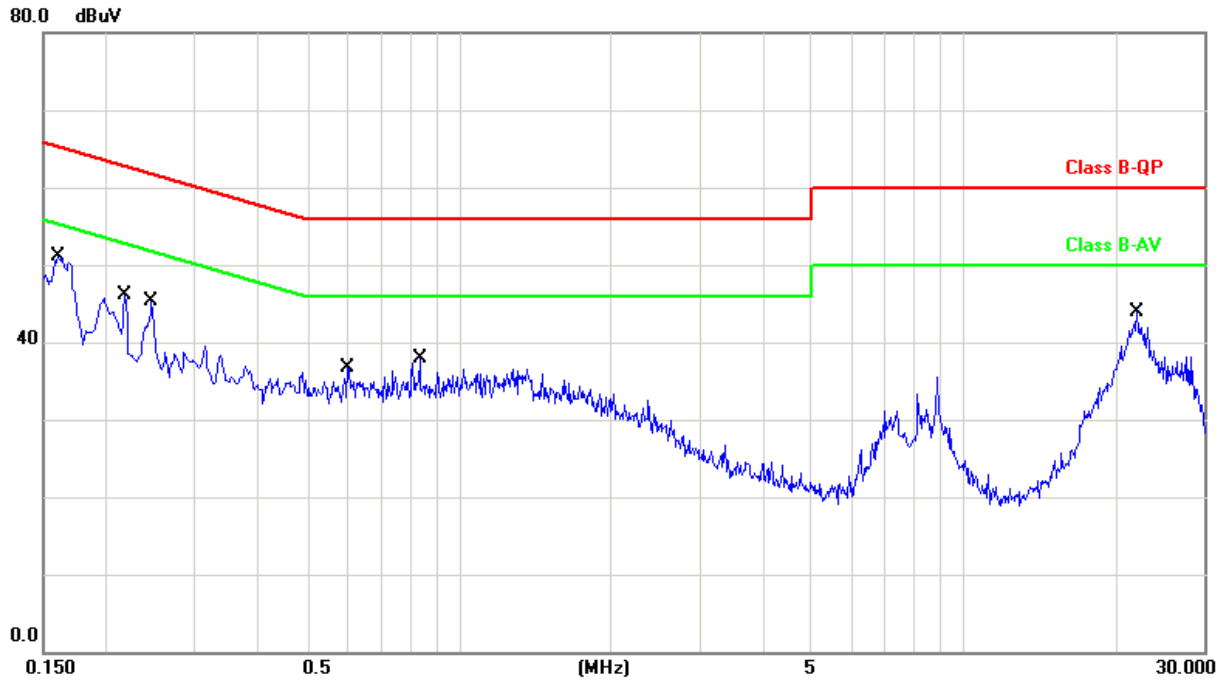


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1580	10.06	41.00	51.06	65.56	-14.50	QP
2	0.1580	10.06	27.83	37.89	55.56	-17.67	AVG
3	0.1660	10.06	36.58	46.64	65.15	-18.51	QP
4	0.1660	10.06	22.78	32.84	55.15	-22.31	AVG
5	0.4780	9.90	21.06	30.96	56.37	-25.41	QP
6	0.4780	9.90	15.22	25.12	46.37	-21.25	AVG
7	0.8180	10.09	20.83	30.92	56.00	-25.08	QP
8	0.8180	10.09	14.97	25.06	46.00	-20.94	AVG
9	1.3860	10.14	19.67	29.81	56.00	-26.19	QP
10	1.3860	10.14	14.53	24.67	46.00	-21.33	AVG
11	21.6620	10.57	25.01	35.58	60.00	-24.42	QP
12	21.6620	10.57	19.67	30.24	50.00	-19.76	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor = (LISN, ISN, PLC, or Current Probe) Factor + Cable Loss + Attenuator



Power	: AC 120V	Pol/Phase	: LINE
Test Mode	: Mode 1, Band 3	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

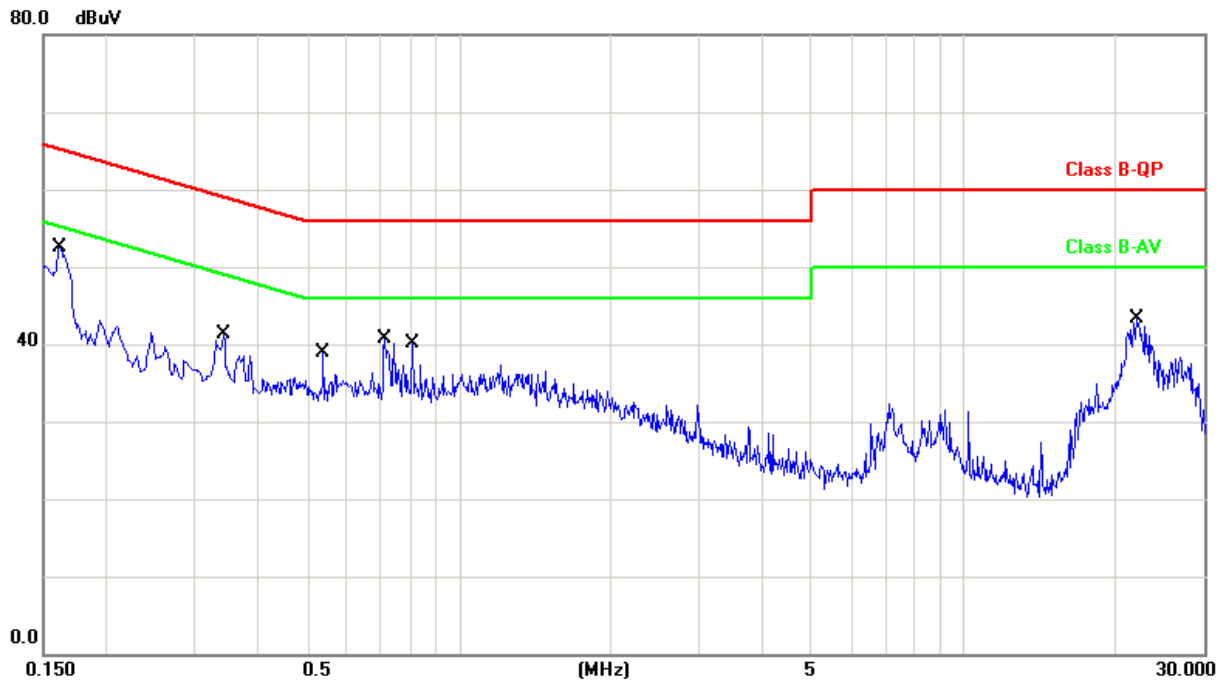


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1598	10.06	40.03	50.09	65.47	-15.38	QP
2	0.1598	10.06	25.97	36.03	55.47	-19.44	AVG
3	0.2180	10.05	29.92	39.97	62.89	-22.92	QP
4	0.2180	10.05	19.55	29.60	52.89	-23.29	AVG
5	0.2460	10.03	25.93	35.96	61.89	-25.93	QP
6	0.2460	10.03	19.30	29.33	51.89	-22.56	AVG
7	0.6020	9.98	20.05	30.03	56.00	-25.97	QP
8	0.6020	9.98	14.63	24.61	46.00	-21.39	AVG
9	0.8380	10.10	21.31	31.41	56.00	-24.59	QP
10	0.8380	10.10	14.71	24.81	46.00	-21.19	AVG
11	22.0740	10.58	27.10	37.68	60.00	-22.32	QP
12	22.0740	10.58	22.00	32.58	50.00	-17.42	AVG

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, Band 3	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

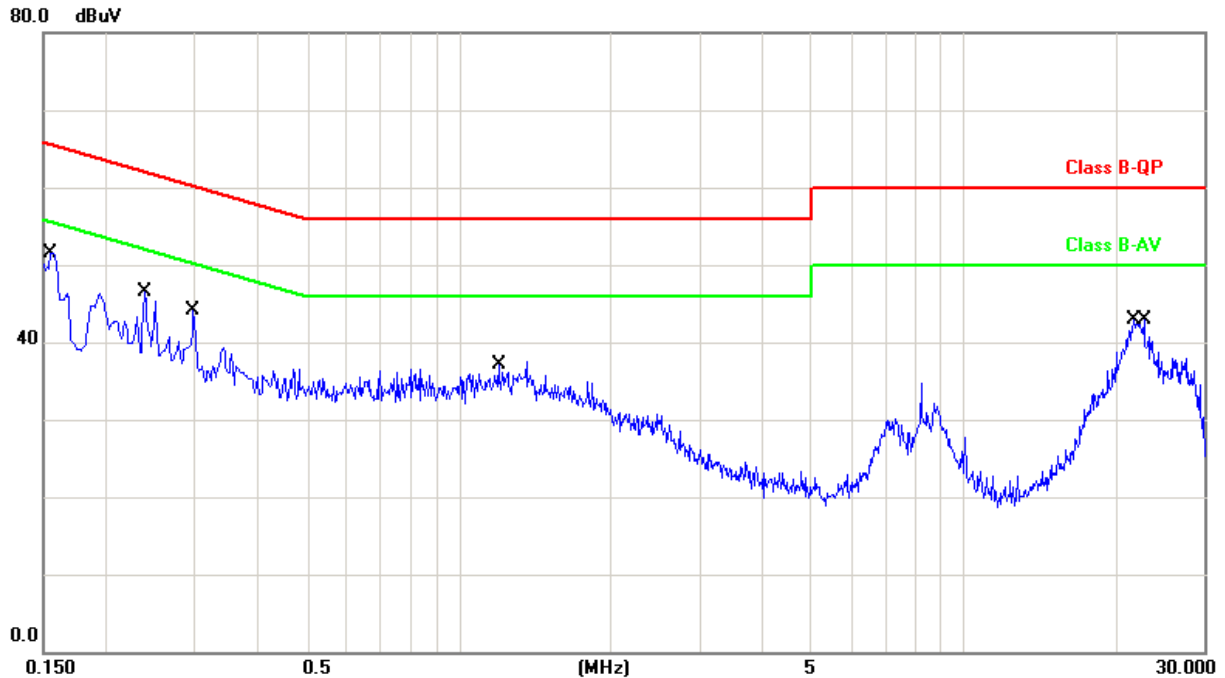


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1620	10.06	38.68	48.74	65.36	-16.62	QP
2	0.1620	10.06	24.66	34.72	55.36	-20.64	AVG
3	0.3420	9.98	23.26	33.24	59.15	-25.91	QP
4	0.3420	9.98	16.69	26.67	49.15	-22.48	AVG
5	0.5380	9.92	20.29	30.21	56.00	-25.79	QP
6	0.5380	9.92	14.92	24.84	46.00	-21.16	AVG
7	0.7140	10.07	20.20	30.27	56.00	-25.73	QP
8	0.7140	10.07	14.70	24.77	46.00	-21.23	AVG
9	0.8100	10.09	20.47	30.56	56.00	-25.44	QP
10	0.8100	10.09	14.85	24.94	46.00	-21.06	AVG
11	22.1740	10.58	25.56	36.14	60.00	-23.86	QP
12	22.1740	10.58	20.45	31.03	50.00	-18.97	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor = (LISN, ISN, PLC, or Current Probe) Factor + Cable Loss + Attenuator



Power	: AC 120V	Pol/Phase	: LINE
Test Mode	: Mode 1, Band 4	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

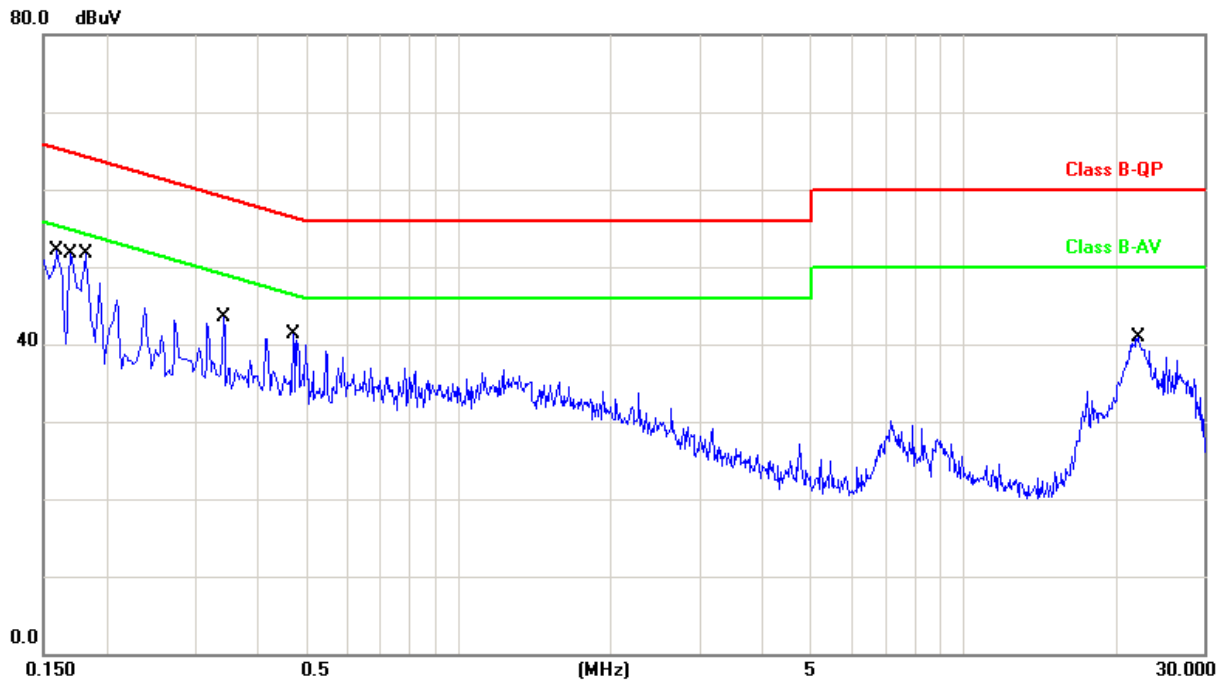


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1548	10.06	40.21	50.27	65.73	-15.46	QP
2	0.1548	10.06	27.17	37.23	55.73	-18.50	AVG
3	0.2380	10.04	27.16	37.20	62.16	-24.96	QP
4	0.2380	10.04	19.62	29.66	52.16	-22.50	AVG
5	0.2980	10.00	23.54	33.54	60.30	-26.76	QP
6	0.2980	10.00	17.41	27.41	50.30	-22.89	AVG
7	1.2020	10.32	20.19	30.51	56.00	-25.49	QP
8	1.2020	10.32	15.05	25.37	46.00	-20.63	AVG
9	21.7260	10.58	26.81	37.39	60.00	-22.61	QP
10	21.7260	10.58	21.70	32.28	50.00	-17.72	AVG
11	22.8580	10.58	25.61	36.19	60.00	-23.81	QP
12	22.8580	10.58	20.55	31.13	50.00	-18.87	AVG

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, Band 4	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1590	10.06	39.28	49.34	65.51	-16.17	QP
2	0.1590	10.06	25.02	35.08	55.51	-20.43	AVG
3	0.1700	10.06	30.81	40.87	64.96	-24.09	QP
4	0.1700	10.06	20.01	30.07	54.96	-24.89	AVG
5	0.1819	10.06	30.09	40.15	64.39	-24.24	QP
6	0.1819	10.06	21.25	31.31	54.39	-23.08	AVG
7	0.3420	9.98	23.32	33.30	59.15	-25.85	QP
8	0.3420	9.98	16.65	26.63	49.15	-22.52	AVG
9	0.4700	9.91	20.57	30.48	56.51	-26.03	QP
10	0.4700	9.91	15.04	24.95	46.51	-21.56	AVG
11	22.2220	10.58	25.49	36.07	60.00	-23.93	QP
12	22.2220	10.58	20.55	31.13	50.00	-18.87	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor = (LISN, ISN, PLC, or Current Probe) Factor + Cable Loss + Attenuator



5.5. Test Photographs

Front View



Rear View





6. Test of Spurious Emission (Radiated)

6.1. Test Limit

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (4) For transmitters operating in the 5.725-5.85 GHz band:
All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27dBm/MHz at the band edge.
- (5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.
- (6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.
- (7) The provisions of §15.205 apply to intentional radiators operating under this section.
- (8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.

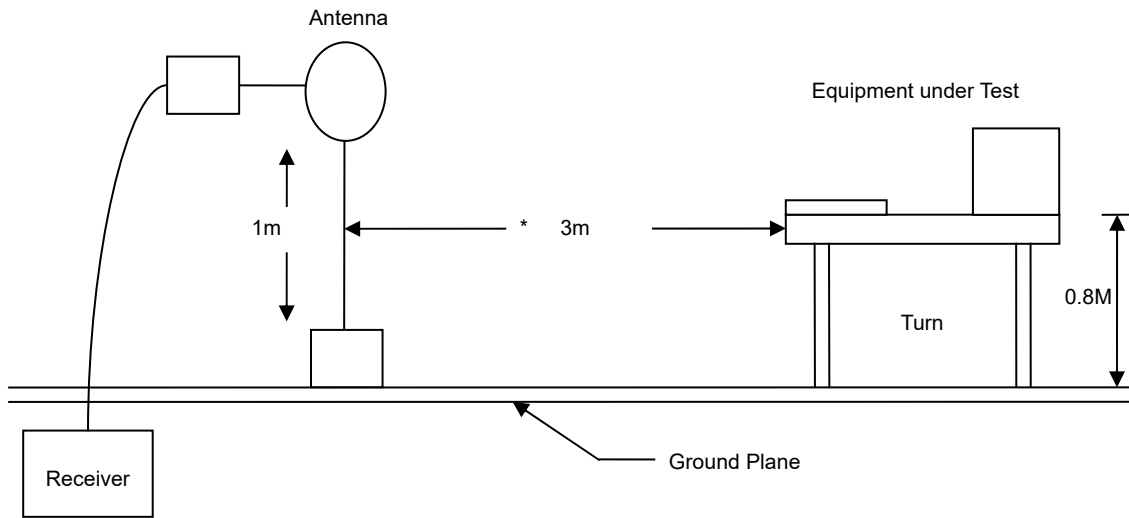
6.2. Test Procedures

- 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.

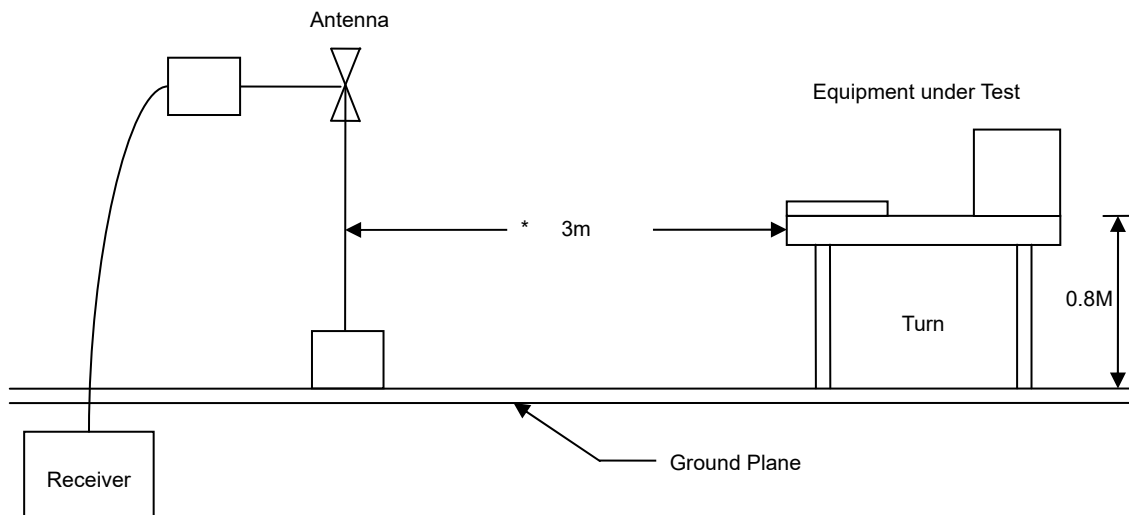


6.3. Typical Test Setup

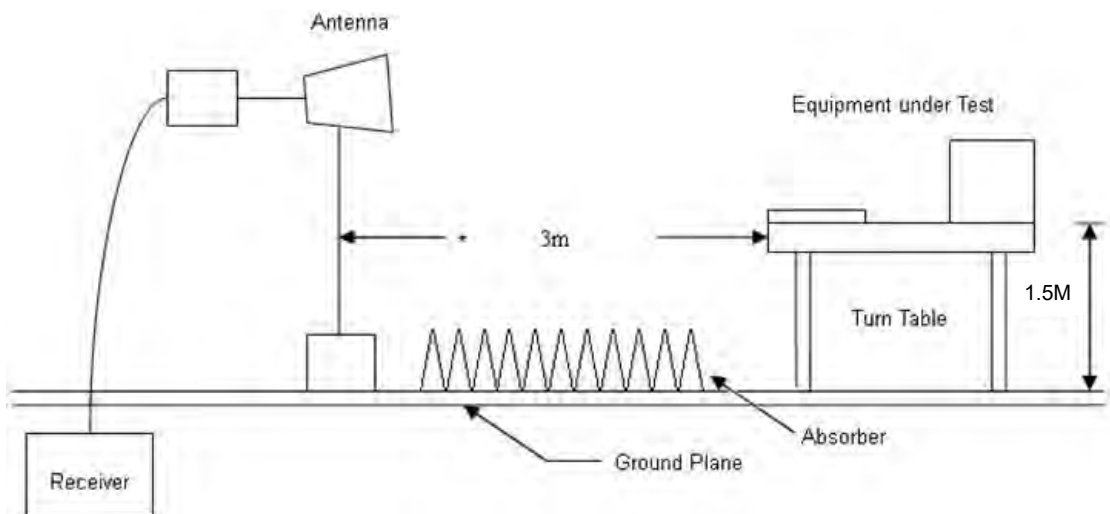
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup



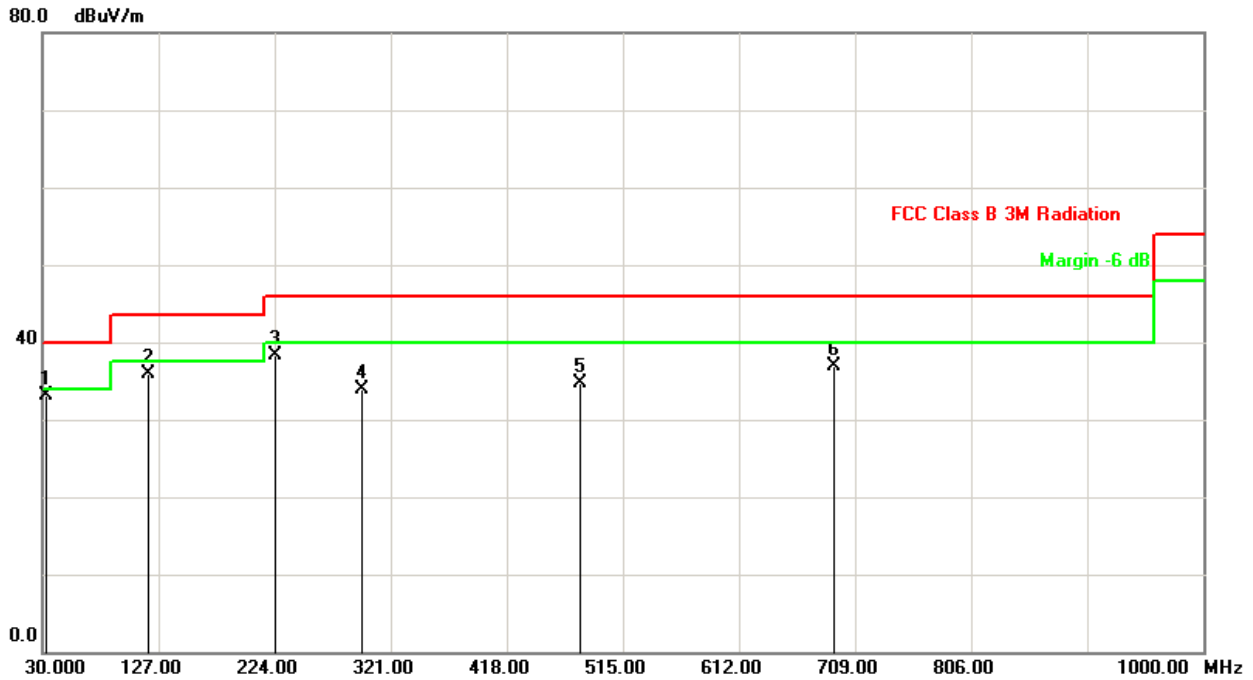


6.4. Test Result and Data (9kHz ~ 30MHz)

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

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

Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, Band 1	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

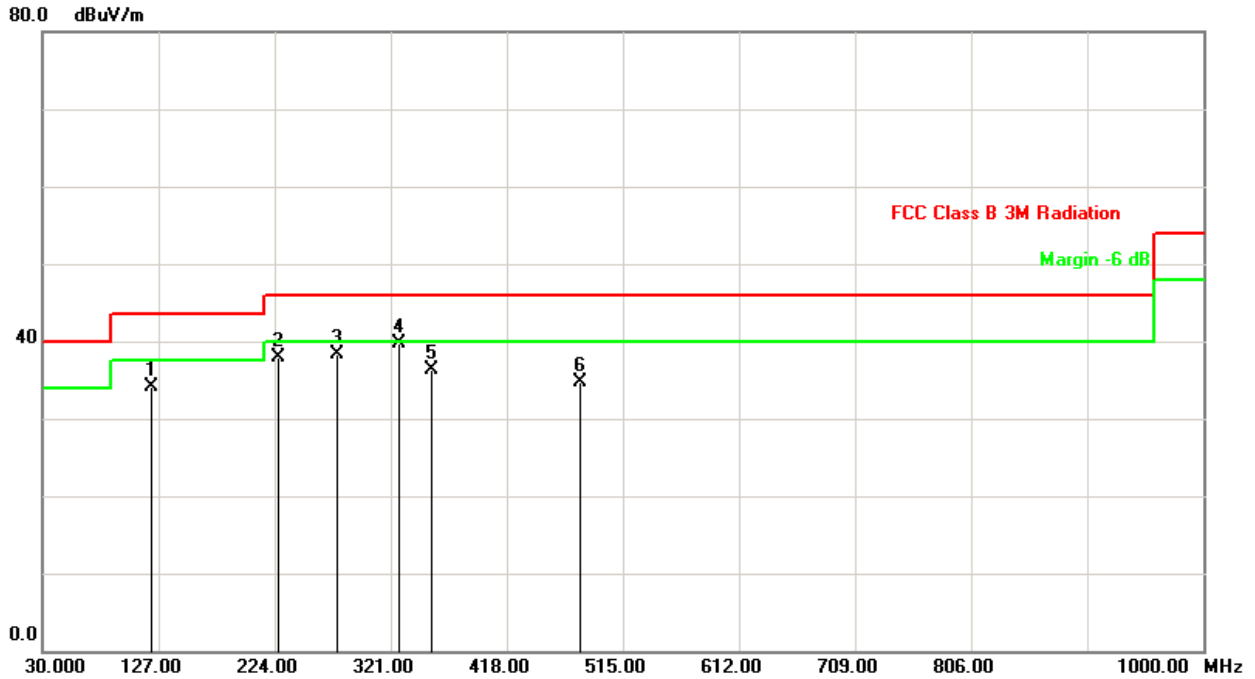


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	32.9099	-7.38	40.56	33.18	40.00	-6.82	peak	100	62
2	119.2399	-10.36	46.31	35.95	43.50	-7.55	peak	100	103
3	224.9699	-8.10	46.44	38.34	46.00	-7.66	peak	100	316
4	296.7500	-7.88	41.77	33.89	46.00	-12.11	peak	100	208
5	480.0799	-1.92	36.55	34.63	46.00	-11.37	peak	100	194
6	691.5399	-2.23	39.12	36.89	46.00	-9.11	peak	200	57

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, Band 1	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

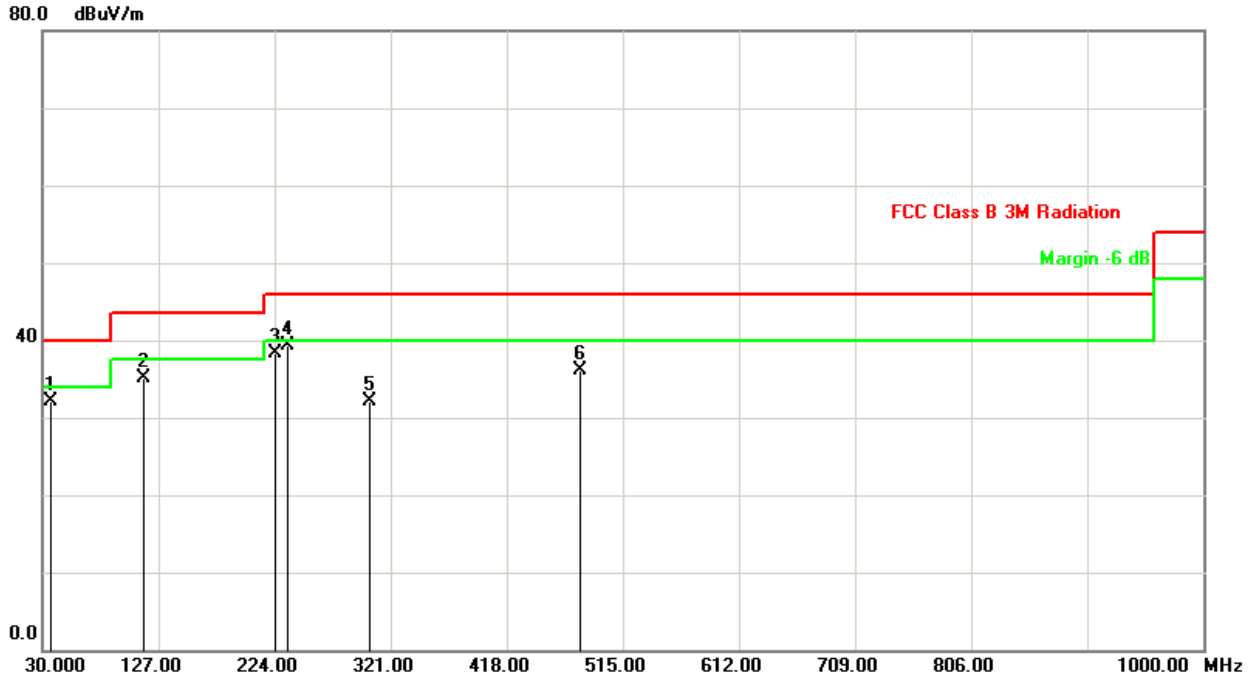


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	121.1800	-10.39	44.52	34.13	43.50	-9.37	peak	100	67
2	226.9099	-7.90	45.81	37.91	46.00	-8.09	peak	200	113
3	276.3798	-6.63	44.94	38.31	46.00	-7.69	peak	200	59
4	327.7900	-6.25	46.00	39.75	46.00	-6.25	peak	100	134
5	354.9499	-5.79	42.11	36.32	46.00	-9.68	peak	300	258
6	480.0799	-1.92	36.54	34.62	46.00	-11.38	peak	100	38

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, Band 2	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

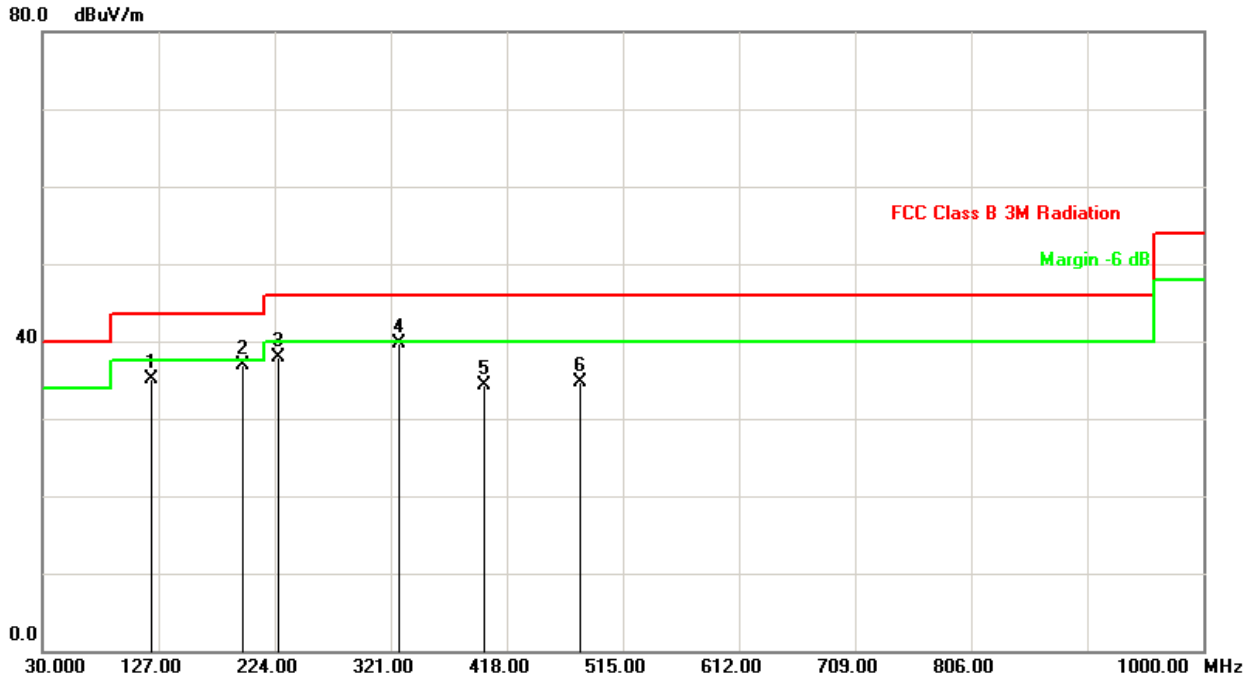


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	37.7599	-10.45	42.49	32.04	40.00	-7.96	peak	100	31
2	114.3900	-10.44	45.57	35.13	43.50	-8.37	peak	100	228
3	224.9699	-8.10	46.44	38.34	46.00	-7.66	peak	100	57
4	235.6399	-7.29	46.50	39.21	46.00	-6.79	peak	100	309
5	303.5400	-8.78	40.81	32.03	46.00	-13.97	peak	100	245
6	480.0799	-1.92	38.05	36.13	46.00	-9.87	peak	100	79

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, Band 2	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

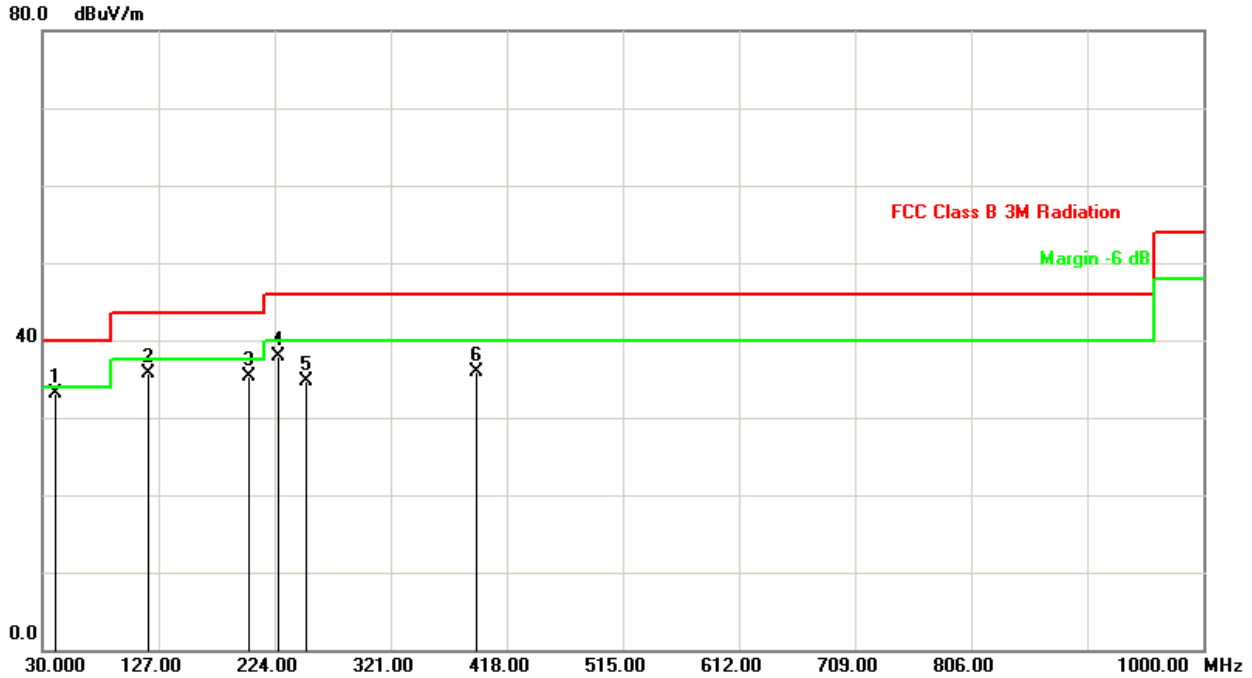


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	121.1800	-10.39	45.52	35.13	43.50	-8.37	peak	100	63
2	197.8100	-9.92	46.82	36.90	43.50	-6.60	peak	200	102
3	226.9099	-7.90	45.81	37.91	46.00	-8.09	peak	100	238
4	327.7900	-6.25	46.00	39.75	46.00	-6.25	peak	200	15
5	398.6000	-6.50	40.71	34.21	46.00	-11.79	peak	300	67
6	480.0799	-1.92	36.54	34.62	46.00	-11.38	peak	100	128

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, Band 3	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

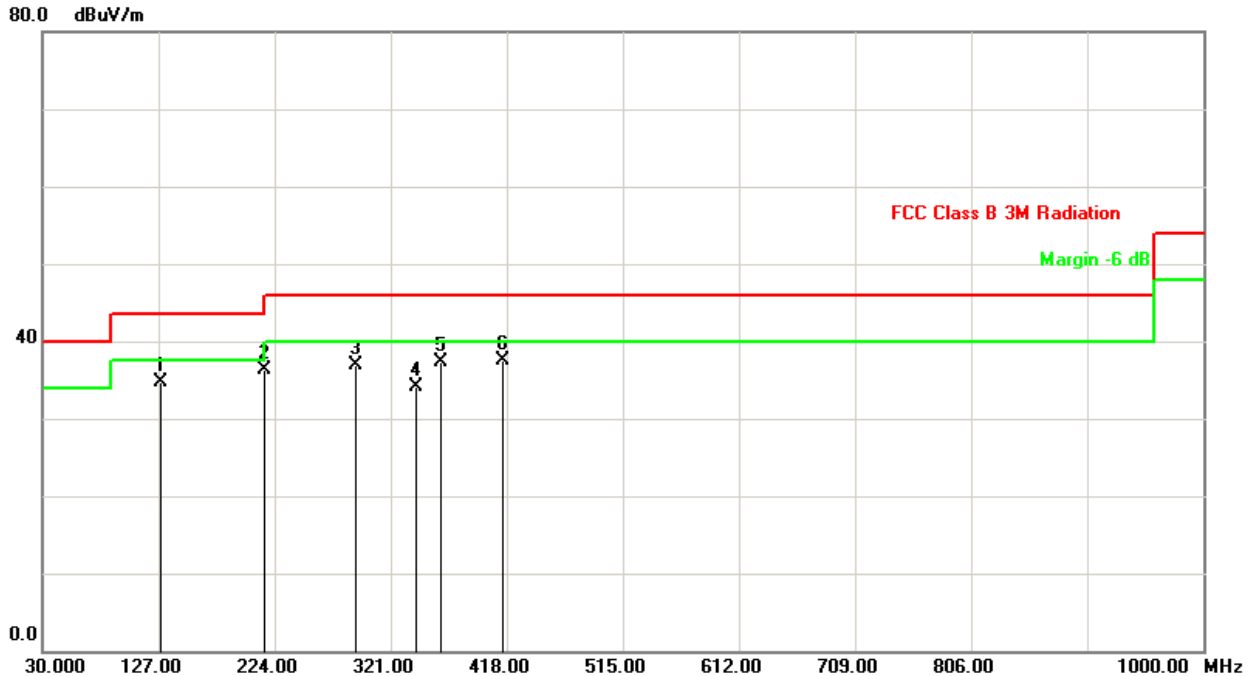


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	40.6699	-12.58	45.59	33.01	40.00	-6.99	peak	100	63
2	118.2699	-10.36	45.97	35.61	43.50	-7.89	peak	100	105
3	202.6599	-9.71	44.98	35.27	43.50	-8.23	peak	100	0
4	227.8799	-7.79	45.73	37.94	46.00	-8.06	peak	100	248
5	250.1899	-6.29	40.98	34.69	46.00	-11.31	peak	100	13
6	392.7798	-6.71	42.61	35.90	46.00	-10.10	peak	100	129

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, Band 3	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

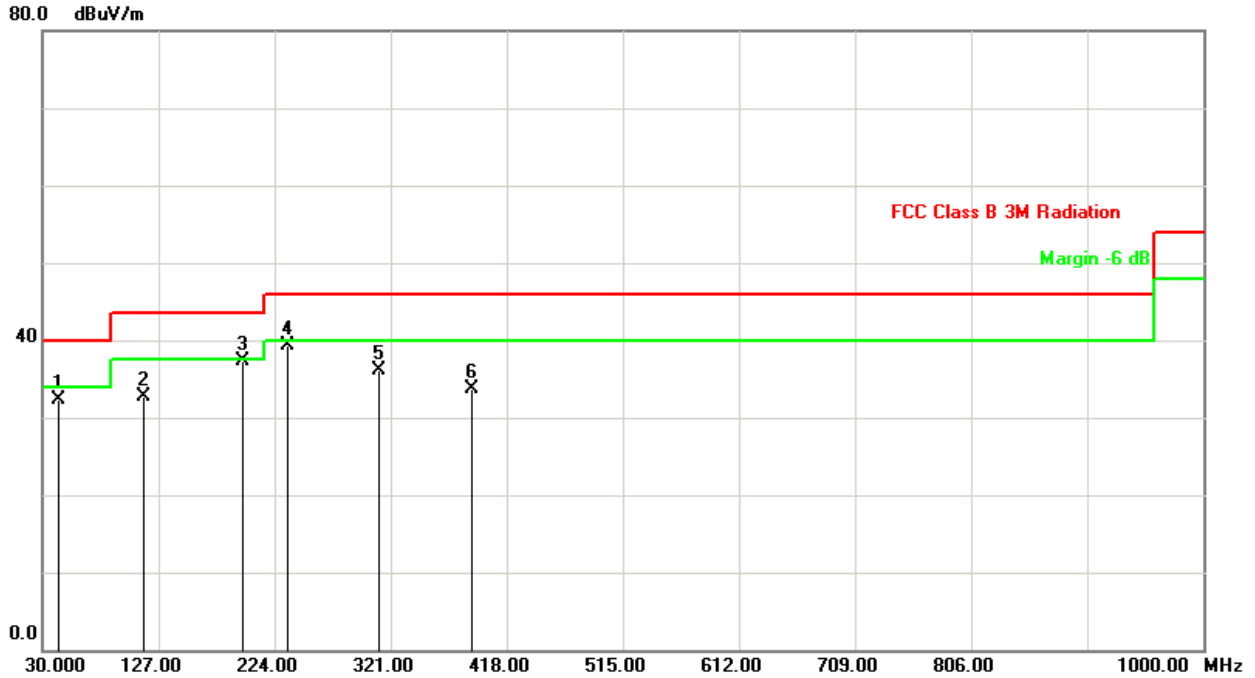


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	128.9398	-11.00	45.62	34.62	43.50	-8.88	peak	100	32
2	215.2700	-9.14	45.48	36.34	43.50	-7.16	peak	100	105
3	291.8999	-6.98	43.82	36.84	46.00	-9.16	peak	200	59
4	342.3399	-5.85	39.97	34.12	46.00	-11.88	peak	100	113
5	362.7099	-5.93	43.16	37.23	46.00	-8.77	peak	300	0
6	415.0899	-6.09	43.62	37.53	46.00	-8.47	peak	200	298

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, Band 4	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

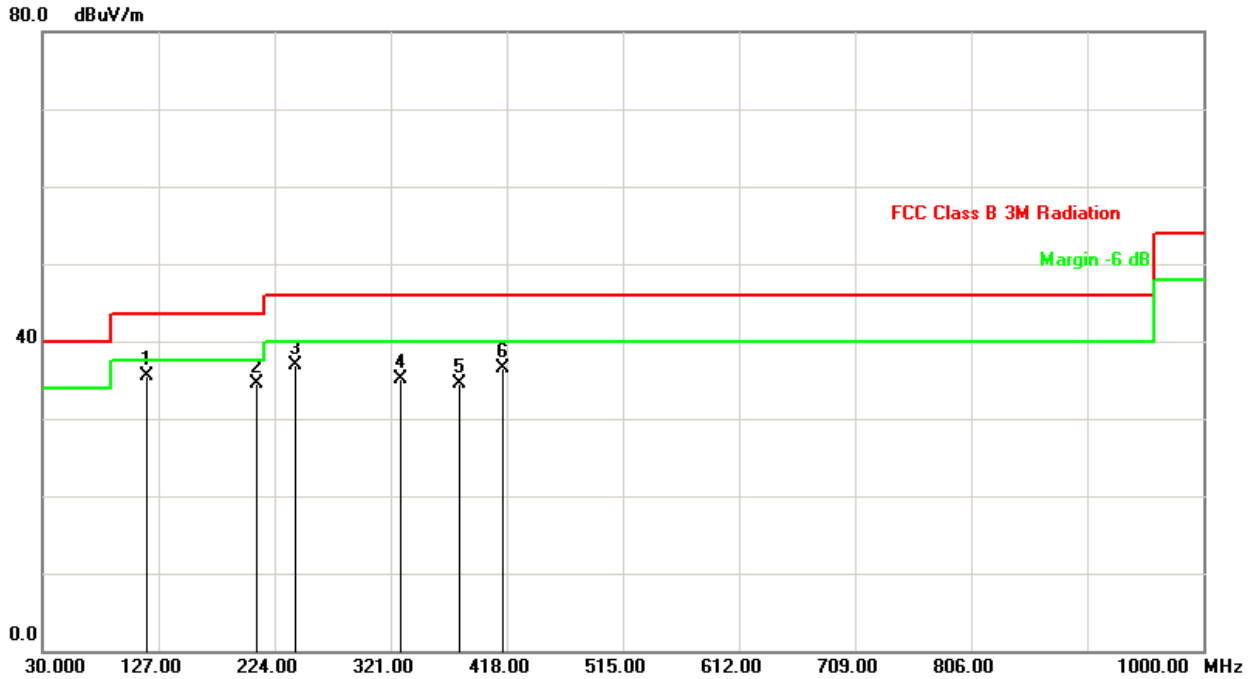


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	43.5799	-14.30	46.57	32.27	40.00	-7.73	peak	100	35
2	114.3900	-10.44	43.07	32.63	43.50	-10.87	peak	100	26
3	196.8400	-9.99	47.21	37.22	43.50	-6.28	peak	100	119
4	235.6399	-7.29	46.50	39.21	46.00	-6.79	peak	100	18
5	311.3000	-10.02	46.21	36.19	46.00	-9.81	peak	100	347
6	388.8999	-6.78	40.43	33.65	46.00	-12.35	peak	100	0

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, Band 4	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %



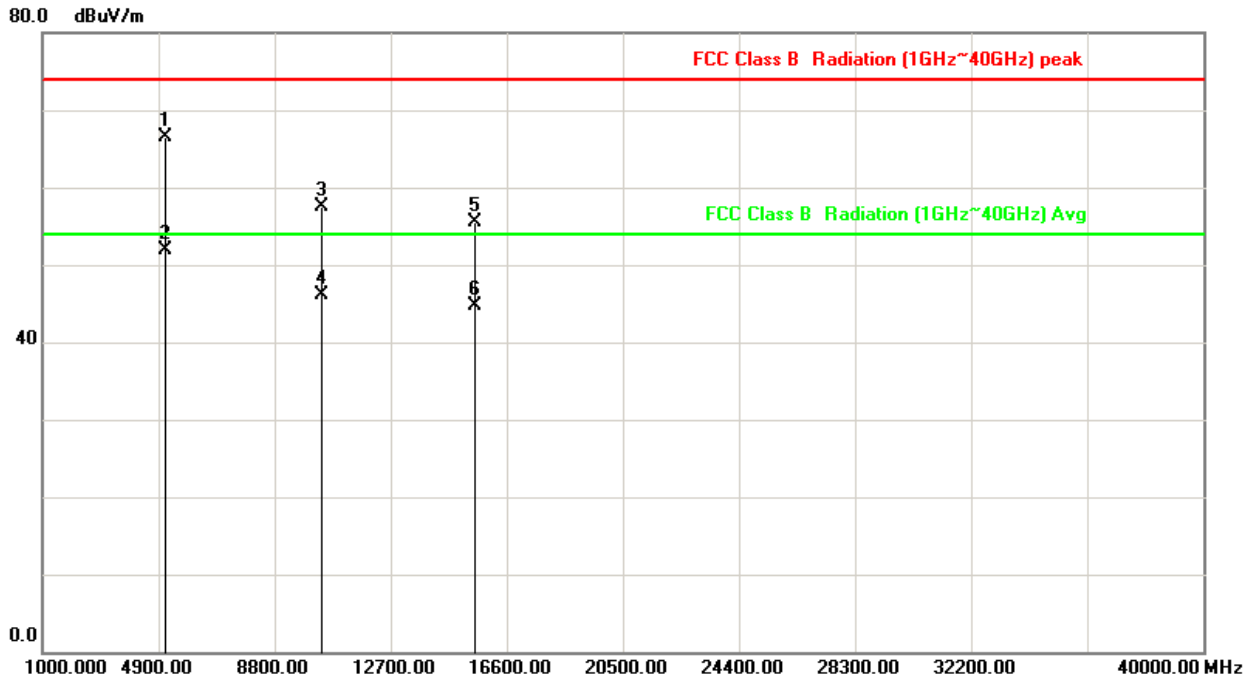
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	117.2999	-10.37	45.91	35.54	43.50	-7.96	peak	100	69
2	209.4499	-9.61	44.11	34.50	43.50	-9.00	peak	200	216
3	241.4600	-6.93	43.88	36.95	46.00	-9.05	peak	100	13
4	329.7300	-5.71	40.85	35.14	46.00	-10.86	peak	300	227
5	378.2300	-6.48	40.96	34.48	46.00	-11.52	peak	200	56
6	415.0899	-6.09	42.62	36.53	46.00	-9.47	peak	100	108

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



6.6. Test Result and Data (1GHz ~ 40GHz)

Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH36(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

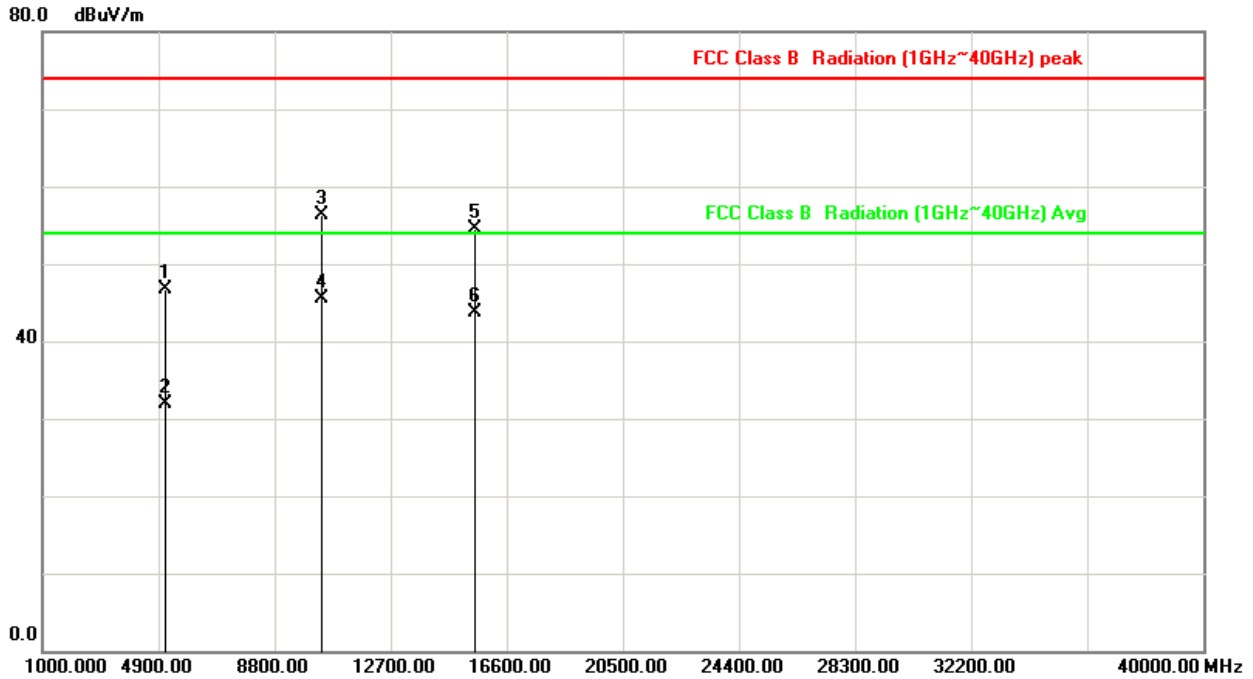


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5150.000	14.73	51.84	66.57	74.00	-7.43	peak
2	5150.000	14.73	37.12	51.85	54.00	-2.15	AVG
3	10360.000	25.85	31.69	57.54	74.00	-16.46	peak
4	10360.000	25.85	20.35	46.20	54.00	-7.80	AVG
5	15540.000	38.25	17.22	55.47	74.00	-18.53	peak
6	15540.000	38.25	6.54	44.79	54.00	-9.21	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH36(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

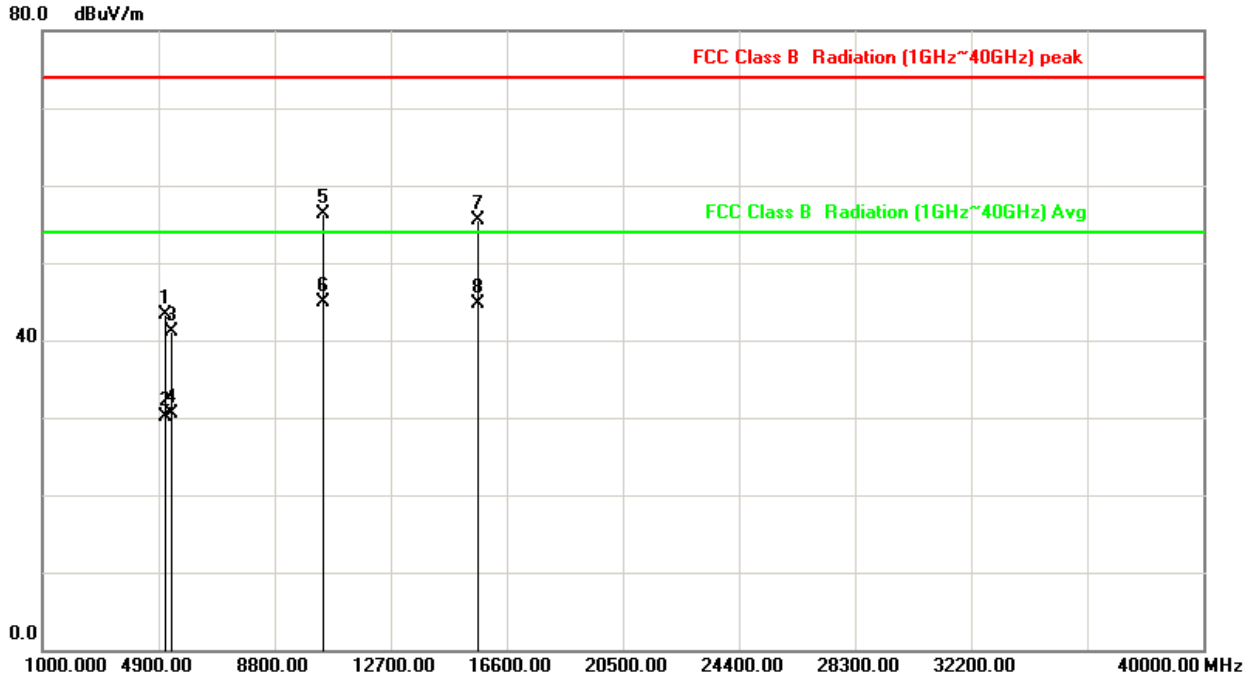


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5150.000	14.73	32.05	46.78	74.00	-27.22	peak
2	5150.000	14.73	17.21	31.94	54.00	-22.06	AVG
3	10360.000	25.85	30.53	56.38	74.00	-17.62	peak
4	10360.000	25.85	19.62	45.47	54.00	-8.53	AVG
5	15540.000	38.25	16.23	54.48	74.00	-19.52	peak
6	15540.000	38.25	5.55	43.80	54.00	-10.20	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH44(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

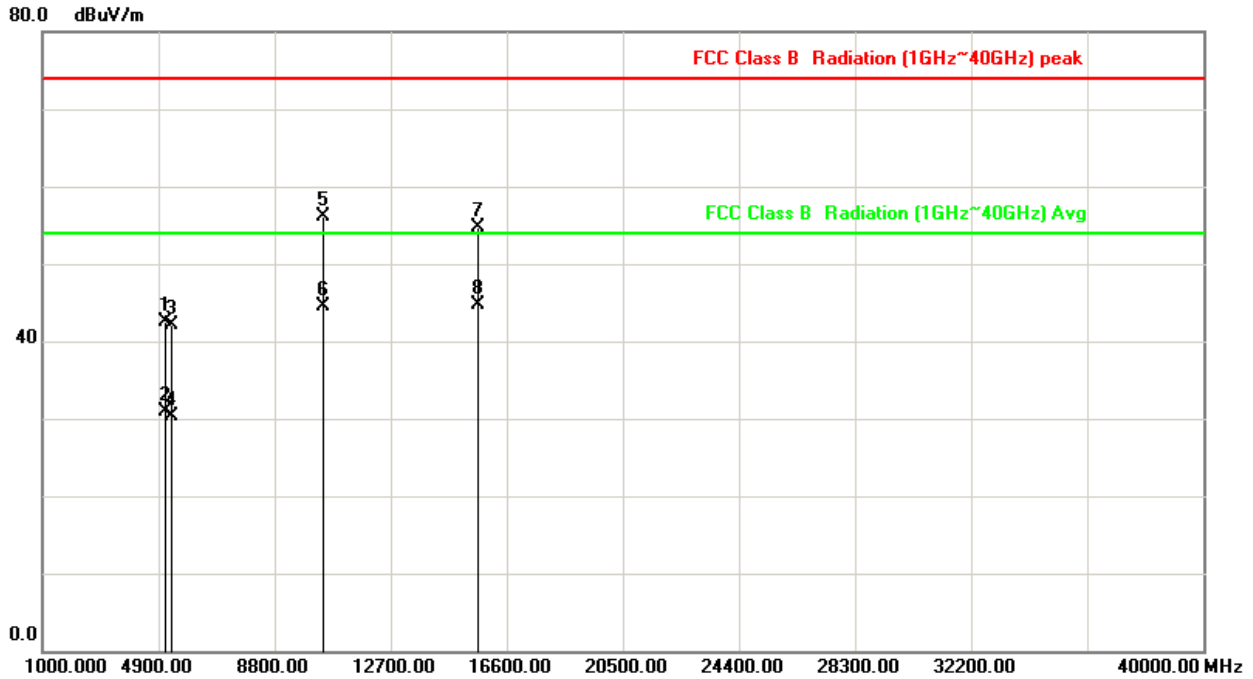


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5150.000	14.73	28.59	43.32	74.00	-30.68	peak
2	5150.000	14.73	15.37	30.10	54.00	-23.90	AVG
3	5350.000	14.89	26.27	41.16	74.00	-32.84	peak
4	5350.000	14.89	15.69	30.58	54.00	-23.42	AVG
5	10440.000	26.03	30.26	56.29	74.00	-17.71	peak
6	10440.000	26.03	18.92	44.95	54.00	-9.05	AVG
7	15660.000	38.30	17.23	55.53	74.00	-18.47	peak
8	15660.000	38.30	6.38	44.68	54.00	-9.32	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH44(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

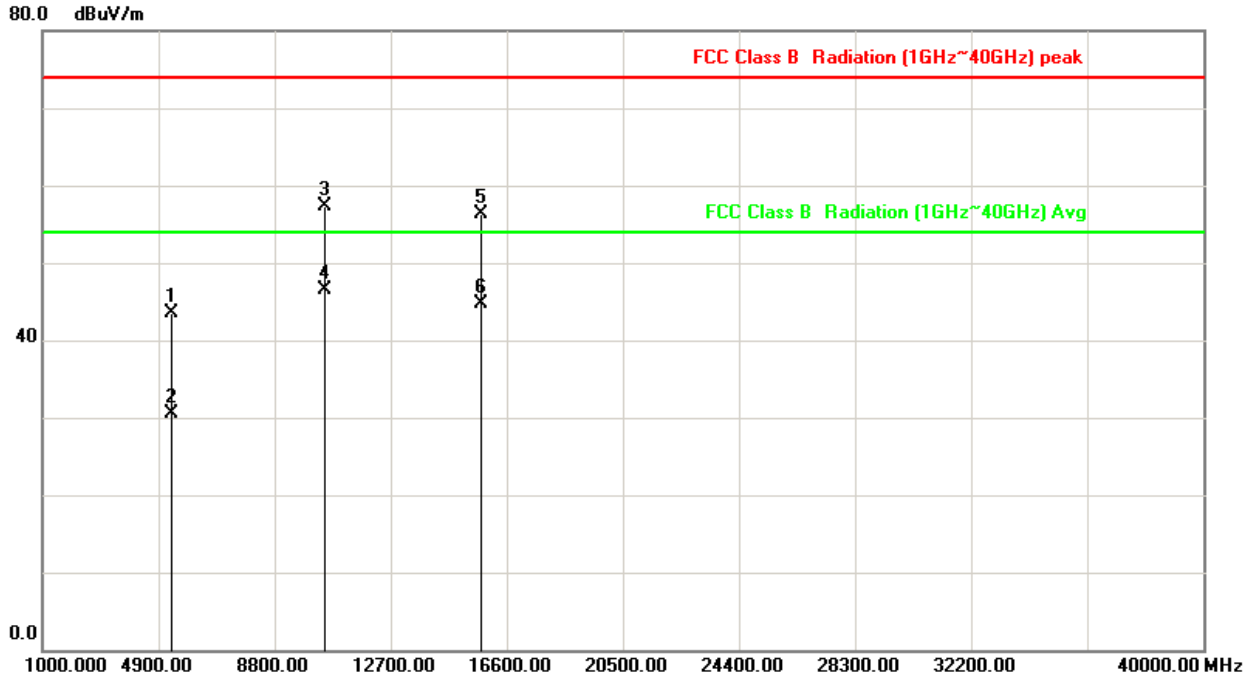


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5150.000	14.73	27.69	42.42	74.00	-31.58	peak
2	5150.000	14.73	16.08	30.81	54.00	-23.19	AVG
3	5350.000	14.89	27.29	42.18	74.00	-31.82	peak
4	5350.000	14.89	15.42	30.31	54.00	-23.69	AVG
5	10440.000	26.03	30.10	56.13	74.00	-17.87	peak
6	10440.000	26.03	18.39	44.42	54.00	-9.58	AVG
7	15660.000	38.30	16.35	54.65	74.00	-19.35	peak
8	15660.000	38.30	6.38	44.68	54.00	-9.32	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH48(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

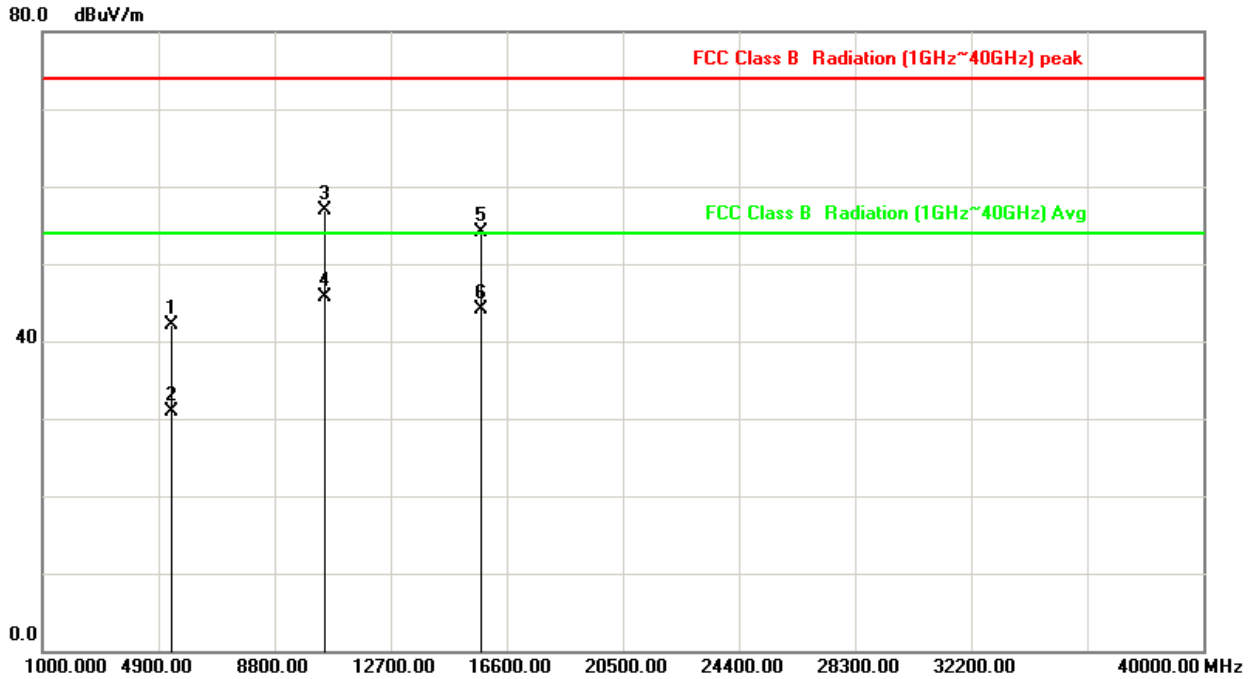


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	28.58	43.47	74.00	-30.53	peak
2	5350.000	14.89	15.62	30.51	54.00	-23.49	AVG
3	10480.000	26.12	31.21	57.33	74.00	-16.67	peak
4	10480.000	26.12	20.33	46.45	54.00	-7.55	AVG
5	15720.000	38.33	17.89	56.22	74.00	-17.78	peak
6	15720.000	38.33	6.37	44.70	54.00	-9.30	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH48(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

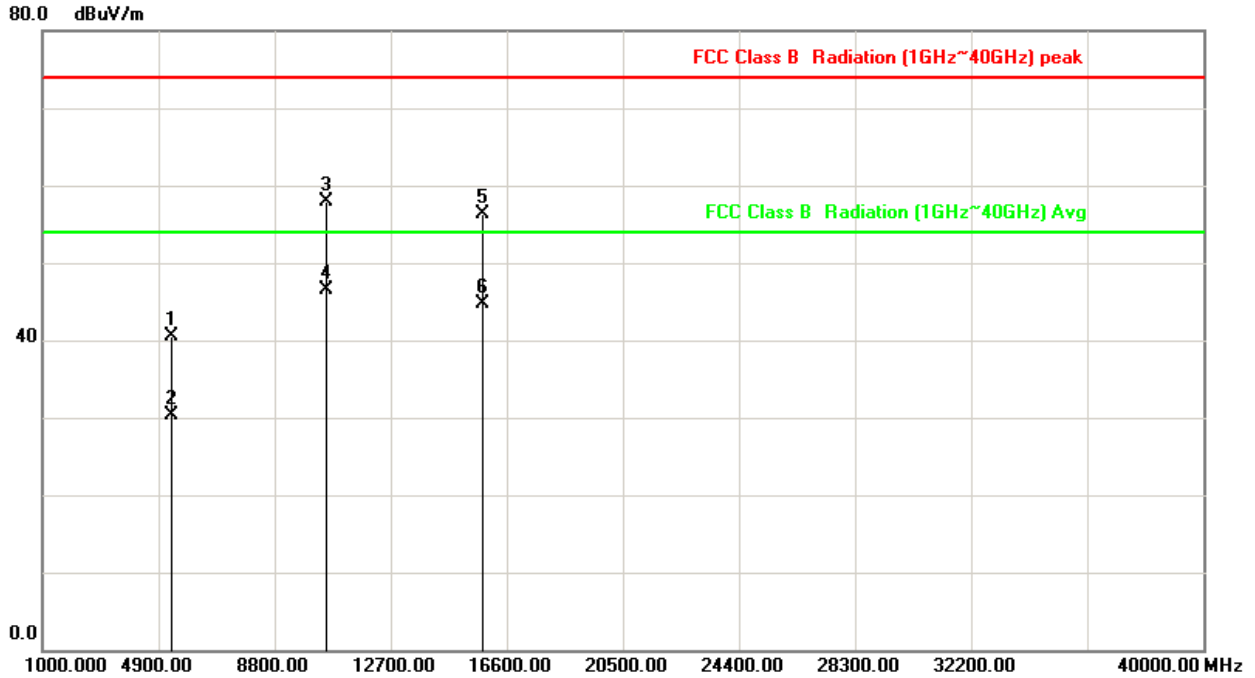


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	27.31	42.20	74.00	-31.80	peak
2	5350.000	14.89	15.93	30.82	54.00	-23.18	AVG
3	10480.000	26.12	30.72	56.84	74.00	-17.16	peak
4	10480.000	26.12	19.56	45.68	54.00	-8.32	AVG
5	15720.000	38.33	15.76	54.09	74.00	-19.91	peak
6	15720.000	38.33	5.69	44.02	54.00	-9.98	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH52(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

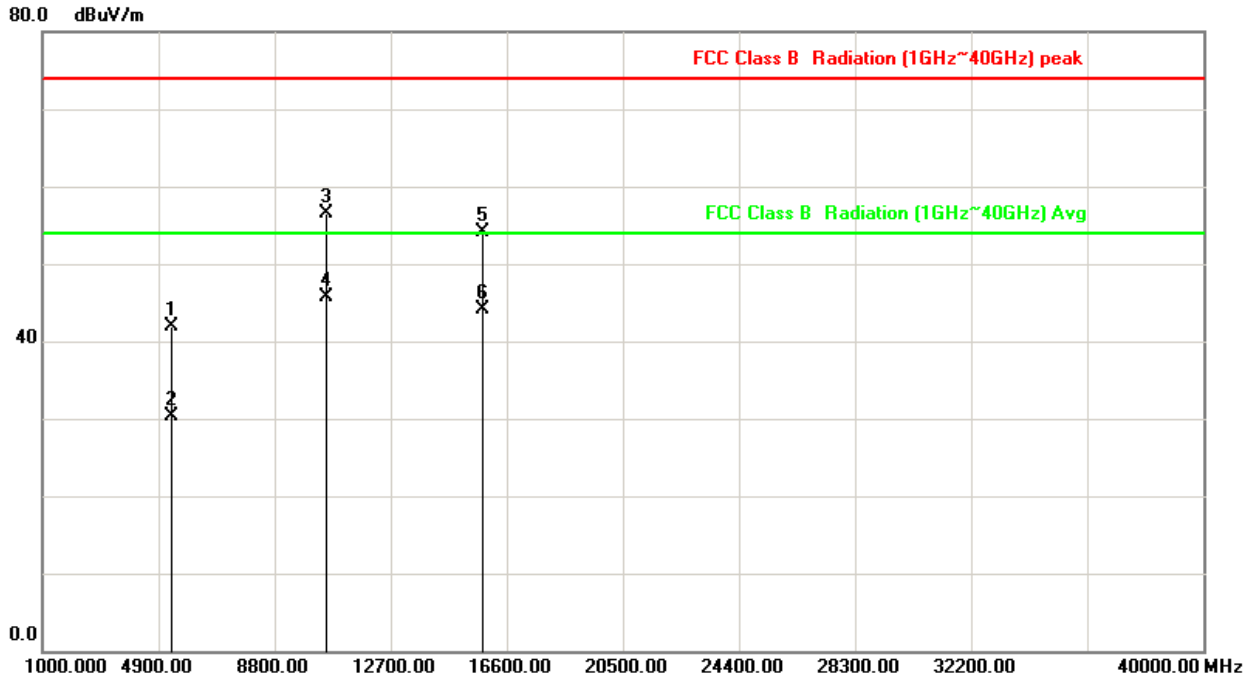


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	25.69	40.58	74.00	-33.42	peak
2	5350.000	14.89	15.43	30.32	54.00	-23.68	AVG
3	10520.000	26.22	31.65	57.87	74.00	-16.13	peak
4	10520.000	26.22	20.26	46.48	54.00	-7.52	AVG
5	15780.000	38.36	17.93	56.29	74.00	-17.71	peak
6	15780.000	38.36	6.39	44.75	54.00	-9.25	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH52(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

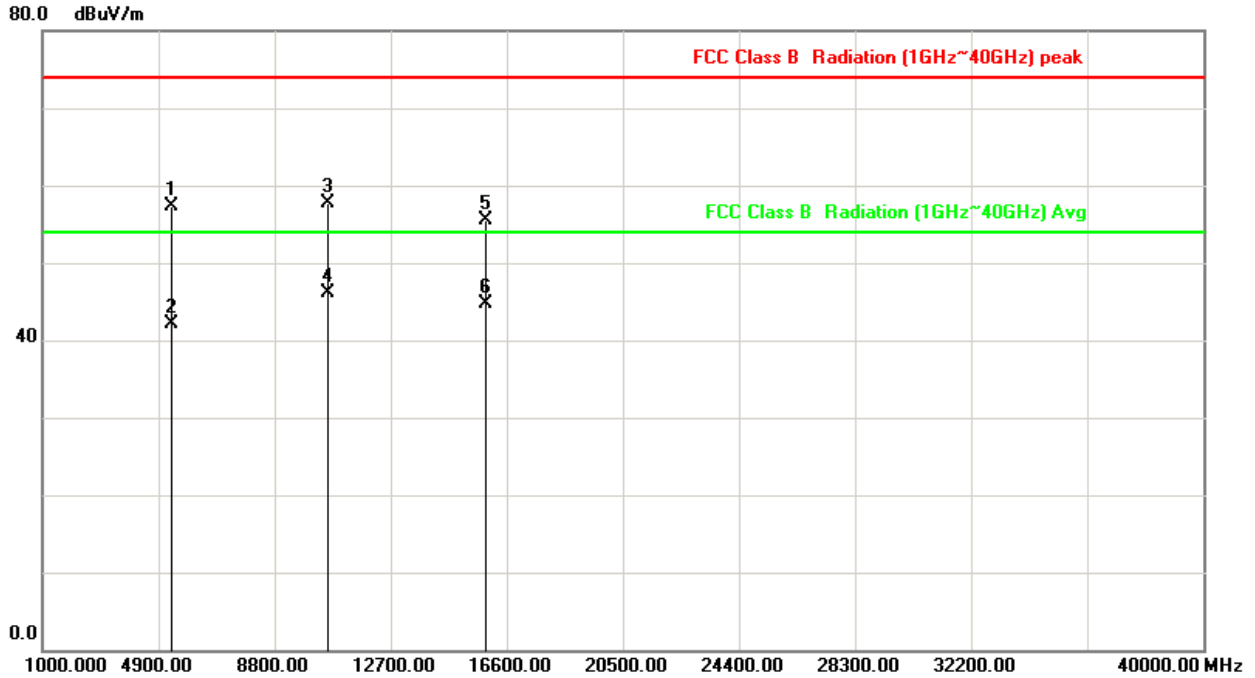


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	27.09	41.98	74.00	-32.02	peak
2	5350.000	14.89	15.43	30.32	54.00	-23.68	AVG
3	10520.000	26.22	30.26	56.48	74.00	-17.52	peak
4	10520.000	26.22	19.57	45.79	54.00	-8.21	AVG
5	15780.000	38.36	15.69	54.05	74.00	-19.95	peak
6	15780.000	38.36	5.68	44.04	54.00	-9.96	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH60(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

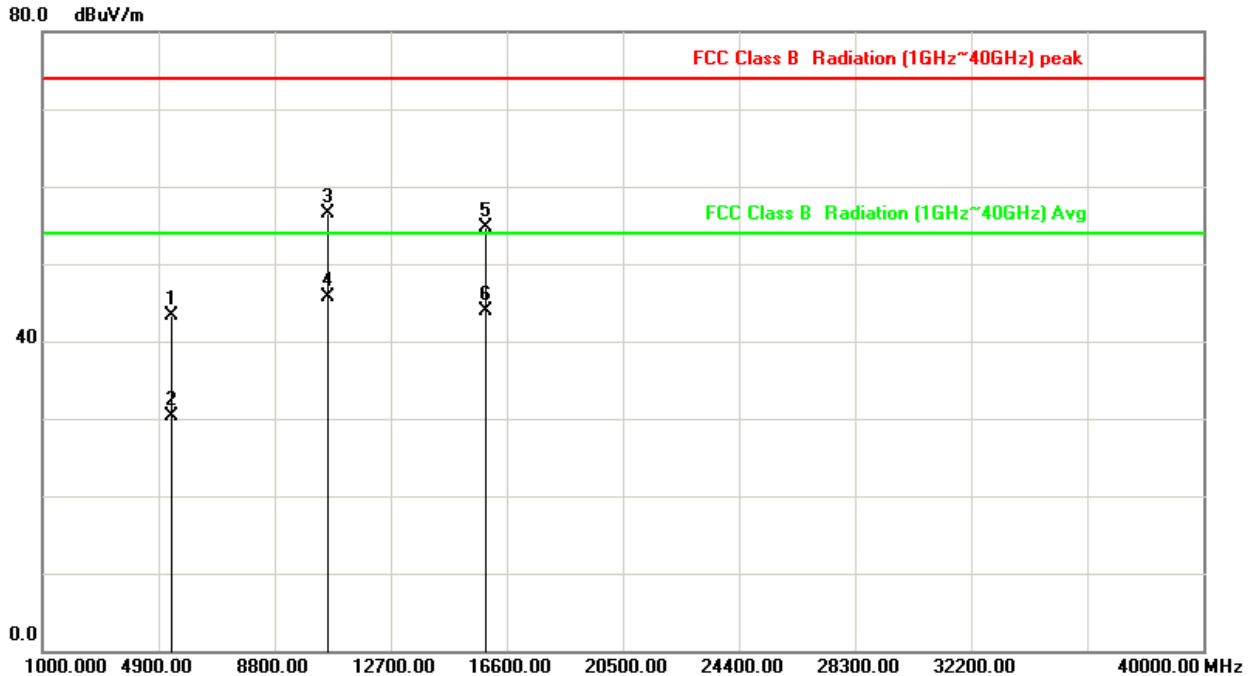


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	42.50	57.39	74.00	-16.61	peak
2	5350.000	14.89	27.31	42.20	54.00	-11.80	AVG
3	10600.000	26.46	31.26	57.72	74.00	-16.28	peak
4	10600.000	26.46	19.55	46.01	54.00	-7.99	AVG
5	15900.000	38.41	17.13	55.54	74.00	-18.46	peak
6	15900.000	38.41	6.37	44.78	54.00	-9.22	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH60(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

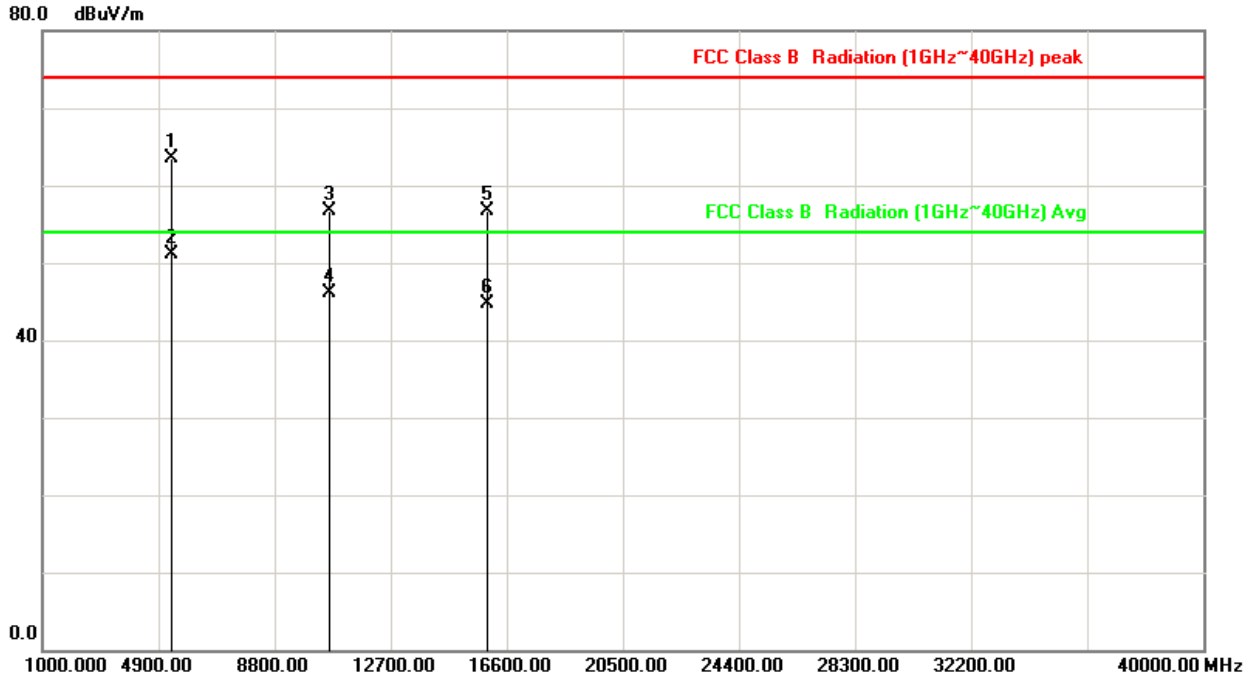


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	28.41	43.30	74.00	-30.70	peak
2	5350.000	14.89	15.38	30.27	54.00	-23.73	AVG
3	10600.000	26.46	30.13	56.59	74.00	-17.41	peak
4	10600.000	26.46	19.17	45.63	54.00	-8.37	AVG
5	15900.000	38.41	16.23	54.64	74.00	-19.36	peak
6	15900.000	38.41	5.59	44.00	54.00	-10.00	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH64(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

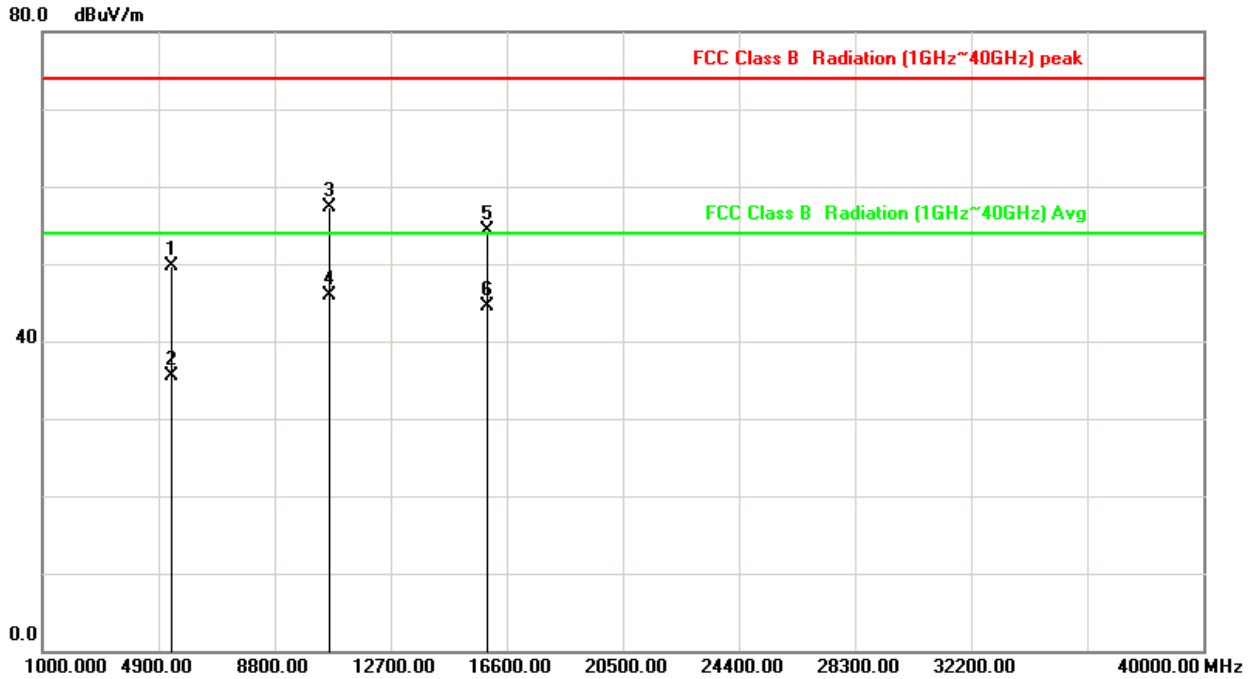


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	48.63	63.52	74.00	-10.48	peak
2	5350.000	14.89	36.13	51.02	54.00	-2.98	AVG
3	10640.000	26.58	30.12	56.70	74.00	-17.30	peak
4	10640.000	26.58	19.53	46.11	54.00	-7.89	AVG
5	15960.000	38.44	18.21	56.65	74.00	-17.35	peak
6	15960.000	38.44	6.35	44.79	54.00	-9.21	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH64(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

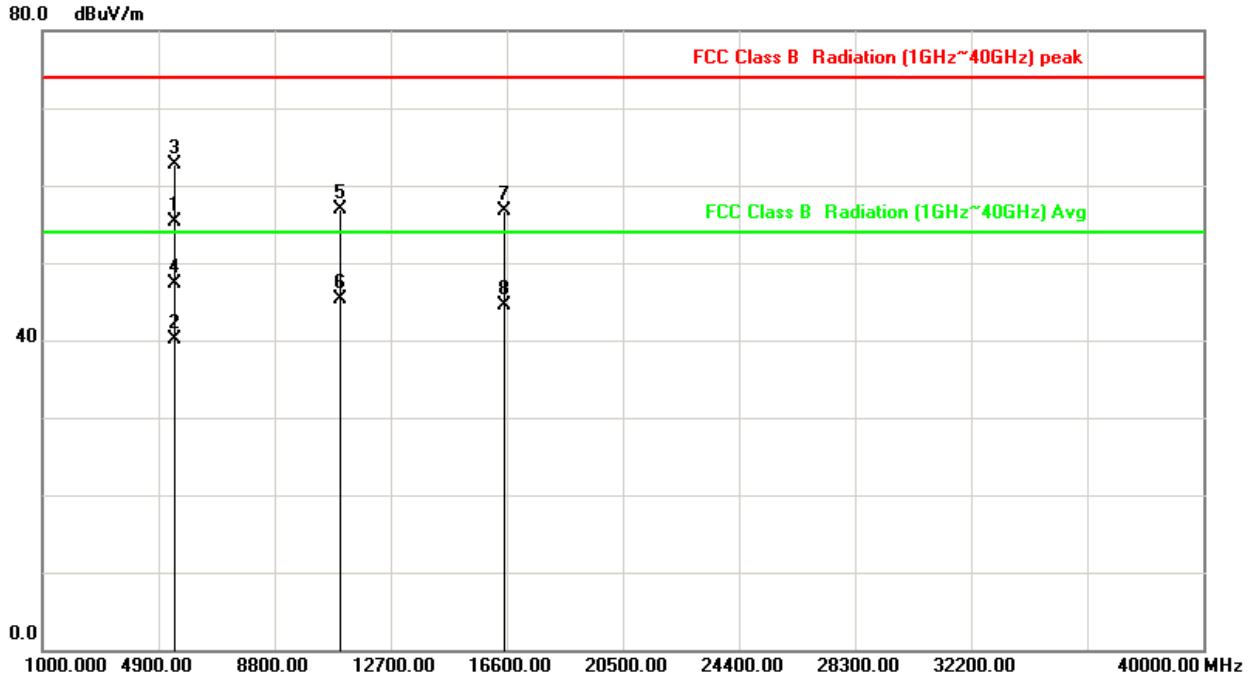


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	34.83	49.72	74.00	-24.28	peak
2	5350.000	14.89	20.52	35.41	54.00	-18.59	AVG
3	10640.000	26.58	30.63	57.21	74.00	-16.79	peak
4	10640.000	26.58	19.27	45.85	54.00	-8.15	AVG
5	15960.000	38.44	15.93	54.37	74.00	-19.63	peak
6	15960.000	38.44	6.10	44.54	54.00	-9.46	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH100(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

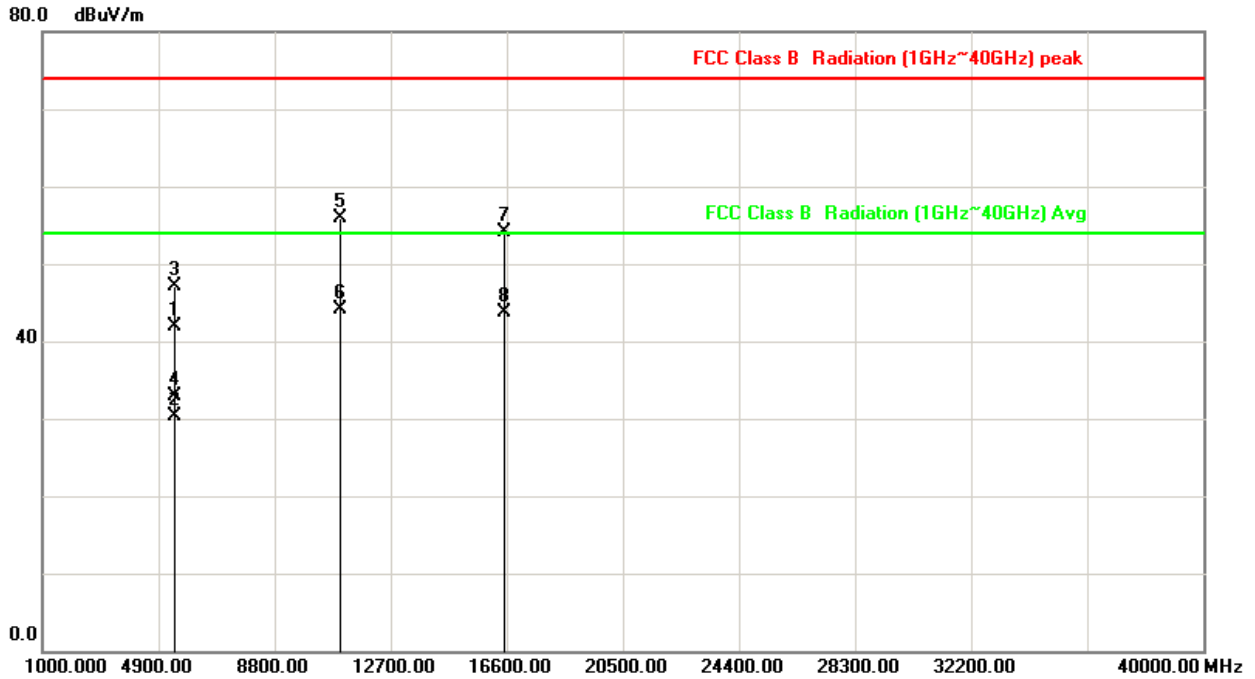


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5460.000	14.99	40.25	55.24	74.00	-18.76	peak
2	5460.000	14.99	25.14	40.13	54.00	-13.87	AVG
3	5470.000	14.99	47.74	62.73	74.00	-11.27	peak
4	5470.000	14.99	32.24	47.23	54.00	-6.77	AVG
5	11000.000	27.67	29.31	56.98	74.00	-17.02	peak
6	11000.000	27.67	17.63	45.30	54.00	-8.70	AVG
7	16500.000	42.95	13.72	56.67	74.00	-17.33	peak
8	16500.000	42.95	1.64	44.59	54.00	-9.41	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH100(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

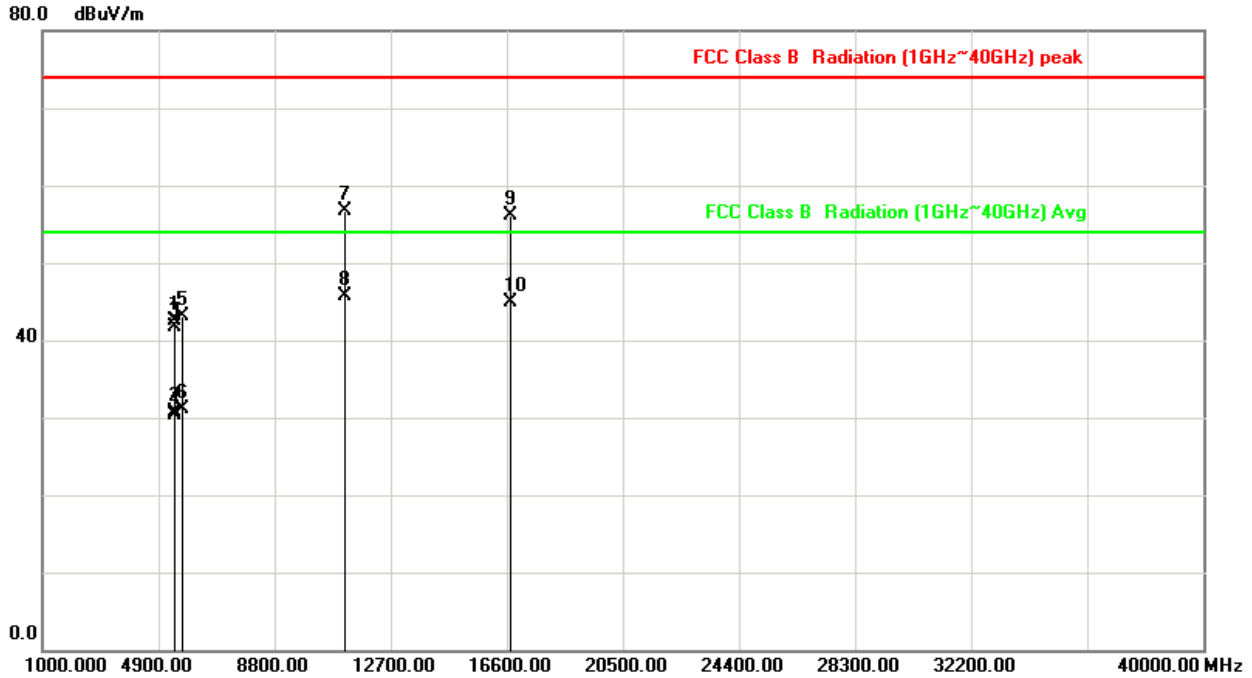


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5460.000	14.99	26.97	41.96	74.00	-32.04	peak
2	5460.000	14.99	15.26	30.25	54.00	-23.75	AVG
3	5470.000	14.99	32.13	47.12	74.00	-26.88	peak
4	5470.000	14.99	17.96	32.95	54.00	-21.05	AVG
5	11000.000	27.67	28.21	55.88	74.00	-18.12	peak
6	11000.000	27.67	16.35	44.02	54.00	-9.98	AVG
7	16500.000	42.95	11.10	54.05	74.00	-19.95	peak
8	16500.000	42.95	0.69	43.64	54.00	-10.36	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH116(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

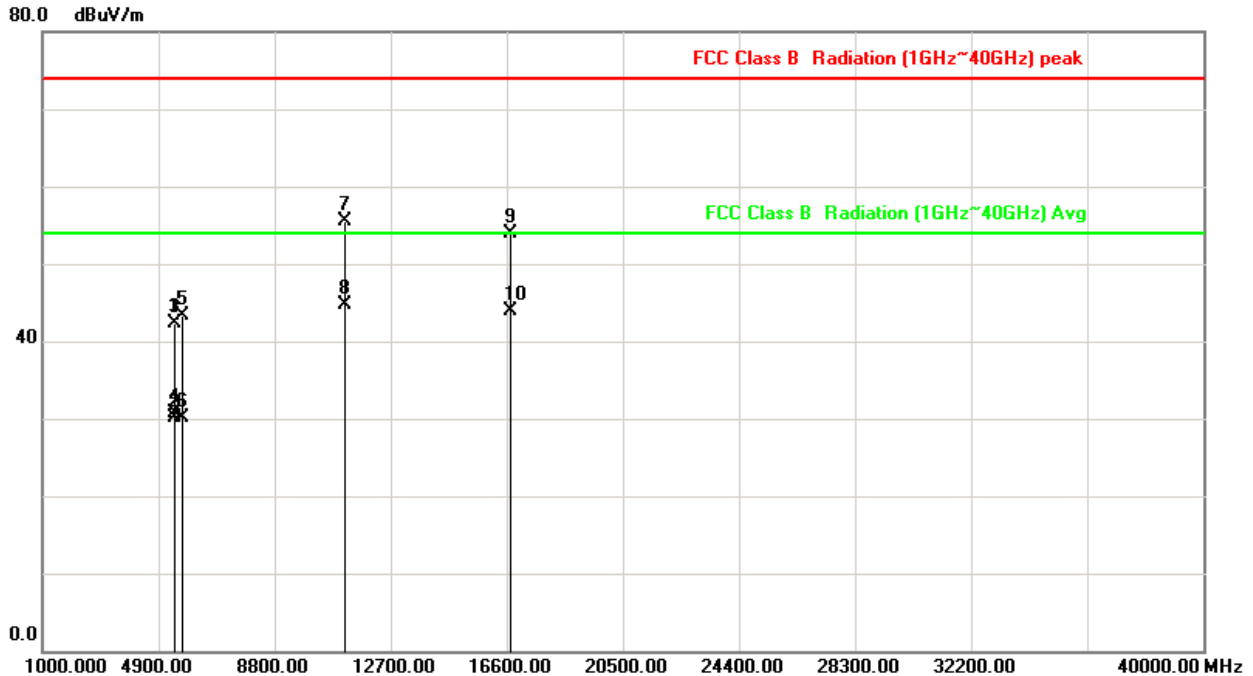


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5460.000	14.99	27.44	42.43	74.00	-31.57	peak
2	5460.000	14.99	15.62	30.61	54.00	-23.39	AVG
3	5470.000	14.99	26.67	41.66	74.00	-32.34	peak
4	5470.000	14.99	15.36	30.35	54.00	-23.65	AVG
5	5725.000	15.58	27.44	43.02	74.00	-30.98	peak
6	5725.000	15.58	15.46	31.04	54.00	-22.96	AVG
7	11160.000	28.05	28.63	56.68	74.00	-17.32	peak
8	11160.000	28.05	17.62	45.67	54.00	-8.33	AVG
9	16740.000	42.65	13.53	56.18	74.00	-17.82	peak
10	16740.000	42.65	2.31	44.96	54.00	-9.04	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH116(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

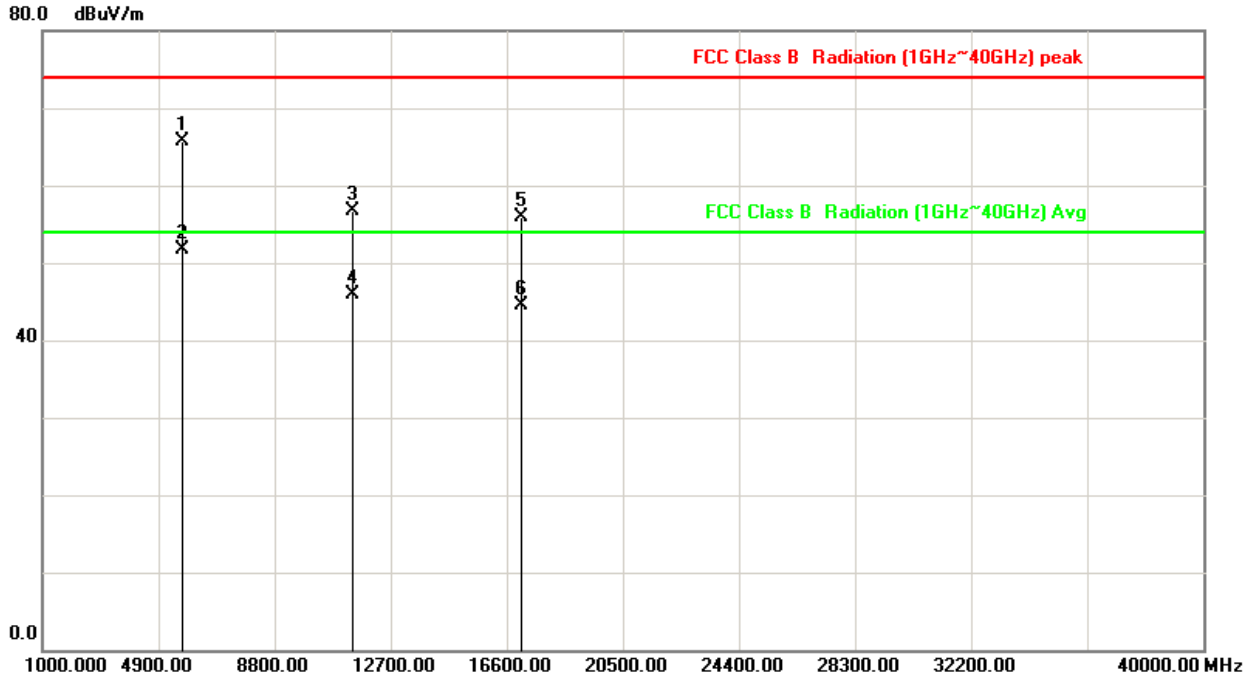


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5460.000	14.99	27.29	42.28	74.00	-31.72	peak
2	5460.000	14.99	15.05	30.04	54.00	-23.96	AVG
3	5470.000	14.99	27.31	42.30	74.00	-31.70	peak
4	5470.000	14.99	15.63	30.62	54.00	-23.38	AVG
5	5725.000	15.58	27.63	43.21	74.00	-30.79	peak
6	5725.000	15.58	14.59	30.17	54.00	-23.83	AVG
7	11160.000	28.05	27.53	55.58	74.00	-18.42	peak
8	11160.000	28.05	16.56	44.61	54.00	-9.39	AVG
9	16740.000	42.65	11.34	53.99	74.00	-20.01	peak
10	16740.000	42.65	1.21	43.86	54.00	-10.14	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH140(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

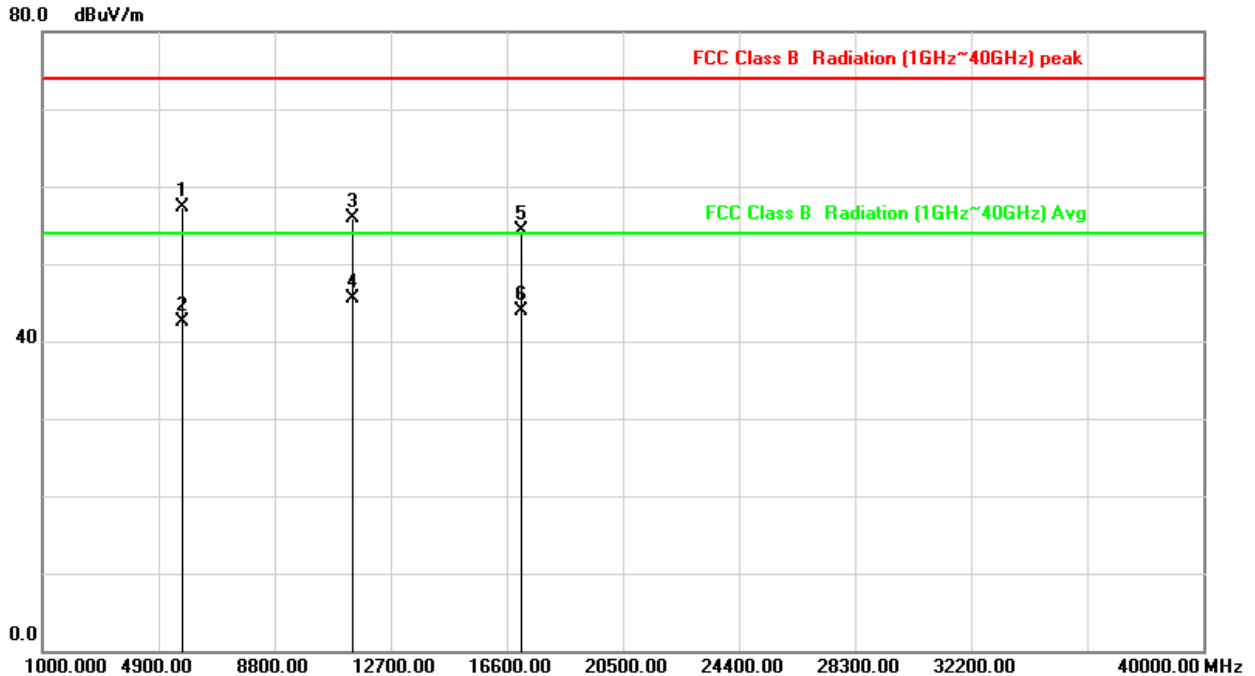


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5725.000	15.58	50.09	65.67	74.00	-8.33	peak
2	5725.000	15.58	36.10	51.68	54.00	-2.32	AVG
3	11400.000	28.62	28.15	56.77	74.00	-17.23	peak
4	11400.000	28.62	17.30	45.92	54.00	-8.08	AVG
5	17100.000	42.73	13.27	56.00	74.00	-18.00	peak
6	17100.000	42.73	1.84	44.57	54.00	-9.43	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH140(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

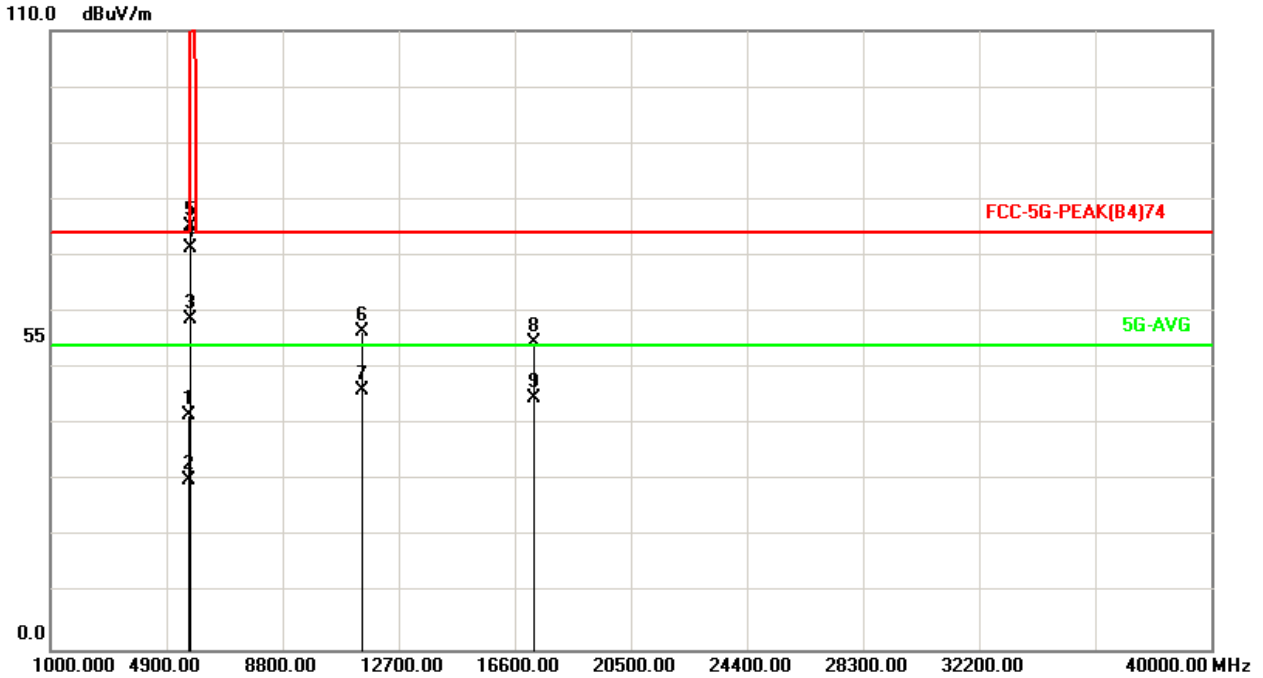


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5725.000	15.58	41.70	57.28	74.00	-16.72	peak
2	5725.000	15.58	27.02	42.60	54.00	-11.40	AVG
3	11400.000	28.62	27.35	55.97	74.00	-18.03	peak
4	11400.000	28.62	16.89	45.51	54.00	-8.49	AVG
5	17100.000	42.73	11.56	54.29	74.00	-19.71	peak
6	17100.000	42.73	1.23	43.96	54.00	-10.04	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH149(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

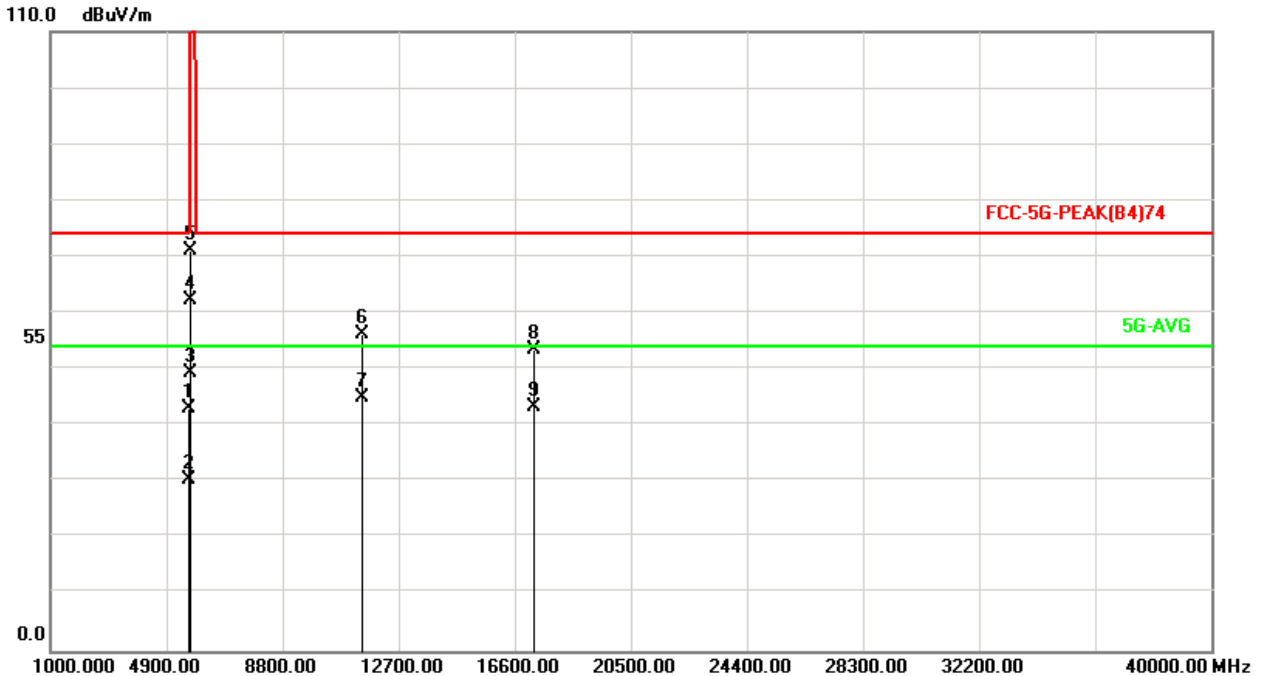


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5650.000	15.39	26.25	41.64	74.00	-32.36	peak
2	5650.000	15.39	14.76	30.15	54.00	-23.85	AVG
3	5700.000	15.52	43.06	58.58	105.20	-46.62	peak
4	5720.000	15.57	55.81	71.38	110.80	-39.42	peak
5	5725.000	15.58	59.69	75.27	122.20	-46.93	peak
6	11490.000	28.84	27.63	56.47	74.00	-17.53	peak
7	11490.000	28.84	17.23	46.07	54.00	-7.93	AVG
8	17235.000	43.26	11.23	54.49	74.00	-19.51	peak
9	17235.000	43.26	1.30	44.56	54.00	-9.44	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH149(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

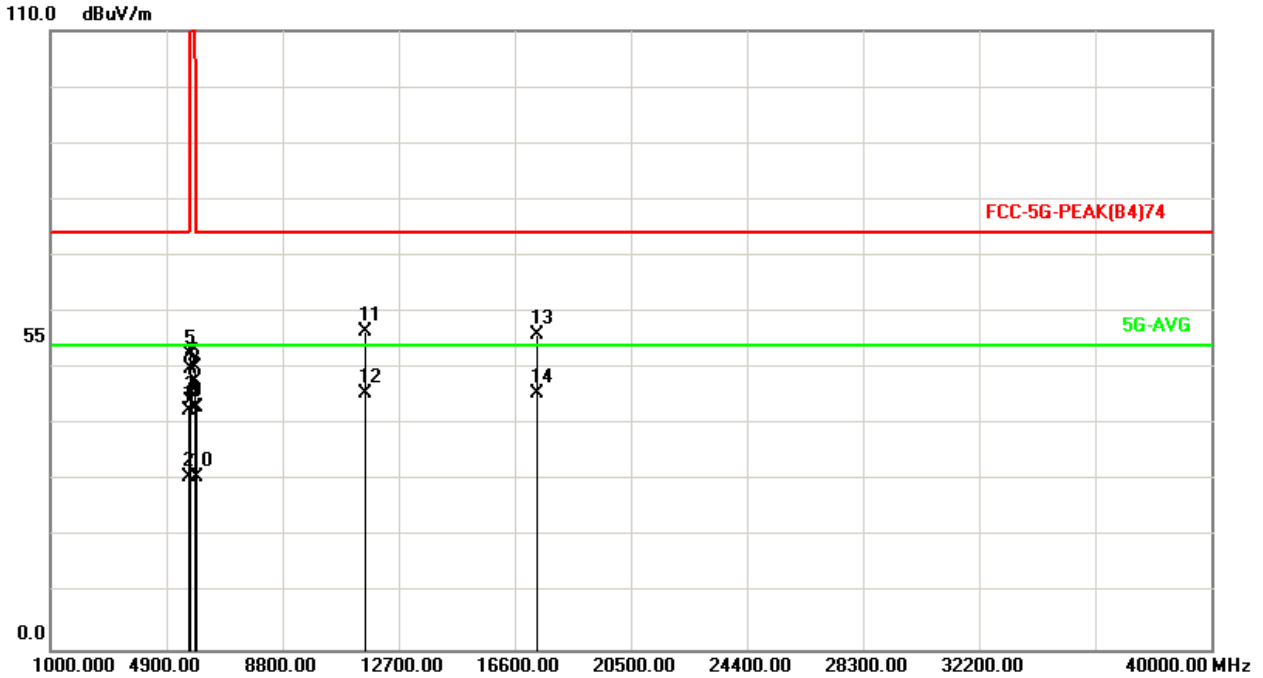


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5650.000	15.39	27.53	42.92	74.00	-31.08	peak
2	5650.000	15.39	15.03	30.42	54.00	-23.58	AVG
3	5700.000	15.52	33.79	49.31	105.20	-55.89	peak
4	5720.000	15.57	46.75	62.32	110.80	-48.48	peak
5	5725.000	15.58	55.45	71.03	122.20	-51.17	peak
6	11490.000	28.84	27.35	56.19	74.00	-17.81	peak
7	11490.000	28.84	16.26	45.10	54.00	-8.90	AVG
8	17235.000	43.26	10.35	53.61	74.00	-20.39	peak
9	17235.000	43.26	0.13	43.39	54.00	-10.61	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH157(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

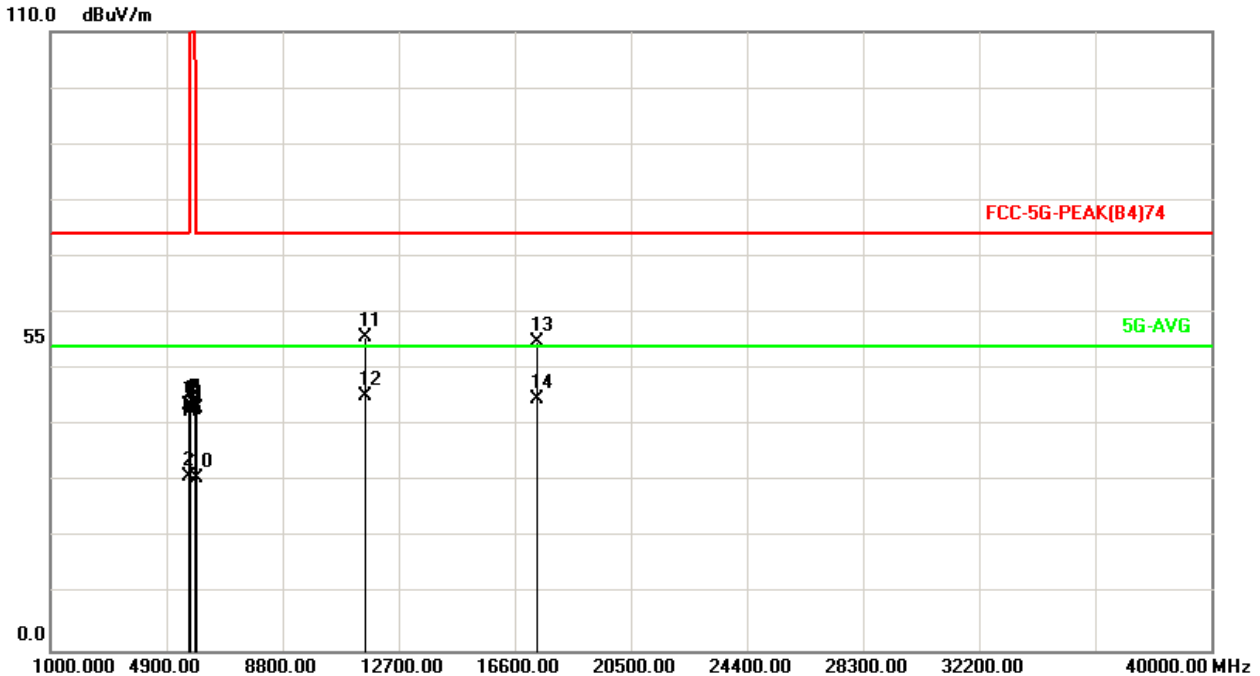


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5650.000	15.39	27.13	42.52	74.00	-31.48	peak
2	5650.000	15.39	15.31	30.70	54.00	-23.30	AVG
3	5700.000	15.52	28.49	44.01	105.20	-61.19	peak
4	5720.000	15.57	34.39	49.96	110.80	-60.84	peak
5	5725.000	15.58	36.78	52.36	122.20	-69.84	peak
6	5850.000	15.89	34.21	50.10	122.20	-72.10	peak
7	5855.000	15.90	31.89	47.79	110.80	-63.01	peak
8	5875.000	15.95	27.00	42.95	105.20	-62.25	peak
9	5925.000	16.07	26.91	42.98	74.00	-31.02	peak
10	5925.000	16.07	14.49	30.56	54.00	-23.44	AVG
11	11570.000	29.00	27.53	56.53	74.00	-17.47	peak
12	11570.000	29.00	16.59	45.59	54.00	-8.41	AVG
13	17355.000	43.74	12.12	55.86	74.00	-18.14	peak
14	17355.000	43.74	1.68	45.42	54.00	-8.58	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH157(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

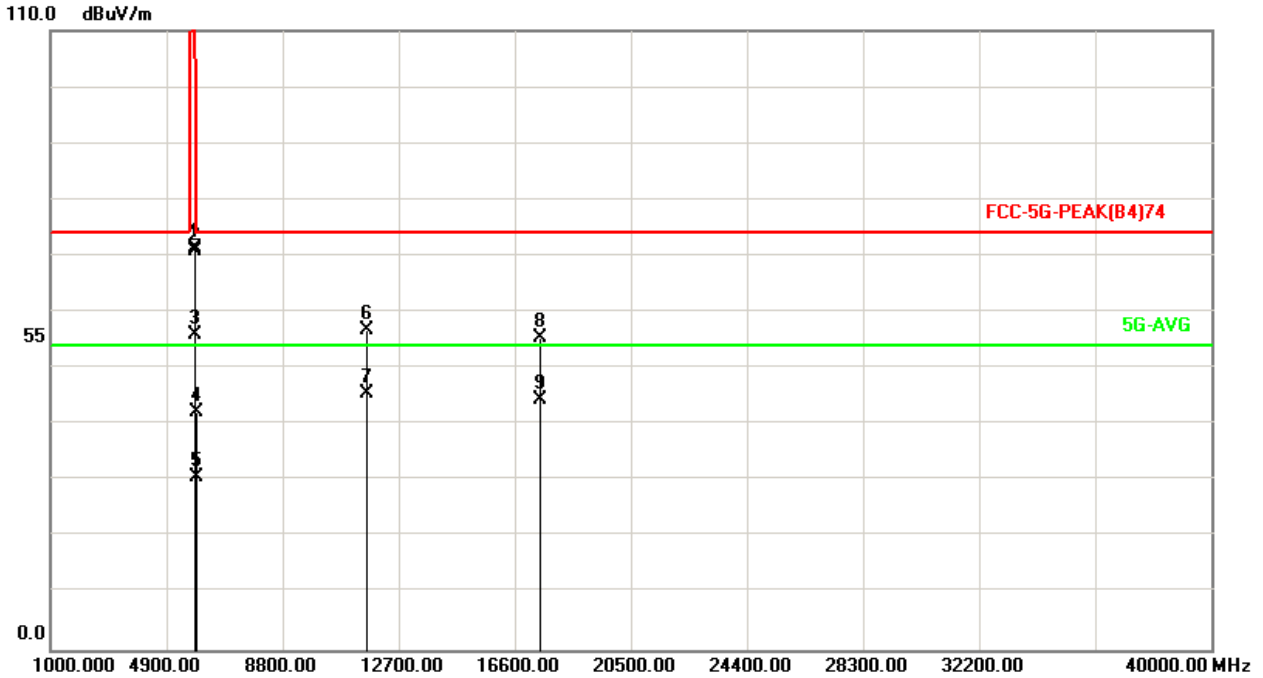


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5650.000	15.39	28.21	43.60	74.00	-30.40	peak
2	5650.000	15.39	15.62	31.01	54.00	-22.99	AVG
3	5700.000	15.52	27.94	43.46	105.20	-61.74	peak
4	5720.000	15.57	27.03	42.60	110.80	-68.20	peak
5	5725.000	15.58	27.51	43.09	122.20	-79.11	peak
6	5850.000	15.89	26.91	42.80	122.20	-79.40	peak
7	5855.000	15.90	28.08	43.98	110.80	-66.82	peak
8	5875.000	15.95	27.75	43.70	105.20	-61.50	peak
9	5925.000	16.07	27.10	43.17	74.00	-30.83	peak
10	5925.000	16.07	14.68	30.75	54.00	-23.25	AVG
11	11570.000	29.00	26.63	55.63	74.00	-18.37	peak
12	11570.000	29.00	16.32	45.32	54.00	-8.68	AVG
13	17355.000	43.74	11.20	54.94	74.00	-19.06	peak
14	17355.000	43.74	0.96	44.70	54.00	-9.30	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH165(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

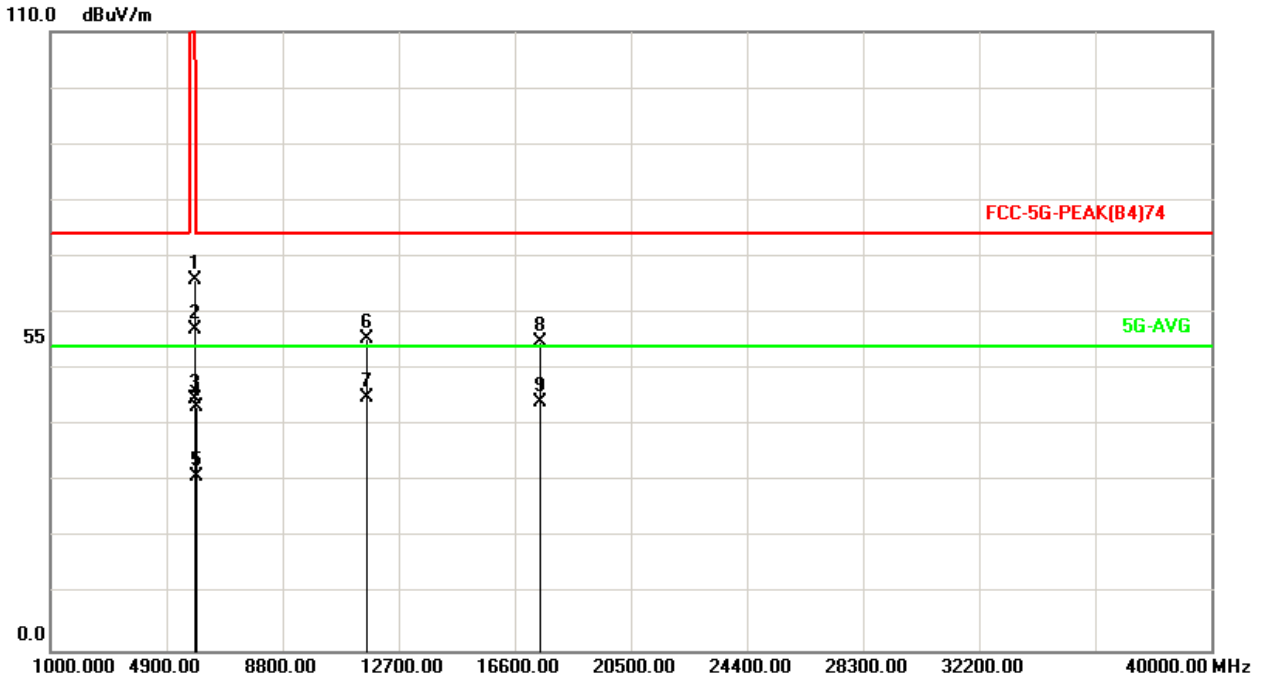


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5850.000	15.89	55.50	71.39	122.20	-50.81	peak
2	5855.000	15.90	54.85	70.75	110.80	-40.05	peak
3	5875.000	15.95	39.89	55.84	105.20	-49.36	peak
4	5925.000	16.07	26.27	42.34	74.00	-31.66	peak
5	5925.000	16.07	14.58	30.65	54.00	-23.35	AVG
6	11650.000	29.16	27.53	56.69	74.00	-17.31	peak
7	11650.000	29.16	16.43	45.59	54.00	-8.41	AVG
8	17475.000	44.21	11.30	55.51	74.00	-18.49	peak
9	17475.000	44.21	0.23	44.44	54.00	-9.56	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH165(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

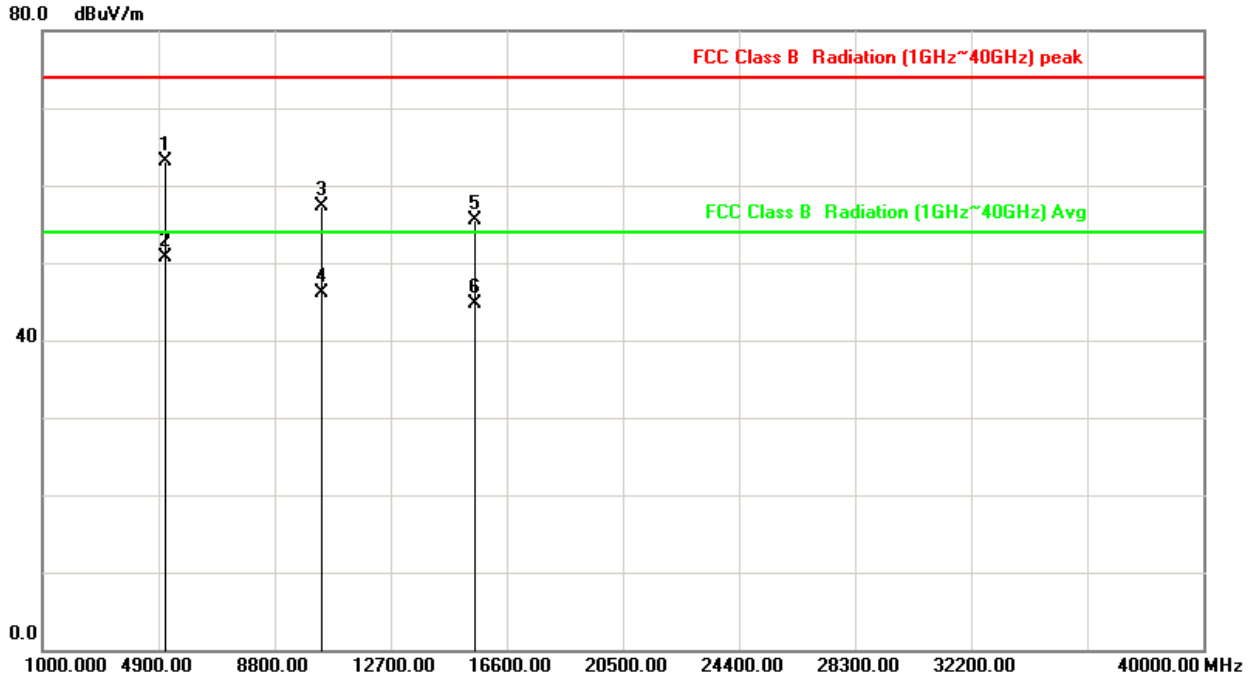


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5850.000	15.89	49.88	65.77	122.20	-56.43	peak
2	5855.000	15.90	41.30	57.20	110.80	-53.60	peak
3	5875.000	15.95	28.68	44.63	105.20	-60.57	peak
4	5925.000	16.07	27.18	43.25	74.00	-30.75	peak
5	5925.000	16.07	14.84	30.91	54.00	-23.09	AVG
6	11650.000	29.16	26.35	55.51	74.00	-18.49	peak
7	11650.000	29.16	15.92	45.08	54.00	-8.92	AVG
8	17475.000	44.21	10.52	54.73	74.00	-19.27	peak
9	17475.000	44.21	-0.12	44.09	54.00	-9.91	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH36(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

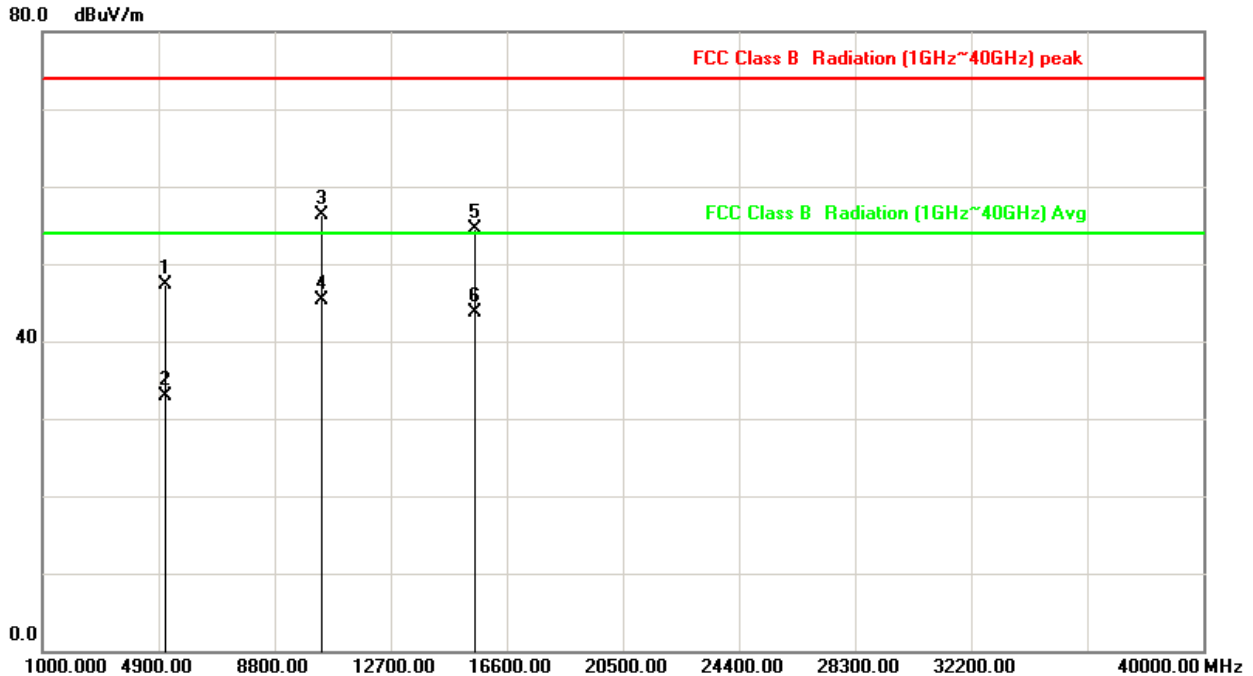


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5150.000	14.73	48.32	63.05	74.00	-10.95	peak
2	5150.000	14.73	35.92	50.65	54.00	-3.35	AVG
3	10360.000	25.85	31.50	57.35	74.00	-16.65	peak
4	10360.000	25.85	20.30	46.15	54.00	-7.85	AVG
5	15540.000	38.25	17.23	55.48	74.00	-18.52	peak
6	15540.000	38.25	6.48	44.73	54.00	-9.27	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH36(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

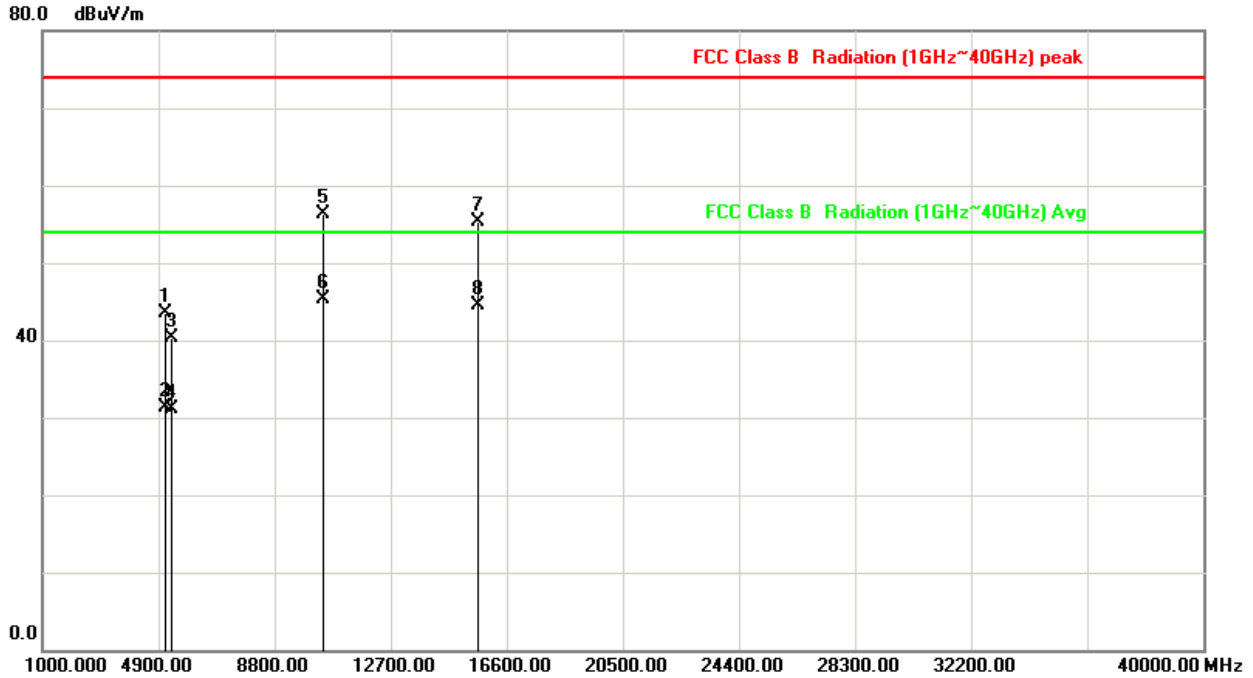


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5150.000	14.73	32.53	47.26	74.00	-26.74	peak
2	5150.000	14.73	18.15	32.88	54.00	-21.12	AVG
3	10360.000	25.85	30.46	56.31	74.00	-17.69	peak
4	10360.000	25.85	19.52	45.37	54.00	-8.63	AVG
5	15540.000	38.25	16.20	54.45	74.00	-19.55	peak
6	15540.000	38.25	5.43	43.68	54.00	-10.32	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH44(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

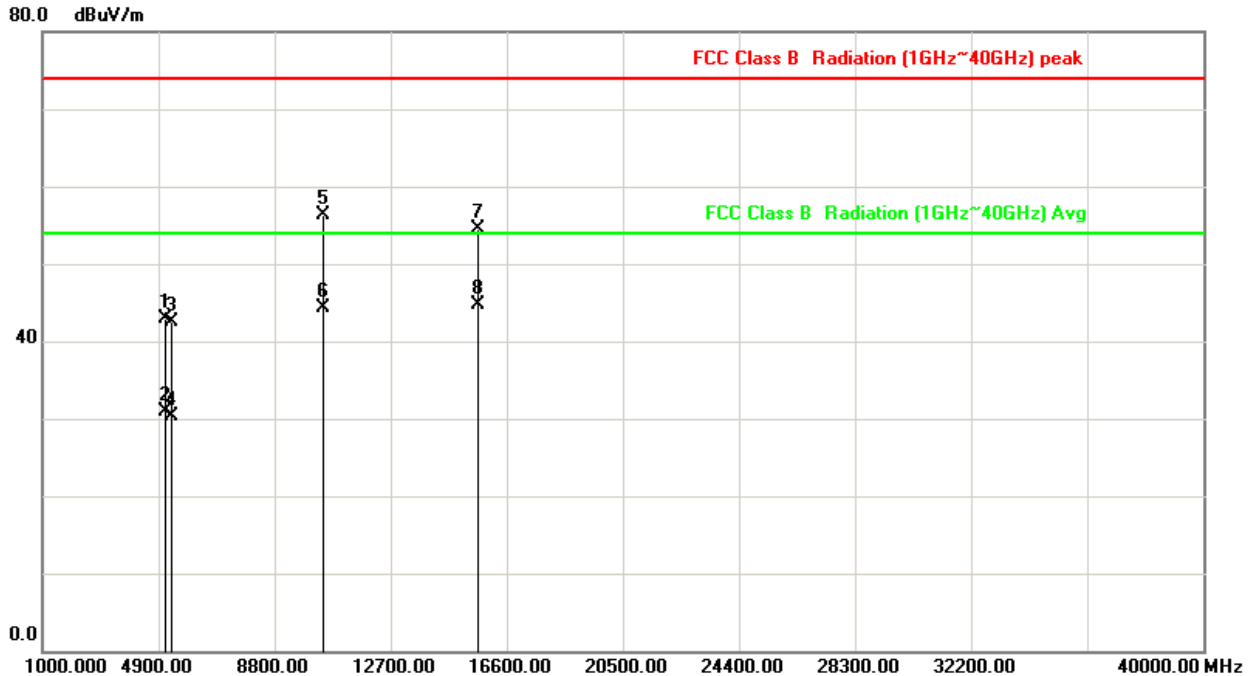


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5150.000	14.73	28.74	43.47	74.00	-30.53	peak
2	5150.000	14.73	16.59	31.32	54.00	-22.68	AVG
3	5350.000	14.89	25.43	40.32	74.00	-33.68	peak
4	5350.000	14.89	16.23	31.12	54.00	-22.88	AVG
5	10440.000	26.03	30.24	56.27	74.00	-17.73	peak
6	10440.000	26.03	19.26	45.29	54.00	-8.71	AVG
7	15660.000	38.30	17.06	55.36	74.00	-18.64	peak
8	15660.000	38.30	6.15	44.45	54.00	-9.55	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH44(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

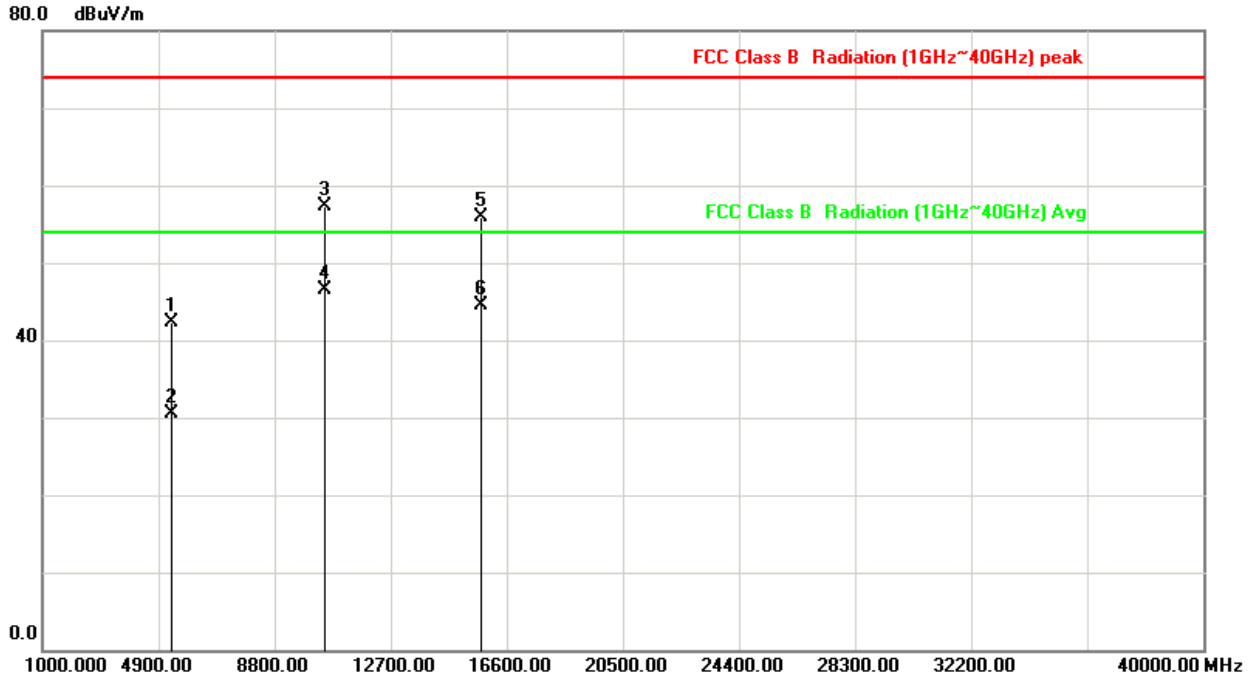


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5150.000	14.73	28.14	42.87	74.00	-31.13	peak
2	5150.000	14.73	16.26	30.99	54.00	-23.01	AVG
3	5350.000	14.89	27.53	42.42	74.00	-31.58	peak
4	5350.000	14.89	15.46	30.35	54.00	-23.65	AVG
5	10440.000	26.03	30.24	56.27	74.00	-17.73	peak
6	10440.000	26.03	18.32	44.35	54.00	-9.65	AVG
7	15660.000	38.30	16.26	54.56	74.00	-19.44	peak
8	15660.000	38.30	6.38	44.68	54.00	-9.32	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH48(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

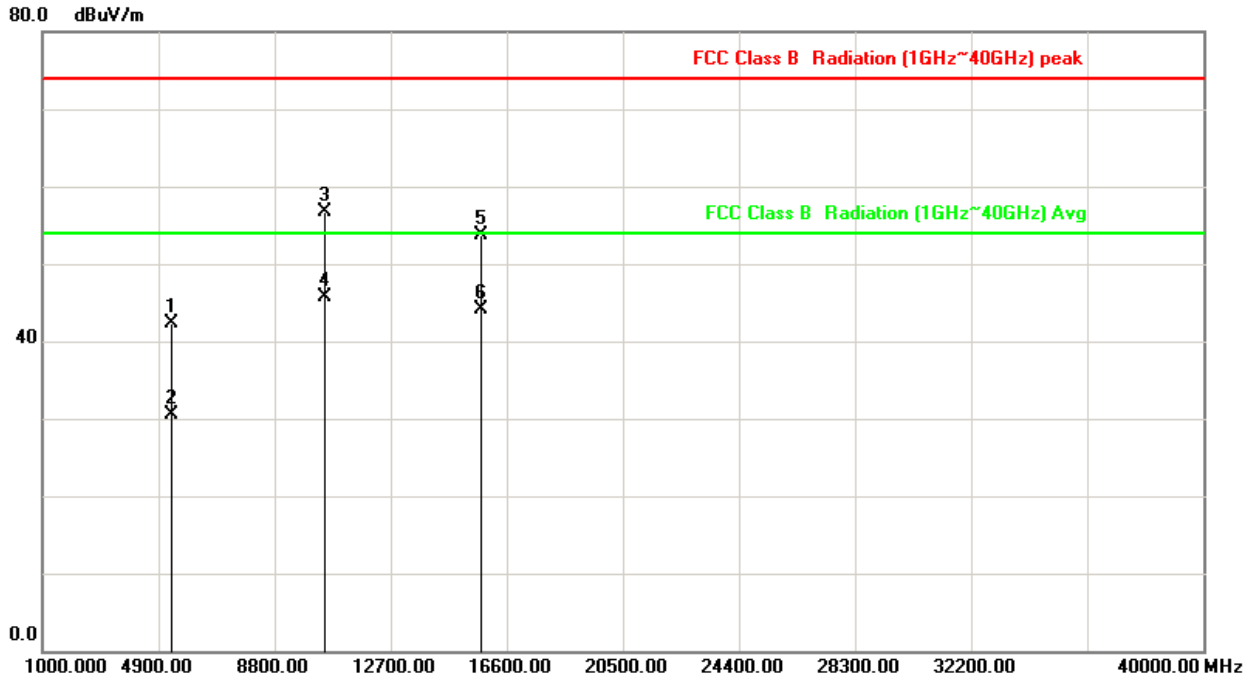


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	27.51	42.40	74.00	-31.60	peak
2	5350.000	14.89	15.62	30.51	54.00	-23.49	AVG
3	10480.000	26.12	31.20	57.32	74.00	-16.68	peak
4	10480.000	26.12	20.29	46.41	54.00	-7.59	AVG
5	15720.000	38.33	17.55	55.88	74.00	-18.12	peak
6	15720.000	38.33	6.23	44.56	54.00	-9.44	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH48(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

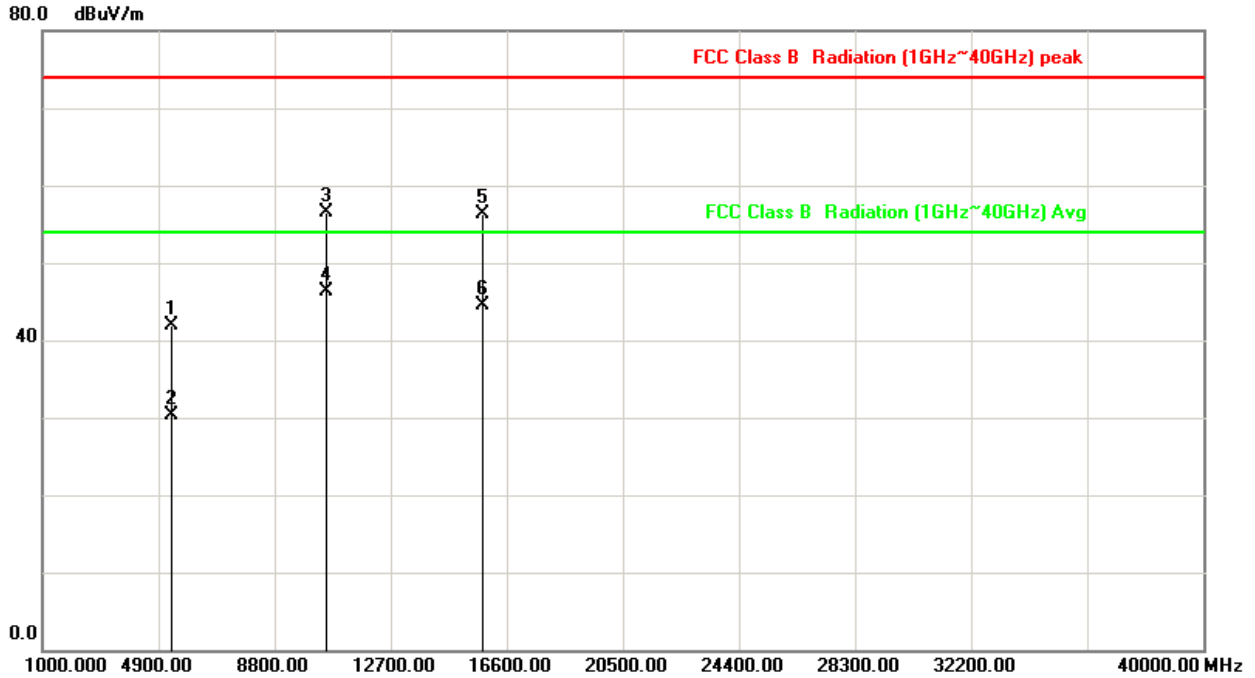


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	27.35	42.24	74.00	-31.76	peak
2	5350.000	14.89	15.61	30.50	54.00	-23.50	AVG
3	10480.000	26.12	30.65	56.77	74.00	-17.23	peak
4	10480.000	26.12	19.54	45.66	54.00	-8.34	AVG
5	15720.000	38.33	15.33	53.66	74.00	-20.34	peak
6	15720.000	38.33	5.74	44.07	54.00	-9.93	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH52(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

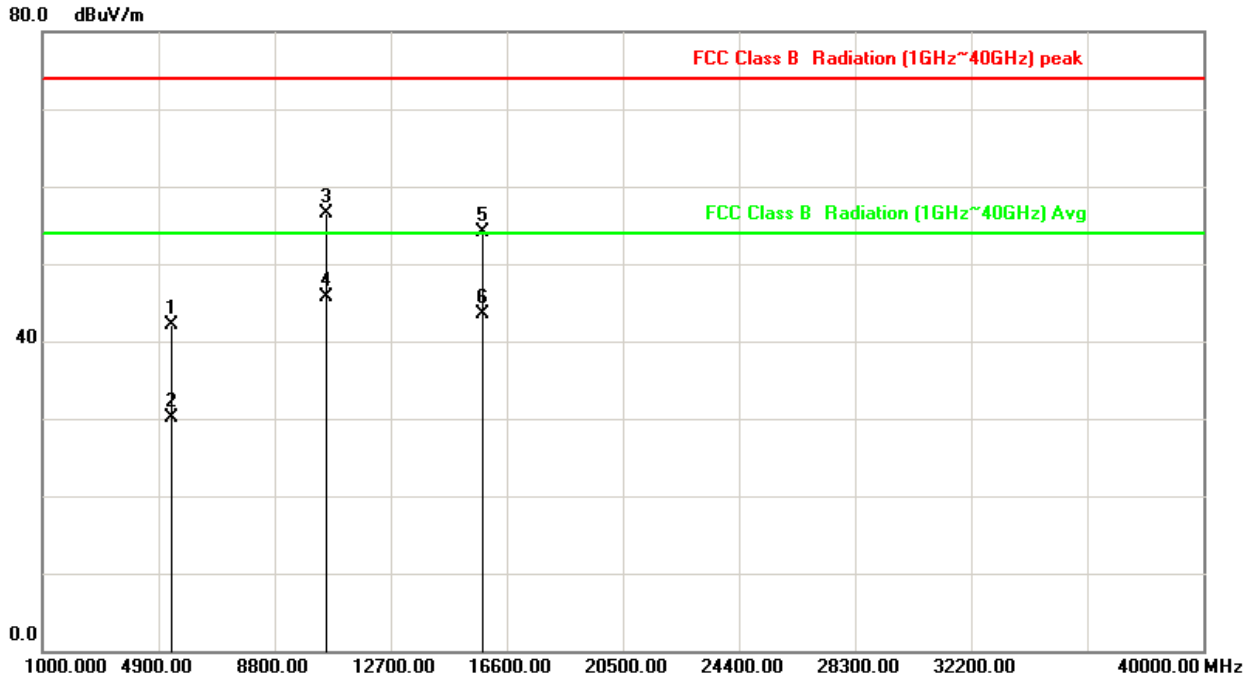


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	26.95	41.84	74.00	-32.16	peak
2	5350.000	14.89	15.32	30.21	54.00	-23.79	AVG
3	10520.000	26.22	30.24	56.46	74.00	-17.54	peak
4	10520.000	26.22	20.03	46.25	54.00	-7.75	AVG
5	15780.000	38.36	17.93	56.29	74.00	-17.71	peak
6	15780.000	38.36	6.24	44.60	54.00	-9.40	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH52(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

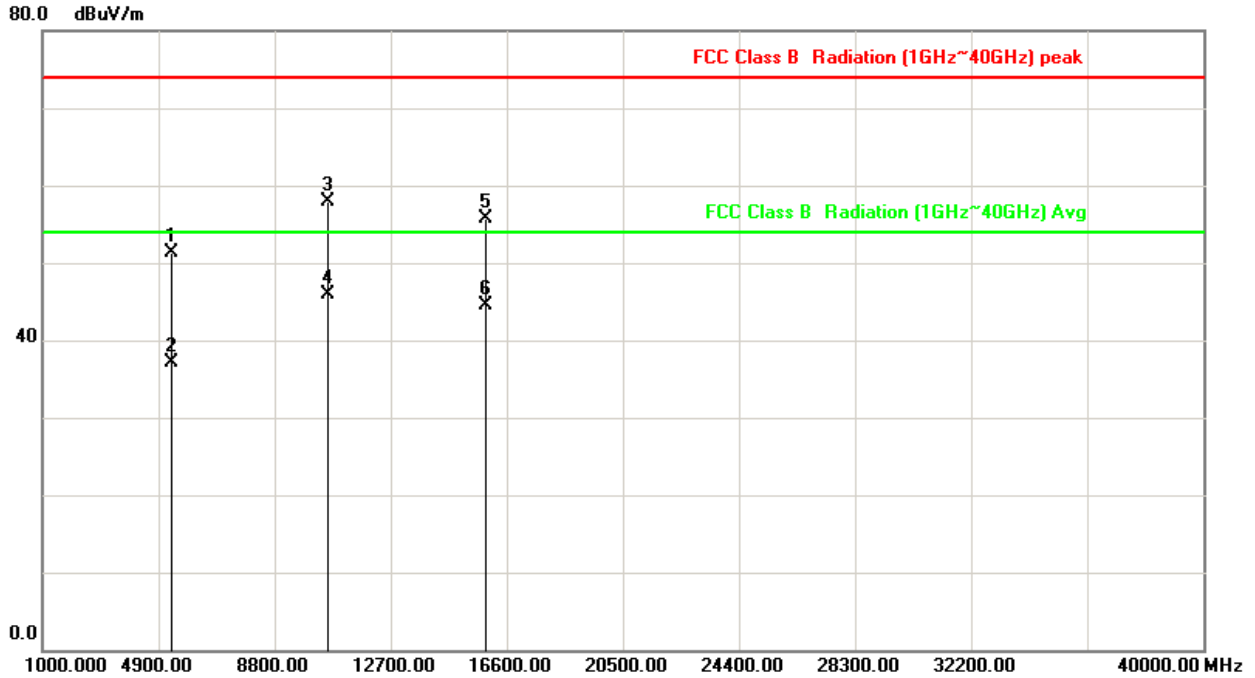


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	27.31	42.20	74.00	-31.80	peak
2	5350.000	14.89	15.22	30.11	54.00	-23.89	AVG
3	10520.000	26.22	30.31	56.53	74.00	-17.47	peak
4	10520.000	26.22	19.45	45.67	54.00	-8.33	AVG
5	15780.000	38.36	15.69	54.05	74.00	-19.95	peak
6	15780.000	38.36	5.22	43.58	54.00	-10.42	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH60(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

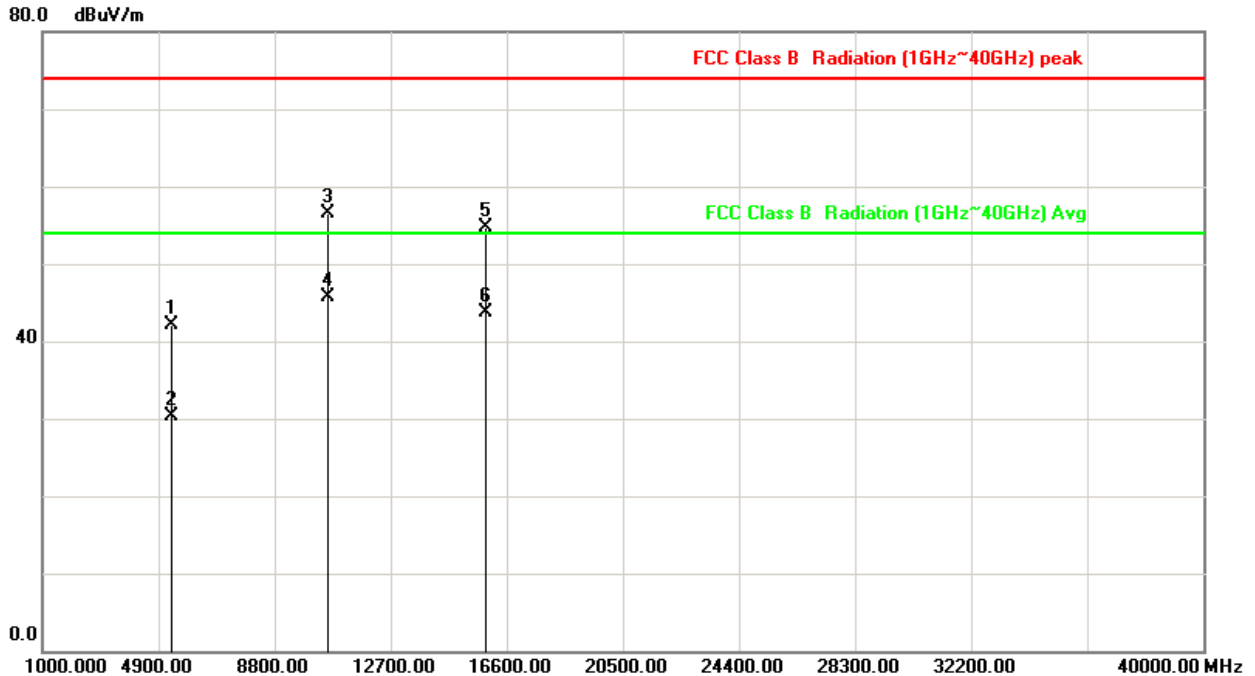


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	36.49	51.38	74.00	-22.62	peak
2	5350.000	14.89	22.12	37.01	54.00	-16.99	AVG
3	10600.000	26.46	31.36	57.82	74.00	-16.18	peak
4	10600.000	26.46	19.54	46.00	54.00	-8.00	AVG
5	15900.000	38.41	17.20	55.61	74.00	-18.39	peak
6	15900.000	38.41	6.18	44.59	54.00	-9.41	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH60(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

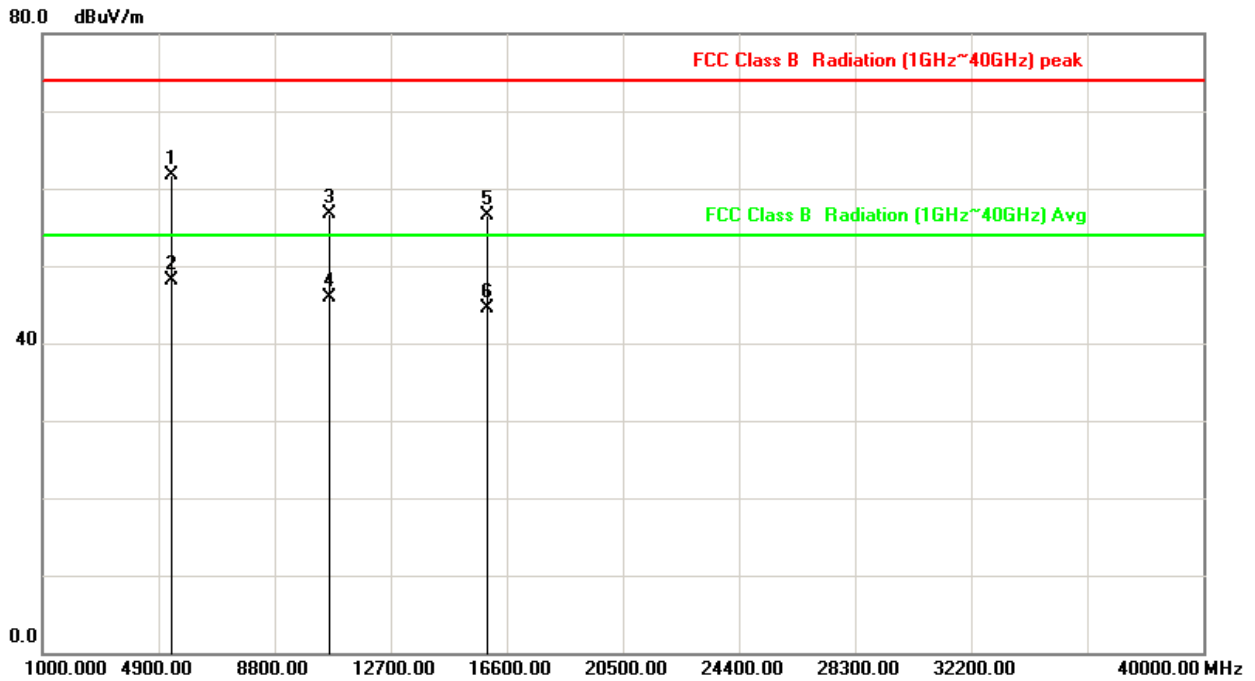


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	27.16	42.05	74.00	-31.95	peak
2	5350.000	14.89	15.33	30.22	54.00	-23.78	AVG
3	10600.000	26.46	30.10	56.56	74.00	-17.44	peak
4	10600.000	26.46	19.24	45.70	54.00	-8.30	AVG
5	15900.000	38.41	16.22	54.63	74.00	-19.37	peak
6	15900.000	38.41	5.37	43.78	54.00	-10.22	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH64(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

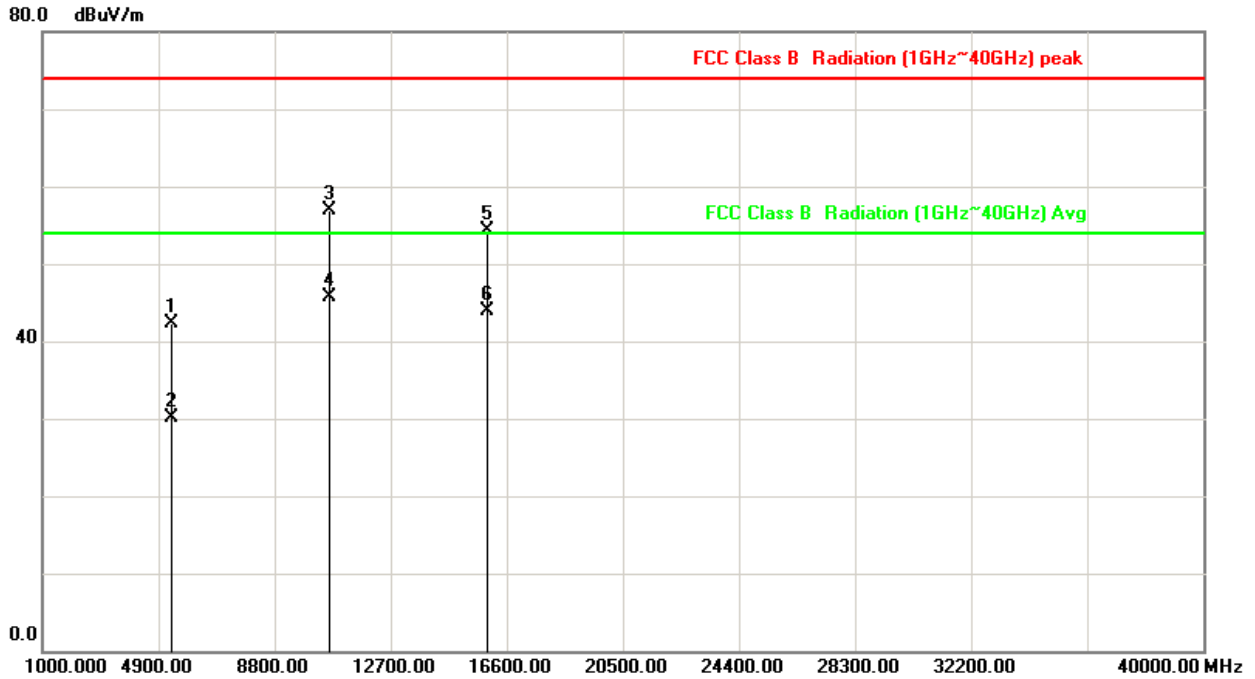


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	46.81	61.70	74.00	-12.30	peak
2	5350.000	14.89	33.16	48.05	54.00	-5.95	AVG
3	10640.000	26.58	30.15	56.73	74.00	-17.27	peak
4	10640.000	26.58	19.32	45.90	54.00	-8.10	AVG
5	15960.000	38.44	18.10	56.54	74.00	-17.46	peak
6	15960.000	38.44	6.07	44.51	54.00	-9.49	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH64(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

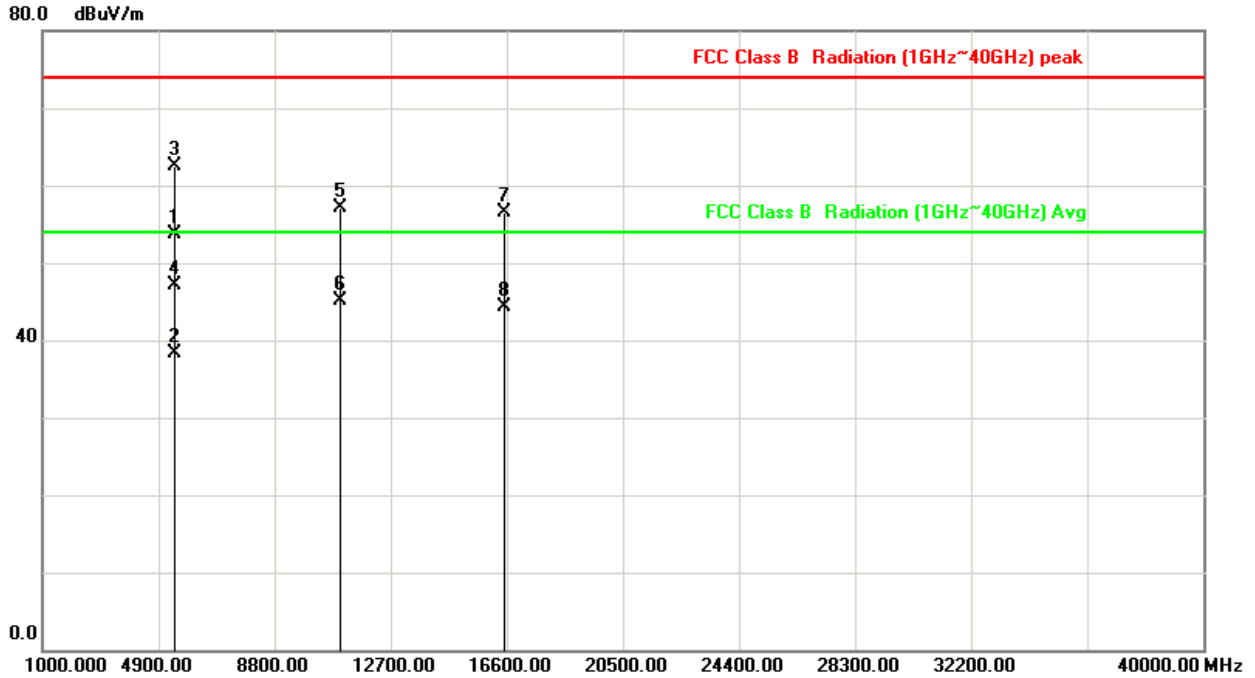


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	27.36	42.25	74.00	-31.75	peak
2	5350.000	14.89	15.23	30.12	54.00	-23.88	AVG
3	10640.000	26.58	30.33	56.91	74.00	-17.09	peak
4	10640.000	26.58	19.14	45.72	54.00	-8.28	AVG
5	15960.000	38.44	15.79	54.23	74.00	-19.77	peak
6	15960.000	38.44	5.48	43.92	54.00	-10.08	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH100(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

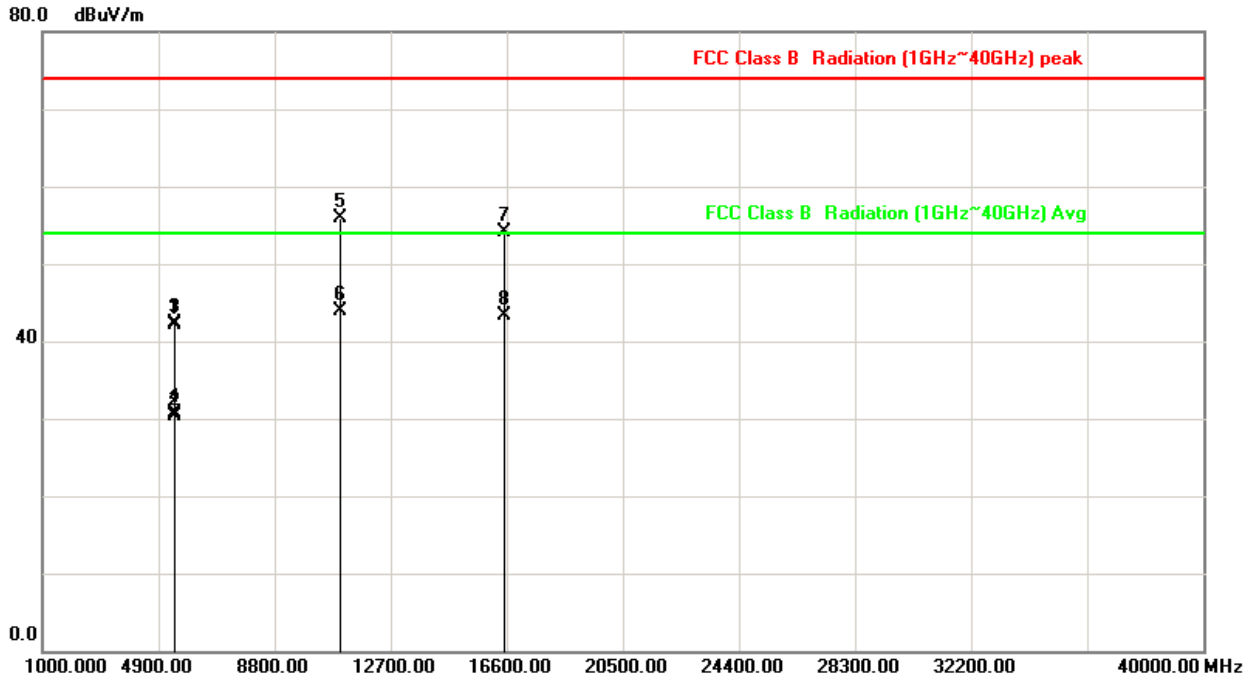


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5460.000	14.99	38.67	53.66	74.00	-20.34	peak
2	5460.000	14.99	23.34	38.33	54.00	-15.67	AVG
3	5470.000	14.99	47.59	62.58	74.00	-11.42	peak
4	5470.000	14.99	32.16	47.15	54.00	-6.85	AVG
5	11000.000	27.67	29.47	57.14	74.00	-16.86	peak
6	11000.000	27.67	17.45	45.12	54.00	-8.88	AVG
7	16500.000	42.95	13.56	56.51	74.00	-17.49	peak
8	16500.000	42.95	1.32	44.27	54.00	-9.73	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH100(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

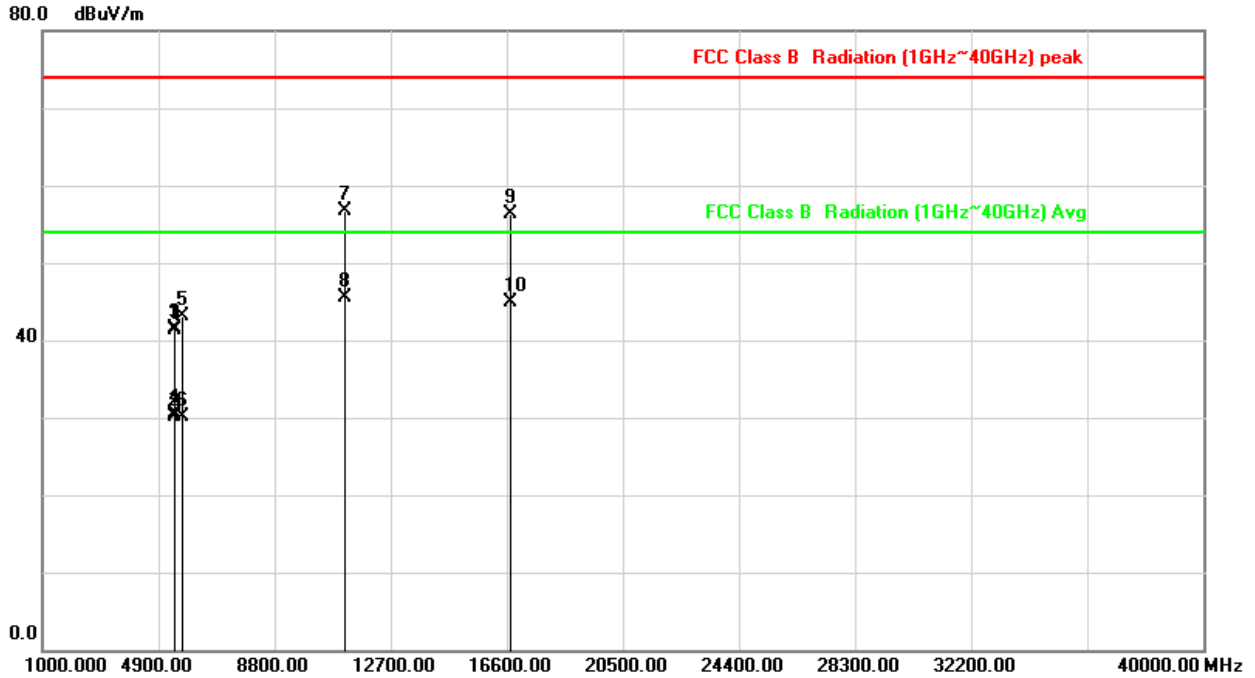


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5460.000	14.99	27.10	42.09	74.00	-31.91	peak
2	5460.000	14.99	15.23	30.22	54.00	-23.78	AVG
3	5470.000	14.99	27.41	42.40	74.00	-31.60	peak
4	5470.000	14.99	15.63	30.62	54.00	-23.38	AVG
5	11000.000	27.67	28.32	55.99	74.00	-18.01	peak
6	11000.000	27.67	16.24	43.91	54.00	-10.09	AVG
7	16500.000	42.95	11.18	54.13	74.00	-19.87	peak
8	16500.000	42.95	0.37	43.32	54.00	-10.68	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH116(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

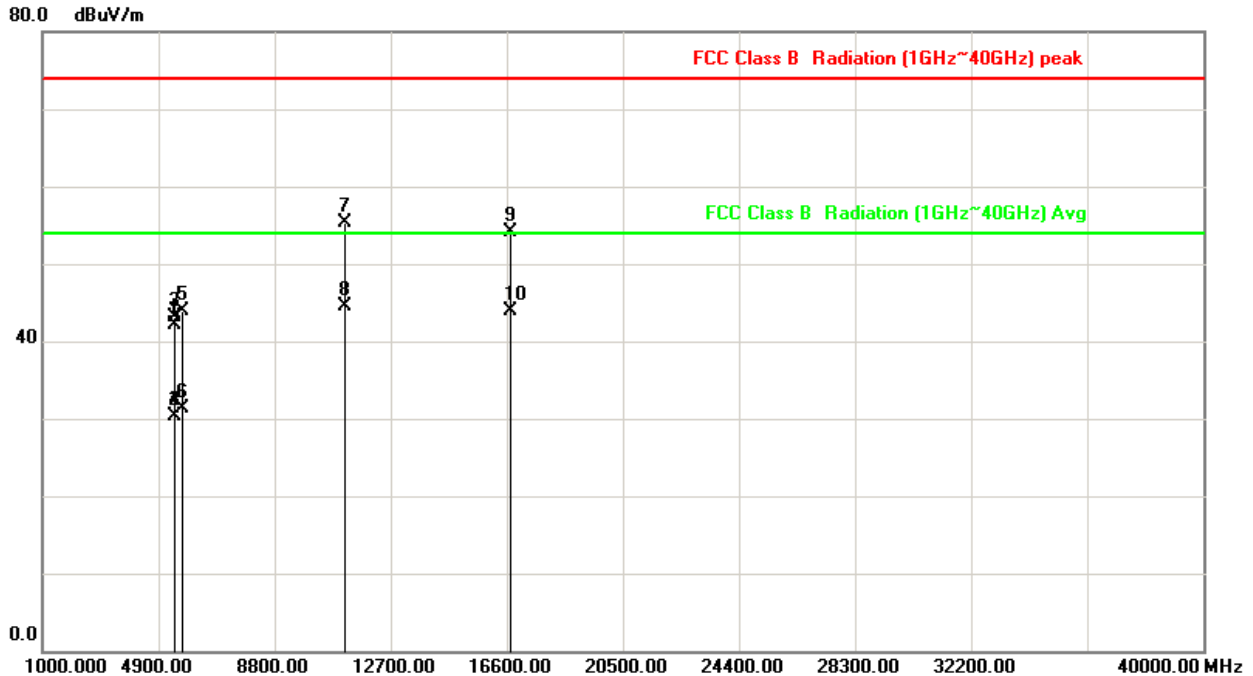


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5460.000	14.99	26.34	41.33	74.00	-32.67	peak
2	5460.000	14.99	15.15	30.14	54.00	-23.86	AVG
3	5470.000	14.99	26.59	41.58	74.00	-32.42	peak
4	5470.000	14.99	15.45	30.44	54.00	-23.56	AVG
5	5725.000	15.58	27.54	43.12	74.00	-30.88	peak
6	5725.000	15.58	14.58	30.16	54.00	-23.84	AVG
7	11160.000	28.05	28.66	56.71	74.00	-17.29	peak
8	11160.000	28.05	17.53	45.58	54.00	-8.42	AVG
9	16740.000	42.65	13.62	56.27	74.00	-17.73	peak
10	16740.000	42.65	2.21	44.86	54.00	-9.14	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH116(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

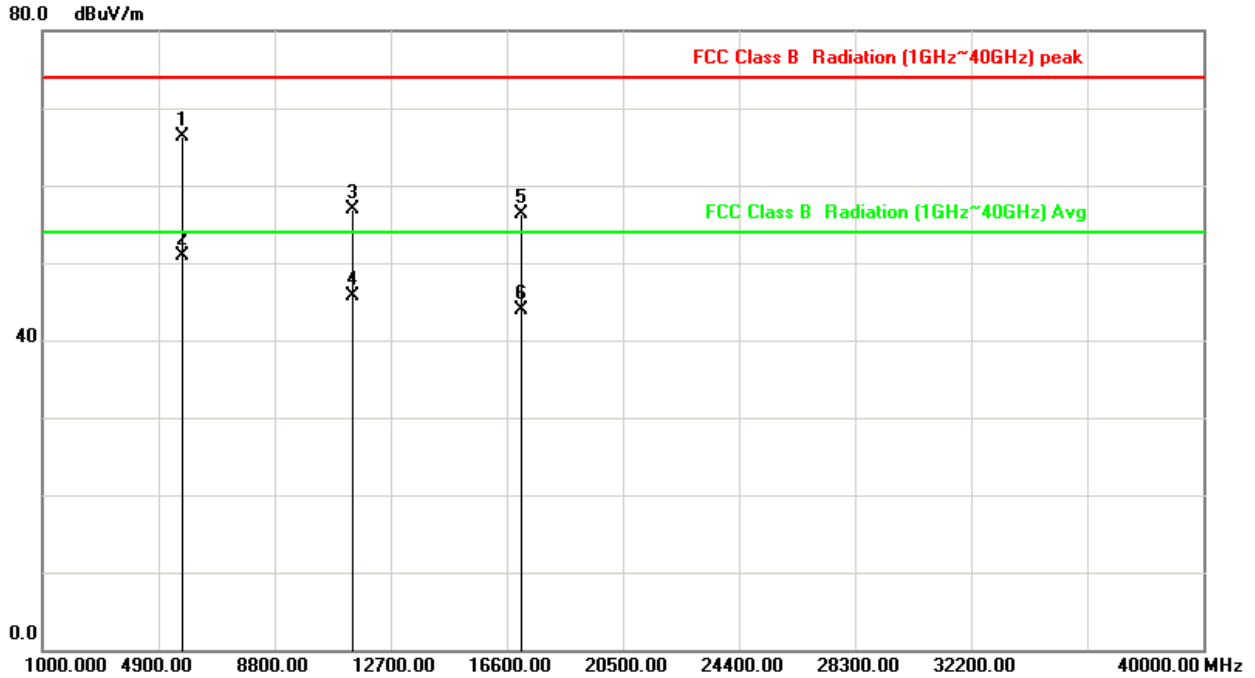


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5460.000	14.99	27.13	42.12	74.00	-31.88	peak
2	5460.000	14.99	15.26	30.25	54.00	-23.75	AVG
3	5470.000	14.99	28.14	43.13	74.00	-30.87	peak
4	5470.000	14.99	15.33	30.32	54.00	-23.68	AVG
5	5725.000	15.58	28.31	43.89	74.00	-30.11	peak
6	5725.000	15.58	15.66	31.24	54.00	-22.76	AVG
7	11160.000	28.05	27.21	55.26	74.00	-18.74	peak
8	11160.000	28.05	16.43	44.48	54.00	-9.52	AVG
9	16740.000	42.65	11.52	54.17	74.00	-19.83	peak
10	16740.000	42.65	1.30	43.95	54.00	-10.05	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH140(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

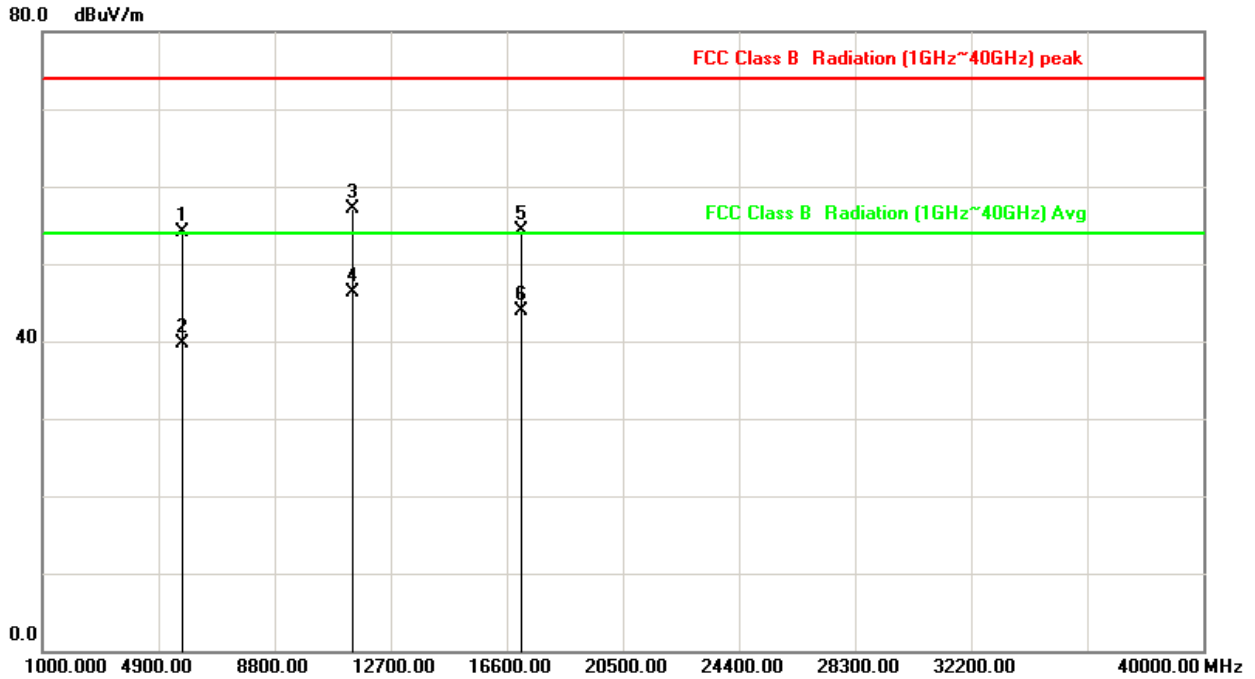


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5725.000	15.58	50.64	66.22	74.00	-7.78	peak
2	5725.000	15.58	35.26	50.84	54.00	-3.16	AVG
3	11400.000	28.62	28.24	56.86	74.00	-17.14	peak
4	11400.000	28.62	17.13	45.75	54.00	-8.25	AVG
5	17100.000	42.73	13.54	56.27	74.00	-17.73	peak
6	17100.000	42.73	1.27	44.00	54.00	-10.00	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH140(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

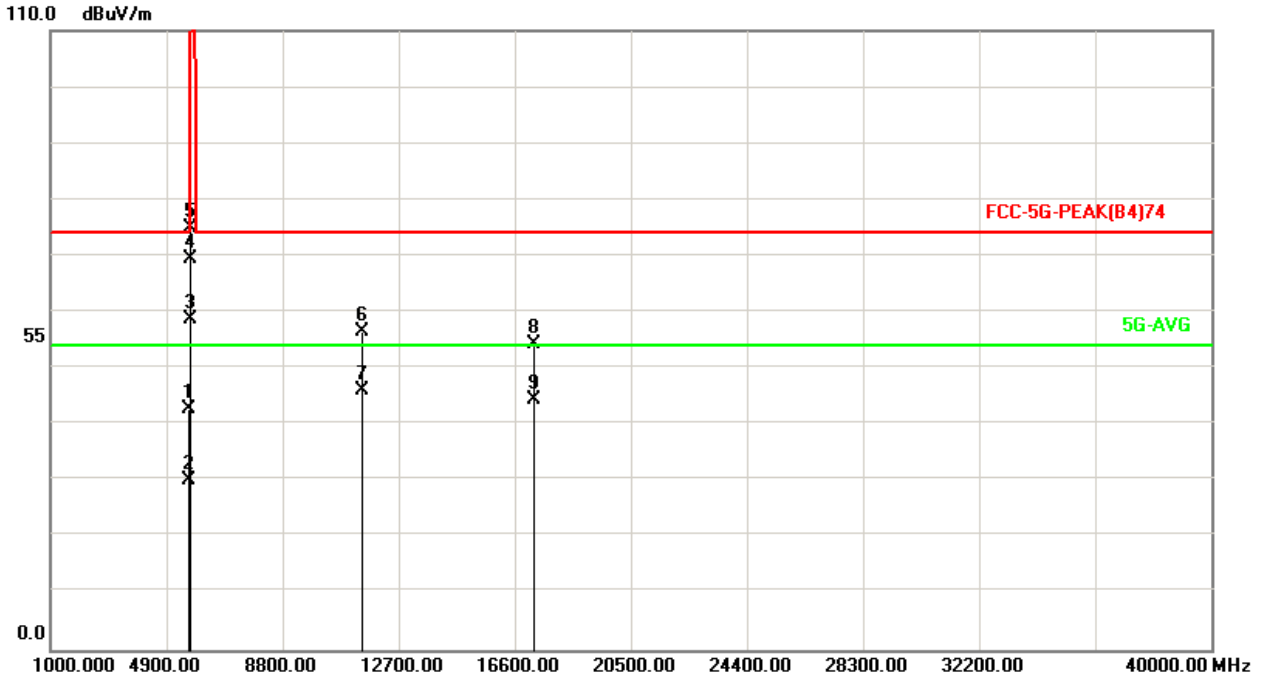


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5725.000	15.58	38.46	54.04	74.00	-19.96	peak
2	5725.000	15.58	24.22	39.80	54.00	-14.20	AVG
3	11400.000	28.62	28.46	57.08	74.00	-16.92	peak
4	11400.000	28.62	17.75	46.37	54.00	-7.63	AVG
5	17100.000	42.73	11.55	54.28	74.00	-19.72	peak
6	17100.000	42.73	1.26	43.99	54.00	-10.01	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH149(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

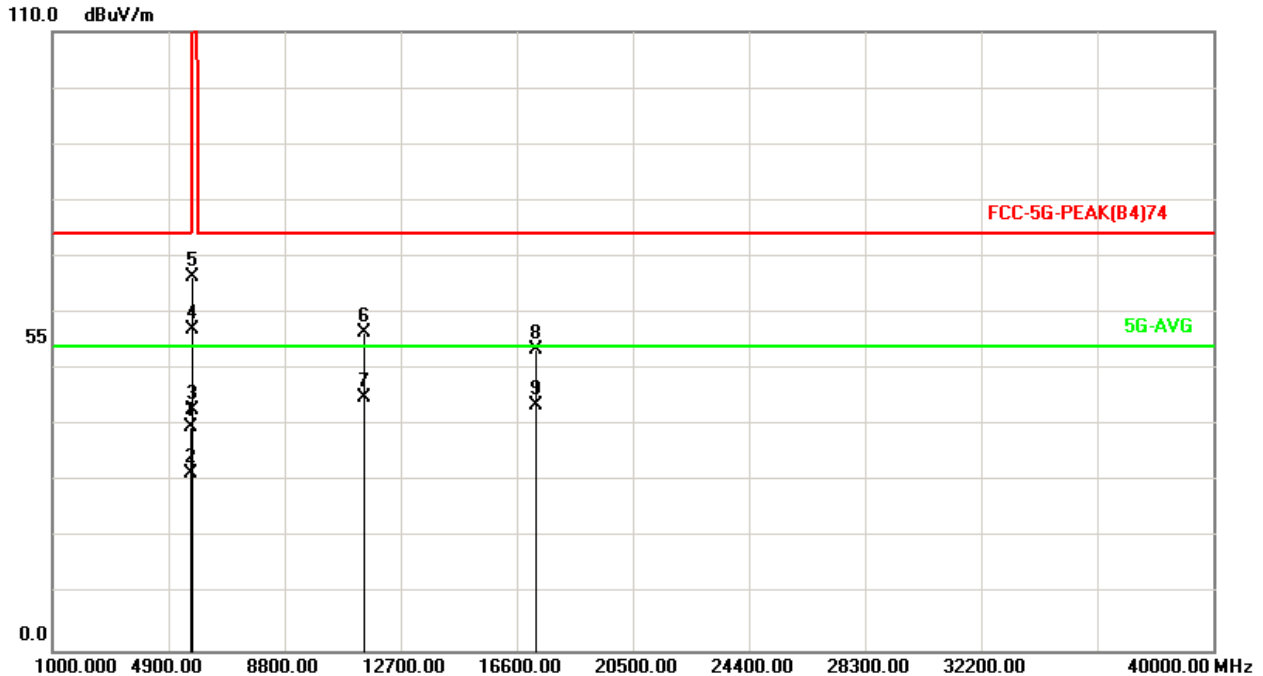


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5650.000	15.39	27.36	42.75	74.00	-31.25	peak
2	5650.000	15.39	14.78	30.17	54.00	-23.83	AVG
3	5700.000	15.52	43.16	58.68	105.20	-46.52	peak
4	5720.000	15.57	53.91	69.48	110.80	-41.32	peak
5	5725.000	15.58	59.43	75.01	122.20	-47.19	peak
6	11490.000	28.84	27.69	56.53	74.00	-17.47	peak
7	11490.000	28.84	17.22	46.06	54.00	-7.94	AVG
8	17235.000	43.26	11.16	54.42	74.00	-19.58	peak
9	17235.000	43.26	1.20	44.46	54.00	-9.54	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH149(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

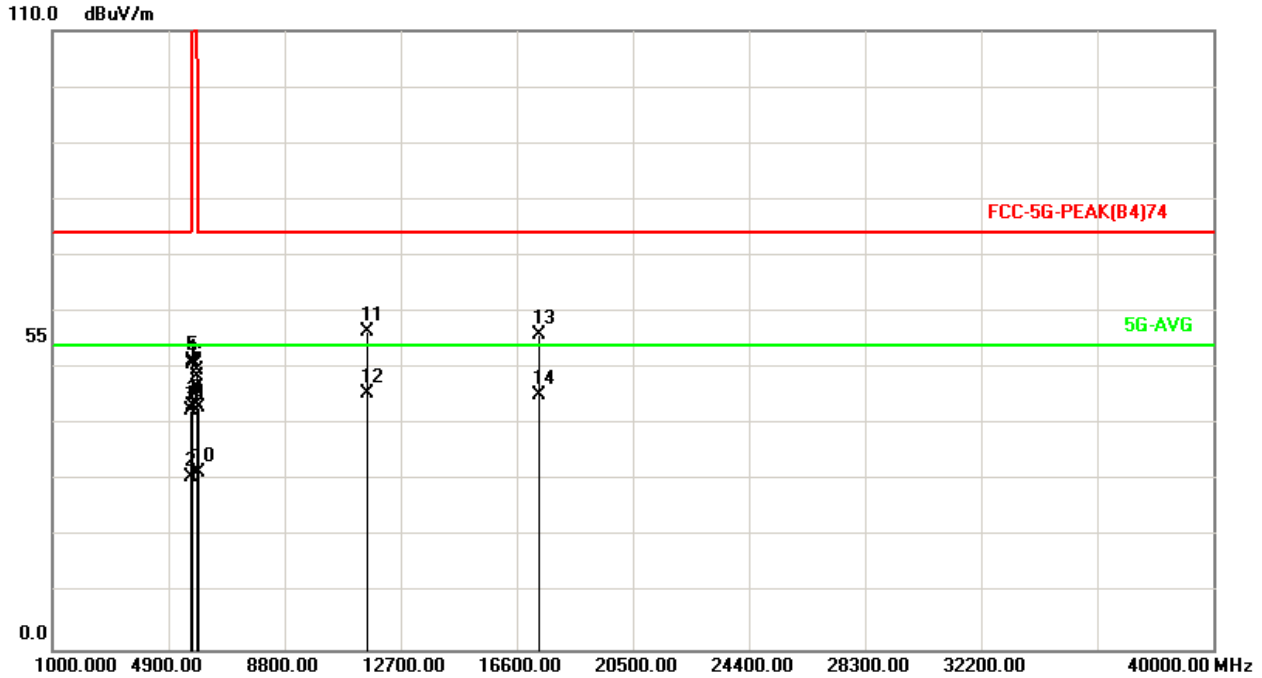


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5650.000	15.39	24.35	39.74	74.00	-34.26	peak
2	5650.000	15.39	16.13	31.52	54.00	-22.48	AVG
3	5700.000	15.52	27.38	42.90	105.20	-62.30	peak
4	5720.000	15.57	41.63	57.20	110.80	-53.60	peak
5	5725.000	15.58	50.92	66.50	122.20	-55.70	peak
6	11490.000	28.84	27.65	56.49	74.00	-17.51	peak
7	11490.000	28.84	16.15	44.99	54.00	-9.01	AVG
8	17235.000	43.26	10.35	53.61	74.00	-20.39	peak
9	17235.000	43.26	0.21	43.47	54.00	-10.53	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH157(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

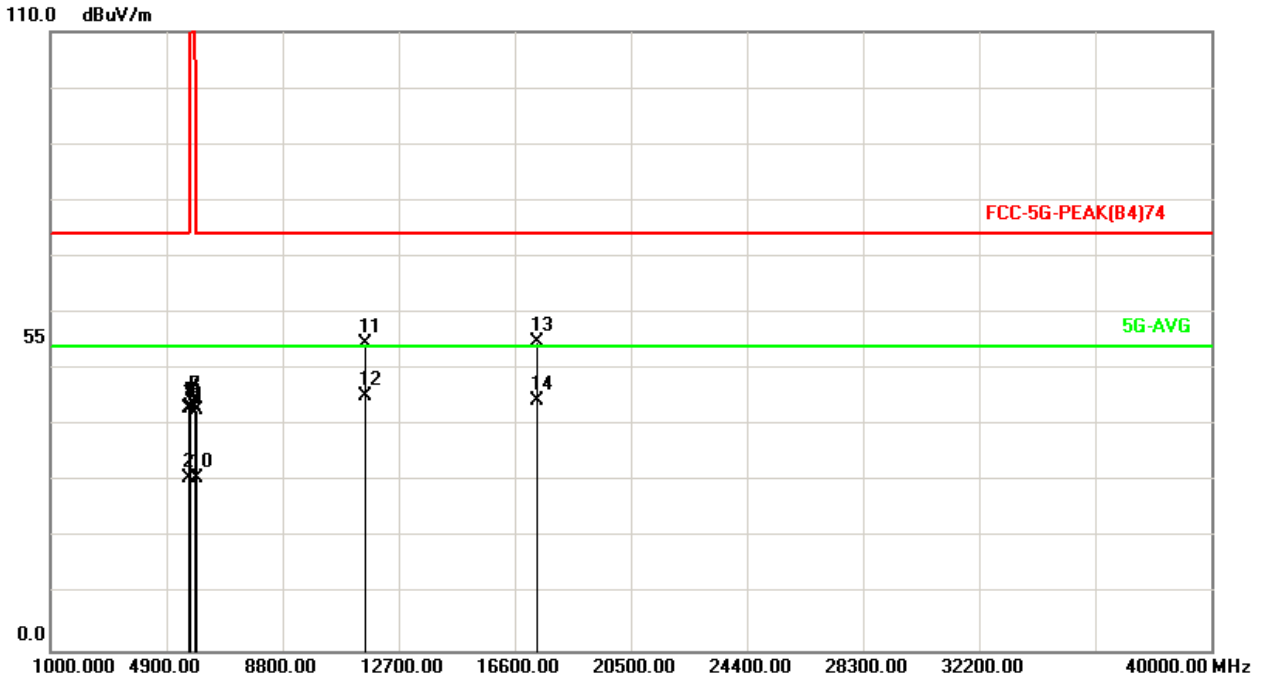


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5650.000	15.39	27.12	42.51	74.00	-31.49	peak
2	5650.000	15.39	15.33	30.72	54.00	-23.28	AVG
3	5700.000	15.52	27.66	43.18	105.20	-62.02	peak
4	5720.000	15.57	35.10	50.67	110.80	-60.13	peak
5	5725.000	15.58	35.69	51.27	122.20	-70.93	peak
6	5850.000	15.89	33.62	49.51	122.20	-72.69	peak
7	5855.000	15.90	32.68	48.58	110.80	-62.22	peak
8	5875.000	15.95	27.68	43.63	105.20	-61.57	peak
9	5925.000	16.07	26.89	42.96	74.00	-31.04	peak
10	5925.000	16.07	15.31	31.38	54.00	-22.62	AVG
11	11570.000	29.00	27.46	56.46	74.00	-17.54	peak
12	11570.000	29.00	16.63	45.63	54.00	-8.37	AVG
13	17355.000	43.74	12.15	55.89	74.00	-18.11	peak
14	17355.000	43.74	1.57	45.31	54.00	-8.69	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH157(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

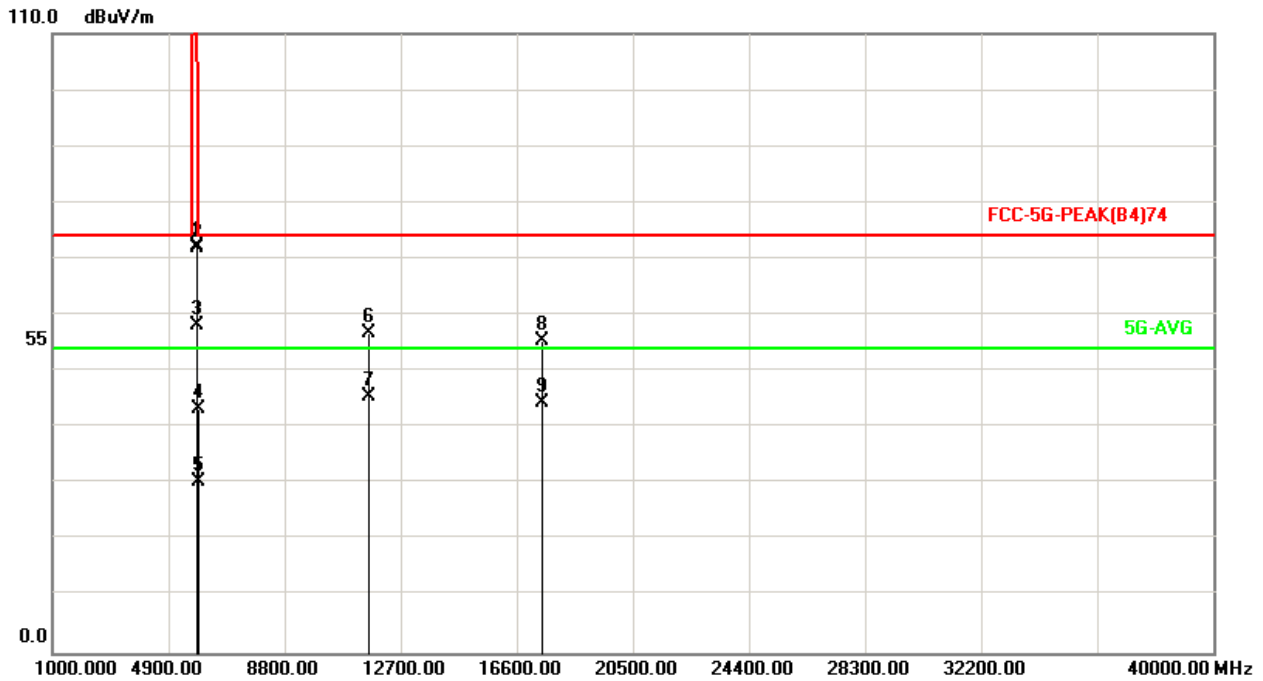


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5650.000	15.39	27.63	43.02	74.00	-30.98	peak
2	5650.000	15.39	15.32	30.71	54.00	-23.29	AVG
3	5700.000	15.52	27.48	43.00	105.20	-62.20	peak
4	5720.000	15.57	27.49	43.06	110.80	-67.74	peak
5	5725.000	15.58	27.61	43.19	122.20	-79.01	peak
6	5850.000	15.89	27.49	43.38	122.20	-78.82	peak
7	5855.000	15.90	28.45	44.35	110.80	-66.45	peak
8	5875.000	15.95	28.46	44.41	105.20	-60.79	peak
9	5925.000	16.07	26.71	42.78	74.00	-31.22	peak
10	5925.000	16.07	14.63	30.70	54.00	-23.30	AVG
11	11570.000	29.00	25.54	54.54	74.00	-19.46	peak
12	11570.000	29.00	16.33	45.33	54.00	-8.67	AVG
13	17355.000	43.74	11.21	54.95	74.00	-19.05	peak
14	17355.000	43.74	0.76	44.50	54.00	-9.50	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH165(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

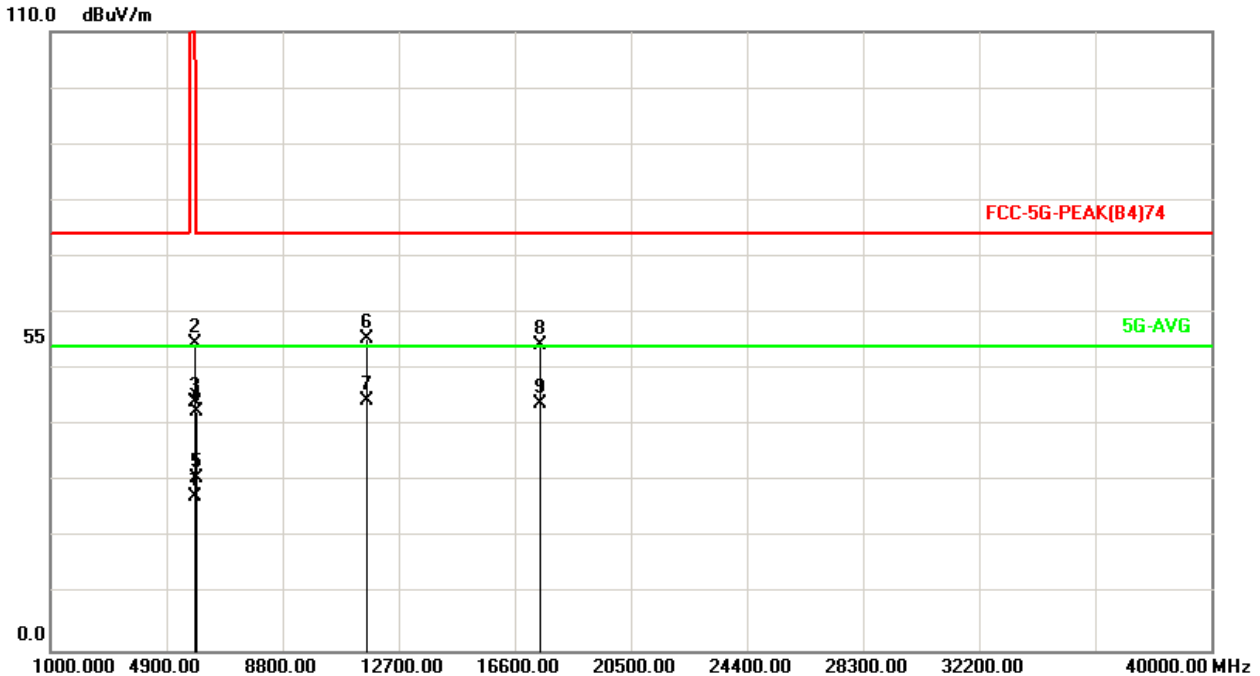


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5850.000	15.89	56.31	72.20	122.20	-50.00	peak
2	5855.000	15.90	55.91	71.81	110.80	-38.99	peak
3	5875.000	15.95	42.23	58.18	105.20	-47.02	peak
4	5925.000	16.07	27.12	43.19	74.00	-30.81	peak
5	5925.000	16.07	14.26	30.33	54.00	-23.67	AVG
6	11650.000	29.16	27.62	56.78	74.00	-17.22	peak
7	11650.000	29.16	16.41	45.57	54.00	-8.43	AVG
8	17475.000	44.21	11.34	55.55	74.00	-18.45	peak
9	17475.000	44.21	0.18	44.39	54.00	-9.61	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH165(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

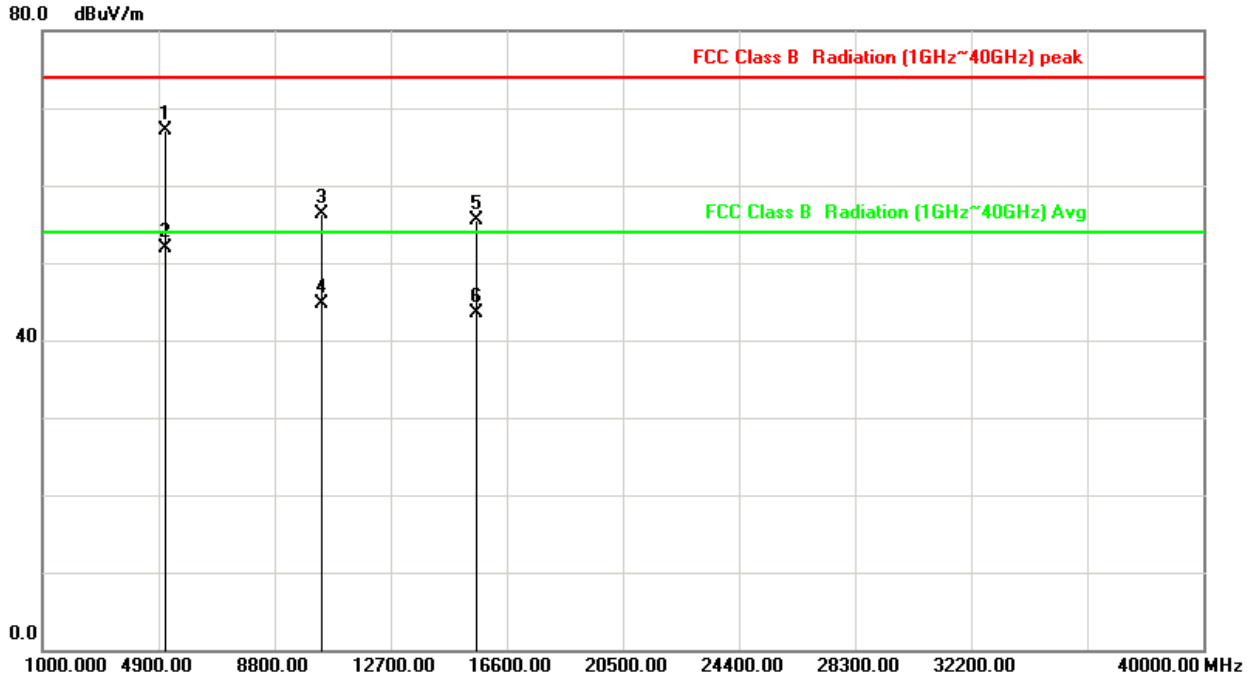


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5850.000	15.89	11.35	27.24	122.20	-94.96	peak
2	5855.000	15.90	38.62	54.52	110.80	-56.28	peak
3	5875.000	15.95	28.10	44.05	105.20	-61.15	peak
4	5925.000	16.07	26.54	42.61	74.00	-31.39	peak
5	5925.000	16.07	14.59	30.66	54.00	-23.34	AVG
6	11650.000	29.16	26.37	55.53	74.00	-18.47	peak
7	11650.000	29.16	15.36	44.52	54.00	-9.48	AVG
8	17475.000	44.21	10.13	54.34	74.00	-19.66	peak
9	17475.000	44.21	-0.37	43.84	54.00	-10.16	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH38(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

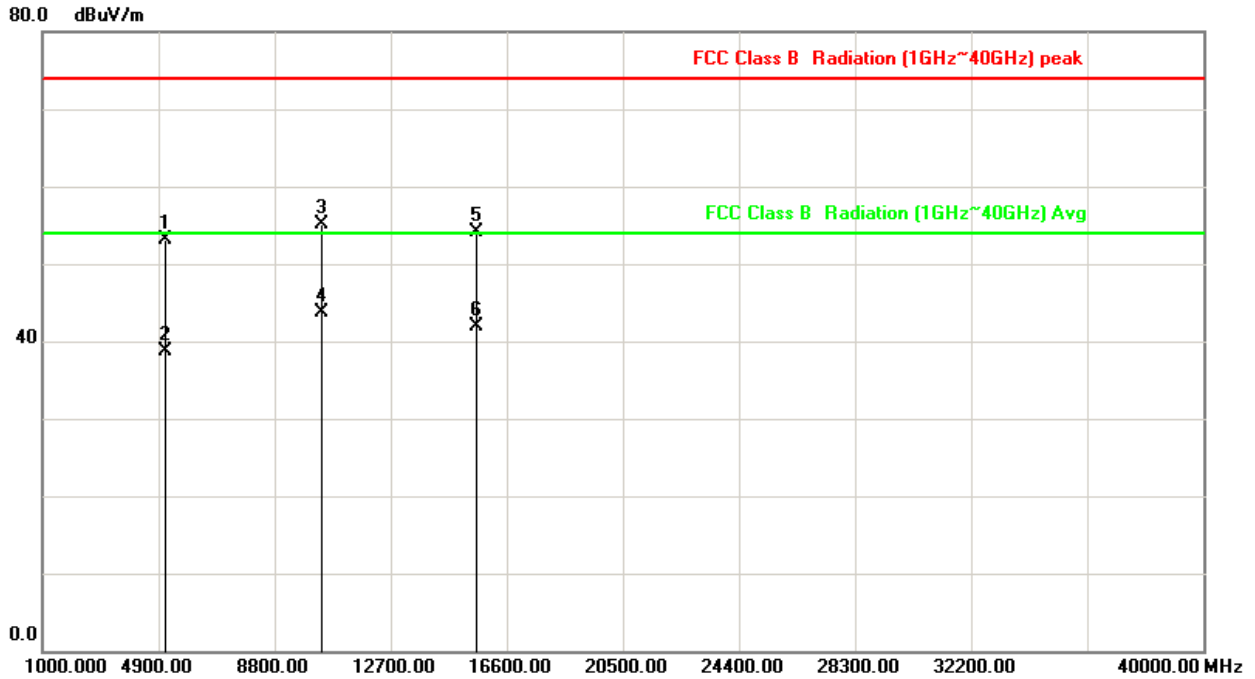


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5150.000	14.73	52.31	67.04	74.00	-6.96	peak
2	5150.000	14.73	37.26	51.99	54.00	-2.01	AVG
3	10380.000	25.89	30.35	56.24	74.00	-17.76	peak
4	10380.000	25.89	18.91	44.80	54.00	-9.20	AVG
5	15570.000	38.26	17.26	55.52	74.00	-18.48	peak
6	15570.000	38.26	5.33	43.59	54.00	-10.41	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH38(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

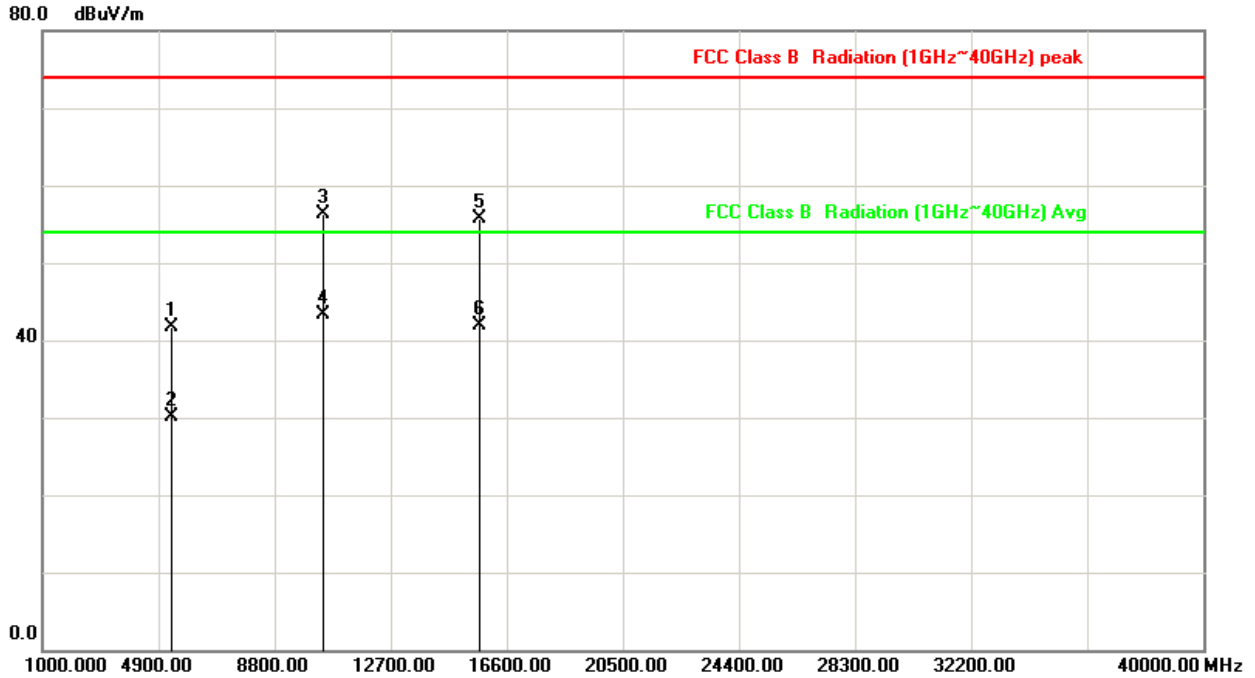


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5150.000	14.73	38.45	53.18	74.00	-20.82	peak
2	5150.000	14.73	23.88	38.61	54.00	-15.39	AVG
3	10380.000	25.89	29.31	55.20	74.00	-18.80	peak
4	10380.000	25.89	17.85	43.74	54.00	-10.26	AVG
5	15570.000	38.26	15.92	54.18	74.00	-19.82	peak
6	15570.000	38.26	3.61	41.87	54.00	-12.13	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH46(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

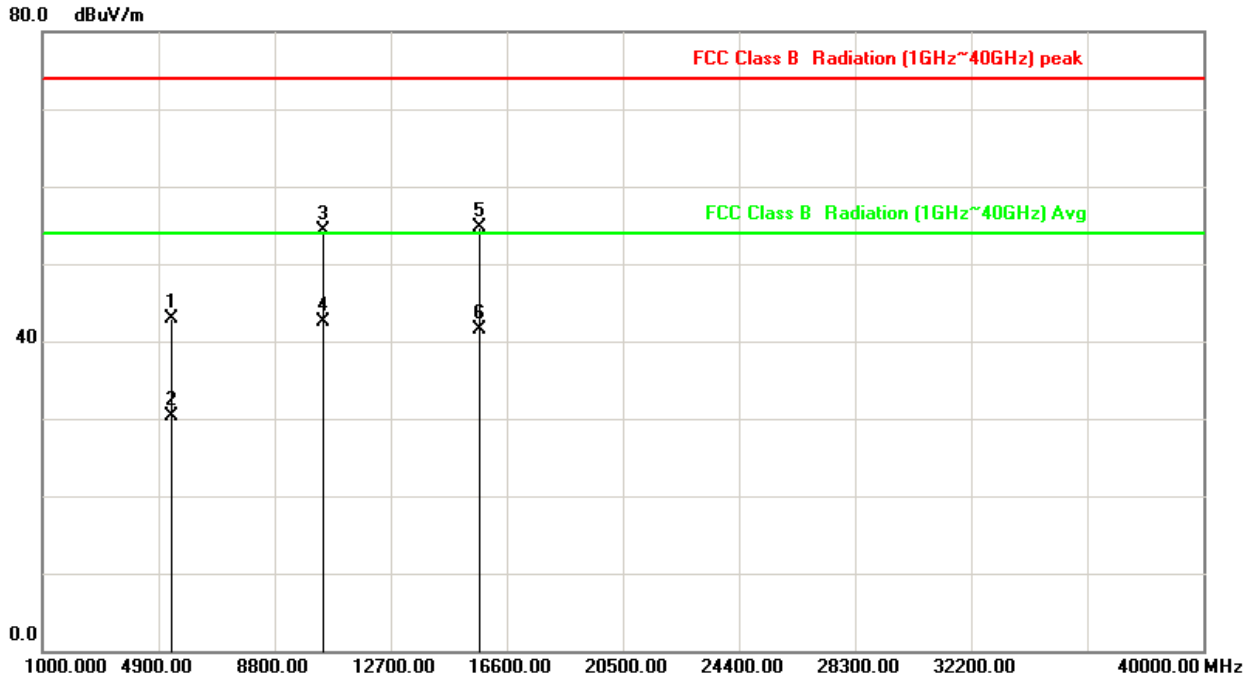


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	26.72	41.61	74.00	-32.39	peak
2	5350.000	14.89	15.22	30.11	54.00	-23.89	AVG
3	10460.000	26.07	30.33	56.40	74.00	-17.60	peak
4	10460.000	26.07	17.14	43.21	54.00	-10.79	AVG
5	15690.000	38.32	17.35	55.67	74.00	-18.33	peak
6	15690.000	38.32	3.61	41.93	54.00	-12.07	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH46(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

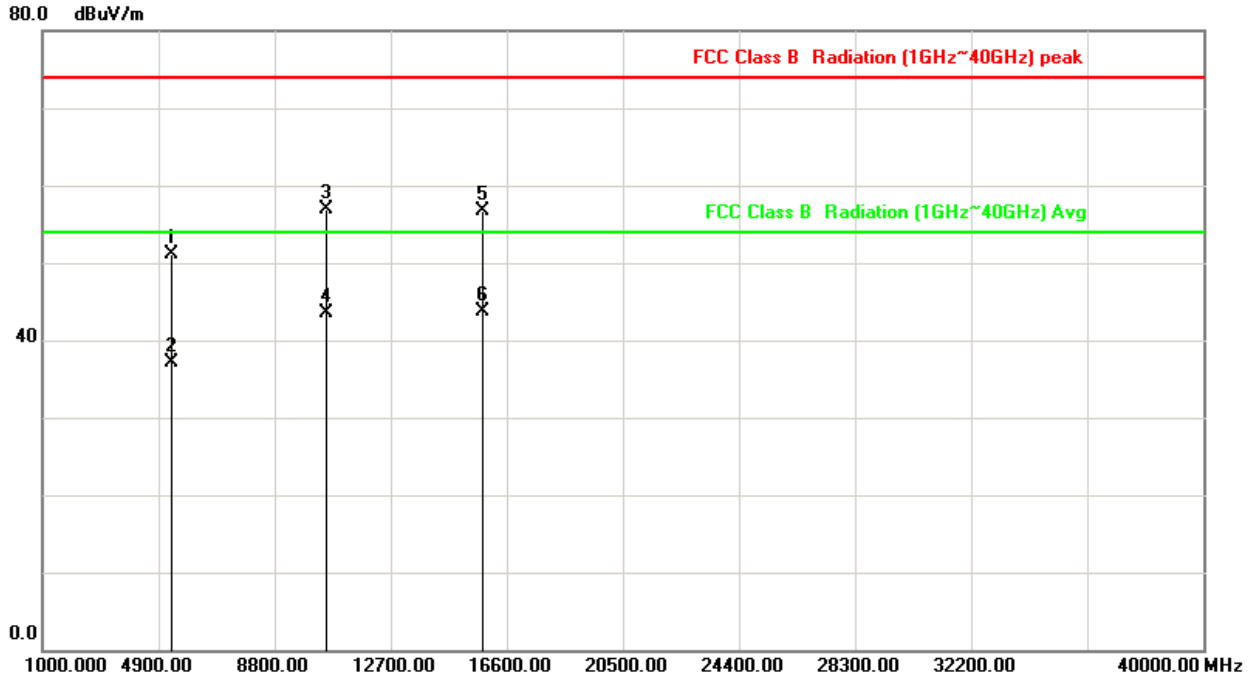


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	27.92	42.81	74.00	-31.19	peak
2	5350.000	14.89	15.34	30.23	54.00	-23.77	AVG
3	10460.000	26.07	28.16	54.23	74.00	-19.77	peak
4	10460.000	26.07	16.52	42.59	54.00	-11.41	AVG
5	15690.000	38.32	16.34	54.66	74.00	-19.34	peak
6	15690.000	38.32	3.18	41.50	54.00	-12.50	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH54(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

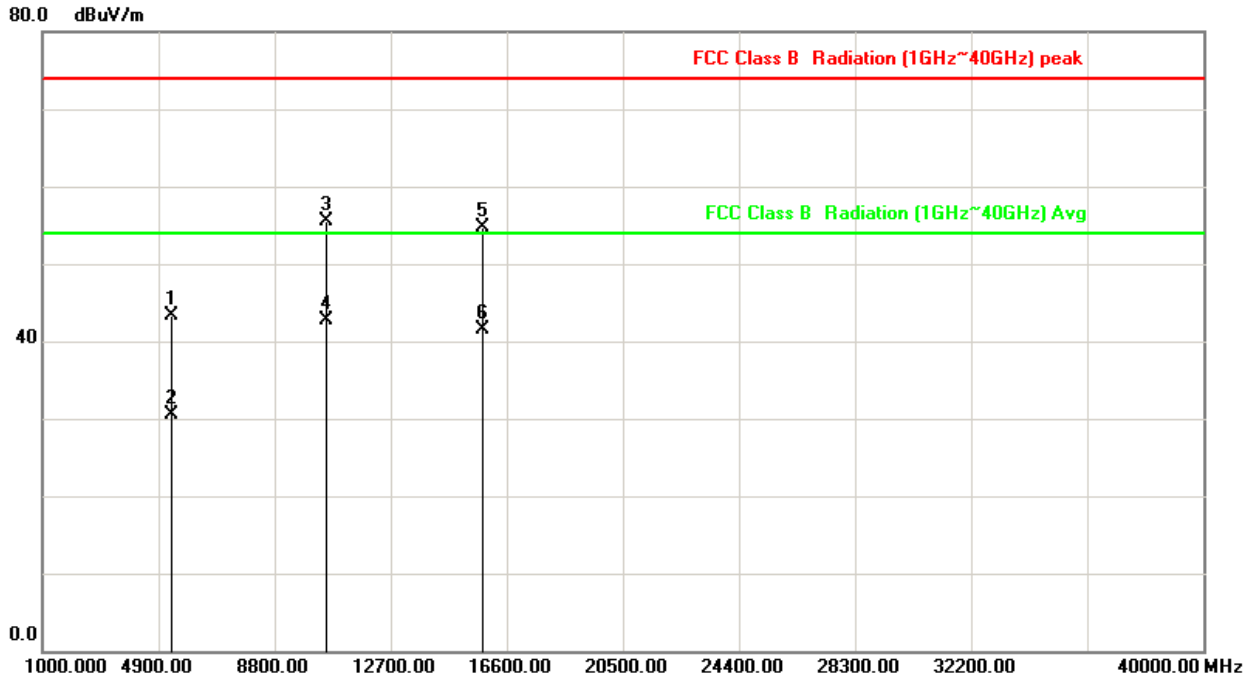


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	36.14	51.03	74.00	-22.97	peak
2	5350.000	14.89	22.25	37.14	54.00	-16.86	AVG
3	10540.000	26.28	30.63	56.91	74.00	-17.09	peak
4	10540.000	26.28	17.13	43.41	54.00	-10.59	AVG
5	15810.000	38.37	18.25	56.62	74.00	-17.38	peak
6	15810.000	38.37	5.33	43.70	54.00	-10.30	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH54(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

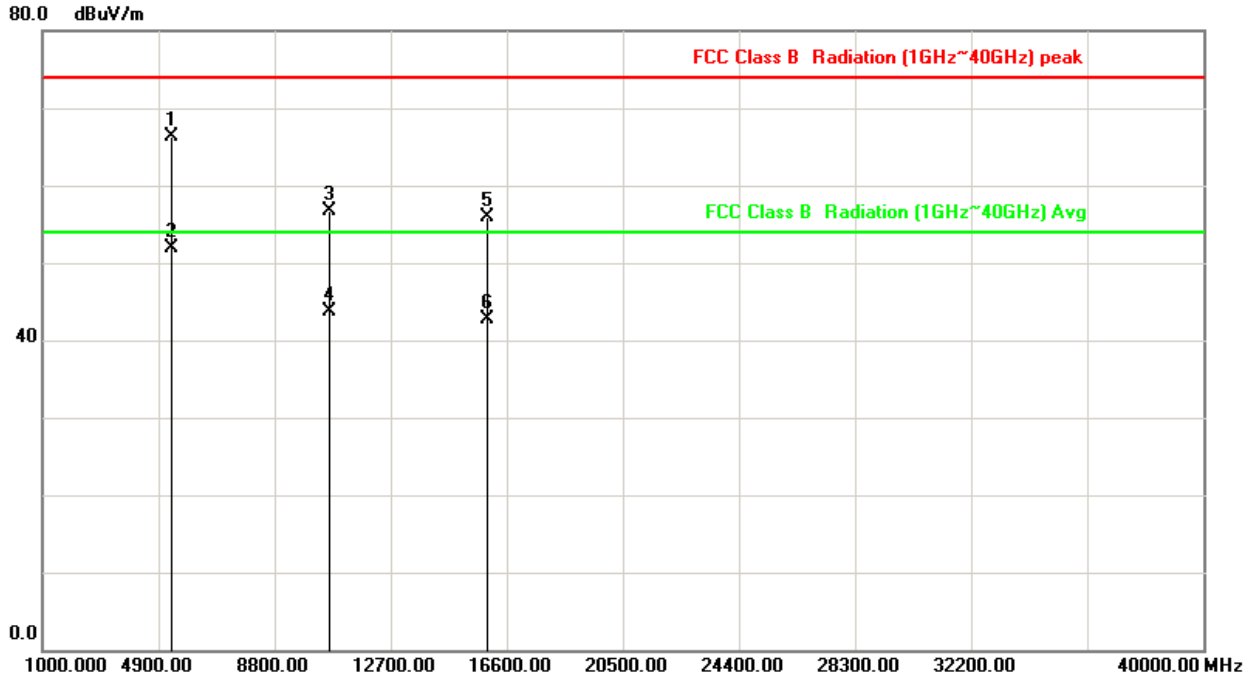


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	28.51	43.40	74.00	-30.60	peak
2	5350.000	14.89	15.62	30.51	54.00	-23.49	AVG
3	10540.000	26.28	29.13	55.41	74.00	-18.59	peak
4	10540.000	26.28	16.47	42.75	54.00	-11.25	AVG
5	15810.000	38.37	16.25	54.62	74.00	-19.38	peak
6	15810.000	38.37	3.19	41.56	54.00	-12.44	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH62(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

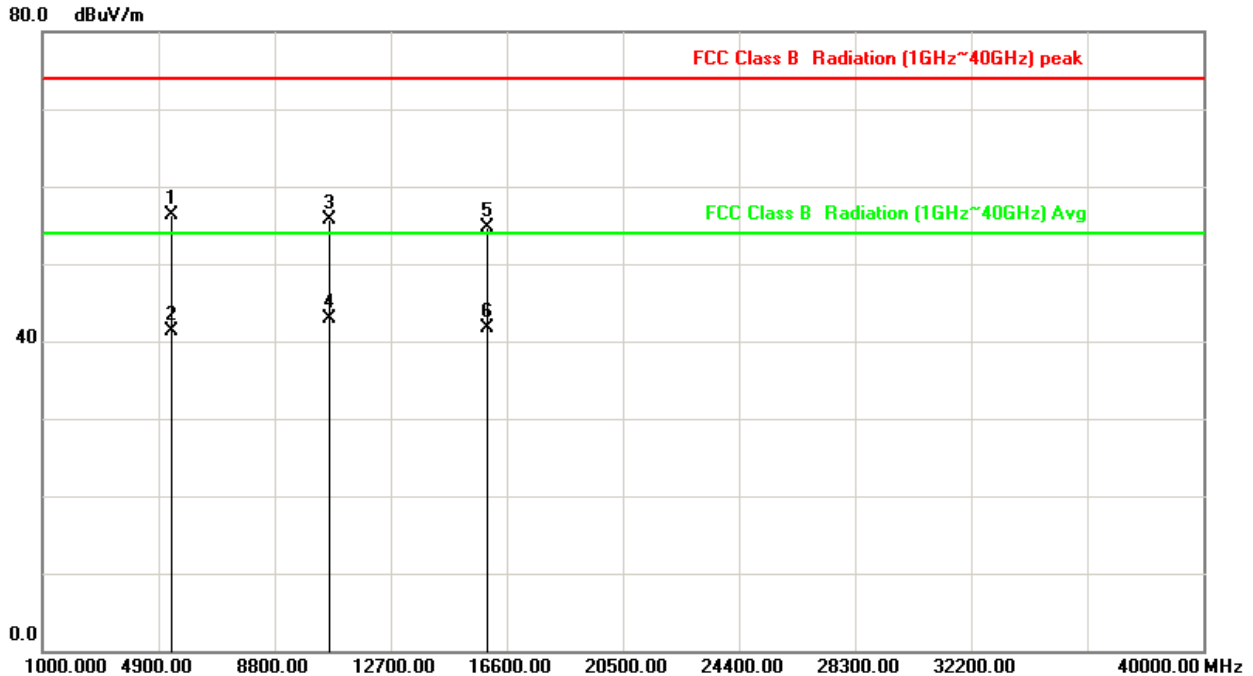


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	51.34	66.23	74.00	-7.77	peak
2	5350.000	14.89	36.92	51.81	54.00	-2.19	AVG
3	10620.000	26.52	30.26	56.78	74.00	-17.22	peak
4	10620.000	26.52	17.23	43.75	54.00	-10.25	AVG
5	15930.000	38.43	17.52	55.95	74.00	-18.05	peak
6	15930.000	38.43	4.33	42.76	54.00	-11.24	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH62(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

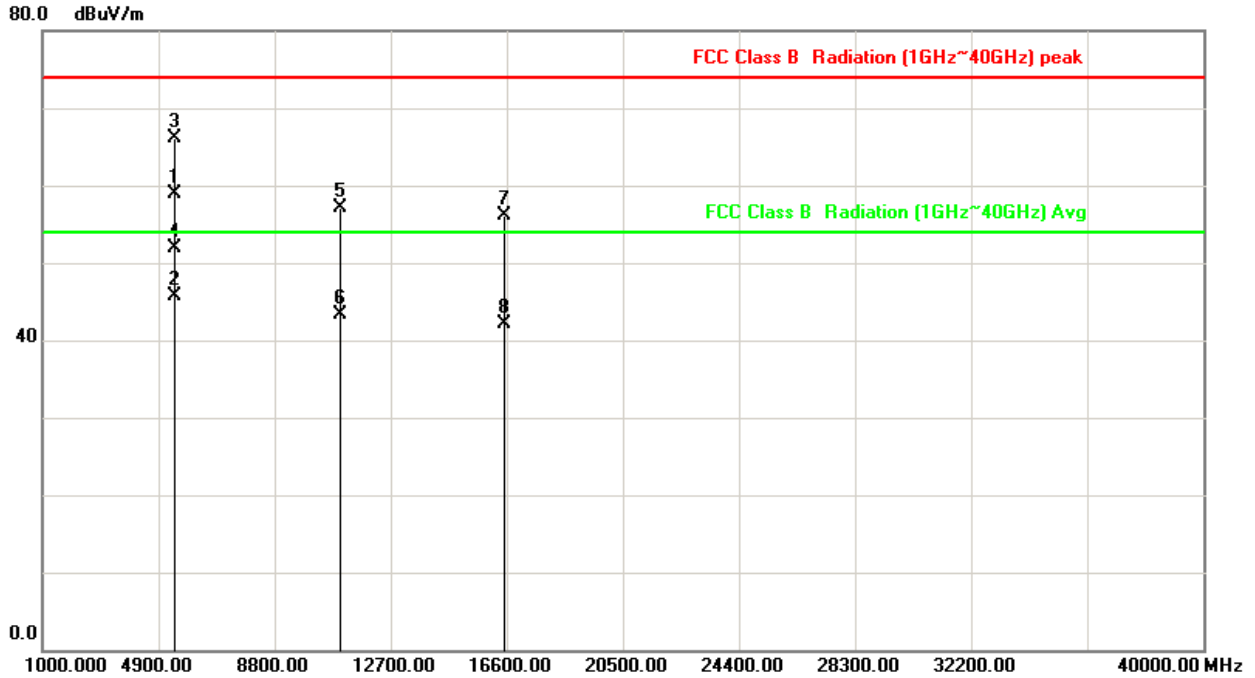


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	41.35	56.24	74.00	-17.76	peak
2	5350.000	14.89	26.42	41.31	54.00	-12.69	AVG
3	10620.000	26.52	29.12	55.64	74.00	-18.36	peak
4	10620.000	26.52	16.34	42.86	54.00	-11.14	AVG
5	15930.000	38.43	16.18	54.61	74.00	-19.39	peak
6	15930.000	38.43	3.29	41.72	54.00	-12.28	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH102(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

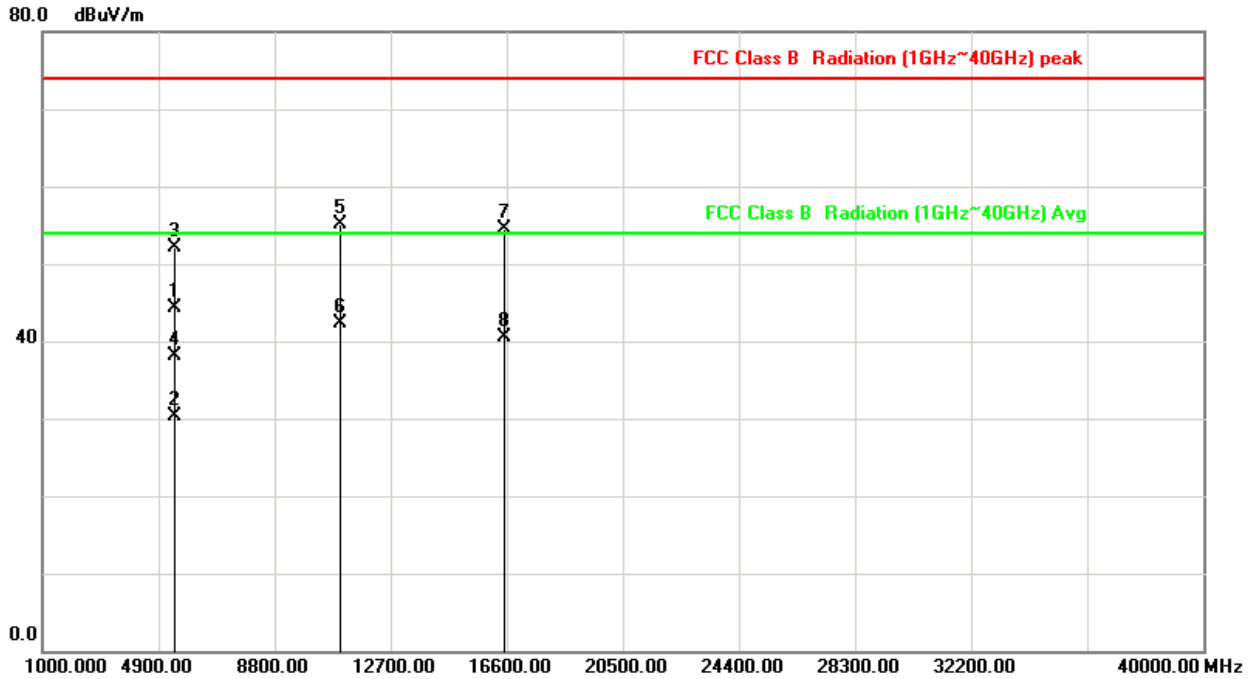


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5460.000	14.99	43.92	58.91	74.00	-15.09	peak
2	5460.000	14.99	30.62	45.61	54.00	-8.39	AVG
3	5470.000	14.99	51.02	66.01	74.00	-7.99	peak
4	5470.000	14.99	36.88	51.87	54.00	-2.13	AVG
5	11020.000	27.72	29.31	57.03	74.00	-16.97	peak
6	11020.000	27.72	15.51	43.23	54.00	-10.77	AVG
7	16530.000	42.91	13.11	56.02	74.00	-17.98	peak
8	16530.000	42.91	-0.88	42.03	54.00	-11.97	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH102(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

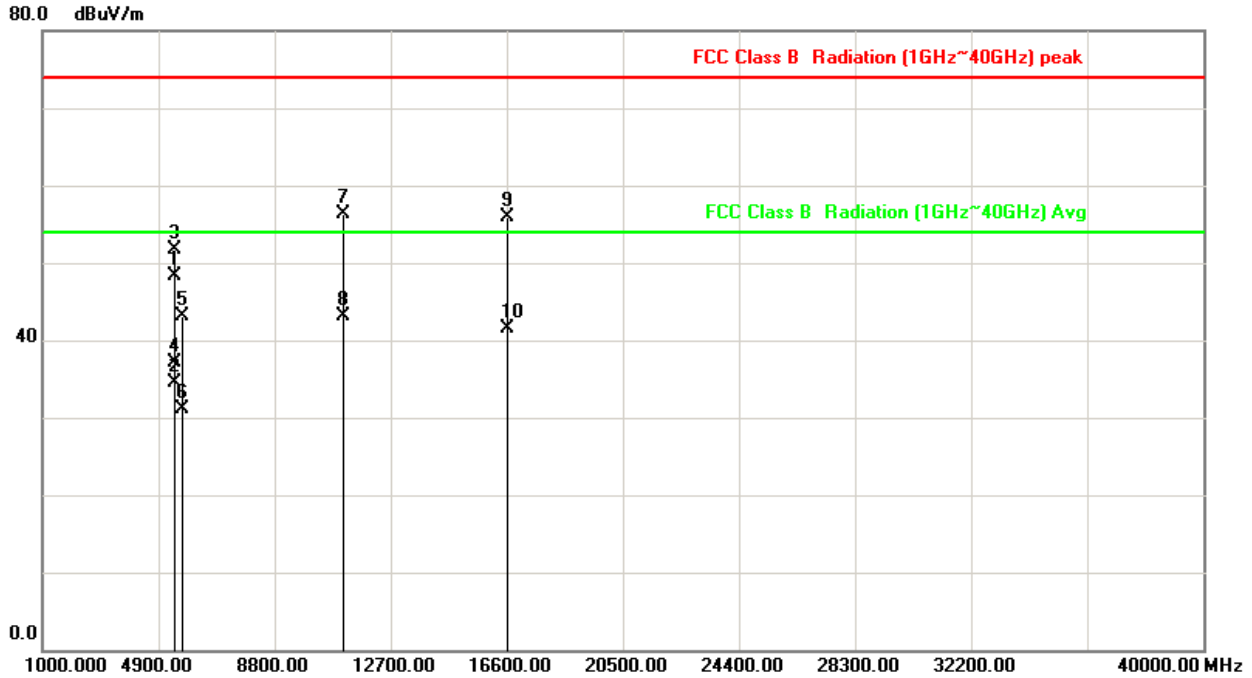


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5460.000	14.99	29.31	44.30	74.00	-29.70	peak
2	5460.000	14.99	15.23	30.22	74.00	-43.78	peak
3	5470.000	14.99	37.12	52.11	74.00	-21.89	peak
4	5470.000	14.99	23.11	38.10	74.00	-35.90	peak
5	11020.000	27.72	27.44	55.16	74.00	-18.84	peak
6	11020.000	27.72	14.62	42.34	54.00	-11.66	AVG
7	16530.000	42.91	11.54	54.45	74.00	-19.55	peak
8	16530.000	42.91	-2.31	40.60	54.00	-13.40	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH110(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

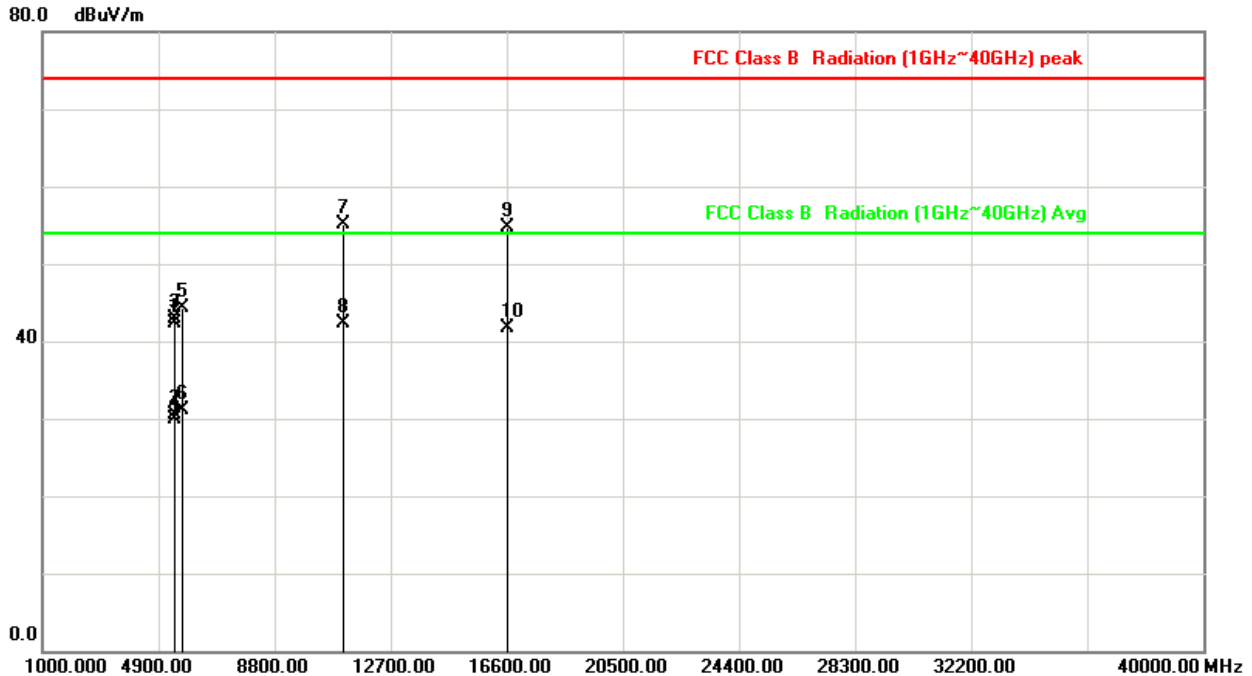


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5460.000	14.99	33.26	48.25	74.00	-25.75	peak
2	5460.000	14.99	19.43	34.42	54.00	-19.58	AVG
3	5470.000	14.99	36.80	51.79	74.00	-22.21	peak
4	5470.000	14.99	22.20	37.19	54.00	-16.81	AVG
5	5725.000	15.58	27.46	43.04	74.00	-30.96	peak
6	5725.000	15.58	15.62	31.20	54.00	-22.80	AVG
7	11100.000	27.91	28.38	56.29	74.00	-17.71	peak
8	11100.000	27.91	15.26	43.17	54.00	-10.83	AVG
9	16650.000	42.76	13.12	55.88	74.00	-18.12	peak
10	16650.000	42.76	-1.30	41.46	54.00	-12.54	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH110(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

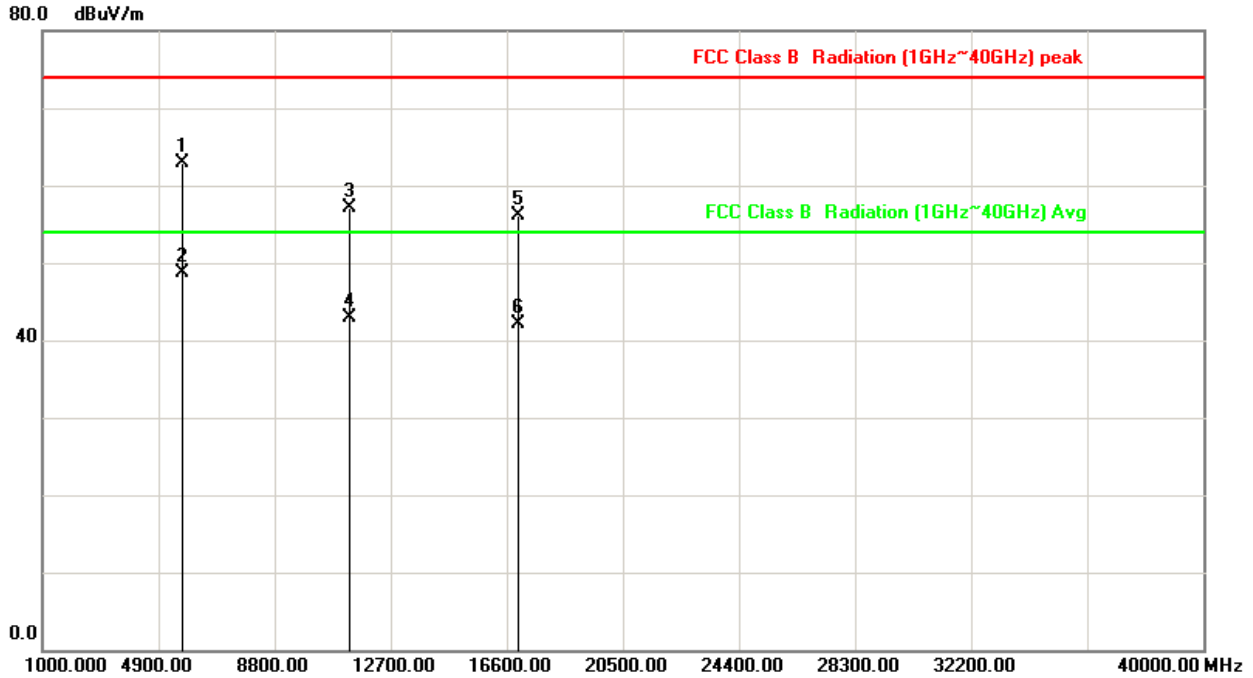


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5460.000	14.99	27.35	42.34	74.00	-31.66	peak
2	5460.000	14.99	15.46	30.45	54.00	-23.55	AVG
3	5470.000	14.99	27.91	42.90	74.00	-31.10	peak
4	5470.000	14.99	14.92	29.91	54.00	-24.09	AVG
5	5725.000	15.58	28.64	44.22	74.00	-29.78	peak
6	5725.000	15.58	15.62	31.20	54.00	-22.80	AVG
7	11100.000	27.91	27.13	55.04	74.00	-18.96	peak
8	11100.000	27.91	14.35	42.26	54.00	-11.74	AVG
9	16650.000	42.76	11.91	54.67	74.00	-19.33	peak
10	16650.000	42.76	-1.03	41.73	54.00	-12.27	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH134(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

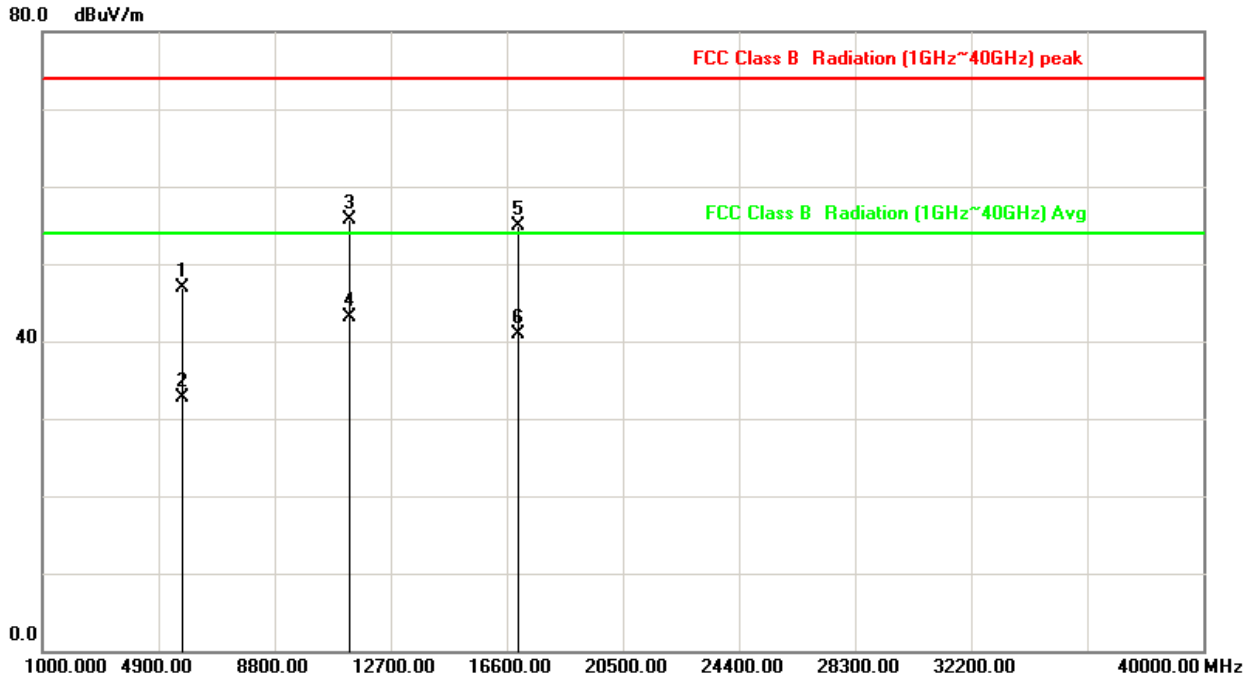


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5725.000	15.58	47.31	62.89	74.00	-11.11	peak
2	5725.000	15.58	33.21	48.79	54.00	-5.21	AVG
3	11340.000	28.48	28.54	57.02	74.00	-16.98	peak
4	11340.000	28.48	14.39	42.87	54.00	-11.13	AVG
5	17010.000	42.37	13.72	56.09	74.00	-17.91	peak
6	17010.000	42.37	-0.35	42.02	54.00	-11.98	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH134(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

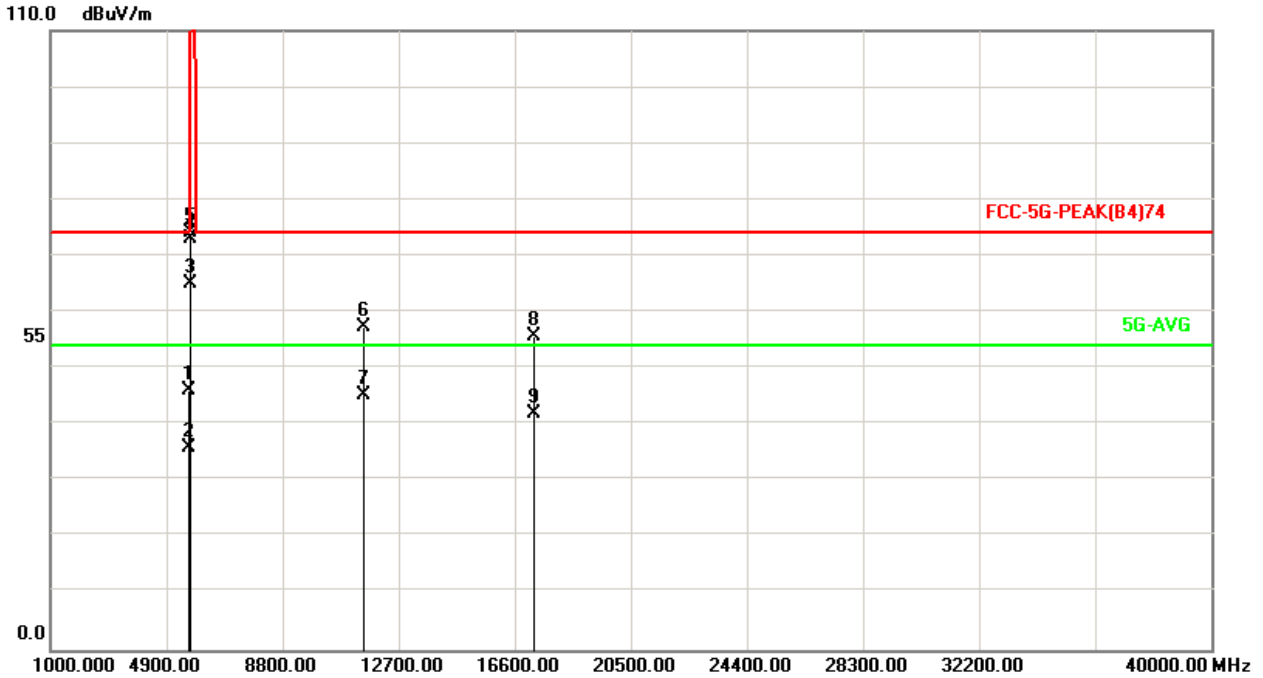


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5725.000	15.58	31.26	46.84	74.00	-27.16	peak
2	5725.000	15.58	17.10	32.68	54.00	-21.32	AVG
3	11340.000	28.48	27.22	55.70	74.00	-18.30	peak
4	11340.000	28.48	14.63	43.11	54.00	-10.89	AVG
5	17010.000	42.37	12.59	54.96	74.00	-19.04	peak
6	17010.000	42.37	-1.38	40.99	54.00	-13.01	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH151(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

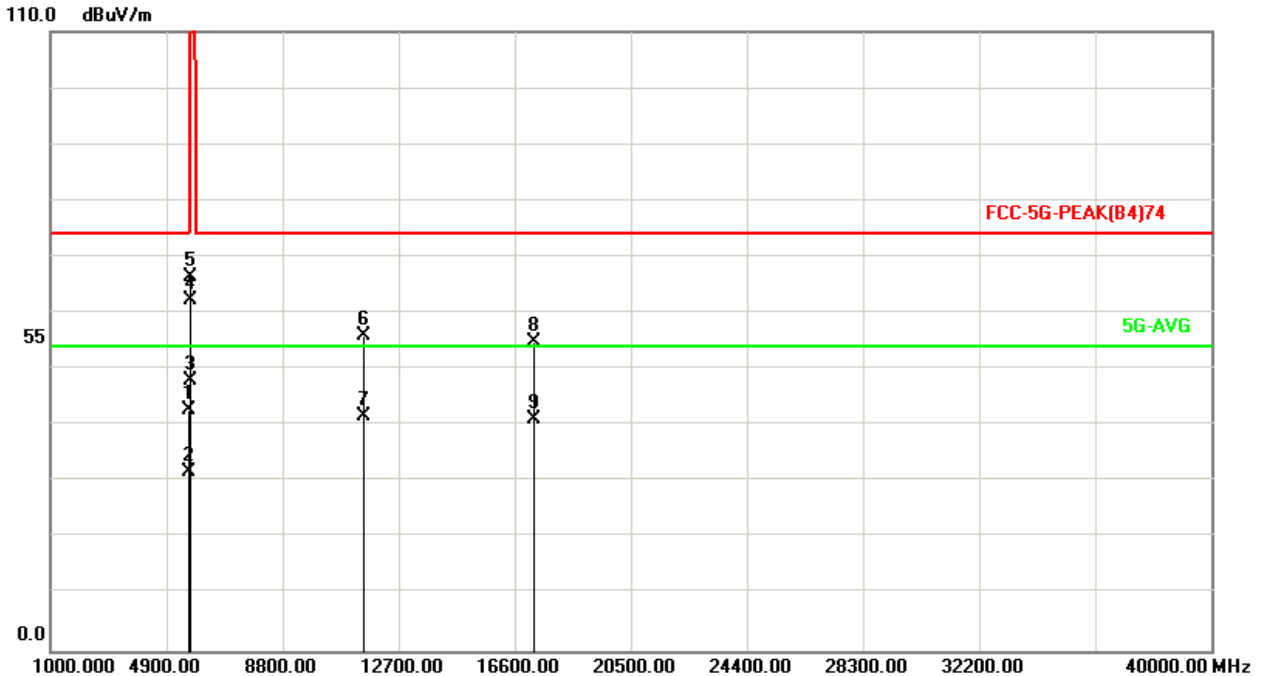


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5650.000	15.39	30.62	46.01	74.00	-27.99	peak
2	5650.000	15.39	20.43	35.82	54.00	-18.18	AVG
3	5700.000	15.52	49.51	65.03	105.20	-40.17	peak
4	5720.000	15.57	57.35	72.92	110.80	-37.88	peak
5	5725.000	15.58	58.62	74.20	122.20	-48.00	peak
6	11510.000	28.88	28.35	57.23	74.00	-16.77	peak
7	11510.000	28.88	16.26	45.14	54.00	-8.86	AVG
8	17265.000	43.38	12.44	55.82	74.00	-18.18	peak
9	17265.000	43.38	-1.34	42.04	54.00	-11.96	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH151(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

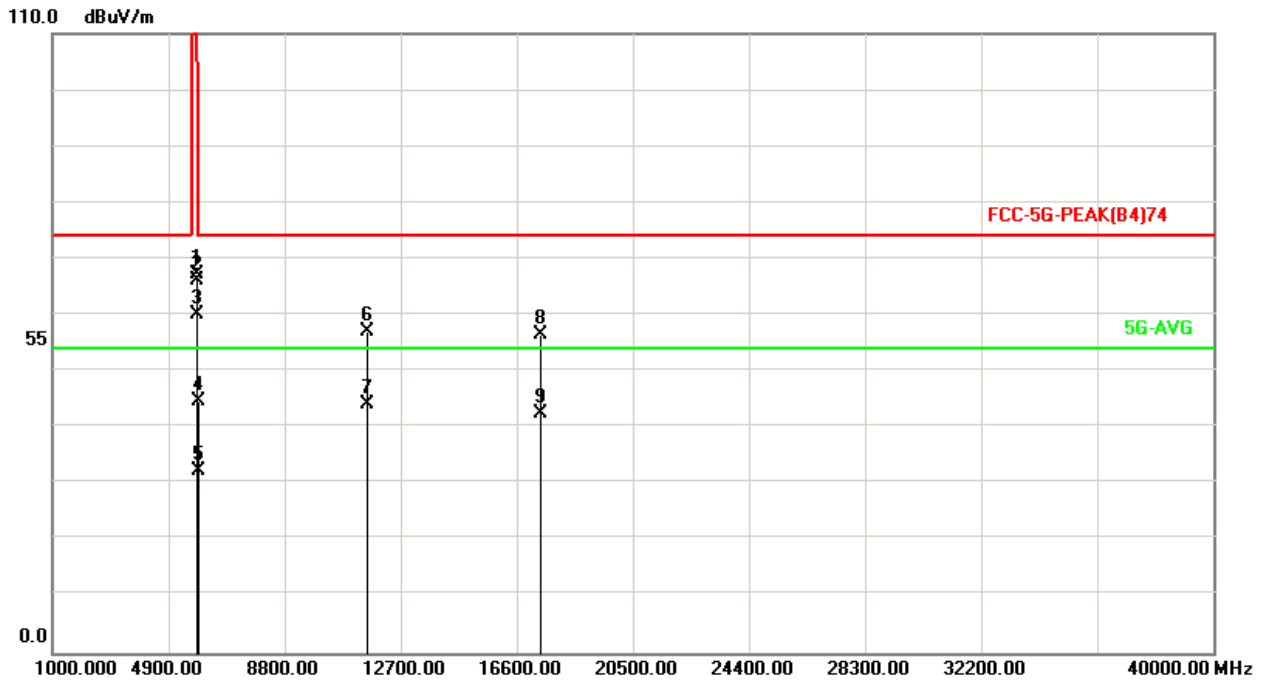


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5650.000	15.39	27.46	42.85	74.00	-31.15	peak
2	5650.000	15.39	16.30	31.69	54.00	-22.31	AVG
3	5700.000	15.52	32.44	47.96	105.20	-57.24	peak
4	5720.000	15.57	46.62	62.19	110.80	-48.61	peak
5	5725.000	15.58	50.92	66.50	122.20	-55.70	peak
6	11510.000	28.88	27.16	56.04	74.00	-17.96	peak
7	11510.000	28.88	12.68	41.56	54.00	-12.44	AVG
8	17265.000	43.38	11.51	54.89	74.00	-19.11	peak
9	17265.000	43.38	-2.14	41.24	54.00	-12.76	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH159(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

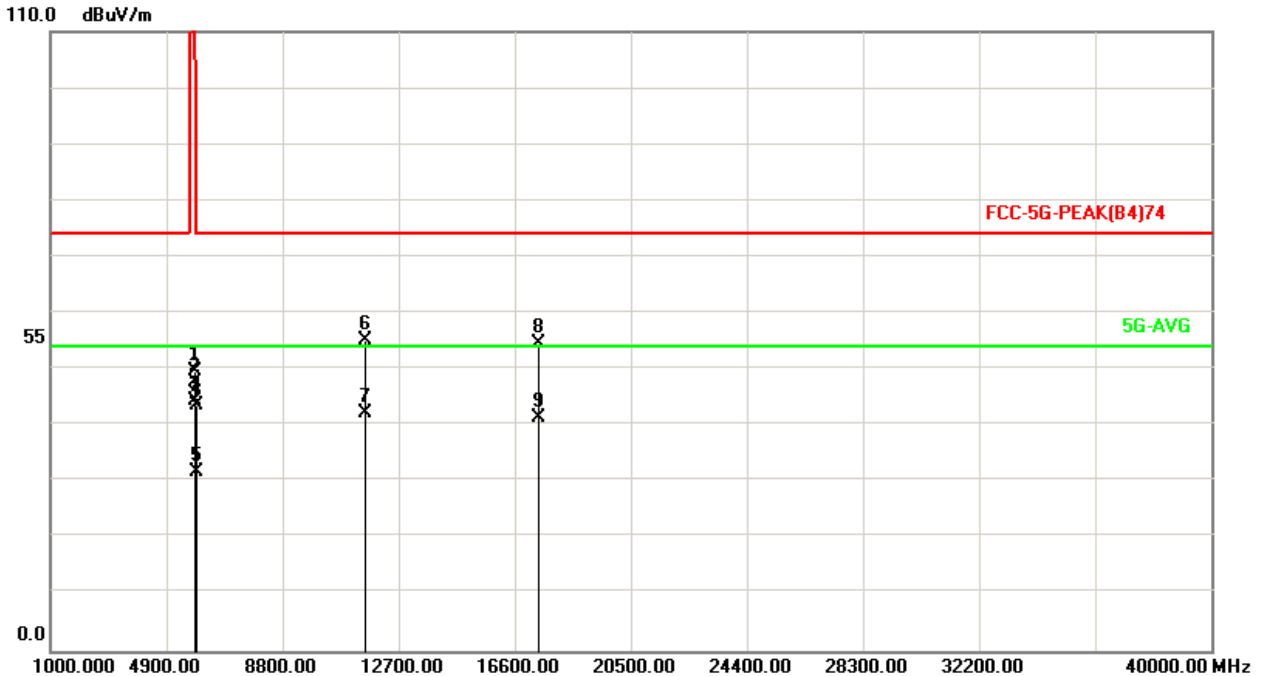


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5850.000	15.89	51.31	67.20	122.20	-55.00	peak
2	5855.000	15.90	50.23	66.13	110.80	-44.67	peak
3	5875.000	15.95	44.13	60.08	105.20	-45.12	peak
4	5925.000	16.07	28.61	44.68	74.00	-29.32	peak
5	5925.000	16.07	16.33	32.40	54.00	-21.60	AVG
6	11590.000	29.04	28.14	57.18	74.00	-16.82	peak
7	11590.000	29.04	15.23	44.27	54.00	-9.73	AVG
8	17385.000	43.85	12.54	56.39	74.00	-17.61	peak
9	17385.000	43.85	-1.39	42.46	54.00	-11.54	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH159(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

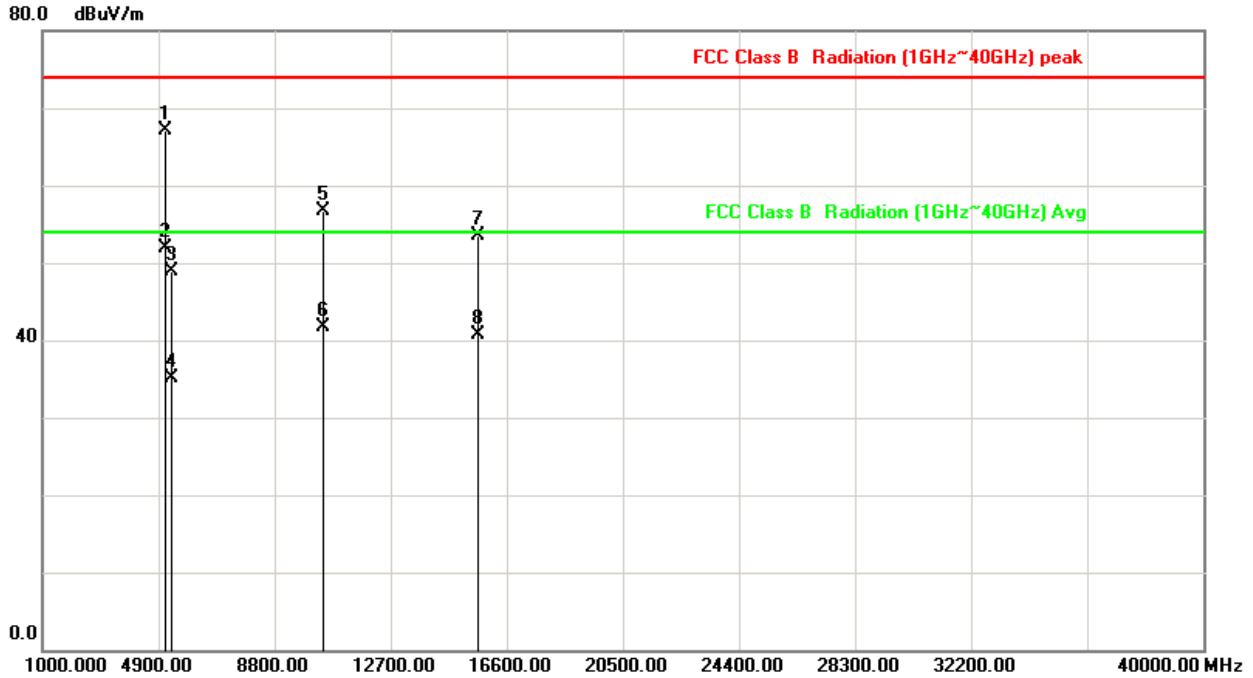


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5850.000	15.89	33.62	49.51	122.20	-72.69	peak
2	5855.000	15.90	31.81	47.71	110.80	-63.09	peak
3	5875.000	15.95	28.56	44.51	105.20	-60.69	peak
4	5925.000	16.07	27.61	43.68	74.00	-30.32	peak
5	5925.000	16.07	15.66	31.73	54.00	-22.27	AVG
6	11590.000	29.04	26.16	55.20	74.00	-18.80	peak
7	11590.000	29.04	13.10	42.14	54.00	-11.86	AVG
8	17385.000	43.85	10.66	54.51	74.00	-19.49	peak
9	17385.000	43.85	-2.48	41.37	54.00	-12.63	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 4, CH42(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

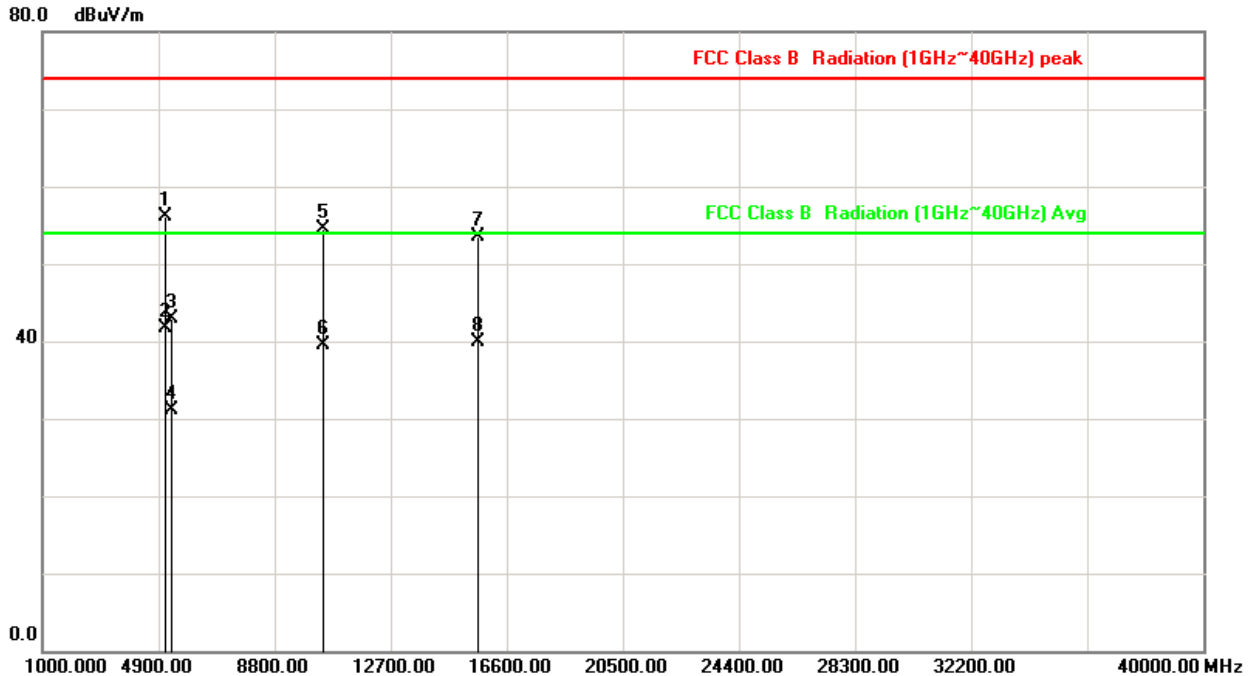


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5150.000	14.73	52.31	67.04	74.00	-6.96	peak
2	5150.000	14.73	37.10	51.83	54.00	-2.17	AVG
3	5350.000	14.89	33.95	48.84	74.00	-25.16	peak
4	5350.000	14.89	20.16	35.05	54.00	-18.95	AVG
5	10420.000	25.98	30.68	56.66	74.00	-17.34	peak
6	10420.000	25.98	15.67	41.65	54.00	-12.35	AVG
7	15630.000	38.29	15.26	53.55	74.00	-20.45	peak
8	15630.000	38.29	2.37	40.66	54.00	-13.34	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 4, CH42(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

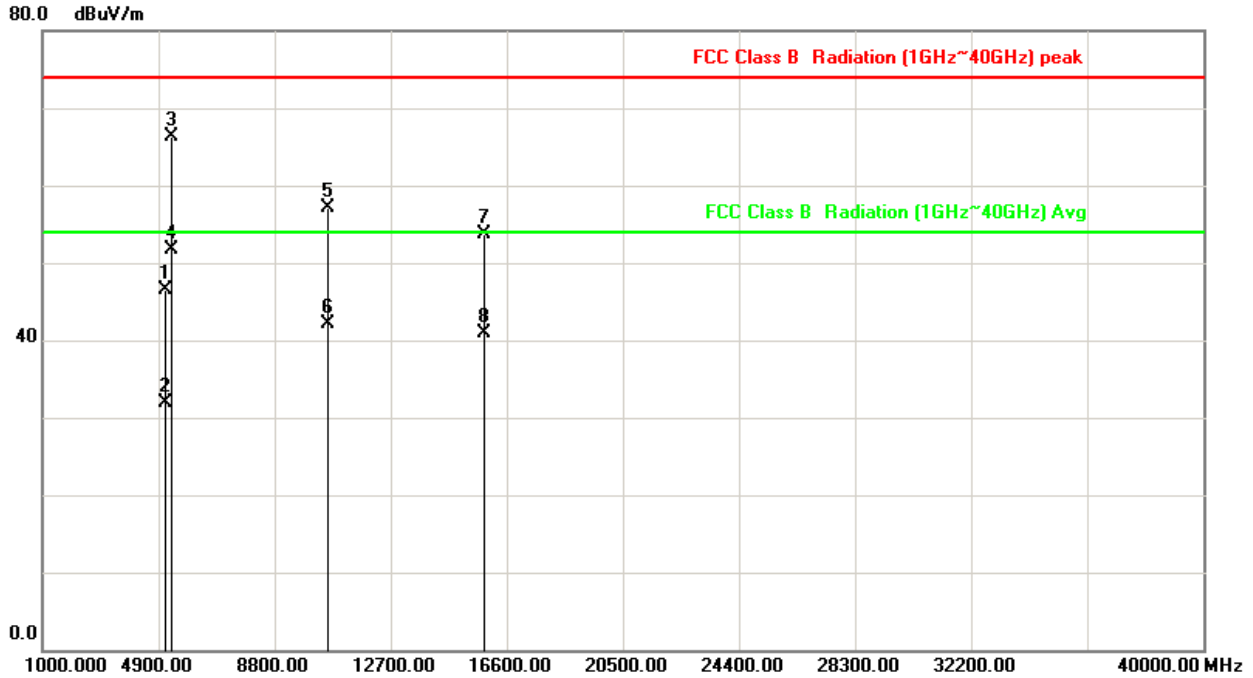


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5150.000	14.73	41.35	56.08	74.00	-17.92	peak
2	5150.000	14.73	26.92	41.65	54.00	-12.35	AVG
3	5350.000	14.89	28.10	42.99	74.00	-31.01	peak
4	5350.000	14.89	16.20	31.09	54.00	-22.91	AVG
5	10420.000	25.98	28.62	54.60	74.00	-19.40	peak
6	10420.000	25.98	13.62	39.60	54.00	-14.40	AVG
7	15630.000	38.29	15.26	53.55	74.00	-20.45	peak
8	15630.000	38.29	1.54	39.83	54.00	-14.17	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 4, CH58(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

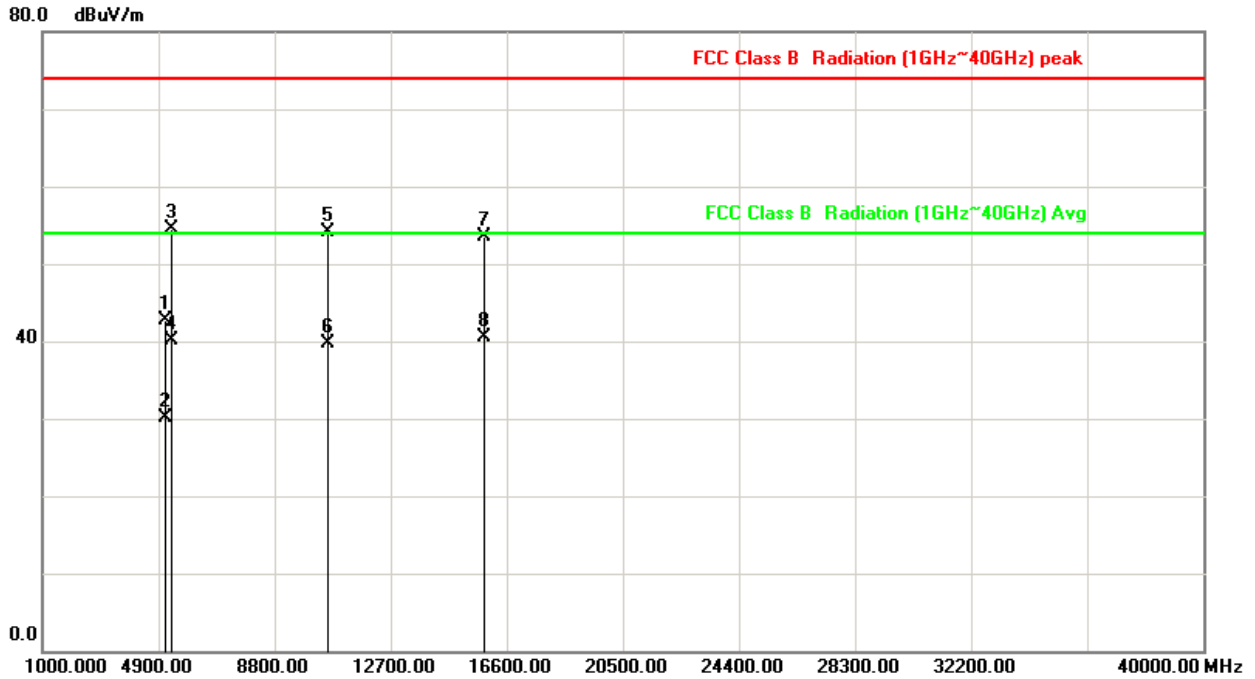


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5150.000	14.73	31.86	46.59	74.00	-27.41	peak
2	5150.000	14.73	17.22	31.95	54.00	-22.05	AVG
3	5350.000	14.89	51.35	66.24	74.00	-7.76	peak
4	5350.000	14.89	36.77	51.66	54.00	-2.34	AVG
5	10580.000	26.40	30.62	57.02	74.00	-16.98	peak
6	10580.000	26.40	15.72	42.12	54.00	-11.88	AVG
7	15870.000	38.40	15.33	53.73	74.00	-20.27	peak
8	15870.000	38.40	2.47	40.87	54.00	-13.13	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 4, CH58(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

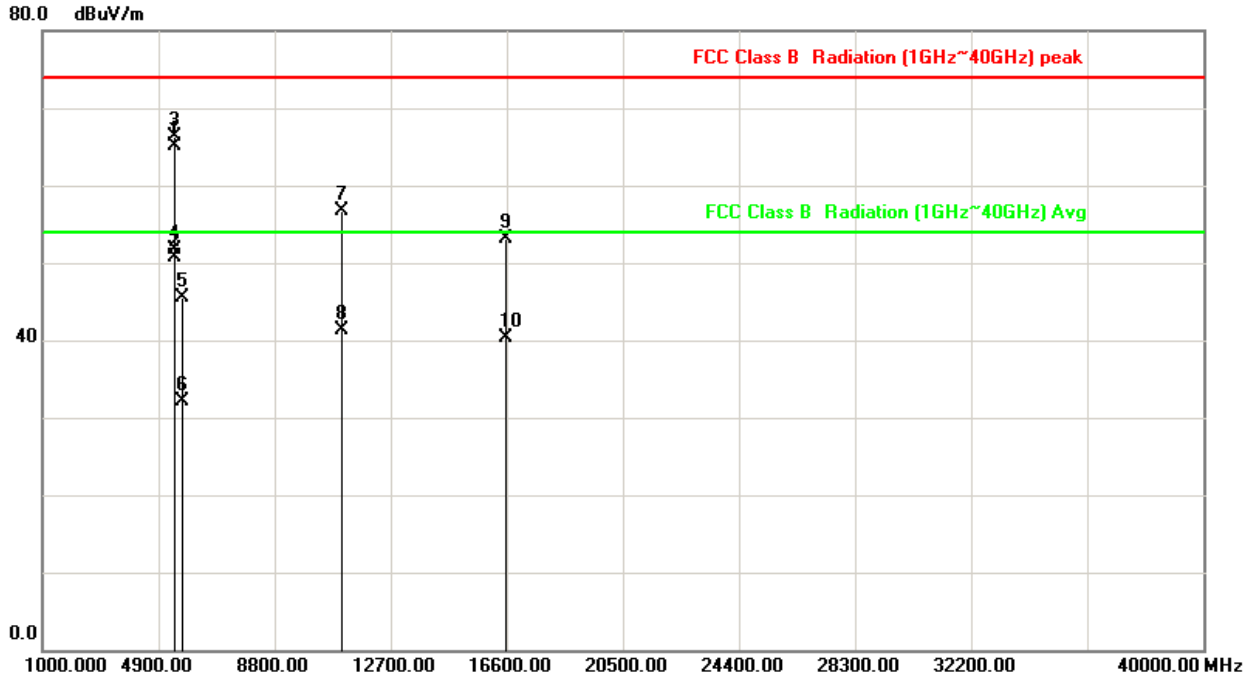


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5150.000	14.73	27.92	42.65	74.00	-31.35	peak
2	5150.000	14.73	15.33	30.06	54.00	-23.94	AVG
3	5350.000	14.89	39.61	54.50	74.00	-19.50	peak
4	5350.000	14.89	25.16	40.05	54.00	-13.95	AVG
5	10580.000	26.40	27.64	54.04	74.00	-19.96	peak
6	10580.000	26.40	13.25	39.65	54.00	-14.35	AVG
7	15870.000	38.40	15.14	53.54	74.00	-20.46	peak
8	15870.000	38.40	2.10	40.50	54.00	-13.50	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 4, CH106(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

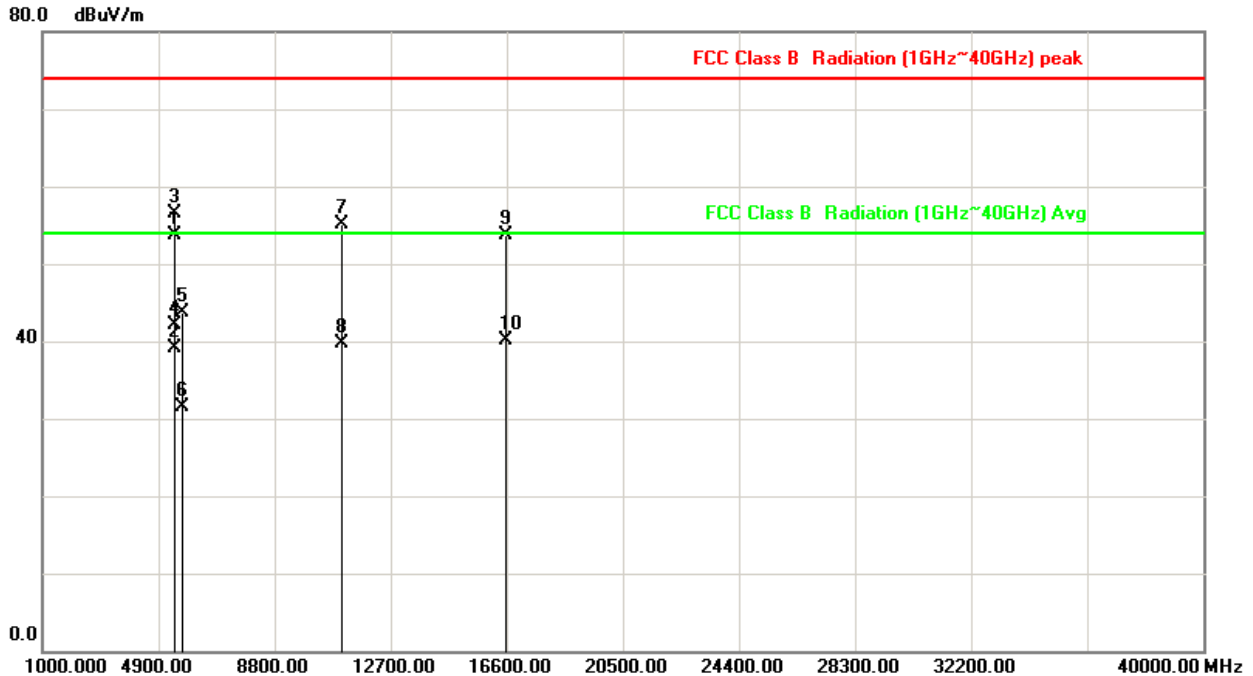


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5460.000	14.99	50.13	65.12	74.00	-8.88	peak
2	5460.000	14.99	35.62	50.61	54.00	-3.39	AVG
3	5470.000	14.99	51.23	66.22	74.00	-7.78	peak
4	5470.000	14.99	36.74	51.73	54.00	-2.27	AVG
5	5725.000	15.58	30.02	45.60	74.00	-28.40	peak
6	5725.000	15.58	16.61	32.19	54.00	-21.81	AVG
7	11060.000	27.81	28.94	56.75	74.00	-17.25	peak
8	11060.000	27.81	13.52	41.33	54.00	-12.67	AVG
9	16590.000	42.84	10.24	53.08	74.00	-20.92	peak
10	16590.000	42.84	-2.51	40.33	54.00	-13.67	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 4, CH106(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

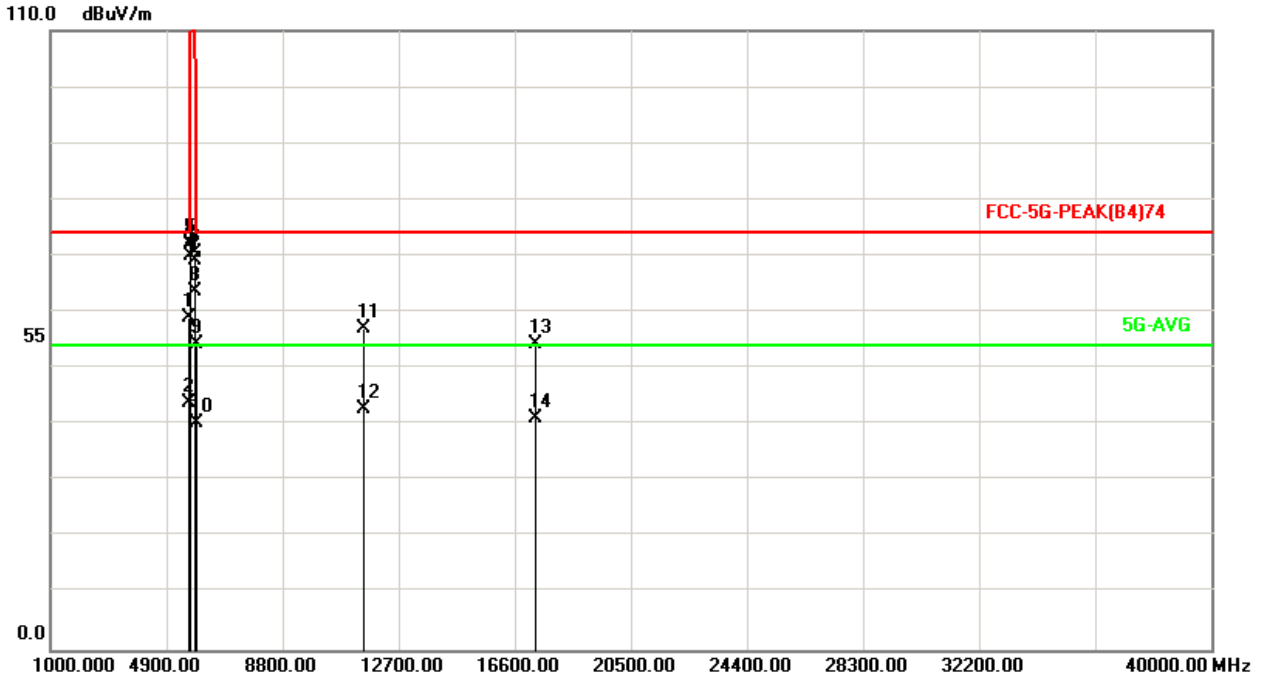


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5460.000	14.99	38.62	53.61	74.00	-20.39	peak
2	5460.000	14.99	24.10	39.09	54.00	-14.91	AVG
3	5470.000	14.99	41.43	56.42	74.00	-17.58	peak
4	5470.000	14.99	27.15	42.14	54.00	-11.86	AVG
5	5725.000	15.58	28.14	43.72	74.00	-30.28	peak
6	5725.000	15.58	15.92	31.50	54.00	-22.50	AVG
7	11060.000	27.81	27.33	55.14	74.00	-18.86	peak
8	11060.000	27.81	11.84	39.65	54.00	-14.35	AVG
9	16590.000	42.84	10.85	53.69	74.00	-20.31	peak
10	16590.000	42.84	-2.74	40.10	54.00	-13.90	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 4, CH155(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

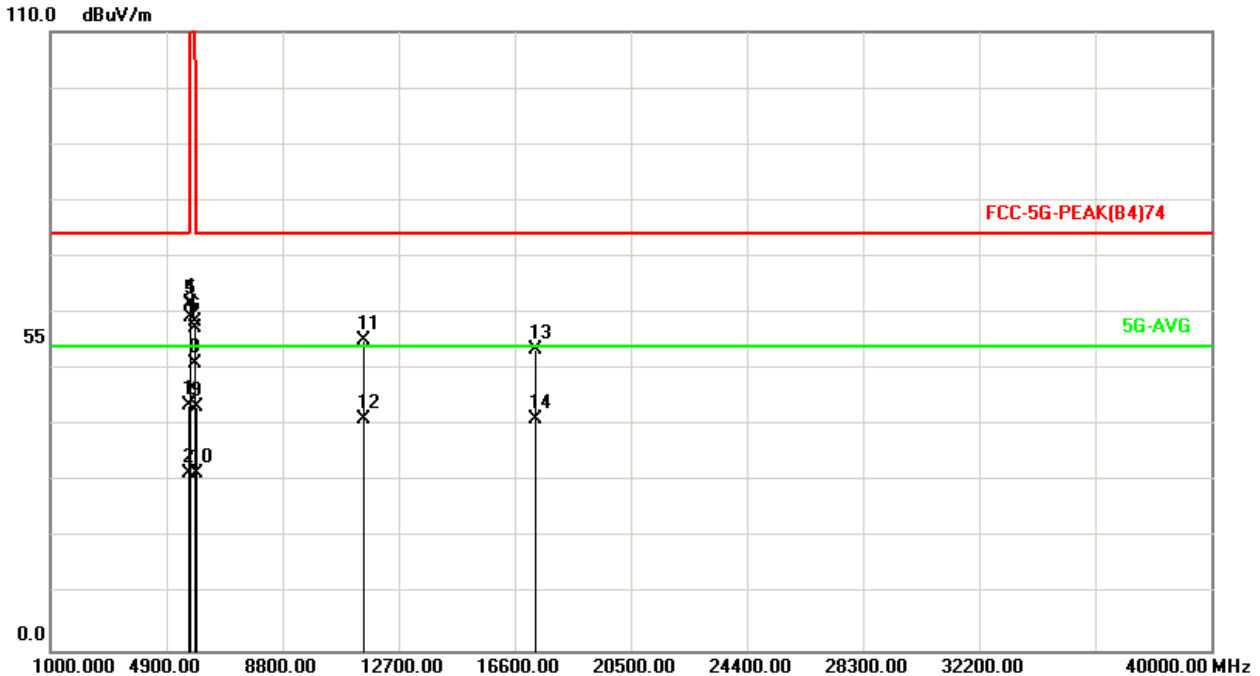


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5650.000	15.39	43.68	59.07	74.00	-14.93	peak
2	5650.000	15.39	28.51	43.90	54.00	-10.10	AVG
3	5700.000	15.52	54.36	69.88	105.20	-35.32	peak
4	5720.000	15.57	56.24	71.81	110.80	-38.99	peak
5	5725.000	15.58	56.72	72.30	122.20	-49.90	peak
6	5850.000	15.89	54.62	70.51	122.20	-51.69	peak
7	5855.000	15.90	53.26	69.16	110.80	-41.64	peak
8	5875.000	15.95	47.62	63.57	105.20	-41.63	peak
9	5925.000	16.07	38.12	54.19	74.00	-19.81	peak
10	5925.000	16.07	24.20	40.27	54.00	-13.73	AVG
11	11550.000	28.96	27.99	56.95	74.00	-17.05	peak
12	11550.000	28.96	13.92	42.88	54.00	-11.12	AVG
13	17325.000	43.62	10.68	54.30	74.00	-19.70	peak
14	17325.000	43.62	-2.61	41.01	54.00	-12.99	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 4, CH155(1TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

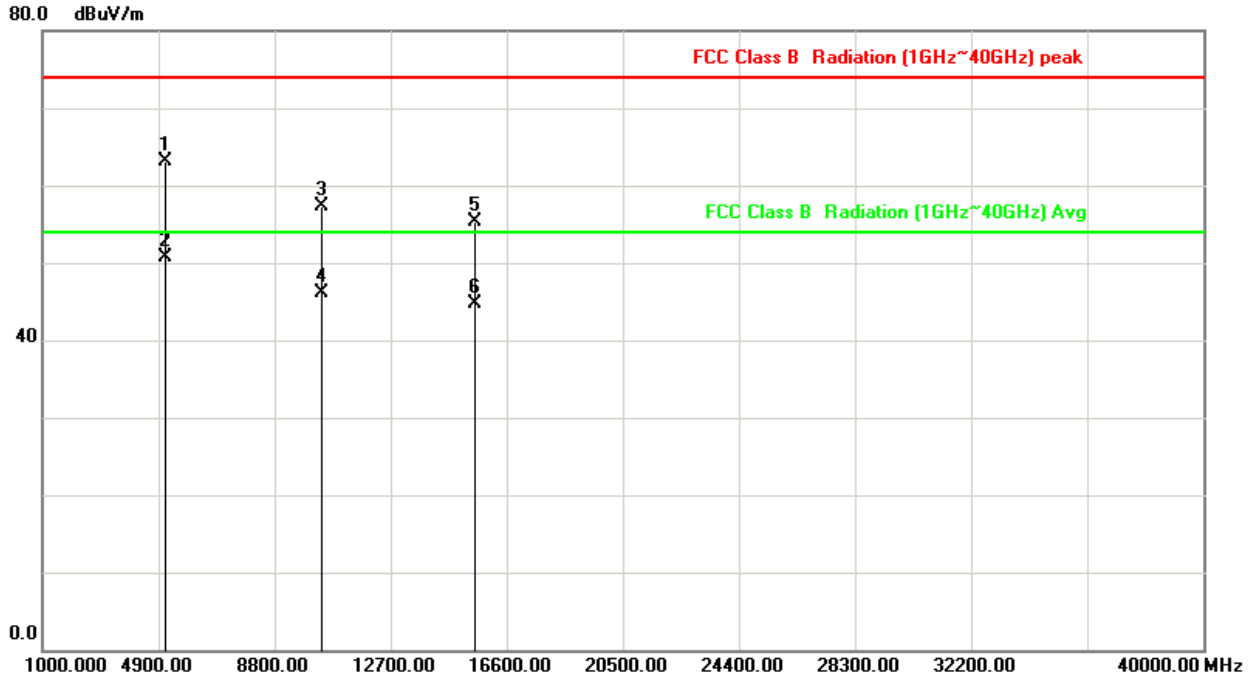


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5650.000	15.39	28.32	43.71	74.00	-30.29	peak
2	5650.000	15.39	16.14	31.53	54.00	-22.47	AVG
3	5700.000	15.52	43.61	59.13	105.20	-46.07	peak
4	5720.000	15.57	46.13	61.70	110.80	-49.10	peak
5	5725.000	15.58	45.87	61.45	122.20	-60.75	peak
6	5850.000	15.89	42.68	58.57	122.20	-63.63	peak
7	5855.000	15.90	41.36	57.26	110.80	-53.54	peak
8	5875.000	15.95	35.12	51.07	105.20	-54.13	peak
9	5925.000	16.07	27.16	43.23	74.00	-30.77	peak
10	5925.000	16.07	15.36	31.43	54.00	-22.57	AVG
11	11550.000	28.96	26.22	55.18	74.00	-18.82	peak
12	11550.000	28.96	12.14	41.10	54.00	-12.90	AVG
13	17325.000	43.62	9.82	53.44	74.00	-20.56	peak
14	17325.000	43.62	-2.64	40.98	54.00	-13.02	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH36(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

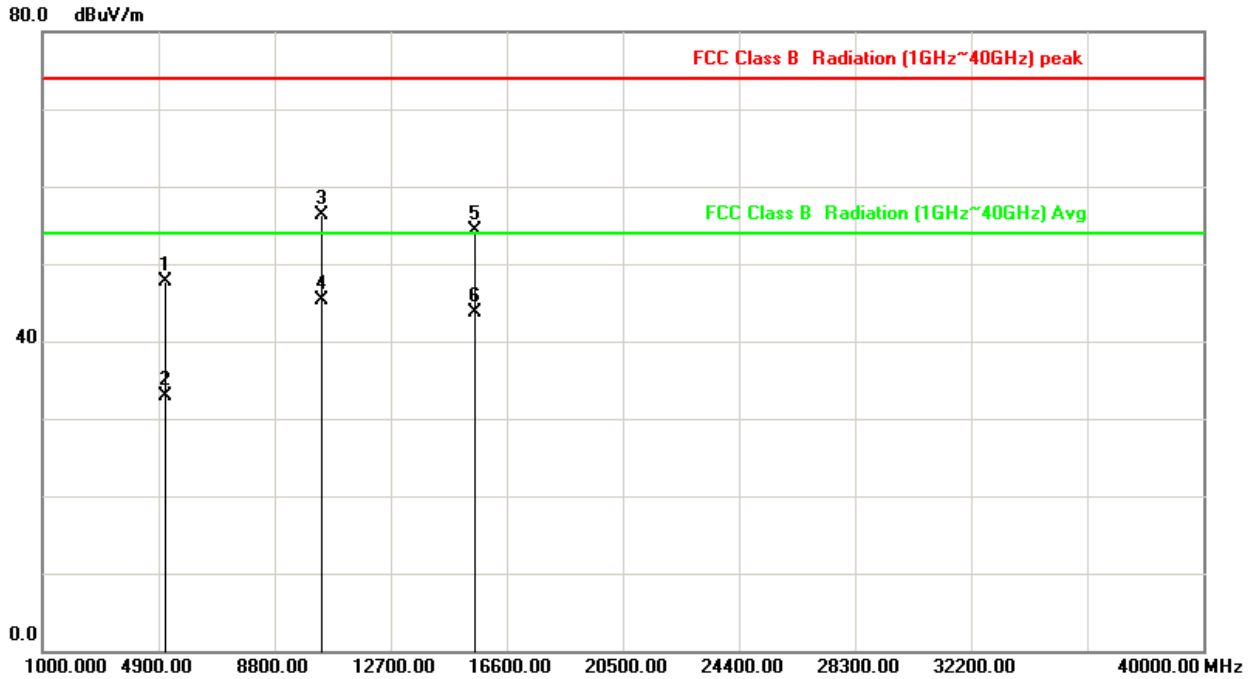


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5150.000	14.73	48.28	63.01	74.00	-10.99	peak
2	5150.000	14.73	35.91	50.64	54.00	-3.36	AVG
3	10360.000	25.85	31.53	57.38	74.00	-16.62	peak
4	10360.000	25.85	20.34	46.19	54.00	-7.81	AVG
5	15540.000	38.25	17.12	55.37	74.00	-18.63	peak
6	15540.000	38.25	6.53	44.78	54.00	-9.22	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH36(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

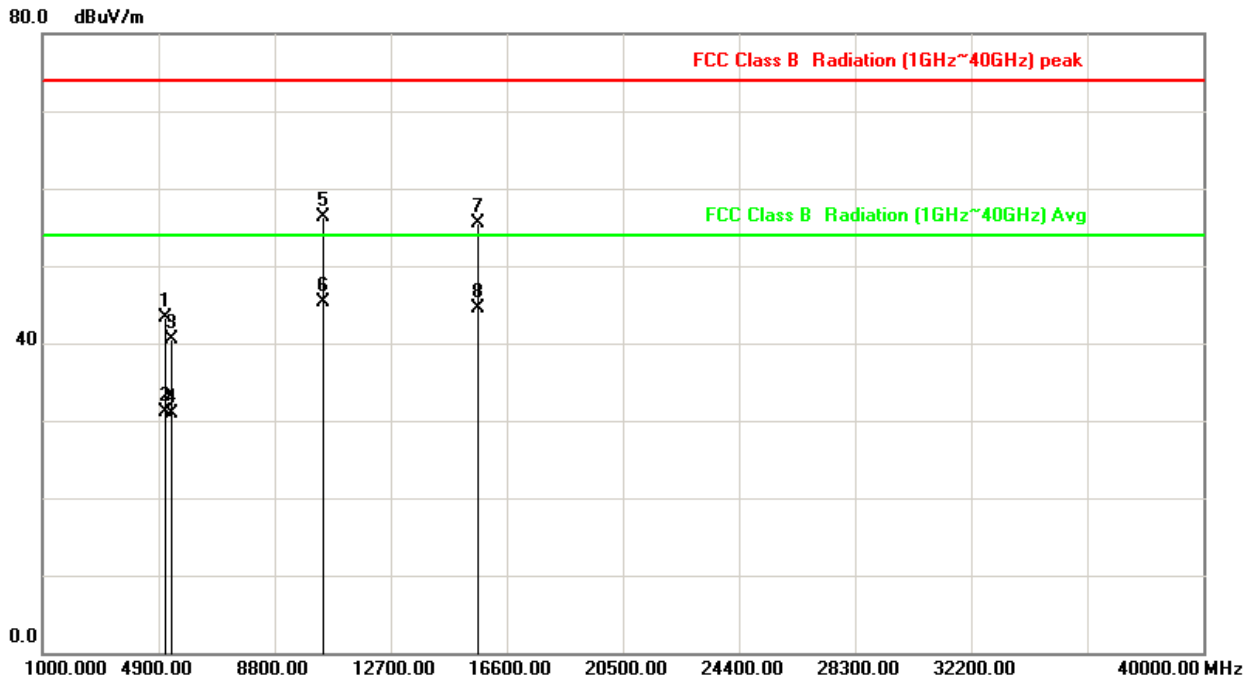


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5150.000	14.73	32.91	47.64	74.00	-26.36	peak
2	5150.000	14.73	18.26	32.99	54.00	-21.01	AVG
3	10360.000	25.85	30.51	56.36	74.00	-17.64	peak
4	10360.000	25.85	19.53	45.38	54.00	-8.62	AVG
5	15540.000	38.25	16.10	54.35	74.00	-19.65	peak
6	15540.000	38.25	5.48	43.73	54.00	-10.27	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH44(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

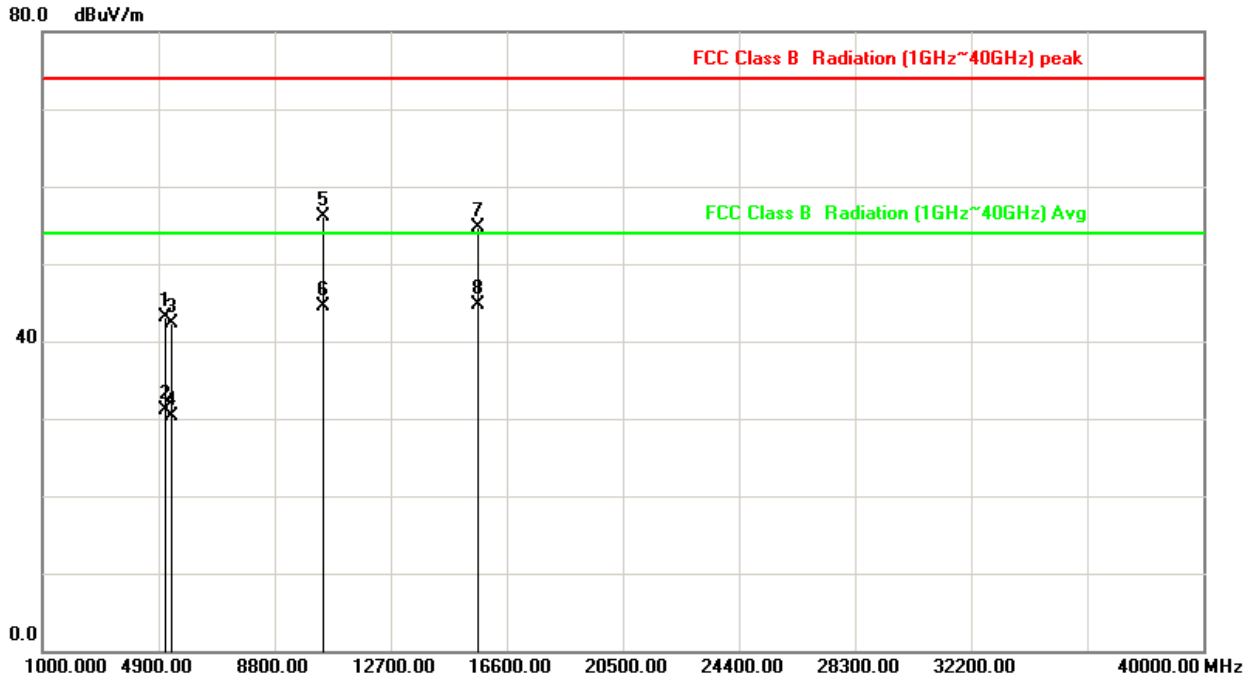


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5150.000	14.73	28.66	43.39	74.00	-30.61	peak
2	5150.000	14.73	16.46	31.19	54.00	-22.81	AVG
3	5350.000	14.89	25.65	40.54	74.00	-33.46	peak
4	5350.000	14.89	16.10	30.99	54.00	-23.01	AVG
5	10440.000	26.03	30.35	56.38	74.00	-17.62	peak
6	10440.000	26.03	19.33	45.36	54.00	-8.64	AVG
7	15660.000	38.30	17.15	55.45	74.00	-18.55	peak
8	15660.000	38.30	6.27	44.57	54.00	-9.43	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH44(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

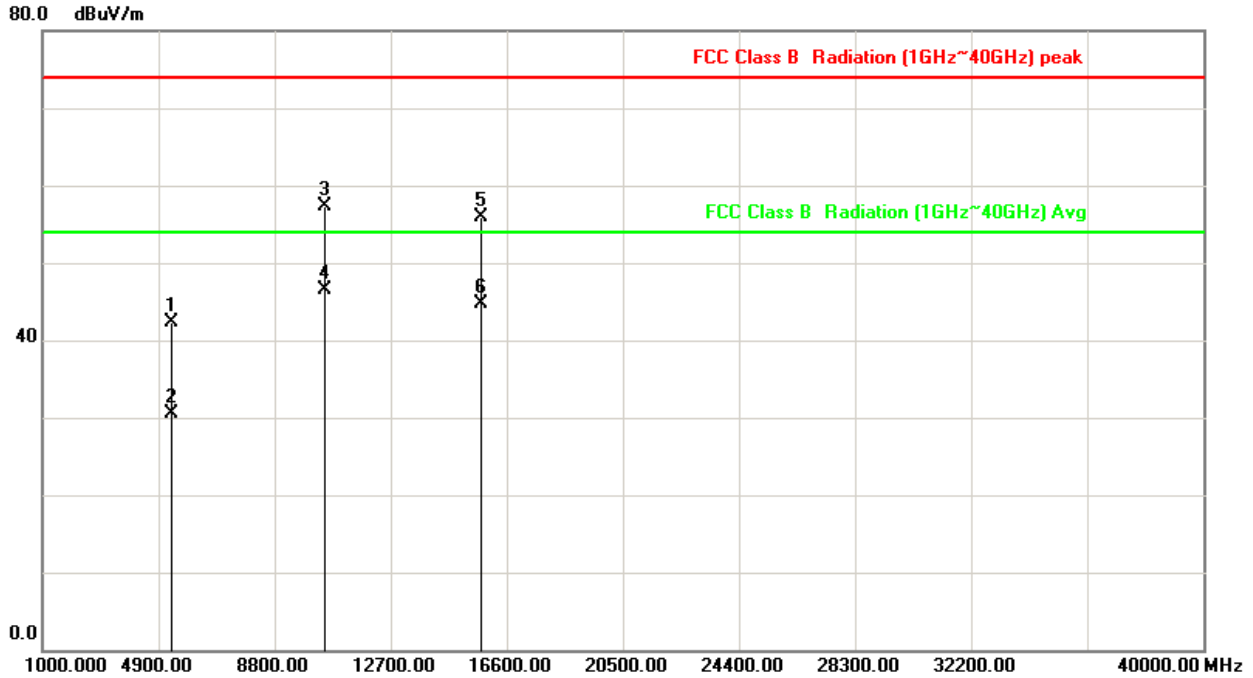


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5150.000	14.73	28.33	43.06	74.00	-30.94	peak
2	5150.000	14.73	16.31	31.04	54.00	-22.96	AVG
3	5350.000	14.89	27.34	42.23	74.00	-31.77	peak
4	5350.000	14.89	15.42	30.31	54.00	-23.69	AVG
5	10440.000	26.03	30.12	56.15	74.00	-17.85	peak
6	10440.000	26.03	18.42	44.45	54.00	-9.55	AVG
7	15660.000	38.30	16.33	54.63	74.00	-19.37	peak
8	15660.000	38.30	6.43	44.73	54.00	-9.27	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH48(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

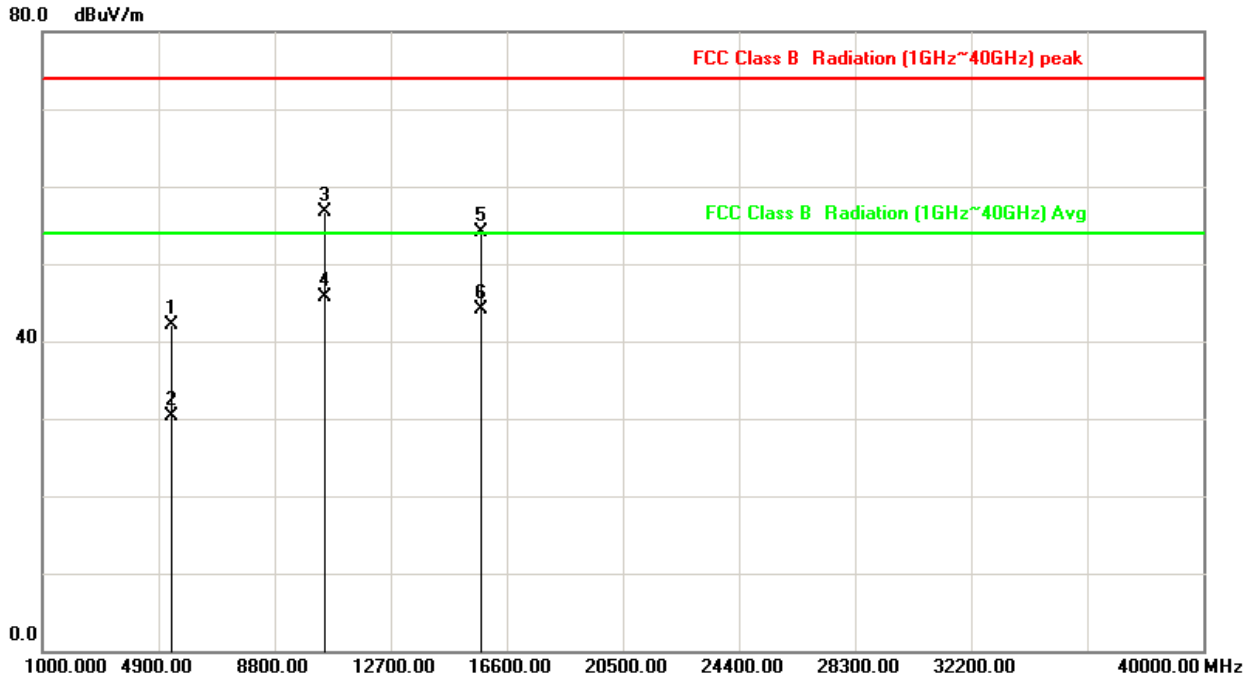


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	27.46	42.35	74.00	-31.65	peak
2	5350.000	14.89	15.64	30.53	54.00	-23.47	AVG
3	10480.000	26.12	31.13	57.25	74.00	-16.75	peak
4	10480.000	26.12	20.36	46.48	54.00	-7.52	AVG
5	15720.000	38.33	17.52	55.85	74.00	-18.15	peak
6	15720.000	38.33	6.31	44.64	54.00	-9.36	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH48(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

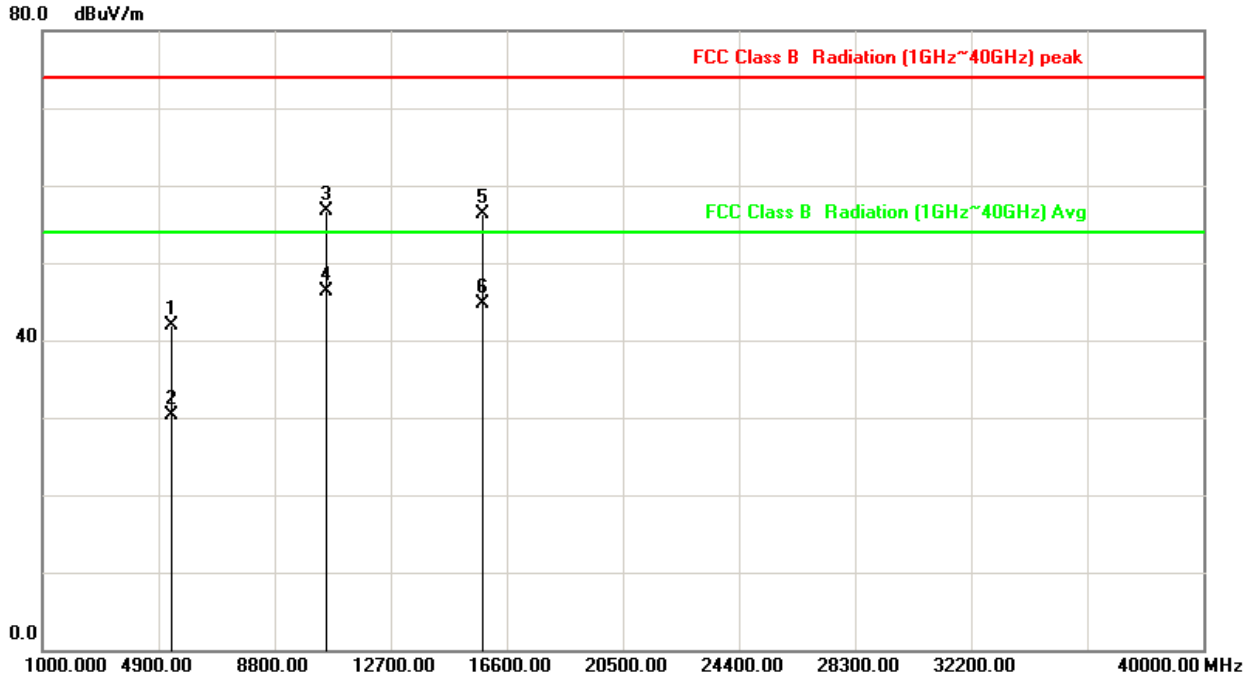


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	27.24	42.13	74.00	-31.87	peak
2	5350.000	14.89	15.38	30.27	54.00	-23.73	AVG
3	10480.000	26.12	30.66	56.78	74.00	-17.22	peak
4	10480.000	26.12	19.61	45.73	54.00	-8.27	AVG
5	15720.000	38.33	15.73	54.06	74.00	-19.94	peak
6	15720.000	38.33	5.72	44.05	54.00	-9.95	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH52(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

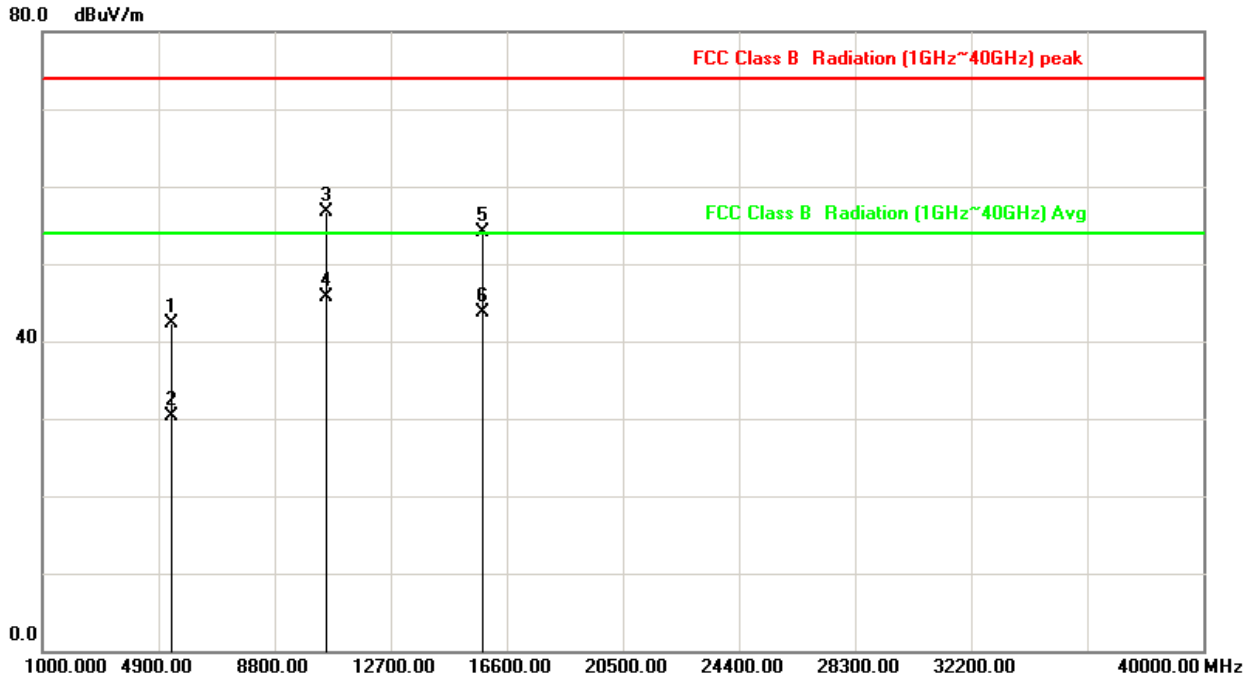


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	26.97	41.86	74.00	-32.14	peak
2	5350.000	14.89	15.35	30.24	54.00	-23.76	AVG
3	10520.000	26.22	30.53	56.75	74.00	-17.25	peak
4	10520.000	26.22	20.11	46.33	54.00	-7.67	AVG
5	15780.000	38.36	17.99	56.35	74.00	-17.65	peak
6	15780.000	38.36	6.31	44.67	54.00	-9.33	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH52(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

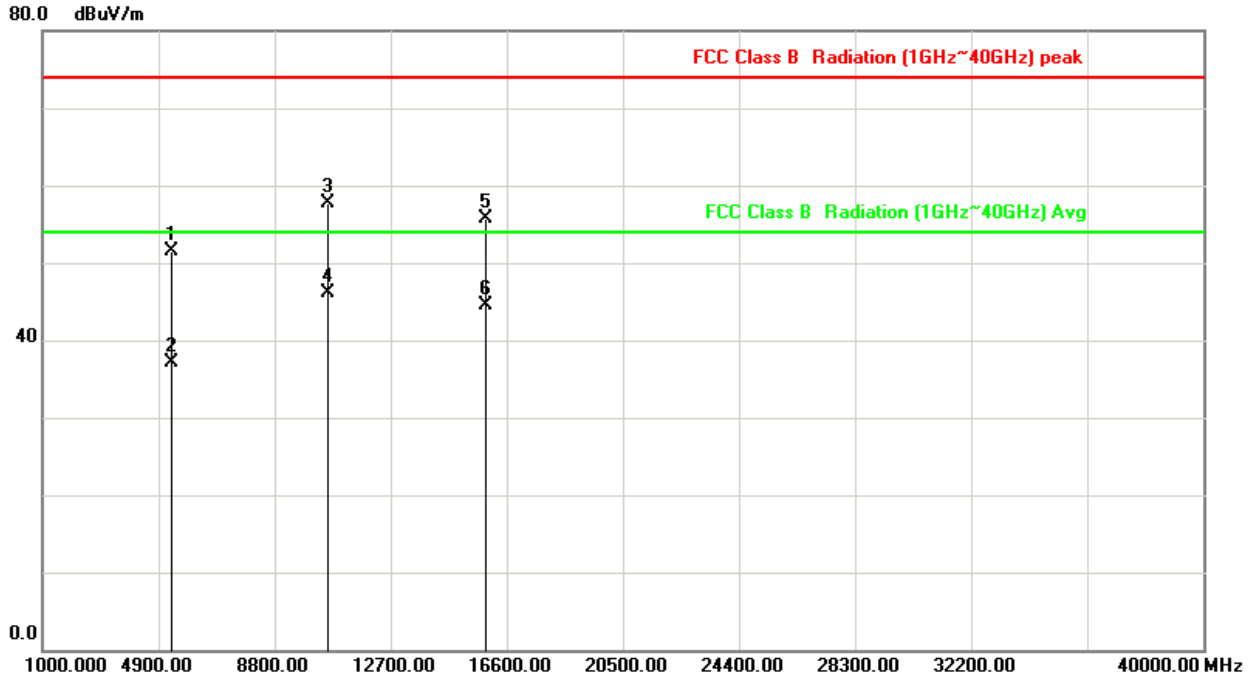


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	27.34	42.23	74.00	-31.77	peak
2	5350.000	14.89	15.47	30.36	54.00	-23.64	AVG
3	10520.000	26.22	30.53	56.75	74.00	-17.25	peak
4	10520.000	26.22	19.56	45.78	54.00	-8.22	AVG
5	15780.000	38.36	15.71	54.07	74.00	-19.93	peak
6	15780.000	38.36	5.38	43.74	54.00	-10.26	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH60(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

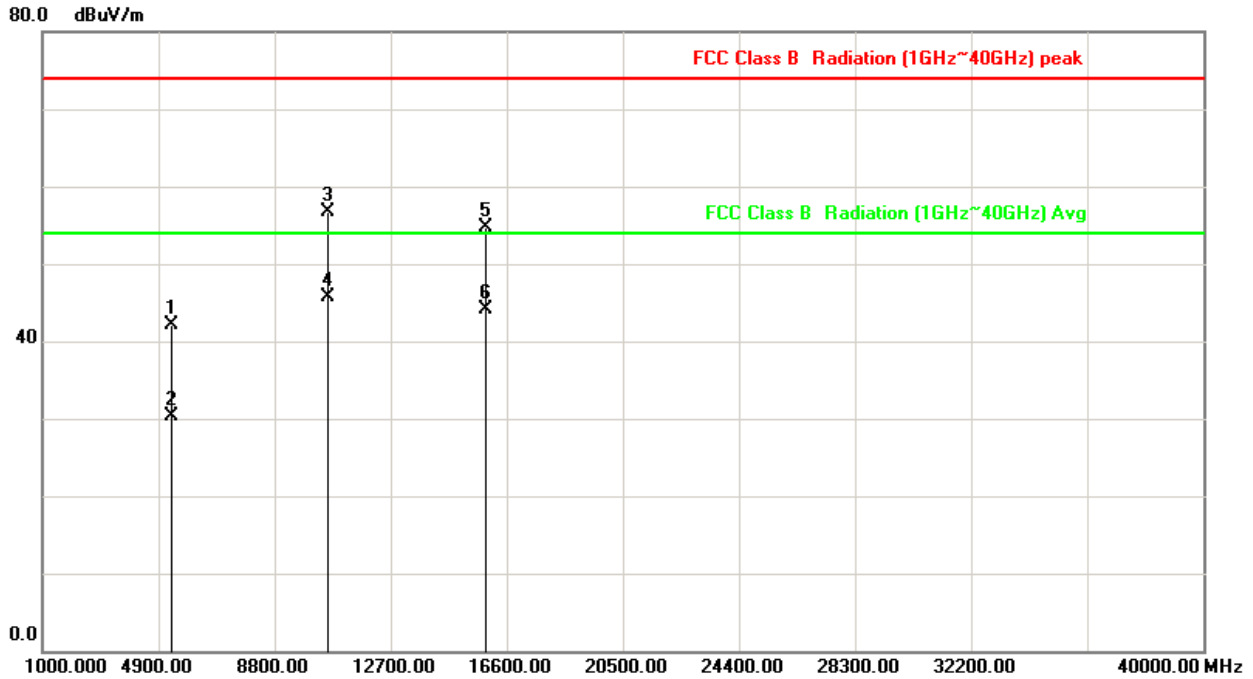


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	36.67	51.56	74.00	-22.44	peak
2	5350.000	14.89	22.21	37.10	54.00	-16.90	AVG
3	10600.000	26.46	31.31	57.77	74.00	-16.23	peak
4	10600.000	26.46	19.65	46.11	54.00	-7.89	AVG
5	15900.000	38.41	17.21	55.62	74.00	-18.38	peak
6	15900.000	38.41	6.05	44.46	54.00	-9.54	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH60(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

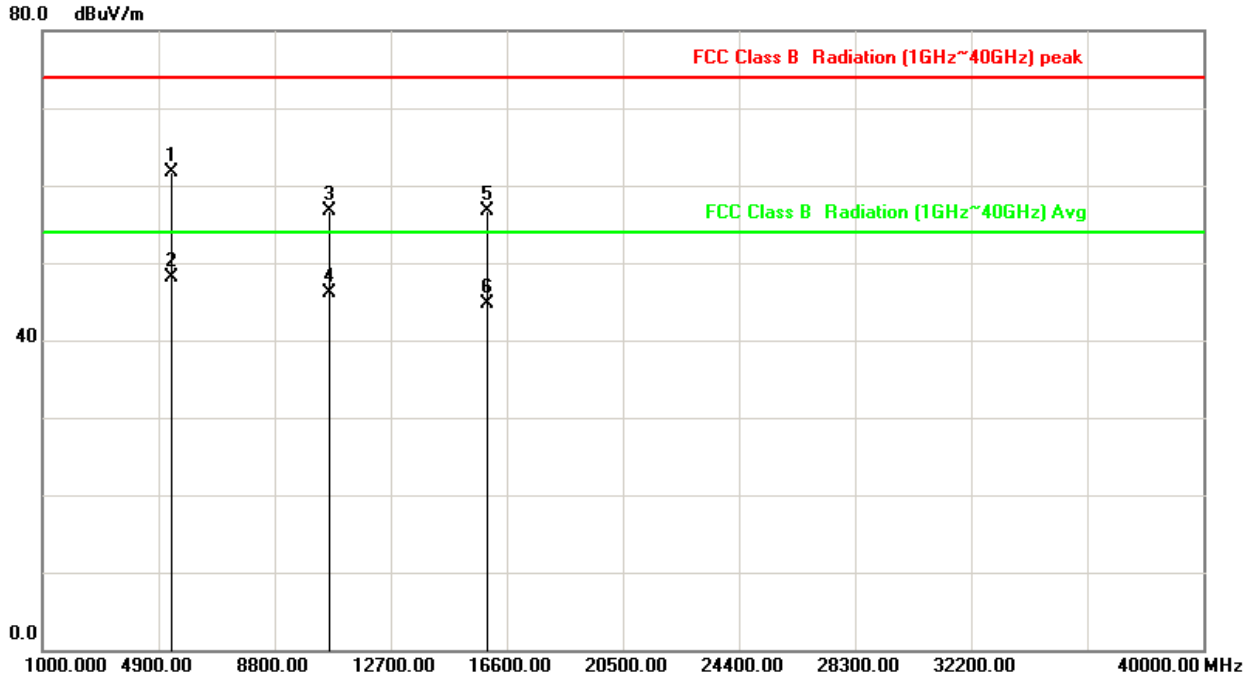


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	27.31	42.20	74.00	-31.80	peak
2	5350.000	14.89	15.41	30.30	54.00	-23.70	AVG
3	10600.000	26.46	30.22	56.68	74.00	-17.32	peak
4	10600.000	26.46	19.25	45.71	54.00	-8.29	AVG
5	15900.000	38.41	16.35	54.76	74.00	-19.24	peak
6	15900.000	38.41	5.61	44.02	54.00	-9.98	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH64(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

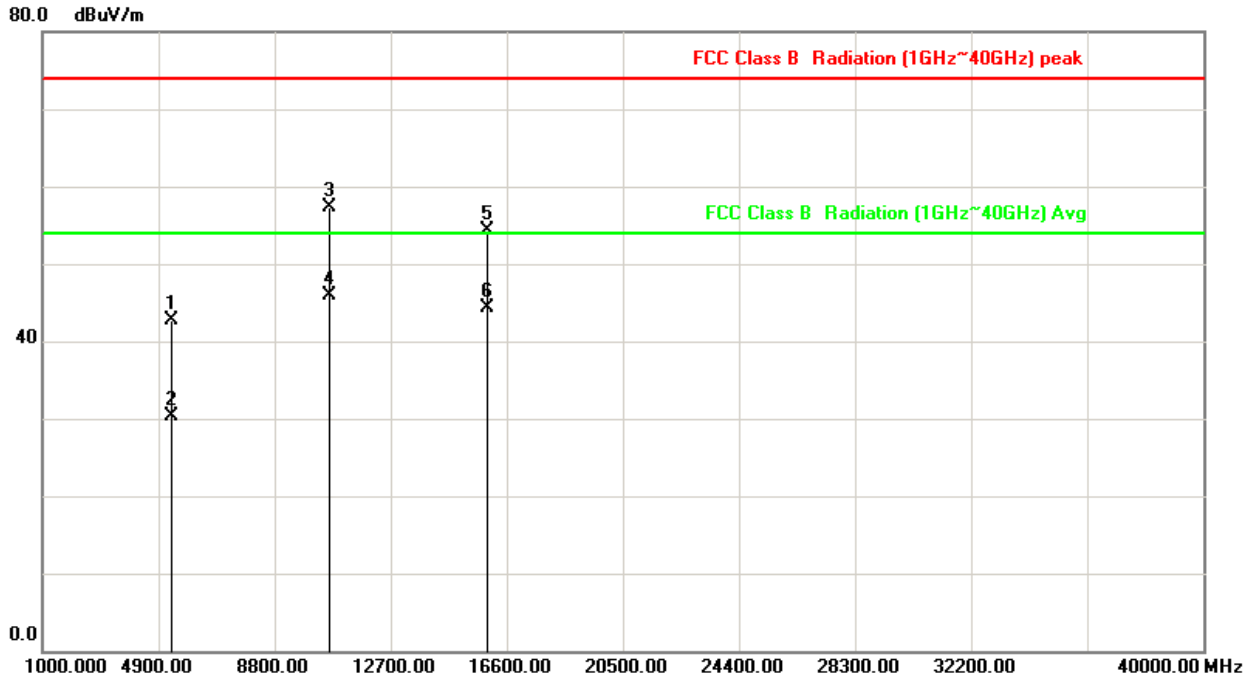


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	46.83	61.72	74.00	-12.28	peak
2	5350.000	14.89	33.28	48.17	54.00	-5.83	AVG
3	10640.000	26.58	30.20	56.78	74.00	-17.22	peak
4	10640.000	26.58	19.54	46.12	54.00	-7.88	AVG
5	15960.000	38.44	18.23	56.67	74.00	-17.33	peak
6	15960.000	38.44	6.17	44.61	54.00	-9.39	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH64(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

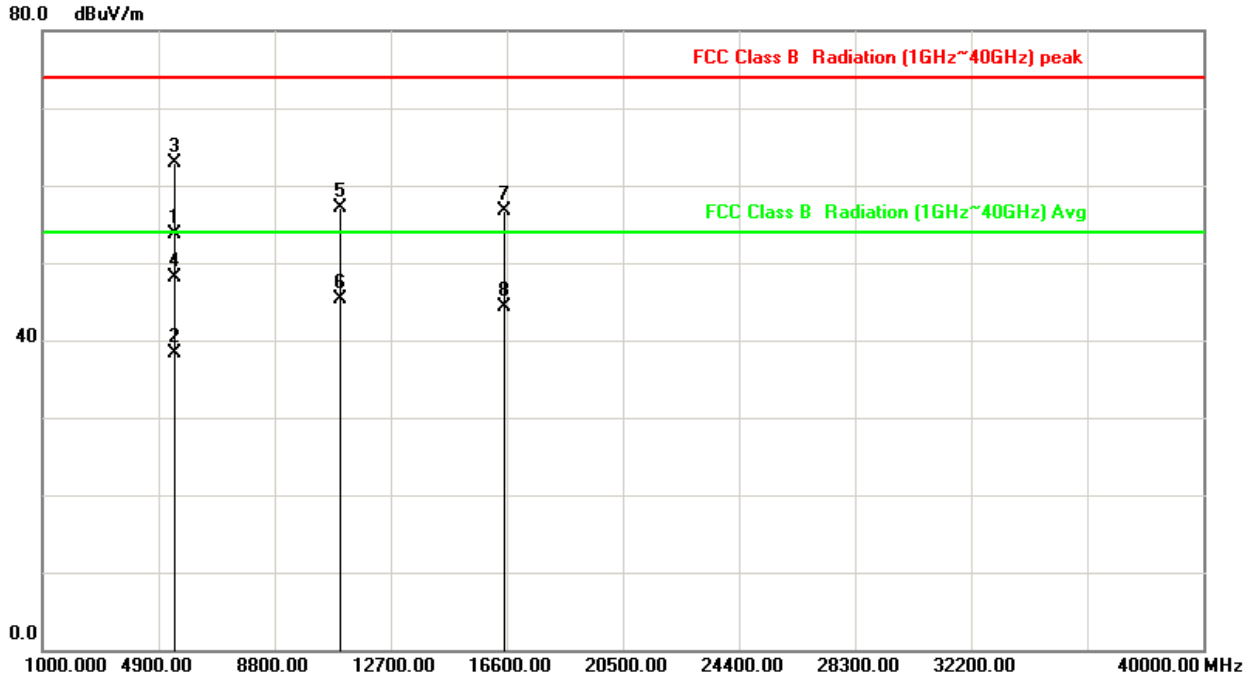


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	27.84	42.73	74.00	-31.27	peak
2	5350.000	14.89	15.35	30.24	54.00	-23.76	AVG
3	10640.000	26.58	30.65	57.23	74.00	-16.77	peak
4	10640.000	26.58	19.33	45.91	54.00	-8.09	AVG
5	15960.000	38.44	15.85	54.29	74.00	-19.71	peak
6	15960.000	38.44	5.78	44.22	54.00	-9.78	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH100(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

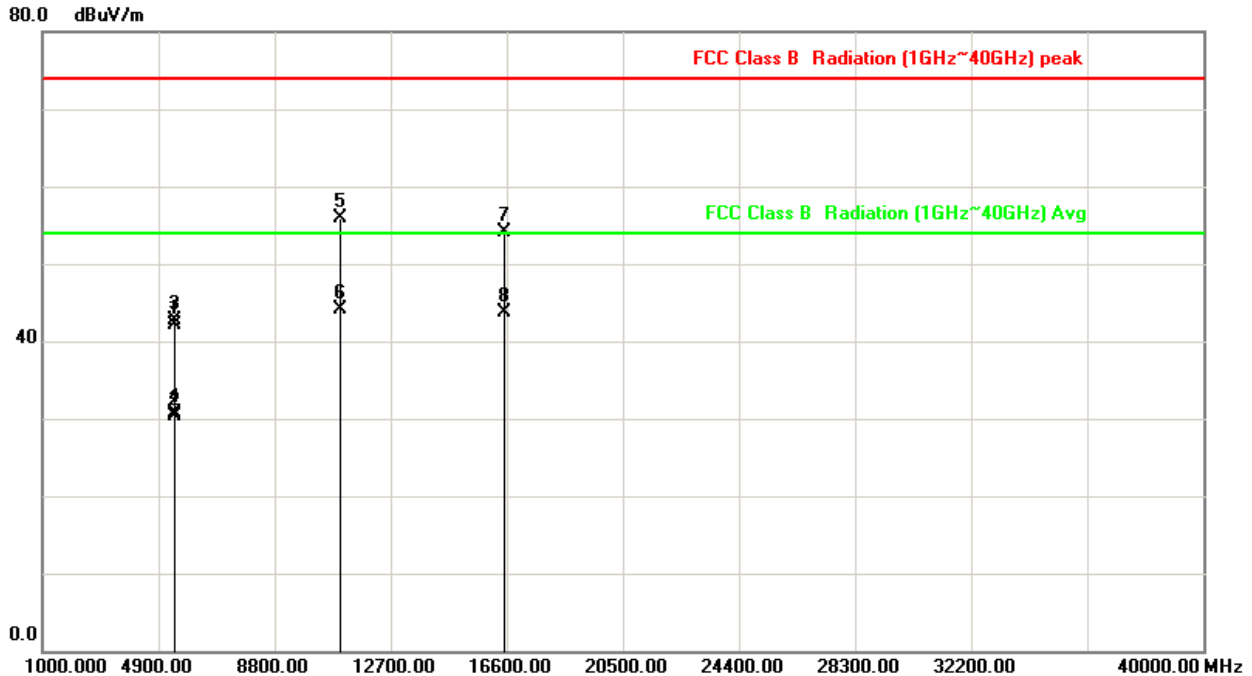


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5460.000	14.99	38.75	53.74	74.00	-20.26	peak
2	5460.000	14.99	23.38	38.37	54.00	-15.63	AVG
3	5470.000	14.99	47.99	62.98	74.00	-11.02	peak
4	5470.000	14.99	33.07	48.06	54.00	-5.94	AVG
5	11000.000	27.67	29.53	57.20	74.00	-16.80	peak
6	11000.000	27.67	17.58	45.25	54.00	-8.75	AVG
7	16500.000	42.95	13.66	56.61	74.00	-17.39	peak
8	16500.000	42.95	1.41	44.36	54.00	-9.64	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH100(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

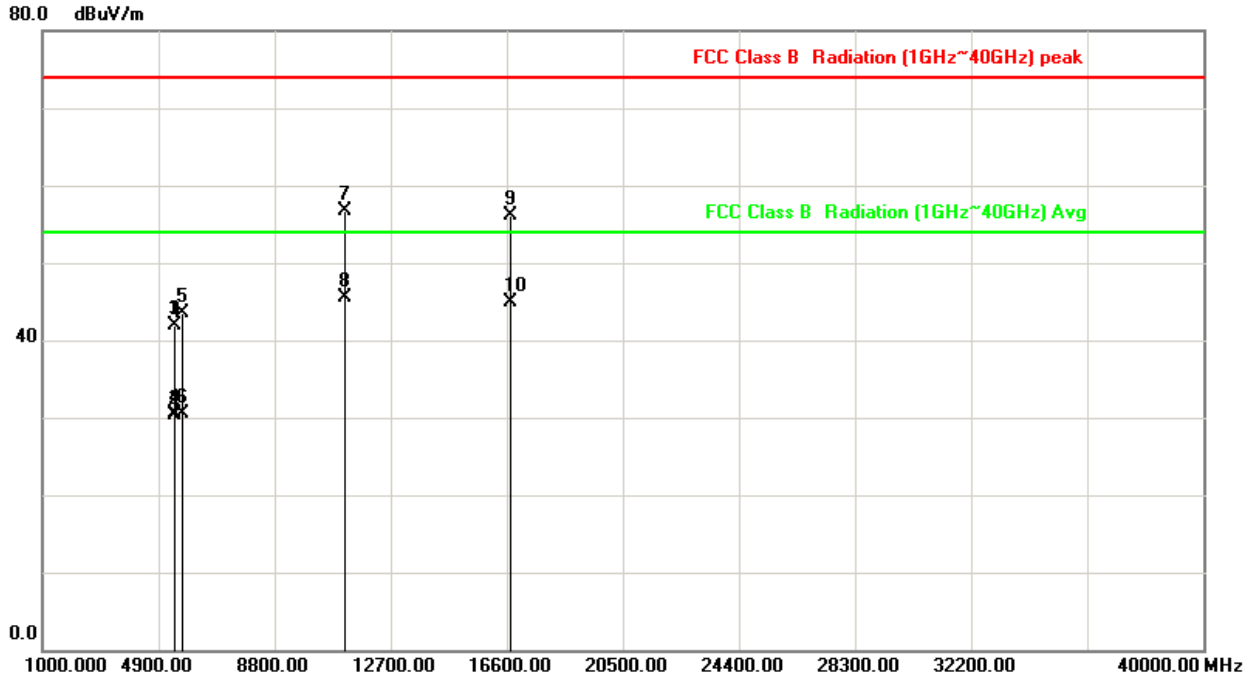


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5460.000	14.99	27.02	42.01	74.00	-31.99	peak
2	5460.000	14.99	15.33	30.32	54.00	-23.68	AVG
3	5470.000	14.99	27.69	42.68	74.00	-31.32	peak
4	5470.000	14.99	15.66	30.65	54.00	-23.35	AVG
5	11000.000	27.67	28.17	55.84	74.00	-18.16	peak
6	11000.000	27.67	16.34	44.01	54.00	-9.99	AVG
7	16500.000	42.95	11.20	54.15	74.00	-19.85	peak
8	16500.000	42.95	0.74	43.69	54.00	-10.31	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH116(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

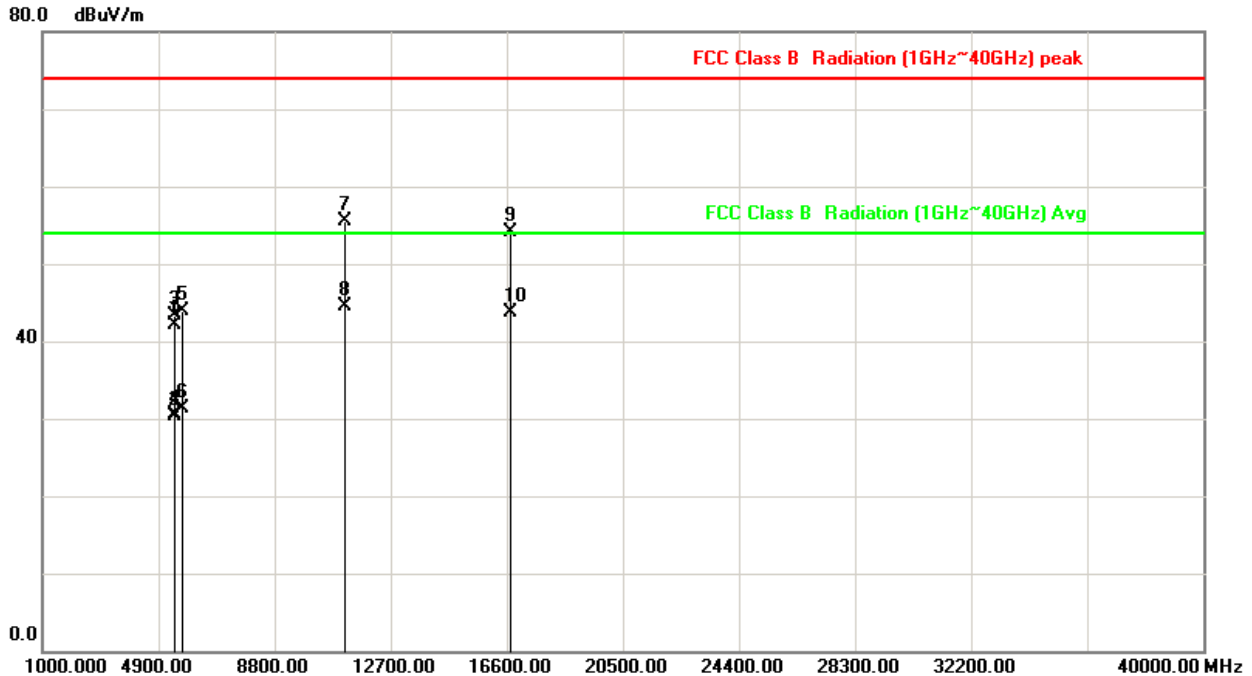


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5460.000	14.99	26.90	41.89	74.00	-32.11	peak
2	5460.000	14.99	15.31	30.30	54.00	-23.70	AVG
3	5470.000	14.99	27.00	41.99	74.00	-32.01	peak
4	5470.000	14.99	15.42	30.41	54.00	-23.59	AVG
5	5725.000	15.58	27.83	43.41	74.00	-30.59	peak
6	5725.000	15.58	14.92	30.50	54.00	-23.50	AVG
7	11160.000	28.05	28.65	56.70	74.00	-17.30	peak
8	11160.000	28.05	17.52	45.57	54.00	-8.43	AVG
9	16740.000	42.65	13.49	56.14	74.00	-17.86	peak
10	16740.000	42.65	2.17	44.82	54.00	-9.18	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH116(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

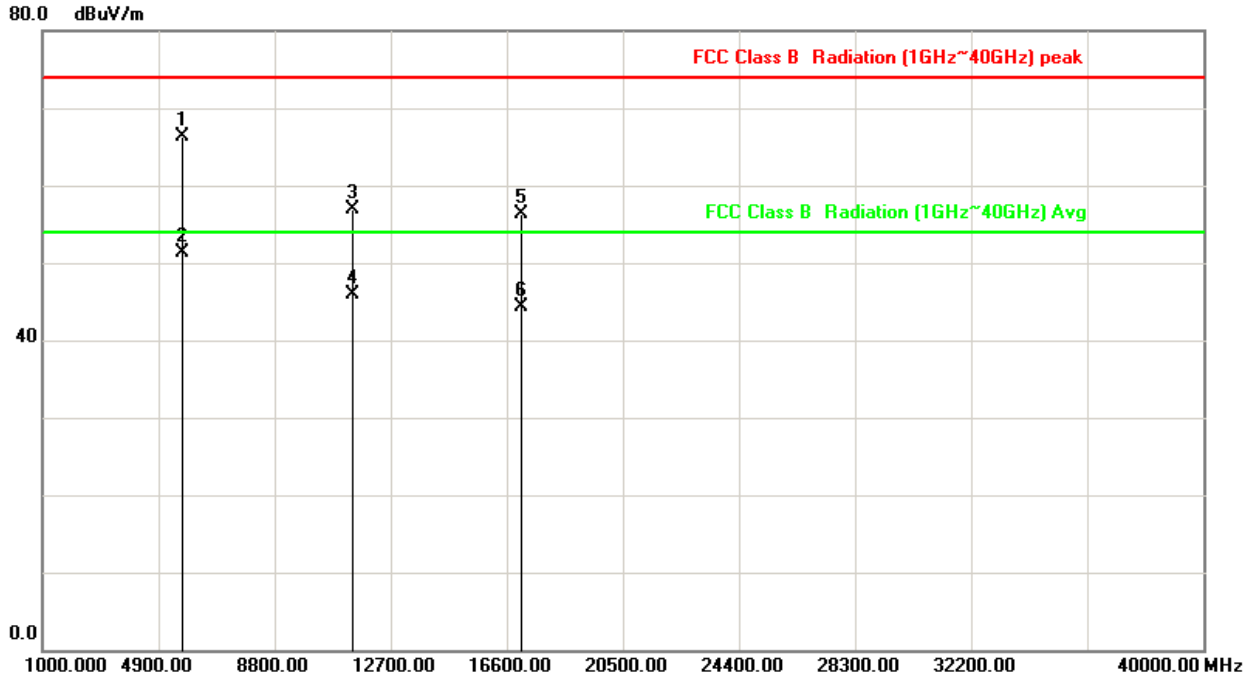


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5460.000	14.99	27.17	42.16	74.00	-31.84	peak
2	5460.000	14.99	15.32	30.31	54.00	-23.69	AVG
3	5470.000	14.99	28.25	43.24	74.00	-30.76	peak
4	5470.000	14.99	15.43	30.42	54.00	-23.58	AVG
5	5725.000	15.58	28.26	43.84	74.00	-30.16	peak
6	5725.000	15.58	15.65	31.23	54.00	-22.77	AVG
7	11160.000	28.05	27.46	55.51	74.00	-18.49	peak
8	11160.000	28.05	16.54	44.59	54.00	-9.41	AVG
9	16740.000	42.65	11.53	54.18	74.00	-19.82	peak
10	16740.000	42.65	1.02	43.67	54.00	-10.33	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH140(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

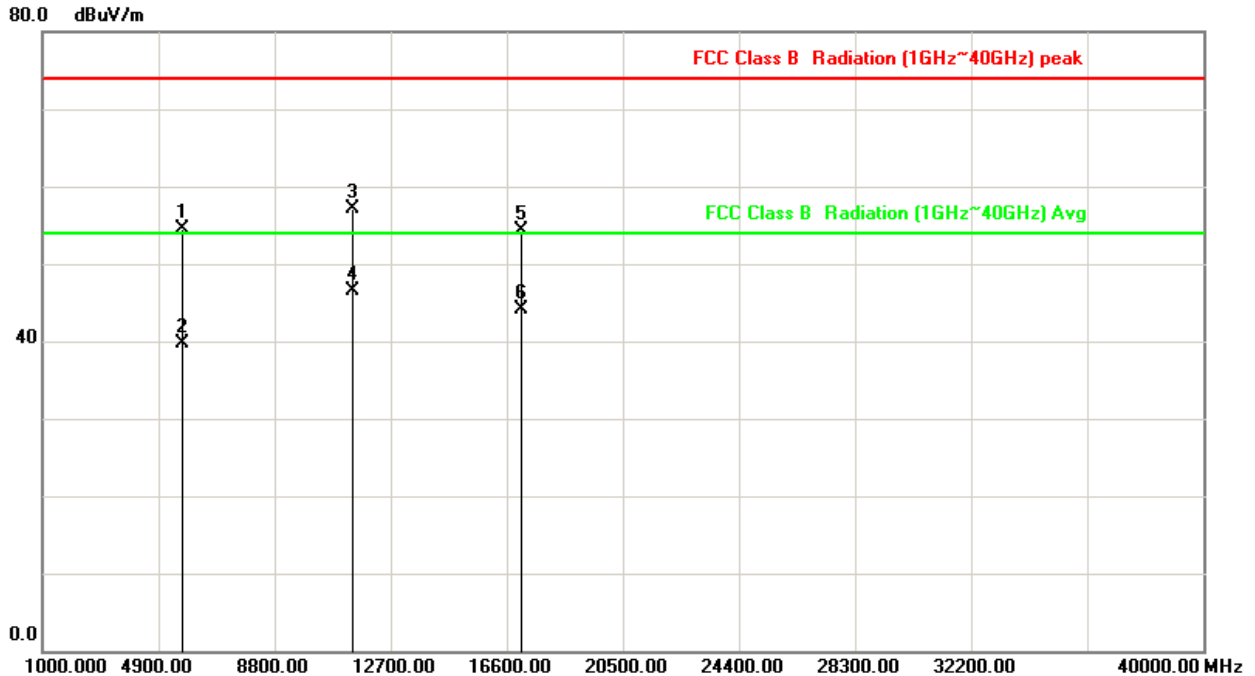


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5725.000	15.58	50.63	66.21	74.00	-7.79	peak
2	5725.000	15.58	35.68	51.26	54.00	-2.74	AVG
3	11400.000	28.62	28.35	56.97	74.00	-17.03	peak
4	11400.000	28.62	17.23	45.85	54.00	-8.15	AVG
5	17100.000	42.73	13.55	56.28	74.00	-17.72	peak
6	17100.000	42.73	1.54	44.27	54.00	-9.73	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH140(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

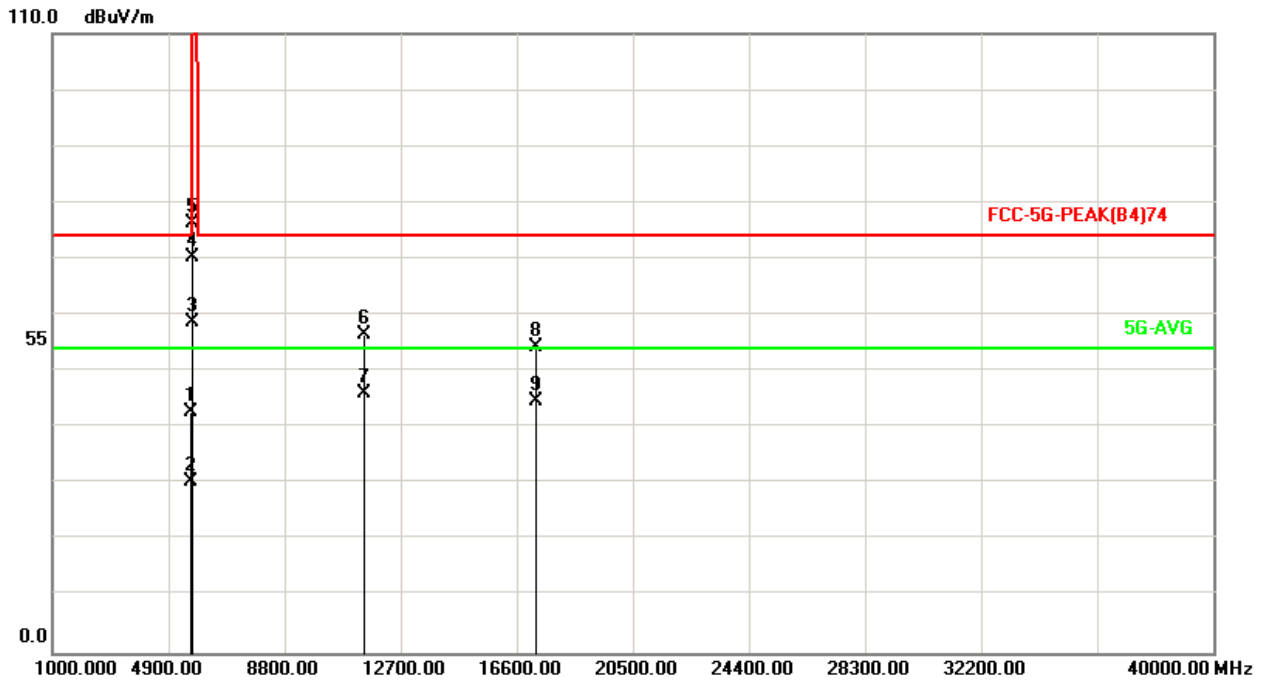


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5725.000	15.58	38.88	54.46	74.00	-19.54	peak
2	5725.000	15.58	24.10	39.68	54.00	-14.32	AVG
3	11400.000	28.62	28.53	57.15	74.00	-16.85	peak
4	11400.000	28.62	17.92	46.54	54.00	-7.46	AVG
5	17100.000	42.73	11.56	54.29	74.00	-19.71	peak
6	17100.000	42.73	1.30	44.03	54.00	-9.97	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH149(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

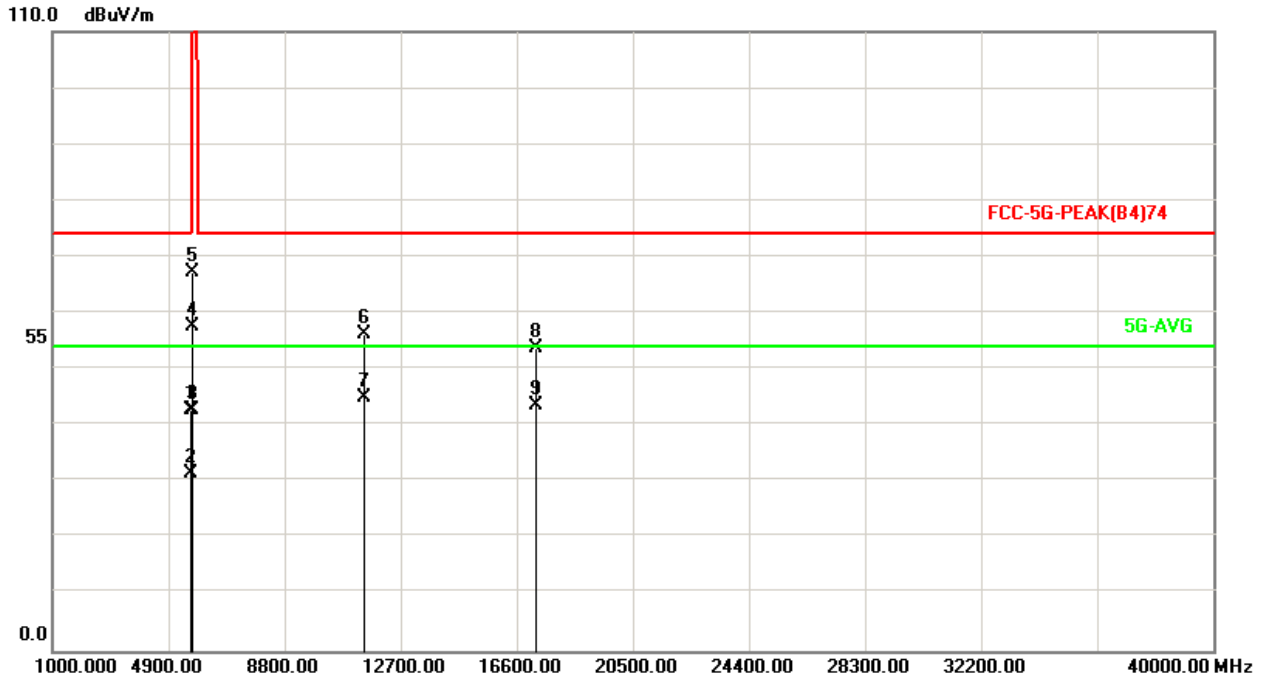


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5650.000	15.39	27.34	42.73	74.00	-31.27	peak
2	5650.000	15.39	14.95	30.34	54.00	-23.66	AVG
3	5700.000	15.52	43.27	58.79	105.20	-46.41	peak
4	5720.000	15.57	54.73	70.30	110.80	-40.50	peak
5	5725.000	15.58	60.87	76.45	122.20	-45.75	peak
6	11490.000	28.84	27.68	56.52	74.00	-17.48	peak
7	11490.000	28.84	17.13	45.97	54.00	-8.03	AVG
8	17235.000	43.26	11.06	54.32	74.00	-19.68	peak
9	17235.000	43.26	1.32	44.58	54.00	-9.42	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH149(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

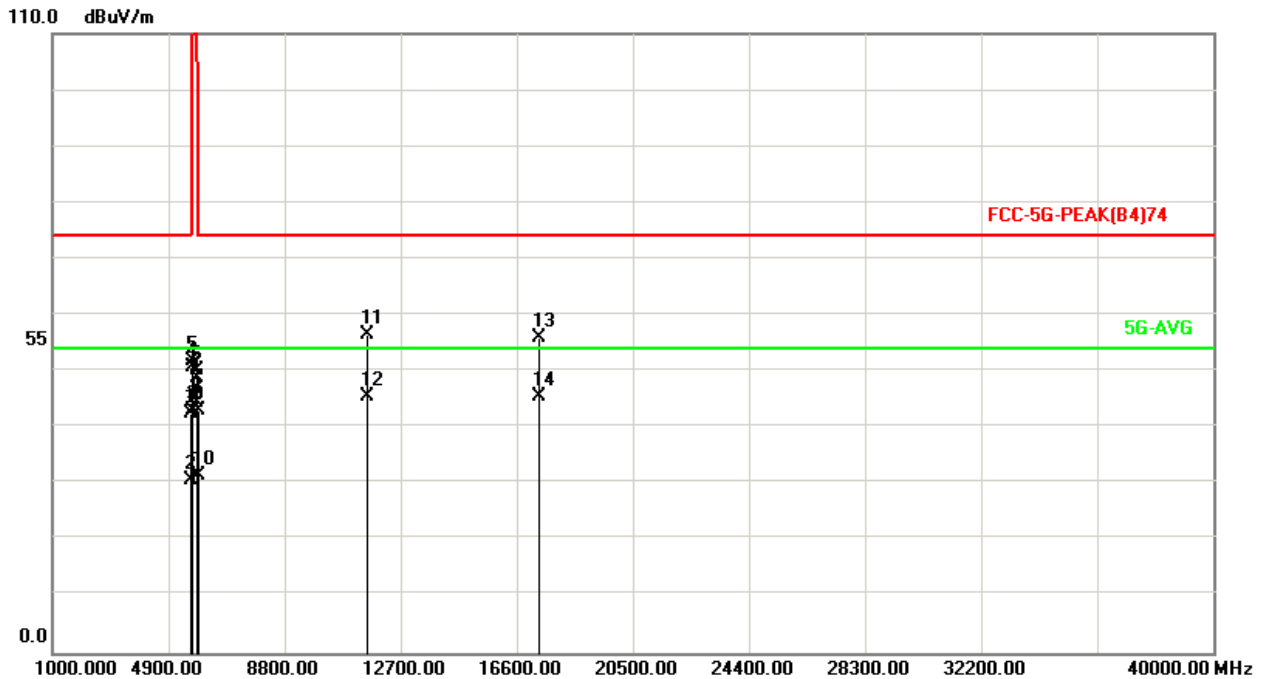


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5650.000	15.39	27.26	42.65	74.00	-31.35	peak
2	5650.000	15.39	16.15	31.54	54.00	-22.46	AVG
3	5700.000	15.52	27.36	42.88	105.20	-62.32	peak
4	5720.000	15.57	42.03	57.60	110.80	-53.20	peak
5	5725.000	15.58	51.56	67.14	122.20	-55.06	peak
6	11490.000	28.84	27.38	56.22	74.00	-17.78	peak
7	11490.000	28.84	16.24	45.08	54.00	-8.92	AVG
8	17235.000	43.26	10.39	53.65	74.00	-20.35	peak
9	17235.000	43.26	0.22	43.48	54.00	-10.52	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH157(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

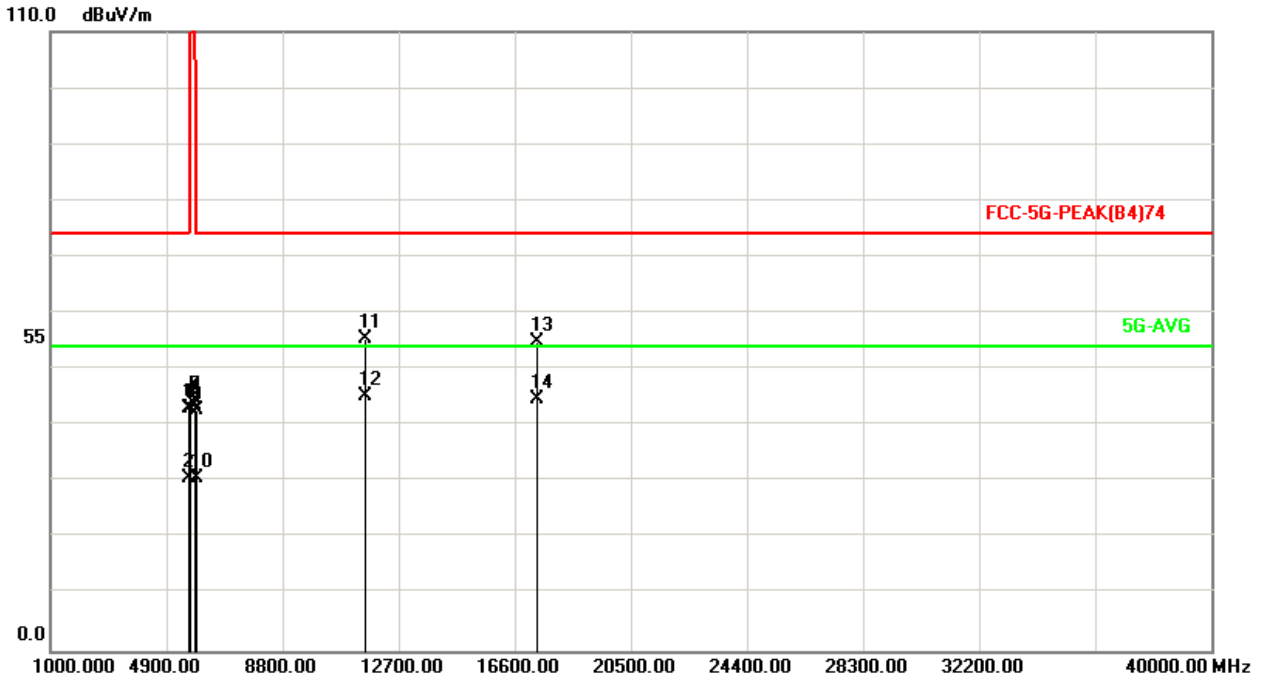


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5650.000	15.39	27.06	42.45	74.00	-31.55	peak
2	5650.000	15.39	15.31	30.70	54.00	-23.30	AVG
3	5700.000	15.52	27.64	43.16	105.20	-62.04	peak
4	5720.000	15.57	35.19	50.76	110.80	-60.04	peak
5	5725.000	15.58	36.34	51.92	122.20	-70.28	peak
6	5850.000	15.89	34.26	50.15	122.20	-72.05	peak
7	5855.000	15.90	33.03	48.93	110.80	-61.87	peak
8	5875.000	15.95	28.48	44.43	105.20	-60.77	peak
9	5925.000	16.07	26.84	42.91	74.00	-31.09	peak
10	5925.000	16.07	15.33	31.40	54.00	-22.60	AVG
11	11570.000	29.00	27.56	56.56	74.00	-17.44	peak
12	11570.000	29.00	16.61	45.61	54.00	-8.39	AVG
13	17355.000	43.74	12.24	55.98	74.00	-18.02	peak
14	17355.000	43.74	1.65	45.39	54.00	-8.61	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH157(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

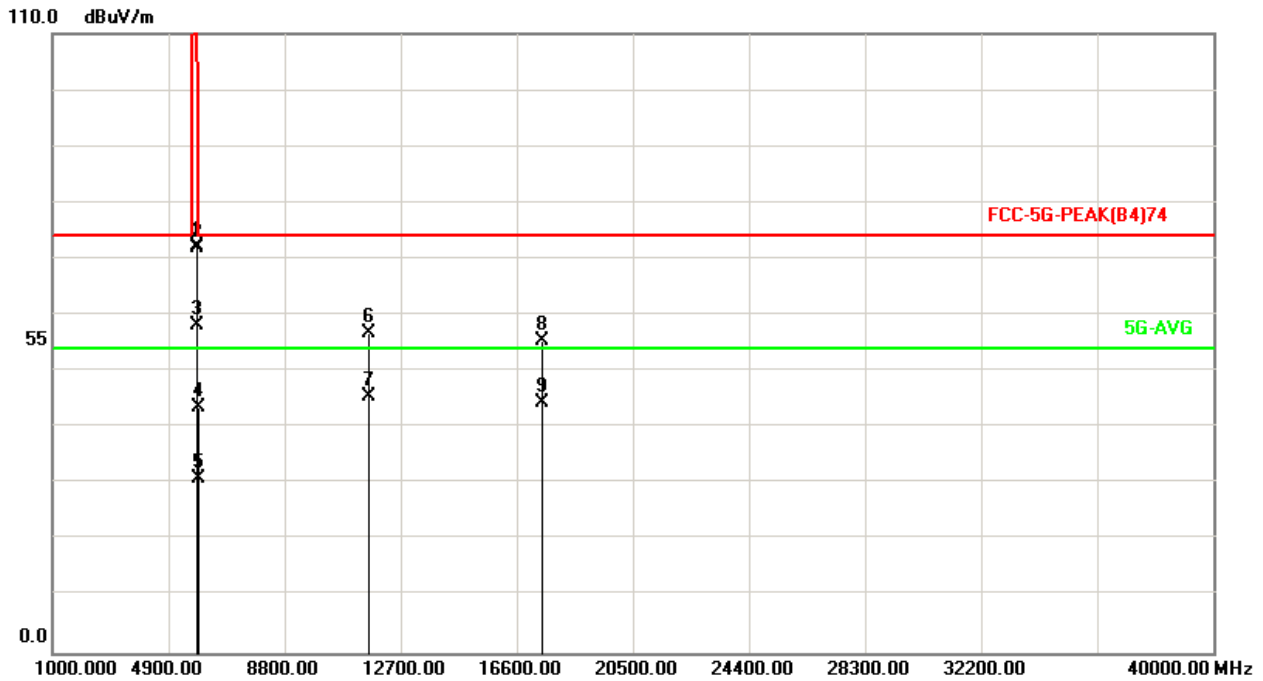


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5650.000	15.39	27.70	43.09	74.00	-30.91	peak
2	5650.000	15.39	15.33	30.72	54.00	-23.28	AVG
3	5700.000	15.52	27.54	43.06	105.20	-62.14	peak
4	5720.000	15.57	27.53	43.10	110.80	-67.70	peak
5	5725.000	15.58	27.57	43.15	122.20	-79.05	peak
6	5850.000	15.89	27.82	43.71	122.20	-78.49	peak
7	5855.000	15.90	28.46	44.36	110.80	-66.44	peak
8	5875.000	15.95	28.50	44.45	105.20	-60.75	peak
9	5925.000	16.07	26.75	42.82	74.00	-31.18	peak
10	5925.000	16.07	14.65	30.72	54.00	-23.28	AVG
11	11570.000	29.00	26.53	55.53	74.00	-18.47	peak
12	11570.000	29.00	16.31	45.31	54.00	-8.69	AVG
13	17355.000	43.74	11.24	54.98	74.00	-19.02	peak
14	17355.000	43.74	0.89	44.63	54.00	-9.37	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH165(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

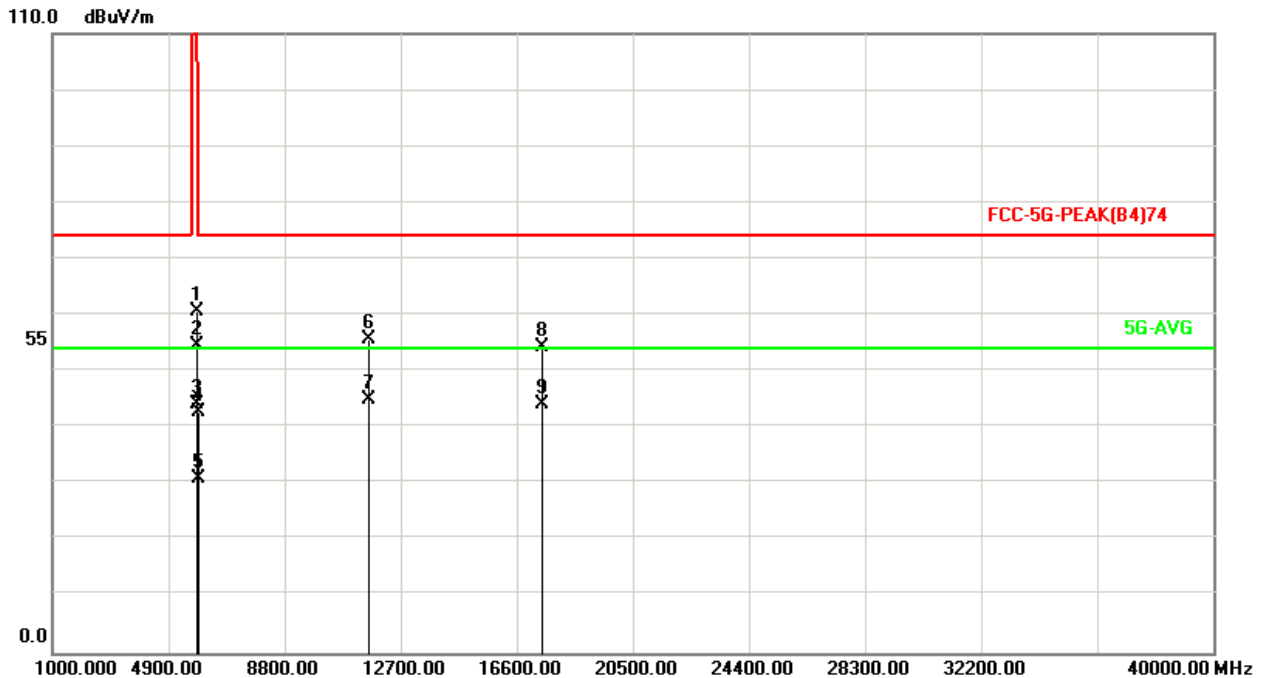


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5850.000	15.89	56.37	72.26	122.20	-49.94	peak
2	5855.000	15.90	56.13	72.03	110.80	-38.77	peak
3	5875.000	15.95	42.17	58.12	105.20	-47.08	peak
4	5925.000	16.07	27.40	43.47	74.00	-30.53	peak
5	5925.000	16.07	14.91	30.98	54.00	-23.02	AVG
6	11650.000	29.16	27.59	56.75	74.00	-17.25	peak
7	11650.000	29.16	16.45	45.61	54.00	-8.39	AVG
8	17475.000	44.21	11.34	55.55	74.00	-18.45	peak
9	17475.000	44.21	0.24	44.45	54.00	-9.55	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH165(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

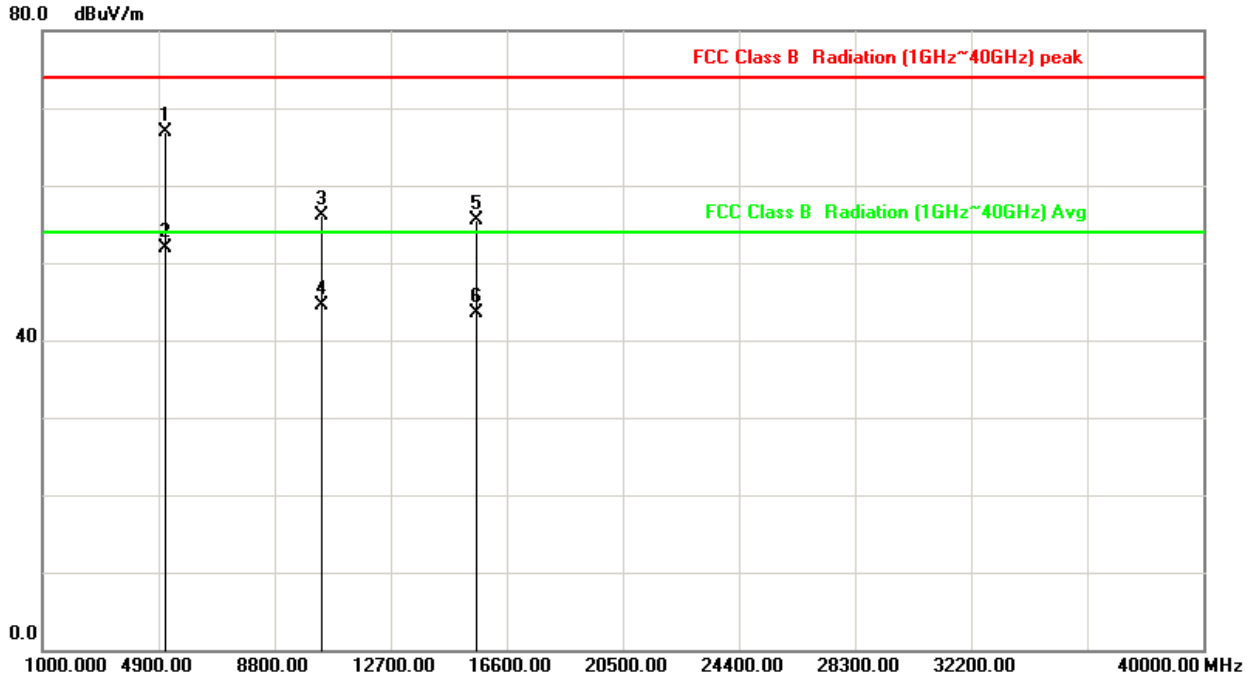


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5850.000	15.89	44.87	60.76	122.20	-61.44	peak
2	5855.000	15.90	38.82	54.72	110.80	-56.08	peak
3	5875.000	15.95	28.09	44.04	105.20	-61.16	peak
4	5925.000	16.07	26.62	42.69	74.00	-31.31	peak
5	5925.000	16.07	14.92	30.99	54.00	-23.01	AVG
6	11650.000	29.16	26.54	55.70	74.00	-18.30	peak
7	11650.000	29.16	15.69	44.85	54.00	-9.15	AVG
8	17475.000	44.21	10.23	54.44	74.00	-19.56	peak
9	17475.000	44.21	-0.01	44.20	54.00	-9.80	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH38(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

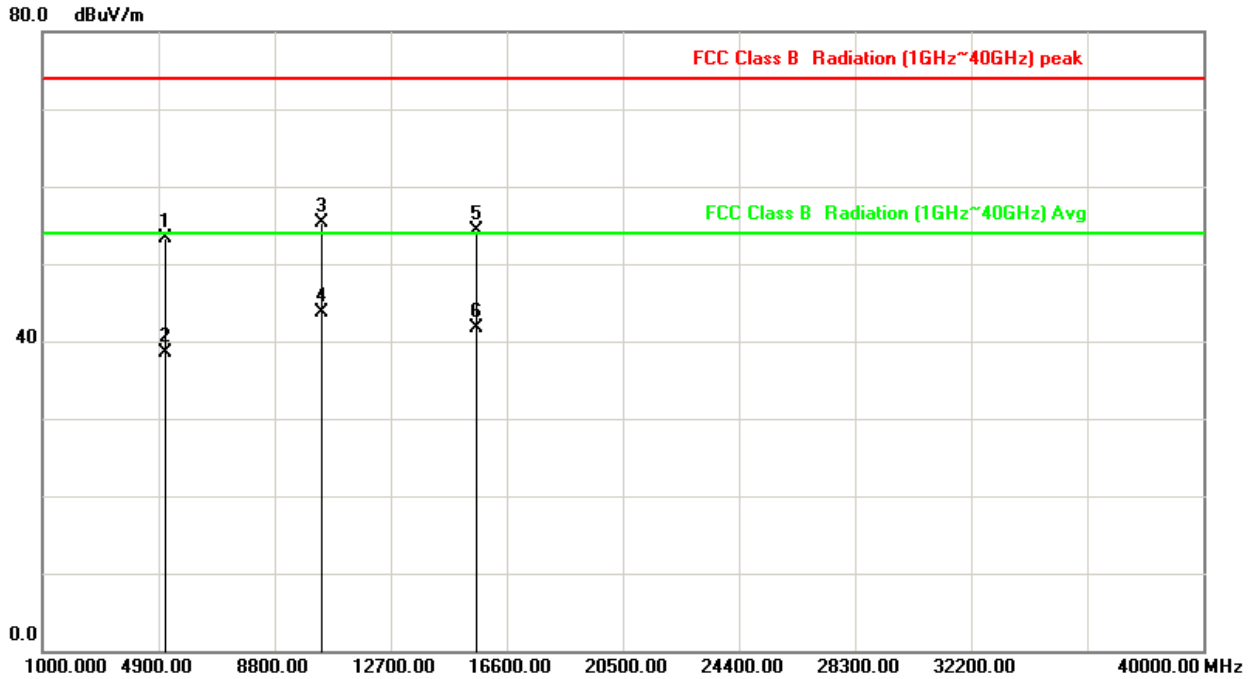


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5150.000	14.73	52.10	66.83	74.00	-7.17	peak
2	5150.000	14.73	37.21	51.94	54.00	-2.06	AVG
3	10380.000	25.89	30.26	56.15	74.00	-17.85	peak
4	10380.000	25.89	18.68	44.57	54.00	-9.43	AVG
5	15570.000	38.26	17.32	55.58	74.00	-18.42	peak
6	15570.000	38.26	5.23	43.49	54.00	-10.51	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH38(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

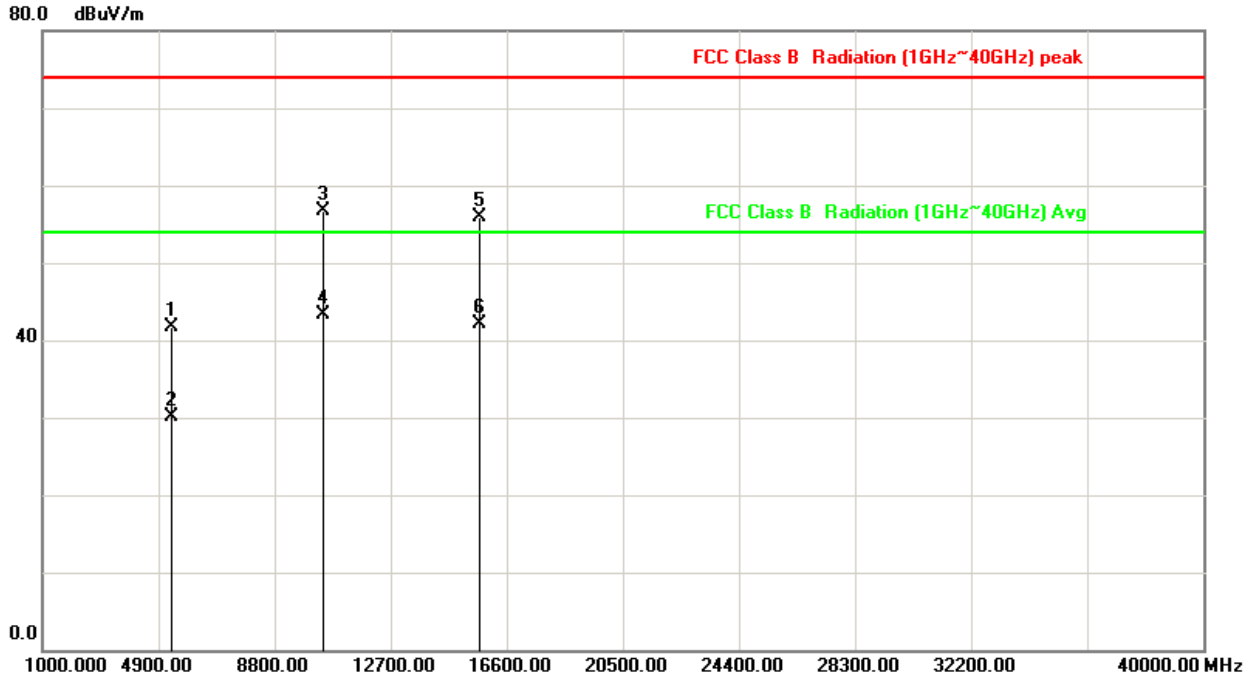


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5150.000	14.73	38.55	53.28	74.00	-20.72	peak
2	5150.000	14.73	23.81	38.54	54.00	-15.46	AVG
3	10380.000	25.89	29.35	55.24	74.00	-18.76	peak
4	10380.000	25.89	17.86	43.75	54.00	-10.25	AVG
5	15570.000	38.26	15.99	54.25	74.00	-19.75	peak
6	15570.000	38.26	3.35	41.61	54.00	-12.39	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH46(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

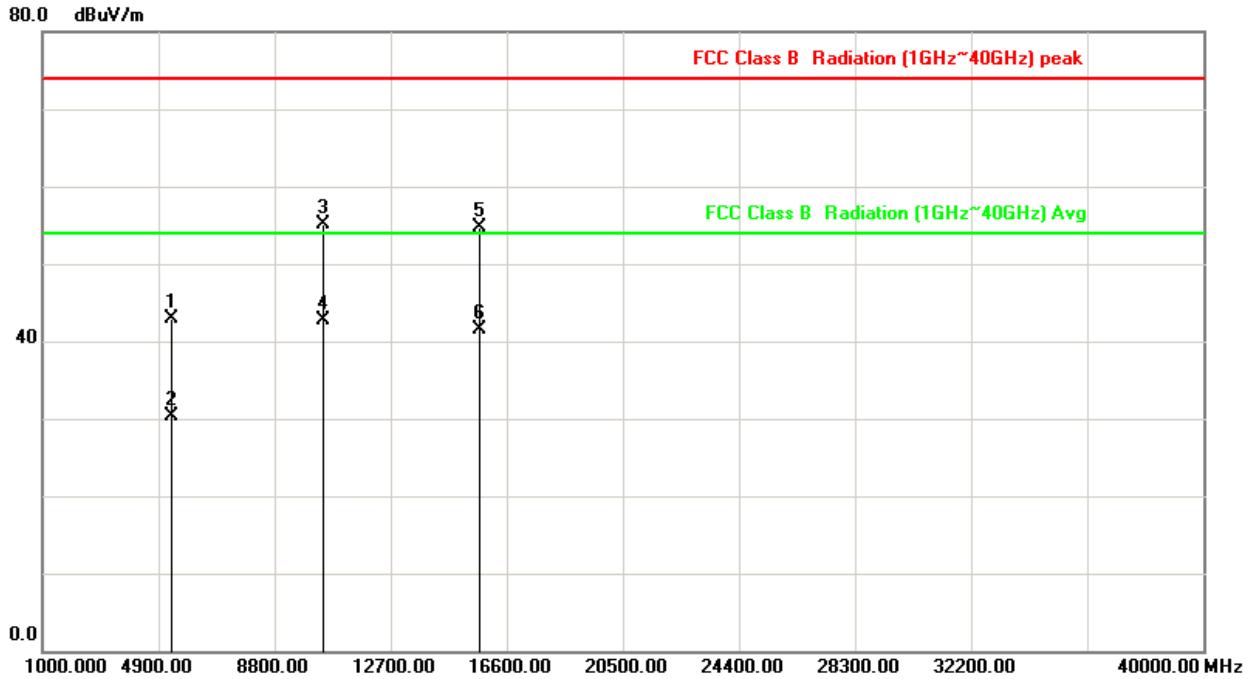


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	26.80	41.69	74.00	-32.31	peak
2	5350.000	14.89	15.16	30.05	54.00	-23.95	AVG
3	10460.000	26.07	30.65	56.72	74.00	-17.28	peak
4	10460.000	26.07	17.26	43.33	54.00	-10.67	AVG
5	15690.000	38.32	17.63	55.95	74.00	-18.05	peak
6	15690.000	38.32	3.86	42.18	54.00	-11.82	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH46(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

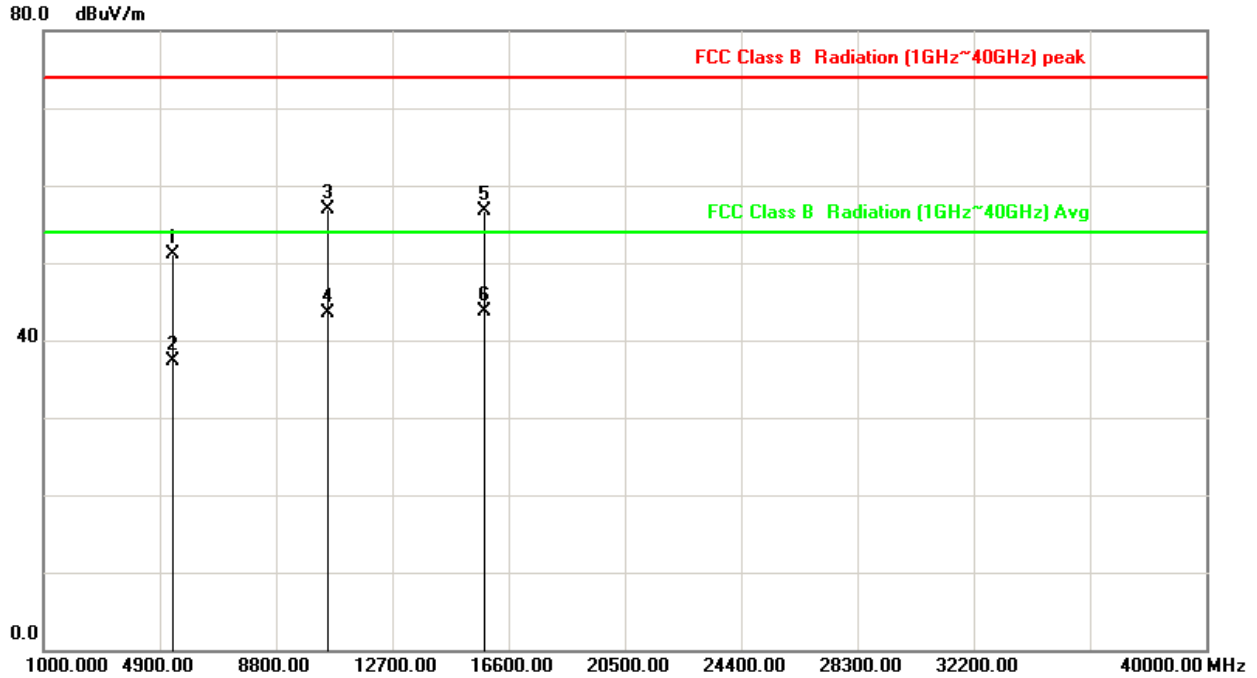


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	28.10	42.99	74.00	-31.01	peak
2	5350.000	14.89	15.46	30.35	54.00	-23.65	AVG
3	10460.000	26.07	29.10	55.17	74.00	-18.83	peak
4	10460.000	26.07	16.57	42.64	54.00	-11.36	AVG
5	15690.000	38.32	16.31	54.63	74.00	-19.37	peak
6	15690.000	38.32	3.28	41.60	54.00	-12.40	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH54(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

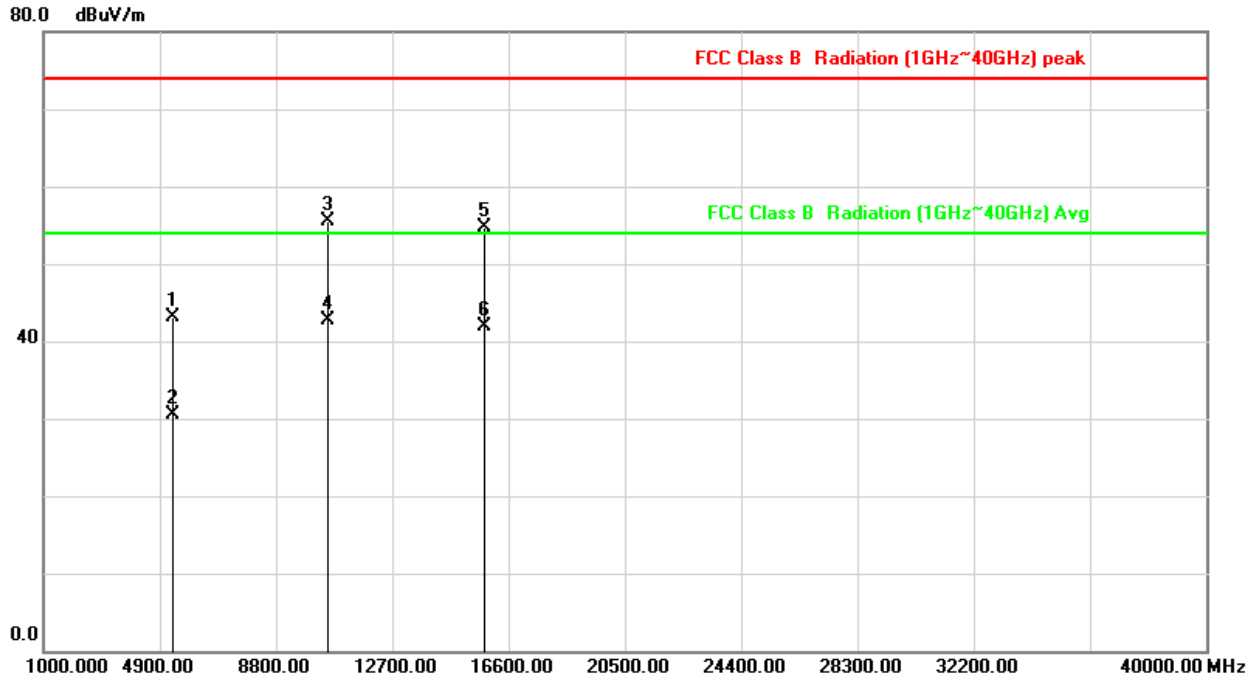


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	36.29	51.18	74.00	-22.82	peak
2	5350.000	14.89	22.39	37.28	54.00	-16.72	AVG
3	10540.000	26.28	30.62	56.90	74.00	-17.10	peak
4	10540.000	26.28	17.23	43.51	54.00	-10.49	AVG
5	15810.000	38.37	18.33	56.70	74.00	-17.30	peak
6	15810.000	38.37	5.26	43.63	54.00	-10.37	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH54(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

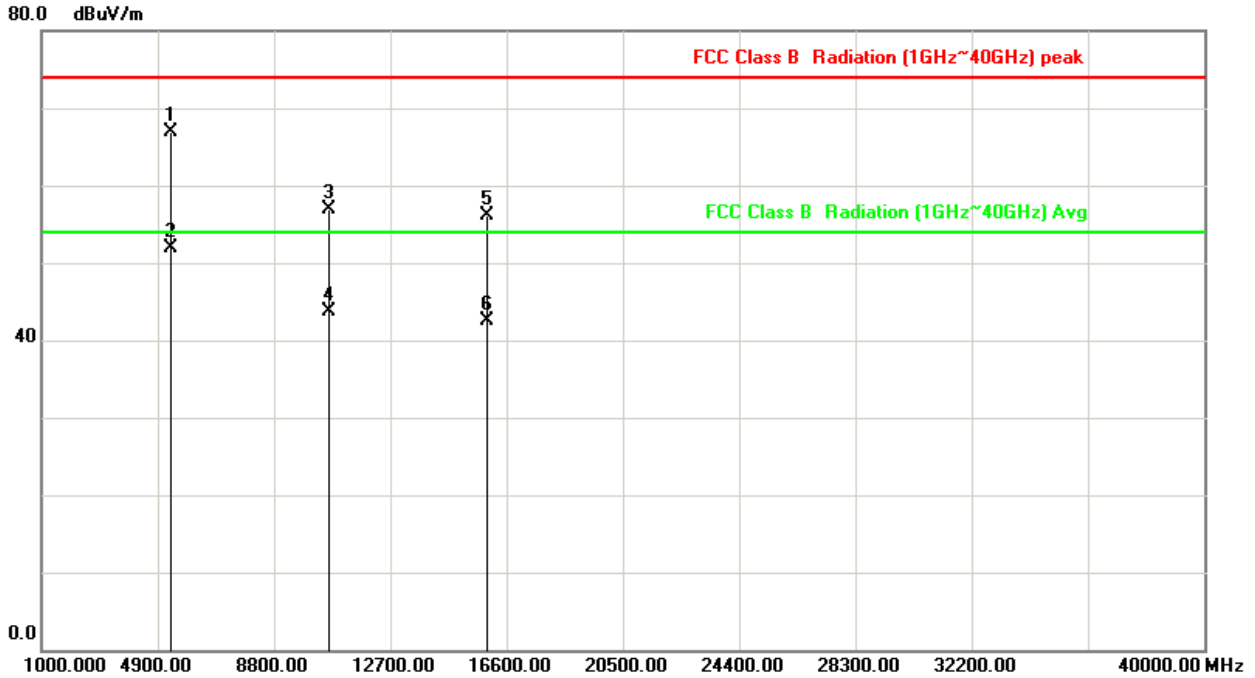


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	28.26	43.15	74.00	-30.85	peak
2	5350.000	14.89	15.59	30.48	54.00	-23.52	AVG
3	10540.000	26.28	29.31	55.59	74.00	-18.41	peak
4	10540.000	26.28	16.52	42.80	54.00	-11.20	AVG
5	15810.000	38.37	16.33	54.70	74.00	-19.30	peak
6	15810.000	38.37	3.57	41.94	54.00	-12.06	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH62(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

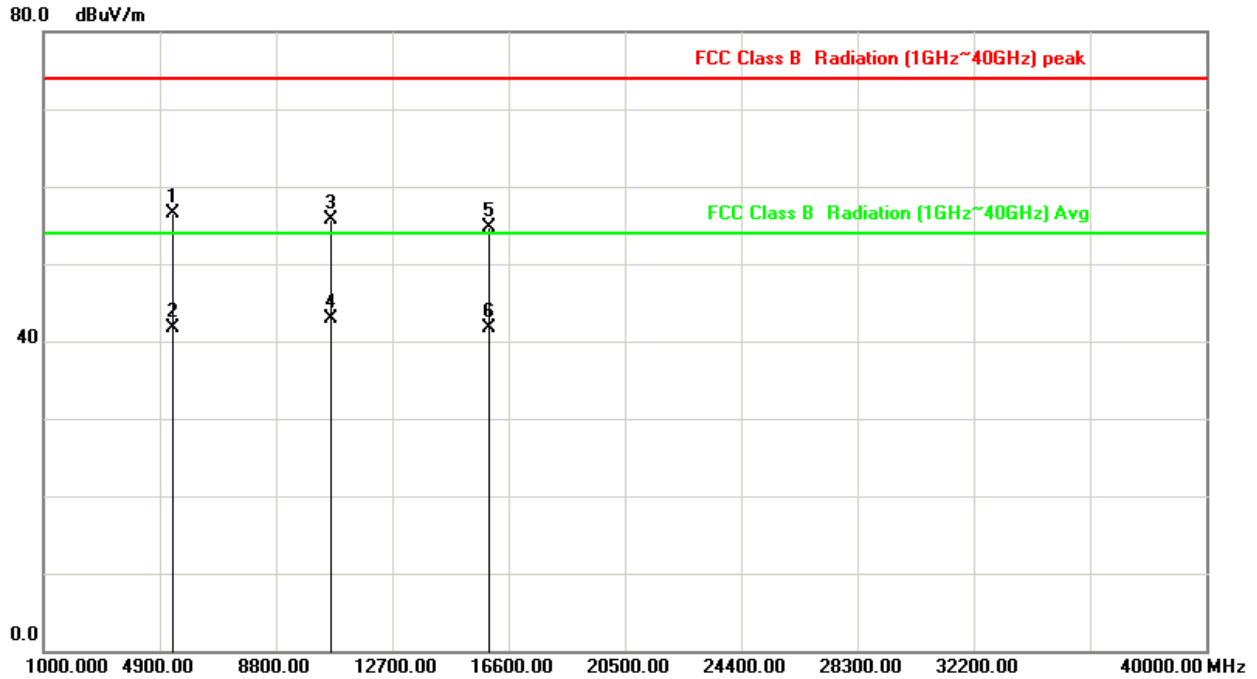


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	51.98	66.87	74.00	-7.13	peak
2	5350.000	14.89	37.11	52.00	54.00	-2.00	AVG
3	10620.000	26.52	30.36	56.88	74.00	-17.12	peak
4	10620.000	26.52	17.21	43.73	54.00	-10.27	AVG
5	15930.000	38.43	17.58	56.01	74.00	-17.99	peak
6	15930.000	38.43	4.12	42.55	54.00	-11.45	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH62(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

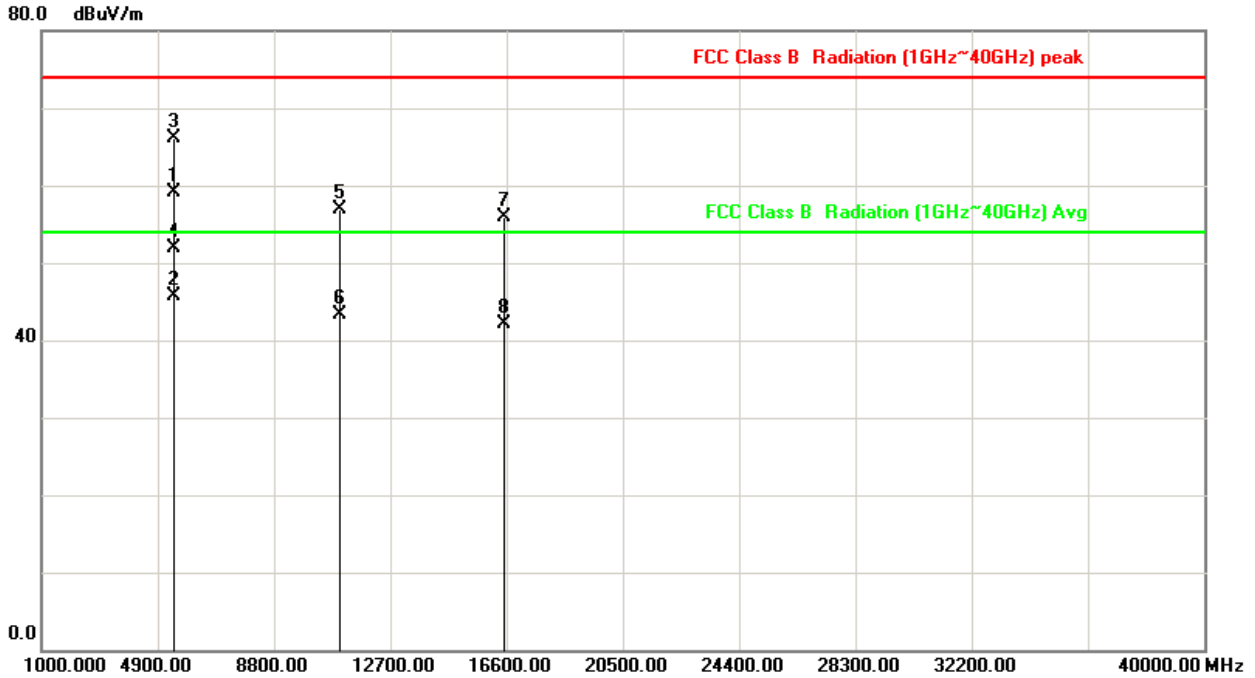


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5350.000	14.89	41.62	56.51	74.00	-17.49	peak
2	5350.000	14.89	26.77	41.66	54.00	-12.34	AVG
3	10620.000	26.52	29.10	55.62	74.00	-18.38	peak
4	10620.000	26.52	16.43	42.95	54.00	-11.05	AVG
5	15930.000	38.43	16.27	54.70	74.00	-19.30	peak
6	15930.000	38.43	3.22	41.65	54.00	-12.35	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH102(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

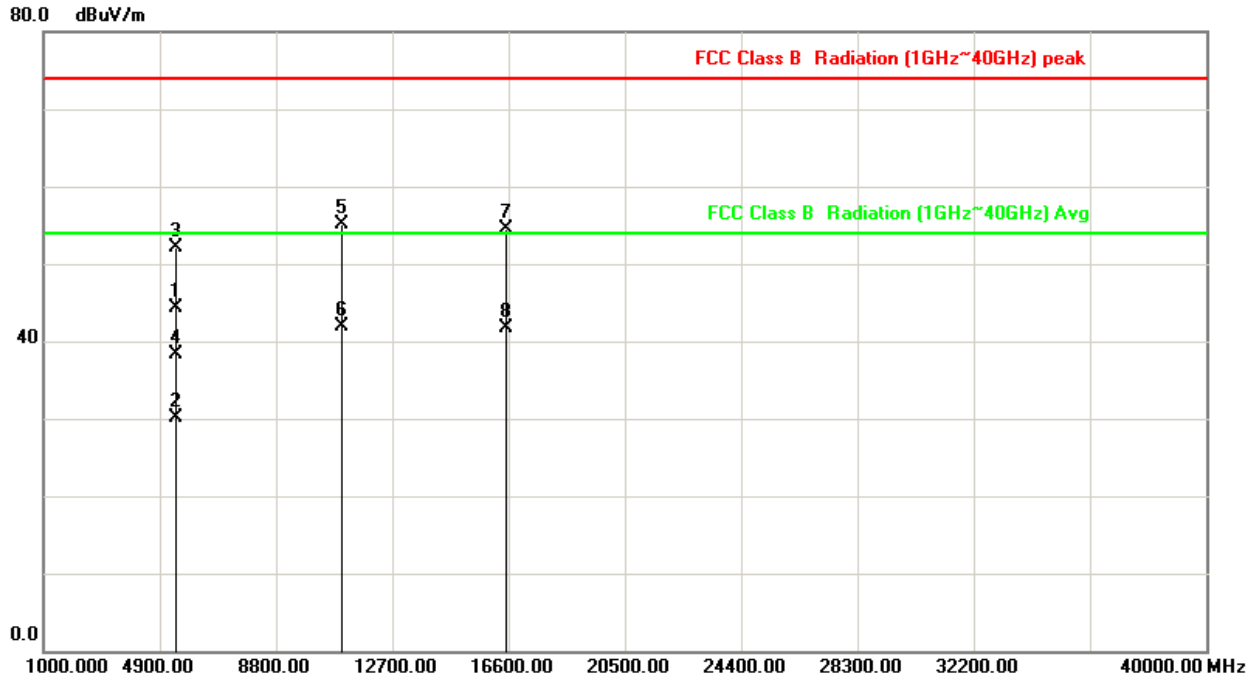


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5460.000	14.99	44.10	59.09	74.00	-14.91	peak
2	5460.000	14.99	30.68	45.67	54.00	-8.33	AVG
3	5470.000	14.99	51.13	66.12	74.00	-7.88	peak
4	5470.000	14.99	36.89	51.88	54.00	-2.12	AVG
5	11020.000	27.72	29.12	56.84	74.00	-17.16	peak
6	11020.000	27.72	15.68	43.40	54.00	-10.60	AVG
7	16530.000	42.91	13.02	55.93	74.00	-18.07	peak
8	16530.000	42.91	-0.74	42.17	54.00	-11.83	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH102(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

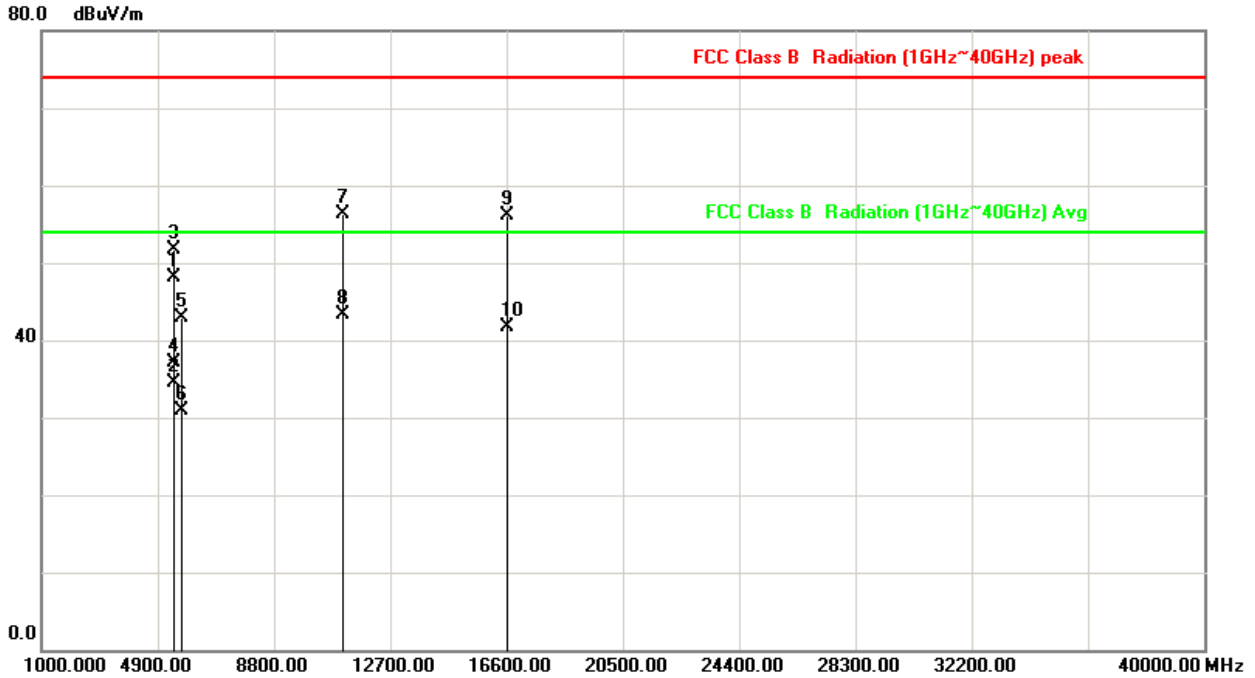


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5460.000	14.99	29.27	44.26	74.00	-29.74	peak
2	5460.000	14.99	15.13	30.12	54.00	-23.88	AVG
3	5470.000	14.99	37.06	52.05	74.00	-21.95	peak
4	5470.000	14.99	23.28	38.27	54.00	-15.73	AVG
5	11020.000	27.72	27.41	55.13	74.00	-18.87	peak
6	11020.000	27.72	14.26	41.98	54.00	-12.02	AVG
7	16530.000	42.91	11.61	54.52	74.00	-19.48	peak
8	16530.000	42.91	-1.28	41.63	54.00	-12.37	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH110(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

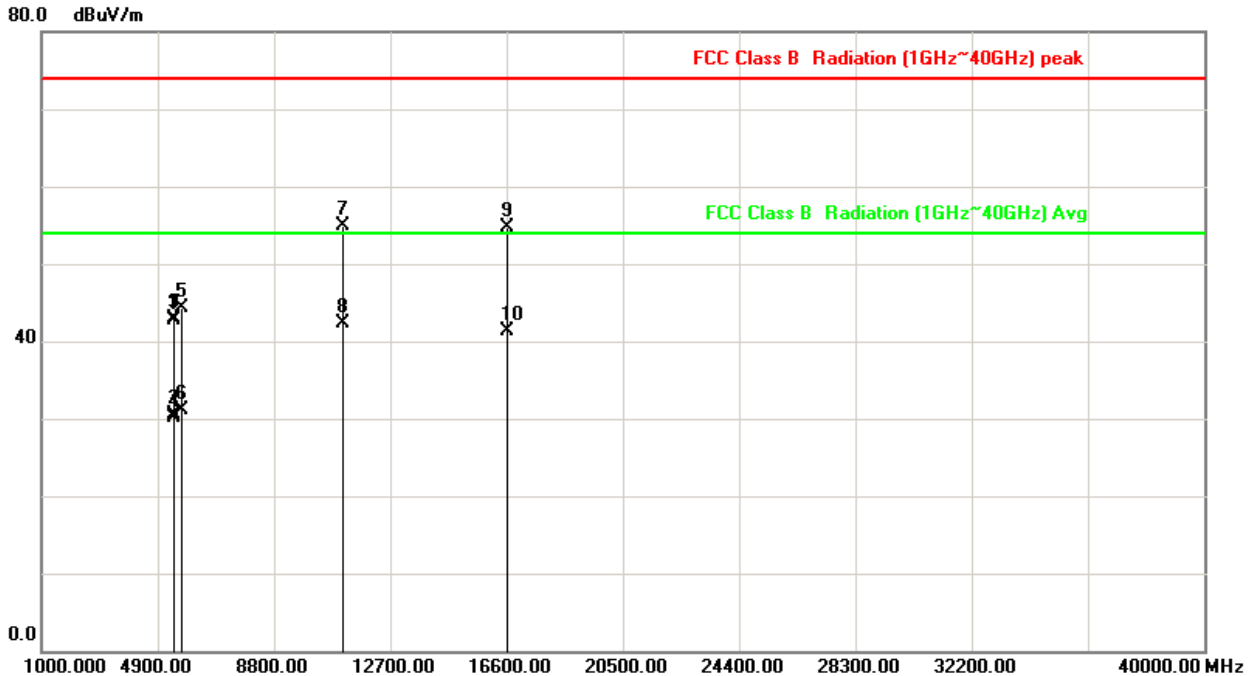


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5460.000	14.99	33.10	48.09	74.00	-25.91	peak
2	5460.000	14.99	19.43	34.42	54.00	-19.58	AVG
3	5470.000	14.99	36.79	51.78	74.00	-22.22	peak
4	5470.000	14.99	22.19	37.18	54.00	-16.82	AVG
5	5725.000	15.58	27.33	42.91	74.00	-31.09	peak
6	5725.000	15.58	15.39	30.97	54.00	-23.03	AVG
7	11100.000	27.91	28.34	56.25	74.00	-17.75	peak
8	11100.000	27.91	15.33	43.24	54.00	-10.76	AVG
9	16650.000	42.76	13.26	56.02	74.00	-17.98	peak
10	16650.000	42.76	-0.97	41.79	54.00	-12.21	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH110(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

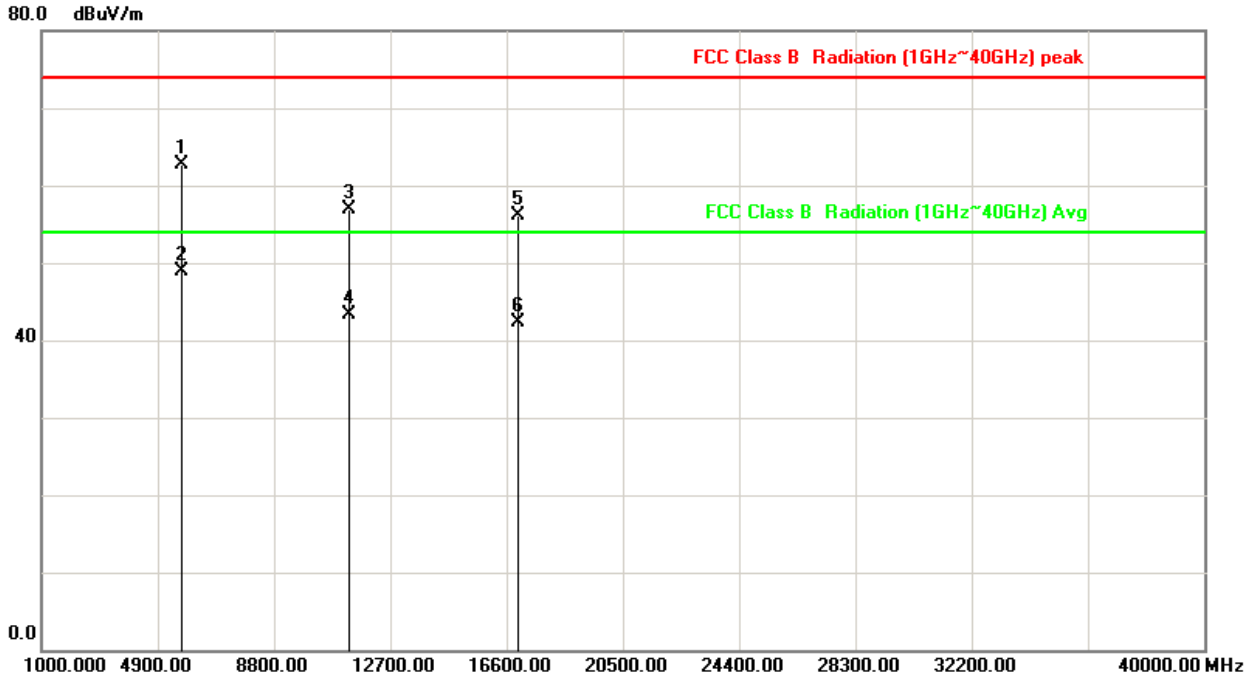


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5460.000	14.99	27.67	42.66	74.00	-31.34	peak
2	5460.000	14.99	15.43	30.42	54.00	-23.58	AVG
3	5470.000	14.99	27.90	42.89	74.00	-31.11	peak
4	5470.000	14.99	15.13	30.12	54.00	-23.88	AVG
5	5725.000	15.58	28.74	44.32	74.00	-29.68	peak
6	5725.000	15.58	15.57	31.15	54.00	-22.85	AVG
7	11100.000	27.91	27.06	54.97	74.00	-19.03	peak
8	11100.000	27.91	14.36	42.27	54.00	-11.73	AVG
9	16650.000	42.76	11.86	54.62	74.00	-19.38	peak
10	16650.000	42.76	-1.53	41.23	54.00	-12.77	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH134(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

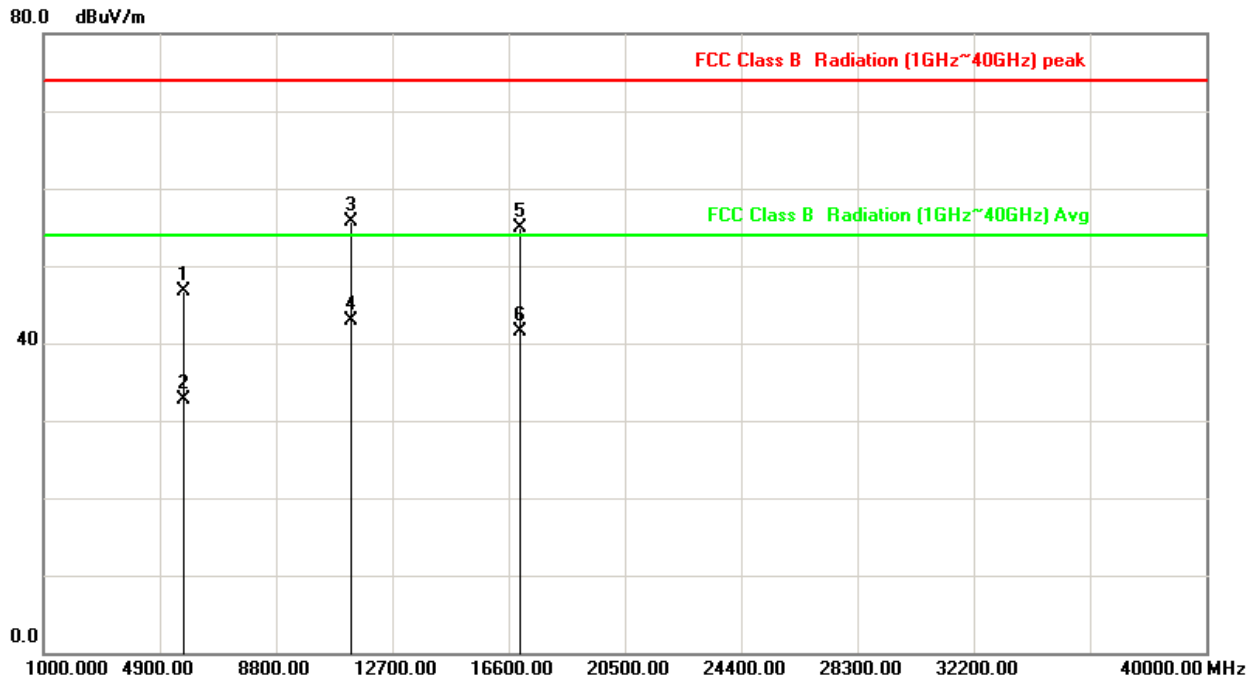


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5725.000	15.58	47.18	62.76	74.00	-11.24	peak
2	5725.000	15.58	33.35	48.93	54.00	-5.07	AVG
3	11340.000	28.48	28.35	56.83	74.00	-17.17	peak
4	11340.000	28.48	14.91	43.39	54.00	-10.61	AVG
5	17010.000	42.37	13.66	56.03	74.00	-17.97	peak
6	17010.000	42.37	-0.12	42.25	54.00	-11.75	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH134(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

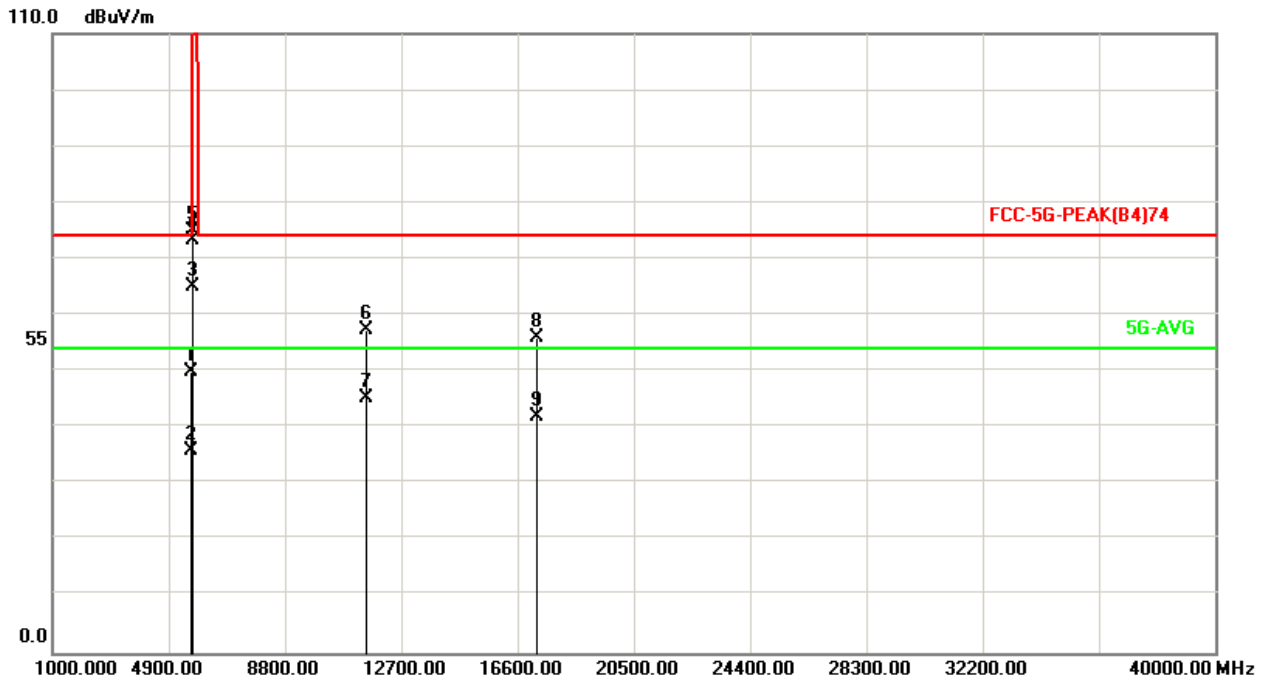


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5725.000	15.58	31.22	46.80	74.00	-27.20	peak
2	5725.000	15.58	17.19	32.77	54.00	-21.23	AVG
3	11340.000	28.48	27.21	55.69	74.00	-18.31	peak
4	11340.000	28.48	14.36	42.84	54.00	-11.16	AVG
5	17010.000	42.37	12.54	54.91	74.00	-19.09	peak
6	17010.000	42.37	-0.95	41.42	54.00	-12.58	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH151(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

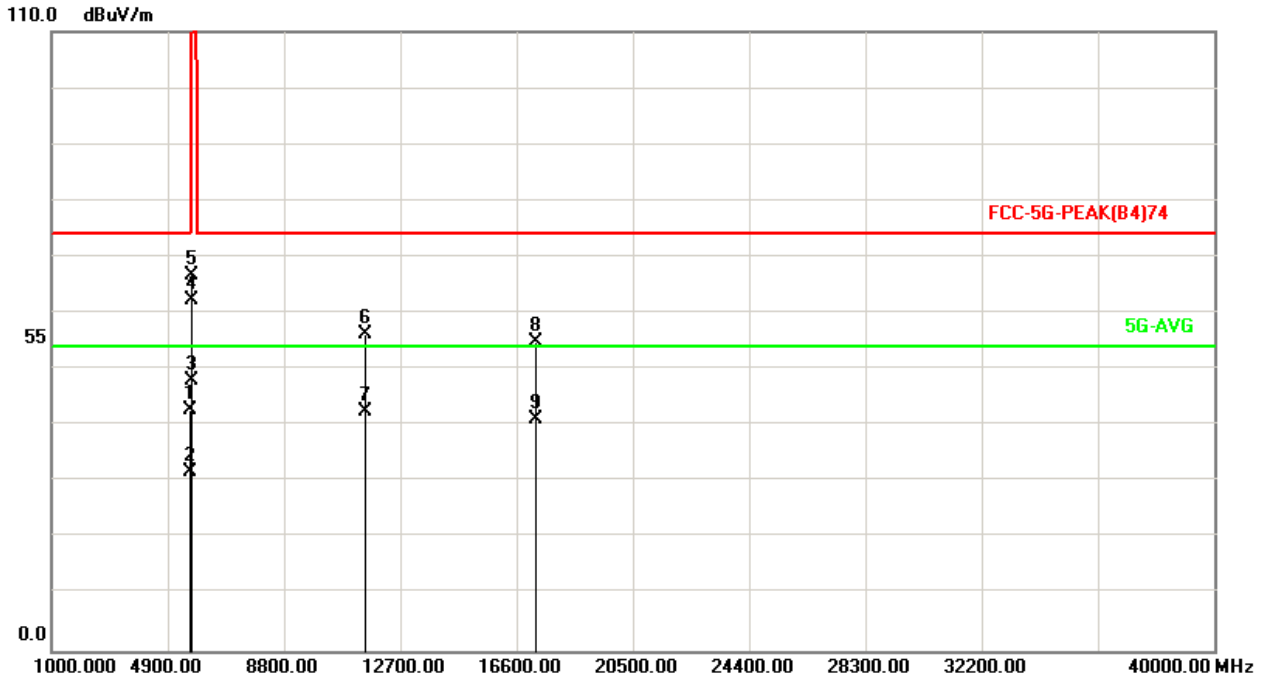


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5650.000	15.39	34.40	49.79	74.00	-24.21	peak
2	5650.000	15.39	20.61	36.00	54.00	-18.00	AVG
3	5700.000	15.52	49.59	65.11	105.20	-40.09	peak
4	5720.000	15.57	57.62	73.19	110.80	-37.61	peak
5	5725.000	15.58	59.48	75.06	122.20	-47.14	peak
6	11510.000	28.88	28.34	57.22	74.00	-16.78	peak
7	11510.000	28.88	16.34	45.22	54.00	-8.78	AVG
8	17265.000	43.38	12.58	55.96	74.00	-18.04	peak
9	17265.000	43.38	-1.32	42.06	54.00	-11.94	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH151(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

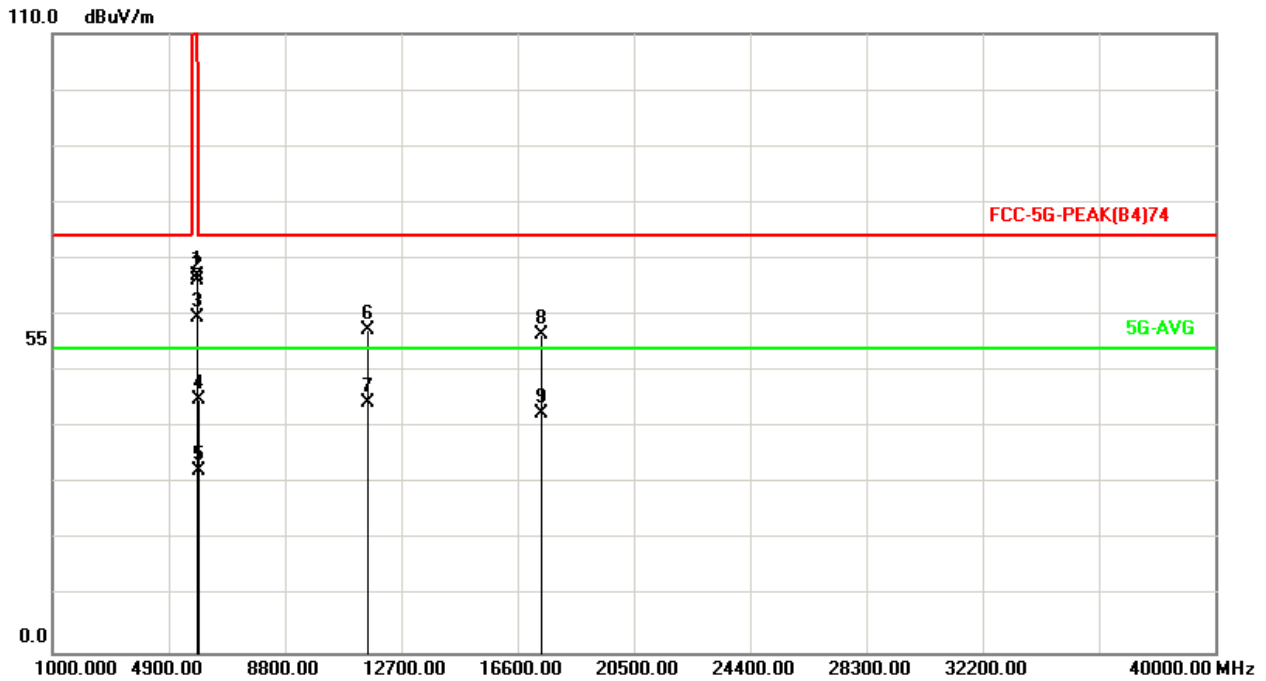


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5650.000	15.39	27.51	42.90	74.00	-31.10	peak
2	5650.000	15.39	16.43	31.82	54.00	-22.18	AVG
3	5700.000	15.52	32.53	48.05	105.20	-57.15	peak
4	5720.000	15.57	46.69	62.26	110.80	-48.54	peak
5	5725.000	15.58	51.05	66.63	122.20	-55.57	peak
6	11510.000	28.88	27.31	56.19	74.00	-17.81	peak
7	11510.000	28.88	13.59	42.47	54.00	-11.53	AVG
8	17265.000	43.38	11.35	54.73	74.00	-19.27	peak
9	17265.000	43.38	-2.34	41.04	54.00	-12.96	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH159(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

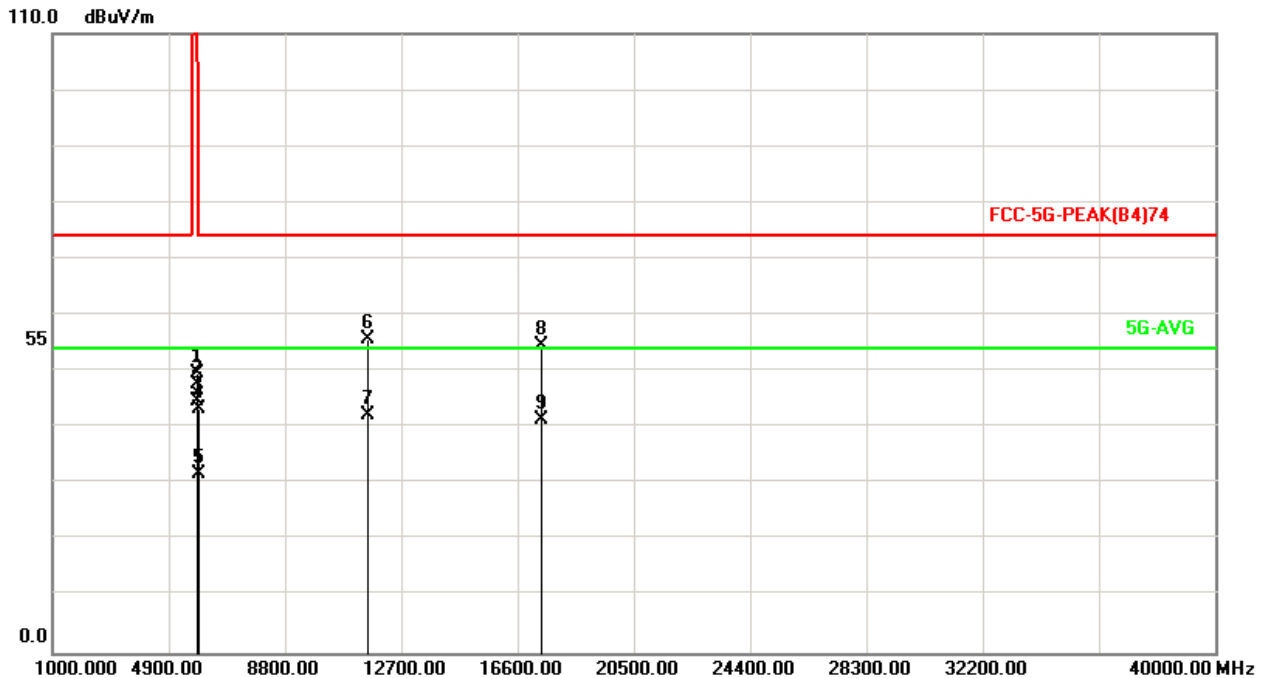


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5850.000	15.89	51.14	67.03	122.20	-55.17	peak
2	5855.000	15.90	50.19	66.09	110.80	-44.71	peak
3	5875.000	15.95	43.72	59.67	105.20	-45.53	peak
4	5925.000	16.07	28.83	44.90	74.00	-29.10	peak
5	5925.000	16.07	16.12	32.19	54.00	-21.81	AVG
6	11590.000	29.04	28.34	57.38	74.00	-16.62	peak
7	11590.000	29.04	15.31	44.35	54.00	-9.65	AVG
8	17385.000	43.85	12.55	56.40	74.00	-17.60	peak
9	17385.000	43.85	-1.32	42.53	54.00	-11.47	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH159(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

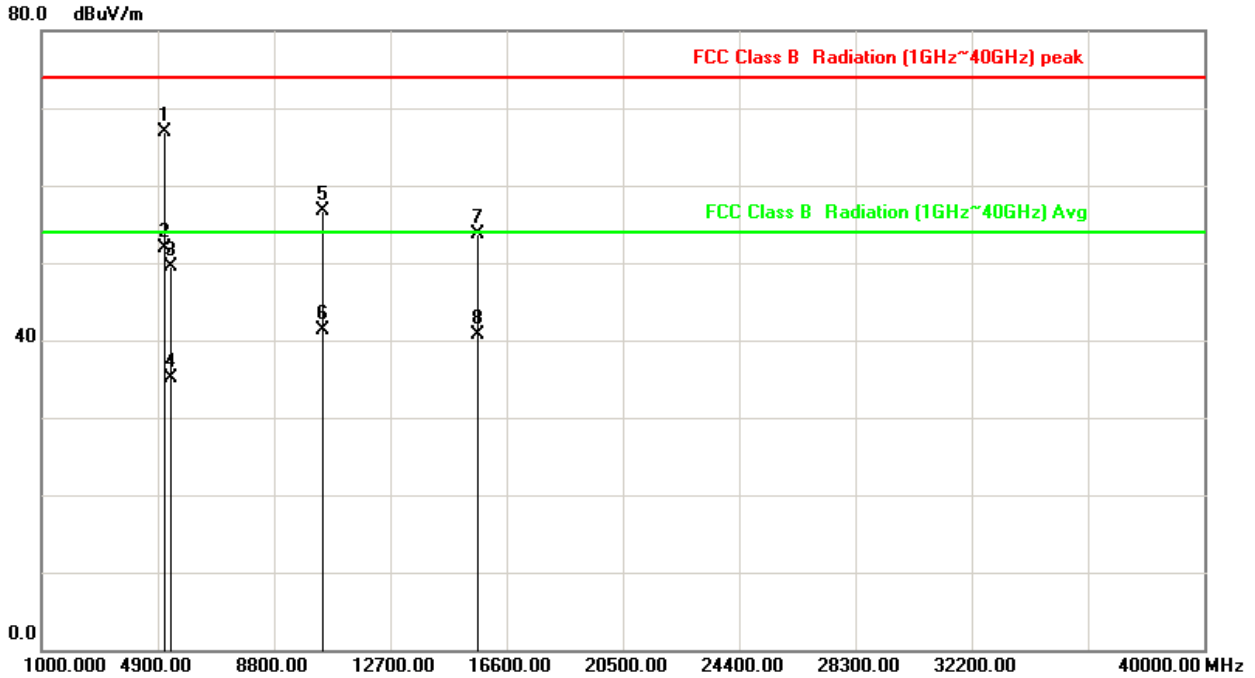


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5850.000	15.89	33.72	49.61	122.20	-72.59	peak
2	5855.000	15.90	31.89	47.79	110.80	-63.01	peak
3	5875.000	15.95	28.61	44.56	105.20	-60.64	peak
4	5925.000	16.07	27.28	43.35	74.00	-30.65	peak
5	5925.000	16.07	15.61	31.68	54.00	-22.32	AVG
6	11590.000	29.04	26.71	55.75	74.00	-18.25	peak
7	11590.000	29.04	13.26	42.30	54.00	-11.70	AVG
8	17385.000	43.85	10.65	54.50	74.00	-19.50	peak
9	17385.000	43.85	-2.38	41.47	54.00	-12.53	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH42(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

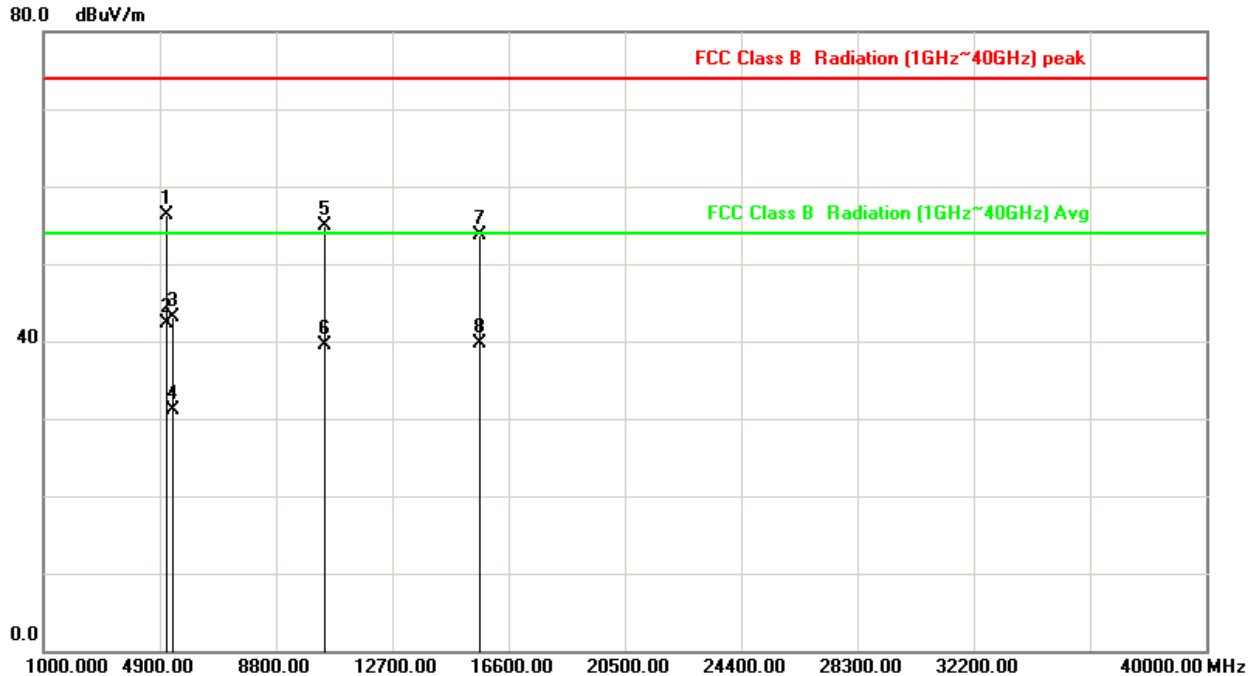


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5150.000	14.73	52.24	66.97	74.00	-7.03	peak
2	5150.000	14.73	37.18	51.91	54.00	-2.09	AVG
3	5350.000	14.89	34.60	49.49	74.00	-24.51	peak
4	5350.000	14.89	20.17	35.06	54.00	-18.94	AVG
5	10420.000	25.98	30.73	56.71	74.00	-17.29	peak
6	10420.000	25.98	15.26	41.24	54.00	-12.76	AVG
7	15630.000	38.29	15.34	53.63	74.00	-20.37	peak
8	15630.000	38.29	2.38	40.67	54.00	-13.33	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH42(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

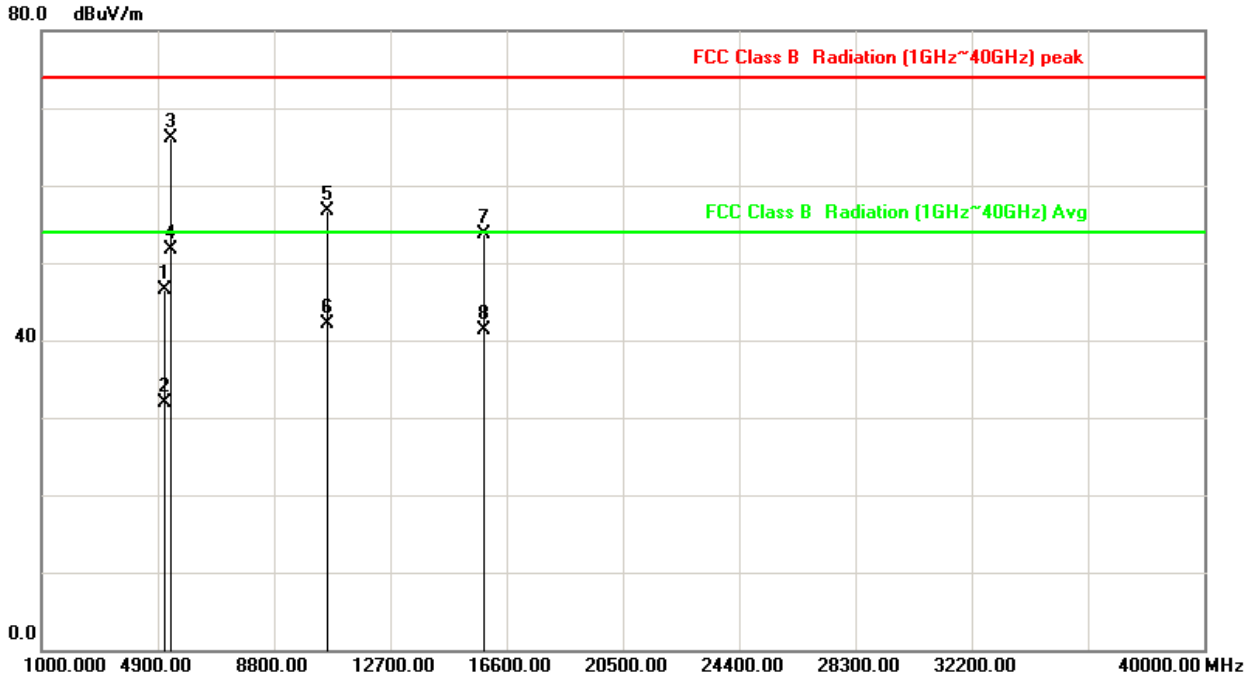


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5150.000	14.73	41.63	56.36	74.00	-17.64	peak
2	5150.000	14.73	27.67	42.40	54.00	-11.60	AVG
3	5350.000	14.89	28.13	43.02	74.00	-30.98	peak
4	5350.000	14.89	16.16	31.05	54.00	-22.95	AVG
5	10420.000	25.98	28.92	54.90	74.00	-19.10	peak
6	10420.000	25.98	13.61	39.59	54.00	-14.41	AVG
7	15630.000	38.29	15.32	53.61	74.00	-20.39	peak
8	15630.000	38.29	1.49	39.78	54.00	-14.22	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH58(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

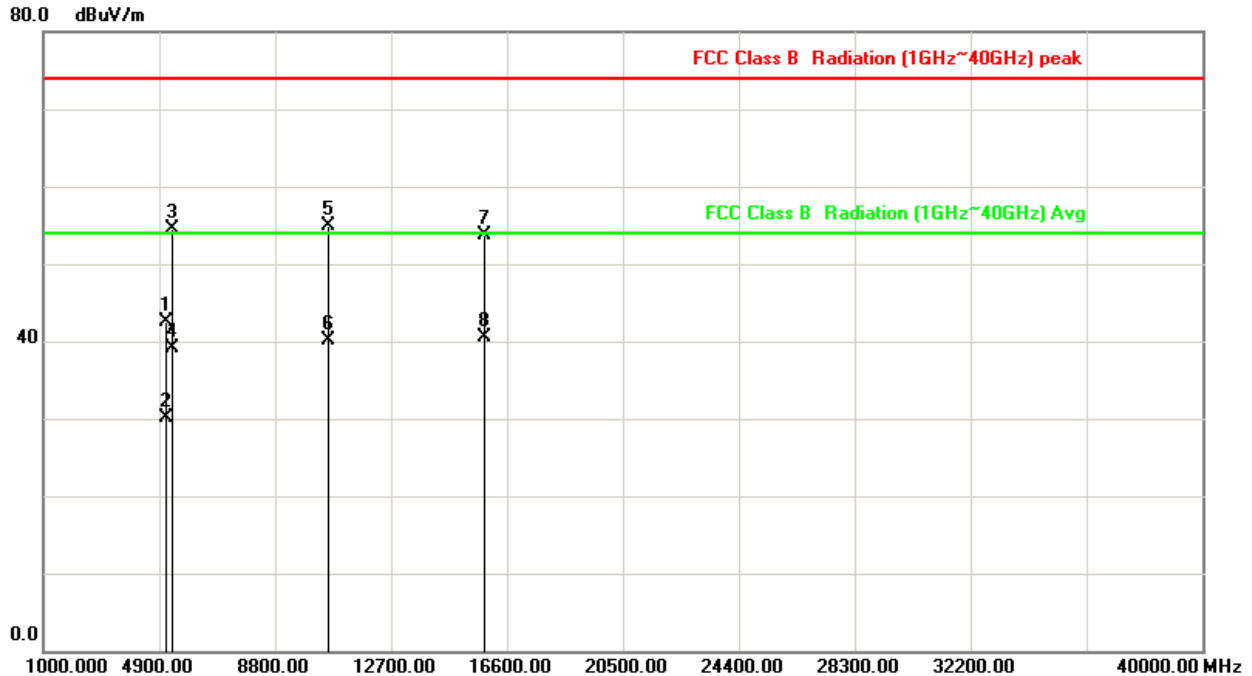


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5150.000	14.73	31.81	46.54	74.00	-27.46	peak
2	5150.000	14.73	17.16	31.89	54.00	-22.11	AVG
3	5350.000	14.89	51.31	66.20	74.00	-7.80	peak
4	5350.000	14.89	36.75	51.64	54.00	-2.36	AVG
5	10580.000	26.40	30.22	56.62	74.00	-17.38	peak
6	10580.000	26.40	15.68	42.08	54.00	-11.92	AVG
7	15870.000	38.40	15.34	53.74	74.00	-20.26	peak
8	15870.000	38.40	2.81	41.21	54.00	-12.79	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH58(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

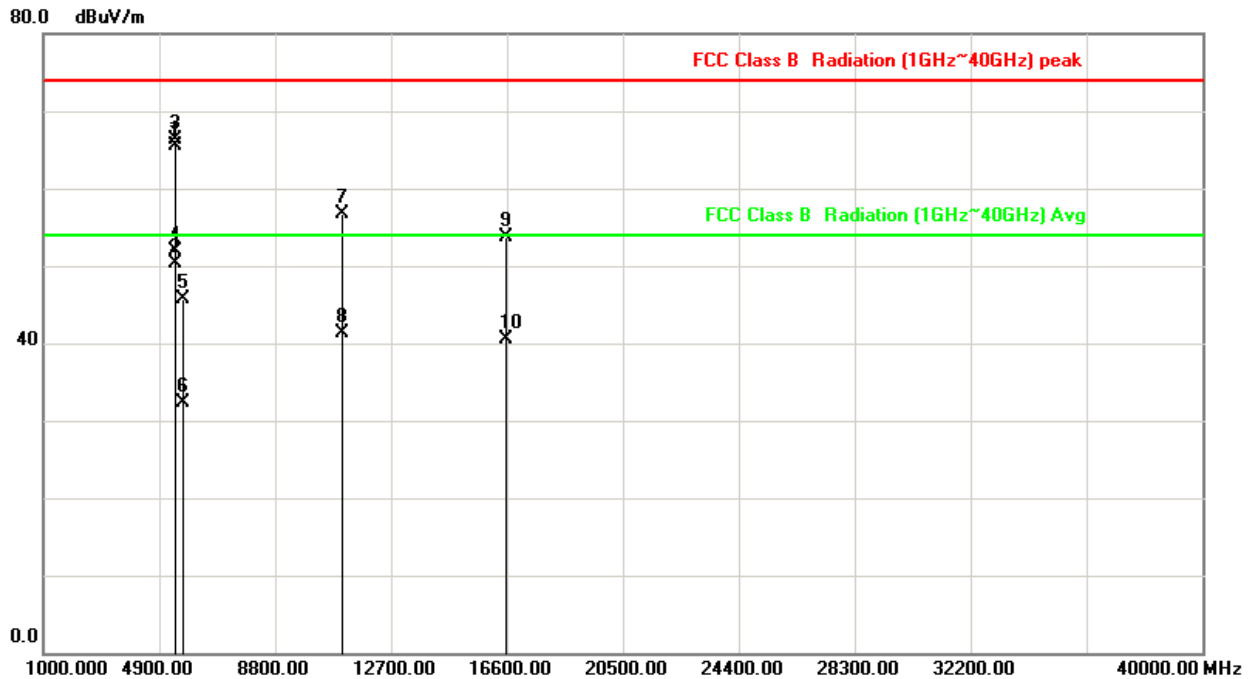


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5150.000	14.73	27.74	42.47	74.00	-31.53	peak
2	5150.000	14.73	15.41	30.14	54.00	-23.86	AVG
3	5350.000	14.89	39.64	54.53	74.00	-19.47	peak
4	5350.000	14.89	24.26	39.15	54.00	-14.85	AVG
5	10580.000	26.40	28.46	54.86	74.00	-19.14	peak
6	10580.000	26.40	13.62	40.02	54.00	-13.98	AVG
7	15870.000	38.40	15.23	53.63	74.00	-20.37	peak
8	15870.000	38.40	2.11	40.51	54.00	-13.49	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH106(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

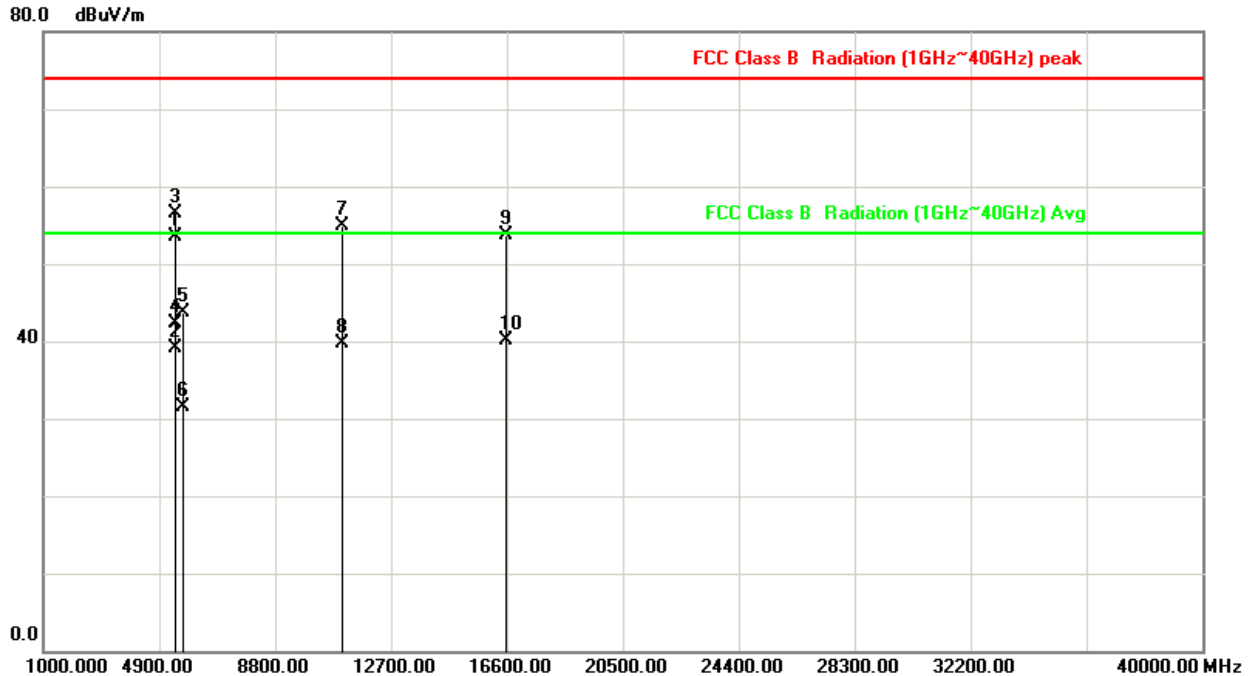


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5460.000	14.99	50.49	65.48	74.00	-8.52	peak
2	5460.000	14.99	35.28	50.27	54.00	-3.73	AVG
3	5470.000	14.99	51.29	66.28	74.00	-7.72	peak
4	5470.000	14.99	36.87	51.86	54.00	-2.14	AVG
5	5725.000	15.58	30.14	45.72	74.00	-28.28	peak
6	5725.000	15.58	16.67	32.25	54.00	-21.75	AVG
7	11060.000	27.81	28.93	56.74	74.00	-17.26	peak
8	11060.000	27.81	13.51	41.32	54.00	-12.68	AVG
9	16590.000	42.84	10.81	53.65	74.00	-20.35	peak
10	16590.000	42.84	-2.33	40.51	54.00	-13.49	AVG

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH106(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

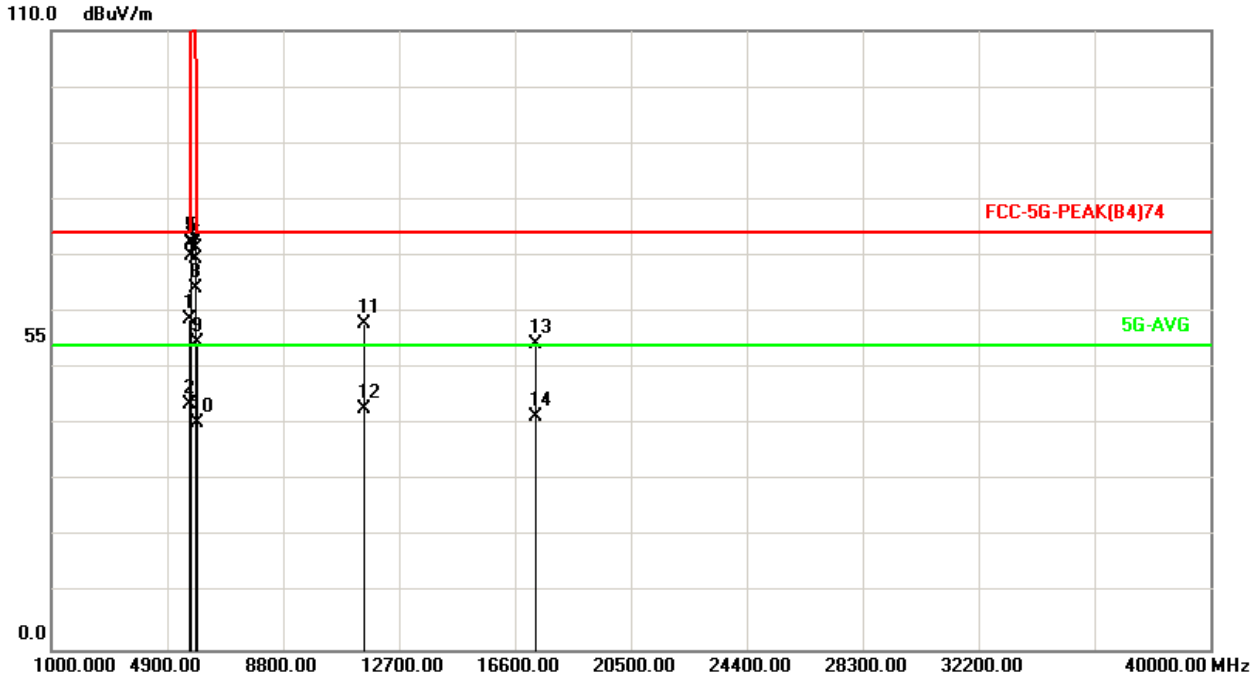


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5460.000	14.99	38.55	53.54	74.00	-20.46	peak
2	5460.000	14.99	24.13	39.12	54.00	-14.88	AVG
3	5470.000	14.99	41.49	56.48	74.00	-17.52	peak
4	5470.000	14.99	27.25	42.24	54.00	-11.76	AVG
5	5725.000	15.58	28.09	43.67	74.00	-30.33	peak
6	5725.000	15.58	15.93	31.51	54.00	-22.49	AVG
7	11060.000	27.81	27.15	54.96	74.00	-19.04	peak
8	11060.000	27.81	11.82	39.63	54.00	-14.37	AVG
9	16590.000	42.84	10.96	53.80	74.00	-20.20	peak
10	16590.000	42.84	-2.68	40.16	54.00	-13.84	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH155(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %

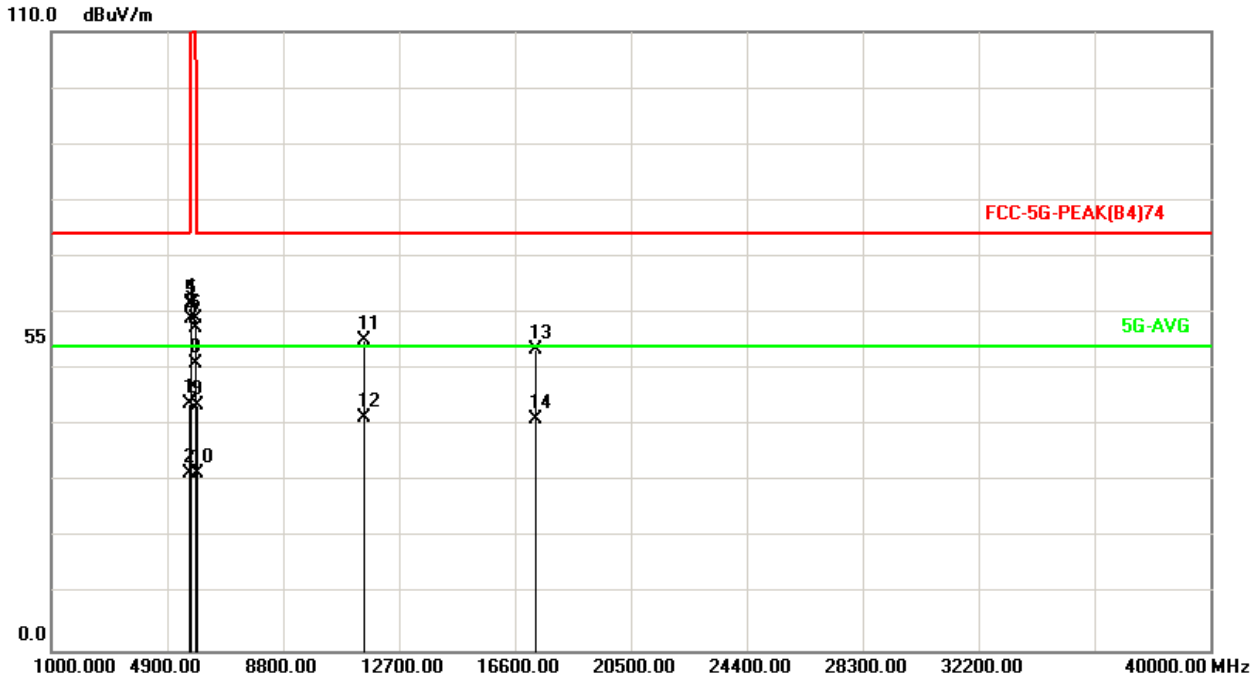


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5650.000	15.39	43.42	58.81	74.00	-15.19	peak
2	5650.000	15.39	28.32	43.71	54.00	-10.29	AVG
3	5700.000	15.52	54.43	69.95	105.20	-35.25	peak
4	5720.000	15.57	56.74	72.31	110.80	-38.49	peak
5	5725.000	15.58	56.89	72.47	122.20	-49.73	peak
6	5850.000	15.89	55.48	71.37	122.20	-50.83	peak
7	5855.000	15.90	53.44	69.34	110.80	-41.46	peak
8	5875.000	15.95	48.26	64.21	105.20	-40.99	peak
9	5925.000	16.07	38.42	54.49	74.00	-19.51	peak
10	5925.000	16.07	24.10	40.17	54.00	-13.83	AVG
11	11550.000	28.96	28.99	57.95	74.00	-16.05	peak
12	11550.000	28.96	13.67	42.63	54.00	-11.37	AVG
13	17325.000	43.62	10.65	54.27	74.00	-19.73	peak
14	17325.000	43.62	-2.13	41.49	54.00	-12.51	AVG

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= Antenna Factor + Cable Loss - Amplifier Factor



Power	: DC 5V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH155(2TX)	Temperature	: 26 °C
Test date	: Dec. 09, 2018	Humidity	: 48 %



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	5650.000	15.39	28.37	43.76	74.00	-30.24	peak
2	5650.000	15.39	16.23	31.62	54.00	-22.38	AVG
3	5700.000	15.52	43.44	58.96	105.20	-46.24	peak
4	5720.000	15.57	46.19	61.76	110.80	-49.04	peak
5	5725.000	15.58	45.96	61.54	122.20	-60.66	peak
6	5850.000	15.89	43.18	59.07	122.20	-63.13	peak
7	5855.000	15.90	41.57	57.47	110.80	-53.33	peak
8	5875.000	15.95	34.98	50.93	105.20	-54.27	peak
9	5925.000	16.07	27.54	43.61	74.00	-30.39	peak
10	5925.000	16.07	15.35	31.42	54.00	-22.58	AVG
11	11550.000	28.96	26.21	55.17	74.00	-18.83	peak
12	11550.000	28.96	12.36	41.32	54.00	-12.68	AVG
13	17325.000	43.62	9.81	53.43	74.00	-20.57	peak
14	17325.000	43.62	-2.61	41.01	54.00	-12.99	AVG

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:

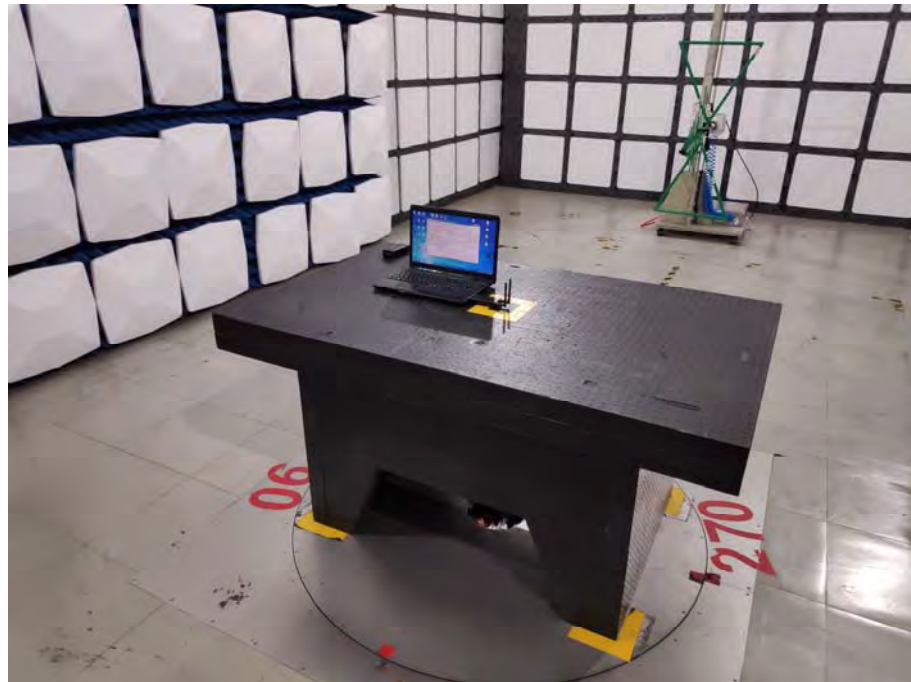
MHz	MHz	MHz	GHz
0.09000 – 0.11000	16.42000 – 16.42300	399.9 – 410.0	4.500 – 5.150
0.49500 – 0.505**	16.69475 – 16.69525	608.0 – 614.0	5.350 – 5.460
2.17350 – 2.19050	16.80425 – 16.80475	960.0 – 1240.0	7.250 – 7.750
4.12500 – 4.12800	25.50000 – 25.67000	1300.0 – 1427.0	8.025 – 8.500
4.17725 – 4.17775	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



6.8. Test Photographs (30MHz ~ 1GHz)

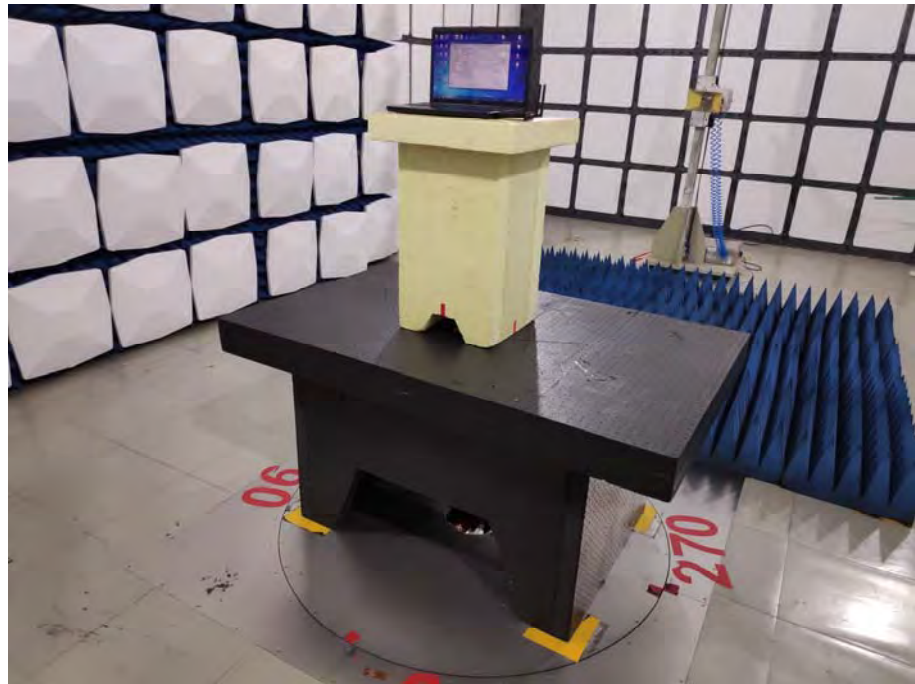
Front View





6.9. Test Photographs (1GHz ~ 40GHz)

Front View





7. On Time, Duty Cycle and Measurement methods

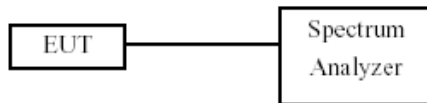
7.1. Test Limit

None; for reporting purposes only.

7.2. Test Procedure

KDB 789033 Zero-Span Spectrum Analyzer Method.

7.3. Test Setup Layout



7.4. Test Result and Data

Temperature: 21°C

Humidity: 56%

Test Date: Dec. 08, 2018

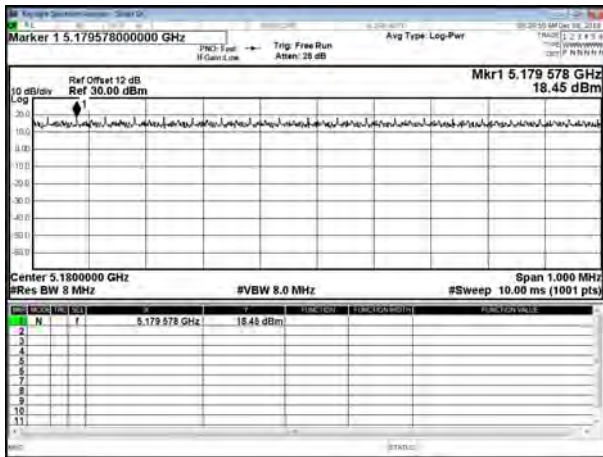
Modulation Type	On Time (msec)	Period Time (msec)	Duty Cycle (%)	1/T Minimum VBW(Hz)	Duty Cycle correction Factor (dB)
802.11a	100.00	100.00	100.00%	10.00	0.00
802.11n HT20	100.00	100.00	100.00%	10.00	0.00
802.11n HT40	100.00	100.00	100.00%	10.00	0.00
802.11ac VHT20	100.00	100.00	100.00%	10.00	0.00
802.11ac VHT40	100.00	100.00	100.00%	10.00	0.00
802.11ac VHT80	100.00	100.00	100.00%	10.00	0.00

7.5. Measurement Methods

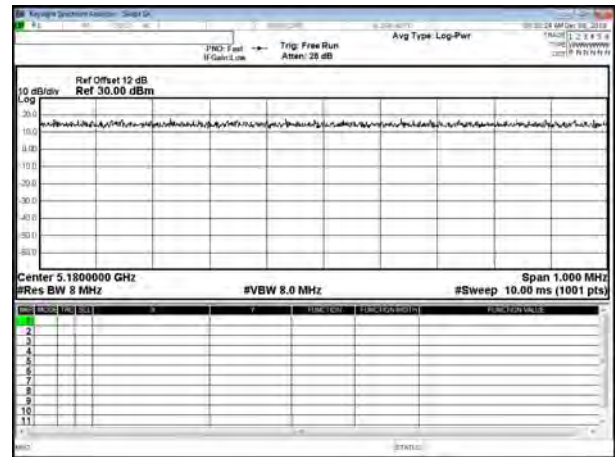
26 dB and 6dB Emission BW	KDB 789033 D02 v02r01, Section C
99% Occupied BW	KDB 789033 D02 v02r01, Section D
Conducted Output Power	KDB 789033 D02 v02r01, Section E.2.d and E.3.b (Method PM-G)
Power Spectral Density	KDB 789033 D02 v02r01, Section F
Unwanted emissions in restricted bands	KDB 789033 D02 v02r01, Sections G and H
Unwanted emissions in non-restricted bands	KDB 789033 D02 v02r01, Sections G and H



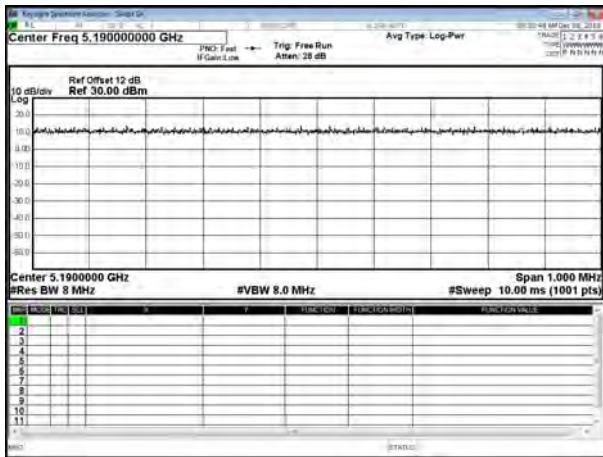
Modulation Standard: 802.11a (6Mbps)



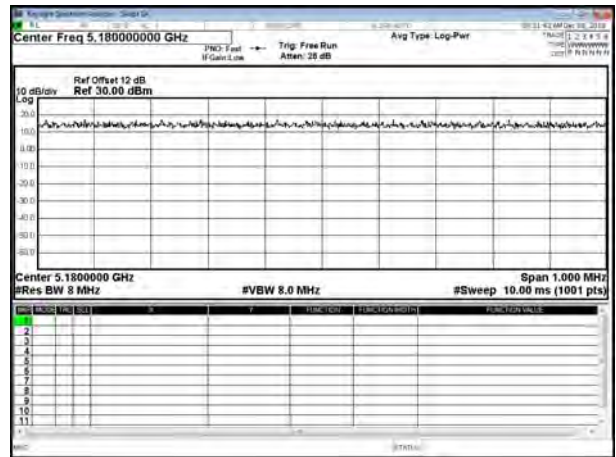
Modulation Standard: 802.11n HT20 (6.5Mbps)



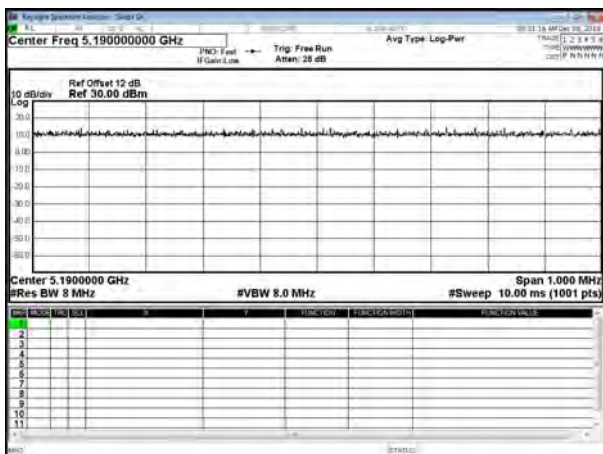
Modulation Standard: 802.11n HT40 (13.5Mbps)



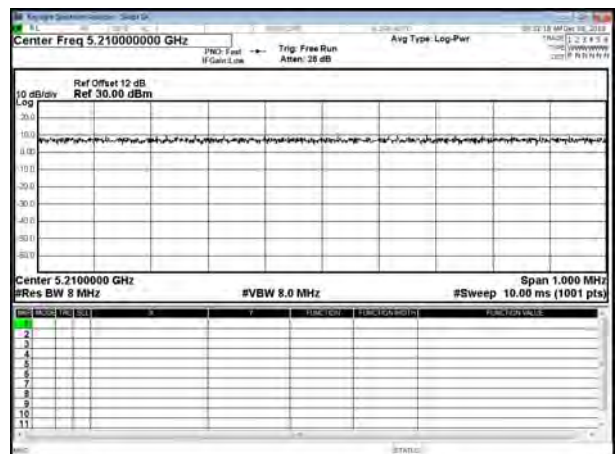
Modulation Standard: 802.11ac VHT20 (29.3Mbps)



Modulation Standard: 802.11ac VHT40 (13.5Mbps)



Modulation Standard: 802.11ac VHT80 (29.3Mbps)





8. 6dB Bandwidth & 99% Bandwidth

8.1. Test Limit

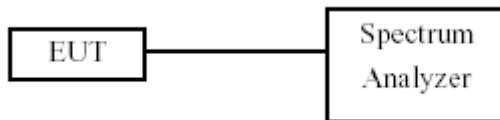
FCC §15.407

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

8.2. Test Procedure

Reference to 789033 D02 General UNII Test Procedures New Rules v01: The transmitter output is connected to a spectrum analyzer with the RBW set to 100KHz, the VBW $\geq 3 \times$ RBW, peak detector and max hold.

8.3. Test Setup Layout



**8.4. Test Result and Data (6dB Bandwidth)**

Temperature: 21°C

Humidity: 56%

Test Date: Dec. 08, 2018

In the 5.8G Band**For 1TX**

Modulation Type	Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)
			ANT A		
802.11a	149	5745	16.56		0.50
	157	5785	16.60		0.50
	165	5825	16.59		0.50
802.11ac VHT20	149	5745	17.78		0.50
	157	5785	17.78		0.50
	165	5825	17.75		0.50
802.11ac VHT40	155	5755	36.50		0.50
	159	5795	36.45		0.50
802.11ac VHT80	155	5775	75.83		0.50

For 2TX

Modulation Type	Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)
			ANT A	ANT B	
802.11ac VHT20	149	5745	17.79	17.73	0.50
	157	5785	17.82	17.70	0.50
	165	5825	17.75	17.68	0.50
802.11ac VHT40	155	5755	36.57	36.40	0.50
	159	5795	36.52	36.44	0.50
802.11ac VHT80	155	5775	75.51	75.59	0.50

**8.5. Test Result and Data (99% Bandwidth)**

Temperature: 21°C

Humidity: 56%

Test Date: Dec. 08, 2018

In the 5.8G Band**For1TX**

Modulation Type	Channel	Frequency (MHz)	99% Bandwidth (MHz)	
			ANT A	
802.11a	149	5745	16.656	
	157	5785	16.682	
	165	5825	16.689	
802.11ac VHT20	149	5745	17.826	
	157	5785	17.798	
	165	5825	17.761	
802.11ac VHT40	155	5755	36.457	
	159	5795	36.422	
802.11ac VHT80	155	5775	75.147	

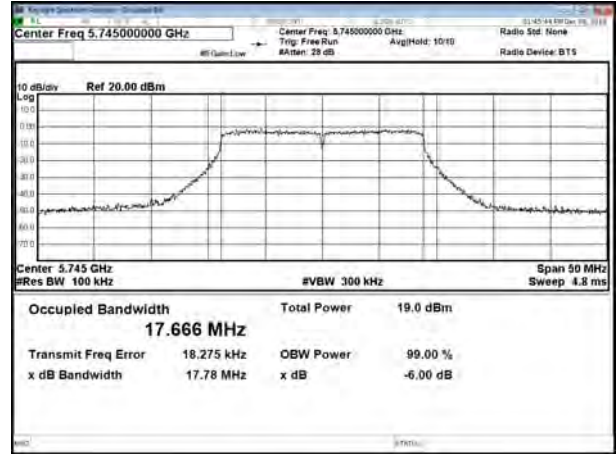
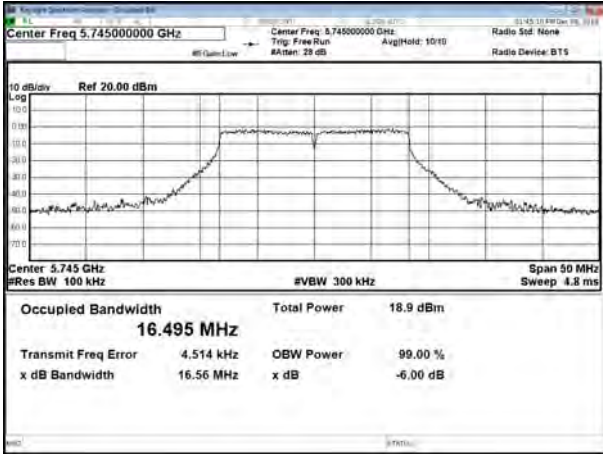
For2TX

Modulation Type	Channel	Frequency (MHz)	99% Bandwidth (MHz)	
			ANT A	ANT B
802.11ac VHT20	149	5745	17.741	17.709
	157	5785	17.815	17.698
	165	5825	17.722	17.701
802.11ac VHT40	155	5755	36.402	36.318
	159	5795	36.410	36.297
802.11ac VHT80	155	5775	75.078	75.029



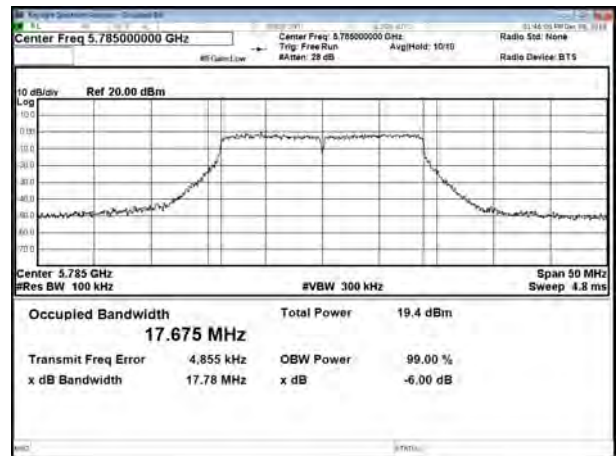
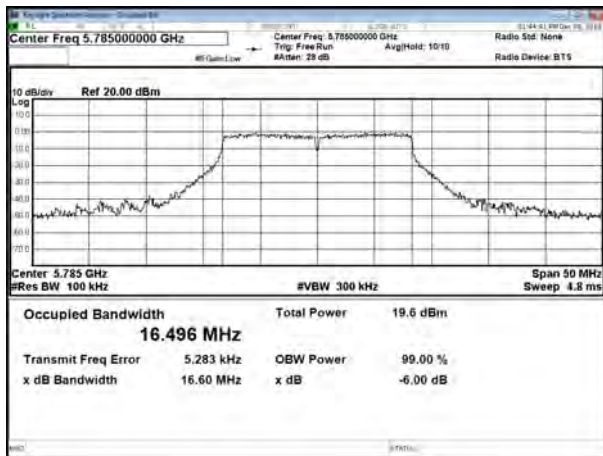
6dB Bandwidth
For 1TX
Modulation Standard: 802.11a (6Mbps)
CH149

Modulation Standard: 802.11ac, VHT20 (6.5Mbps)
CH149



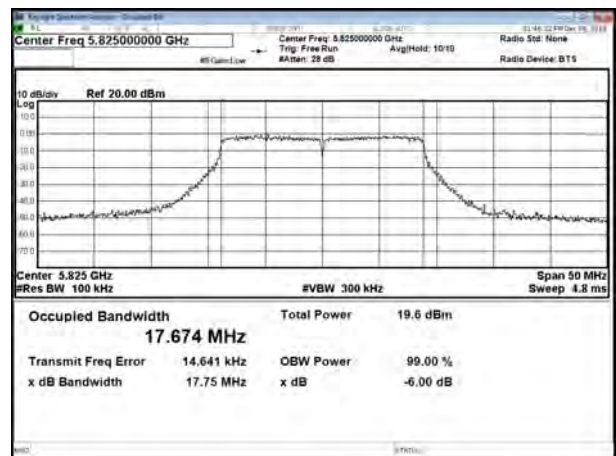
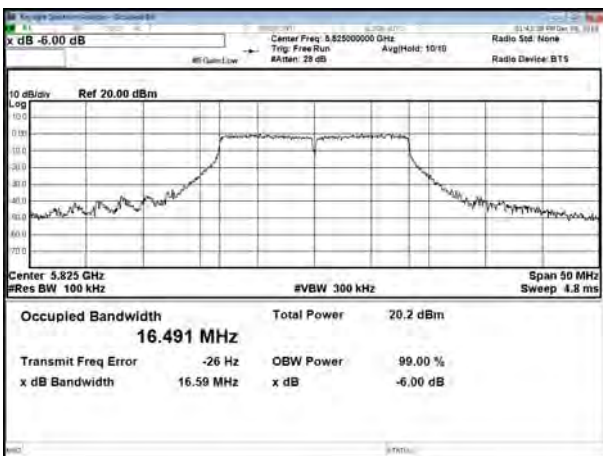
CH157

CH157



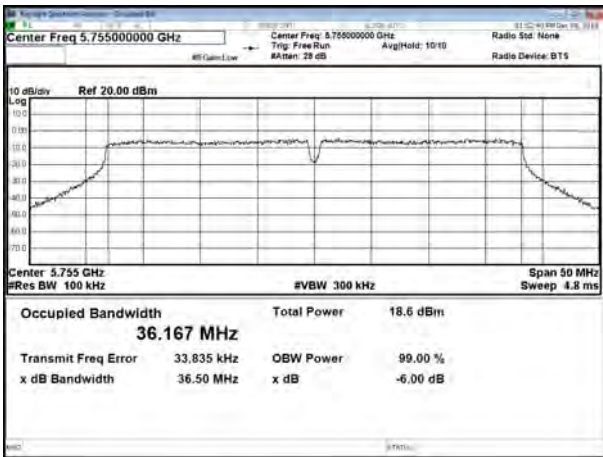
CH165

CH165

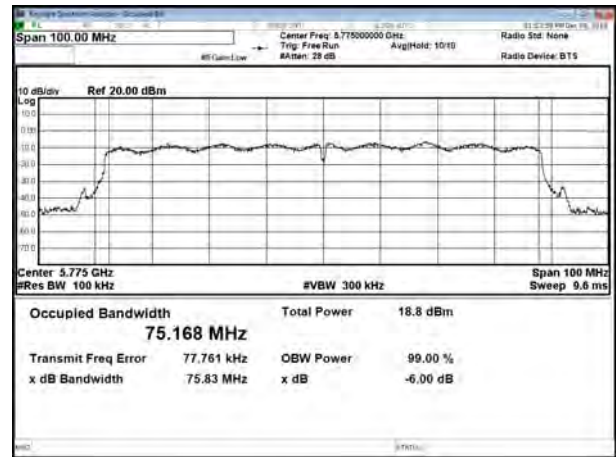




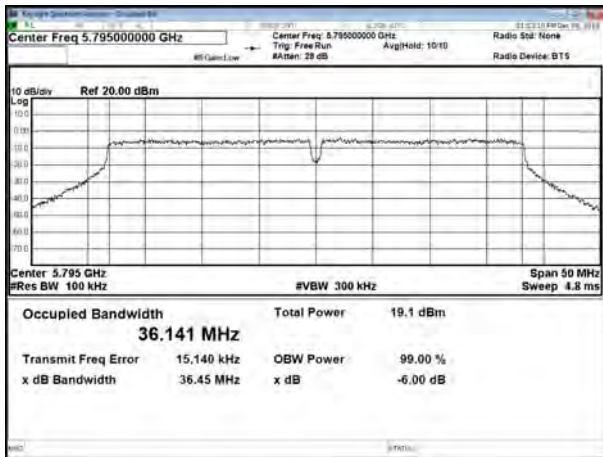
Modulation Standard: 802.11ac, VHT40 (13.5Mbps)
CH151



Modulation Standard: 802.11ac, VHT80 (29.3Mbps)
CH155



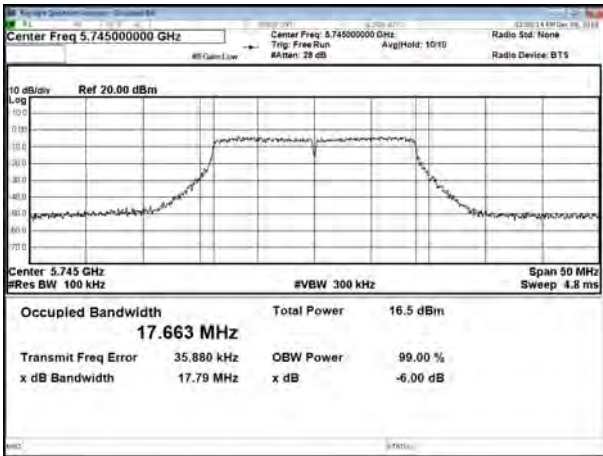
CH159



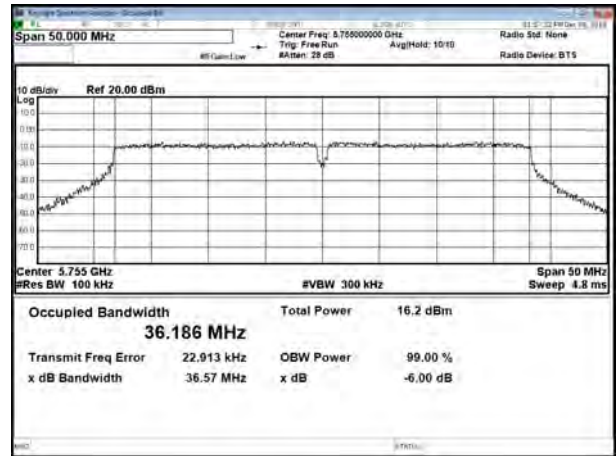


For 2TX , Ant A

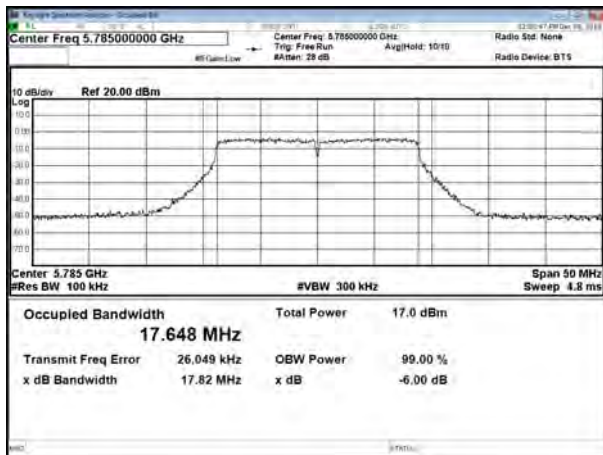
Modulation Standard: 802.11ac,VHT20 (13Mbps)
CH149



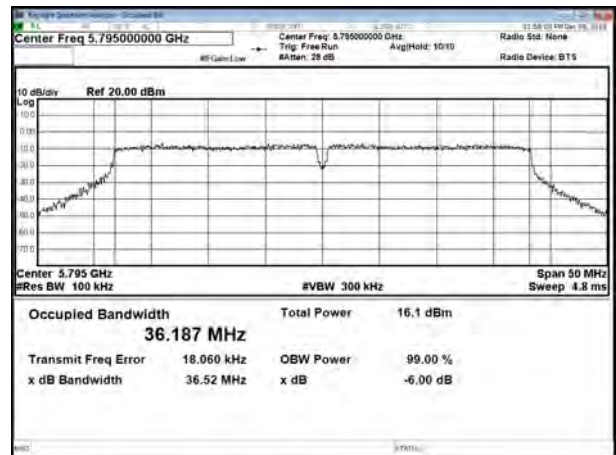
Modulation Standard: 802.11ac,VHT40 (27Mbps)
CH151



CH157

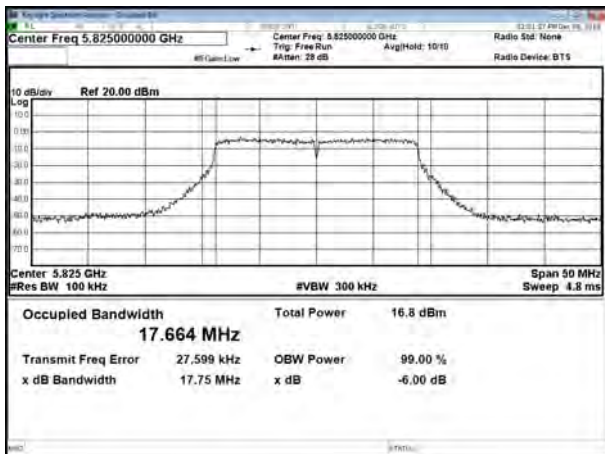


CH159

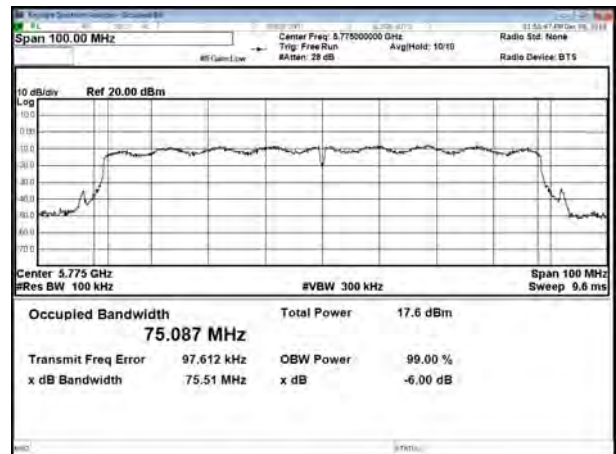


Modulation Standard: 802.11ac,VHT80 (58.5Mbps)

CH165

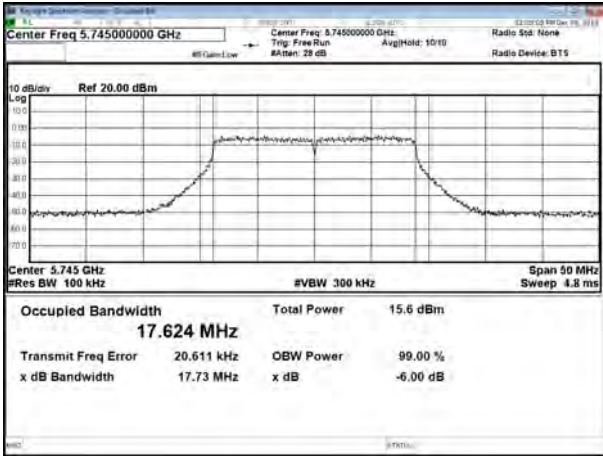


CH155

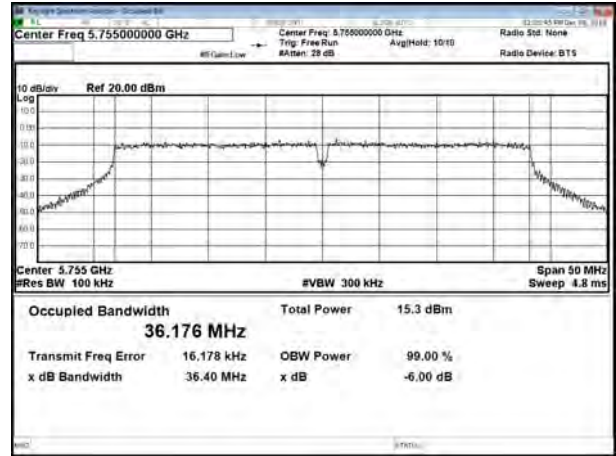




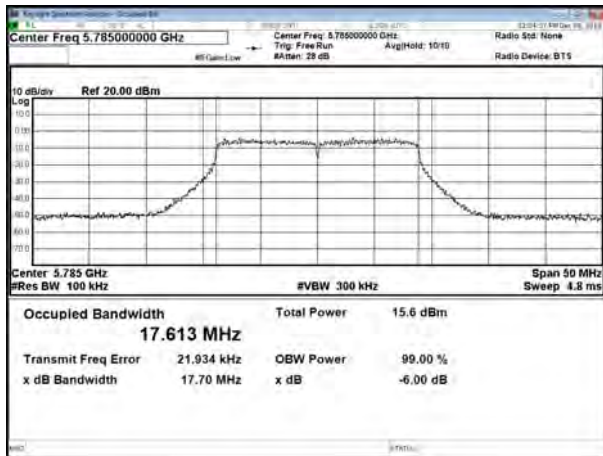
For 2TX , Ant B
Modulation Standard: 802.11ac,VHT20 (13Mbps)
CH149



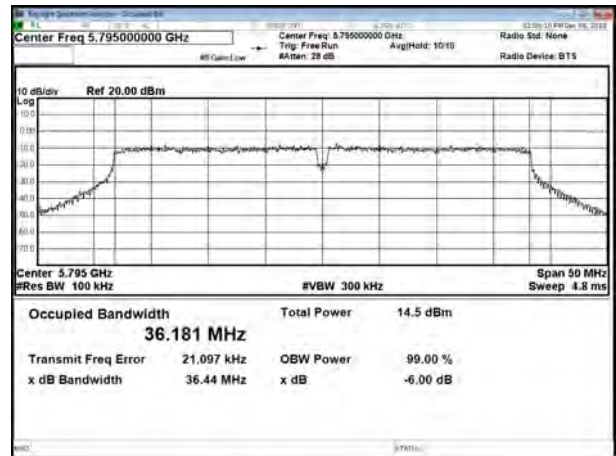
Modulation Standard: 802.11ac,VHT40 (27Mbps)
CH151



CH157

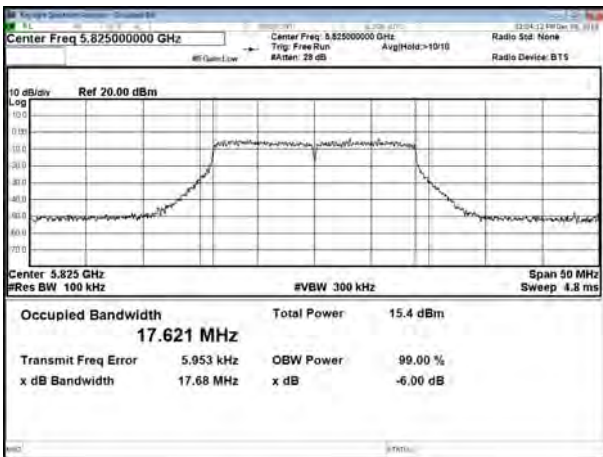


CH159

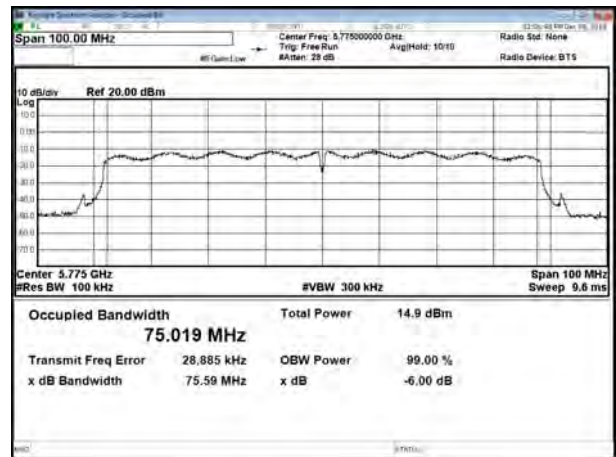


Modulation Standard: 802.11ac,VHT80 (58.5Mbps)

CH165



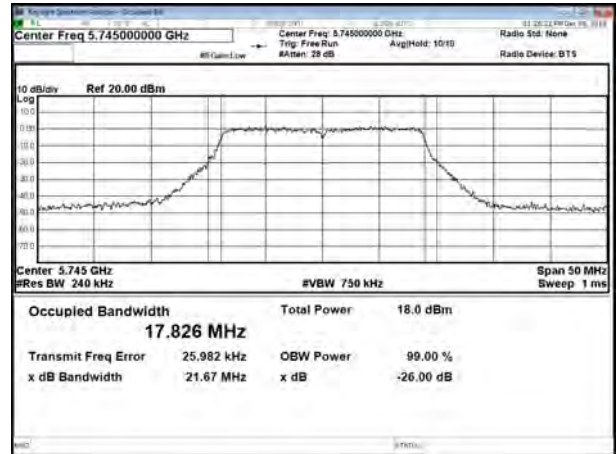
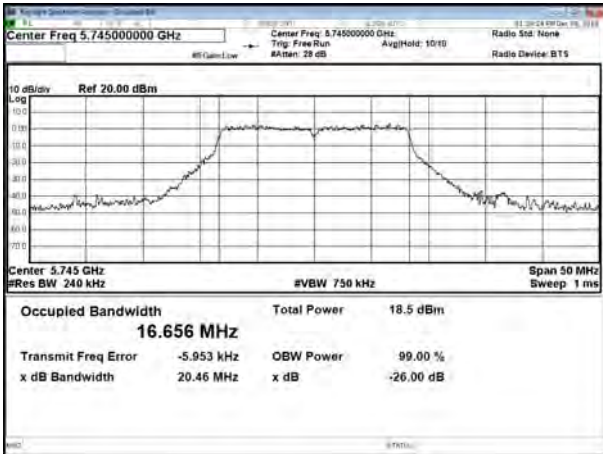
CH155





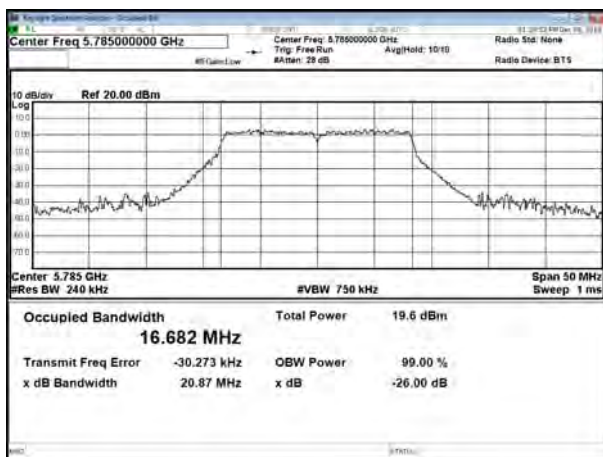
99% Bandwidth
For 1TX
Modulation Standard: 802.11a (6Mbps)
CH149

Modulation Standard: 802.11ac, VHT20 (6.5Mbps)
CH149



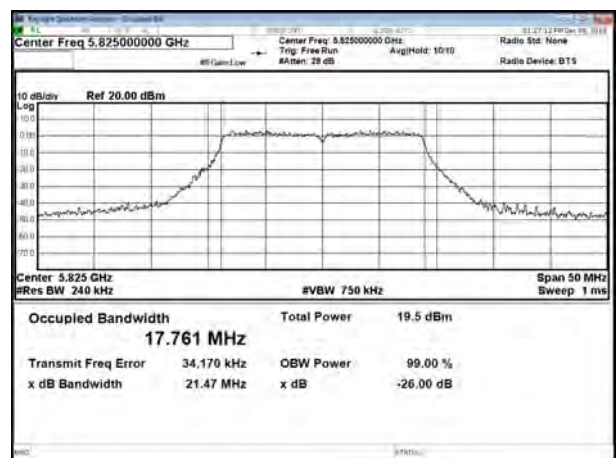
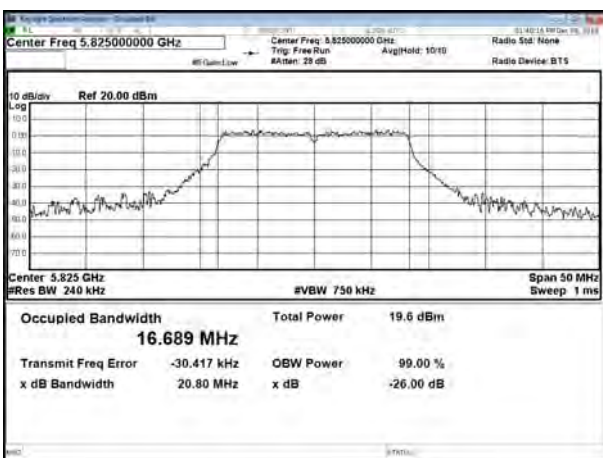
CH157

CH157



CH165

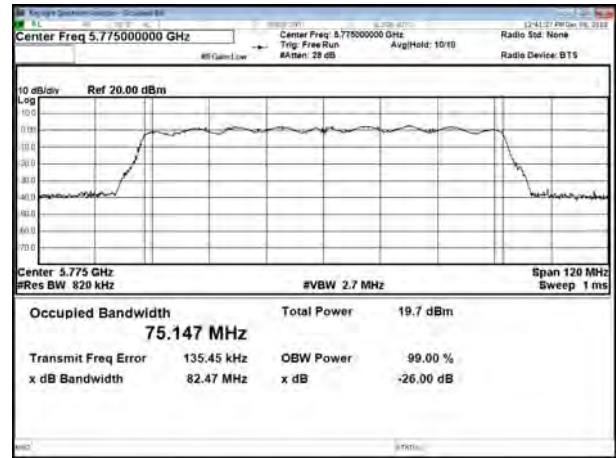
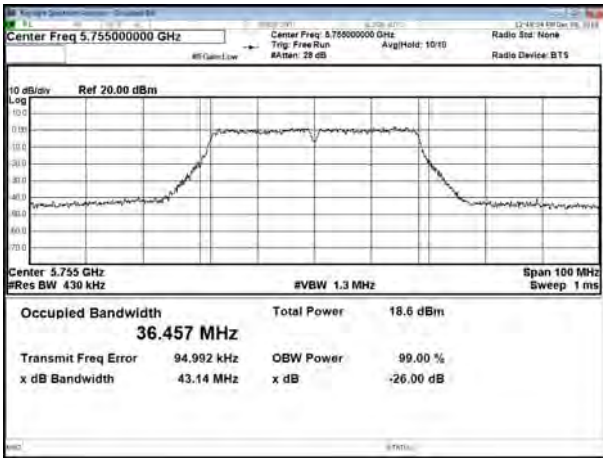
CH165



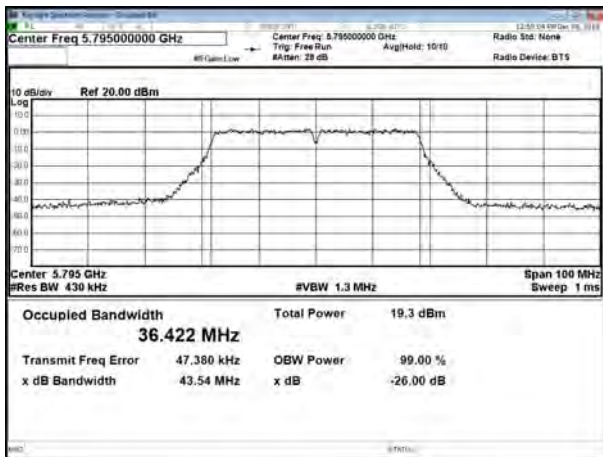


Modulation Standard: 802.11ac, VHT40 (13.5Mbps) CH151

Modulation Standard: 802.11ac, VHT80 (29.3Mbps) CH155



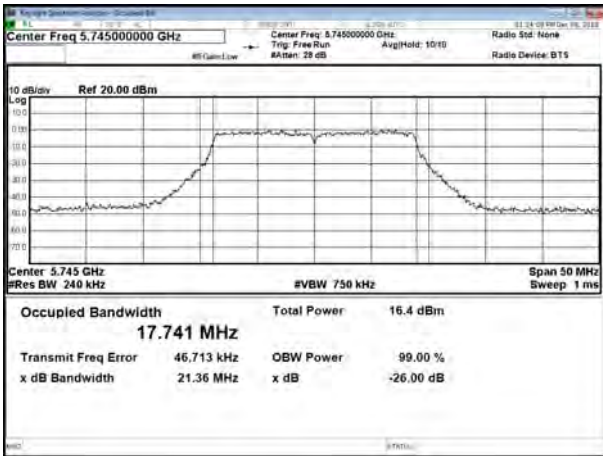
CH159



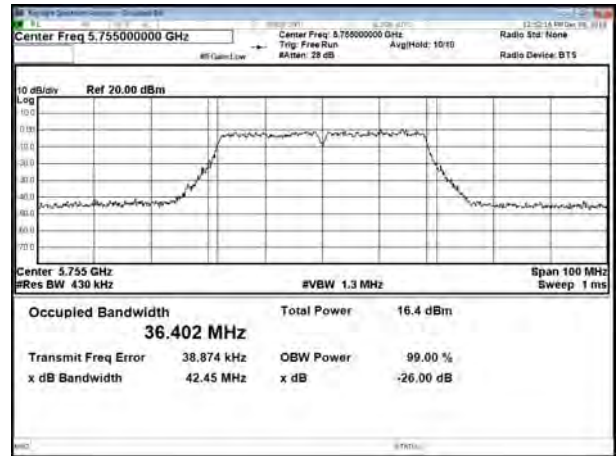


For 2TX , Ant A

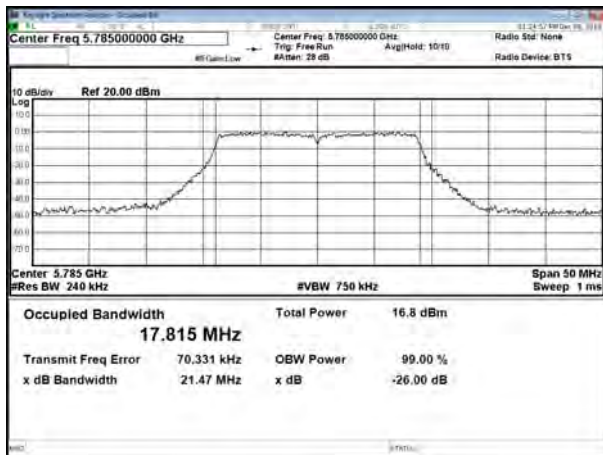
Modulation Standard: 802.11ac,VHT20 (13Mbps)
CH149



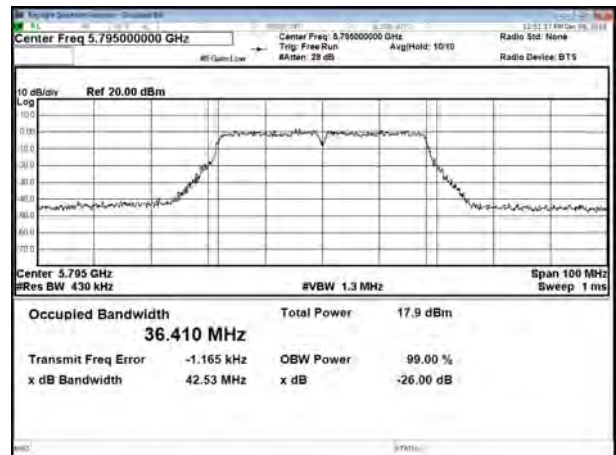
Modulation Standard: 802.11ac,VHT40 (27Mbps)
CH151



CH157

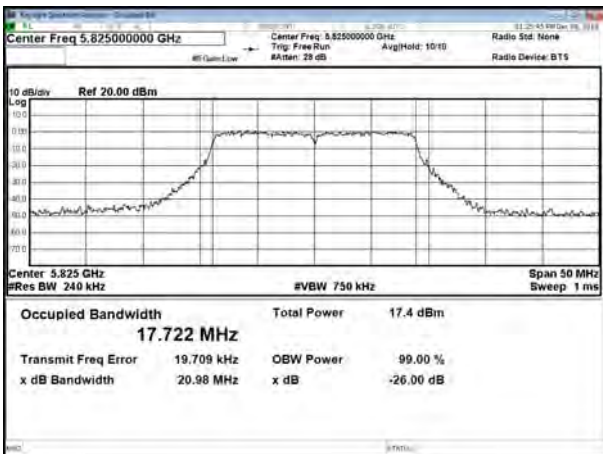


CH159

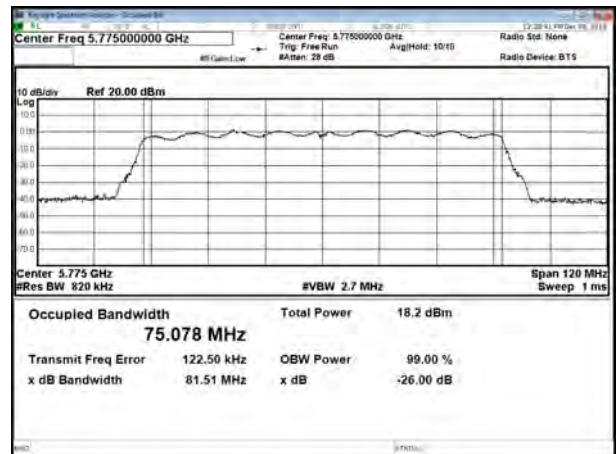


Modulation Standard: 802.11ac,VHT80 (58.5Mbps)

CH165

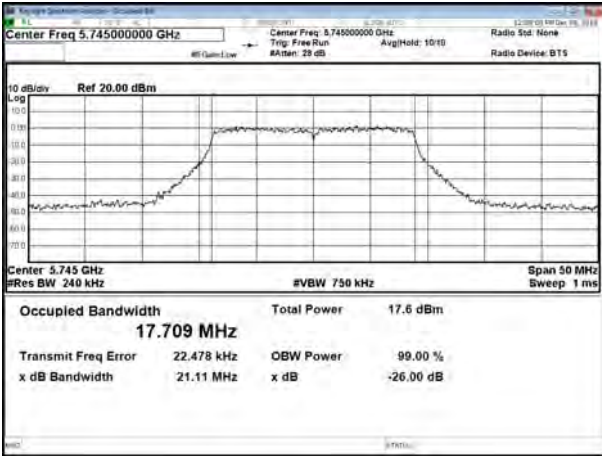


CH155

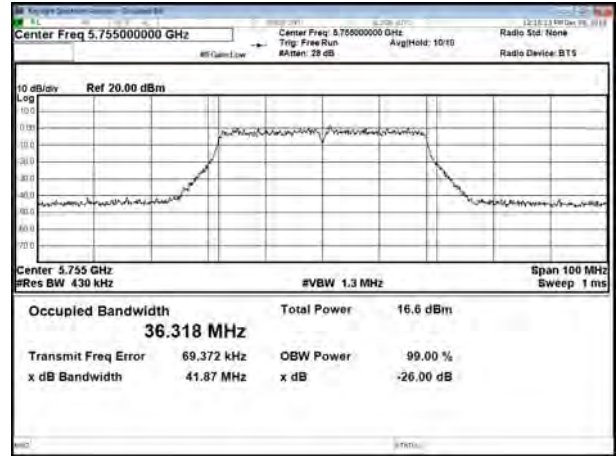




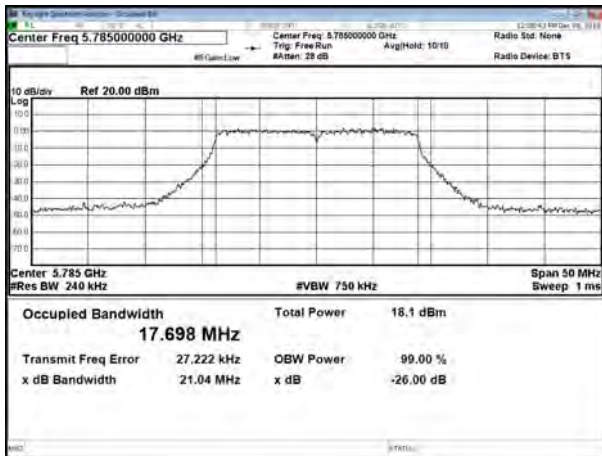
For 2TX , Ant B
Modulation Standard: 802.11ac,VHT20 (13Mbps)
CH149



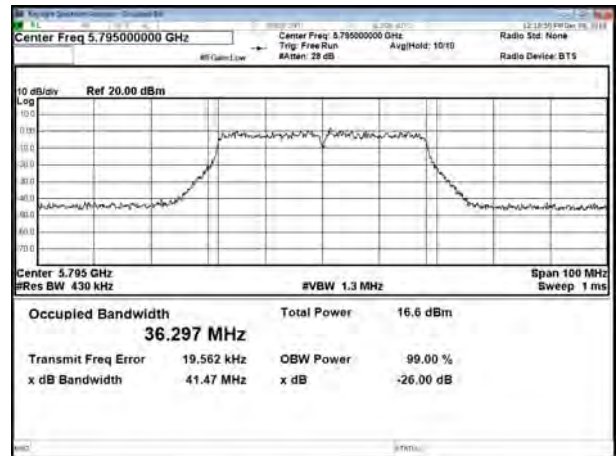
Modulation Standard: 802.11ac,VHT40 (27Mbps)
CH151



CH157

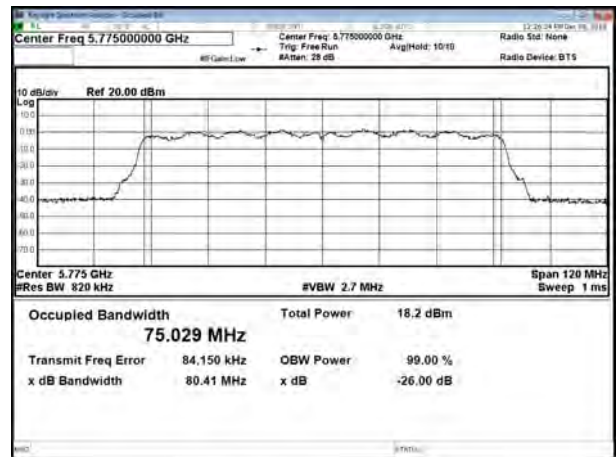
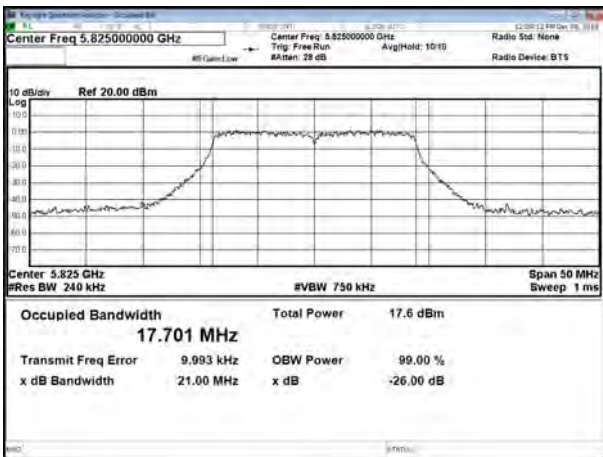


CH159



Modulation Standard: 802.11ac,VHT80 (58.5Mbps)
CH155

CH165





9. 26dB Bandwidth & 99% Bandwidth

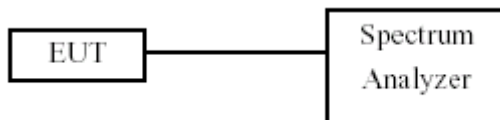
9.1. Test Limit

None; for reporting purposes only.

9.2. Test Procedure

Reference to 789033 D02 General UNII Test Procedures New Rules v01: The transmitter output is connected to a spectrum analyzer with the RBW = approximately 1% of the emission bandwidth, the VBW >= 3 x RBW, peak detector and max hold.

9.3. Test Setup Layout



9.4. Test Result and Data

Temperature: 21°C

Humidity: 56%

Test Date: Dec. 08, 2018

In the 5.2G Band

For 1TX

Modulation Type	Channel	Frequency (MHz)	26dB Bandwidth (MHz)		99% Occupied Bandwidth (MHz)	
			ANT A	ANT A	ANT A	ANT A
802.11a	36	5180	20.61	16.661		
	44	5220	20.69	16.699		
	48	5240	21.01	16.706		
802.11ac VHT20	36	5180	21.35	17.819		
	44	5220	21.54	17.830		
	48	5240	21.46	17.585		
802.11ac VHT40	38	5190	43.12	36.394		
	46	5230	43.57	36.498		
802.11ac VHT80	42	5210	82.87	75.278		

For 2TX

Modulation Type	Channel	Frequency (MHz)	26dB Bandwidth (MHz)		99% Occupied Bandwidth (MHz)	
			ANT A	ANT B	ANT A	ANT B
802.11ac VHT20	36	5180	21.09	21.13	17.733	17.693
	44	5220	21.20	21.16	17.779	17.707
	48	5240	21.49	21.29	17.822	17.706
802.11ac VHT40	38	5190	43.23	41.67	36.461	36.348
	46	5230	43.09	42.05	36.358	36.303
802.11ac VHT80	42	5210	82.29	80.63	75.203	75.146



In the 5.3G Band

For 1TX

Modulation Type	Channel	Frequency (MHz)	26dB Bandwidth (MHz)		99% Occupied Bandwidth (MHz)	
			ANT A	ANT B	ANT A	ANT B
802.11a	52	5260	20.85		16.680	
	60	5300	20.59		16.658	
	64	5320	20.73		16.676	
802.11ac VHT20	52	5260	21.58		17.823	
	60	5300	21.43		17.824	
	64	5320	21.66		17.830	
802.11ac VHT40	54	5270	43.64		36.504	
	62	5310	42.72		36.485	
802.11ac VHT80	58	5290	82.19		75.354	

For 2TX

Modulation Type	Channel	Frequency (MHz)	26dB Bandwidth (MHz)		99% Occupied Bandwidth (MHz)	
			ANT A	ANT B	ANT A	ANT B
802.11ac VHT20	52	5260	21.17	20.96	17.787	17.696
	60	5300	21.00	21.05	17.820	17.730
	64	5320	21.25	21.12	17.762	17.721
802.11ac VHT40	54	5270	42.33	42.04	36.425	36.299
	62	5310	42.96	41.41	36.428	36.318
802.11ac VHT80	58	5290	82.42	80.73	75.194	75.151



In the 5.5G Band

For 1TX

Modulation Type	Channel	Frequency (MHz)	26dB Bandwidth (MHz)		99% Occupied Bandwidth (MHz)	
			ANT A	ANT A	ANT A	ANT A
802.11a	100	5500	20.60		16.643	
	116	5580	21.16		16.700	
	140	5700	20.73		16.672	
802.11ac VHT20	100	5500	21.67		17.798	
	116	5580	21.58		17.830	
	140	5700	21.10		17.789	
802.11ac VHT40	102	5510	43.26		36.460	
	110	5550	43.37		36.320	
	134	5670	43.20		36.407	
802.11ac VHT80	106	5530	82.18		75.159	

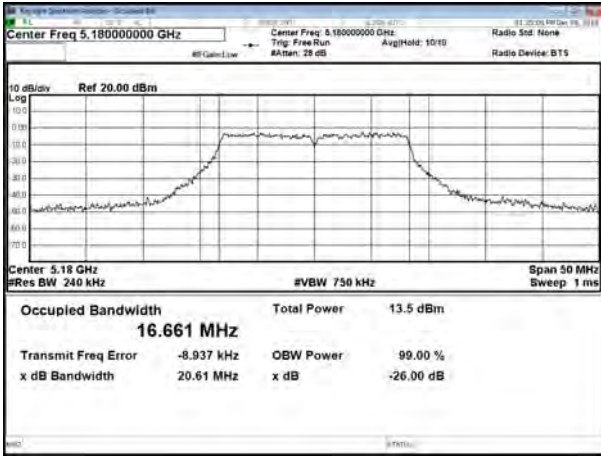
For 2TX

Modulation Type	Channel	Frequency (MHz)	26dB Bandwidth (MHz)		99% Occupied Bandwidth (MHz)	
			ANT A	ANT B	ANT A	ANT B
802.11ac VHT20	100	5500	21.29	21.19	17.725	17.704
	116	5580	21.11	21.27	17.736	17.699
	140	5700	21.38	21.12	17.725	17.718
802.11ac VHT40	102	5510	43.14	41.67	36.379	36.338
	110	5550	42.76	41.67	36.335	36.325
	134	5670	43.46	41.74	36.384	36.343
802.11ac VHT80	106	5530	82.05	80.70	75.180	75.089



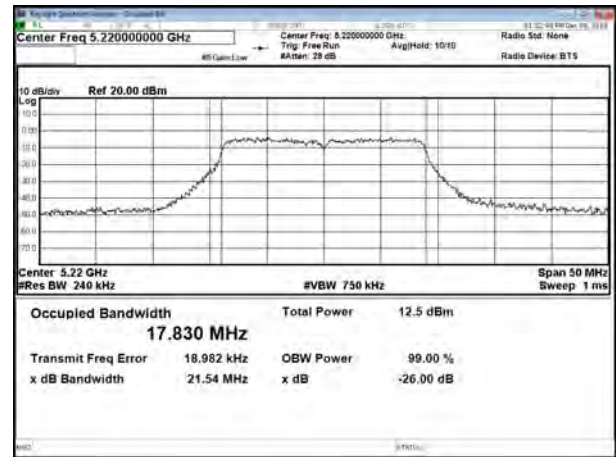
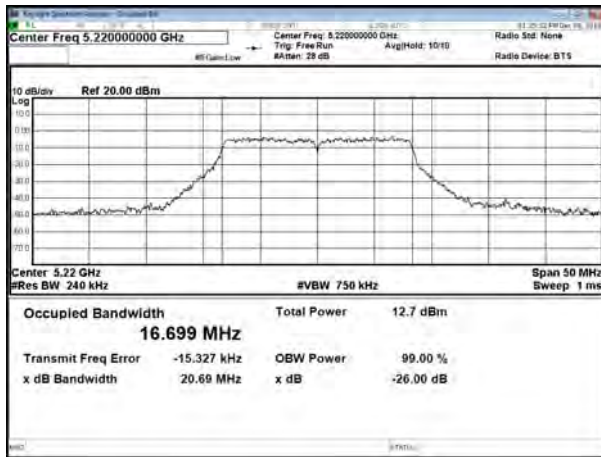
26dB Bandwidth & 99% Bandwidth
5.2G Band:
For 1TX
Modulation Standard: 802.11a (6Mbps)
CH36

802.11ac VHT20 (6.5Mbps)
CH36



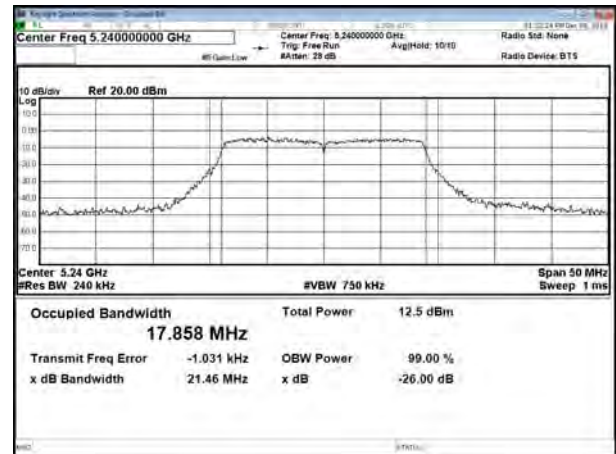
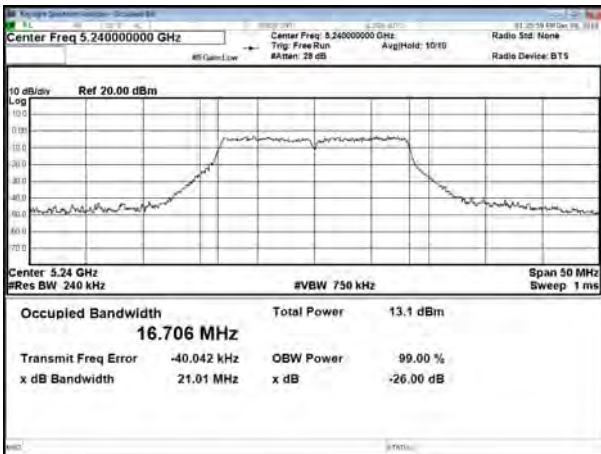
CH44

CH44



CH48

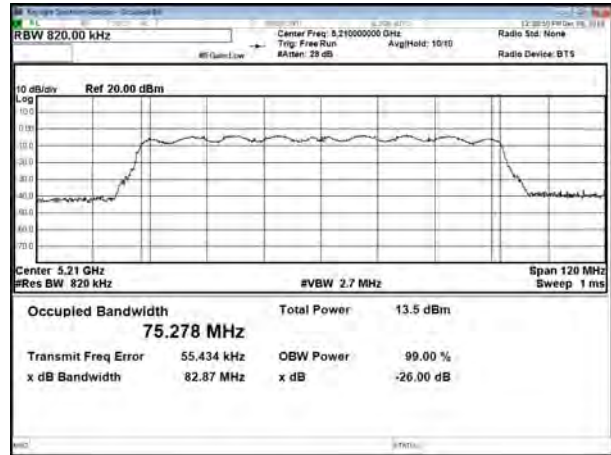
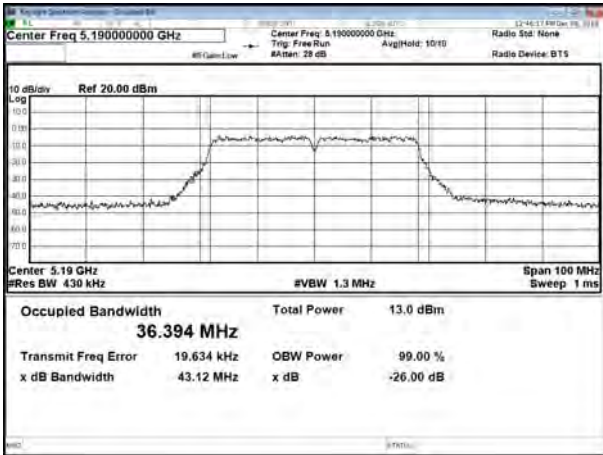
CH48



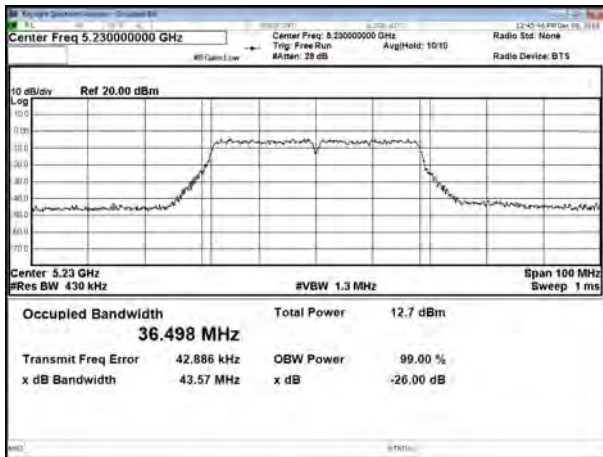


Modulation Standard: 802.11ac VHT40 (13.5Mbps) CH38

Modulation Standard: 802.11ac VHT80 (29.3Mbps) CH42



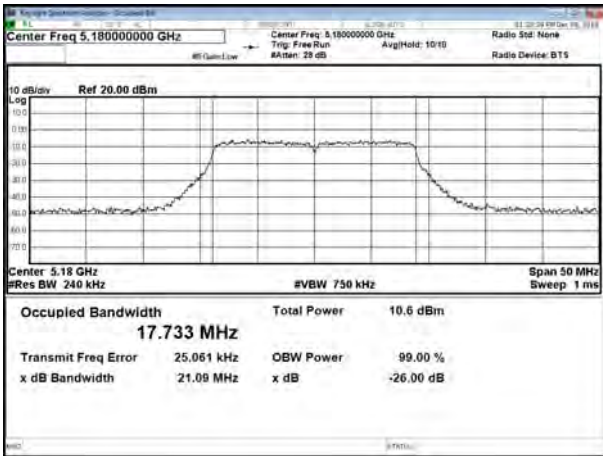
CH46



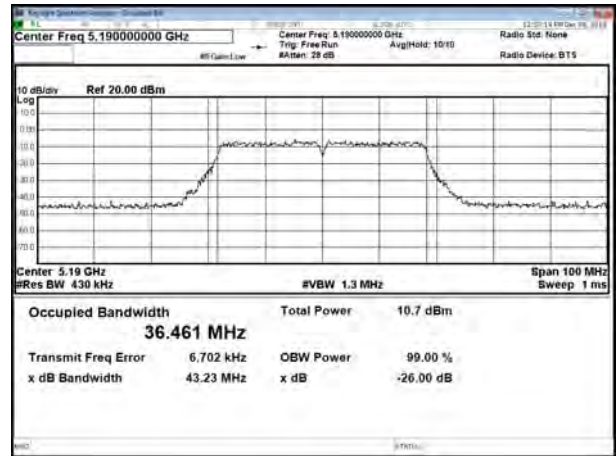


For 2TX , Ant A

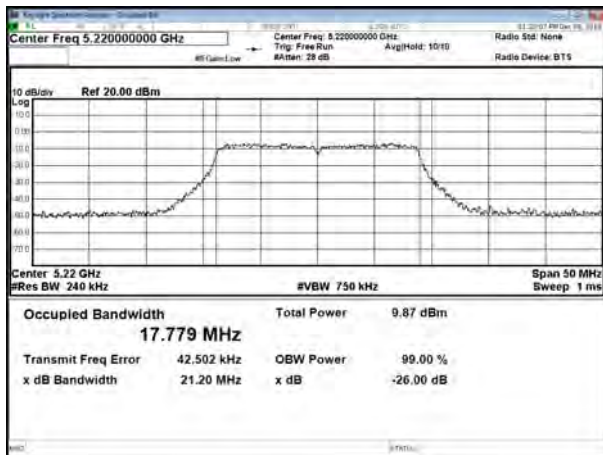
Modulation Standard: 802.11ac,VHT20 (13Mbps)
CH36



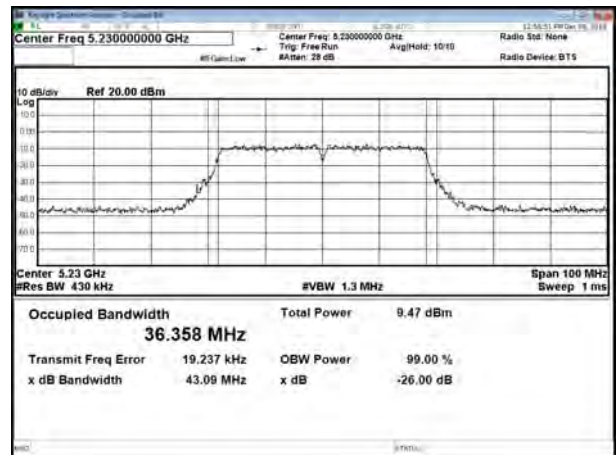
Modulation Standard: 802.11ac,VHT40 (27Mbps)
CH38



CH44

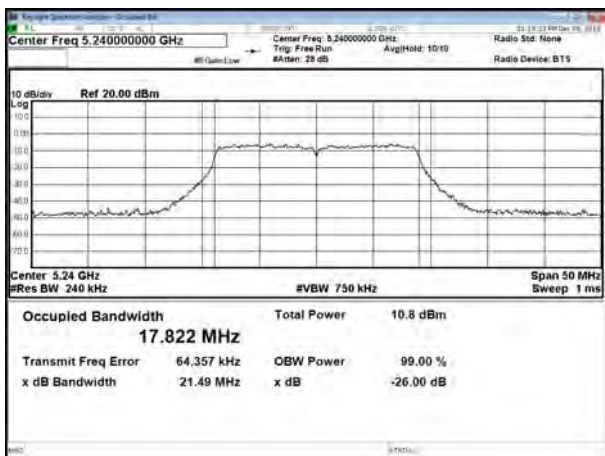


CH46

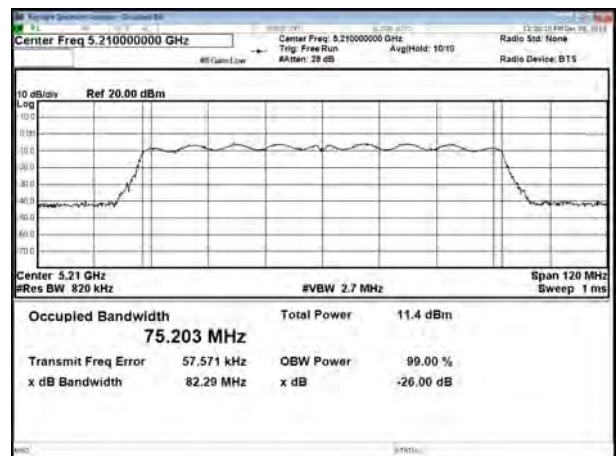


Modulation Standard: 802.11ac,VHT80 (58.5Mbps)

CH48

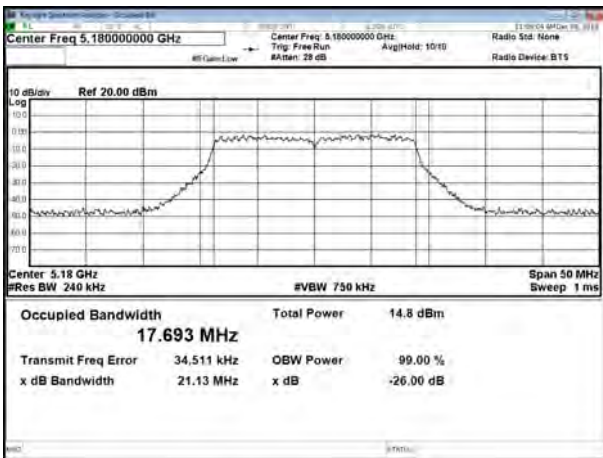


CH42

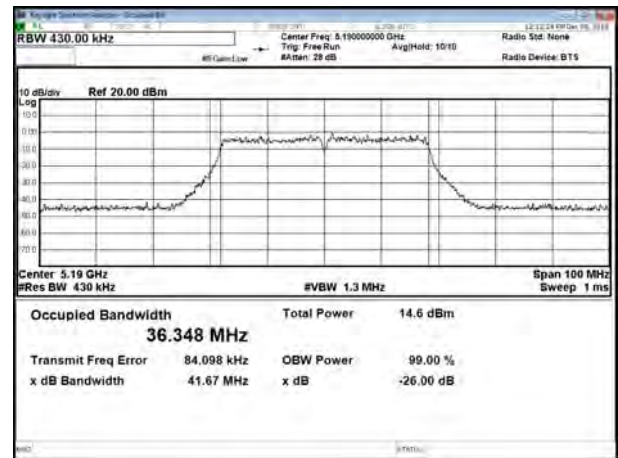




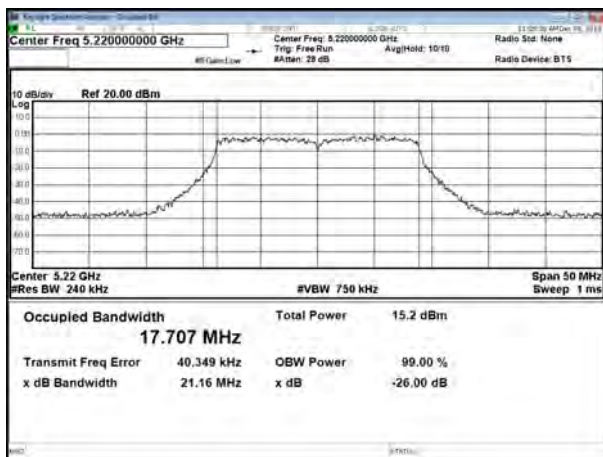
For 2TX , Ant B
Modulation Standard: 802.11ac,VHT20 (13Mbps)
CH36



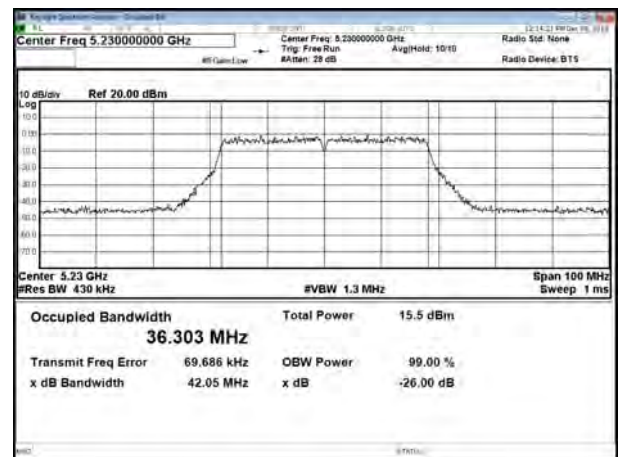
Modulation Standard: 802.11ac,VHT40 (27Mbps)
CH38



CH44

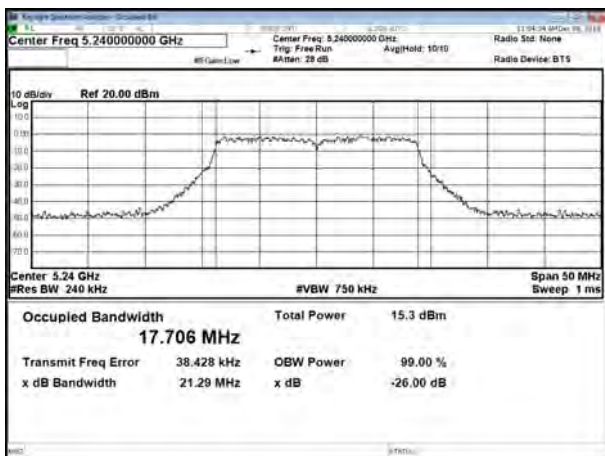


CH46

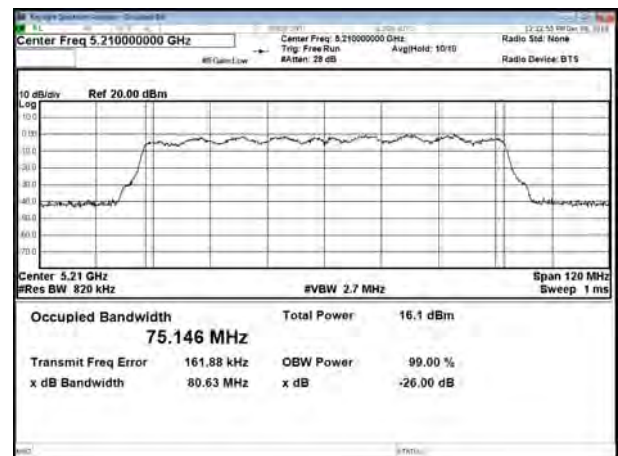


Modulation Standard: 802.11ac,VHT80 (58.5Mbps)

CH48



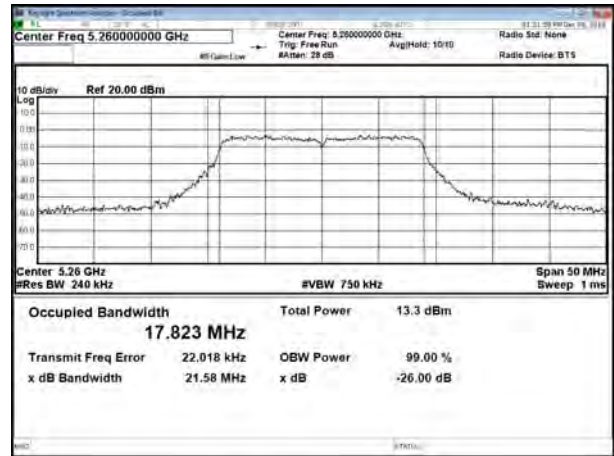
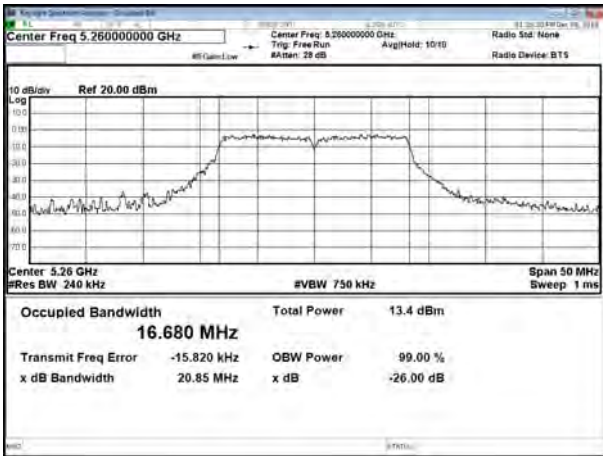
CH42





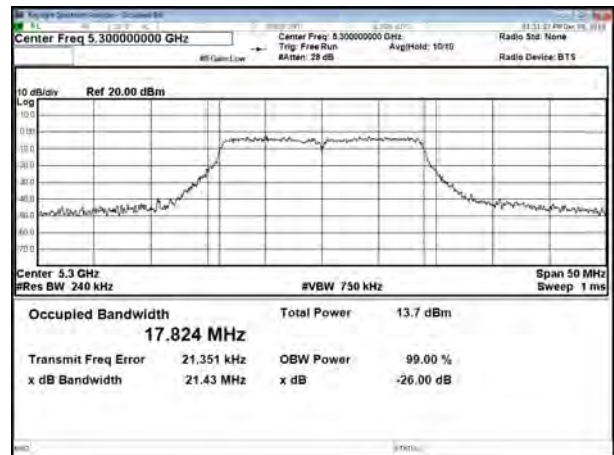
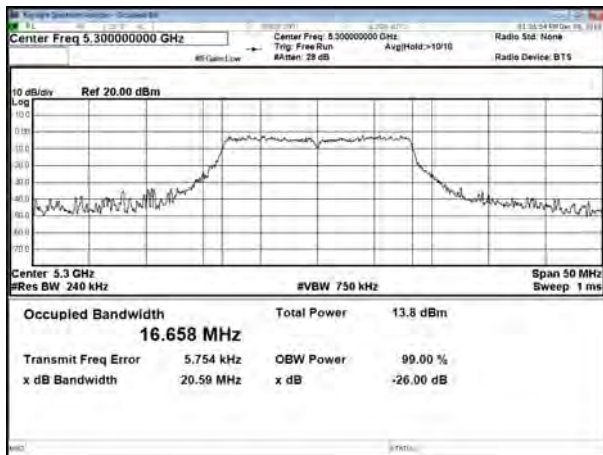
5.3G Band:
For 1TX
Modulation Standard: 802.11a (6Mbps)
CH52

802.11ac VHT20 (6.5Mbps)
CH52



CH60

CH60



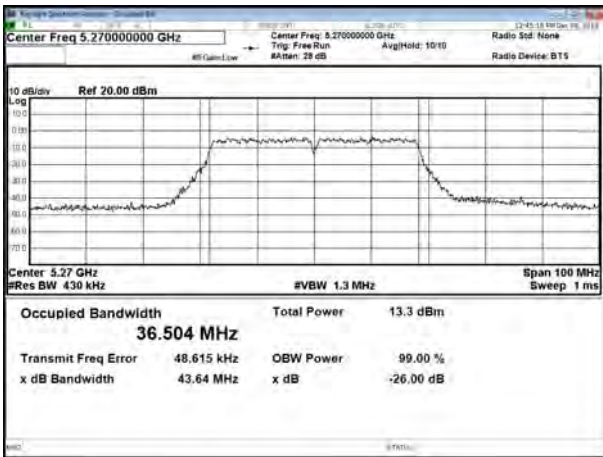
CH64

CH64

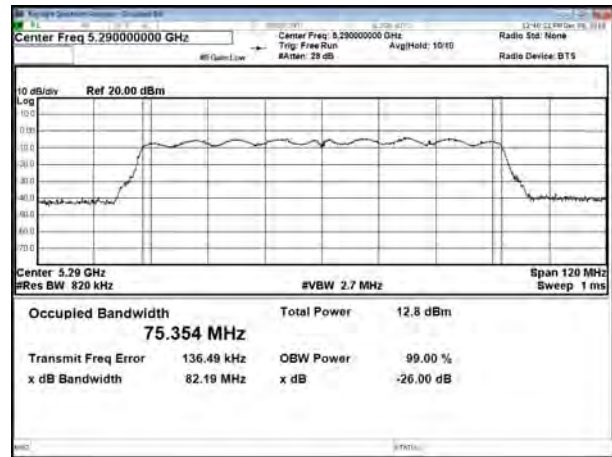




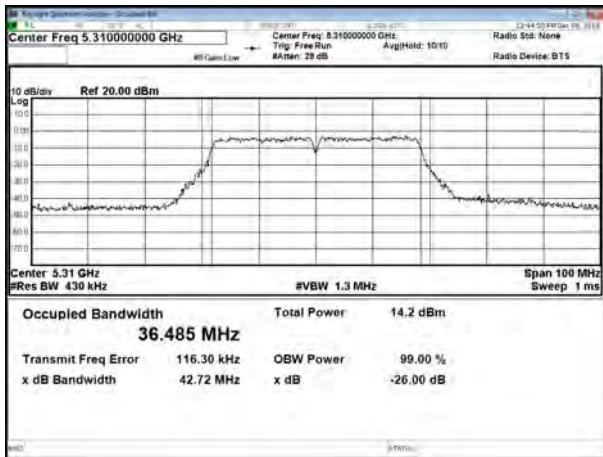
Modulation Standard: 802.11ac VHT40 (13.5Mbps)
CH54



Modulation Standard: 802.11ac VHT80 (29.3Mbps)
CH58



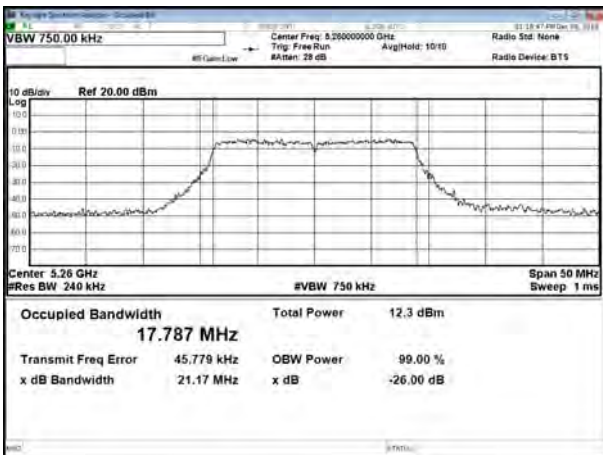
CH62



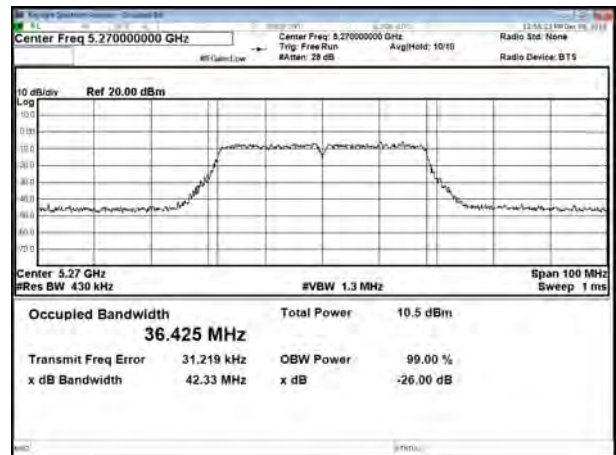


For 2TX , Ant A

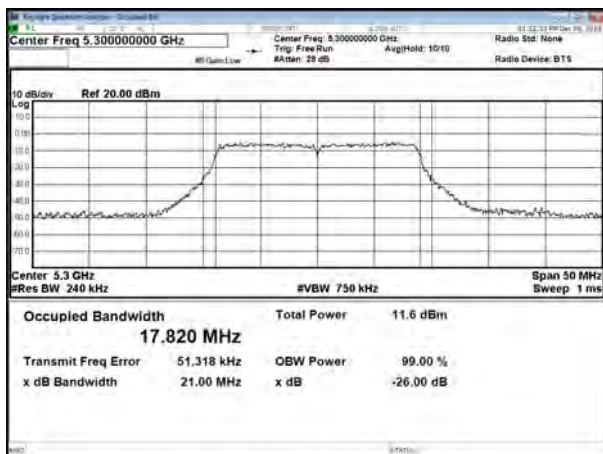
Modulation Standard: 802.11ac,VHT20 (13Mbps)
CH52



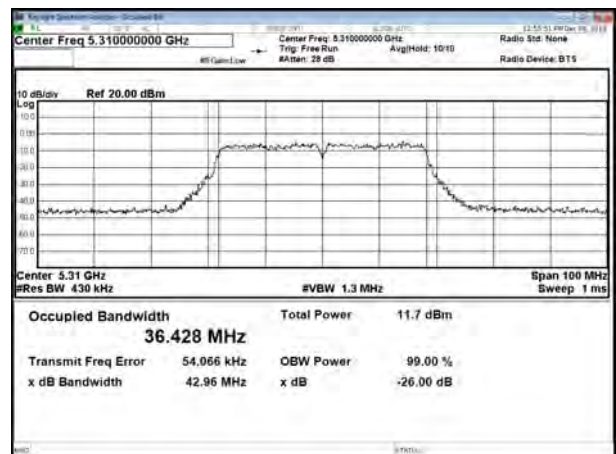
Modulation Standard: 802.11ac,VHT40 (27Mbps)
CH54



CH60

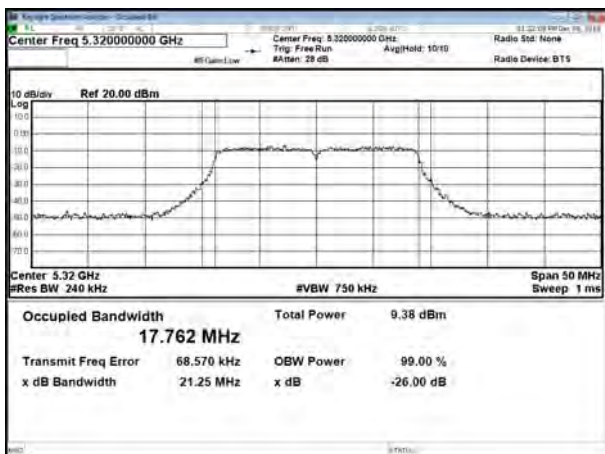


CH62

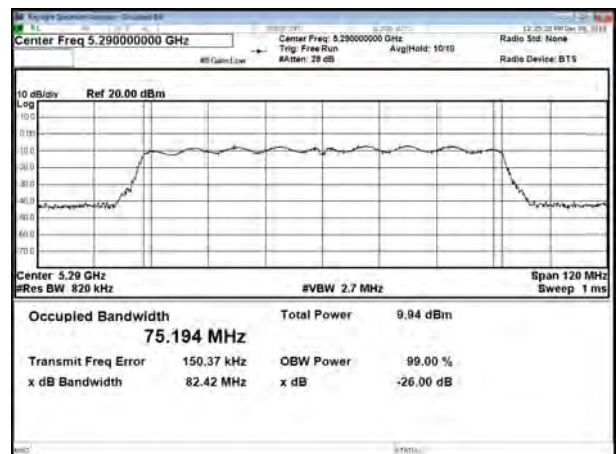


Modulation Standard: 802.11ac,VHT80 (58.5Mbps)

CH64

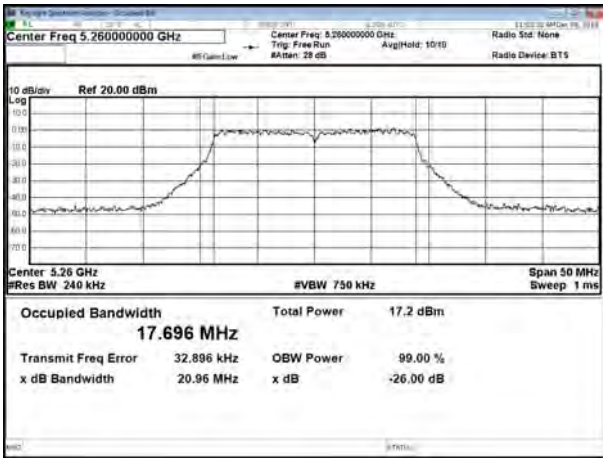


CH58

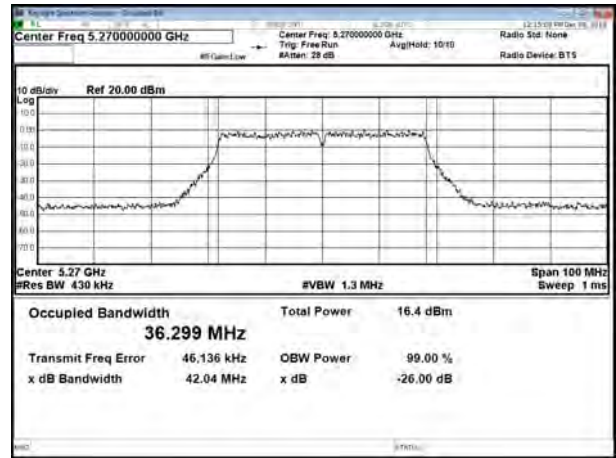




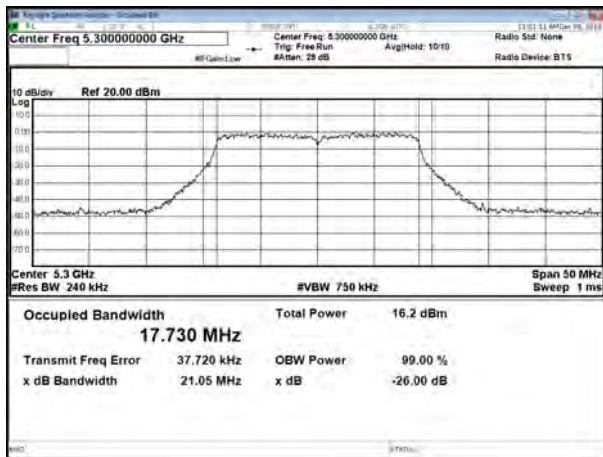
For 2TX , Ant B
Modulation Standard: 802.11ac,VHT20 (13Mbps)
CH52



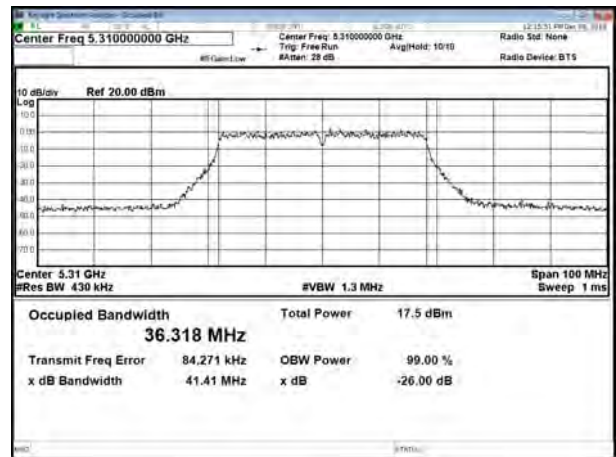
Modulation Standard: 802.11ac,VHT40 (27Mbps)
CH54



CH60

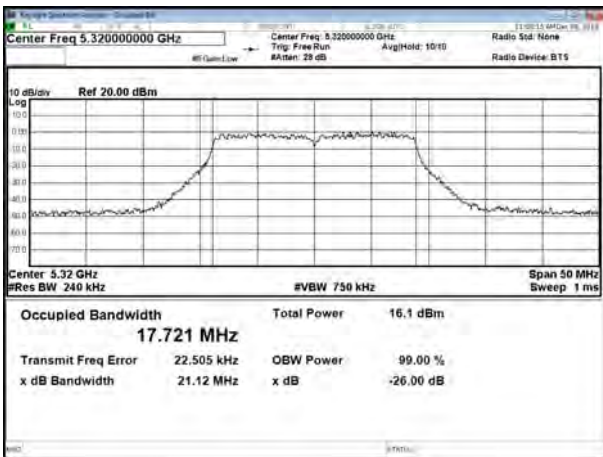


CH62

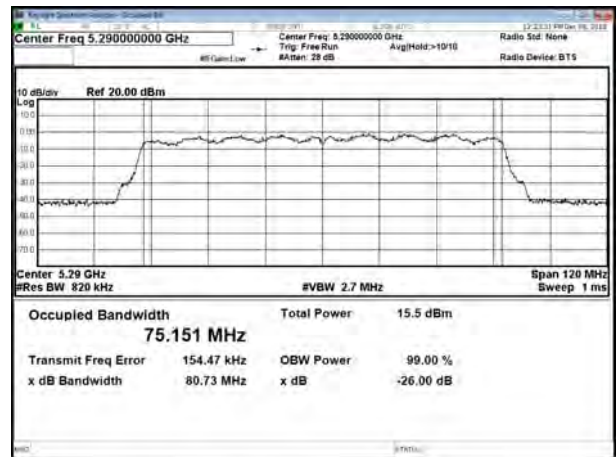


Modulation Standard: 802.11ac,VHT80 (58.5Mbps)

CH64



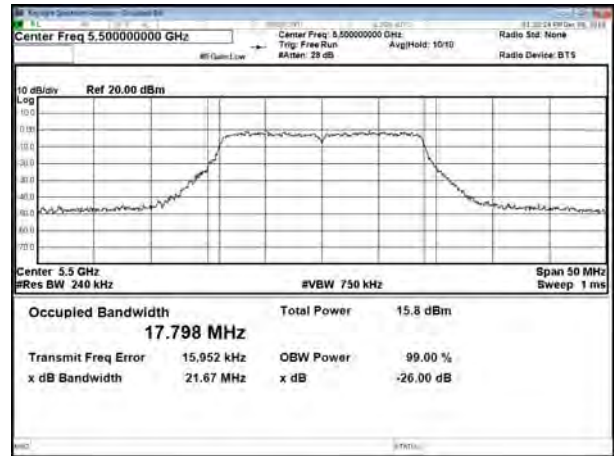
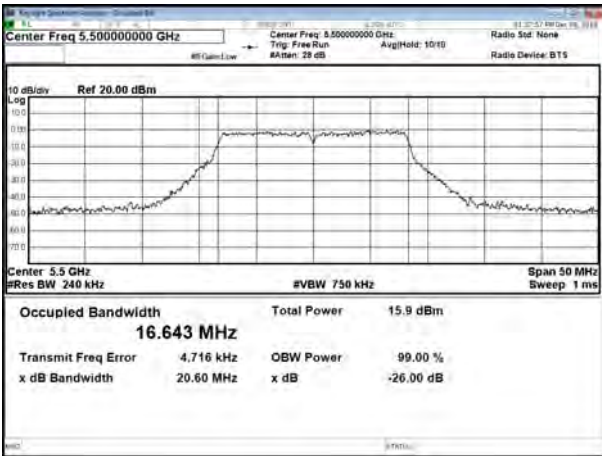
CH58





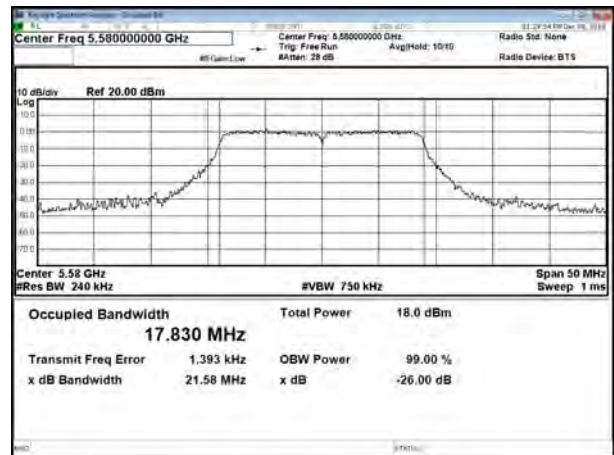
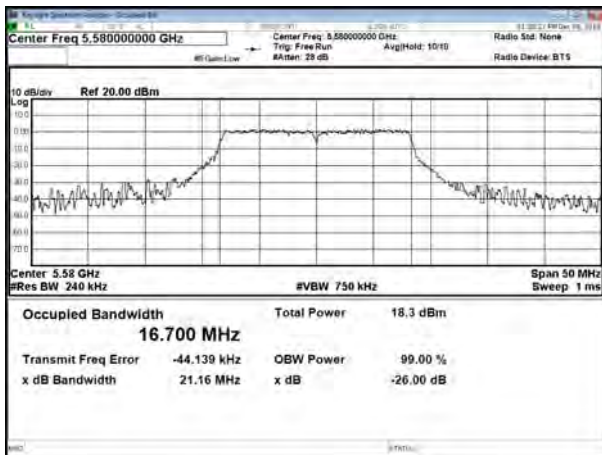
5.5G Band:
For 1TX
Modulation Standard: 802.11a (6Mbps)
CH100

802.11ac VHT20 (6.5Mbps)
CH100



CH116

CH116



CH140

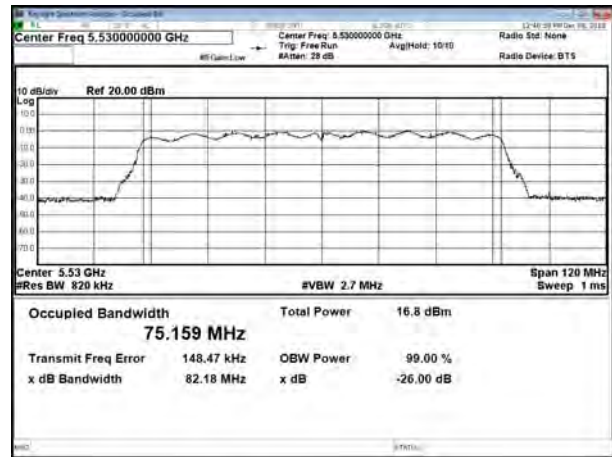
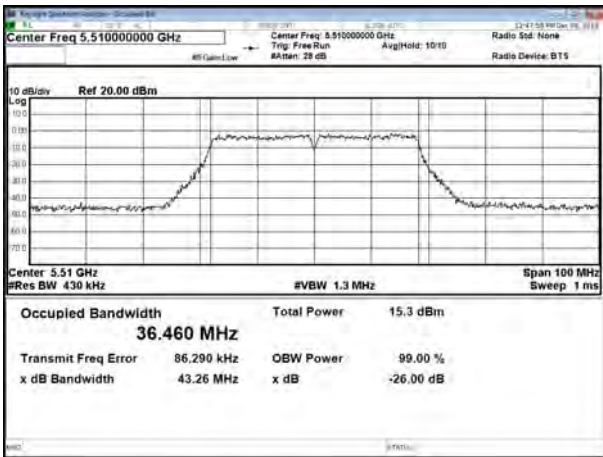
CH140



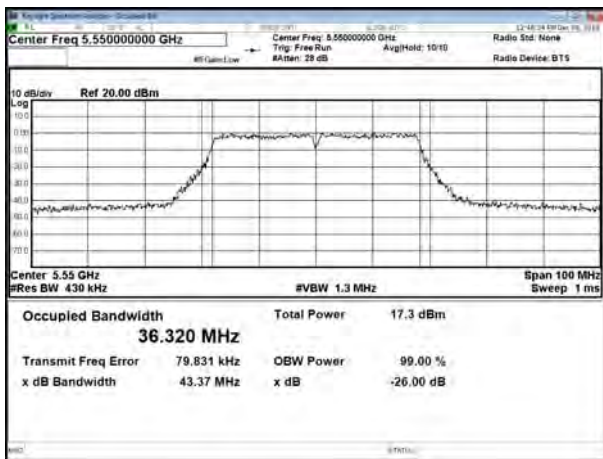


Modulation Standard: 802.11ac VHT40 (13.5Mbps) CH102

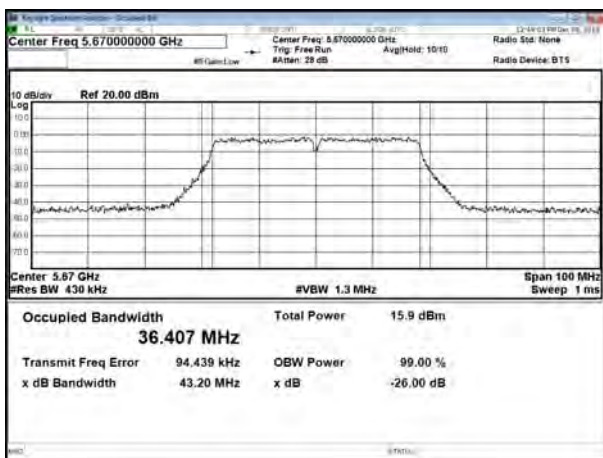
Modulation Standard: 802.11ac VHT80 (29.3Mbps) CH106



CH110



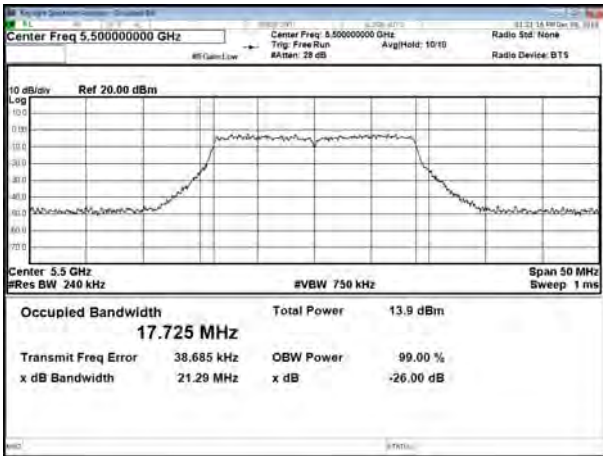
CH134



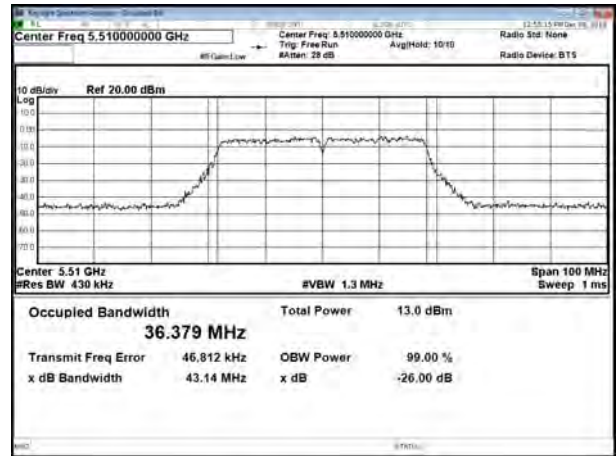


For 2TX , Ant A

Modulation Standard: 802.11ac,VHT20 (13Mbps)
CH100



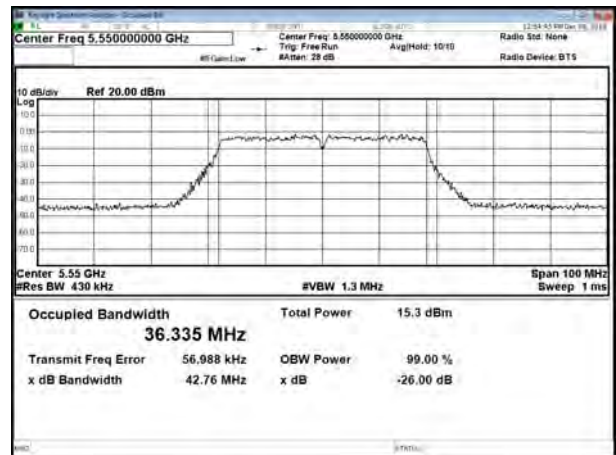
Modulation Standard: 802.11ac,VHT40 (27Mbps)
CH102



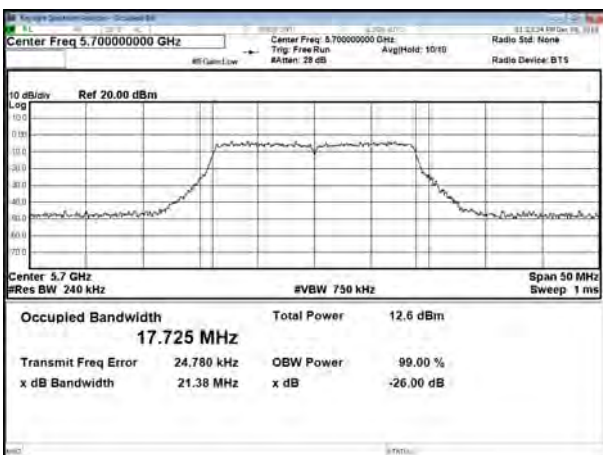
CH116



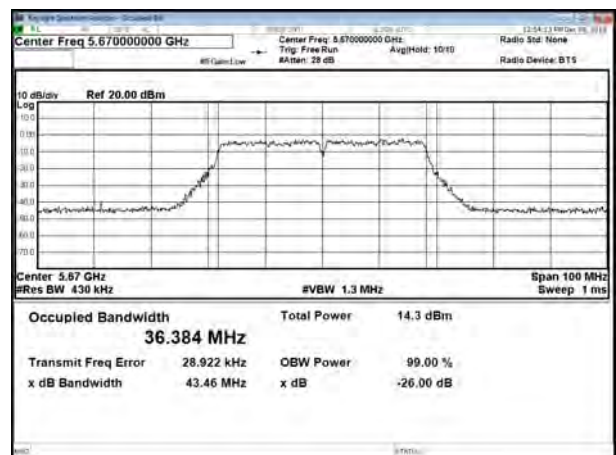
CH110



CH140

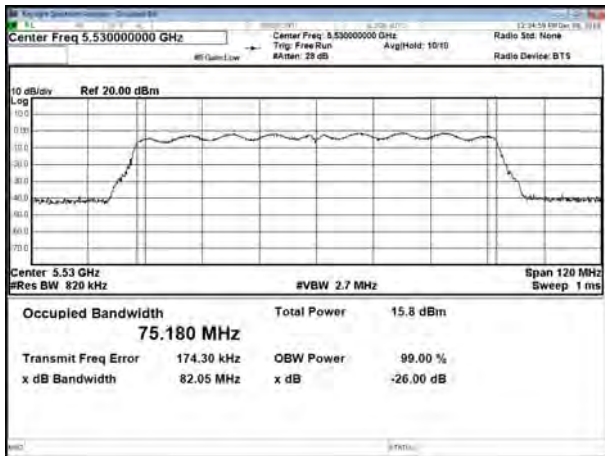


CH134





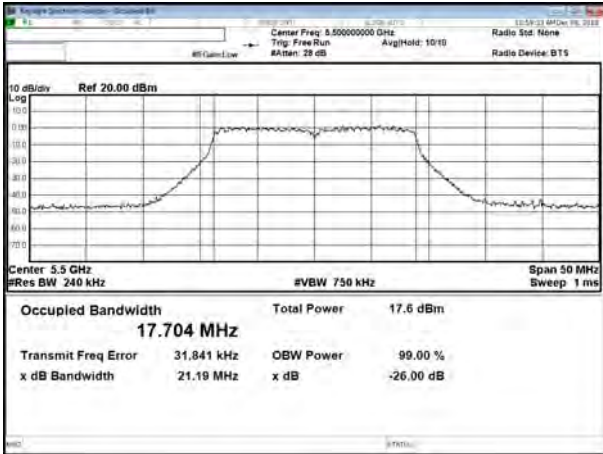
Modulation Standard: 802.11ac,VHT80 (58.5Mbps)
CH106



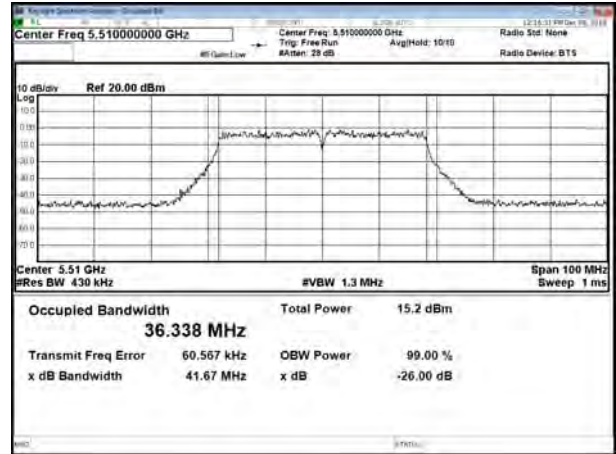


For 2TX , Ant B

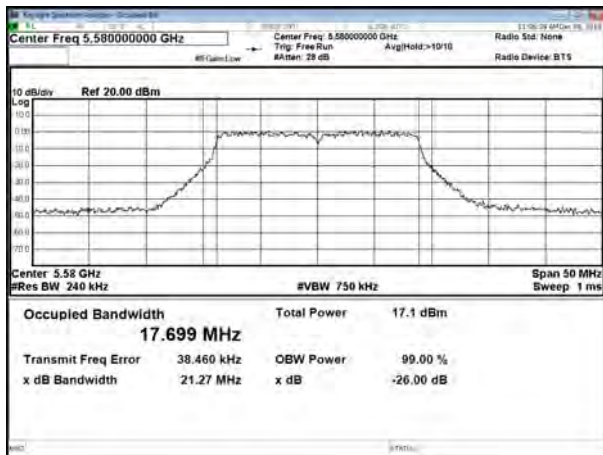
Modulation Standard: 802.11ac,VHT20 (13Mbps)
CH100



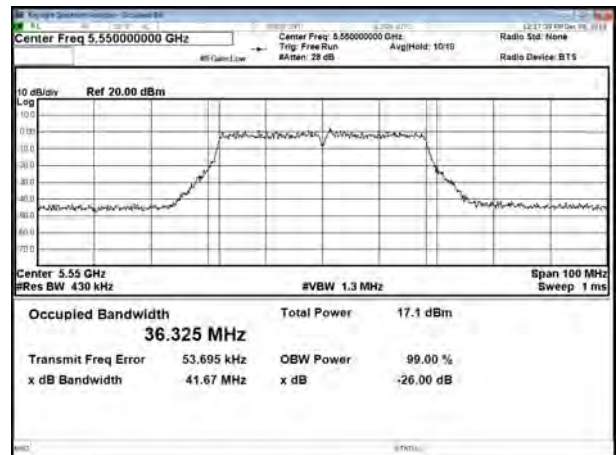
Modulation Standard: 802.11ac,VHT40 (27Mbps)
CH102



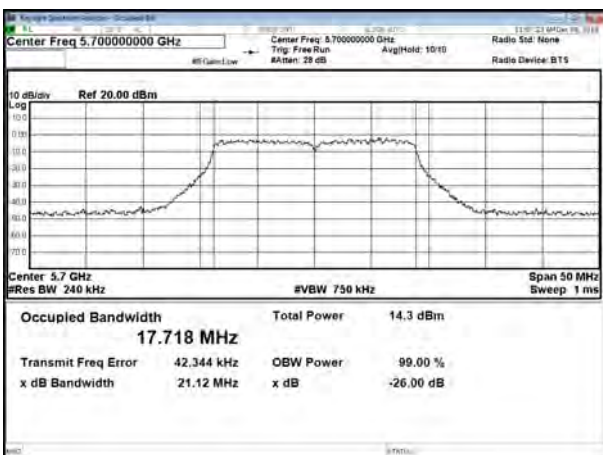
CH116



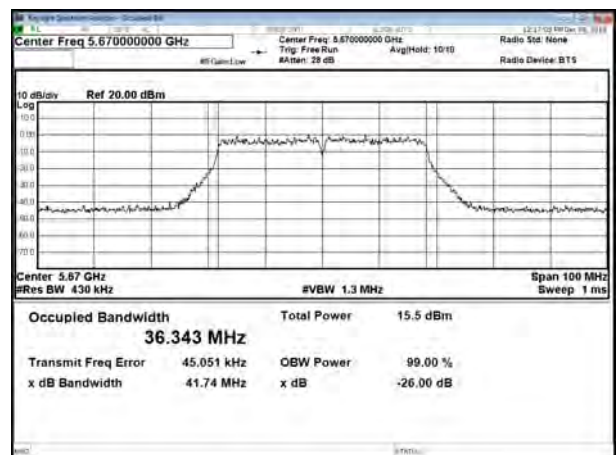
CH110



CH140

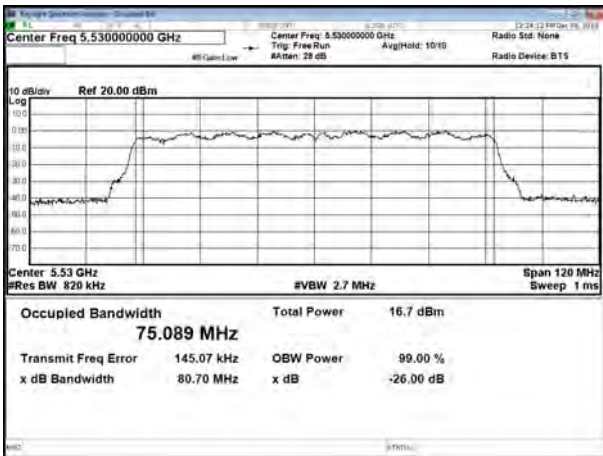


CH134





Modulation Standard: 802.11ac,VHT80 (58.5Mbps)
CH106





10. Average Power

10.1. Test Limit

Output Power:

Frequency Band		Limit
<input checked="" type="checkbox"/>	5.15~5.25GHz	
Operating Mode		
<input type="checkbox"/>	Outdoor access point	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm) provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30degrees as measured from the horizon must not exceed 125 mW (21 dBm).
<input type="checkbox"/>	Indoor access point	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm) provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
<input type="checkbox"/>	Fixed point-to-point access points	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm). Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi.
<input checked="" type="checkbox"/>	client devices	The maximum conducted output power over the frequency band of operation shall not exceed 250 mW (24dBm) provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.



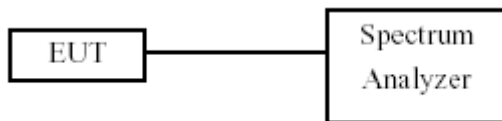
Frequency Band		Limit
<input checked="" type="checkbox"/>	5.25-5.35 GHz	The maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW (24dBm) or 11 dBm $10 \log B$, where B is the 26 dB emission bandwidth in megahertz. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
<input checked="" type="checkbox"/>	5.470-5.725 GHz	
<input checked="" type="checkbox"/>	5.725~5.85 GHz	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm). If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power.

10.2. Test Procedure

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 11 dB (including 10 dB pad and 1 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

10.3. Test Setup Layout



**10.4. Test Result and Data**

Temperature: 21°C
 Test Date: Dec. 08, 2018

Humidity: 56%

In the 5.2G Band**For 1TX**

Modulation Type	Channel	Frequency (MHz)	Avg Power Output (dBm)		Total Power (dBm)	Total Power (mW)	Power Limit (dBm)
			ANT A	ANT B			
802.11a	36	5180	11.41		11.41	13.84	24.00
	44	5220	11.29		11.29	13.46	24.00
	48	5240	10.58		10.58	11.43	24.00
802.11an HT20	36	5180	10.75		10.75	11.89	24.00
	44	5220	10.63		10.63	11.56	24.00
	48	5240	10.48		10.48	11.17	24.00
802.11an HT40	38	5190	9.97		9.97	9.93	24.00
	46	5230	9.80		9.80	9.55	24.00
802.11ac VHT20	36	5180	10.78		10.78	11.97	24.00
	44	5220	10.69		10.69	11.72	24.00
	48	5240	10.54		10.54	11.32	24.00
802.11ac VHT40	38	5190	10.01		10.01	10.02	24.00
	46	5230	9.81		9.81	9.57	24.00
802.11ac VHT80	42	5210	9.46		9.46	8.83	24.00

For 2TX

Modulation Type	Channel	Frequency (MHz)	Avg Power Output (dBm)		Total Power (dBm)	Total Power (mW)	Power Limit (dBm)
			ANT A	ANT B			
802.11an HT20	36	5180	7.22	7.07	10.16	10.38	24.00
	44	5220	7.21	7.24	10.24	10.57	24.00
	48	5240	6.85	7.63	10.27	10.64	24.00
802.11an HT40	38	5190	6.90	6.90	9.91	9.79	24.00
	46	5230	6.33	6.83	9.60	9.12	24.00
802.11ac VHT20	36	5180	7.26	7.31	10.30	10.72	24.00
	44	5220	7.26	7.25	10.27	10.64	24.00
	48	5240	7.22	7.71	10.48	11.17	24.00
802.11ac VHT40	38	5190	6.91	6.93	9.93	9.84	24.00
	46	5230	6.49	6.84	9.68	9.29	24.00
802.11ac VHT80	42	5210	6.44	6.64	9.55	9.02	24.00

**In the 5.3G Band****For 1TX**

Modulation Type	Channel	Frequency (MHz)	Avg Power Output (dBm)		Total Power (dBm)	Total Power (mW)	Power Limit (dBm)
			ANT A	ANT B			
802.11a	52	5260	11.65		11.65	14.62	24.00
	60	5300	11.49		11.49	14.09	24.00
	64	5320	9.58		9.58	9.08	24.00
802.11an HT20	52	5260	10.82		10.82	12.08	24.00
	60	5300	10.95		10.95	12.45	24.00
	64	5320	9.31		9.31	8.53	24.00
802.11an HT40	54	5270	10.37		10.37	10.89	24.00
	62	5310	10.04		10.04	10.09	24.00
802.11ac VHT20	52	5260	10.98		10.98	12.53	24.00
	60	5300	11.03		11.03	12.68	24.00
	64	5320	9.36		9.36	8.63	24.00
802.11ac VHT40	54	5270	10.44		10.44	11.07	24.00
	62	5310	10.18		10.18	10.42	24.00
802.11ac VHT80	58	5290	7.97		7.97	6.27	24.00

For 2TX

Modulation Type	Channel	Frequency (MHz)	Avg Power Output (dBm)		Total Power (dBm)	Total Power (mW)	Power Limit (dBm)
			ANT A	ANT B			
802.11an HT20	52	5260	8.81	8.93	11.88	15.42	24.00
	60	5300	8.64	8.79	11.73	14.89	24.00
	64	5320	6.92	7.11	10.03	10.07	24.00
802.11an HT40	54	5270	7.62	7.65	10.65	11.61	24.00
	62	5310	7.20	7.51	10.37	10.89	24.00
802.11ac VHT20	52	5260	8.84	8.96	11.91	15.52	24.00
	60	5300	8.68	8.83	11.77	15.03	24.00
	64	5320	6.95	7.29	10.13	10.30	24.00
802.11ac VHT40	54	5270	7.63	7.79	10.72	11.80	24.00
	62	5310	7.25	7.54	10.41	10.99	24.00
802.11ac VHT80	58	5290	5.87	6.01	8.95	7.85	24.00



In the 5.5G Band

For 1TX

Modulation Type	Channel	Frequency (MHz)	Avg Power Output (dBm)		Total Power (dBm)	Total Power (mW)	Power Limit (dBm)
			ANT A	ANT B			
802.11a	100	5500	9.99		9.99	9.98	24.00
	116	5580	11.62		11.62	14.52	24.00
	140	5700	9.37		9.37	8.65	24.00
802.11an HT20	100	5500	9.86		9.86	9.68	24.00
	116	5580	11.63		11.63	14.55	24.00
	140	5700	9.15		9.15	8.22	24.00
802.11an HT40	102	5510	8.44		8.44	6.98	24.00
	110	5550	10.18		10.18	10.42	24.00
	134	5670	8.72		8.72	7.45	24.00
802.11ac VHT20	100	5500	9.97		9.97	9.93	24.00
	116	5580	11.71		11.71	14.83	24.00
	140	5700	9.19		9.19	8.30	24.00
802.11ac VHT40	102	5510	8.46		8.46	7.01	24.00
	110	5550	10.25		10.25	10.59	24.00
	134	5670	8.74		8.74	7.48	24.00
802.11ac VHT80	106	5530	8.56		8.56	7.18	24.00

For 2TX

Modulation Type	Channel	Frequency (MHz)	Avg Power Output (dBm)		Total Power (dBm)	Total Power (mW)	Power Limit (dBm)
			ANT A	ANT B			
802.11an HT20	100	5500	7.44	7.57	10.52	11.27	24.00
	116	5580	9.13	9.11	12.13	16.33	24.00
	140	5700	6.60	6.74	9.68	9.29	24.00
802.11an HT40	102	5510	5.51	5.67	8.60	7.24	24.00
	110	5550	7.25	7.55	10.41	10.99	24.00
	134	5670	5.73	6.21	8.99	7.93	24.00
802.11ac VHT20	100	5500	7.49	7.64	10.58	11.43	24.00
	116	5580	9.16	9.29	12.24	16.75	24.00
	140	5700	6.62	6.84	9.74	9.42	24.00
802.11ac VHT40	102	5510	5.56	5.73	8.66	7.35	24.00
	110	5550	7.30	7.56	10.44	11.07	24.00
	134	5670	5.77	6.26	9.03	8.00	24.00
802.11ac VHT80	106	5530	6.54	6.81	10.04	10.09	24.00

**In the 5.8G Band****For 1TX**

Modulation Type	Channel	Frequency (MHz)	Avg Power Output (dBm)		Total Power (dBm)	Total Power (mW)	Power Limit (dBm)
			ANT A	ANT B			
802.11a	149	5745	12.30		12.30	16.98	30.00
	157	5785	12.74		12.74	18.79	30.00
	165	5825	12.79		12.79	19.01	30.00
802.11an HT20	149	5745	11.96		11.96	15.70	30.00
	157	5785	12.39		12.39	17.34	30.00
	165	5825	12.55		12.55	17.99	30.00
802.11an HT40	151	5755	11.38		11.38	13.74	30.00
	159	5795	11.97		11.97	15.74	30.00
802.11ac VHT20	149	5745	12.03		12.03	15.96	30.00
	157	5785	12.54		12.54	17.95	30.00
	165	5825	12.61		12.61	18.24	30.00
802.11ac VHT40	151	5755	11.46		11.46	14.00	30.00
	159	5795	12.00		12.00	15.85	30.00
802.11ac VHT80	155	5775	11.55		11.55	14.29	30.00

For 2TX

Modulation Type	Channel	Frequency (MHz)	Avg Power Output (dBm)		Total Power (dBm)	Total Power (mW)	Power Limit (dBm)
			ANT A	ANT B			
802.11an HT20	149	5745	8.66	8.85	11.77	15.03	30.00
	157	5785	8.63	9.42	12.05	16.03	30.00
	165	5825	8.73	9.21	11.99	15.81	30.00
802.11an HT40	151	5755	9.12	9.79	12.48	17.70	30.00
	159	5795	9.69	10.25	12.99	19.91	30.00
802.11ac VHT20	149	5745	8.79	8.98	11.90	15.49	30.00
	157	5785	8.81	9.53	12.20	16.60	30.00
	165	5825	8.94	9.36	12.17	16.48	30.00
802.11ac VHT40	151	5755	9.24	9.87	12.58	18.11	30.00
	159	5795	9.75	10.36	13.08	20.32	30.00
802.11ac VHT80	155	5775	10.36	11.31	13.87	24.38	30.00



11. PPSD

11.1. Test Limit

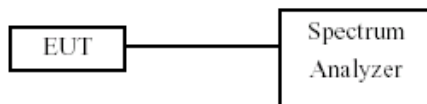
PSD:

Frequency Band	Limit
<input checked="" type="checkbox"/> 5.15~5.25GHz	
Operating Mode	
<input type="checkbox"/> Outdoor access point	17 dBm/MHz
<input type="checkbox"/> Indoor access point	17 dBm/MHz
<input type="checkbox"/> Fixed point-to-point access points	17 dBm/MHz
<input checked="" type="checkbox"/> Mobile and portable client devices	11 dBm/MHz
<input checked="" type="checkbox"/> 5.725~5.85 GHz	11 dBm/MHz
<input checked="" type="checkbox"/> 5.470-5.725 GHz	11 dBm/MHz
<input checked="" type="checkbox"/> 5.725~5.85 GHz	30 dBm/500kHz

11.2. Test Procedure

Reference to KDB789033 D02 General UNII Test Procedures New Rules v02r01

11.3. Test Setup Layout



**11.4. Test Result and Data**

Temperature: 21°C

Humidity: 56%

Test Date: Dec. 08, 2018

In the 5.2G Band**For 1TX**

Modulation Type	CH	Freq. (MHz)	Meas PPSD (dBm/MHz)		Sum chain (dBm)	Duty Cycle CF(dB)	Total Corr'd PPSD (dBm/MHz)	PPSD Limit (dBm/MHz)
			ANT A					
802.11a	36	5180	0.679		0.679	0.00	0.679	11.00
	44	5220	0.956		0.956	0.00	0.956	11.00
	48	5240	1.290		1.290	0.00	1.290	11.00
802.11ac VHT20	36	5180	0.351		0.351	0.00	0.351	11.00
	44	5220	0.582		0.582	0.00	0.582	11.00
	48	5240	0.968		0.968	0.00	0.968	11.00
802.11ac VHT40	38	5190	-3.221		-3.221	0.00	-3.221	11.00
	46	5230	-2.852		-2.852	0.00	-2.852	11.00
802.11ac VHT80	42	5210	-5.374		-5.374	0.00	-5.374	11.00

For 2X

Modulation Type	CH	Freq. (MHz)	Meas PPSD (dBm/MHz)		Sum chain (dBm)	Duty Cycle CF(dB)	Total Corr'd PPSD (dBm/MHz)	PPSD Limit (dBm/MHz)
			ANT A	ANT B				
802.11ac VHT20	36	5180	-1.062	-1.547	1.71	0.00	1.71	11.00
	44	5220	-1.244	-1.983	1.41	0.00	1.41	11.00
	48	5240	-0.929	-1.557	1.78	0.00	1.78	11.00
802.11ac VHT40	38	5190	-5.044	-5.680	-2.34	0.00	-2.34	11.00
	46	5230	-5.044	-5.508	-2.26	0.00	-2.26	11.00
802.11ac VHT80	42	5210	-7.430	-8.449	-4.90	0.00	-4.90	11.00

**In the 5.3G Band****For 1TX**

Modulation Type	CH	Freq. (MHz)	Meas PPSD (dBm/MHz)		Sum chain (dBm)	Duty Cycle CF(dB)	Total Corr'd PPSD (dBm/MHz)	PPSD Limit (dBm/MHz)
			ANT A					
802.11a	52	5260	1.924		1.924	0.00	1.924	11.00
	60	5300	2.724		2.724	0.00	2.724	11.00
	64	5320	1.340		1.340	0.00	1.340	11.00
802.11ac VHT20	52	5260	1.842		1.842	0.00	1.842	11.00
	60	5300	2.497		2.497	0.00	2.497	11.00
	64	5320	1.162		1.162	0.00	1.162	11.00
802.11ac VHT40	54	5270	-1.945		-1.945	0.00	-1.945	11.00
	62	5310	-1.309		-1.309	0.00	-1.309	11.00
802.11ac VHT80	58	5290	-5.629		-5.629	0.00	-5.629	11.00

For 2X

Modulation Type	CH	Freq. (MHz)	Meas PPSD (dBm/MHz)		Sum chain (dBm)	Duty Cycle CF(dB)	Total Corr'd PPSD (dBm/MHz)	PPSD Limit (dBm/MHz)
			ANT A	ANT B				
802.11ac VHT20	52	5260	-0.029	-0.829	2.60	0.00	2.60	11.00
	60	5300	0.412	-0.513	2.98	0.00	2.98	11.00
	64	5320	-1.741	-2.076	1.11	0.00	1.11	11.00
802.11ac VHT40	54	5270	-3.806	-4.230	-1.00	0.00	-1.00	11.00
	62	5310	-3.299	-3.872	-0.57	0.00	-0.57	11.00
802.11ac VHT80	58	5290	-7.807	-8.679	-5.21	0.00	-5.21	11.00

**In the 5.5G Band****For 1TX**

Modulation Type	CH	Freq. (MHz)	Meas PPSD (dBm/MHz)		Sum chain (dBm)	Duty Cycle CF(dB)	Total Corr'd PPSD (dBm/MHz)	PPSD Limit (dBm/MHz)
			ANT A					
802.11a	100	5500	1.102		1.102	0.00	1.102	11.00
	116	5580	2.700		2.700	0.00	2.700	11.00
	140	5700	-0.198		-0.198	0.00	-0.198	11.00
802.11ac VHT20	100	5500	0.838		0.838	0.00	0.838	11.00
	116	5580	2.402		2.402	0.00	2.402	11.00
	140	5700	-0.464		-0.464	0.00	-0.464	11.00
802.11ac VHT40	102	5510	-3.403		-3.403	0.00	-3.403	11.00
	110	5550	-1.436		-1.436	0.00	-1.436	11.00
	134	5670	-3.592		-3.592	0.00	-3.592	11.00
802.11ac VHT80	106	5530	-4.702		-4.702	0.00	-4.702	11.00

For 2X

Modulation Type	CH	Freq. (MHz)	Meas PPSD (dBm/MHz)		Sum chain (dBm)	Duty Cycle CF(dB)	Total Corr'd PPSD (dBm/MHz)	PPSD Limit (dBm/MHz)
			ANT A	ANT B				
802.11ac VHT20	100	5500	-0.479	-0.676	2.43	0.00	2.43	11.00
	116	5580	0.261	0.724	3.51	0.00	3.51	11.00
	140	5700	-2.640	-2.557	0.41	0.00	0.41	11.00
802.11ac VHT40	102	5510	-5.447	-4.821	-2.11	0.00	-2.11	11.00
	110	5550	-4.021	-3.437	-0.71	0.00	-0.71	11.00
	134	5670	-5.652	-5.338	-2.48	0.00	-2.48	11.00
802.11ac VHT80	106	5530	-6.703	-7.031	-3.85	0.00	-3.85	11.00

**In the 5.8G Band****For 1TX**

Modulation Type	CH	Freq. (MHz)	Meas PPSD (dBm/MHz)		Sum chain (dBm)	Duty Cycle CF(dB)	10log(500K Hz/RBW) CF (dB)	Total Corr'd PPSD (dBm/500kHz)	PPSD Limit (dBm/500kHz)
			ANT A						
802.11a	149	5745	2.866		2.866	0.00	-3.01	-0.144	30.00
	157	5785	3.609		3.609	0.00	-3.01	0.599	30.00
	165	5825	3.632		3.632	0.00	-3.01	0.622	30.00
802.11ac VHT20	149	5745	2.644		2.644	0.00	-3.01	-0.366	30.00
	157	5785	3.051		3.051	0.00	-3.01	0.041	30.00
	165	5825	3.013		3.013	0.00	-3.01	0.003	30.00
802.11ac VHT40	155	5755	-1.156		-1.156	0.00	-3.01	-4.166	30.00
	159	5795	-0.584		-0.584	0.00	-3.01	-3.594	30.00
802.11ac VHT80	155	5775	-3.218		-3.218	0.00	-3.01	-6.228	30.00

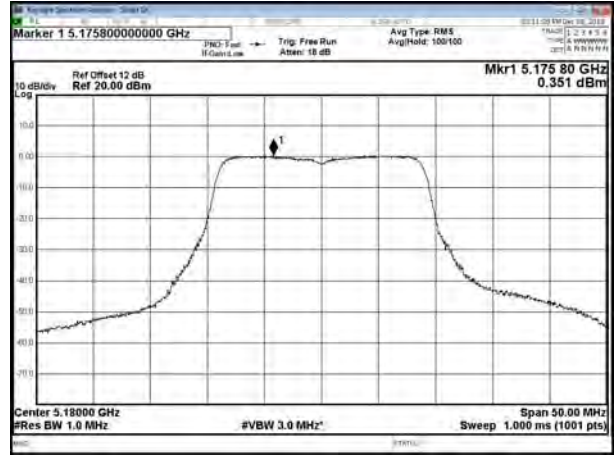
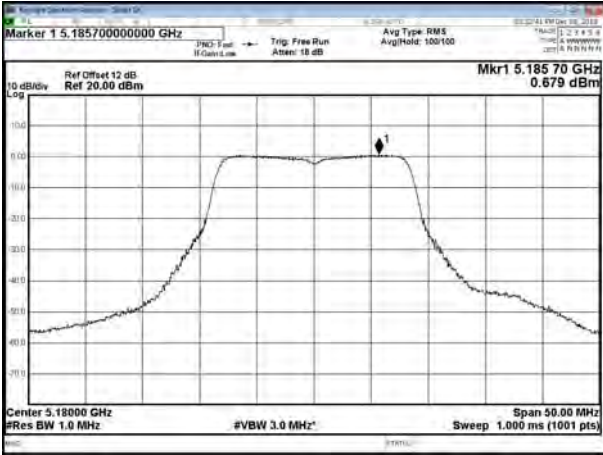
For 2TX

Modulation Type	CH	Freq. (MHz)	Meas PPSD (dBm/MHz)		Sum chain (dBm)	Duty Cycle CF(dB)	10log(500K Hz/RBW) CF (dB)	Total Corr'd PPSD (dBm/500kHz)	PPSD Limit (dBm/500kHz)
			ANT A	ANT B					
802.11ac VHT20	149	5745	1.146	-0.516	3.40	0.00	-3.01	0.39	30.00
	157	5785	1.536	-0.305	3.72	0.00	-3.01	0.71	30.00
	165	5825	1.371	-0.876	3.40	0.00	-3.01	0.39	30.00
802.11ac VHT40	155	5755	-3.214	-4.067	-0.61	0.00	-3.01	-3.62	30.00
	159	5795	-2.819	-3.465	-0.12	0.00	-3.01	-3.13	30.00
802.11ac VHT80	155	5775	-4.752	-6.125	-2.37	0.00	-3.01	-5.38	30.00



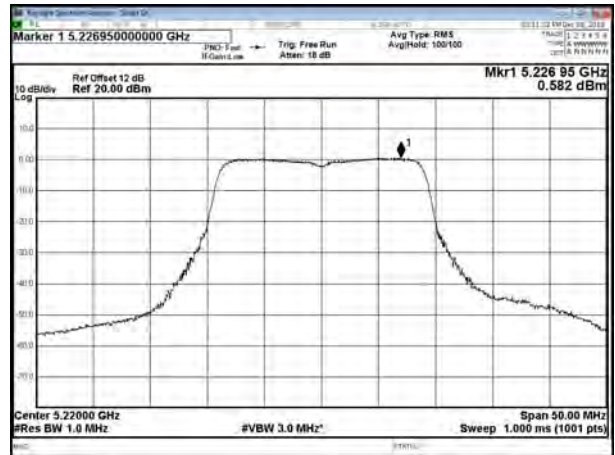
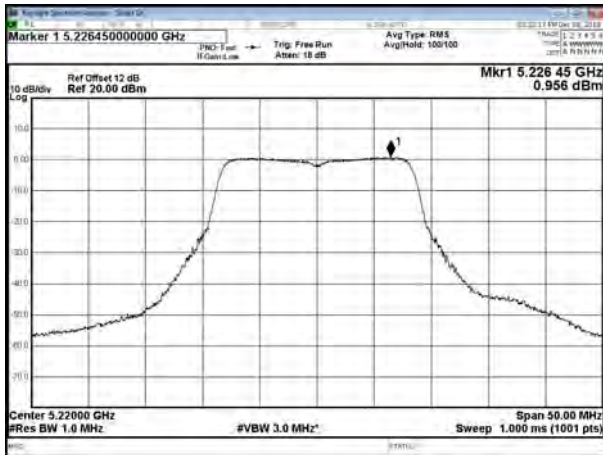
5.2G Band:
For 1TX
Modulation Standard: 802.11a (6Mbps)
CH36

802.11ac VHT20 (6.5Mbps)
CH36



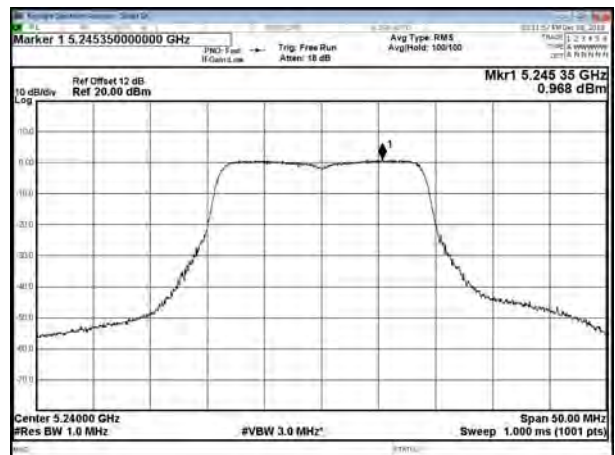
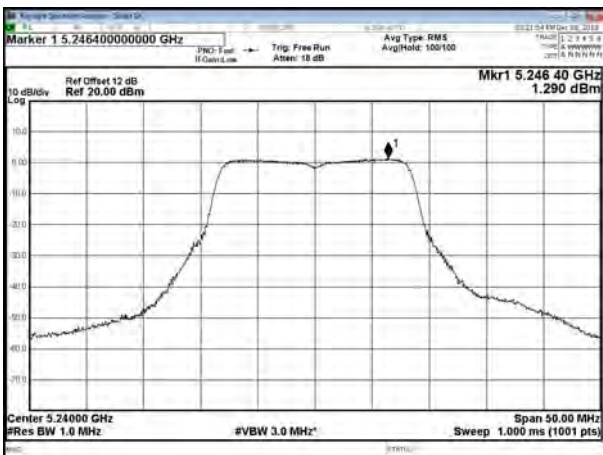
CH44

CH44



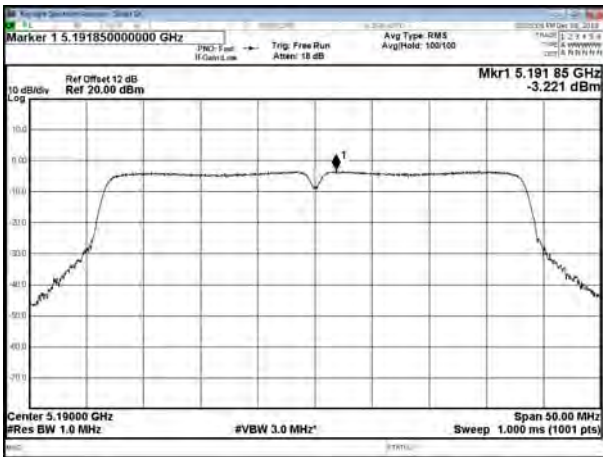
CH48

CH48

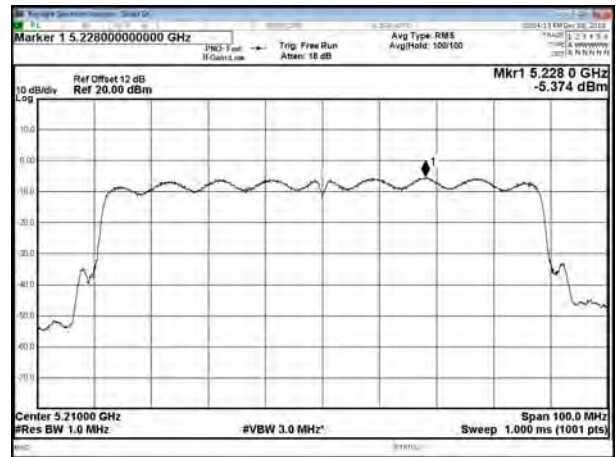




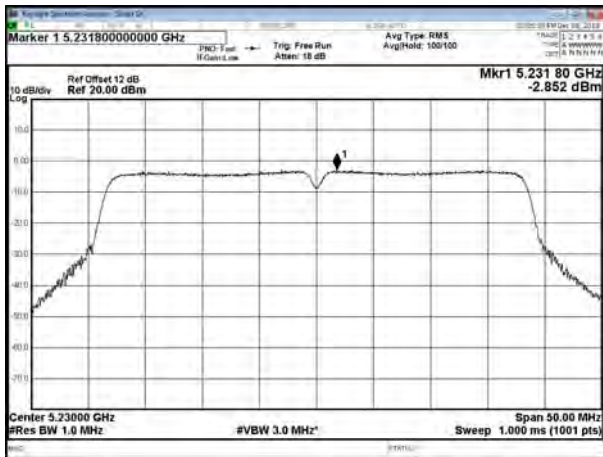
Modulation Standard: 802.11ac VHT40 (13.5Mbps)
CH38



Modulation Standard: 802.11ac VHT80 (29.3Mbps)
CH42



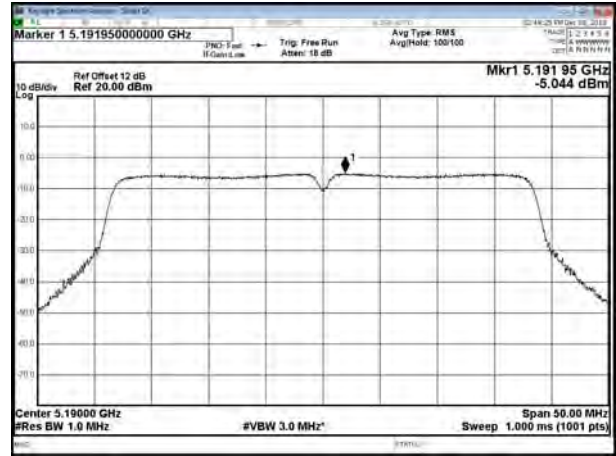
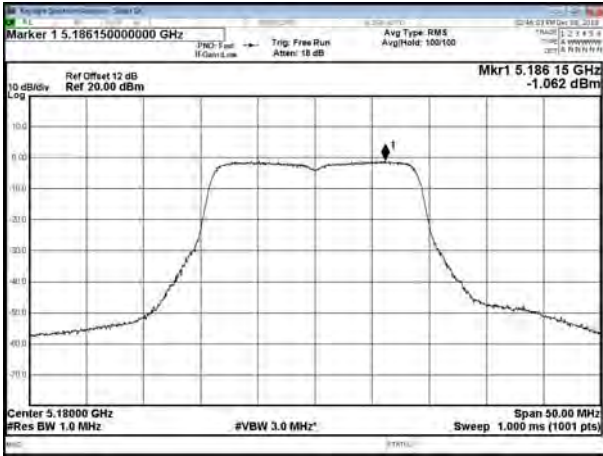
CH46





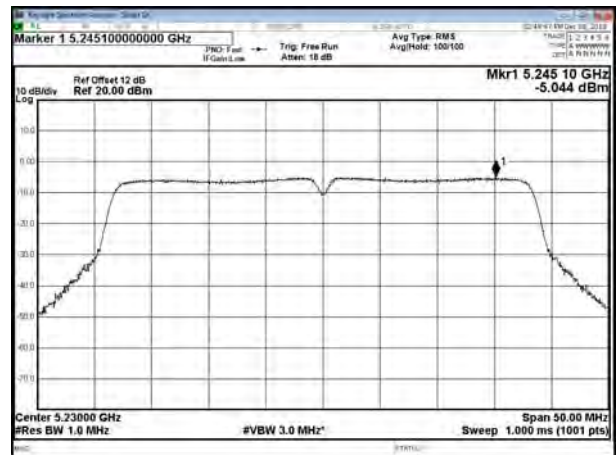
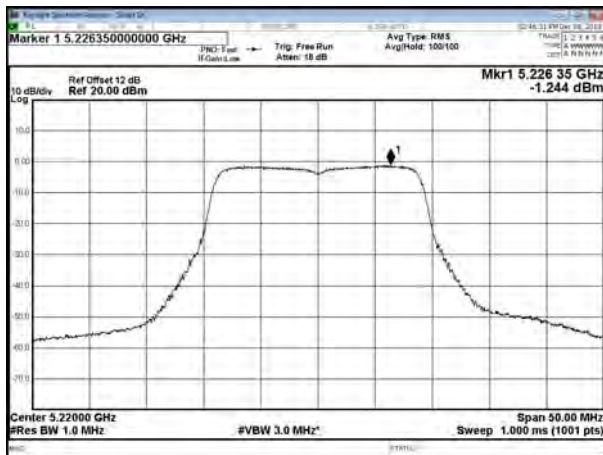
For 2TX , Ant A
Modulation Standard: 802.11ac,VHT20 (13Mbps)
CH36

Modulation Standard: 802.11ac,VHT40 (27Mbps)
CH38



CH44

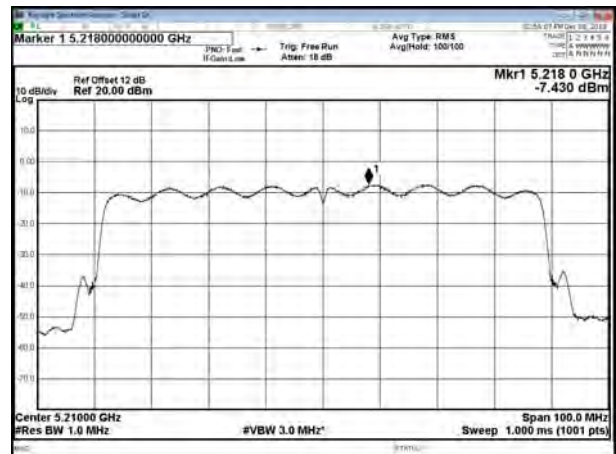
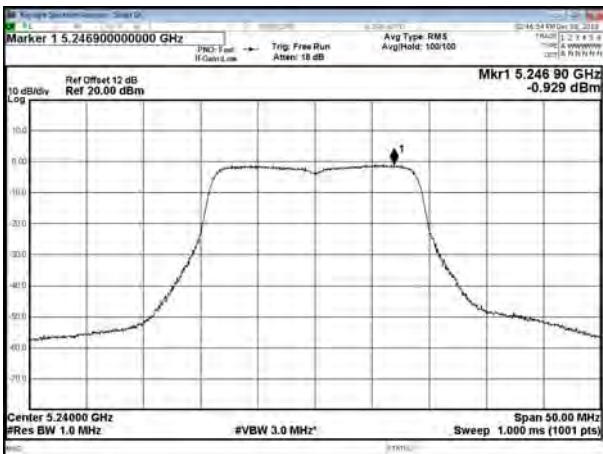
CH46



Modulation Standard: 802.11ac,VHT80 (58.5Mbps)

CH48

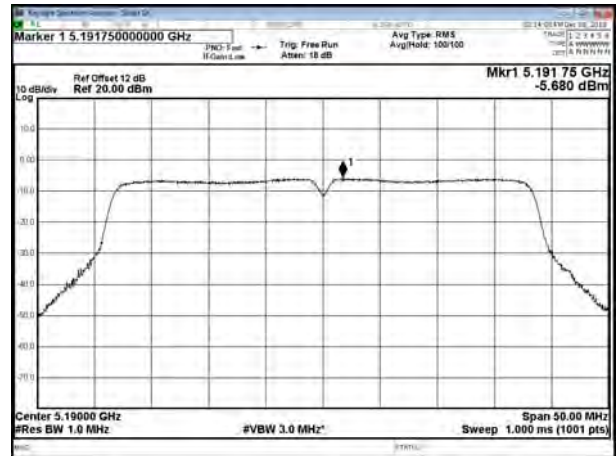
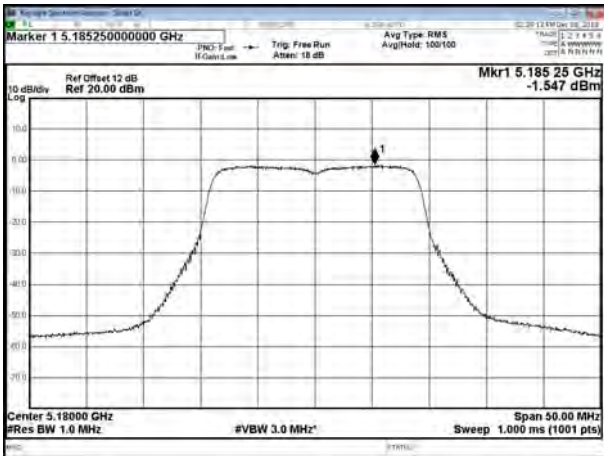
CH42





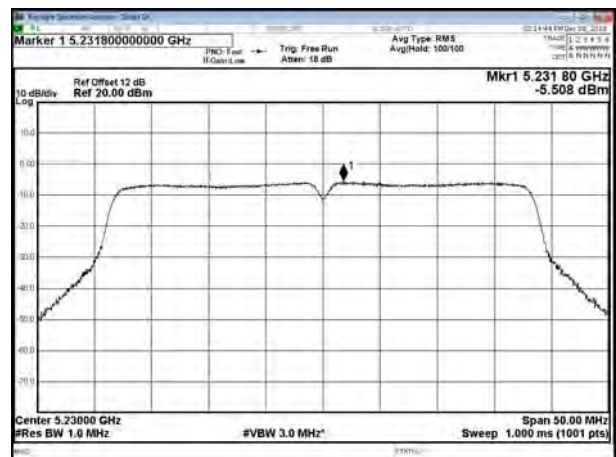
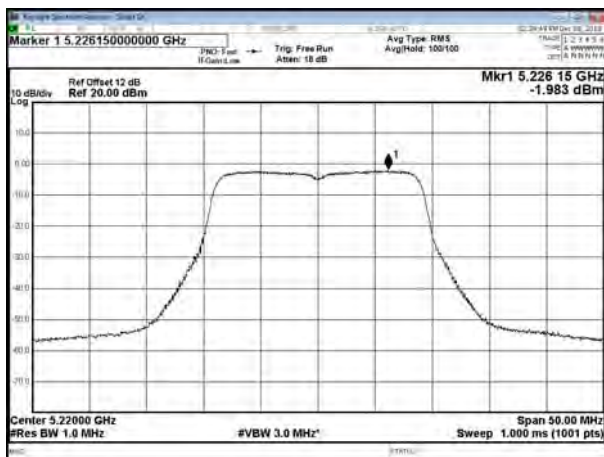
For 2TX , Ant B
Modulation Standard: 802.11ac,VHT20 (13Mbps)
CH36

Modulation Standard: 802.11ac,VHT40 (27Mbps)
CH38



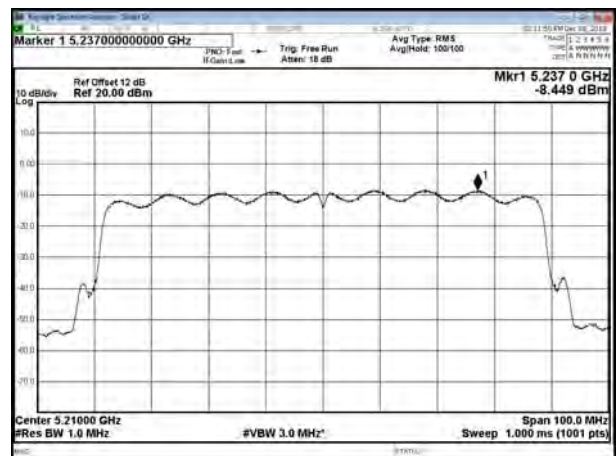
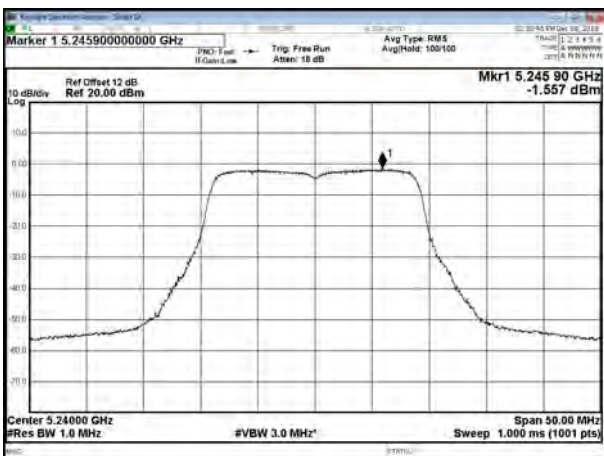
CH44

CH46



CH48

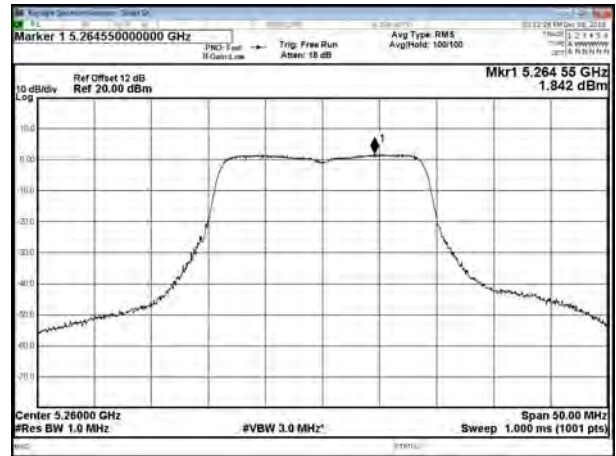
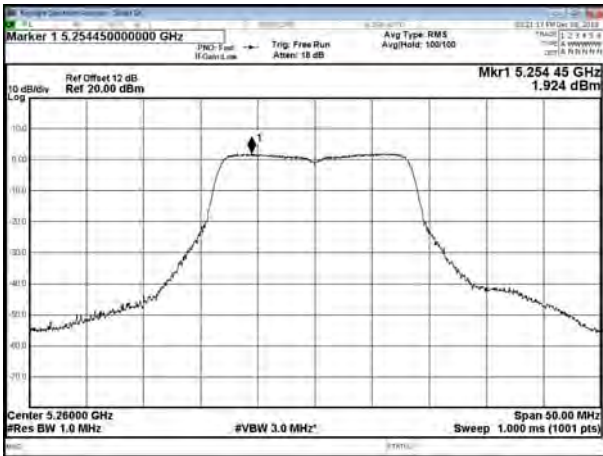
Modulation Standard: 802.11ac,VHT80 (58.5Mbps)
CH42





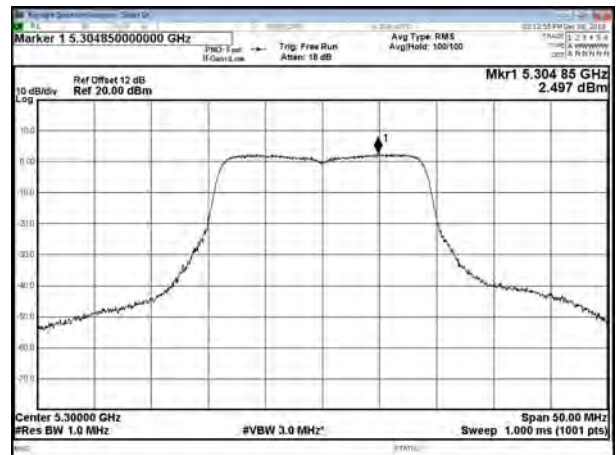
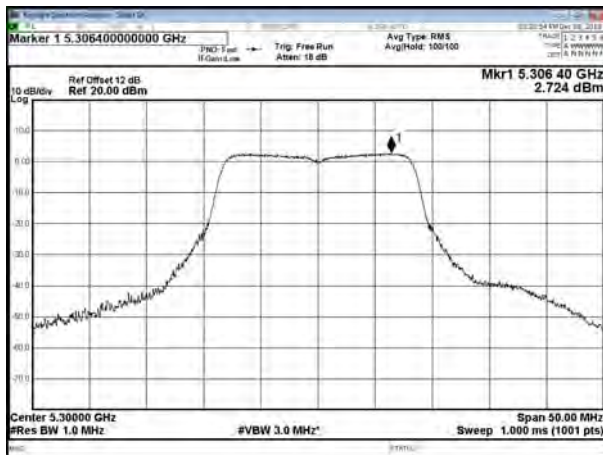
5.3G Band:
For 1TX
Modulation Standard: 802.11a (6Mbps)
CH52

802.11ac VHT20 (6.5Mbps)
CH52



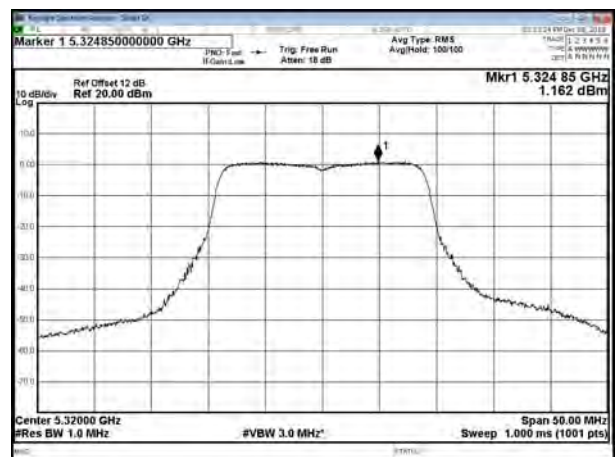
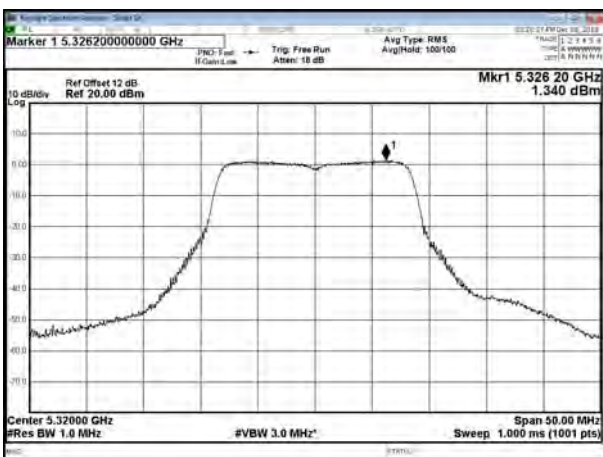
CH60

CH60



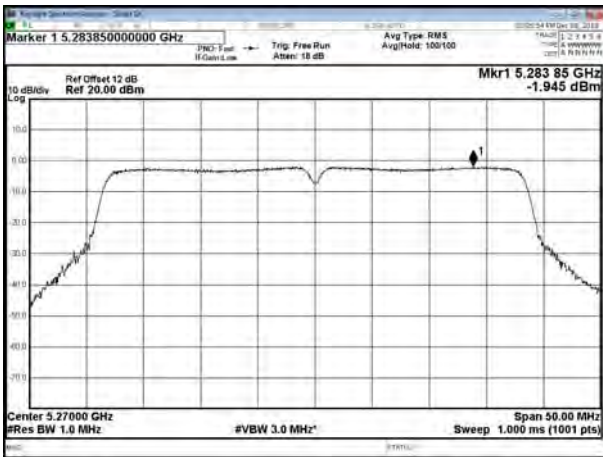
CH64

CH64

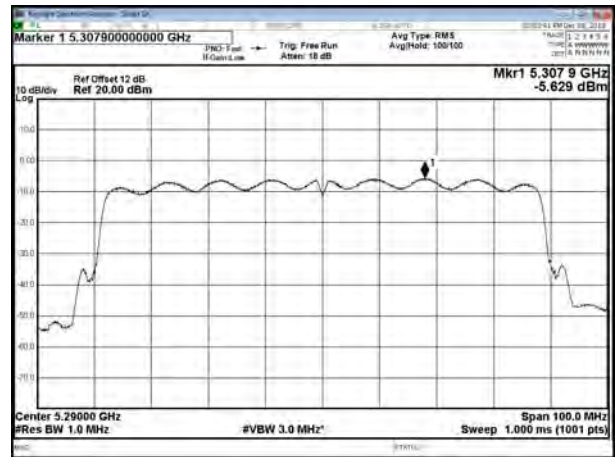




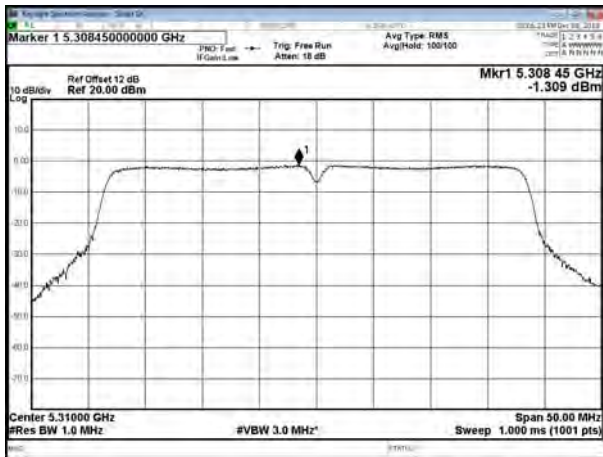
Modulation Standard: 802.11ac VHT40 (13.5Mbps)
CH54



Modulation Standard: 802.11ac VHT80 (29.3Mbps)
CH58



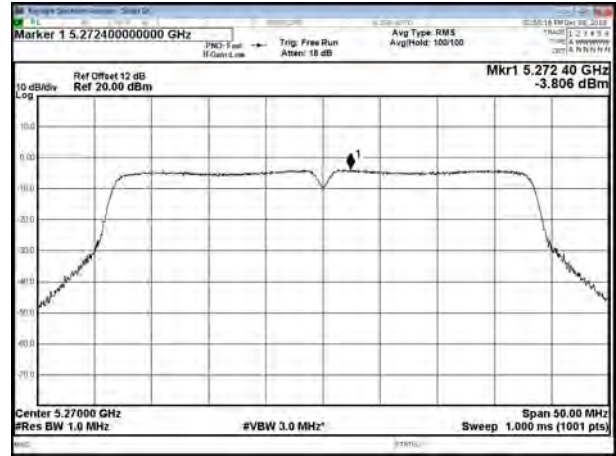
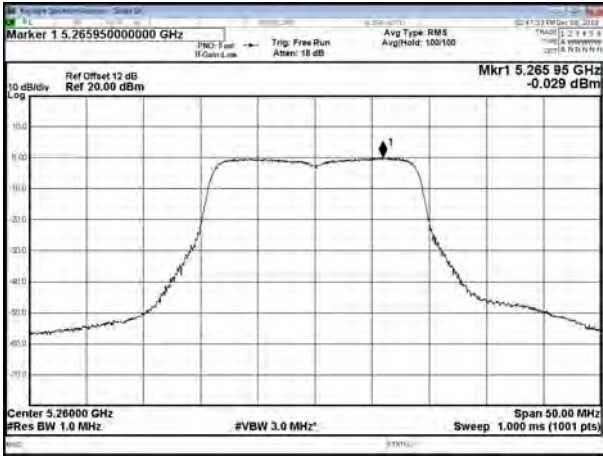
CH62





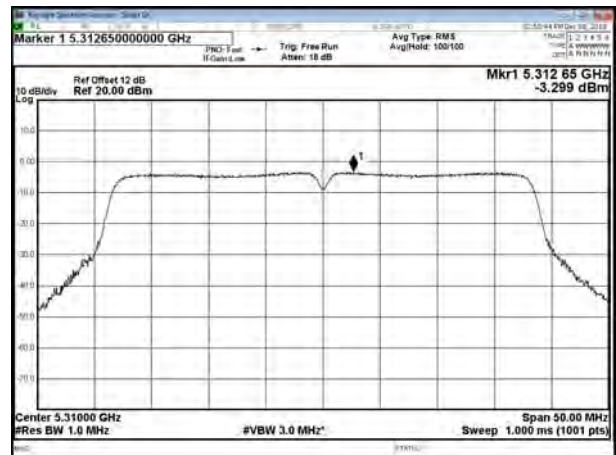
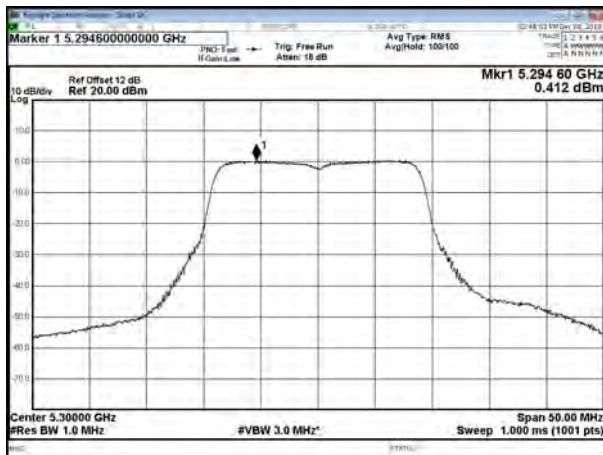
For 2TX , Ant A
Modulation Standard: 802.11ac,VHT20 (13Mbps)
CH52

Modulation Standard: 802.11ac,VHT40 (27Mbps)
CH54



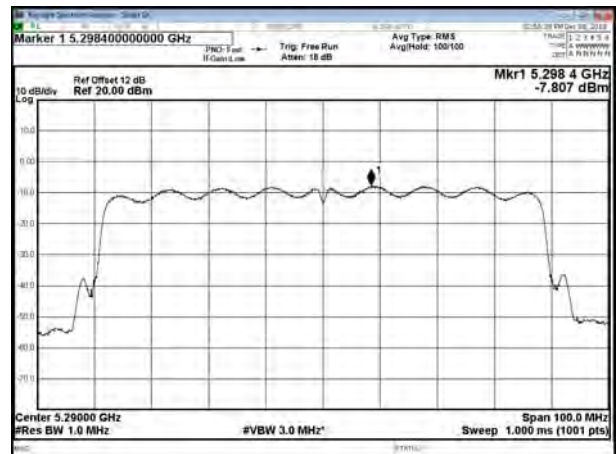
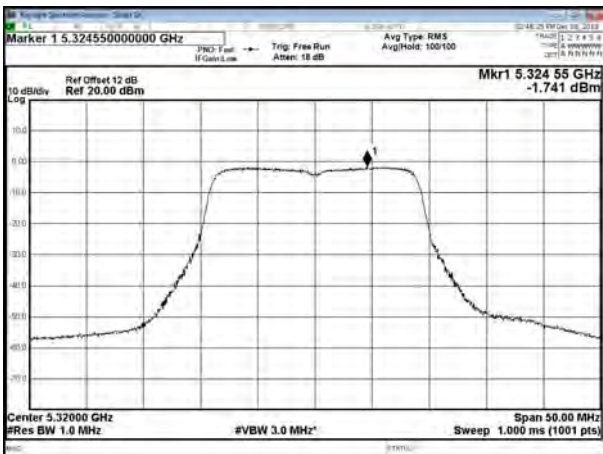
CH60

CH62



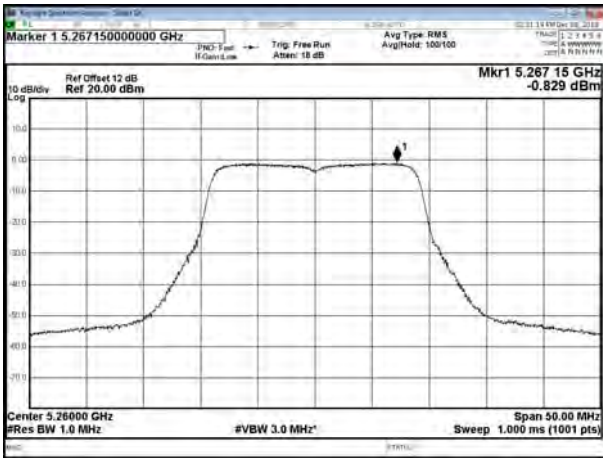
Modulation Standard: 802.11ac,VHT80 (58.5Mbps)
CH58

CH64

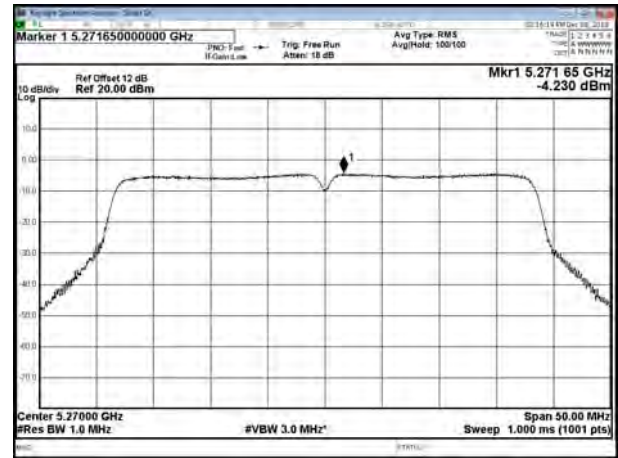




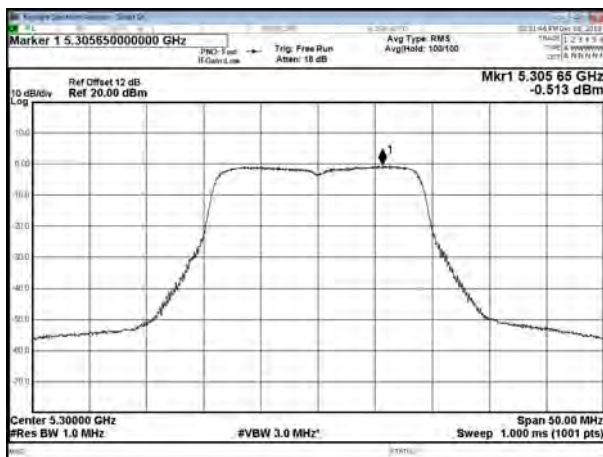
For 2TX , Ant B
Modulation Standard: 802.11ac,VHT20 (13Mbps)
CH52



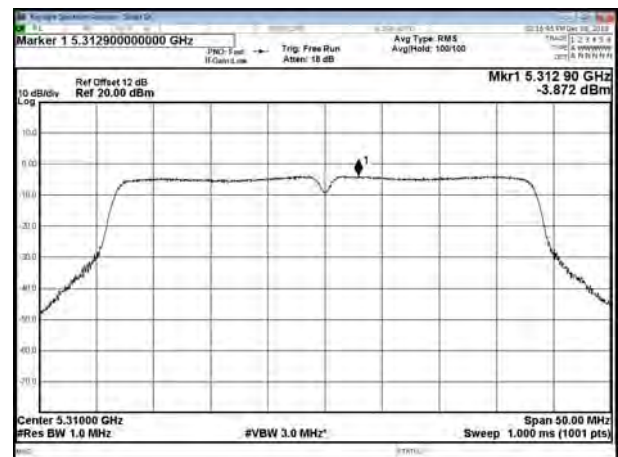
Modulation Standard: 802.11ac,VHT40 (27Mbps)
CH54



CH60

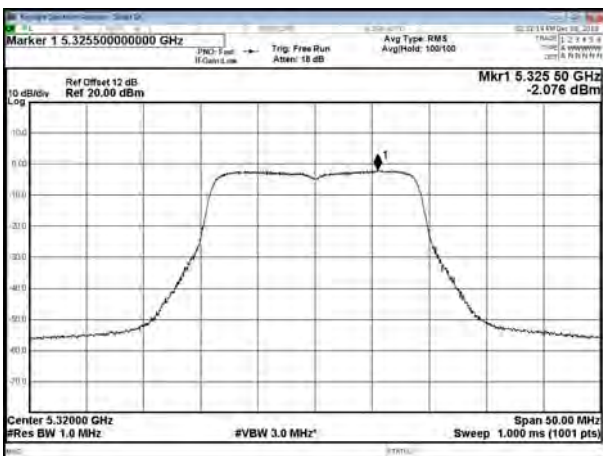


CH62

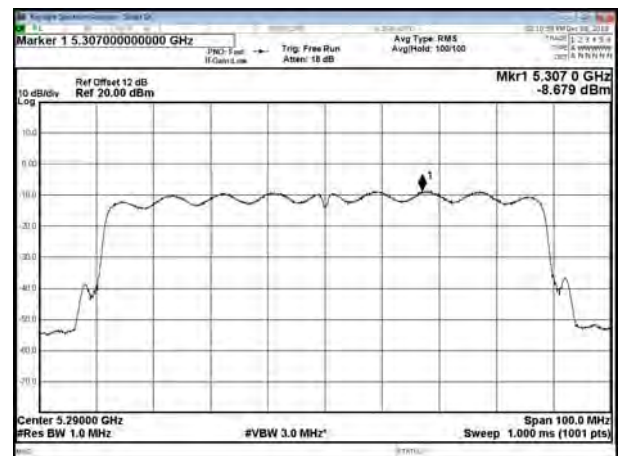


Modulation Standard: 802.11ac,VHT80 (58.5Mbps)

CH64



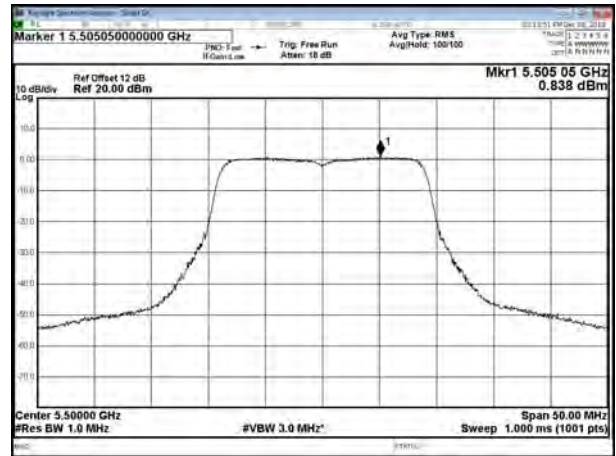
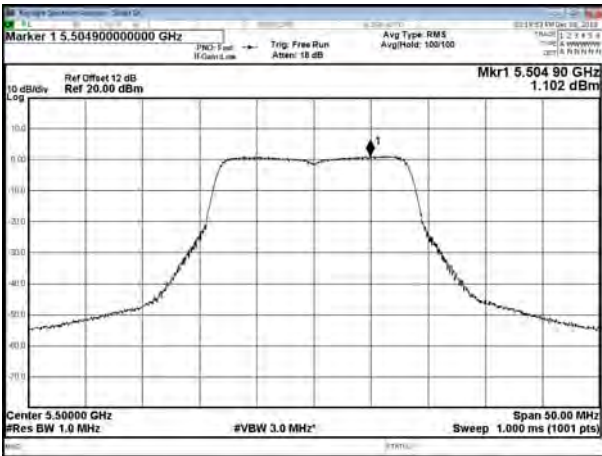
CH58





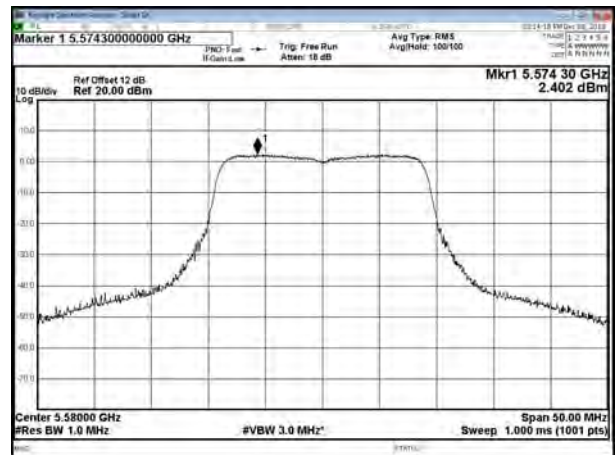
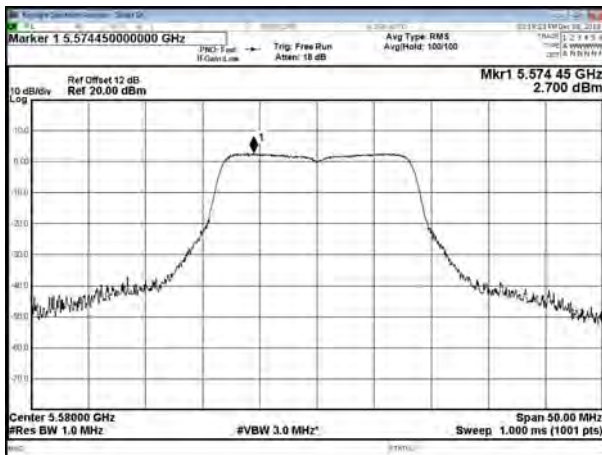
5.5G Band:
For 1TX
Modulation Standard: 802.11a (6Mbps)
CH100

802.11ac VHT20 (6.5Mbps)
CH100



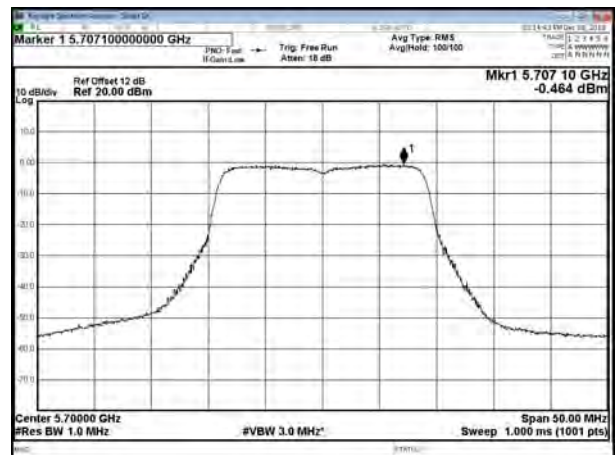
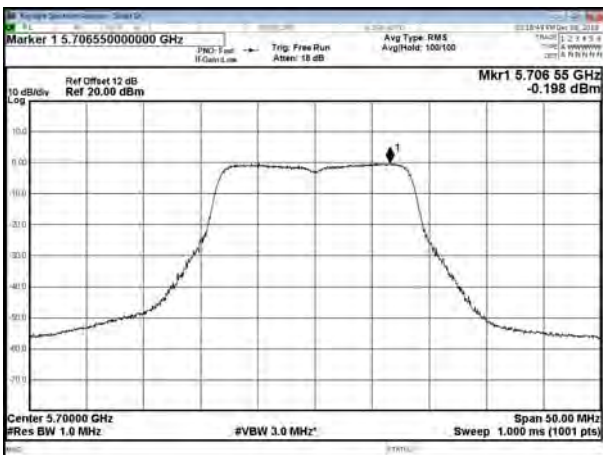
CH116

CH116



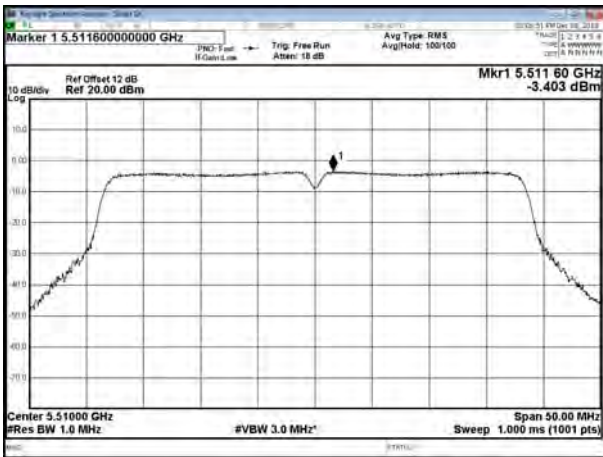
CH140

CH140

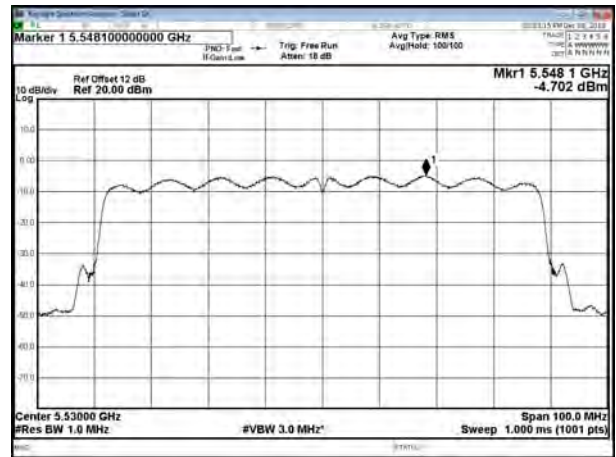




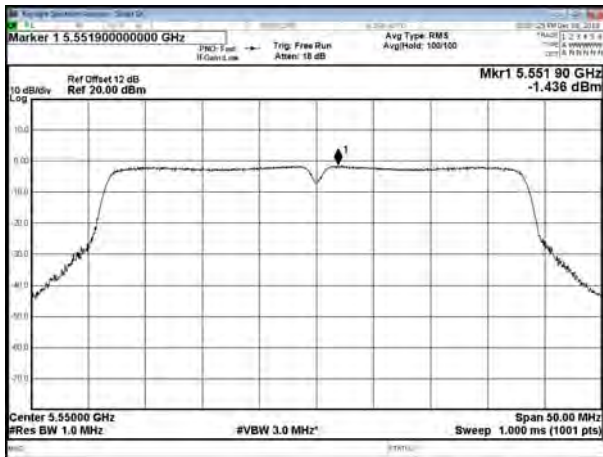
Modulation Standard: 802.11ac VHT40 (13.5Mbps)
CH102



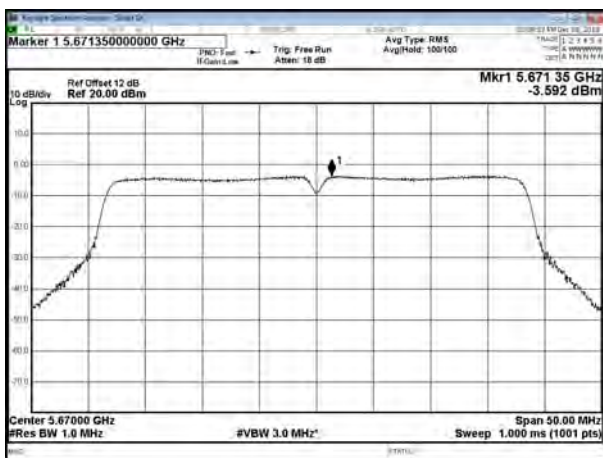
Modulation Standard: 802.11ac VHT80 (29.3Mbps)
CH106



CH110



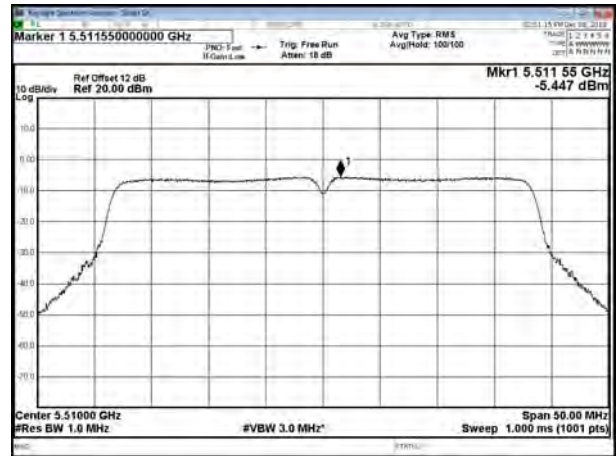
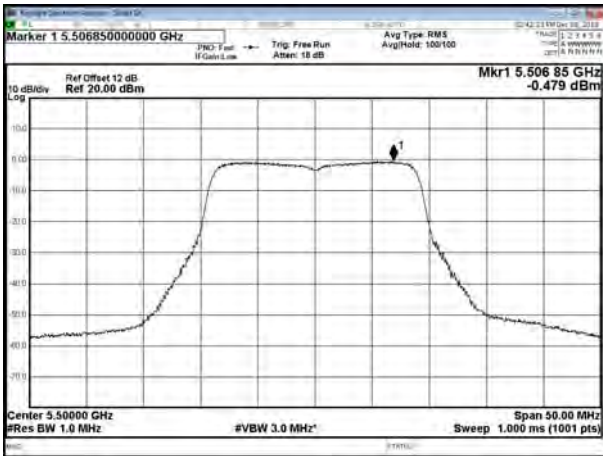
CH134





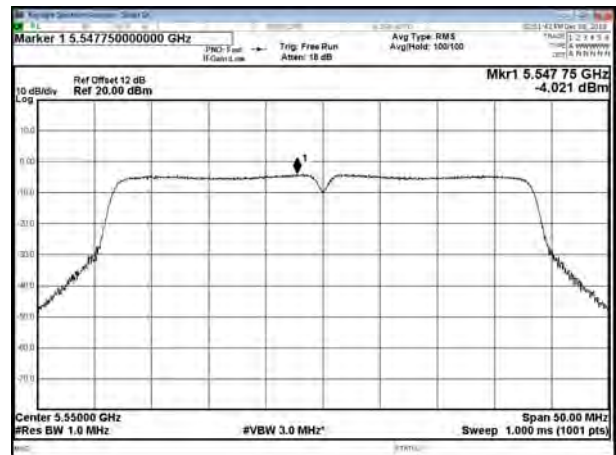
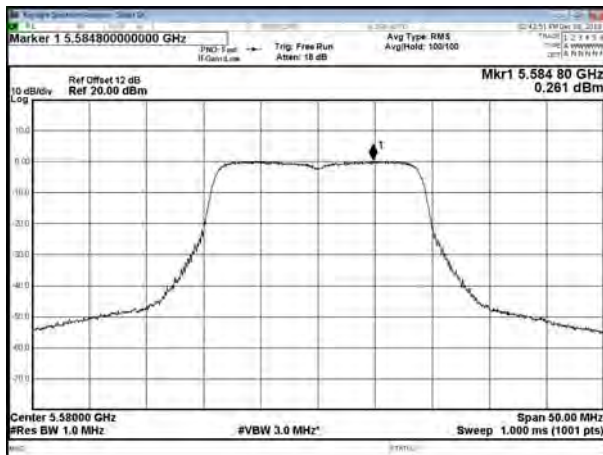
For 2TX , Ant A
Modulation Standard: 802.11ac,VHT20 (13Mbps)
CH100

Modulation Standard: 802.11ac,VHT40 (27Mbps)
CH102



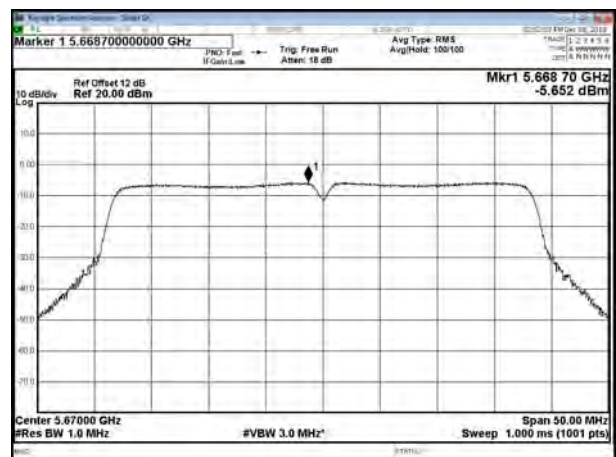
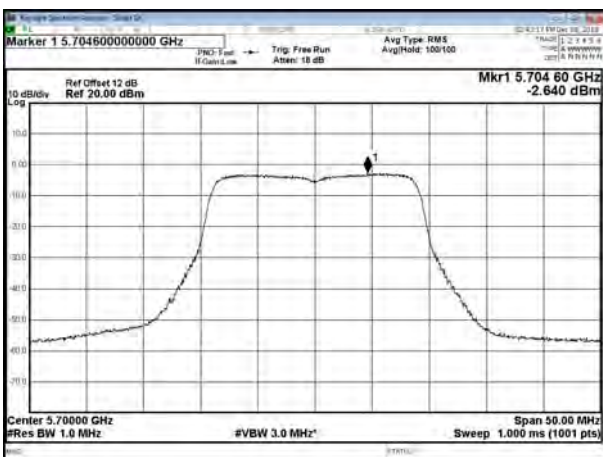
CH116

CH110



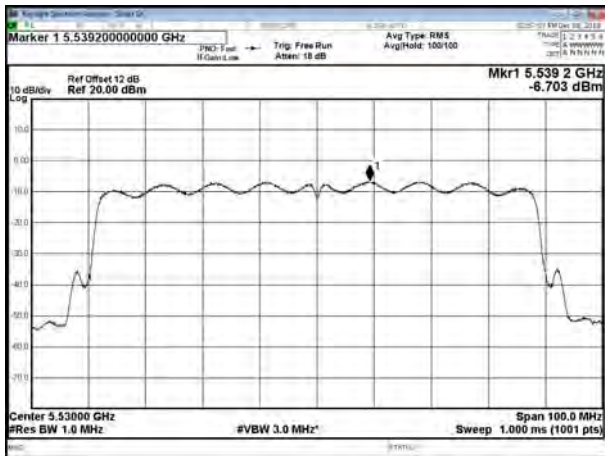
CH140

CH134





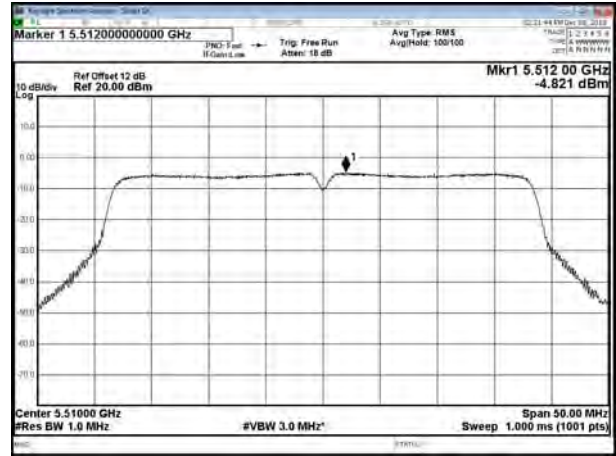
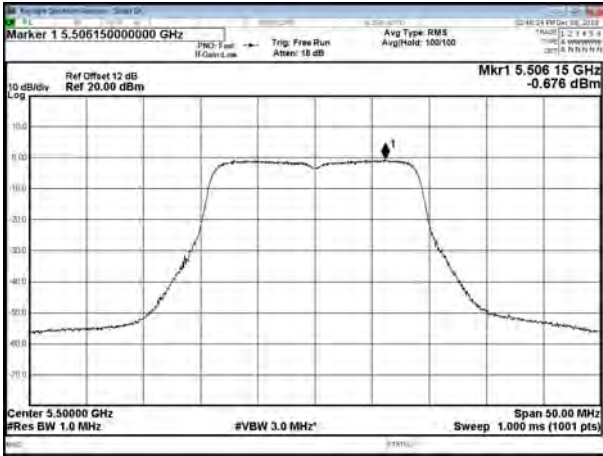
Modulation Standard: 802.11ac,VHT80 (58.5Mbps)
CH106



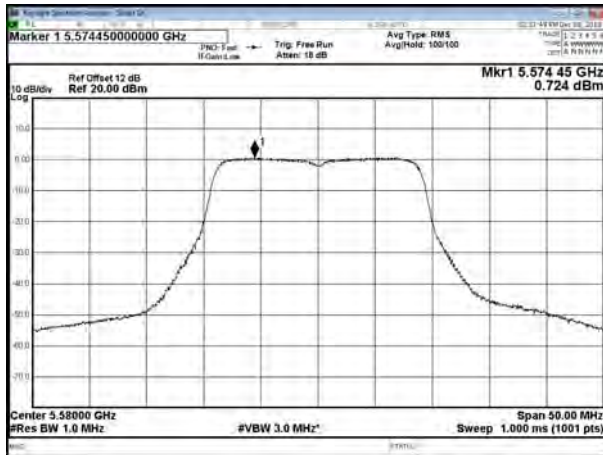


For 2TX , Ant B
Modulation Standard: 802.11ac,VHT20 (13Mbps)
CH100

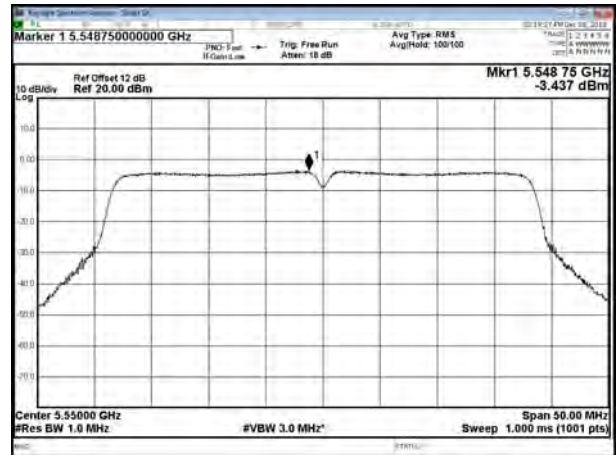
Modulation Standard: 802.11ac,VHT40 (27Mbps)
CH102



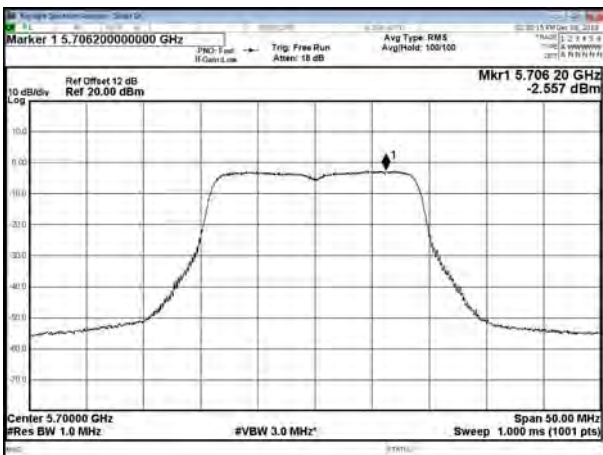
CH116



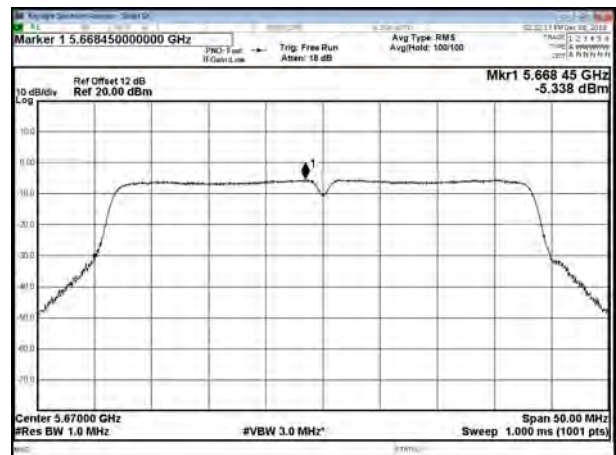
CH110



CH140

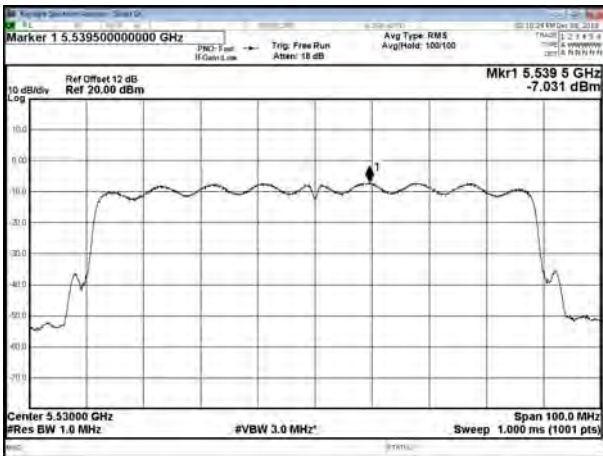


CH134





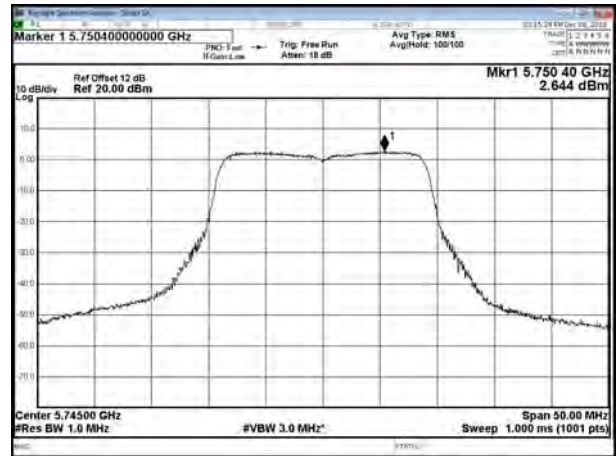
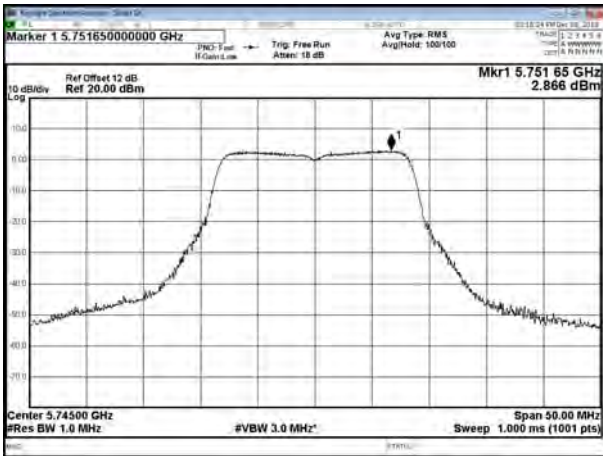
Modulation Standard: 802.11ac,VHT80 (58.5Mbps)
CH106





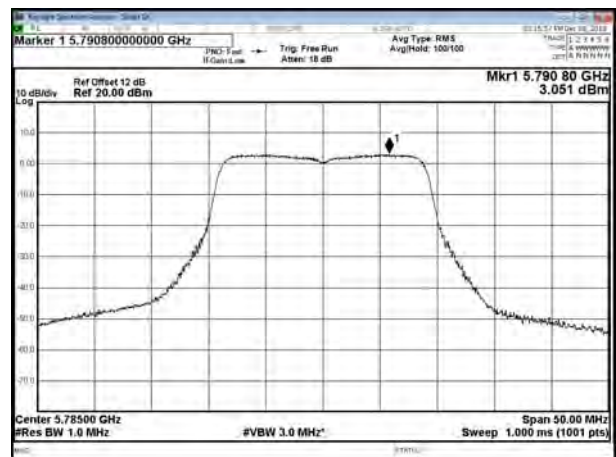
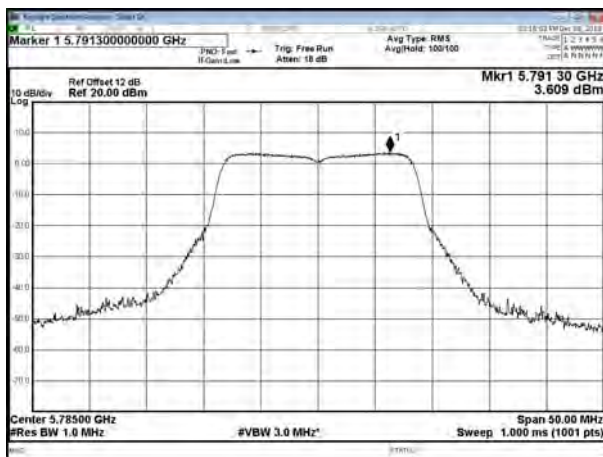
5.8G Band:
For 1TX
Modulation Standard: 802.11a (6Mbps)
CH149

Modulation Standard: 802.11ac, VHT20 (6.5Mbps)
CH149



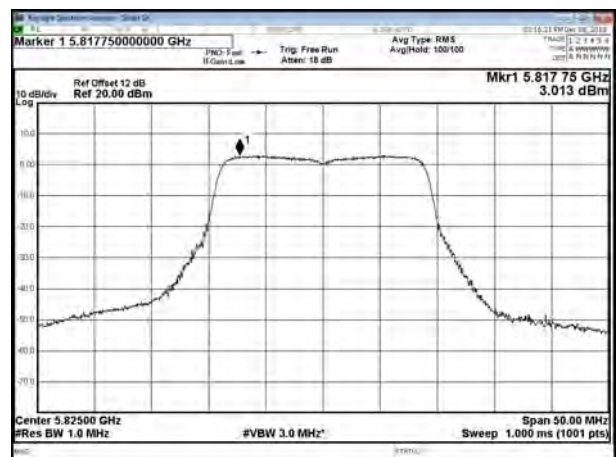
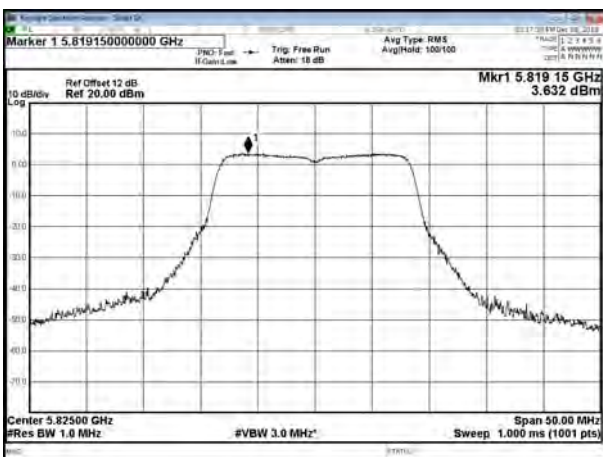
CH157

CH157



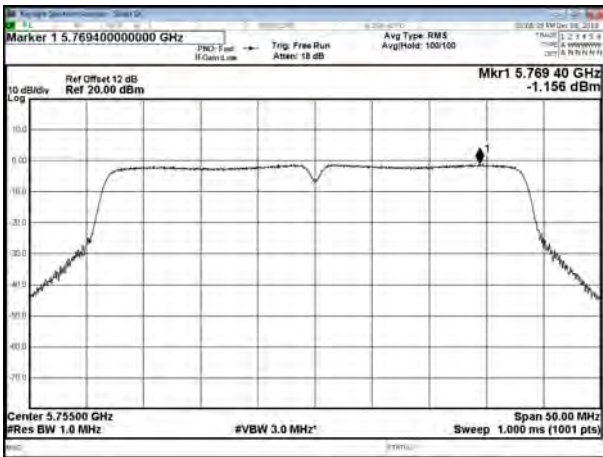
CH165

CH165

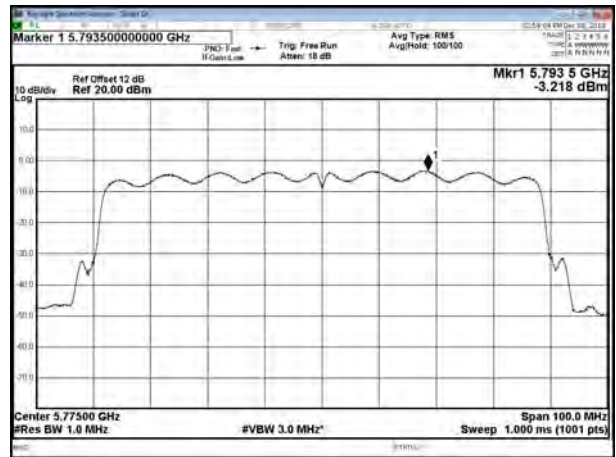




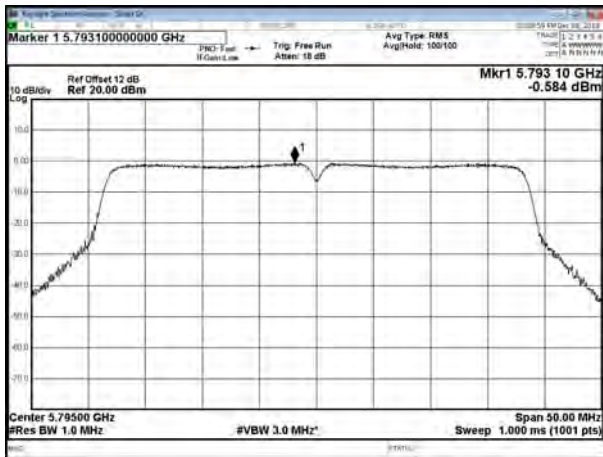
Modulation Standard: 802.11ac, VHT40 (13.5Mbps)
CH151



Modulation Standard: 802.11ac, VHT80 (29.3Mbps)
CH155



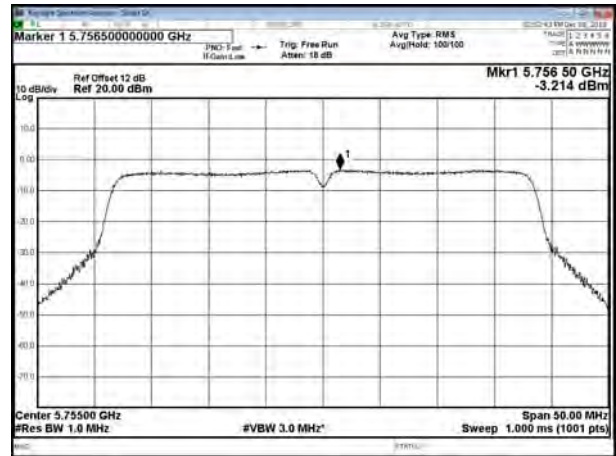
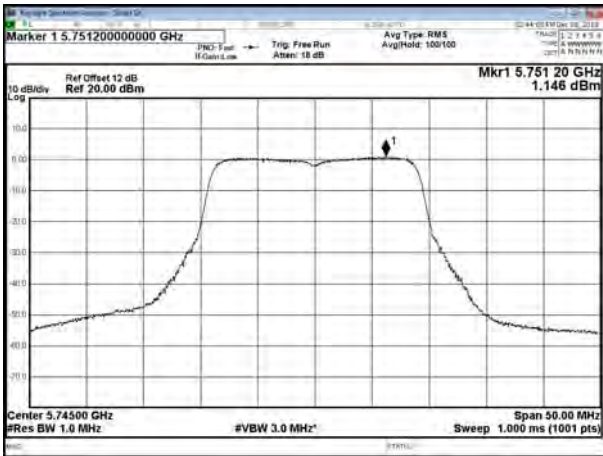
CH159





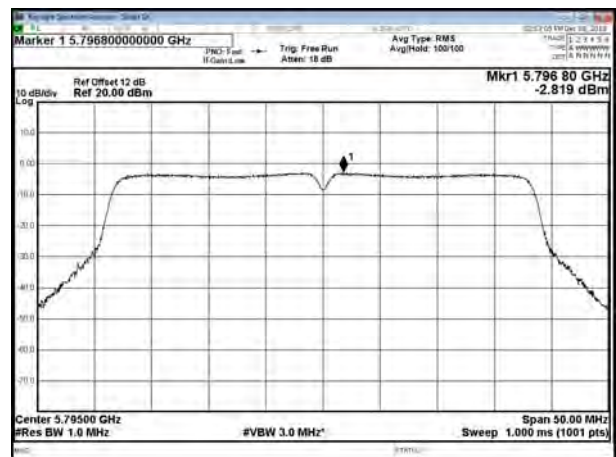
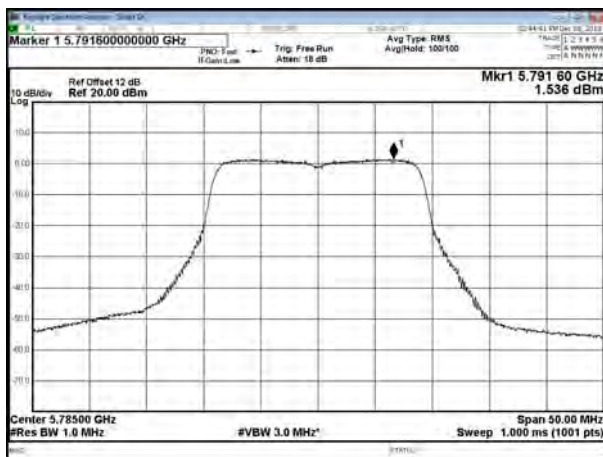
For 2TX , Ant A
Modulation Standard: 802.11ac,VHT20 (13Mbps)
CH149

Modulation Standard: 802.11ac,VHT40 (27Mbps)
CH151



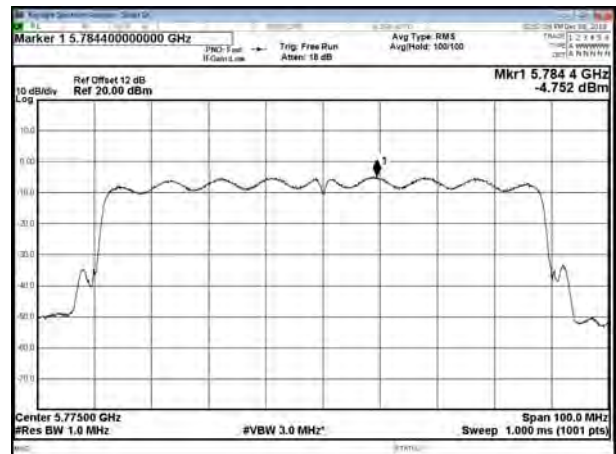
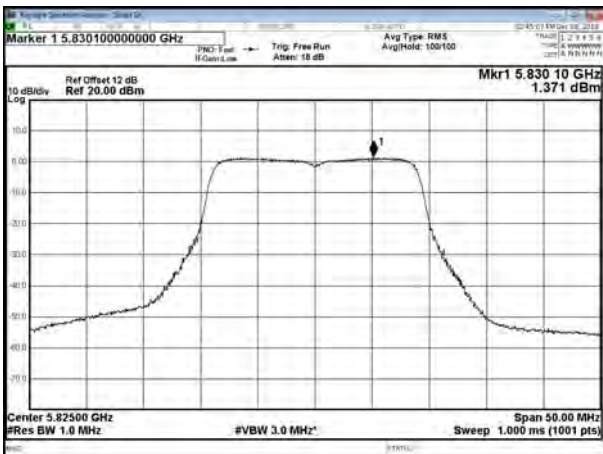
CH157

CH159



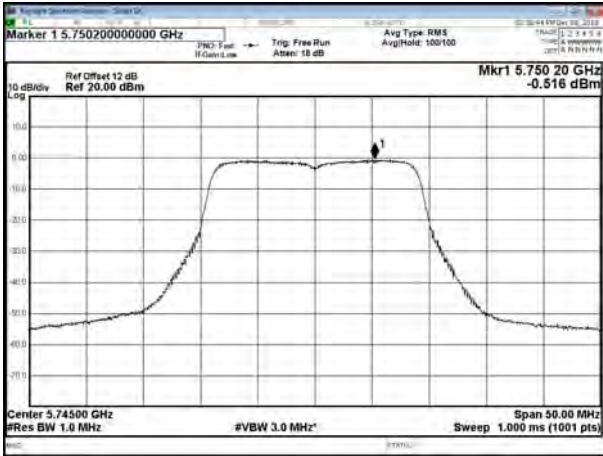
CH165

Modulation Standard: 802.11ac,VHT80 (58.5Mbps)
CH155

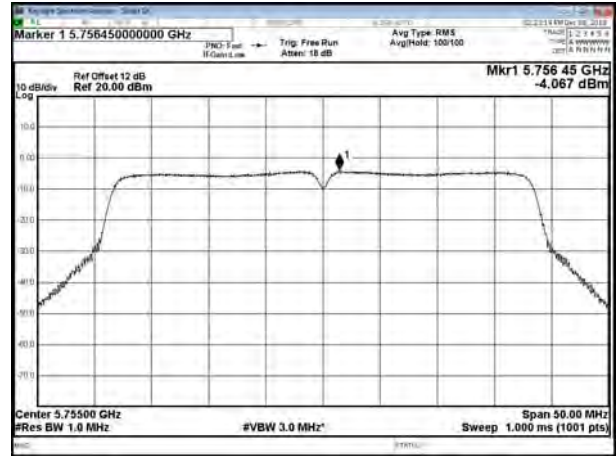




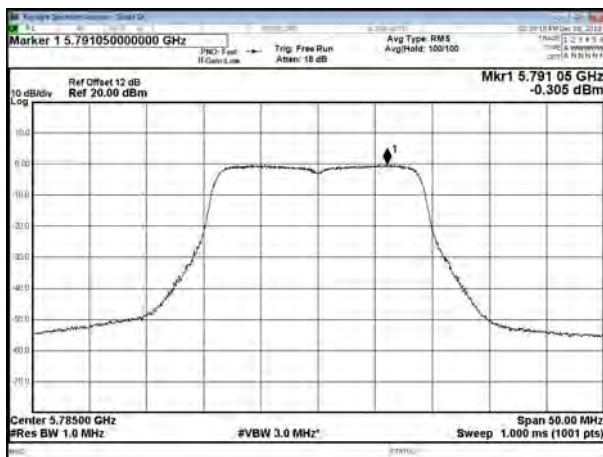
For 2TX , Ant B
Modulation Standard: 802.11ac,VHT20 (13Mbps)
CH149



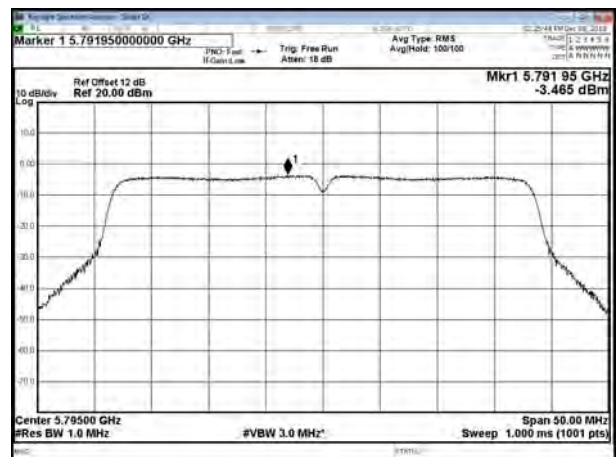
Modulation Standard: 802.11ac,VHT40 (27Mbps)
CH151



CH157

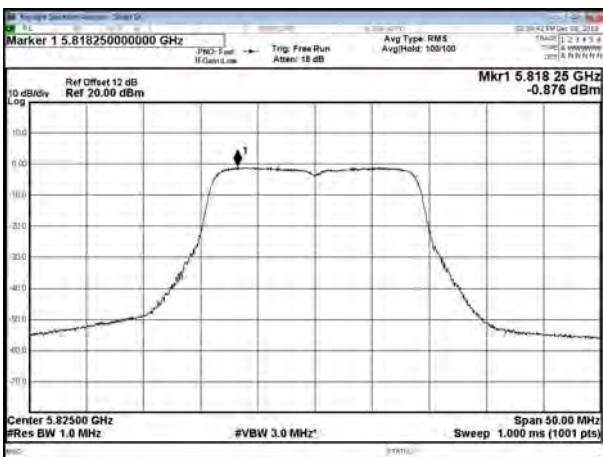


CH159

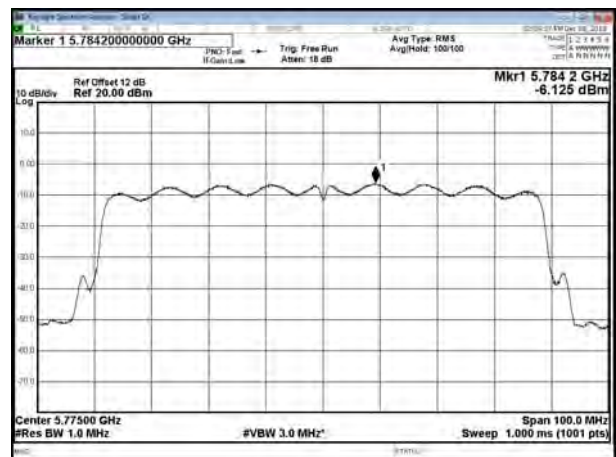


Modulation Standard: 802.11ac,VHT80 (58.5Mbps)

CH165



CH155



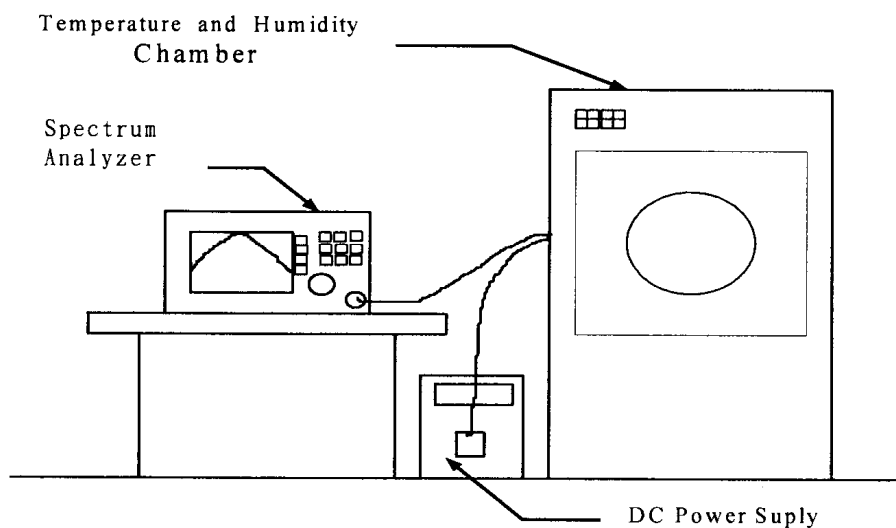


12. Frequency Stability

12.1. Test Procedure

1. The EUT was placed inside the Temperature and Humidity chamber.
2. The transmitter output was connected to spectrum analyzer.
3. Turn the EUT on and couple its output to a spectrum analyzer.
4. Turn the EUT off and set the chamber to the highest temperature specified.
5. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
6. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
7. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

12.2. Test Setup Layout





12.3. Test Result and Data

Temperature: 21°C

Humidity: 58%

Test Date: Dec. 09, 2018

Operating frequency: 5220 MHz							
Temp	Power supply	2 minute		5 minute		10 minute	
(°C)	(V)	(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
50	4.25	5220.0412	0.000789	5220.0524	0.001004	5220.0734	0.014061
	5.00	5220.0436	0.000789	5220.0516	0.000989	5220.0776	0.014866
	5.75	5220.0438	0.000835	5220.0510	0.000977	5220.0756	0.014483
40	4.25	5220.0331	0.000839	5220.0456	0.000874	5220.0624	0.011954
	5.00	5220.0326	0.000634	5220.0459	0.000879	5220.0633	0.012126
	5.75	5220.0333	0.000625	5220.0451	0.000864	5220.0631	0.012088
30	4.25	5220.0237	0.000638	5220.0329	0.000630	5220.0512	0.009808
	5.00	5220.0224	0.000454	5220.0367	0.000703	5220.0527	0.010096
	5.75	5220.0218	0.000429	5220.0343	0.000657	5220.0538	0.010307
20	4.25	5220.0136	0.000418	5220.0248	0.000475	5220.0495	0.009483
	5.00	5220.0123	0.000261	5220.0216	0.000414	5220.0443	0.008487
	5.75	5220.0127	0.000236	5220.0237	0.000454	5220.0489	0.009368
10	4.25	5220.0024	0.000243	5220.0076	0.000146	5220.0116	0.002222
	5.00	5220.0035	0.000046	5220.0079	0.000151	5220.0110	0.002107
	5.75	5220.0029	0.000067	5220.0072	0.000138	5220.0108	0.002069
0	4.25	5220.0012	0.000056	5220.0054	0.000103	5220.0082	0.001571
	5.00	5220.0016	0.000023	5220.0049	0.000094	5220.0081	0.001552
	5.75	5220.0010	0.000031	5220.0052	0.000100	5220.0079	0.001513
-10	4.25	5219.9939	0.000019	5220.0024	0.000046	5220.0055	0.001054
	5.00	5219.9932	-0.000117	5220.0031	0.000059	5220.0043	0.000824
	5.75	5219.9935	-0.000130	5220.0022	0.000042	5220.0046	0.000881

Limit:

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.



13. Automatically Discontinue Transmission

13.1.Limit of Automatically Discontinue Transmission

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

13.2.Test Result of Automatically Discontinue Transmission

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.



14. Dynamic Frequency Selection

14.1. List of Measurement and Examinations

EUT Applicability of DFS requirements and Frequency Range

Operation Mode		Operating Frequency Range	
		5250-5350MHz	5470-5725MHz (5600MHz-5650MHz will be disable)
Master	--	--	--
Client without radar detection	√	√	√
Client with radar detection	--	--	--

DEVICES WITH RADAR DETECTION

MAXIMUM TRANSMIT POWER	VALUE (SEE Note 1 and 2)
≥ 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64 dBm

Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.
 Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.
 Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911

Table1: Applicability of DFS requirements prior to use of a channel

REQUIREMENT RADAR	OPERATIONAL MODE		
	MASTER	CLIENT WITHOUT RADAR DETECTION	CLIENT WITH RADAR DETECTION
Non-Occupancy Period	V	V _{Note}	V
DFS Detection Threshold	V	Not required	V
Channel Availability Check Time	V	Not required	Not required
U-NII Detection Bandwidth	V	Not required	V

Note: Regarding KDB 905462 D03 Client Without DFS New Rules section (b)(5/6),
 If the client moves with the master, the device is considered compliant if nothing appears in the client non-occupancy period test. For devices that shut down (rather than moving channels), no beacons should appear. An analyzer plot that contains a single 30-minute sweep on the original channel.



Table2: Applicability of DFS requirements during normal operation

REQUIREMENT RADAR	OPERATIONAL MODE		
	MASTER	CLIENT WITHOUT RADAR DETECTION	CLIENT WITH RADAR DETECTION
DFS Detection Threshold	√	Not required	√
Channel Closing Transmission Time	√	√	√
Channel Move Time	√	√	√
U-NII Detection Bandwidth	√	Not required	√

Additional requirements for devices with multiple bandwidth modes	Master or Client with radar detection	Client without radar detection
U-NII Detection Bandwidth and Statistical Performance Check	All BW modes must be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test using widest BW mode available	Test using the widest BW mode available for the link
All other	Any single BW mode	Not required

Note: Frequencies selected for statistical performance check (Section 7.8.4) should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.



14.2. Test Setup

Setup for Master with injection at the Master

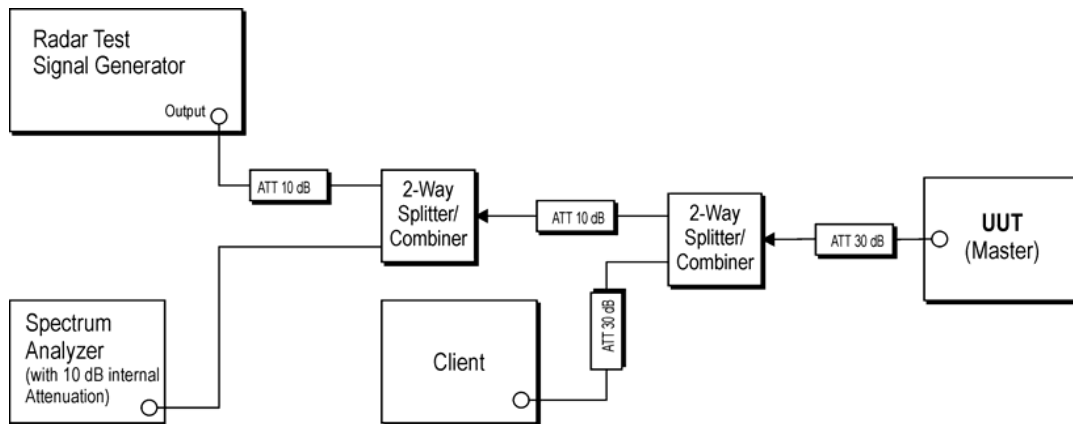


Figure 1: Example Conducted Setup where UUT is a Master and Radar Test Waveforms are injected into the Master

Setup for Client with injection at the Master

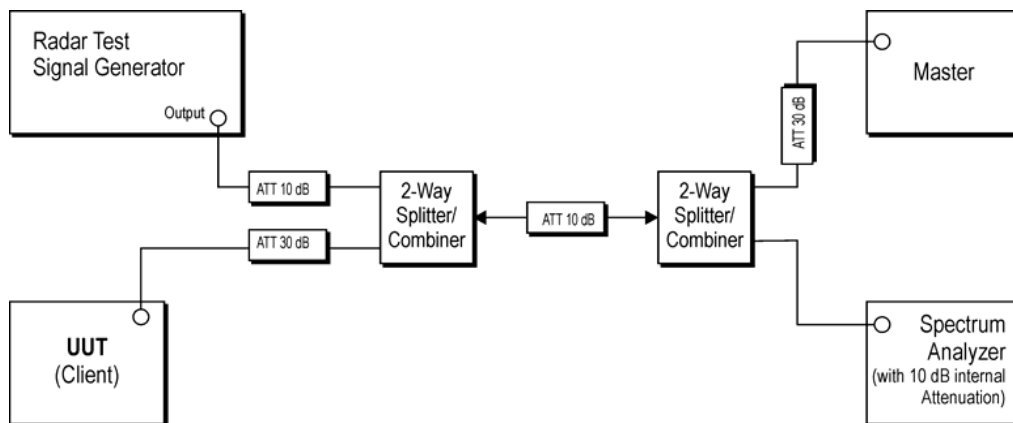


Figure 2: Example Conducted Setup where UUT is a Client and Radar Test Waveforms are injected into the Master



Setup for Client with injection at the Client

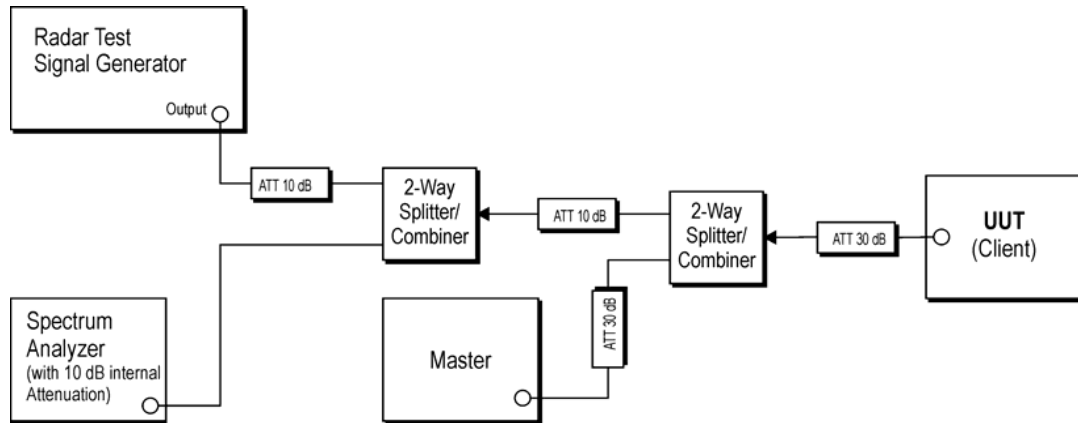


Figure 3: Example Conducted Setup where UUT is a Client and Radar Test Waveforms are injected into the Client



14.3. Non-Occupancy Period

The Channel Shutdown is defined as the process initiated by the RLAN device immediately after a radar signal has been detected on an Operating Channel.

The master device shall instruct all associated slave devices to stop transmitting on this channel, which they shall do within the Channel Move Time.

Slave devices with a Radar Interference Detection function, shall stop their own transmissions within the Channel Move Time.

The aggregate duration of all transmissions of the RLAN device on this channel during the Channel Move Time shall be limited to the Channel Closing Transmission Time. The aggregate duration of all transmissions shall not include quiet periods in between transmissions.

14.3.1. Test Limit

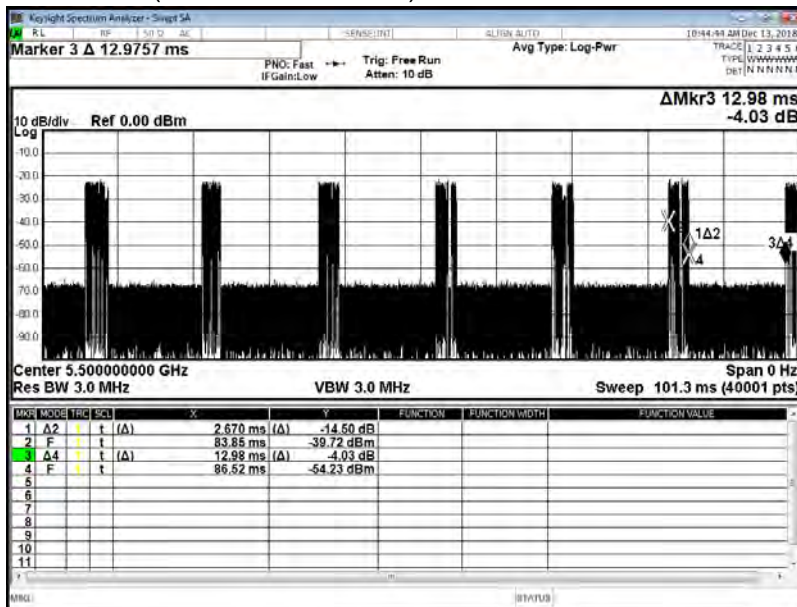
Radar Test Signal	Master (min)	Client (min)
0	> 30	> 30

14.3.2. Channel Loading

Timing plots are required with calculations demonstrating a minimum channel loading of approximately 17% or greater. For example, channel loading can be estimated by setting the spectrum analyzer for zero span and approximate the Time On/ (Time On + Off Time). This can be done with any appropriate channel BW and modulation type

Modulation Standard: 802.11ac VHT20

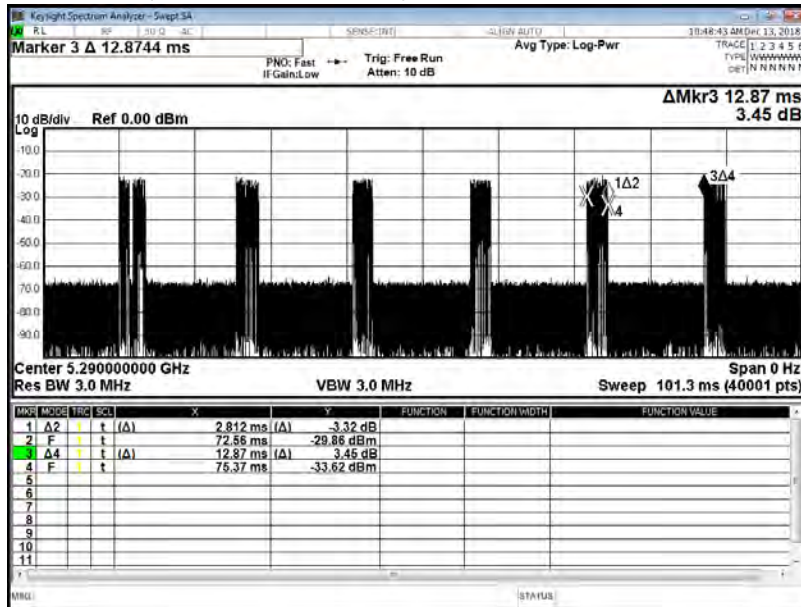
Time On/ (Time On + Off Time) = 2.67ms/15.65ms=17.1%





Modulation Standard: 802.11ac VHT80

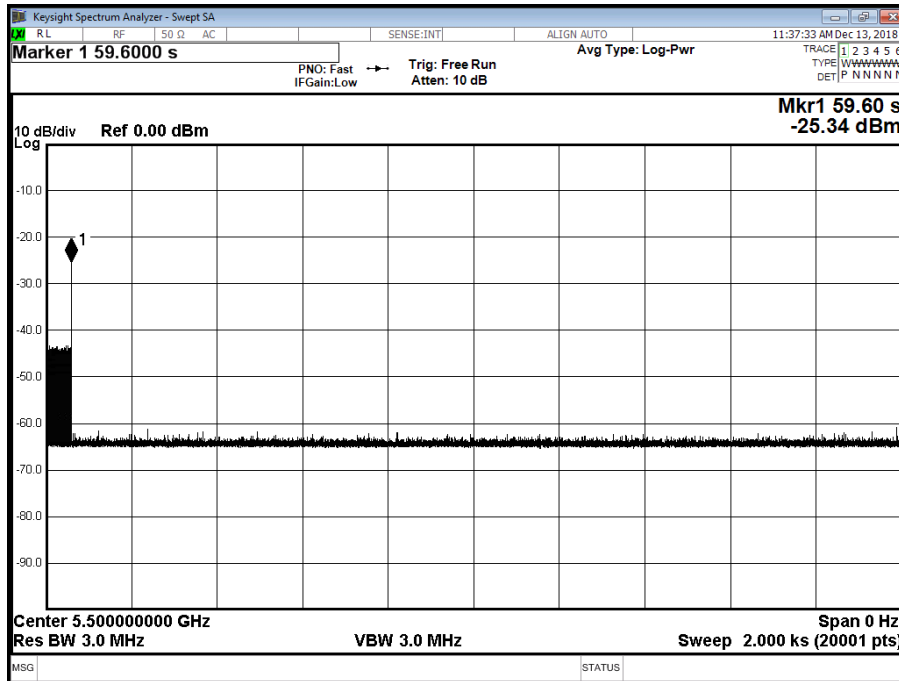
Time On/ (Time On + Off Time) = 2.812ms/15.682ms=17.9%



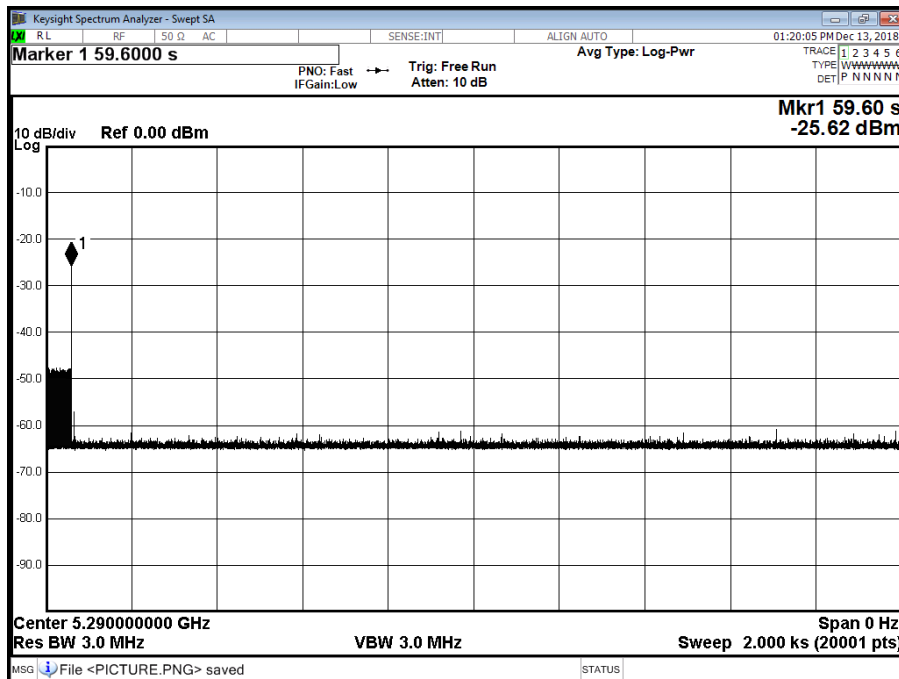


14.3.3. Test Result of Non-Occupancy Period

Modulation Standard: 802.11ac VHT20



Modulation Standard: 802.11ac VHT80





14.4. DFS Detection Threshold

DFS Detection Threshold is the level used by the DFS mechanism to detect radar interference.

14.4.1. Test Limit

Limits Clause 4.7.2.1.2

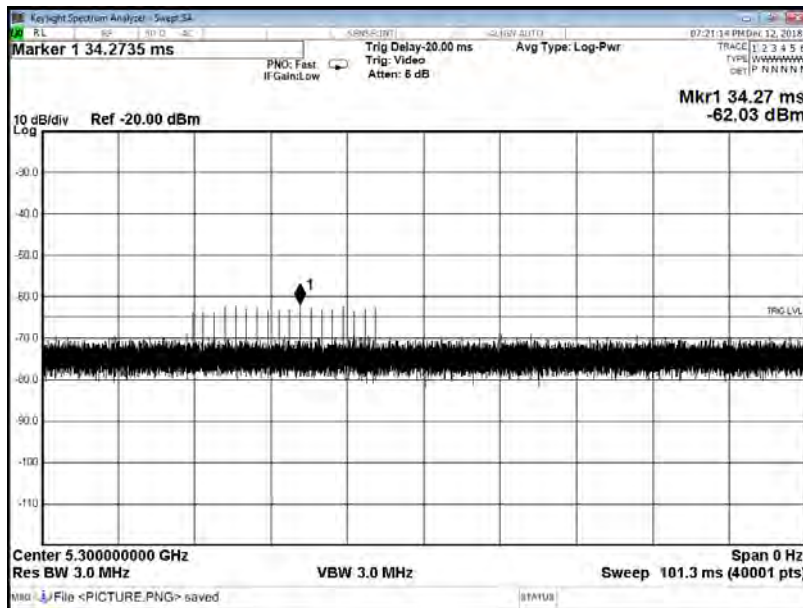
DFS Detection Thresholds for Master Devices and Client Devices with Radar Detection

MAXIMUM TRANSMIT POWER	VALUE (SEE Note 1 and 2)
≥ 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64 dBm

Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.
 Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.
 Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911

14.4.2. Test Result of DFS Detection Threshold

EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz, Radar 0 VALUE -62dBm





14.5.Channel Availability Check

The Channel Availability Check is defined as the mechanism by which an RLAN device checks a channel for the presence of radar signals.

There shall be no transmissions by the device within the channel being checked during this process. If no radars have been detected, the channel becomes an Available Channel valid for a period of time.

The RLAN shall only start transmissions on Available Channels.

At power-up, the RLAN is assumed to have no Available Channels.

14.5.1. Test Limit

Limits Clause 4.7.2.1.2

Table D.2: DFS requirement values

Parameter	Value
Channel Availability Check	> 60s

14.5.2. Test Result of Channel Availability Check

Not required



14.6.U-NII Detection Bandwidth

14.6.1. Test Limit

Limits Clause 4.7.2.1.2 Table D.2: DFS requirement values

Parameter	Value
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission
Note : During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.	

14.6.2. Test Result of U-NII Detection Bandwidth

Not required



14.7.Uniform Spreading

The UUT will select channel by random mode and remember this channel when detect radar signal, so that will select unused channel by random mode.

14.7.1. Test Result of Uniform Spreading

Not required



14.8. In-Service Monitoring

The In-Service Monitoring is defined as the process by which an RLAN monitors the Operating Channel for the presence of radar signals.

14.8.1. Test Limit

Parameter	Value
Channel Move Time	< 10 s (See Note 1)
Channel Closing Transmission Time	< 200 ms+ an aggregate of 60 milliseconds over remaining 10 second period. (See Notes 1 and Notes 2.)
Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst. Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.	

Limits Clause 4.7.2.2.2

The In-Service Monitoring shall be used to continuously monitor an Operating Channel.

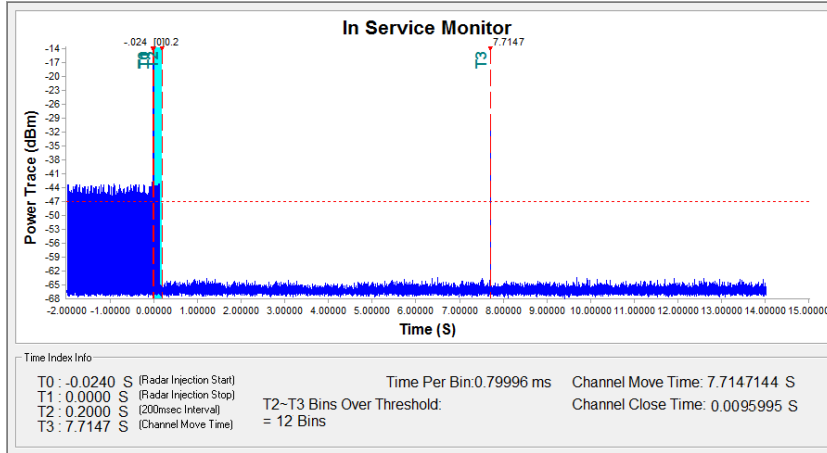
The In-Service-Monitoring shall start immediately after the RLAN has started transmissions on an Operating Channel.



14.8.2. Test Result of In-Service Monitoring

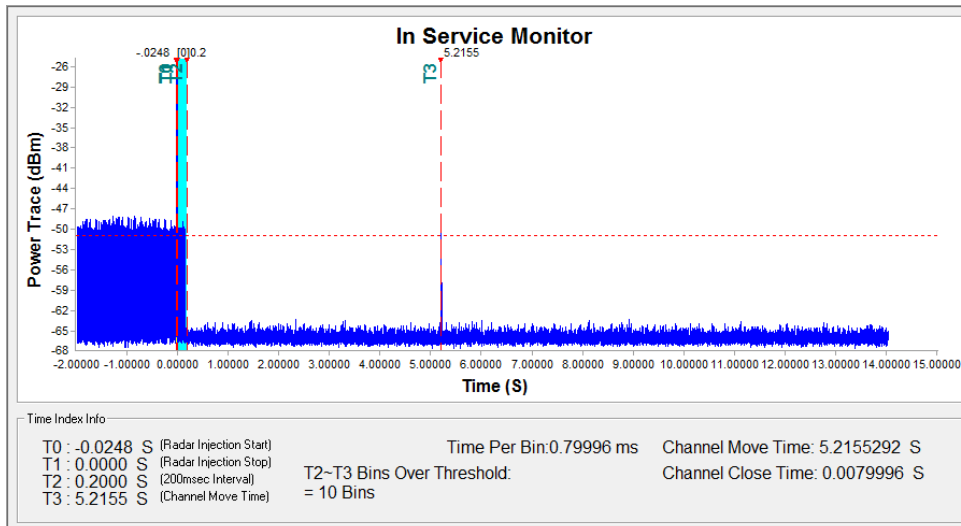
Signal 0 at 5500MHz, ac VHT20

	Value	Limit
Channel Move Time	7.7147s	<10 s
Channel Closing Transmission Time	9.5995ms	< 200 ms



Signal 0 at 5290MHz, ac VHT80

	Value	Limit
Channel Move Time	5.2155s	<10 s
Channel Closing Transmission Time	7.9996ms	< 200 ms



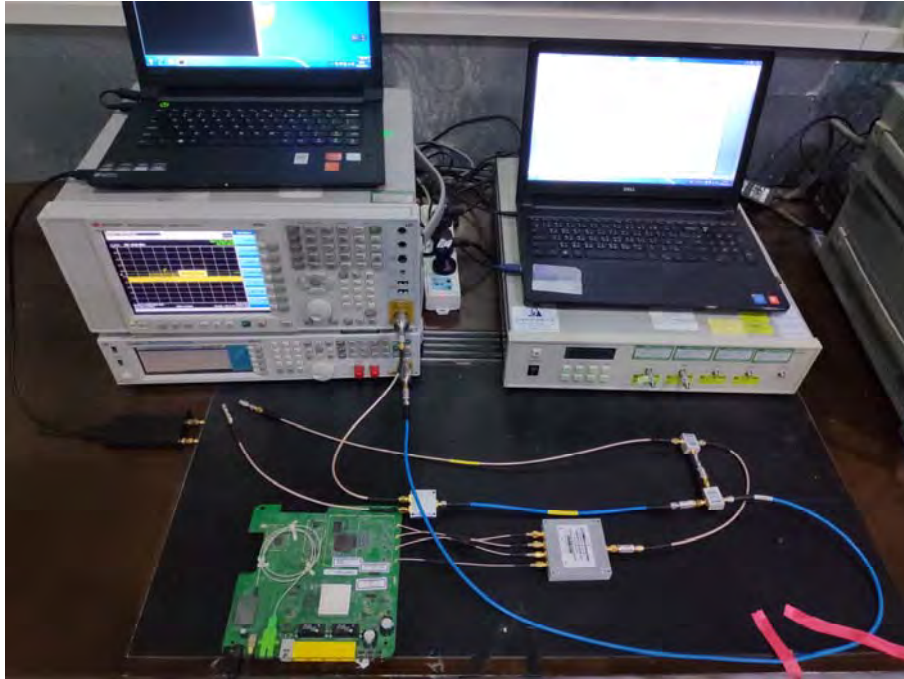


14.9. Statistical Performance Check

Not required

14.10. EUT Setup Photos

Radar Calibration Setup Photo



Test Setup Photo

