FCC RADIO TEST REPORT

Applicant	:	SteelSeries ApS.
Address	:	Dirch Passers Allé 27, 5. Sal 2000 Frederiksberg Denmark.
Equipment	:	HEADSET
Model No.	:	HS-00019
Trade Name	:	steelseries
FCC ID.	:	ZHK-HS00019

I HEREBY CERTIFY THAT :

The sample was received on Aug. 30, 2018 and the testing was carried out on Jan. 10, 2019 at Cerpass Technology Corp. The test result refers exclusively to the test presented test model / sample. Without written approval of Cerpass Technology Corp., the test report shall not be reproduced except in full.

Approved by:

Mark Liao / Supervisor

Tested by:

Spree Yeh / Engineer

Laboratory Accreditation:

Cerpass Technology Corporation Test Laboratory

ilac-MRA TAF Testing Laboratory 1439

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History of this test report

Report No.	Issue Date	Description
TEFE1808244	Mar. 06, 2019	Original

1. Summary of Test Procedure and Test Results

1.1. Applicable Standards

ANSI C63.4:2014

ANSI C63.10:2013

FCC Rules and Regulations Part 15 Subpart 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)	Power Spectral Density	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

Frequency Range	BT / BLE: 2400-2483.5MHz 802.11/g/n: 2400-2483.5MHz 802.11a/n: 5150-5250MHz, 5250-5350MHz, 5470-5725MHz, 5725-5850MHz
Modulation Type	BT: GFSK, π /4-DQPSK, 8DPSK BLE: GFSK 802.11g/n/a: BPSK, QPSK, 16QAM, 64QAM
Modulation Technology	FHSS, DTS, DSSS, OFDM
Data Rate	BT: GFSK: 1Mbps, π /4-DQPSK: 2Mbps, 8DPSK: 3Mbps BLE: GFSK: 1Mbps WLAN: 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS7, HT20 802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps
Antenna Type	PCB Antenna
Antenna Gain	BT/BLE: 2400-2483.5MHz: 3.92dBi 2.4G: 2400-2483.5MHz: 1.85dBi 5150-5250MHz: 3.60dBi 5250-5350MHz: 3.79dBi 5470-5725MHz: 3.62dBi 5725-5850MHz: -0.23dBi

Note:

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

2.2. Carrier Frequency of Channels

Band 1: 5150MHz-5250MHz
802.11a, 802.11n HT20

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

Band 2: 5250MHz -5350MHz
802.11a, 802.11n HT 20

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

Band 3: 5470MHz -5725MHz
802.11a, 802.11n HT 20

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

Band: 5725MHz -5850MHz
802.11a, 802.11n HT20

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

Note: Channels remarked * are selected to perform test.

2.3. Test Mode and Test Software

a. During testing, the interface cables and equipment positions were varied according to ANSI C63.10.
b. The complete test system included Notebook, AP and EUT for RF test.
c. An executive program, ” ART2: Kingfisher.2889.20130529” was executed to transmit and receive data via WLAN.
d. 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	802.11n HT20 (6.5Mbps)
caused “Test Mode 2” generated the worst case, it was reported as the final data.	
Radiation Emissions (30MHz ~ 1GHz)	
Test Mode	Operating Description
1	802.11a (6Mbps)
2	802.11n HT20 (6.5Mbps)
caused “Test Mode 2” generated the worst case, it was reported as the final data.	
Radiation Emissions (1GHz ~ 40GHz)	
Test Mode	Operating Description
1	802.11a (6Mbps)
2	802.11n HT20 (6.5Mbps)
caused “Test Mode 1~2” generated the worst case, it was reported as the final data.	

2.4. Description of Test System

Device	Manufacturer	Model No.	Description
NB	DELL	LatitudeE5450/5450, TX	Power Cable, Unshielding, 1.8m
AP	NETGEAR	R7800	Power Cable, Unshielding, 1.5m
Network cable	N/A	N/A	N/A

2.5. General Information of Test

Test Site	**Cerpass Technology Corporation Test Laboratory** Address: No.10, Ln. 2, Lianfu St., Luzhu Dist., Taoyuan City 33848, Taiwan (R.O.C.) Tel:+886-3-3226-888 Fax:+886-3-3226-881 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	±1.2℃
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
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	31589	2018/04/02	2019/04/01
Horn Anrenna	EMCO	3116	31974	2018/09/07	2019/09/06
EMI Receiver	ROHDE & SCHWARZ	ESCI 3	101402	2018/02/23	2019/02/22
Spectrum Analyzer	ROHDE & SCHWARZ	FSP40	100047	2018/03/20	2019/03/19
Preamplifier	EM Electronics corp.	EM330	60660	2018/03/08	2019/03/07
Preamplifier	EMC INSTRUMENTS	EMC051845SE	980333	2018/09/18	2019/09/17
BLUETOOTH TESTER	ROHDE & SCHWARZ	CBT	101133	2018/04/02	2019/04/01
Cable-3in1-(30M-1G)	HARBOUR INDUSTRIES	LL142	CCE1315	2018/04/20	2019/04/19
Cable-0.5m-(1G-40G)	Rapidtek	40GHZ 50CM	38MS-38MS50314	2018/03/27	2019/03/26
Cable-1m-(1G-40G)	Rapidtek	40GHZ 300CM	38MS-38MS300314	2018/03/27	2019/03/26
Cable-6m-(1G-40G)	Rapidtek	40GHZ 800CM	38MS-38MS800314	2018/03/27	2019/03/26
E3	AUDIX	v8.2014-8-6	RK-000529	NA	NA
Spectrum Analyzer	ROHDE & SCHWARZ	FSP40	100219	2018/07/03	2019/07/02
BLUETOOTH TESTER	ROHDE & SCHWARZ	CBT	101133	2018/04/02	2019/04/01
Attenuator	KEYSIGHT	8491B	MY39250705	2018/09/04	2019/09/03
TEMP & HUMI CHAMBER	T-MACHINE	TMJ-9712	T-12-040111	2018/08/30	2019/08/29
Power Sensor	Anritsu	MA2411B	1207295	2018/03/23	2019/03/22
EMI Receiver	ROHDE & SCHWARZ	ESCI 3	100443	2018/3/15	2019/3/14
Line Impedance Stabilization Network	Schwarzbeck	NSLK 8127	8127-740	2018/6/13	2019/6/12
Pulse Limiter	ROHDE & SCHWARZ	ESH3-Z2	101933	2018/9/4	2019/9/3
E3	AUDIX	v8.2014-8-6	RK-000531	NA	NA

4. Antenna Requirements

4.1. Standard Applicable

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

And according to FCC 47 CFR Section 15.407 (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	PCB Antenna
Antenna Gain	2400-2483.5MHz: 1.85dBi 5150-5250MHz: 3.60dBi 5250-5350MHz: 3.79dBi 5470-5725MHz: 3.62dBi 5725-5850MHz: -0.23dBi

2412-2462MHz
For Power directional gain= G_{ant}= 1.85 dBi
For PSD directional gain = G_{ant}= 1.85 dBi

5150MHz-5250MHz
For Power directional gain= G_{ant}= 3.6 dBi
For PSD directional gain = G_{ant}= 3.6 dBi

5250MHz-5350MHz
For Power directional gain= G_{ant}= 3.79 dBi
For PSD directional gain = G_{ant}= 3.79 dBi

5470MHz-5725MHz
For Power directional gain= G_{ant}= 3.62 dBi
For PSD directional gain = G_{ant}= 3.62 dBi

5725MHz -5850MHz
For Power directional gain= G_{ant}= -0.23 dBi
For PSD directional gain = G_{ant}= -0.23 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.

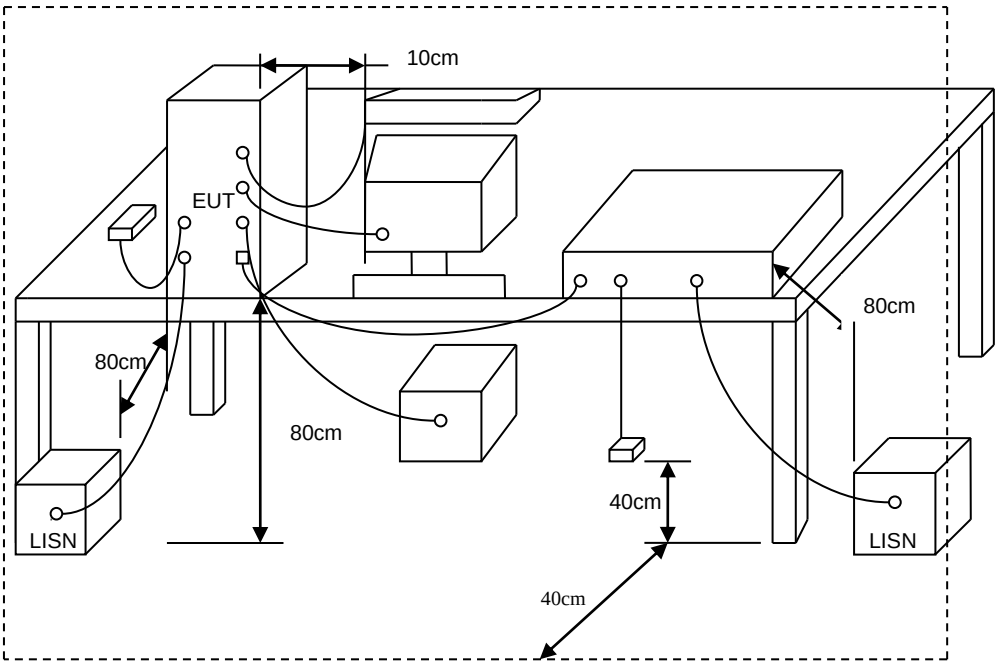
Frequency (MHz)	Quasi Peak (dBμV)	Average (dBμV)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

*Decreases with the logarithm of the frequency.

5.2. Test Procedures

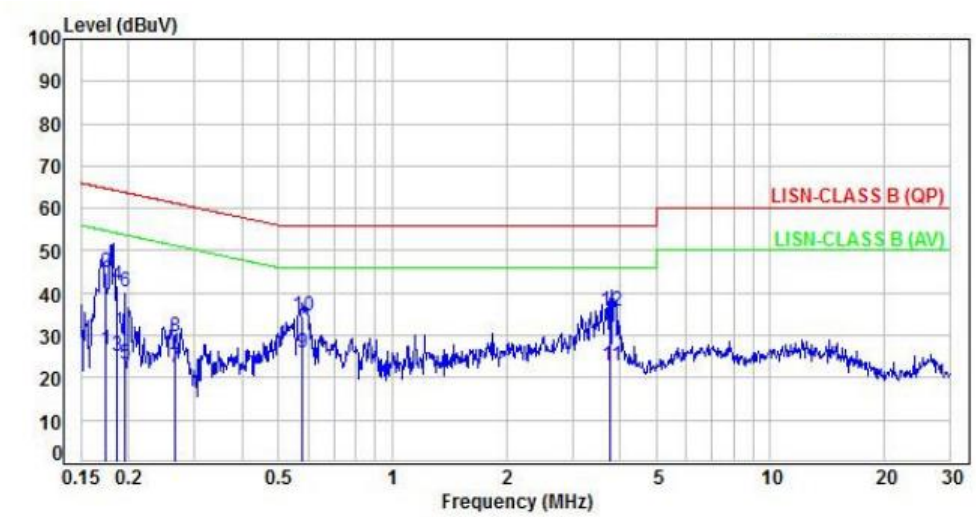
a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
b. Connect EUT to the power mains through a line impedance stabilization network (LISN).
c. All the support units are connecting to the other LISN.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

5.3. Typical Test Setup



5.4. Test Result and Data

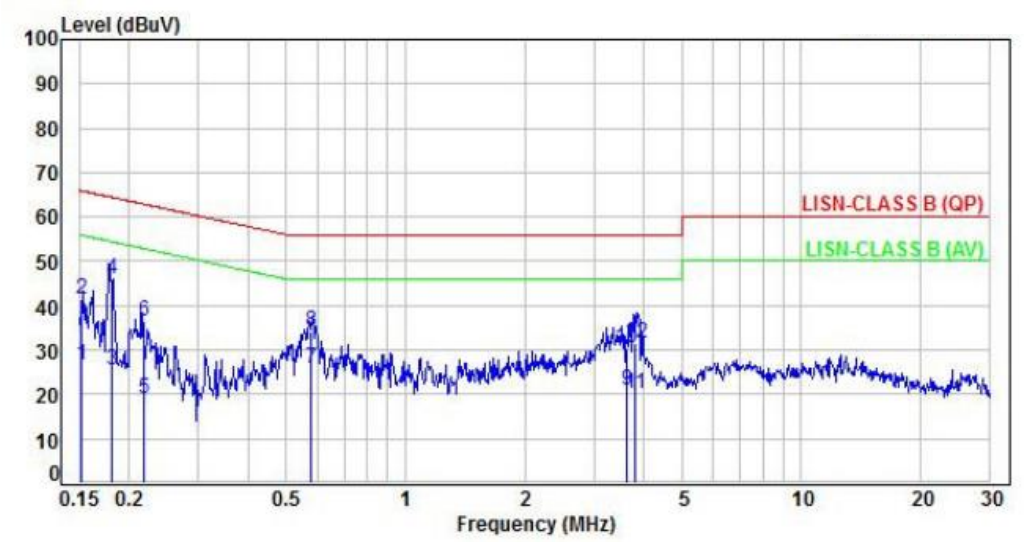
Power	:	AC 120V	Pol/Phase	:	LINE
Test Mode	:	Mode 2, Band 1	Temperature	:	32 °C
Test Date	:	Jan. 10, 2019	Humidity	:	45 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.17	9.94	16.59	26.53	54.74	-28.21	Average	P
2	0.17	9.94	34.98	44.92	64.74	-19.82	QP	P
3	0.19	9.94	15.09	25.03	54.22	-29.19	Average	P
4	0.19	9.94	31.98	41.92	64.22	-22.30	QP	P
5	0.20	9.94	13.14	23.08	53.79	-30.71	Average	P
6	0.20	9.94	30.30	40.24	63.79	-23.55	QP	P
7	0.27	9.94	12.47	22.41	51.26	-28.85	Average	P
8	0.27	9.94	19.73	29.67	61.26	-31.59	QP	P
9	0.58	9.95	15.94	25.89	46.00	-20.11	Average	P
10	0.58	9.95	24.65	34.60	56.00	-21.40	QP	P
11	3.79	10.12	12.83	22.95	46.00	-23.05	Average	P
12	3.79	10.12	25.76	35.88	56.00	-20.12	QP	P

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

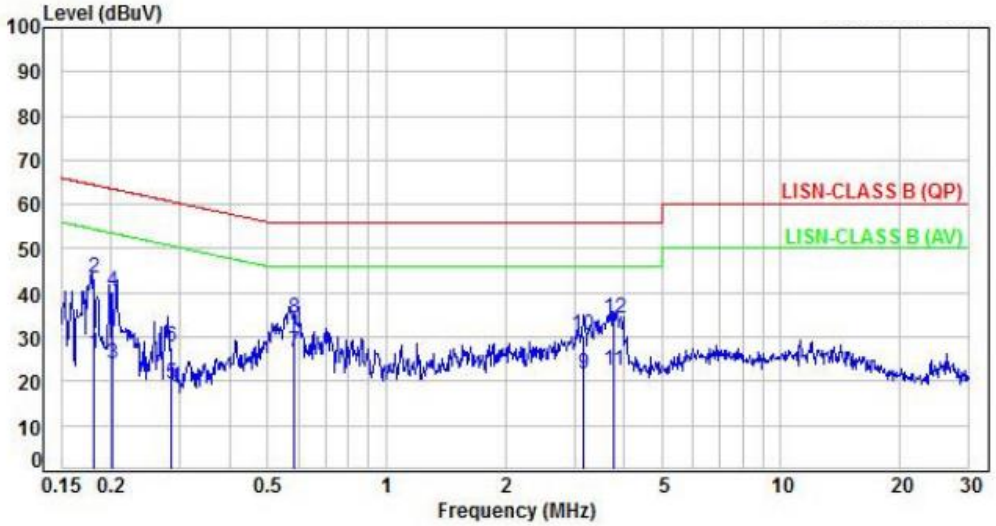
Power	:	AC 120V	Pol/Phase	:	NEUTRAL
Test Mode	:	Mode 2, Band 1	Temperature	:	32 °C
Test Date	:	Jan. 10, 2019	Humidity	:	45 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.15	9.94	16.55	26.49	55.94	-29.45	Average	P
2	0.15	9.94	31.62	41.56	65.94	-24.38	QP	P
3	0.18	9.94	15.50	25.44	54.44	-29.00	Average	P
4	0.18	9.94	36.17	46.11	64.44	-18.33	QP	P
5	0.22	9.94	8.98	18.92	52.92	-34.00	Average	P
6	0.22	9.94	26.46	36.40	62.92	-26.52	QP	P
7	0.58	9.95	15.78	25.73	46.00	-20.27	Average	P
8	0.58	9.95	24.34	34.29	56.00	-21.71	QP	P
9	3.61	10.12	10.67	20.79	46.00	-25.21	Average	P
10	3.61	10.12	20.11	30.23	56.00	-25.77	QP	P
11	3.81	10.12	10.20	20.32	46.00	-25.68	Average	P
12	3.81	10.12	21.31	31.43	56.00	-24.57	QP	P

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

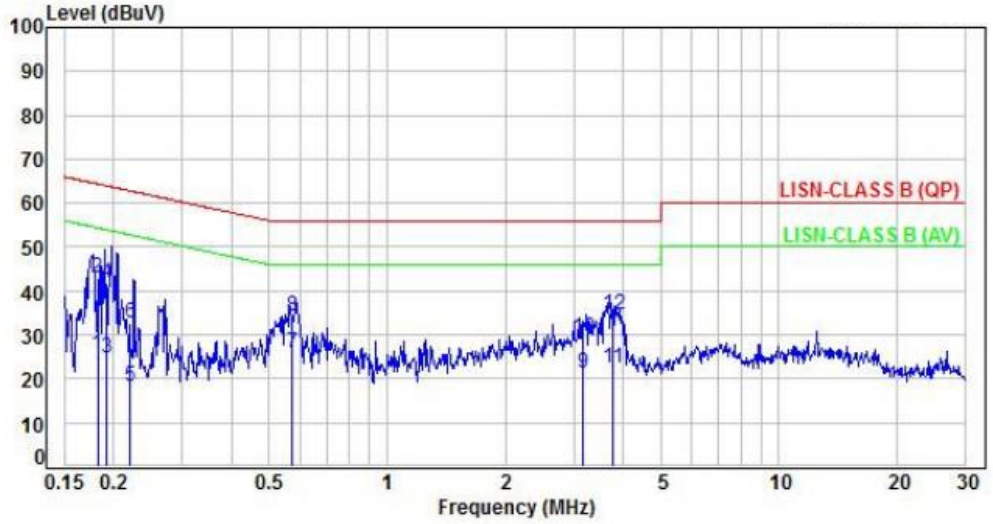
Power	:	AC 120V	Pol/Phase	:	LINE
Test Mode	:	Mode 2, Band 2	Temperature	:	32 °C
Test Date	:	Jan. 10, 2019	Humidity	:	45 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.18	9.94	16.39	26.33	54.41	-28.08	Average	P
2	0.18	9.94	33.43	43.37	64.41	-21.04	QP	P
3	0.20	9.94	13.91	23.85	53.54	-29.69	Average	P
4	0.20	9.94	30.32	40.26	63.54	-23.28	QP	P
5	0.28	9.94	9.26	19.20	50.68	-31.48	Average	P
6	0.28	9.94	17.71	27.65	60.68	-33.03	QP	P
7	0.59	9.95	16.58	26.53	46.00	-19.47	Average	P
8	0.59	9.95	24.33	34.28	56.00	-21.72	QP	P
9	3.14	10.09	11.51	21.60	46.00	-24.40	Average	P
10	3.14	10.09	20.39	30.48	56.00	-25.52	QP	P
11	3.75	10.12	12.40	22.52	46.00	-23.48	Average	P
12	3.75	10.12	23.96	34.08	56.00	-21.92	QP	P

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

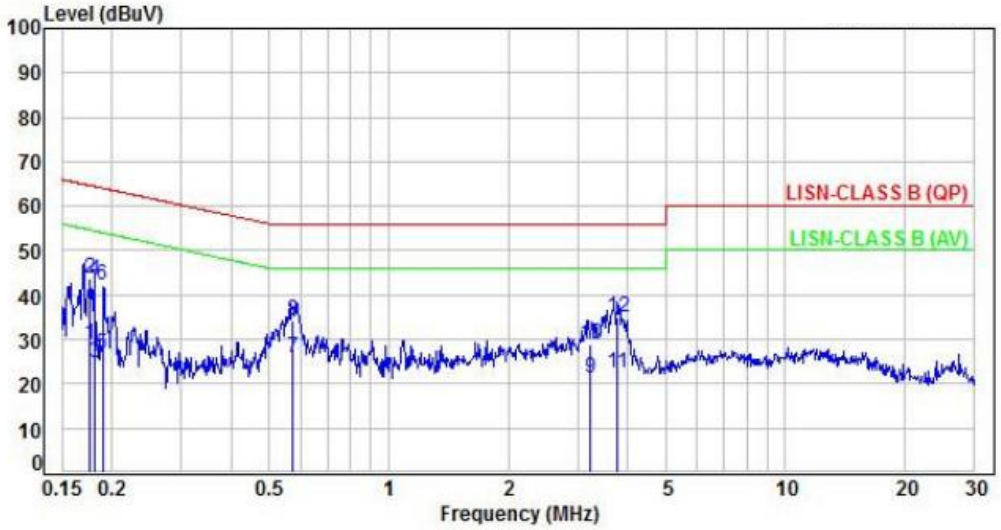
Power	:	AC 120V	Pol/Phase	:	NEUTRAL
Test Mode	:	Mode 2, Band 2	Temperature	:	32 °C
Test Date	:	Jan. 10, 2019	Humidity	:	45 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.18	9.94	15.67	25.61	54.39	-28.78	Average	P
2	0.18	9.94	32.99	42.93	64.39	-21.46	QP	P
3	0.19	9.94	14.63	24.57	53.92	-29.35	Average	P
4	0.19	9.94	32.02	41.96	63.92	-21.96	QP	P
5	0.22	9.94	8.27	18.21	52.82	-34.61	Average	P
6	0.22	9.94	22.63	32.57	62.82	-30.25	QP	P
7	0.57	9.95	15.73	25.68	46.00	-20.32	Average	P
8	0.57	9.95	24.38	34.33	56.00	-21.67	QP	P
9	3.16	10.09	11.22	21.31	46.00	-24.69	Average	P
10	3.16	10.09	19.05	29.14	56.00	-26.86	QP	P
11	3.77	10.12	12.42	22.54	46.00	-23.46	Average	P
12	3.77	10.12	24.42	34.54	56.00	-21.46	QP	P

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

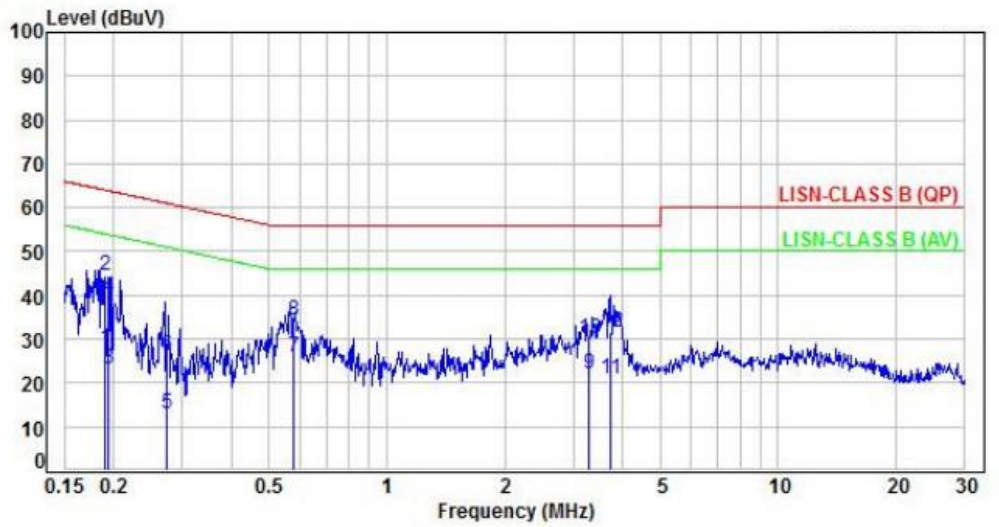
Power	:	AC 120V	Pol/Phase	:	LINE
Test Mode	:	Mode 2, Band 3	Temperature	:	32 °C
Test Date	:	Jan. 10, 2019	Humidity	:	45 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.18	9.94	18.79	28.73	54.71	-25.98	Average	P
2	0.18	9.94	33.92	43.86	64.71	-20.85	QP	P
3	0.18	9.94	14.93	24.87	54.41	-29.54	Average	P
4	0.18	9.94	33.39	43.33	64.41	-21.08	QP	P
5	0.19	9.94	16.79	26.73	54.06	-27.33	Average	P
6	0.19	9.94	32.42	42.36	64.06	-21.70	QP	P
7	0.57	9.95	15.81	25.76	46.00	-20.24	Average	P
8	0.57	9.95	24.29	34.24	56.00	-21.76	QP	P
9	3.23	10.10	11.35	21.45	46.00	-24.55	Average	P
10	3.23	10.10	18.91	29.01	56.00	-26.99	QP	P
11	3.77	10.12	12.34	22.46	46.00	-23.54	Average	P
12	3.77	10.12	24.68	34.80	56.00	-21.20	QP	P

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

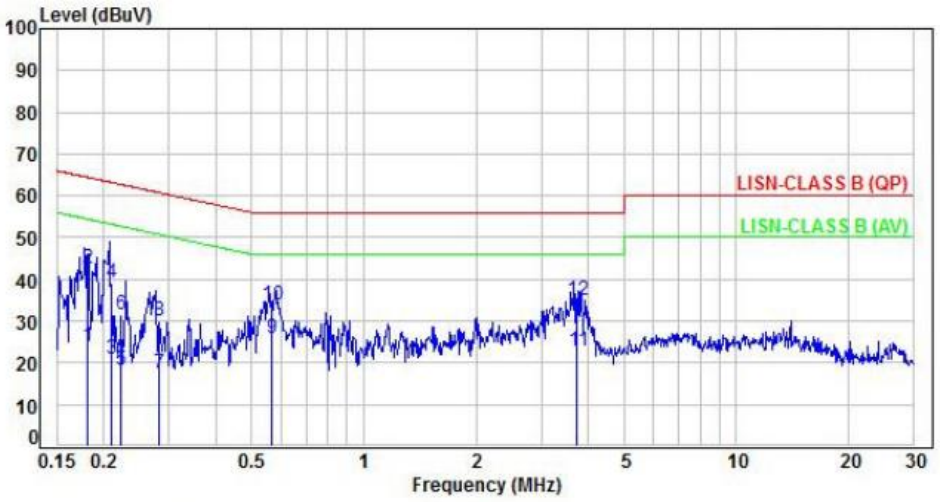
Power	:	AC 120V	Pol/Phase	:	NEUTRAL
Test Mode	:	Mode 2, Band 3	Temperature	:	32 °C
Test Date	:	Jan. 10, 2019	Humidity	:	45 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.19	9.94	17.76	27.70	54.06	-26.36	Average	P
2	0.19	9.94	34.39	44.33	64.06	-19.73	QP	P
3	0.19	9.94	13.12	23.06	53.85	-30.79	Average	P
4	0.19	9.94	29.71	39.65	63.85	-24.20	QP	P
5	0.27	9.94	3.02	12.96	51.01	-38.05	Average	P
6	0.27	9.94	16.30	26.24	61.01	-34.77	QP	P
7	0.57	9.95	15.87	25.82	46.00	-20.18	Average	P
8	0.57	9.95	24.16	34.11	56.00	-21.89	QP	P
9	3.29	10.10	12.07	22.17	46.00	-23.83	Average	P
10	3.29	10.10	19.92	30.02	56.00	-25.98	QP	P
11	3.73	10.12	10.66	20.78	46.00	-25.22	Average	P
12	3.73	10.12	21.34	31.46	56.00	-24.54	QP	P

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

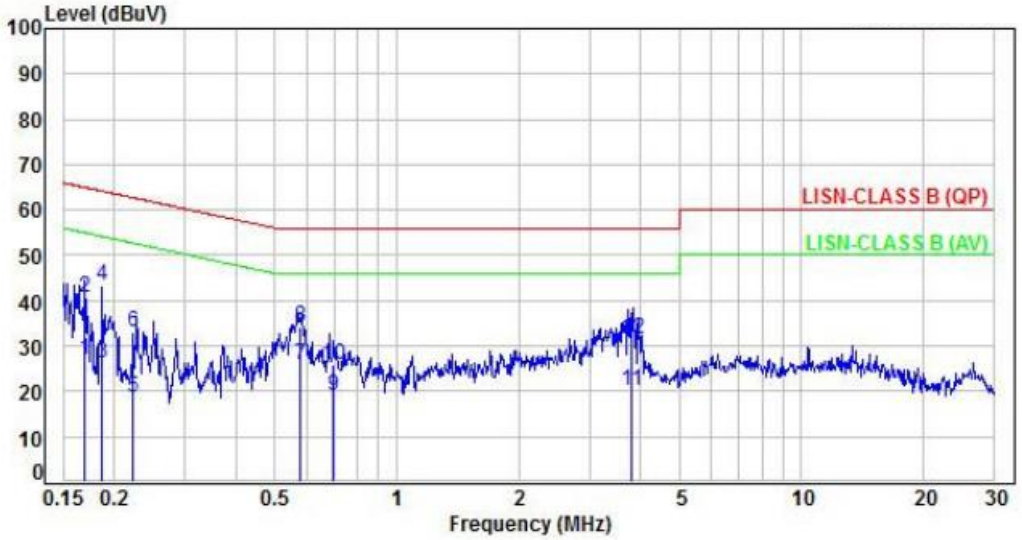
Power	:	AC 120V	Pol/Phase	:	LINE
Test Mode	:	Mode 2, Band 4	Temperature	:	23 °C
Test Date	:	Jan. 10, 2019	Humidity	:	45 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.18	9.94	14.03	23.97	54.43	-30.46	Average	P
2	0.18	9.94	32.68	42.62	64.43	-21.81	QP	P
3	0.21	9.94	10.94	20.88	53.22	-32.34	Average	P
4	0.21	9.94	29.14	39.08	63.22	-24.14	QP	P
5	0.22	9.94	8.37	18.31	52.68	-34.37	Average	P
6	0.22	9.94	21.68	31.62	62.68	-31.06	QP	P
7	0.28	9.94	7.46	17.40	50.80	-33.40	Average	P
8	0.28	9.94	20.10	30.04	60.80	-30.76	QP	P
9	0.57	9.95	15.85	25.80	46.00	-20.20	Average	P
10	0.57	9.95	23.89	33.84	56.00	-22.16	QP	P
11	3.74	10.12	12.66	22.78	46.00	-23.22	Average	P
12	3.74	10.12	24.70	34.82	56.00	-21.18	QP	P

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

Power	:	AC 120V	Pol/Phase	:	NEUTRAL
Test Mode	:	Mode 2, Band 4	Temperature	:	23 °C
Test Date	:	Jan. 10, 2019	Humidity	:	45 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.17	9.94	17.04	26.98	55.01	-28.03	Average	P
2	0.17	9.94	30.91	40.85	65.01	-24.16	QP	P
3	0.19	9.94	16.44	26.38	54.17	-27.79	Average	P
4	0.19	9.94	33.58	43.52	64.17	-20.65	QP	P
5	0.22	9.94	8.64	18.58	52.70	-34.12	Average	P
6	0.22	9.94	23.28	33.22	62.70	-29.48	QP	P
7	0.58	9.95	16.02	25.97	46.00	-20.03	Average	P
8	0.58	9.95	24.24	34.19	56.00	-21.81	QP	P
9	0.70	9.97	9.20	19.17	46.00	-26.83	Average	P
10	0.70	9.97	15.71	25.68	56.00	-30.32	QP	P
11	3.79	10.12	9.94	20.06	46.00	-25.94	Average	P
12	3.79	10.12	21.43	31.55	56.00	-24.45	QP	P

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

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.

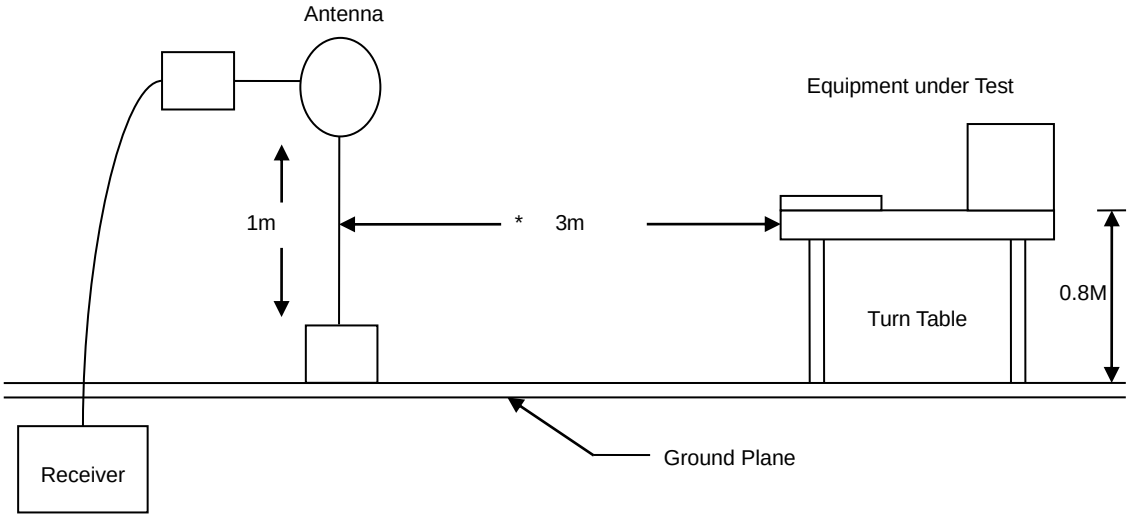
(8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.

6.2. Test Procedures

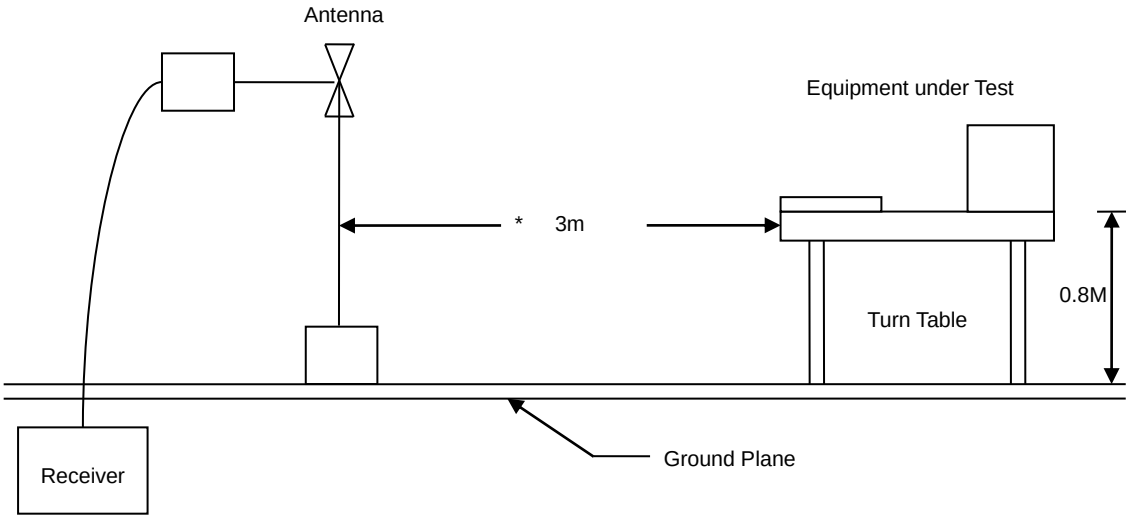
a. The EUT was placed on a rotatable table top 0.8 meter above ground.
b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
c. The table was rotated 360 degrees to determine the position of the highest radiation.
d. The antenna 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

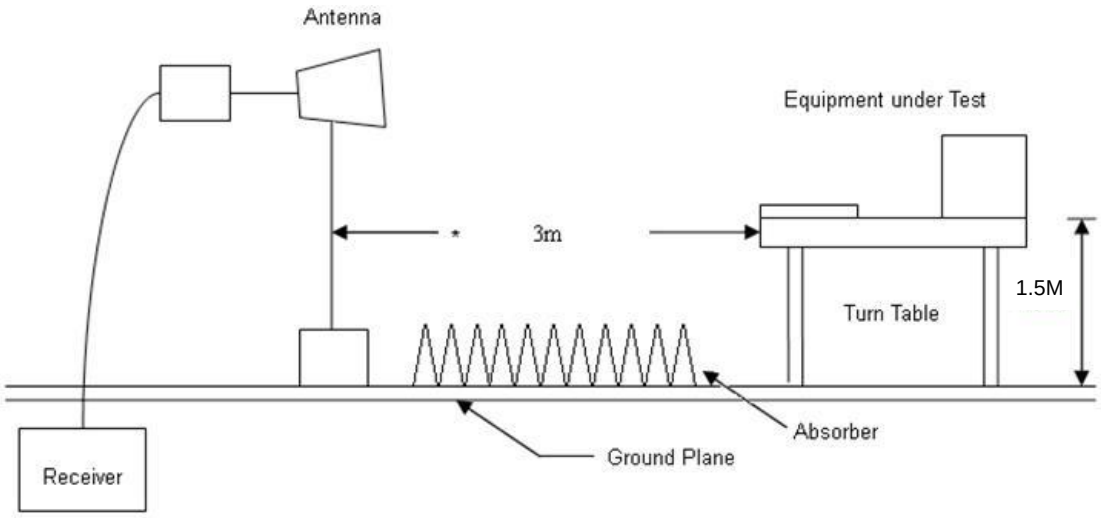
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup

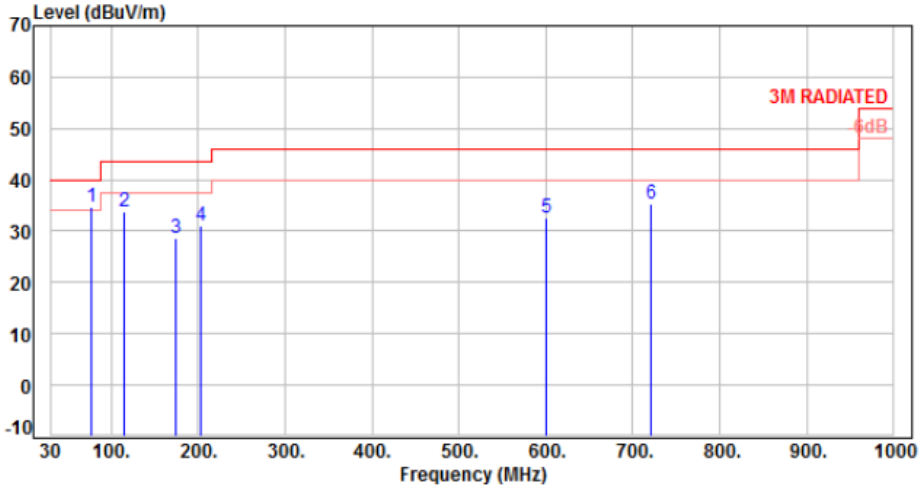


6.4. Test Result and Data (9kHz ~ 30MHz)

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

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

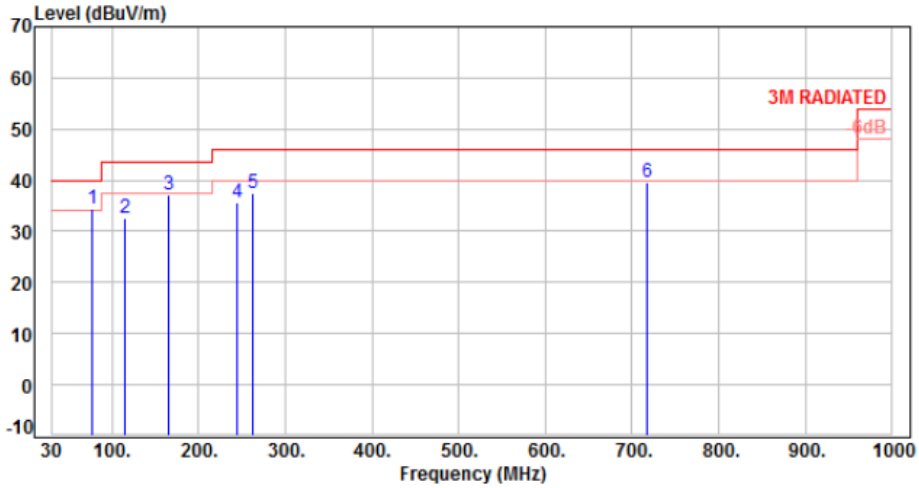
Power	:	DC 5V From system	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, Band 1	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	76.56	-12.71	47.44	34.73	40.00	-5.27	Peak	400	0	P
2	115.36	-12.22	45.97	33.75	43.50	-9.75	Peak	400	0	P
3	173.56	-10.03	38.78	28.75	43.50	-14.75	Peak	400	0	P
4	202.66	-11.99	43.10	31.11	43.50	-12.39	Peak	400	0	P
5	600.36	-1.52	34.02	32.50	46.00	-13.50	Peak	400	0	P
6	720.64	0.30	34.96	35.26	46.00	-10.74	Peak	400	0	P

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

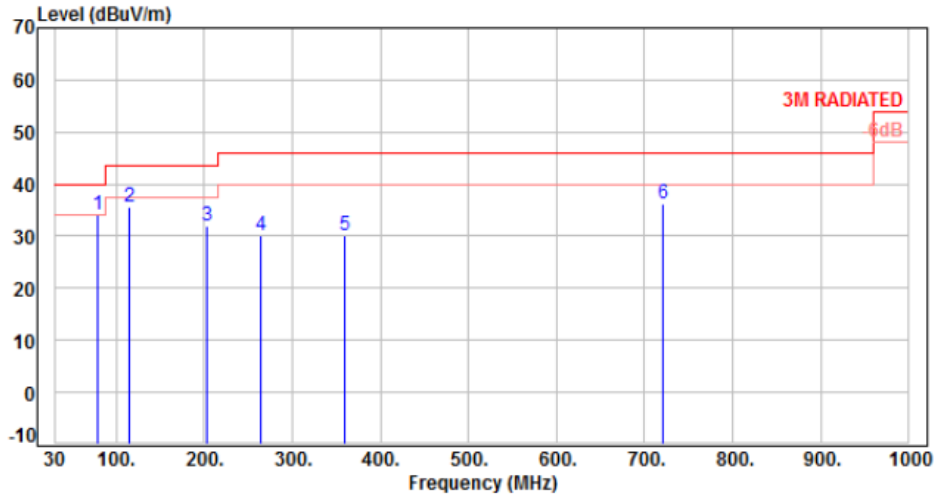
Power	:	DC 5V From system	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, Band 1	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	77.53	-12.95	47.51	34.56	40.00	-5.44	Peak	100	0	P
2	115.36	-12.22	44.66	32.44	43.50	-11.06	Peak	100	0	P
3	165.80	-9.28	46.37	37.09	43.50	-6.41	Peak	100	0	P
4	244.37	-10.37	46.08	35.71	46.00	-10.29	Peak	100	0	P
5	262.80	-9.82	47.28	37.46	46.00	-8.54	Peak	100	0	P
6	717.73	0.33	39.29	39.62	46.00	-6.38	Peak	100	0	P

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

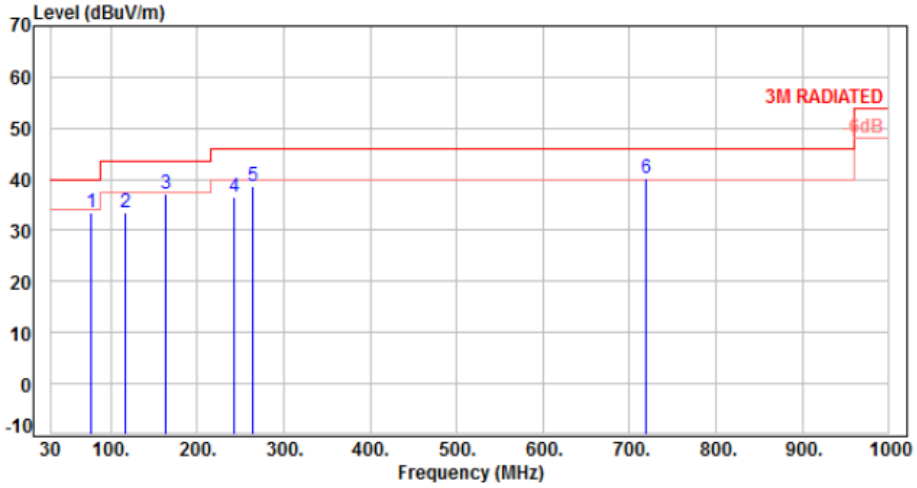
Power	:	DC 5V From system	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, Band 2 & Band 3	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	78.24	-13.11	47.15	34.04	40.00	-5.96	Peak	400	0	P
2	115.46	-12.21	47.96	35.75	43.50	-7.75	Peak	400	0	P
3	203.45	-11.99	44.10	32.11	43.50	-11.39	Peak	400	0	P
4	263.77	-9.79	40.01	30.22	46.00	-15.78	Peak	400	0	P
5	359.80	-6.90	37.05	30.15	46.00	-15.85	Peak	400	0	P
6	720.64	0.30	35.96	36.26	46.00	-9.74	Peak	400	0	P

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

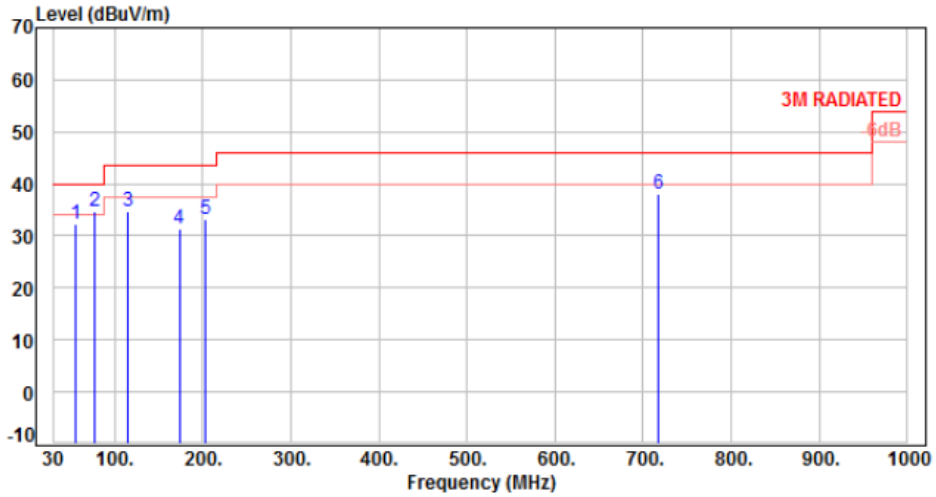
Power	:	DC 5V From system	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, Band 2 & Band 3	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	77.58	-12.96	46.52	33.56	40.00	-6.44	Peak	100	0	P
2	115.90	-12.17	45.61	33.44	43.50	-10.06	Peak	100	0	P
3	164.30	-9.30	46.37	37.07	43.50	-6.43	Peak	100	0	P
4	242.43	-10.45	47.13	36.68	46.00	-9.32	Peak	100	0	P
5	264.74	-9.78	48.59	38.81	46.00	-7.19	Peak	100	0	P
6	719.67	0.30	39.80	40.10	46.00	-5.90	Peak	100	0	P

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

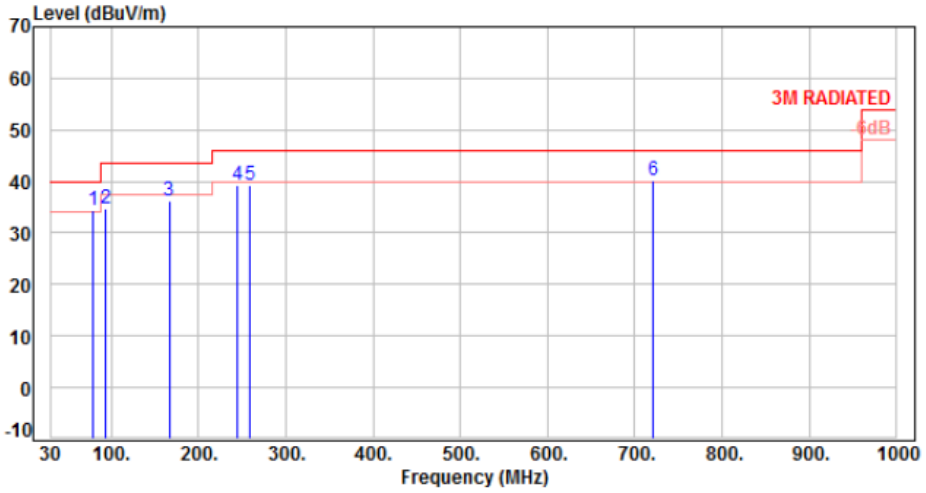
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, Band 4	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	56.44	-9.68	42.07	32.39	40.00	-7.61	Peak	400	0	P
2	77.18	-12.88	47.61	34.73	40.00	-5.27	Peak	400	0	P
3	114.93	-12.28	47.00	34.72	43.50	-8.78	Peak	400	0	P
4	173.40	-10.00	41.46	31.46	43.50	-12.04	Peak	400	0	P
5	203.15	-11.99	45.10	33.11	43.50	-10.39	Peak	400	0	P
6	716.76	0.34	37.57	37.91	46.00	-8.09	Peak	400	0	P

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

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, Band 4	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %

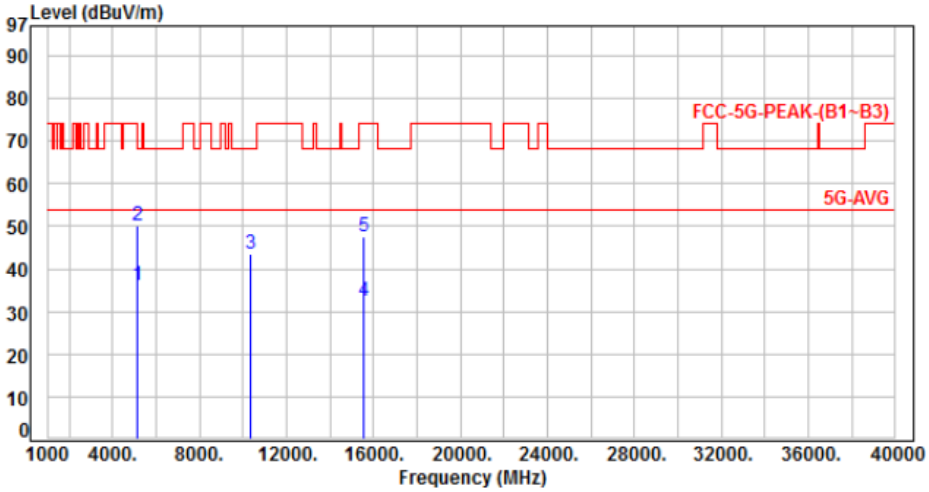


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	78.15	-13.09	47.65	34.56	40.00	-5.44	Peak	100	0	P
2	93.66	-15.46	50.08	34.62	43.50	-8.88	Peak	100	0	P
3	166.20	-9.28	45.37	36.09	43.50	-7.41	Peak	100	0	P
4	244.25	-10.37	49.59	39.22	46.00	-6.78	Peak	100	0	P
5	258.99	-9.92	49.22	39.30	46.00	-6.70	Peak	100	0	P
6	721.43	0.32	39.78	40.10	46.00	-5.90	Peak	100	0	P

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

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

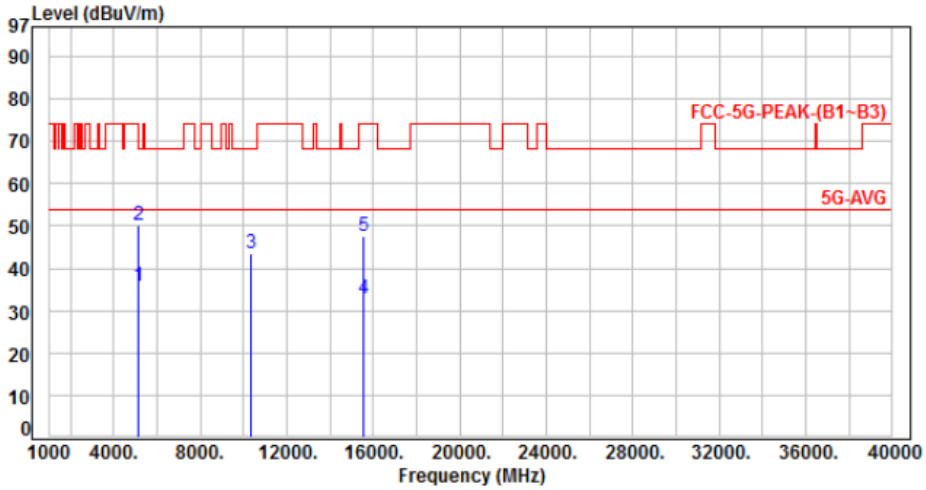
Power	:	DC 5V From system	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH36, Band 1	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-7.68	43.70	36.02	54.00	-17.98	Average	100	44	P
2	5150.00	-7.68	57.80	50.12	74.00	-23.88	Peak	100	44	P
3	10360.00	-0.12	43.51	43.39	68.20	-24.81	Peak	100	104	P
4	15540.00	5.24	27.33	32.57	54.00	-21.43	Average	100	200	P
5	15540.00	5.24	42.50	47.74	74.00	-26.26	Peak	100	200	P

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

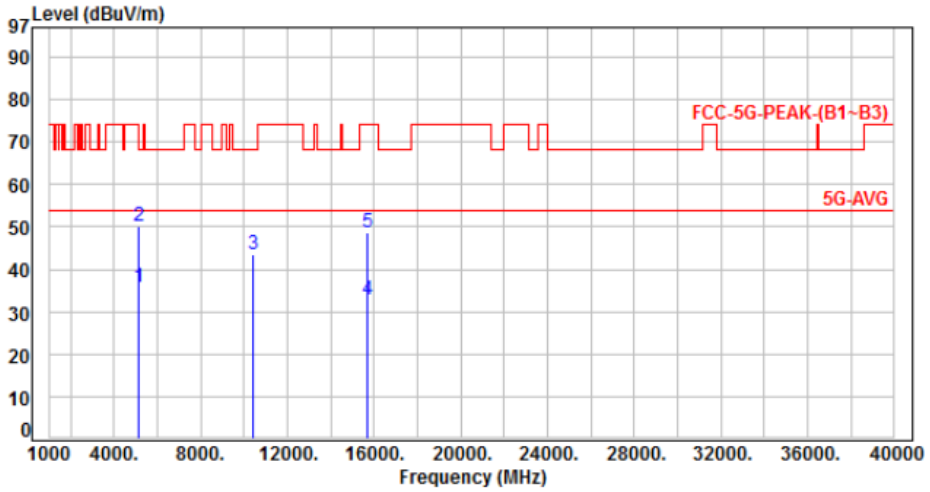
Power	:	DC 5V From system	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH36, Band 1	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-7.68	43.51	35.83	54.00	-18.17	Average	100	341	P
2	5150.00	-7.68	57.80	50.12	74.00	-23.88	Peak	100	341	P
3	10360.00	-0.12	43.47	43.35	68.20	-24.85	Peak	100	276	P
4	15540.00	5.24	27.68	32.92	54.00	-21.08	Average	100	305	P
5	15540.00	5.24	42.36	47.60	74.00	-26.40	Peak	100	305	P

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

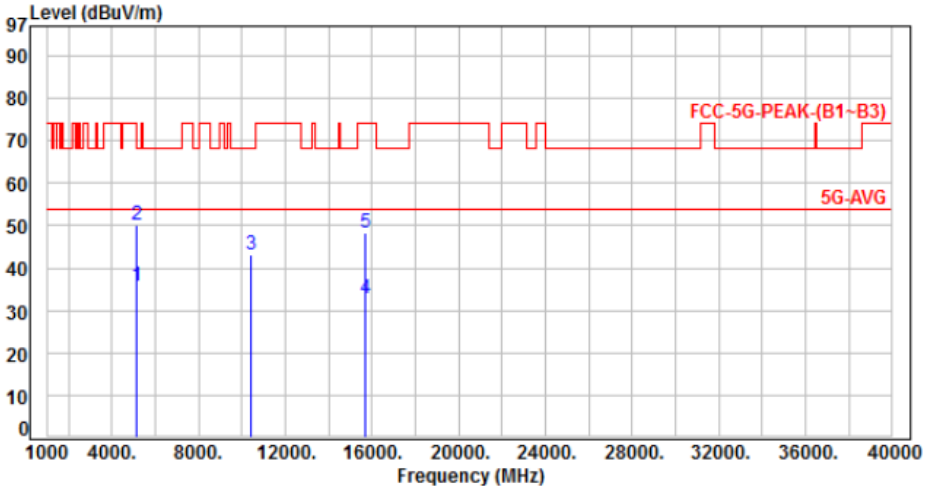
Power	:	DC 5V From system	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH44, Band 1	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-7.68	43.60	35.92	54.00	-18.08	Average	220	302	P
2	5150.00	-7.68	57.80	50.12	74.00	-23.88	Peak	220	302	P
3	10440.00	-0.03	43.61	43.58	68.20	-24.62	Peak	100	37	P
4	15660.00	5.32	27.53	32.85	54.00	-21.15	Average	100	144	P
5	15660.00	5.32	43.21	48.53	74.00	-25.47	Peak	100	144	P

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

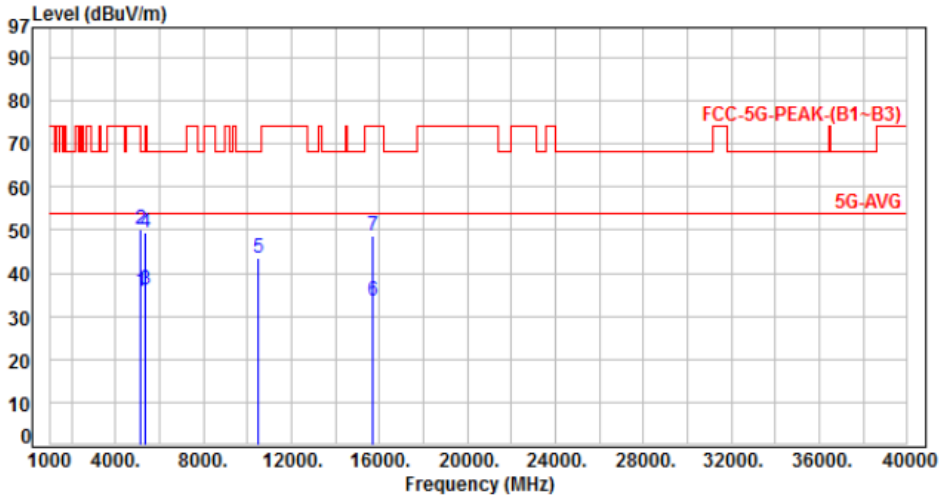
Power	:	DC 5V From system	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH44, Band 1	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-7.68	43.40	35.72	54.00	-18.28	Average	100	58	P
2	5150.00	-7.68	57.80	50.12	74.00	-23.88	Peak	100	58	P
3	10440.00	-0.03	43.27	43.24	68.20	-24.96	Peak	100	315	P
4	15660.00	5.32	27.56	32.88	54.00	-21.12	Average	100	315	P
5	15660.00	5.32	42.88	48.20	74.00	-25.80	Peak	100	315	P

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

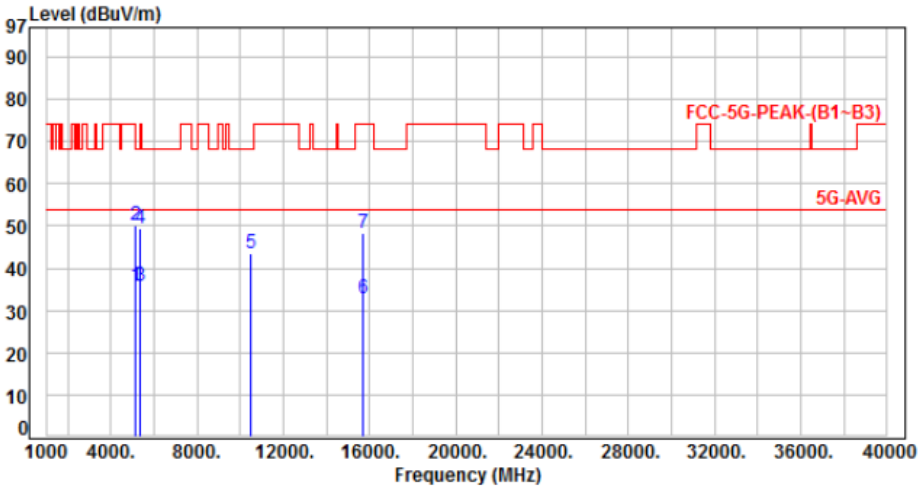
Power	:	DC 5V From system	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH48, Band 1	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-7.68	43.60	35.92	54.00	-18.08	Average	100	44	P
2	5150.00	-7.68	57.80	50.12	74.00	-23.88	Peak	100	44	P
3	5350.00	-7.30	43.40	36.10	54.00	-17.90	Average	100	44	P
4	5350.00	-7.30	56.60	49.30	74.00	-24.70	Peak	100	44	P
5	10480.00	0.01	43.57	43.58	68.20	-24.62	Peak	100	100	P
6	15720.00	5.36	28.11	33.47	54.00	-20.53	Average	100	86	P
7	15720.00	5.36	43.18	48.54	74.00	-25.46	Peak	100	86	P

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

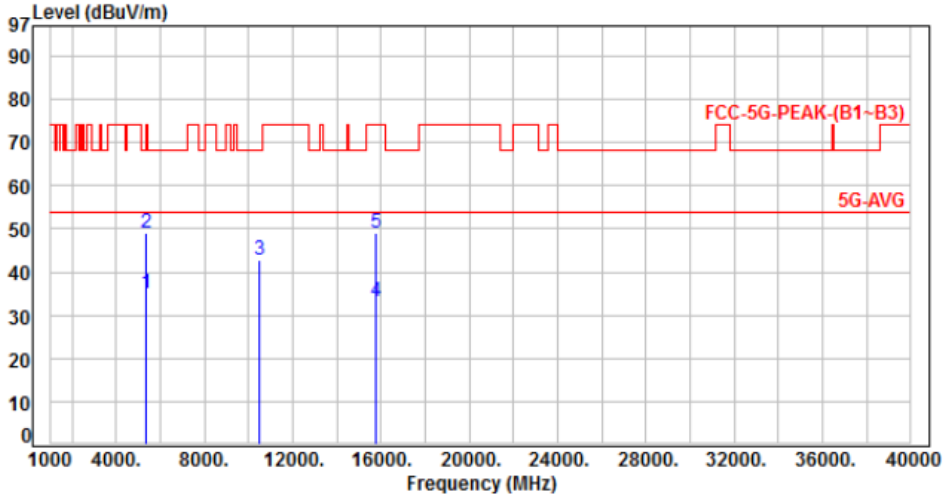
Power	:	DC 5V From system	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH48, Band 1	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-7.68	43.40	35.72	54.00	-18.28	Average	248	268	P
2	5150.00	-7.68	57.80	50.12	74.00	-23.88	Peak	248	268	P
3	5350.00	-7.30	42.90	35.60	54.00	-18.40	Average	248	268	P
4	5350.00	-7.30	56.81	49.51	74.00	-24.49	Peak	248	268	P
5	10480.00	0.01	43.51	43.52	68.20	-24.68	Peak	100	296	P
6	15720.00	5.36	27.48	32.84	54.00	-21.16	Average	100	314	P
7	15720.00	5.36	42.88	48.24	74.00	-25.76	Peak	100	314	P

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

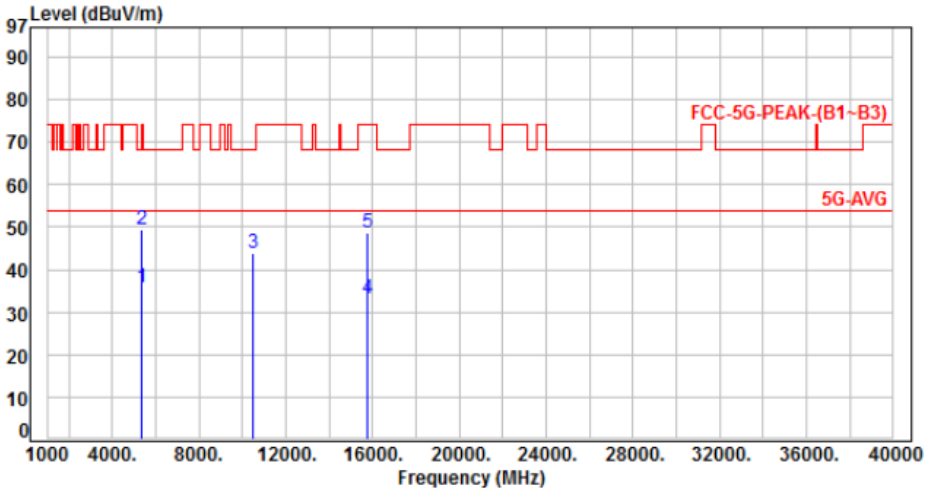
Power	:	DC 5V From system	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH52, Band 2	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5350.00	-7.30	42.40	35.10	54.00	-18.90	Average	232	328	P
2	5350.00	-7.30	56.40	49.10	74.00	-24.90	Peak	232	328	P
3	10520.00	0.04	42.91	42.95	68.20	-25.25	Peak	100	81	P
4	15780.00	5.41	27.88	33.29	54.00	-20.71	Average	100	116	P
5	15780.00	5.41	43.65	49.06	74.00	-24.94	Peak	100	116	P

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

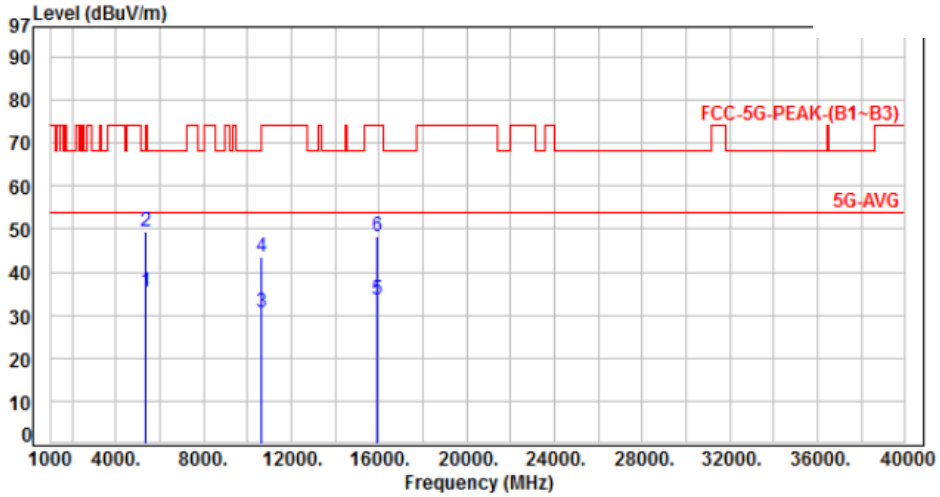
Power	:	DC 5V From system	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH52, Band 2	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5350.00	-7.30	43.24	35.94	54.00	-18.06	Average	100	55	P
2	5350.00	-7.30	56.80	49.50	74.00	-24.50	Peak	100	55	P
3	10520.00	0.04	43.89	43.93	68.20	-24.27	Peak	100	326	P
4	15780.00	5.41	27.63	33.04	54.00	-20.96	Average	100	339	P
5	15780.00	5.41	43.10	48.51	74.00	-25.49	Peak	100	339	P

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

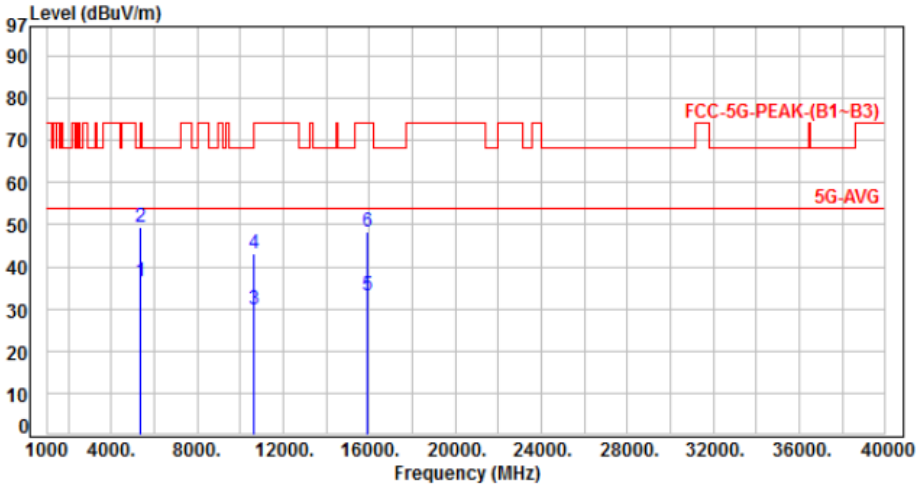
Power	:	DC 5V From system	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH60, Band 2	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5350.00	-7.30	42.81	35.51	54.00	-18.49	Average	224	48	P
2	5350.00	-7.30	56.77	49.47	74.00	-24.53	Peak	224	48	P
3	10600.00	0.12	30.56	30.68	54.00	-23.32	Average	100	347	P
4	10600.00	0.12	43.45	43.57	74.00	-30.43	Peak	100	347	P
5	15900.00	5.49	28.16	33.65	54.00	-20.35	Average	100	284	P
6	15900.00	5.49	42.87	48.36	74.00	-25.64	Peak	100	284	P

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

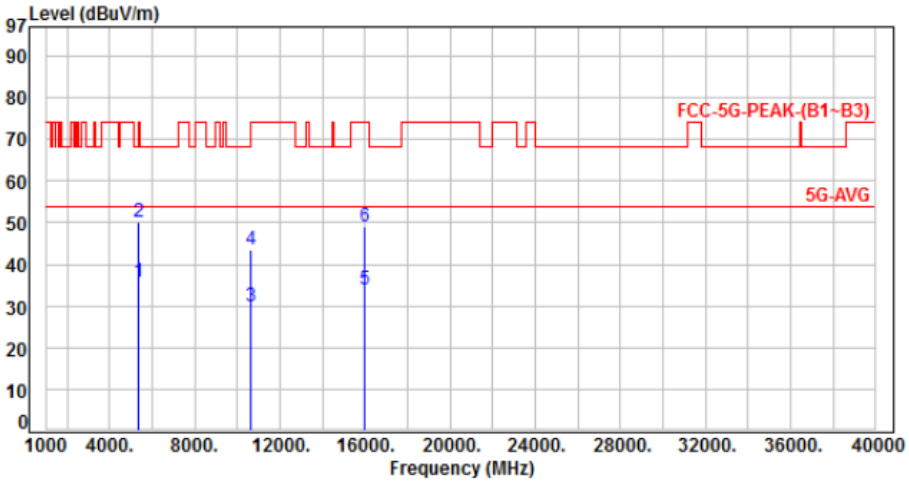
Power	:	DC 5V From system	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH60, Band 2	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5350.00	-7.30	43.65	36.35	54.00	-17.65	Average	122	48	P
2	5350.00	-7.30	56.83	49.53	74.00	-24.47	Peak	122	48	P
3	10600.00	0.12	29.88	30.00	54.00	-24.00	Average	100	91	P
4	10600.00	0.12	43.15	43.27	74.00	-30.73	Peak	100	91	P
5	15900.00	5.49	27.82	33.31	54.00	-20.69	Average	100	146	P
6	15900.00	5.49	42.68	48.17	74.00	-25.83	Peak	100	146	P

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

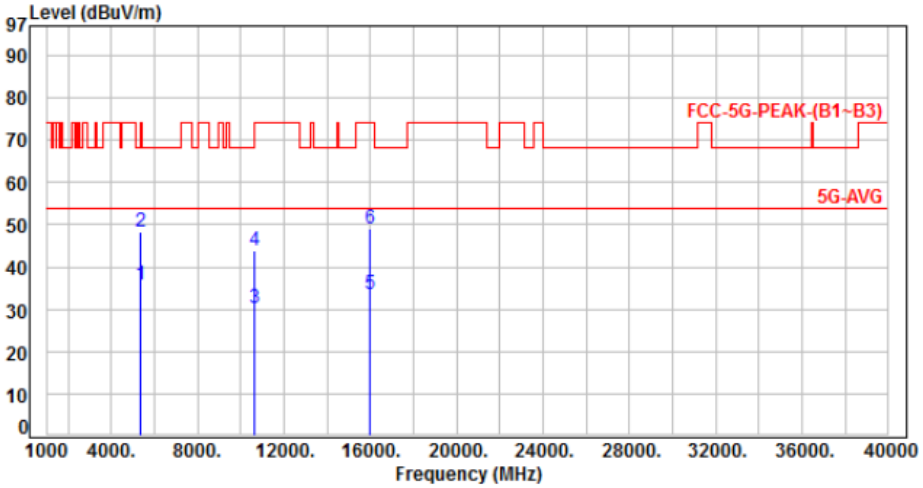
Power	:	DC 5V From system	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH64, Band 2	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5350.00	-7.30	42.92	35.62	54.00	-18.38	Average	201	341	P
2	5350.00	-7.30	57.44	50.14	74.00	-23.86	Peak	201	341	P
3	10640.00	0.15	29.68	29.83	54.00	-24.17	Average	100	100	P
4	10640.00	0.15	43.46	43.61	74.00	-30.39	Peak	100	100	P
5	15960.00	5.53	28.42	33.95	54.00	-20.05	Average	100	105	P
6	15960.00	5.53	43.52	49.05	74.00	-24.95	Peak	100	105	P

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

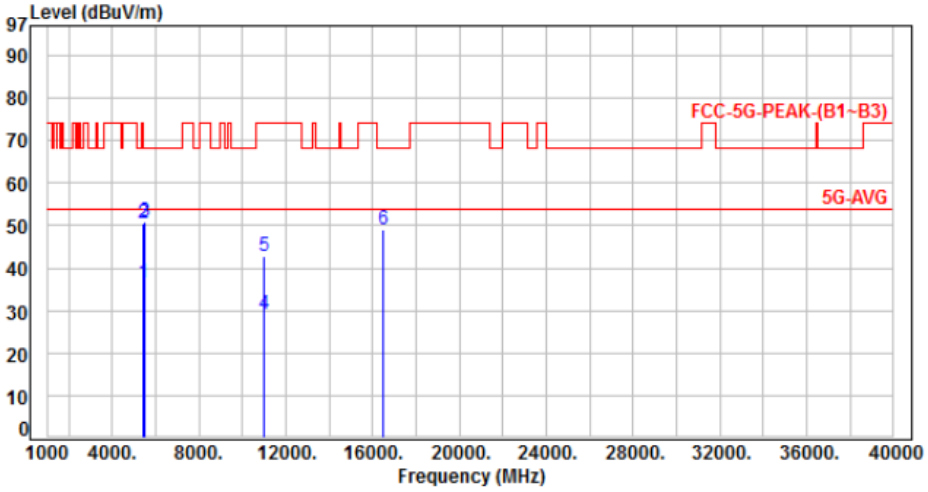
Power	:	DC 5V From system	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH64, Band 2	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5350.00	-7.30	43.21	35.91	54.00	-18.09	Average	100	52	P
2	5350.00	-7.30	55.57	48.27	74.00	-25.73	Peak	100	52	P
3	10640.00	0.15	30.02	30.17	54.00	-23.83	Average	100	267	P
4	10640.00	0.15	43.57	43.72	74.00	-30.28	Peak	100	267	P
5	15960.00	5.53	27.88	33.41	54.00	-20.59	Average	100	345	P
6	15960.00	5.53	43.44	48.97	74.00	-25.03	Peak	100	345	P

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

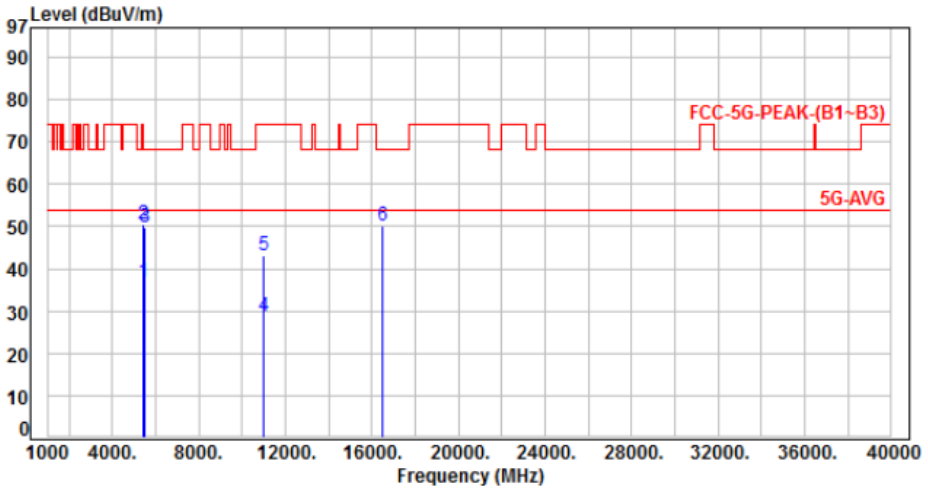
Power	:	DC 5V From system	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH100, Band 3	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5460.00	-7.10	43.70	36.60	54.00	-17.40	Average	163	328	P
2	5460.00	-7.10	57.50	50.40	74.00	-23.60	Peak	163	328	P
3	5470.00	-7.08	57.80	50.72	68.20	-17.48	Peak	163	328	P
4	11000.00	0.46	28.67	29.13	54.00	-24.87	Average	100	65	P
5	11000.00	0.46	42.30	42.76	74.00	-31.24	Peak	100	65	P
6	16500.00	7.26	41.63	48.89	68.20	-19.31	Peak	100	116	P

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

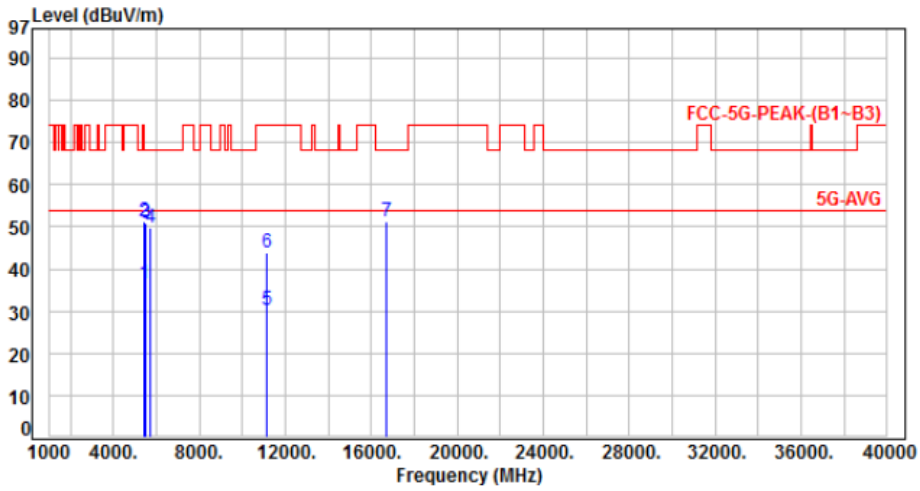
Power	:	DC 5V From system	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH100, Band 3	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5460.00	-7.10	43.90	36.80	54.00	-17.20	Average	100	15	P
2	5460.00	-7.10	57.80	50.70	74.00	-23.30	Peak	100	15	P
3	5470.00	-7.08	56.88	49.80	68.20	-18.40	Peak	100	15	P
4	11000.00	0.46	28.42	28.88	54.00	-25.12	Average	100	77	P
5	11000.00	0.46	42.86	43.32	74.00	-30.68	Peak	100	77	P
6	16500.00	7.26	43.02	50.28	68.20	-17.92	Peak	100	104	P

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

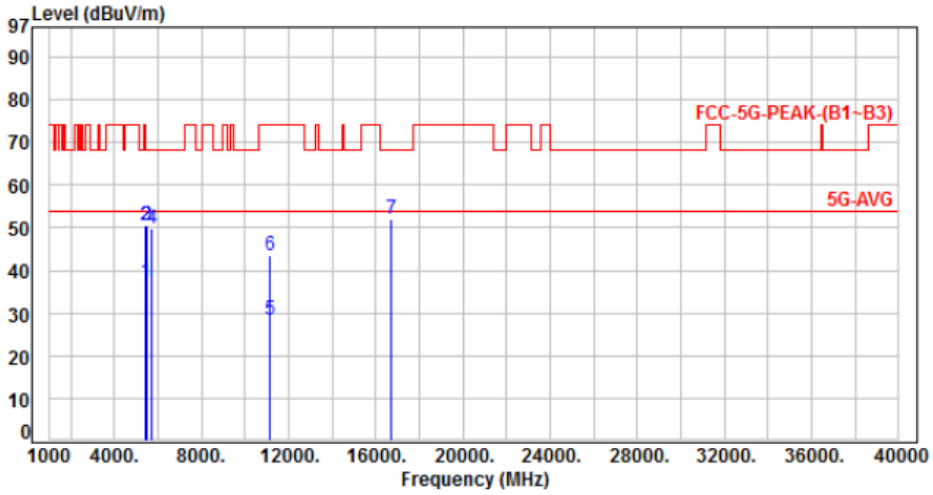
Power	:	DC 5V From system	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH116, Band 3	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5460.00	-7.10	43.70	36.60	54.00	-17.40	Average	113	63	P
2	5460.00	-7.10	58.22	51.12	74.00	-22.88	Peak	113	63	P
3	5470.00	-7.08	57.80	50.72	68.20	-17.48	Peak	113	63	P
4	5725.00	-6.95	56.61	49.66	68.20	-18.54	Peak	113	63	P
5	11160.00	0.70	29.56	30.26	54.00	-23.74	Average	100	73	P
6	11160.00	0.70	43.32	44.02	74.00	-29.98	Peak	100	73	P
7	16740.00	8.65	42.45	51.10	68.20	-17.10	Peak	100	116	P

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

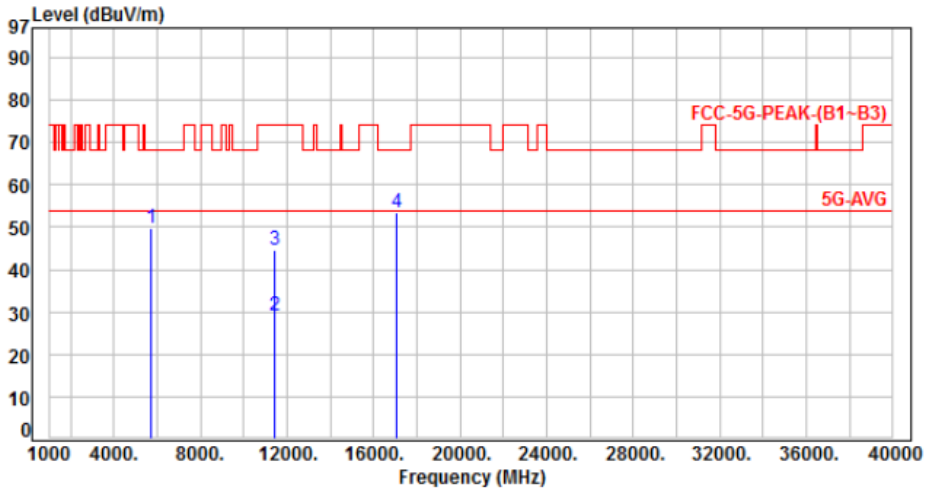
Power	:	DC 5V From system	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH116, Band 3	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5460.00	-7.10	44.20	37.10	54.00	-16.90	Average	133	355	P
2	5460.00	-7.10	57.80	50.70	74.00	-23.30	Peak	133	355	P
3	5470.00	-7.08	57.50	50.42	68.20	-17.78	Peak	133	355	P
4	5725.00	-6.95	56.81	49.86	68.20	-18.34	Peak	133	355	P
5	11160.00	0.70	27.63	28.33	54.00	-25.67	Average	100	308	P
6	11160.00	0.70	42.65	43.35	74.00	-30.65	Peak	100	308	P
7	16740.00	8.65	43.24	51.89	68.20	-16.31	Peak	100	285	P

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

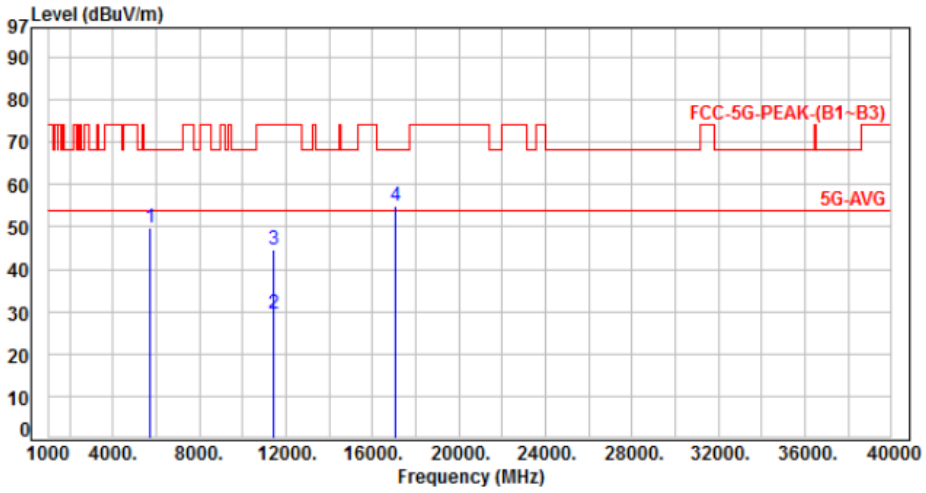
Power	:	DC 5V From system	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH140, Band 3	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5725.00	-6.95	56.81	49.86	68.20	-18.34	Peak	247	50	P
2	11400.00	1.05	27.95	29.00	54.00	-25.00	Average	100	56	P
3	11400.00	1.05	43.68	44.73	74.00	-29.27	Peak	100	56	P
4	17100.00	10.79	42.58	53.37	68.20	-14.83	Peak	100	163	P

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

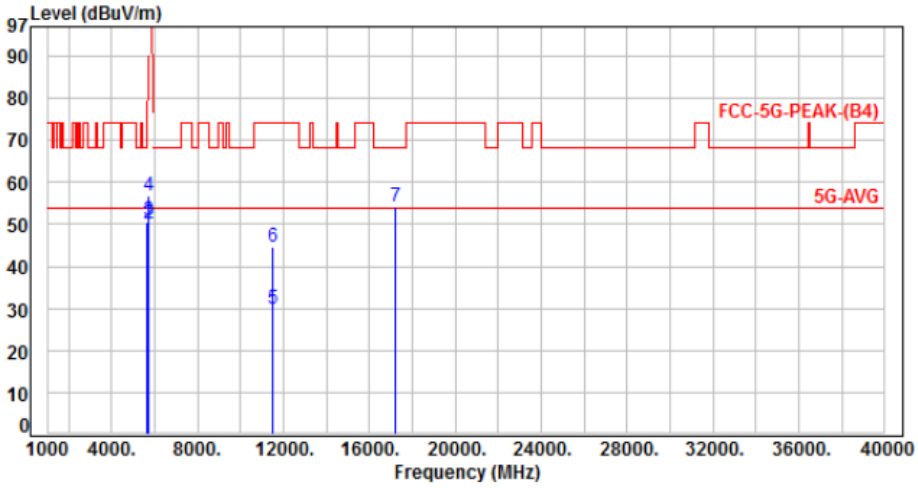
Power	:	DC 5V From system	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH140, Band 3	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5725.00	-6.95	56.91	49.96	68.20	-18.24	Peak	100	260	P
2	11400.00	1.05	28.42	29.47	54.00	-24.53	Average	100	267	P
3	11400.00	1.05	43.65	44.70	74.00	-29.30	Peak	100	267	P
4	17100.00	10.79	44.21	55.00	68.20	-13.20	Peak	100	349	P

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

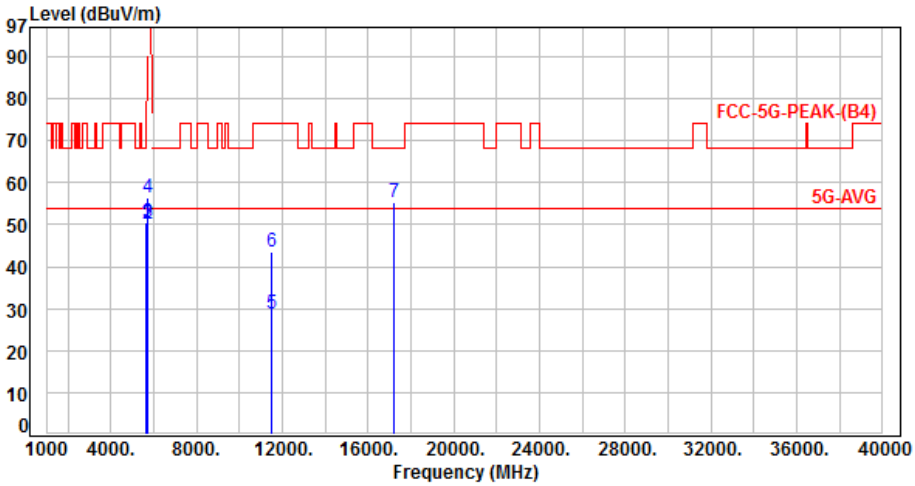
Power	:	DC 5V From system	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH149, Band 4	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-6.97	57.50	50.53	68.20	-17.67	Peak	400	360	P
2	5700.00	-6.95	57.20	50.25	105.20	-54.95	Peak	400	360	P
3	5720.00	-6.95	57.80	50.85	110.80	-59.95	Peak	400	360	P
4	5725.00	-6.95	63.81	56.86	122.20	-65.34	Peak	400	360	P
5	11490.00	1.18	28.64	29.82	54.00	-24.18	Average	100	111	P
6	11490.00	1.18	43.58	44.76	74.00	-29.24	Peak	100	111	P
7	17235.00	11.64	42.68	54.32	68.20	-13.88	Peak	100	92	P

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

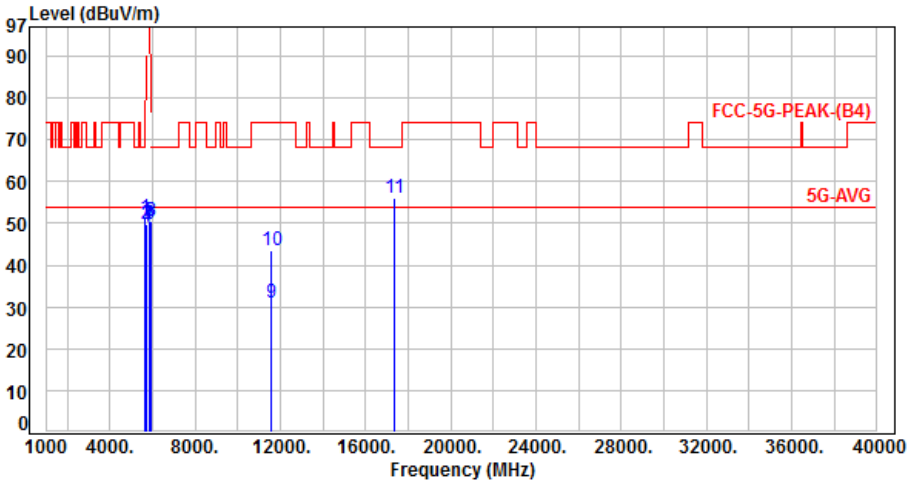
Power	:	DC 5V From system	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH149, Band 4	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-6.97	57.45	50.48	68.20	-17.72	Peak	132	270	P
2	5700.00	-6.95	57.22	50.27	105.20	-54.93	Peak	132	270	P
3	5720.00	-6.95	57.49	50.54	110.80	-60.26	Peak	132	270	P
4	5725.00	-6.95	63.41	56.46	122.20	-65.74	Peak	132	270	P
5	11490.00	1.18	27.50	28.68	54.00	-25.32	Average	100	305	P
6	11490.00	1.18	42.53	43.71	74.00	-30.29	Peak	100	305	P
7	17235.00	11.64	43.65	55.29	68.20	-12.91	Peak	100	283	P

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

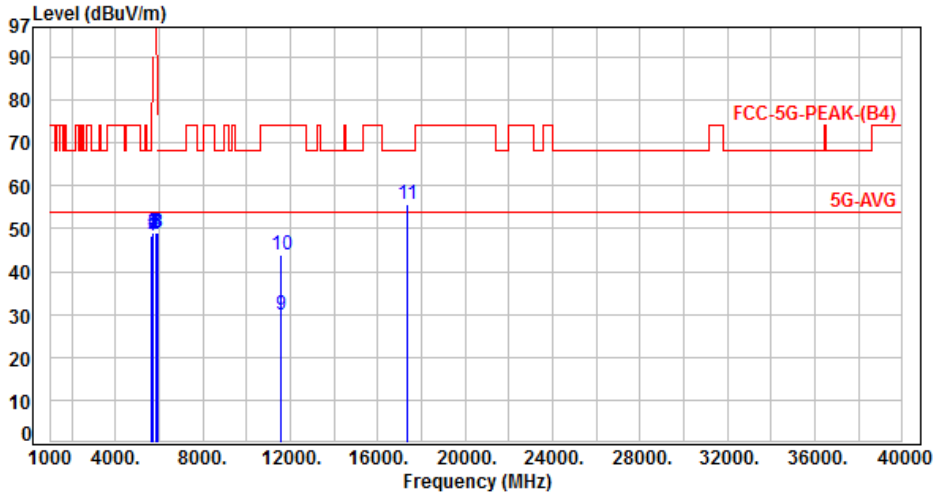
Power	:	DC 5V From system	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH157, Band 4	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-6.97	58.22	51.25	68.20	-16.95	Peak	376	215	P
2	5700.00	-6.95	56.60	49.65	105.20	-55.55	Peak	376	215	P
3	5720.00	-6.95	56.80	49.85	110.80	-60.95	Peak	376	215	P
4	5725.00	-6.95	56.16	49.21	122.20	-72.99	Peak	376	215	P
5	5850.00	-6.90	57.30	50.40	122.20	-71.80	Peak	376	215	P
6	5855.00	-6.90	56.60	49.70	110.80	-61.10	Peak	376	215	P
7	5875.00	-6.89	56.30	49.41	105.20	-55.79	Peak	376	215	P
8	5925.00	-6.88	57.25	50.37	68.20	-17.83	Peak	376	215	P
9	11570.00	1.28	29.87	31.15	54.00	-22.85	Average	100	59	P
10	11570.00	1.28	42.35	43.63	74.00	-30.37	Peak	100	59	P
11	17355.00	12.41	43.64	56.05	68.20	-12.15	Peak	100	119	P

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

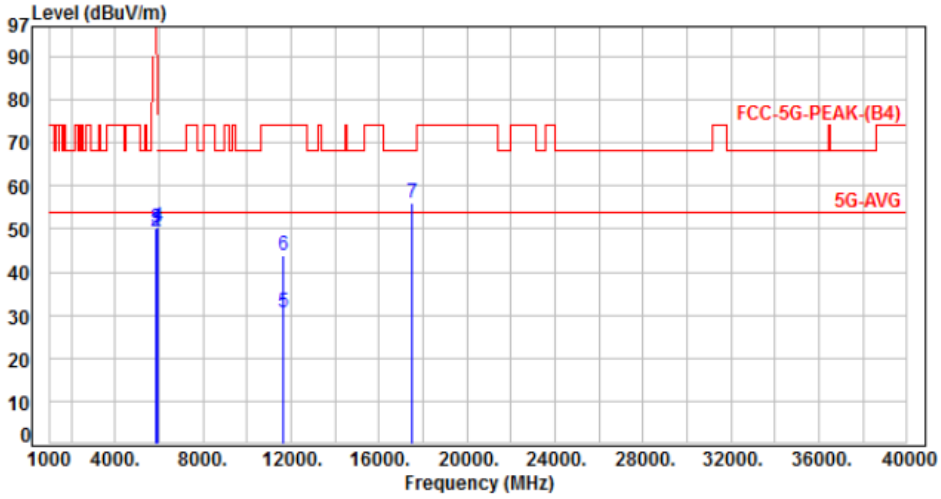
Power	:	DC 5V From system	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH157, Band 4	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-6.97	55.40	48.43	68.20	-19.77	Peak	100	51	P
2	5700.00	-6.95	55.70	48.75	105.20	-56.45	Peak	100	51	P
3	5720.00	-6.95	55.90	48.95	110.80	-61.85	Peak	100	51	P
4	5725.00	-6.95	55.96	49.01	122.20	-73.19	Peak	100	51	P
5	5850.00	-6.90	55.80	48.90	122.20	-73.30	Peak	100	51	P
6	5855.00	-6.90	55.46	48.56	110.80	-62.24	Peak	100	51	P
7	5875.00	-6.89	55.51	48.62	105.20	-56.58	Peak	100	51	P
8	5925.00	-6.88	55.76	48.88	68.20	-19.32	Peak	100	51	P
9	11570.00	1.28	28.66	29.94	54.00	-24.06	Average	100	268	P
10	11570.00	1.28	42.51	43.79	74.00	-30.21	Peak	100	268	P
11	17355.00	12.41	43.15	55.56	68.20	-12.64	Peak	100	316	P

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

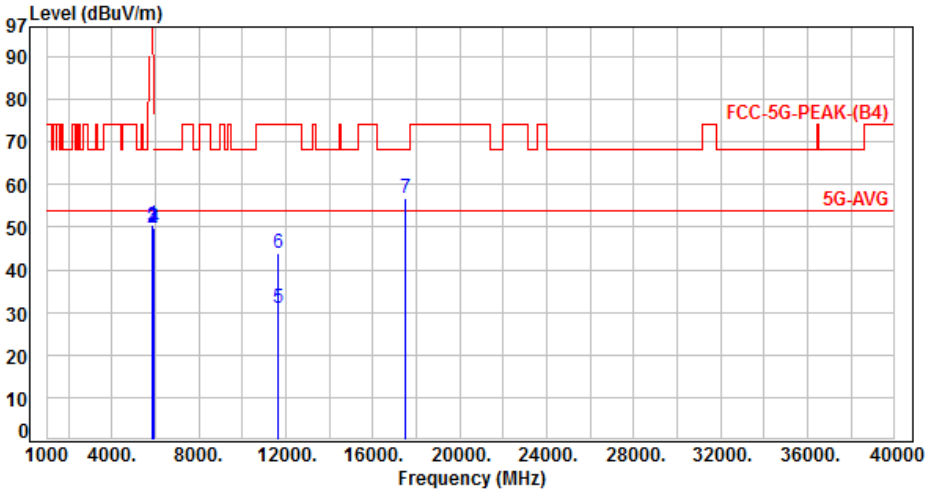
Power	:	DC 5V From system	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH165, Band 4	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5850.00	-6.90	56.76	49.86	122.20	-72.34	Peak	400	279	P
2	5855.00	-6.90	56.30	49.40	110.80	-61.40	Peak	400	279	P
3	5875.00	-6.89	57.20	50.31	105.20	-54.89	Peak	400	279	P
4	5925.00	-6.88	57.23	50.35	68.20	-17.85	Peak	400	279	P
5	11650.00	1.37	29.33	30.70	54.00	-23.30	Average	100	126	P
6	11650.00	1.37	42.67	44.04	74.00	-29.96	Peak	100	126	P
7	17475.00	13.18	42.88	56.06	68.20	-12.14	Peak	100	83	P

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

Power	:	DC 5V From system	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH165, Band 4	Temperature	:	22 °C
Test Date	:	Jan. 04, 2019	Humidity	:	59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5850.00	-6.90	57.60	50.70	122.20	-71.50	Peak	110	270	P
2	5855.00	-6.90	56.60	49.70	110.80	-61.10	Peak	110	270	P
3	5875.00	-6.89	56.88	49.99	105.20	-55.21	Peak	110	270	P
4	5925.00	-6.88	56.62	49.74	68.20	-18.46	Peak	110	270	P
5	11650.00	1.37	29.66	31.03	54.00	-22.97	Average	100	299	P
6	11650.00	1.37	42.53	43.90	74.00	-30.10	Peak	100	299	P
7	17475.00	13.18	43.46	56.64	68.20	-11.56	Peak	100	311	P

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