TEST REPORT

Applicant:	SHENZHEN GIEC DIGITAL CO., LTD
Address of Applicant:	1st&3rd Building, No.26 Puzai Road, Pingdi, Longgang District, Shenzhen, China
Manufacturer/Factory:	SHENZHEN GIEC DIGITAL CO., LTD
Address of Manufacturer/Factory:	1st&3rd Building, No.26 Puzai Road, Pingdi, Longgang District, Shenzhen, China

Equipment Under Test (EUT)

Product Name:	Hubitat Elevation Hub
Model No.:	Model C-8 Pro
FCC ID:	2AHYK-2212C8PRO
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.249
Date of sample receipt:	August 11, 2023
Date of Test:	August 11, 2023-September 08, 2023
Date of report issued:	September 11, 2023
Test Result :	PASS *

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Robinson Luo
Laboratory Manager

2 Version

Version No.	Date	Description
00	*September 11, 2023*	*Original*

Prepared By: *Date:* *September 11, 2023*

Project Engineer

Check By: *Date:* *September 11, 2023*

Reviewer

3 Contents

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4 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203	Pass
AC Power Line Conducted Emission	15.207	Pass
Field strength of the fundamental signal	15.249 (a)	Pass
Spurious emissions	15.249 (a) (d)/15.209	Pass
Band edge	15.249 (d)/15.205	Pass
20dB Occupied Bandwidth	15.215 (c)	Pass

Pass: The EUT complies with the essential requirements in the standard.

Remark: Test according to ANSI C63.10:2013

4.1 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	$\pm 7.25\times10^{-8}$
2	Duty cycle	±0.37%
3	Occupied Bandwidth	±3%
4	RF conducted power	±0.75dB
5	RF power density	±3dB
6	Conducted Spurious emissions	±2.58dB
7	AC Power Line Conducted Emission	±3.44dB (0.15MHz ~ 30MHz)
8	Radiated Spurious emission test	±3.1dB (9kHz-30MHz)
		±3.8039dB (30MHz-200MHz)
		±3.9679dB (200MHz-1GHz)
		±4.29dB (1GHz-18GHz)
		±3.30dB (18GHz-40GHz)
9	Temperature test	±1°C
10	Humidity test	±3%
11	Time	±3%

5 General Information

5.1 General Description of EUT

Product Name:	Hubitat Elevation Hub
Model No.:	Model C-8 Pro
Test sample(s) ID:	GTS2023080143-1
Sample(s) Status:	Engineer sample
S/ N:	C-8112340001
Operation Frequency:	908.4MHz, 908.42MHz, 912MHz, 916MHz, 920MHz
Modulation type:	FSK: 908.4MHz, 908.42MHz GFSK: 916MHz O-QPSK: 912MHz, 920MHz
Antenna Type:	External Antenna
Antenna gain:	0.84dBi
Power supply:	AC ADAPTER Model: TEKA-UCA20US Input: AC100-240V, 50/60Hz 0.35A Max Output: DC5.0V, 2.0A

Remark:
1. Antenna gain information provided by the customer
2. The relevant information of the sample is provided by the entrusting company, and the laboratory is not responsible for its authenticity.

5.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode.

Per-test mode.

We have verified the construction and function in typical operation, The EUT was placed on three different polar directions; i.e. X axis, Y axis, Z axis. which was shown in this test report and defined as follows:

908.4MHz:

Axis	X	Y	Z
Field Strength(dBuV/m)	89.92	90.13	89.77

908.42MHz:

Axis	X	Y	Z
Field Strength(dBuV/m)	89.36	89.58	89.31

916MHz:

Axis	X	Y	Z
Field Strength(dBuV/m)	90.02	90.18	89.98

912MHz:

Axis	X	Y	Z
Field Strength(dBuV/m)	89.97	90.02	89.95

920MHz:

Axis	X	Y	Z
Field Strength(dBuV/m)	88.93	89.06	88.88

5.3 Description of Support Units

None.

5.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

● **FCC —Registration No.: 381383**

Designation Number: CN5029

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files.

● **ISED—Registration No.: 9079A**

CAB identifier: CN0091

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of ISED for radio equipment testing.

● **NVLAP (LAB CODE:600179-0)**

Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

5.5 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.
No. 123-128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102
Tel: 0755-27798480
Fax: 0755-27798960

5.6 Additional Instructions

Test Software	Special test command provided by manufacturer
Power level setup	Default

6 Test Instruments list

Radiated Emission:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	June 23, 2021	June 22, 2024
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	April 14, 2023	April 13, 2024
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9168	GTS640	March 19, 2023	March 18, 2025
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	April 17, 2023	April 16, 2025
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
7	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	April 14, 2023	April 13, 2024
8	Loop Antenna	ZHINAN	ZN30900A	GTS534	Nov. 29, 2022	Nov. 28, 2023
9	Broadband Preamplifier	SCHWARZBECK	BBV9718	GTS535	April 14, 2023	April 13, 2024
10	Amplifier(1GHz-26.5GHz)	HP	8449B	GTS601	April 14, 2023	April 13, 2024
11	Horn Antenna (18-26.5GHz)	/	UG-598A/U	GTS664	Oct. 30, 2022	Oct. 29, 2023
12	Horn Antenna (26.5-40GHz)	A.H Systems	SAS-573	GTS665	Oct. 30, 2022	Oct. 29, 2023
13	FSV·Signal Analyzer (10Hz-40GHz)	Keysight	FSV-40-N	GTS666	March 13, 2023	March 12, 2024
14	Amplifier	/	LNA-1000-30S	GTS650	April 14, 2023	April 13, 2024
15	CDNE M2+M3-16A	HCT	30MHz-300MHz	GTS668	Dec. 20, 2022	Dec.19, 2023
16	Wideband Amplifier	/	WDA-01004000-15P35	GTS602	April 14, 2023	April 13, 2024
17	Thermo meter	JINCHUANG	GSP-8A	GTS643	April 19, 2023	April 18, 2024
18	RE cable 1	GTS	N/A	GTS675	July 31. 2023	July 30. 2024
19	RE cable 2	GTS	N/A	GTS676	July 31. 2023	July 30. 2024
20	RE cable 3	GTS	N/A	GTS677	July 31. 2023	July 30. 2024
21	RE cable 4	GTS	N/A	GTS678	July 31. 2023	July 30. 2024
22	RE cable 5	GTS	N/A	GTS679	July 31. 2023	July 30. 2024
23	RE cable 6	GTS	N/A	GTS680	July 31. 2023	July 30. 2024
24	RE cable 7	GTS	N/A	GTS681	July 31. 2023	July 30. 2024
25	RE cable 8	GTS	N/A	GTS682	July 31. 2023	July 30. 2024

Conducted Emission						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Shielding Room	ZhongYu Electron	7.3(L)x3.1(W)x2.9(H)	GTS252	July 12, 2022	July 11, 2027
2	EMI Test Receiver	R&S	ESCI 7	GTS552	April 14, 2023	April 13, 2024
3	LISN	ROHDE & SCHWARZ	ENV216	GTS226	April 14, 2023	April 13, 2024
4	Coaxial Cable	GTS	N/A	GTS227	N/A	N/A
5	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
6	Thermo meter	JINCHUANG	GSP-8A	GTS642	April 19, 2023	April 18, 2024
7	Absorbing clamp	Elektronik-Feinmechanik	MDS21	GTS229	April 14, 2023	April 13, 2024
8	ISN	SCHWARZBECK	NTFM 8158	GTS565	April 14, 2023	April 13, 2024
9	High voltage probe	SCHWARZBECK	TK9420	GTS537	April 14, 2023	April 13, 2024
10	Antenna end assembly	Weinschel	1870A	GTS560	April 14, 2023	April 13, 2024

RF Conducted Test:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	MXA Signal Analyzer	Agilent	N9020A	GTS566	April 14, 2023	April 13, 2024
2	EMI Test Receiver	R&S	ESCI 7	GTS552	April 14, 2023	April 13, 2024
3	PSA Series Spectrum Analyzer	Agilent	E4440A	GTS536	April 14, 2023	April 13, 2024
4	MXG vector Signal Generator	Agilent	N5182A	GTS567	April 14, 2023	April 13, 2024
5	ESG Analog Signal Generator	Agilent	E4428C	GTS568	April 14, 2023	April 13, 2024
6	USB RF Power Sensor	DARE	RPR3006W	GTS569	April 14, 2023	April 13, 2024
7	RF Switch Box	Shongyi	RFSW3003328	GTS571	April 14, 2023	April 13, 2024
8	Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	GTS572	April 14, 2023	April 13, 2024
9	Thermo meter	JINCHUANG	GSP-8A	GTS641	April 19, 2023	April 18, 2024
10	EXA Signal Analyzer	Keysight	N9010B	MY60241168	Nov. 04, 2022	Nov. 03, 2023

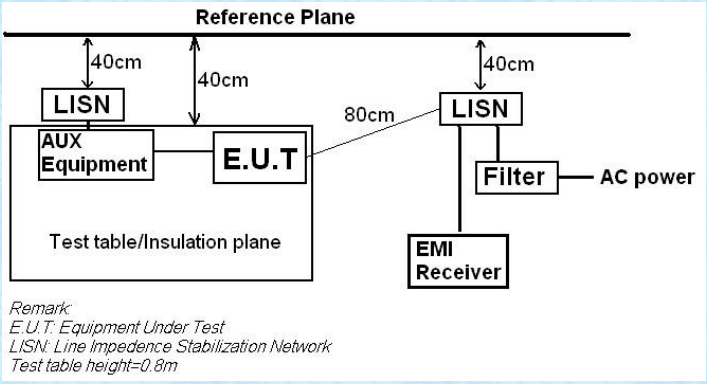
General used equipment:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Barometer	KUMAO	SF132	GTS647	April 19, 2023	April 18, 2024

7 Test results and Measurement Data

7.1 Antenna requirement:

Standard requirement:	FCC Part15 C Section 15.203
15.203 requirement: 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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.	
EUT Antenna:	
The antenna is external antenna, reference to the appendix II for details.	

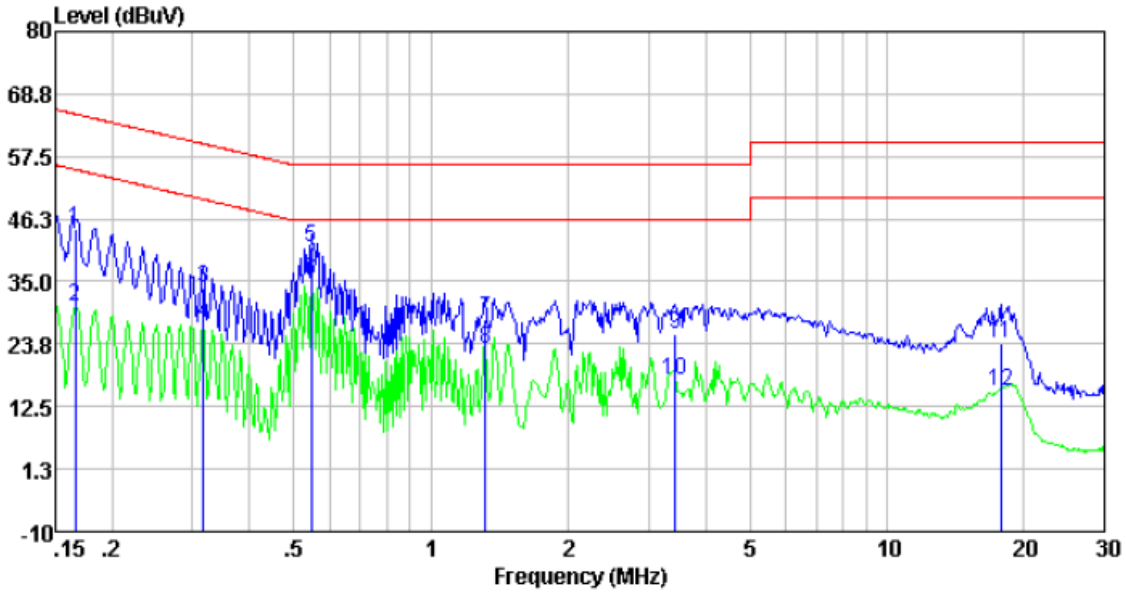
7.2 Conducted Emissions

Test Requirement:	FCC Part15 C Section 15.207
Test Method:	ANSI C63.10:2013
Test Frequency Range:	150KHz to 30MHz
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto
Limit:	Frequency range (MHz) / Limit (dBuV): Quasi-peak / Average 0.15-0.5: 66 to 56* / 56 to 46* 0.5-5: 56 / 46 5-30: 60 / 50 * Decreases with the logarithm of the frequency.
Test setup:	 *Remark:* *E.U.T: Equipment Under Test* *LISN: Line Impedence Stabilization Network* *Test table height=0.8m*
Test procedure:	1. The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10:2013 on conducted measurement.
Test environment:	Temp.: 25 °C / Humid.: 52% / Press.: 1 012mbar
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test voltage:	AC 120V/60Hz
Test results:	Pass

Measurement data:

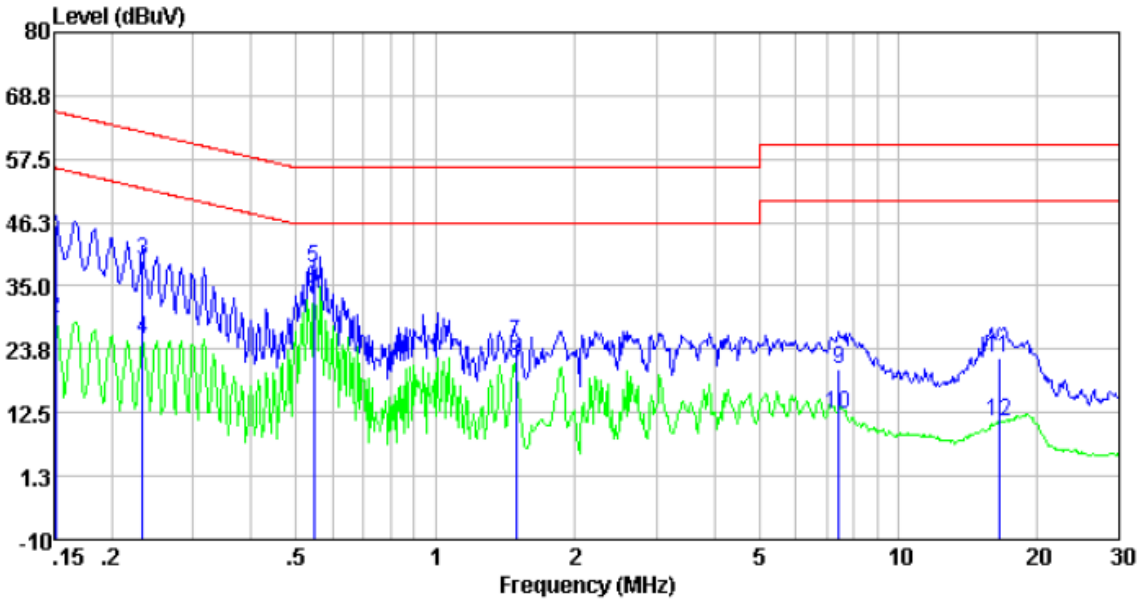
Pre-scan all test modes, found worst case at 908.4MHz, and so only show the test result of it.

Test mode:	Transmitting mode	Phase Polarity:	Line



Freq	Reading level	LISN/ISN factor	Cable loss	Level	Limit level	Over limit	Remark
MHz	dBuV	dB	dB	dBuV	dBuV	dB	
0.17	35.07	9.55	0.01	44.63	65.16	-20.53	QP
0.17	20.89	9.55	0.01	30.45	55.16	-24.71	Average
0.32	24.33	9.49	0.01	33.83	59.80	-25.97	QP
0.32	17.87	9.49	0.01	27.37	49.80	-22.43	Average
0.55	31.60	9.49	0.02	41.11	56.00	-14.89	QP
0.55	25.70	9.49	0.02	35.21	46.00	-10.79	Average
1.32	18.69	9.54	0.04	28.27	56.00	-27.73	QP
1.32	13.45	9.54	0.04	23.03	46.00	-22.97	Average
3.44	16.00	9.52	0.06	25.58	56.00	-30.42	QP
3.44	7.68	9.52	0.06	17.26	46.00	-28.74	Average
17.75	13.79	9.82	0.18	23.79	60.00	-36.21	QP
17.75	5.40	9.82	0.18	15.40	50.00	-34.60	Average

Test mode:	Transmitting mode	Phase Polarity:	Neutral

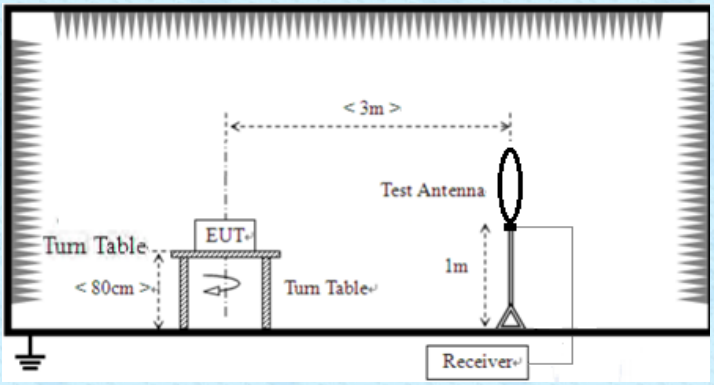


Freq	Reading level	LISN/ISN factor	Cable loss	Level	Limit level	Over limit	Remark
MHz	dBuV	dB	dB	dBuV	dBuV	dB	
0.15	36.29	9.55	0.01	45.85	65.96	-20.11	QP
0.15	19.61	9.55	0.01	29.17	55.96	-26.79	Average
0.23	29.99	9.56	0.01	39.56	62.35	-22.79	QP
0.23	16.09	9.56	0.01	25.66	52.35	-26.69	Average
0.55	28.52	9.57	0.02	38.11	56.00	-17.89	QP
0.55	24.88	9.57	0.02	34.47	46.00	-11.53	Average
1.50	15.23	9.55	0.04	24.82	56.00	-31.18	QP
1.50	11.54	9.55	0.04	21.13	46.00	-24.87	Average
7.45	10.71	9.53	0.09	20.33	60.00	-39.67	QP
7.45	2.63	9.53	0.09	12.25	50.00	-37.75	Average
16.49	12.38	9.81	0.17	22.36	60.00	-37.64	QP
16.49	1.09	9.81	0.17	11.07	50.00	-38.93	Average

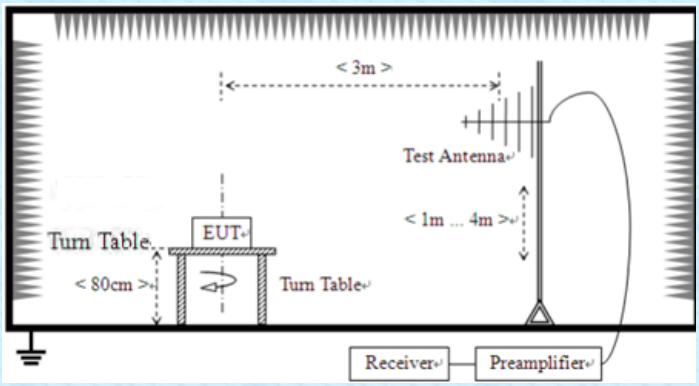
Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level =Receiver Read level + LISN Factor + Cable Loss
4. If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.

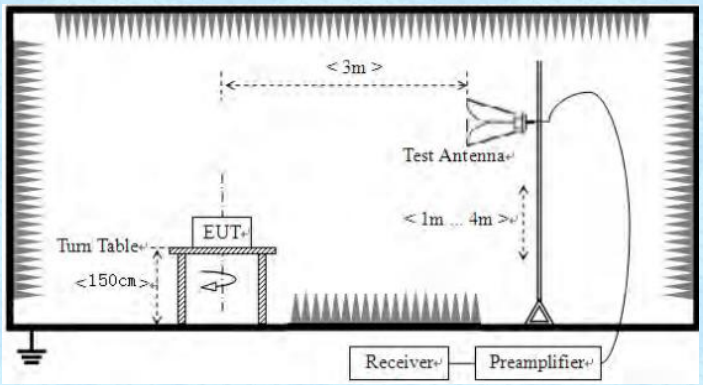
7.3 Radiated Emission Method

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.209</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10:2013</td></tr>
<tr><td>Test Frequency Range:</td><td>9kHz to 10GHz</td></tr>
<tr><td>Test site:</td><td>Measurement Distance: 3m</td></tr>
<tr><td>Receiver setup:</td><td>
<table>
<tr><th>Frequency</th><th>Detector</th><th>RBW</th><th>VBW</th><th>Value</th></tr>
<tr><td>9KHz-150KHz</td><td>Quasi-peak</td><td>200Hz</td><td>600Hz</td><td>Quasi-peak</td></tr>
<tr><td>150KHz-30MHz</td><td>Quasi-peak</td><td>9KHz</td><td>30KHz</td><td>Quasi-peak</td></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>120KHz</td><td>300KHz</td><td>Quasi-peak</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak</td></tr>
<tr><td>Peak</td><td>1MHz</td><td>10Hz</td><td>Average</td></tr>
</table>
</td></tr>
<tr><td>Limit:
(Field strength of the fundamental signal)</td><td>
<table>
<tr><th>Frequency</th><th>Limit (dBuV/m @3m)</th><th>Remark</th></tr>
<tr><td>902-928MHz</td><td>94.00</td><td>QP Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:
(Spurious Emissions)</td><td>
<table>
<tr><th>Frequency</th><th>Limit (uV/m)</th><th>Value</th><th>Measurement Distance</th></tr>
<tr><td>0.009MHz-0.490MHz</td><td>2400/F(KHz)</td><td>PK/QP/AV</td><td>300m</td></tr>
<tr><td>0.490MHz-1.705MHz</td><td>24000/F(KHz)</td><td>QP</td><td>300m</td></tr>
<tr><td>1.705MHz-30MHz</td><td>30</td><td>QP</td><td>30m</td></tr>
<tr><td>30MHz-88MHz</td><td>100</td><td>QP</td><td rowspan="6">3m</td></tr>
<tr><td>88MHz-216MHz</td><td>150</td><td>QP</td></tr>
<tr><td>216MHz-960MHz</td><td>200</td><td>QP</td></tr>
<tr><td>960MHz-1GHz</td><td>500</td><td>QP</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>500</td><td>Average</td></tr>
<tr><td>5000</td><td>Peak</td></tr>
</table>
</td></tr>
<tr><td>Limit:
(band edge)</td><td>Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.</td></tr>
<tr><td>Test setup:</td><td>Below 30MHz
 

Below 1GHz</td></tr>
</table>



Above 1GHz



Test Procedure:	1. The EUT was placed on the top of a rotating table (0.8m for below 1GHz and 1.5 meters for above 1GHz) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1 012mbar
Test Instruments:	Refer to section 6.0 for details					
Test mode:	Refer to section 5.2 for details					

Test voltage:	AC 120V/60Hz
Test results:	Pass

Measurement data:

■ **9 kHz ~ 30 MHz**

The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

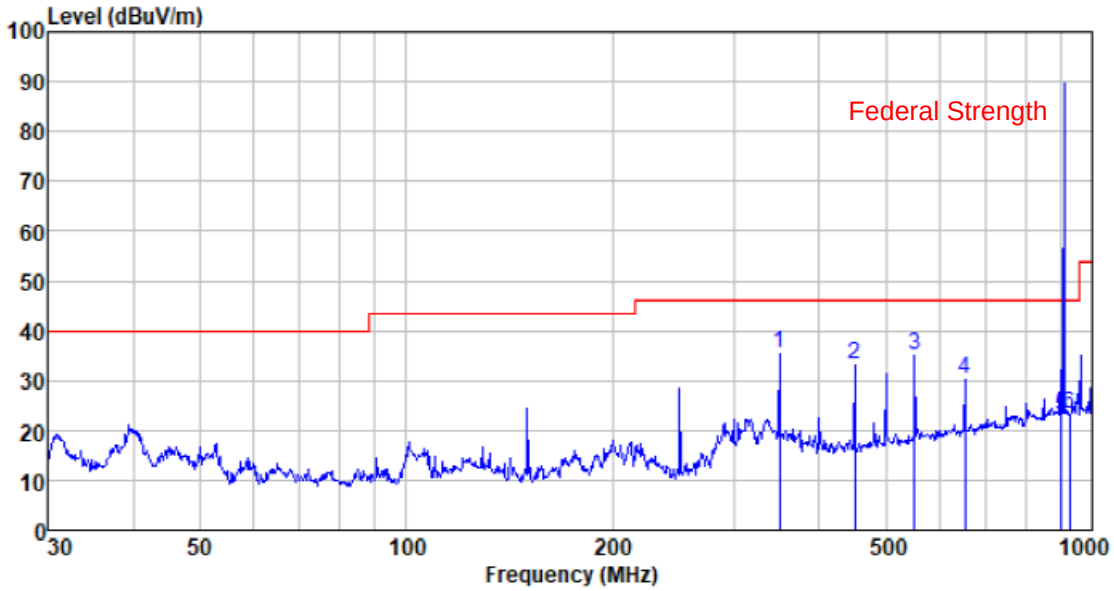
7.3.1 Field Strength of The Fundamental Signal and spurious emissions

QP value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
908.40	80.58	23.98	4.88	37.36	89.08	94	-4.92	Vertical
908.40	81.63	23.98	4.88	37.36	90.13	94	-3.87	Horizontal
908.42	79.92	24.03	4.91	37.36	88.34	94	-5.66	Vertical
908.42	81.16	24.03	4.91	37.36	89.58	94	-4.42	Horizontal
916.00	80.99	24.09	4.93	37.37	89.34	94	-4.66	Vertical
916.00	81.83	24.09	4.93	37.37	90.18	94	-3.82	Horizontal
912.00	91.11	24.01	4.9	30.00	90.02	94	-3.98	Vertical
912.00	90.38	24.01	4.9	30.00	89.29	94	-4.71	Horizontal
920.00	90.07	24.06	4.93	30.00	89.06	94	-4.94	Vertical
920.00	89.81	24.06	4.93	30.00	88.80	94	-5.20	Horizontal

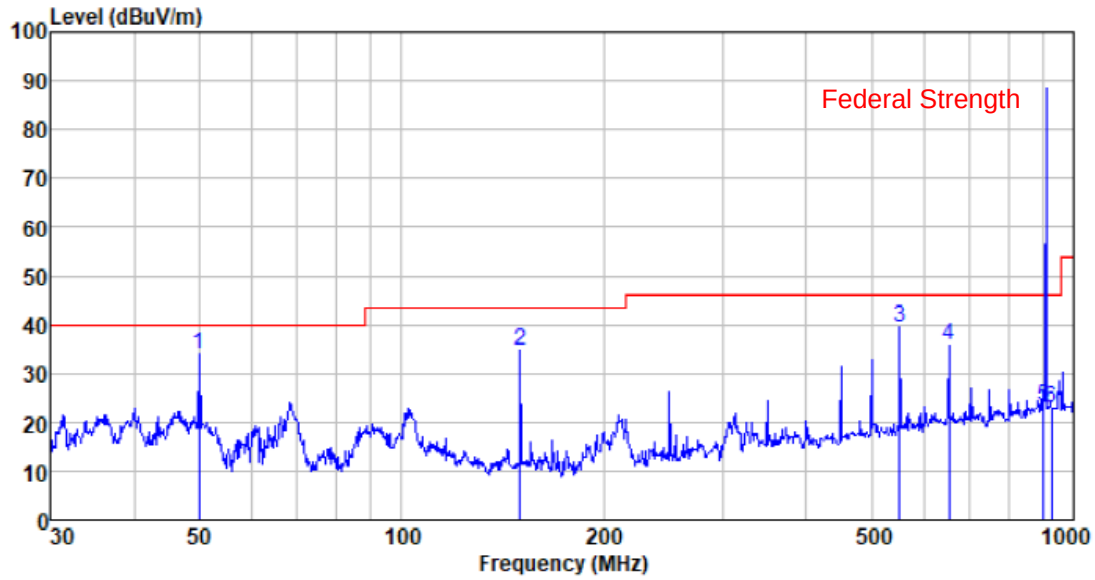
■ **30MHz-1GHz**

Test mode:	Transmitting mode (908.4MHz)	Antenna Polarity:	Horizontal



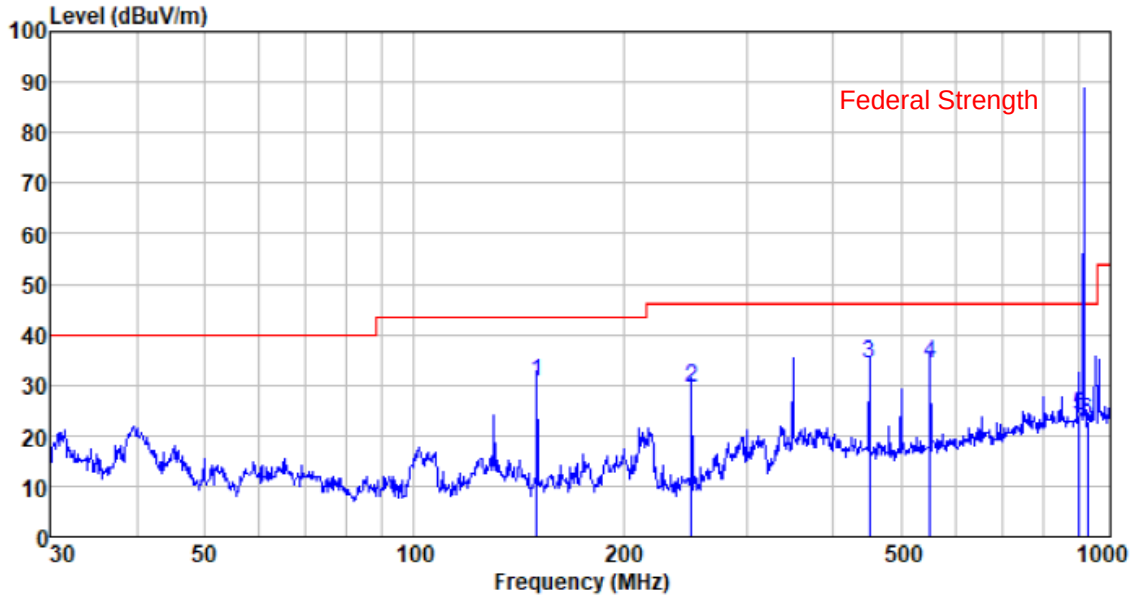
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
350.477	48.70	14.18	2.62	30.00	35.50	46.00	-10.50	QP
451.135	43.52	16.72	3.09	30.00	33.33	46.00	-12.67	QP
550.948	43.02	18.50	3.53	30.00	35.05	46.00	-10.95	QP
651.942	36.27	20.11	3.92	30.00	30.30	46.00	-15.70	QP
902.000	24.25	23.92	4.87	30.00	23.04	46.00	-22.96	QP
928.000	24.30	24.13	4.96	30.00	23.39	46.00	-22.61	QP

Test mode:	Transmitting mode (908.4MHz)	Antenna Polarity:	Vertical



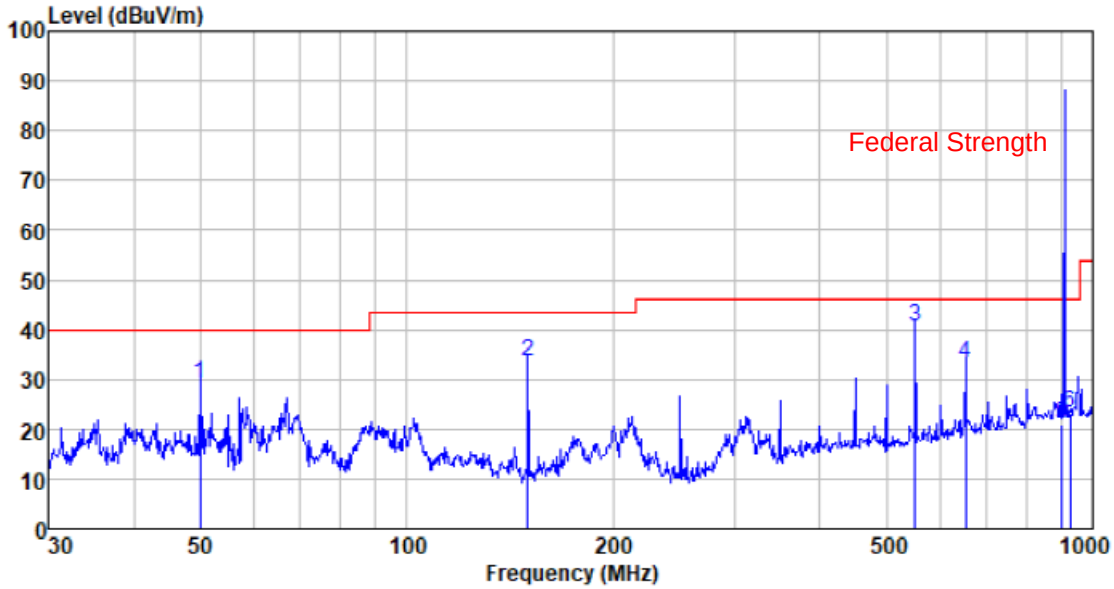
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
49.881	49.95	13.20	0.77	30.00	33.92	40.00	-6.08	QP
150.011	50.60	12.50	1.57	30.00	34.67	43.50	-8.83	QP
550.948	47.57	18.50	3.53	30.00	39.60	46.00	-6.40	QP
651.942	41.92	20.11	3.92	30.00	35.95	46.00	-10.05	QP
902.000	24.53	23.92	4.87	30.00	23.32	46.00	-22.68	QP
928.000	23.70	24.13	4.96	30.00	22.79	46.00	-23.21	QP

Test mode:	Transmitting mode (908.42MHz)	Antenna Polarity:	Horizontal



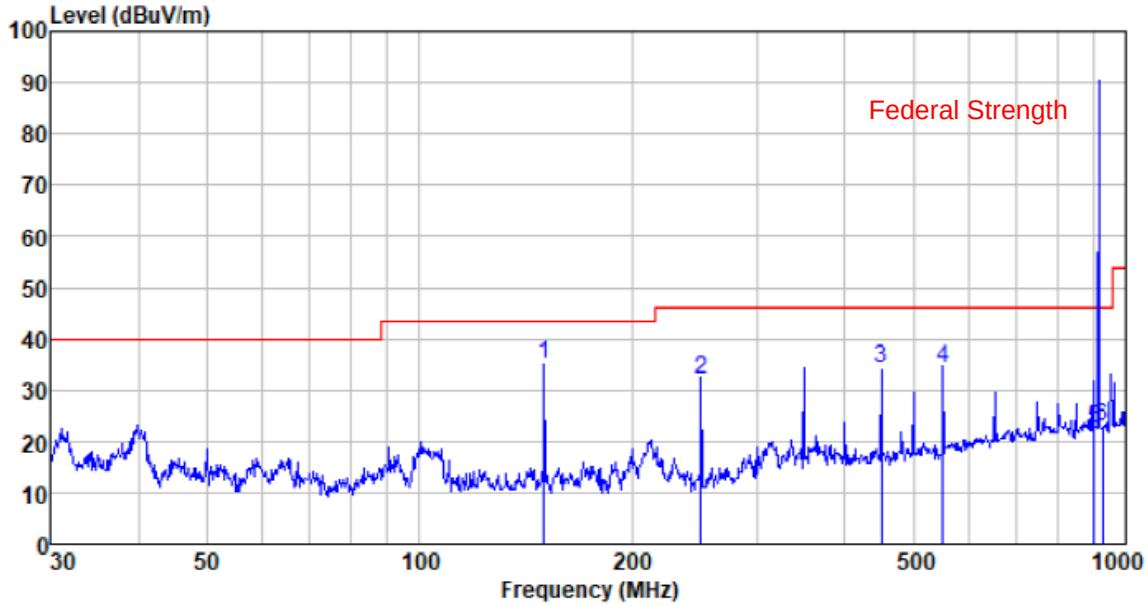
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
150.011	46.64	12.50	1.57	30.00	30.71	43.50	-12.79	QP
250.301	45.95	11.44	2.12	30.00	29.51	46.00	-16.49	QP
451.135	44.54	16.72	3.09	30.00	34.35	46.00	-11.65	QP
550.948	42.30	18.50	3.53	30.00	34.33	46.00	-11.67	QP
902.000	25.33	23.92	4.87	30.00	24.12	46.00	-21.88	QP
928.000	23.86	24.13	4.96	30.00	22.95	46.00	-23.05	QP

Test mode:	Transmitting mode (908.42MHz)	Antenna Polarity:	Vertical



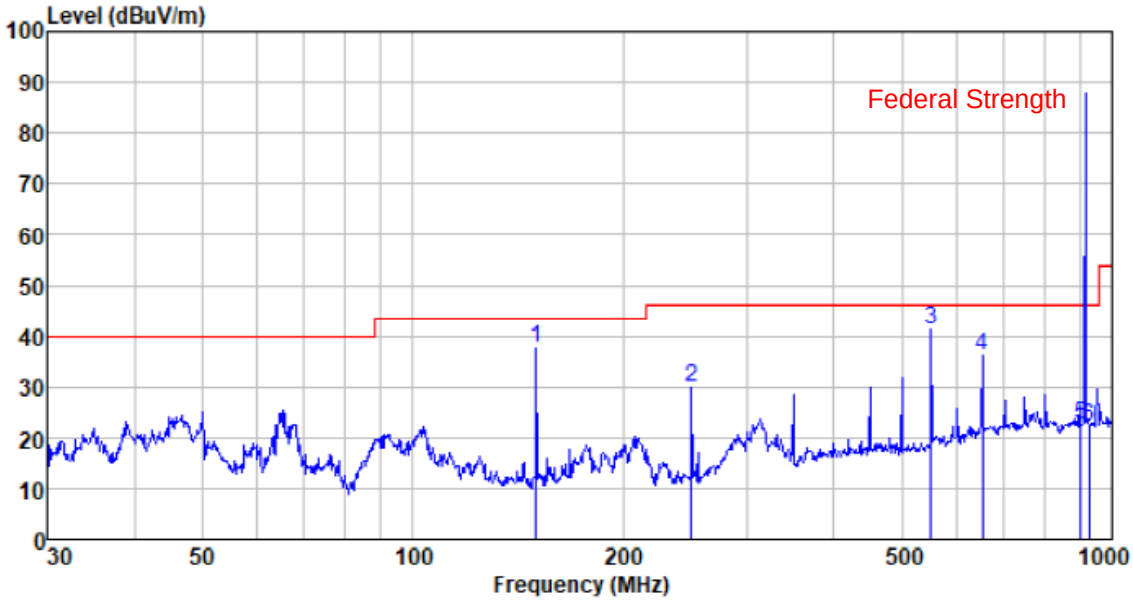
Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
49.881	45.33	13.20	0.77	30.00	29.30	40.00	-10.70	QP
150.011	49.56	12.50	1.57	30.00	33.63	43.50	-9.87	QP
550.948	48.67	18.50	3.53	30.00	40.70	46.00	-5.30	QP
651.942	39.32	20.11	3.92	30.00	33.35	46.00	-12.65	QP
902.000	22.39	23.92	4.87	30.00	21.18	46.00	-24.82	QP
928.000	24.02	24.13	4.96	30.00	23.11	46.00	-22.89	QP

Test mode:	Transmitting mode (916MHz)	Antenna Polarity:	Horizontal



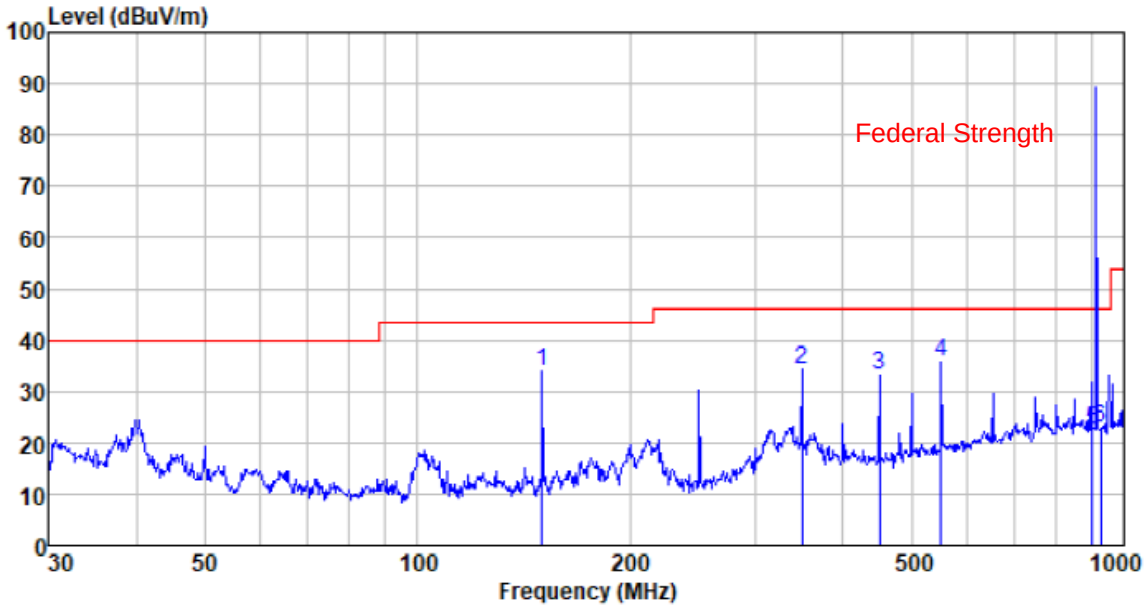
Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
150.011	51.05	12.50	1.57	30.00	35.12	43.50	-8.38	QP
250.301	48.43	11.44	2.12	30.00	31.99	46.00	-14.01	QP
451.135	44.50	16.72	3.09	30.00	34.31	46.00	-11.69	QP
550.948	42.45	18.50	3.53	30.00	34.48	46.00	-11.52	QP
902.000	23.59	23.92	4.87	30.00	22.38	46.00	-23.62	QP
928.000	23.66	24.13	4.96	30.00	22.75	46.00	-23.25	QP

Test mode:	Transmitting mode (916MHz)	Antenna Polarity:	Vertical



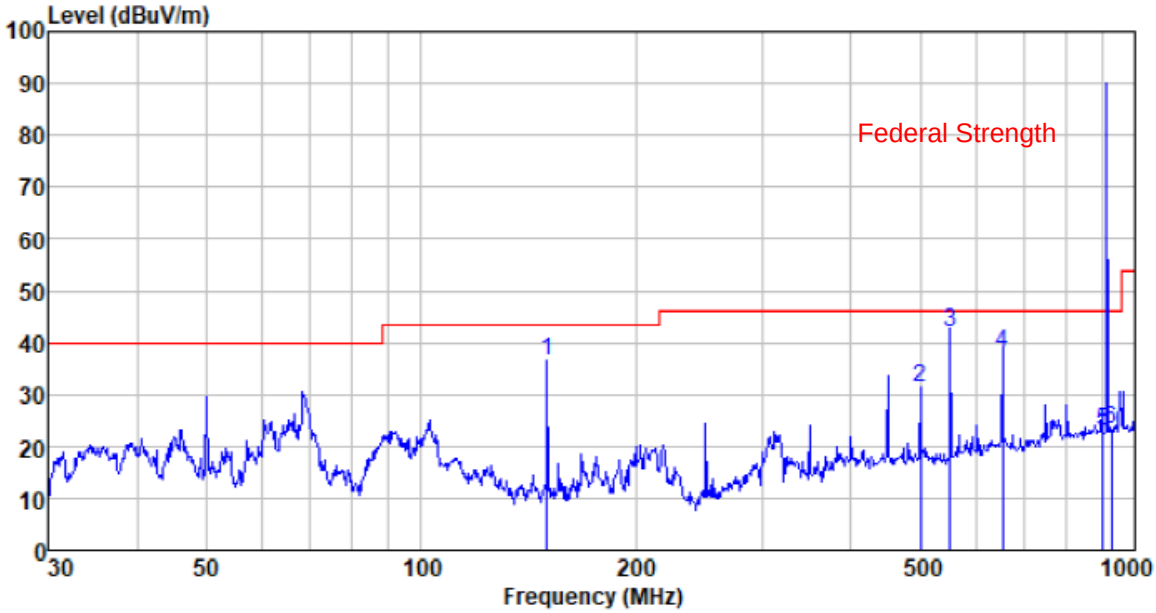
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
150.011	53.47	12.50	1.57	30.00	37.54	43.50	-5.96	QP
250.301	46.21	11.44	2.12	30.00	29.77	46.00	-16.23	QP
550.948	49.31	18.50	3.53	30.00	41.34	46.00	-4.66	QP
651.942	42.22	20.11	3.92	30.00	36.25	46.00	-9.75	QP
902.000	23.56	23.92	4.87	30.00	22.35	46.00	-23.65	QP
928.000	22.92	24.13	4.96	30.00	22.01	46.00	-23.99	QP

Test mode:	Transmitting mode (912MHz)	Antenna Polarity:	Horizontal



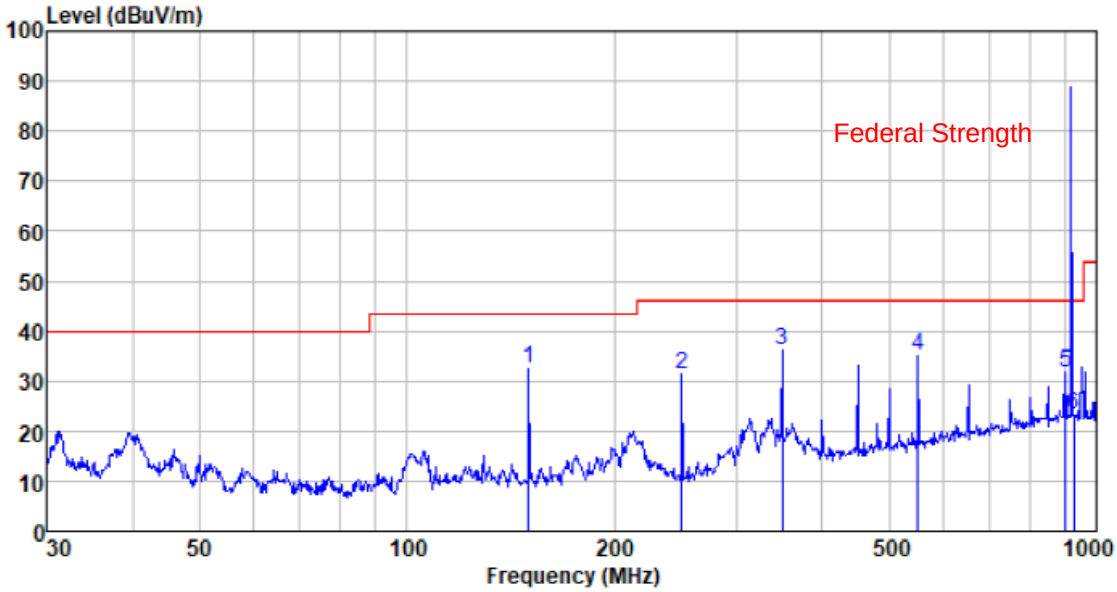
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
150.011	50.05	12.50	1.57	30.00	34.12	43.50	-9.38	QP
350.477	47.67	14.18	2.62	30.00	34.47	46.00	-11.53	QP
451.135	43.22	16.72	3.09	30.00	33.03	46.00	-12.97	QP
550.948	43.83	18.50	3.53	30.00	35.86	46.00	-10.14	QP
902.000	23.59	23.92	4.87	30.00	22.38	46.00	-23.62	QP
928.000	23.66	24.13	4.96	30.00	22.75	46.00	-23.25	QP

Test mode:	Transmitting mode (912MHz)	Antenna Polarity:	Vertical



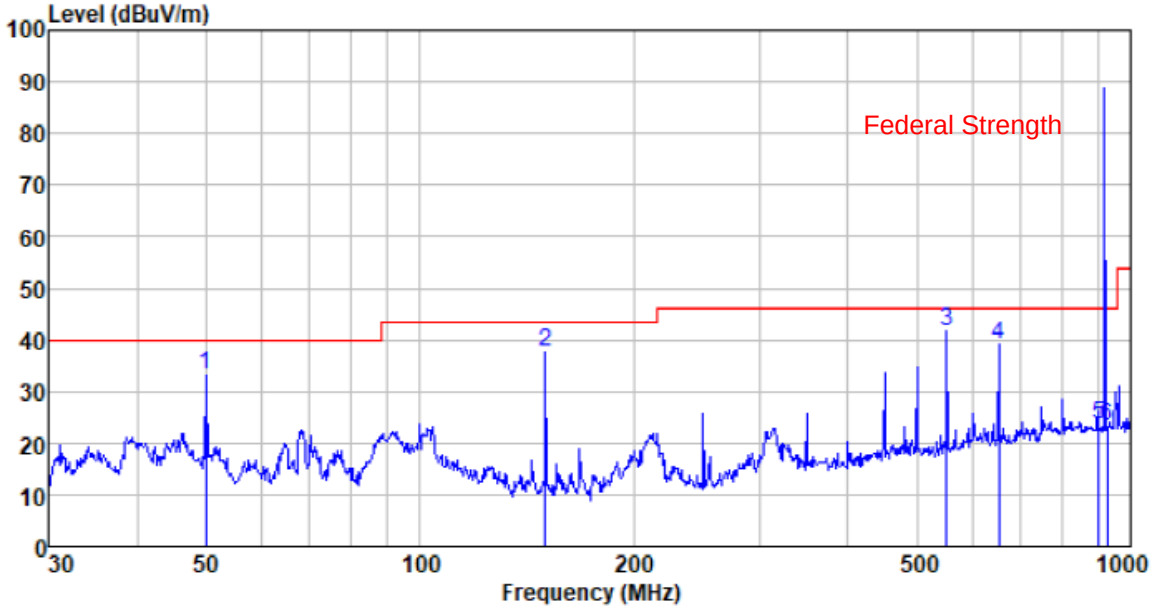
Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
150.011	52.45	12.50	1.57	30.00	36.52	43.50	-6.98	QP
501.179	40.35	17.62	3.31	30.00	31.28	46.00	-14.72	QP
550.948	50.02	18.50	3.53	30.00	42.05	46.00	-3.95	QP
651.942	44.02	20.11	3.92	30.00	38.05	46.00	-7.95	QP
902.000	24.18	23.92	4.87	30.00	22.97	46.00	-23.03	QP
928.000	24.01	24.13	4.96	30.00	23.10	46.00	-22.90	QP

Test mode:	Transmitting mode (920MHz)	Antenna Polarity:	Horizontal



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
150.011	48.55	12.50	1.57	30.00	32.62	43.50	-10.88	QP
250.301	47.71	11.44	2.12	30.00	31.27	46.00	-14.73	QP
350.477	49.44	14.18	2.62	30.00	36.24	46.00	-9.76	QP
550.948	42.90	18.50	3.53	30.00	34.93	46.00	-11.07	QP
902.000	32.99	23.92	4.87	30.00	31.78	46.00	-14.22	QP
928.000	24.15	24.13	4.96	30.00	23.24	46.00	-22.76	QP

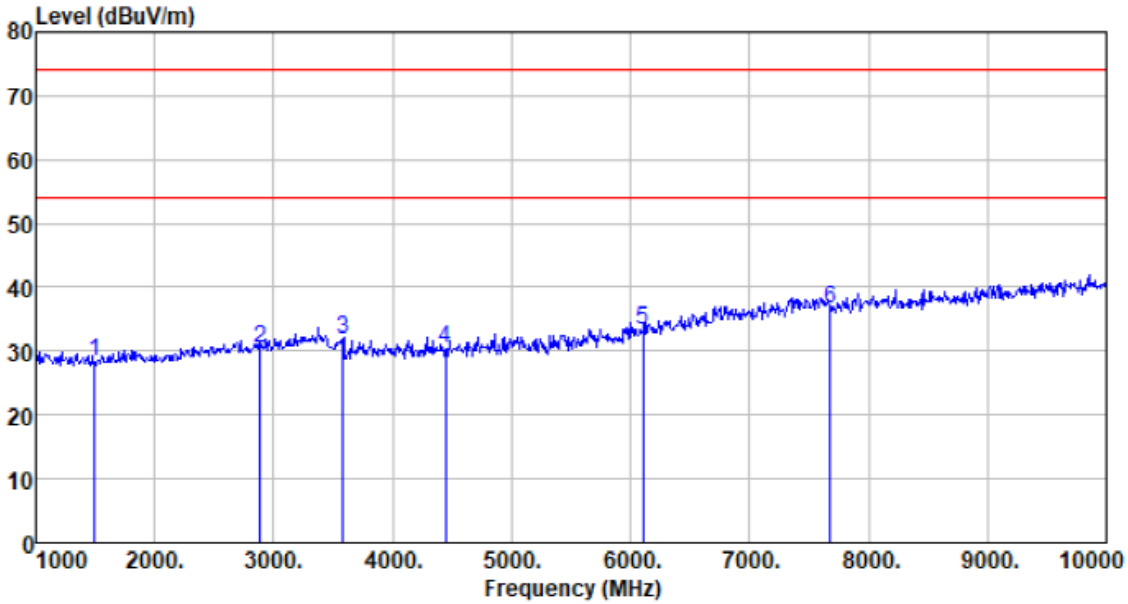
Test mode:	Transmitting mode (920MHz)	Antenna Polarity:	Vertical



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
49.881	49.16	13.20	0.77	30.00	33.13	40.00	-6.87	QP
150.011	53.74	12.50	1.57	30.00	37.81	43.50	-5.69	QP
550.948	49.60	18.50	3.53	30.00	41.63	46.00	-4.37	QP
651.942	45.13	20.11	3.92	30.00	39.16	46.00	-6.84	QP
902.000	24.75	23.92	4.87	30.00	23.54	46.00	-22.46	QP
928.000	24.07	24.13	4.96	30.00	23.16	46.00	-22.84	QP

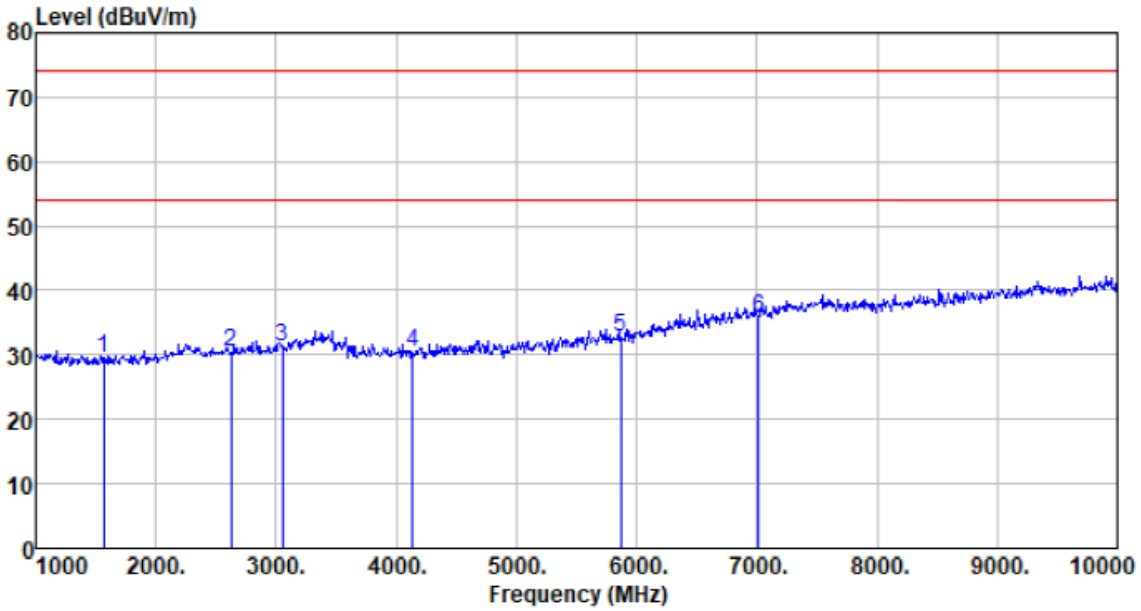
■ **Above 1GHz**

Test mode:	Transmitting mode (908.4MHz)	Antenna Polarity:	Horizontal



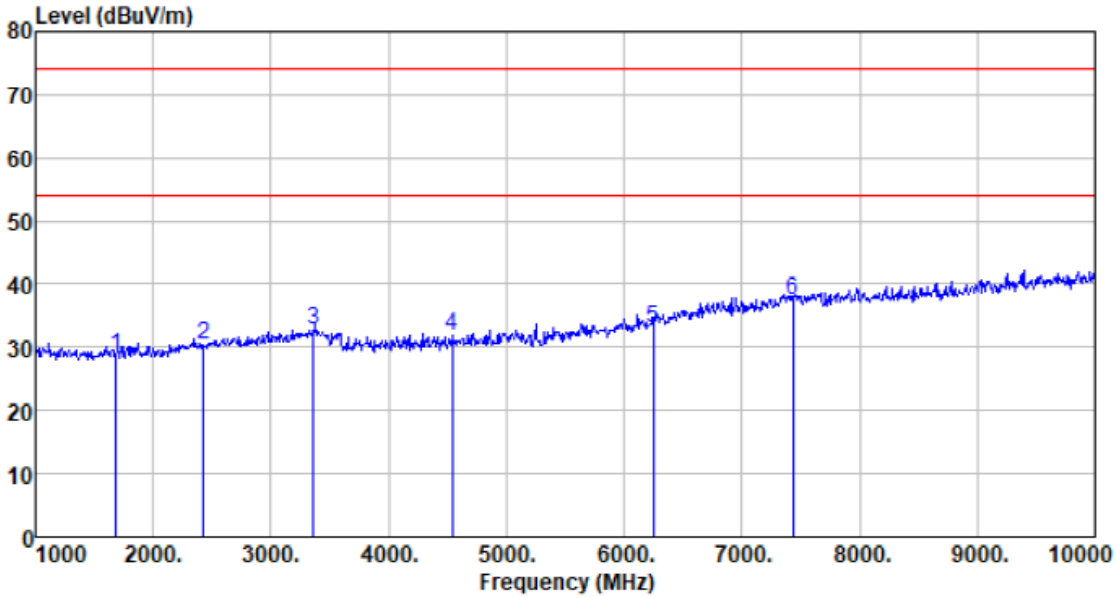
Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1495.000	3.19	25.29	0.00	0.00	28.48	74.00	-45.52	Peak
2890.000	2.14	28.26	0.00	0.00	30.40	74.00	-43.60	Peak
3583.000	3.18	28.67	0.00	0.00	31.85	74.00	-42.15	Peak
4447.000	-0.32	30.61	0.00	0.00	30.29	74.00	-43.71	Peak
6103.000	0.33	32.99	0.00	0.00	33.32	74.00	-40.68	Peak
7678.000	-0.40	37.02	0.00	0.00	36.62	74.00	-37.38	Peak

Test mode:	Transmitting mode (908.4MHz)	Antenna Polarity:	Vertical



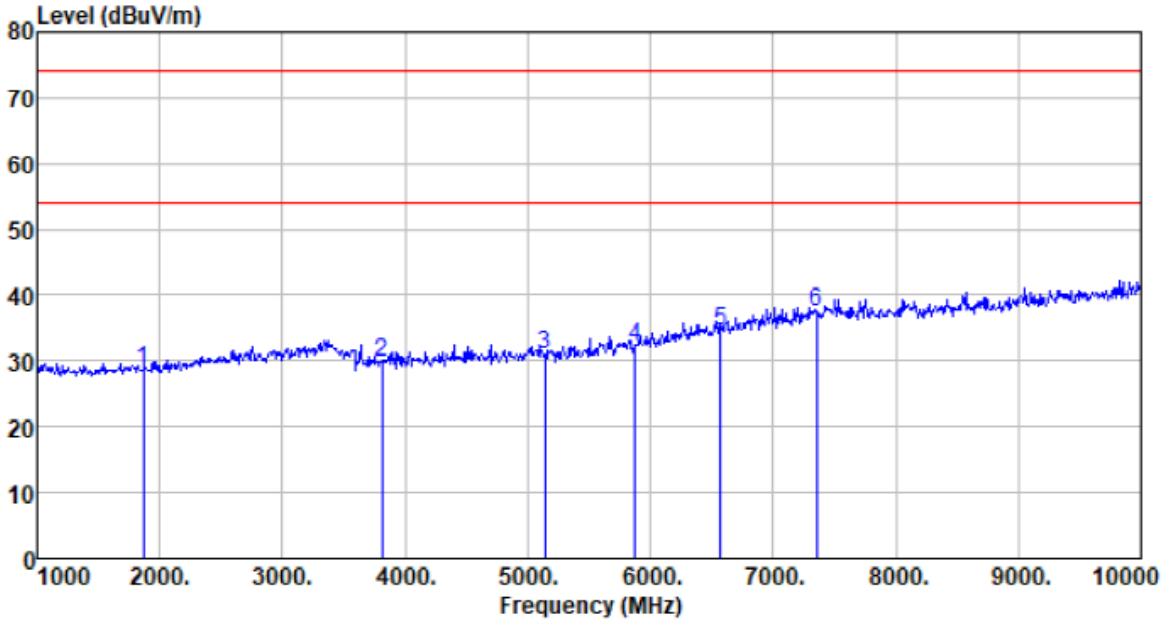
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
1567.000	4.05	25.42	0.00	0.00	29.47	74.00	-44.53	Peak
2629.000	2.51	27.89	0.00	0.00	30.40	74.00	-43.60	Peak
3052.000	2.75	28.40	0.00	0.00	31.15	74.00	-42.85	Peak
4132.000	0.31	30.05	0.00	0.00	30.36	74.00	-43.64	Peak
5869.000	0.49	32.36	0.00	0.00	32.85	74.00	-41.15	Peak
7012.000	0.10	35.75	0.00	0.00	35.85	74.00	-38.15	Peak

Test mode:	Transmitting mode (908.42MHz)	Antenna Polarity:	Horizontal



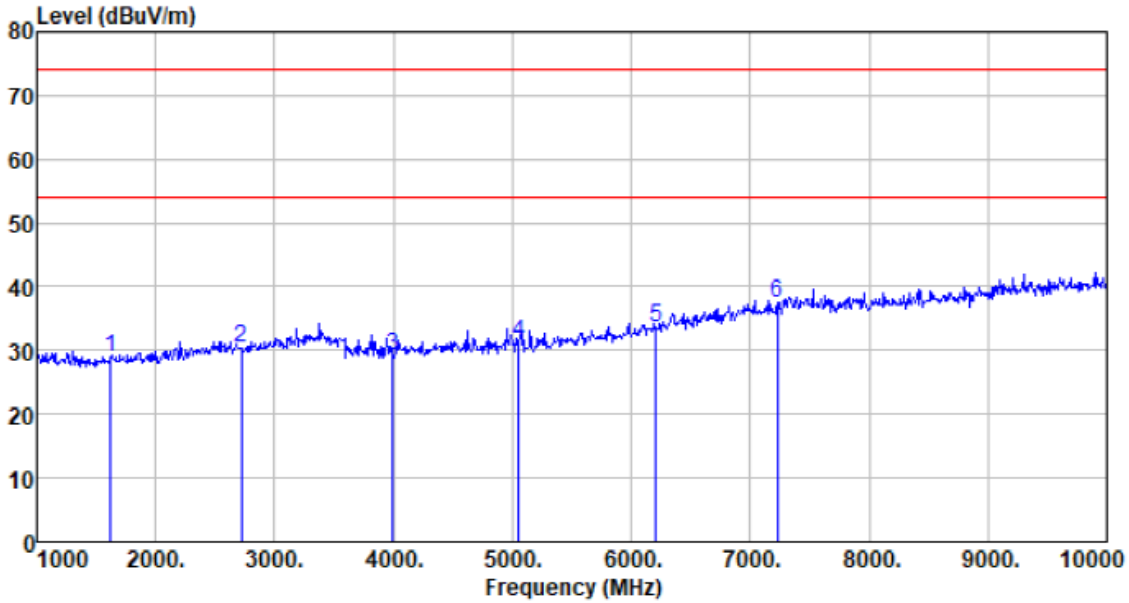
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
1684.000	3.16	25.62	0.00	0.00	28.78	74.00	-45.22	Peak
2431.000	3.02	27.49	0.00	0.00	30.51	74.00	-43.49	Peak
3358.000	4.31	28.40	0.00	0.00	32.71	74.00	-41.29	Peak
4537.000	1.00	30.76	0.00	0.00	31.76	74.00	-42.24	Peak
6247.000	-0.38	33.50	0.00	0.00	33.12	74.00	-40.88	Peak
7435.000	0.85	36.66	0.00	0.00	37.51	74.00	-36.49	Peak

Test mode:	Transmitting mode (908.42MHz)	Antenna Polarity:	Vertical



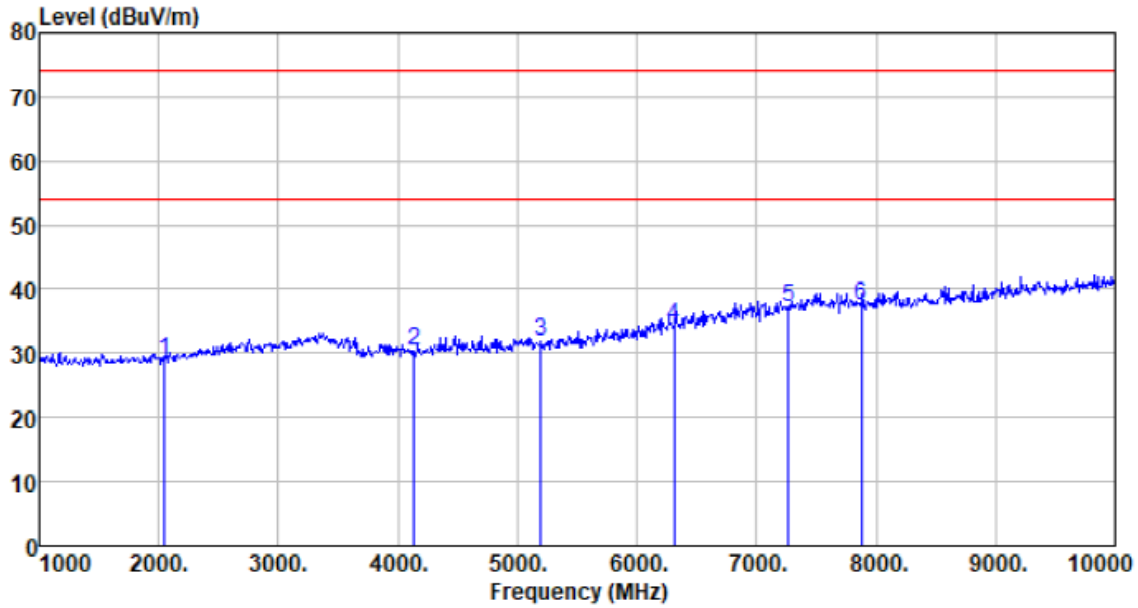
Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1864.000	2.88	25.90	0.00	0.00	28.78	74.00	-45.22	Peak
3808.000	0.56	29.29	0.00	0.00	29.85	74.00	-44.15	Peak
5140.000	-0.42	31.55	0.00	0.00	31.13	74.00	-42.87	Peak
5878.000	-0.29	32.39	0.00	0.00	32.10	74.00	-41.90	Peak
6571.000	-0.11	34.56	0.00	0.00	34.45	74.00	-39.55	Peak
7354.000	0.97	36.48	0.00	0.00	37.45	74.00	-36.55	Peak

Test mode:	Transmitting mode (916MHz)	Antenna Polarity:	Horizontal



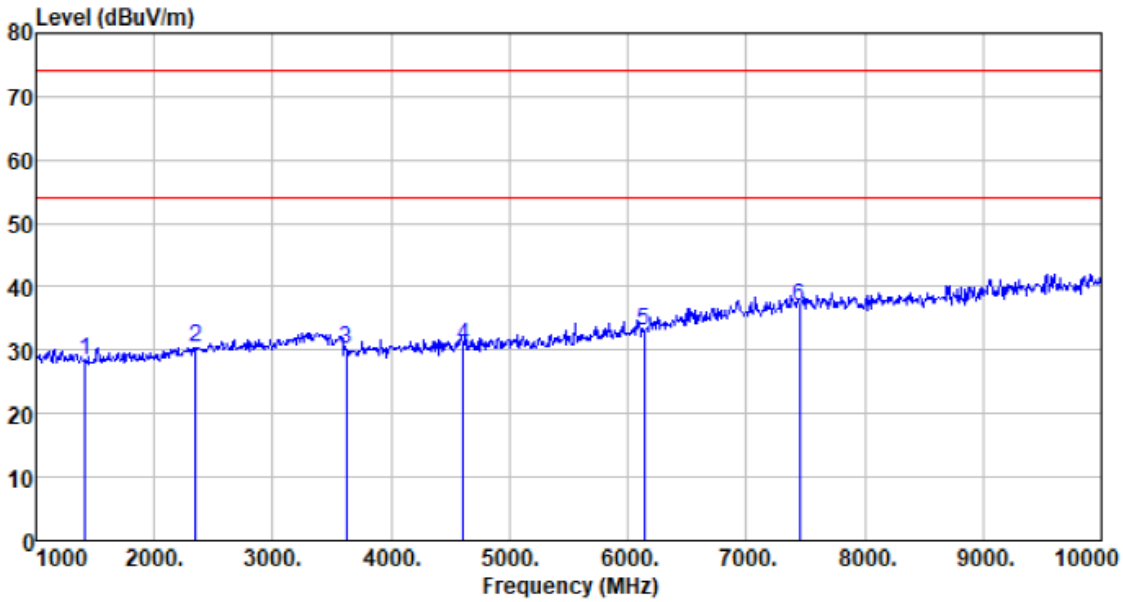
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
1621.000	3.33	25.52	0.00	0.00	28.85	74.00	-45.15	Peak
2719.000	2.29	28.02	0.00	0.00	30.31	74.00	-43.69	Peak
3997.000	-0.59	29.77	0.00	0.00	29.18	74.00	-44.82	Peak
5050.000	-0.37	31.52	0.00	0.00	31.15	74.00	-42.85	Peak
6211.000	0.30	33.37	0.00	0.00	33.67	74.00	-40.33	Peak
7228.000	1.22	36.20	0.00	0.00	37.42	74.00	-36.58	Peak

Test mode:	Transmitting mode (916MHz)	Antenna Polarity:	Vertical



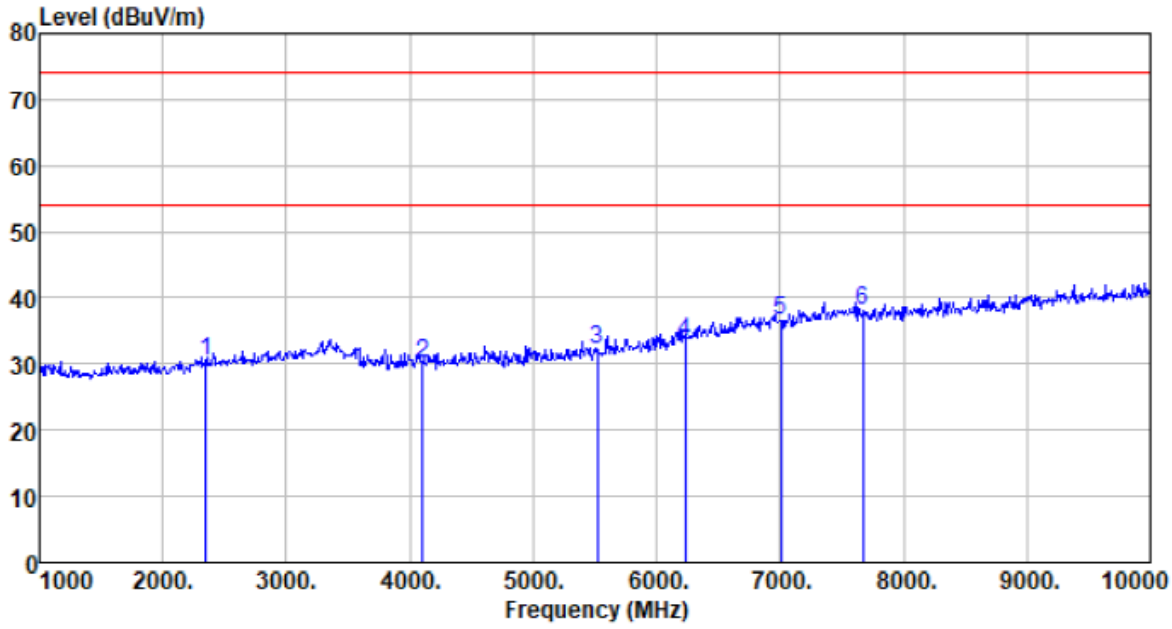
Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2044.000	2.82	26.25	0.00	0.00	29.07	74.00	-44.93	Peak
4132.000	0.48	30.05	0.00	0.00	30.53	74.00	-43.47	Peak
5194.000	0.16	31.58	0.00	0.00	31.74	74.00	-42.26	Peak
6310.000	0.51	33.69	0.00	0.00	34.20	74.00	-39.80	Peak
7264.000	1.03	36.30	0.00	0.00	37.33	74.00	-36.67	Peak
7876.000	0.31	37.26	0.00	0.00	37.57	74.00	-36.43	Peak

Test mode:	Transmitting mode (912MHz)	Antenna Polarity:	Horizontal



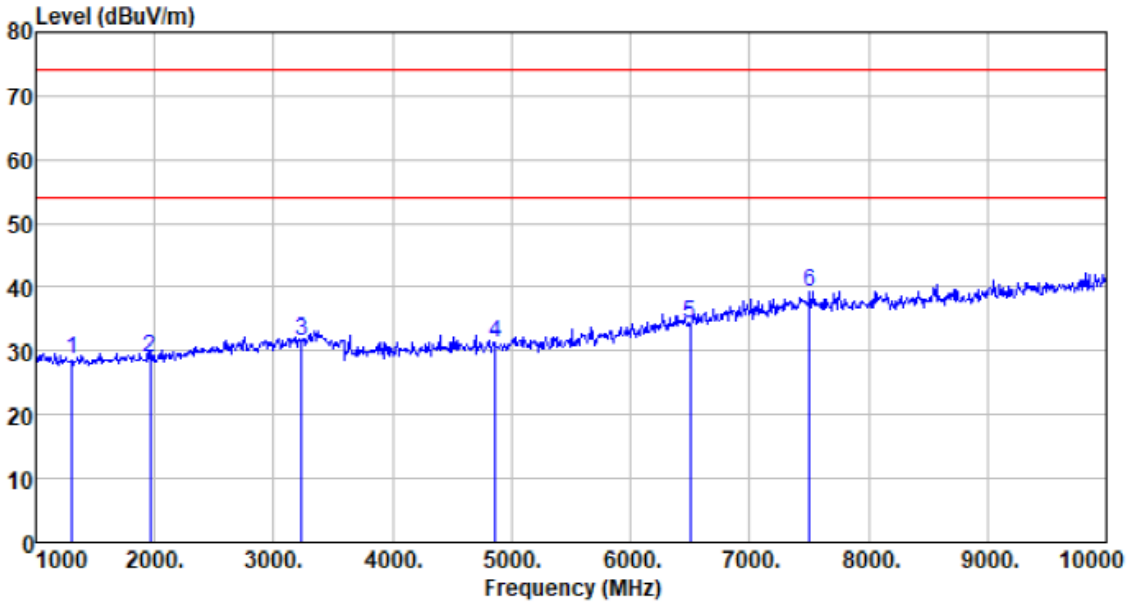
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
1414.000	3.08	25.17	0.00	0.00	28.25	74.00	-45.75	Peak
2350.000	3.19	27.26	0.00	0.00	30.45	74.00	-43.55	Peak
3619.000	1.32	28.76	0.00	0.00	30.08	74.00	-43.92	Peak
4609.000	-0.14	30.89	0.00	0.00	30.75	74.00	-43.25	Peak
6139.000	-0.09	33.11	0.00	0.00	33.02	74.00	-40.98	Peak
7453.000	0.25	36.71	0.00	0.00	36.96	74.00	-37.04	Peak

Test mode:	Transmitting mode (912MHz)	Antenna Polarity:	Vertical



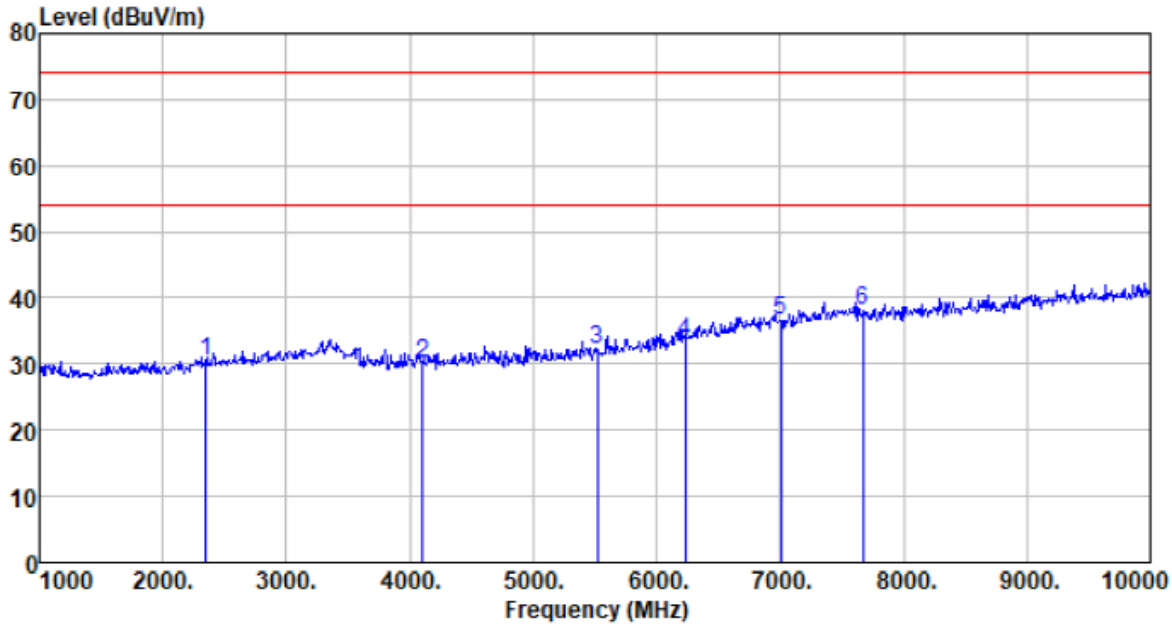
Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2350.000	3.09	27.26	0.00	0.00	30.35	74.00	-43.65	Peak
4105.000	0.21	30.00	0.00	0.00	30.21	74.00	-43.79	Peak
5518.000	0.56	31.73	0.00	0.00	32.29	74.00	-41.71	Peak
6229.000	-0.22	33.44	0.00	0.00	33.22	74.00	-40.78	Peak
7003.000	0.99	35.70	0.00	0.00	36.69	74.00	-37.31	Peak
7669.000	1.16	37.02	0.00	0.00	38.18	74.00	-35.82	Peak

Test mode:	Transmitting mode (920MHz)	Antenna Polarity:	Horizontal



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
1306.000	3.59	24.99	0.00	0.00	28.58	74.00	-45.42	Peak
1963.000	2.86	26.04	0.00	0.00	28.90	74.00	-45.10	Peak
3232.000	3.26	28.40	0.00	0.00	31.66	74.00	-42.34	Peak
4861.000	-0.11	31.28	0.00	0.00	31.17	74.00	-42.83	Peak
6499.000	-0.18	34.40	0.00	0.00	34.22	74.00	-39.78	Peak
7507.000	2.55	36.80	0.00	0.00	39.35	74.00	-34.65	Peak

Test mode:	Transmitting mode (920MHz)	Antenna Polarity:	Vertical

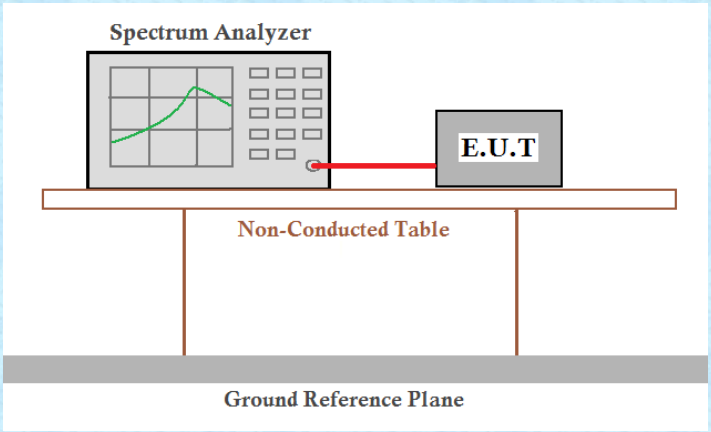


Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2350.000	3.09	27.26	0.00	0.00	30.35	74.00	-43.65	Peak
4105.000	0.21	30.00	0.00	0.00	30.21	74.00	-43.79	Peak
5518.000	0.56	31.73	0.00	0.00	32.29	74.00	-41.71	Peak
6229.000	-0.22	33.44	0.00	0.00	33.22	74.00	-40.78	Peak
7003.000	0.99	35.70	0.00	0.00	36.69	74.00	-37.31	Peak
7669.000	1.16	37.02	0.00	0.00	38.18	74.00	-35.82	Peak

Remark:

1. Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor

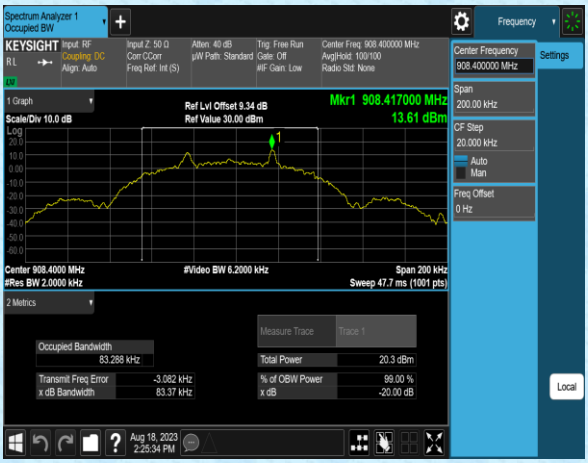
7.4 20dB Occupy Bandwidth

Test Requirement:	FCC Part15 C Section 15.249/15.215
Test Method:	ANSI C63.10:2013
Limit:	Operation Frequency range 902MHz~928MHz
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data

Operation Frequency	20dB bandwidth(kHz)	Result
908.4MHz	83.37	Pass
908.42MHz	66.16	Pass
916MHz	121.2	Pass
912MHz	1044	Pass
920MHz	1038	Pass

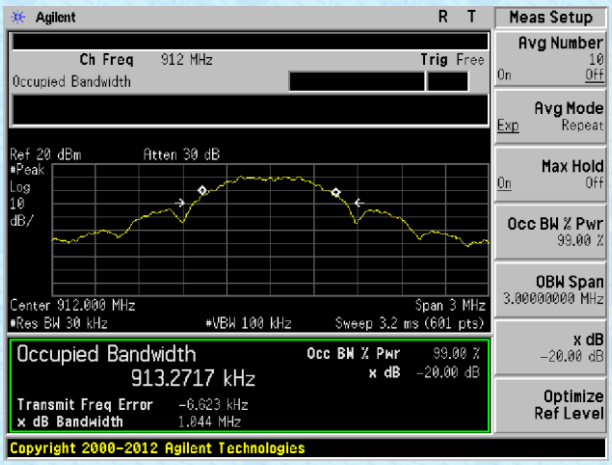
Test plot as follows:



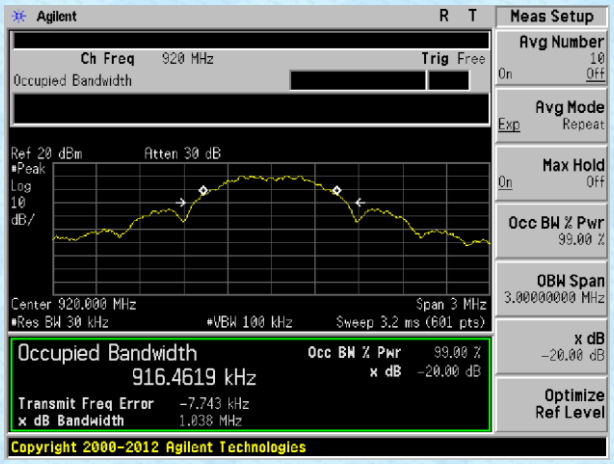
908.4MHz

908.42MHz

916MHz



912MHz



920MHz

8 Test Setup Photo

Reference to the **appendix I** for details.

9 EUT Constructional Details

Reference to the **appendix II** for details.

------End------