Test Report

Applicant:	Computime Ltd.
Address of Applicant:	6/F, Bldg 20E, Phase 3, Hong Kong Science Park, 20 Science Park East Ave, Shatin, New Territories, Hong Kong
Manufacturer:	Computime Ltd.
Address of Manufacturer:	6/F, Bldg 20E, Phase 3, Hong Kong Science Park, 20 Science Park East Ave, Shatin, New Territories, Hong Kong
Factory:	Computime Electronics (Shenzhen) CO.,LTD
Address of Factory:	Computime Technology Pk,Dan Zhu Tou Cun Buji,Longgang Region Shenzhen China

Equipment Under Test (EUT)

Product Name:	Z-Wave Thermostat
Model No.:	NSCZT01
Trade Mark:	Computime
FCC ID:	2AAUQ-NSCZT01
IC:	1700A-NSCZT01
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.249 RSS-Gen Issue 5: March 2019 RSS-210 Issue 9: August 2016
Date of sample receipt:	December 09, 2019
Date of Test:	December 10, 2019-January 03, 2020
Date of report issued:	January 03, 2020
Test Result :	PASS *

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

Authorized Signature:

Robinson Lo
Laboratory Manager

This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

2 Version

Version No.	Date	Description
00	*January 03, 2020*	*Original*

Prepared By:	Tiger. Chen	***Date:***	*January 03, 2020*
	Project Engineer		
Check By:	Robinson Lo	***Date:***	*January 03, 2020*
	Reviewer		

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4 Test Summary

Test Item	Section in CFR 47	Result
AC Power Line Conducted Emission	15.207 RSS-Gen Section 8.8	Pass
Field strength of the fundamental signal	15.249 (a) RSS-210 B10(a)	Pass
Spurious emissions	15.249 (a) (d)/15.209 RSS-Gen Clause 8.9&8.10	Pass
Band edge	15.249 (d)/15.205 RSS-Gen Clause 8.9&8.10	Pass
20dB Occupied Bandwidth and 99% Occupied Bandwidth	15.215 (c) RSS-Gen 6.7	Pass

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

Remark: Test according to ANSI C63.10: 2013 and ANSI C63.4: 2014.

4.1 Measurement Uncertainty

Test Item	Frequency Range	Measurement Uncertainty	Notes
Radiated Emission	30MHz-200MHz	3.8039dB	(1)
Radiated Emission	200MHz-1GHz	3.9679dB	(1)
Radiated Emission	1GHz-18GHz	4.29dB	(1)
Radiated Emission	18GHz-40GHz	3.30dB	(1)
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	3.44dB	(1)
Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.			

5 General Information

5.1 General Description of EUT

Product Name:	Z-Wave Thermostat
Model No.:	NSCZT01
Serial No.:	NA
Hardware Version:	4.0
Software Version:	2.3
Test sample(s) ID:	GTS201912000075-1
Sample(s) Status:	Engineer sample
Operation Frequency:	908.40MHz, 908.42MHz, 916MHz
Modulation type:	Z-wave
Antenna Type:	Integral antenna
Antenna gain:	-0.5dBi(declare by manufacturer)
Power supply:	DC 6V (4 x1.5V “AA” Size battery) Or AC 24V

5.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode.

Remark: During the test, the dutycycle >98%, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.

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:

Axis	X	Y	Z
Field Strength(dBuV/m)	103.72	105.84	105.48

5.3 Description of Support Units

Manufacturer	Description	Model	Serial Number	FCC Approval
Computime	AC-AC adaptor	KJS-66	N/A	N/A
Lenovo	Notebook PC	E40	N/A	N/A

5.4 Deviation from Standards

None.

5.5 Abnormalities from Standard Conditions

None.

5.6 Test Facility

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

- **FCC —Registration No.: 381383**

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. Registration 381383.

- **IC —Registration No.: 9079A**

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A

- **NVLAP (LAB CODE:600179-0)**

Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP). LAB CODE:600179-0.

5.7 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

5.8 Additional Instructions

EUT Software Settings:

Mode	Special test command was provide by manufacturer, power set 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	July. 03 2015	July. 02 2020
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	June. 26 2019	June. 25 2020
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	June. 26 2019	June. 25 2020
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	June. 26 2019	June. 25 2020
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	June. 26 2019	June. 25 2020
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Coaxial Cable	GTS	N/A	GTS213	June. 26 2019	June. 25 2020
9	Coaxial Cable	GTS	N/A	GTS211	June. 26 2019	June. 25 2020
10	Coaxial cable	GTS	N/A	GTS210	June. 26 2019	June. 25 2020
11	Coaxial Cable	GTS	N/A	GTS212	June. 26 2019	June. 25 2020
12	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	June. 26 2019	June. 25 2020
13	Amplifier(2GHz-20GHz)	HP	84722A	GTS206	June. 26 2019	June. 25 2020
14	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June. 26 2019	June. 25 2020
15	Band filter	Amindeon	82346	GTS219	June. 26 2019	June. 25 2020
16	Power Meter	Anritsu	ML2495A	GTS540	June. 26 2019	June. 25 2020
17	Power Sensor	Anritsu	MA2411B	GTS541	June. 26 2019	June. 25 2020
18	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	June. 26 2019	June. 25 2020
19	Splitter	Agilent	11636B	GTS237	June. 26 2019	June. 25 2020
20	Loop Antenna	ZHINAN	ZN30900A	GTS534	June. 26 2019	June. 25 2020
21	Breitband hornantenne	SCHWARZBECK	BBHA 9170	GTS579	Oct. 19 2019	Oct. 18 2020
22	Amplifier	TDK	PA-02-02	GTS574	Oct. 19 2019	Oct. 18 2020
23	Amplifier	TDK	PA-02-03	GTS576	Oct. 19 2019	Oct. 18 2020
24	PSA Series Spectrum Analyzer	Rohde & Schwarz	FSP	GTS578	June. 26 2019	June. 25 2020

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	May.15 2019	May.14 2022
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 26 2019	June. 25 2020
3	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	June. 26 2019	June. 25 2020
4	Artificial Mains Network	SCHWARZBECK MESS	NSLK8127	GTS226	June. 26 2019	June. 25 2020
5	Coaxial Cable	GTS	N/A	GTS227	N/A	N/A
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
7	Thermo meter	KTJ	TA328	GTS233	June. 26 2019	June. 25 2020
8	Absorbing clamp	Elektronik-Feinmechanik	MDS21	GTS229	June. 26 2019	June. 25 2020
9	ISN	SCHWARZBECK	NTFM 8158	GTD565	June. 26 2019	June. 25 2020

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	June. 26 2019	June. 25 2020
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 26 2019	June. 25 2020
3	Spectrum Analyzer	Agilent	E4440A	GTS533	June. 26 2019	June. 25 2020
4	MXG vector Signal Generator	Agilent	N5182A	GTS567	June. 26 2019	June. 25 2020
5	ESG Analog Signal Generator	Agilent	E4428C	GTS568	June. 26 2019	June. 25 2020
6	USB RF Power Sensor	DARE	RPR3006W	GTS569	June. 26 2019	June. 25 2020
7	RF Switch Box	Shongyi	RFSW3003328	GTS571	June. 26 2019	June. 25 2020
8	Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	GTS572	June. 26 2019	June. 25 2020

General used equipment:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Humidity/ Temperature Indicator	KTJ	TA328	GTS243	June. 26 2019	June. 25 2020
2	Barometer	ChangChun	DYM3	GTS255	June. 26 2019	June. 25 2020

7 Test results and Measurement Data

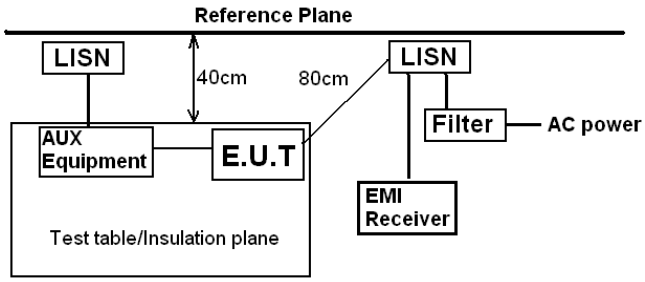
7.1 Conducted Emissions

Test Requirement:	FCC Part15 C Section 15.207 RSS-Gen Section 8.8
Test Method:	ANSI C63.10:2013 and RSS-Gen
Test Frequency Range:	150KHz to 30MHz
Class / Severity:	Class B
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

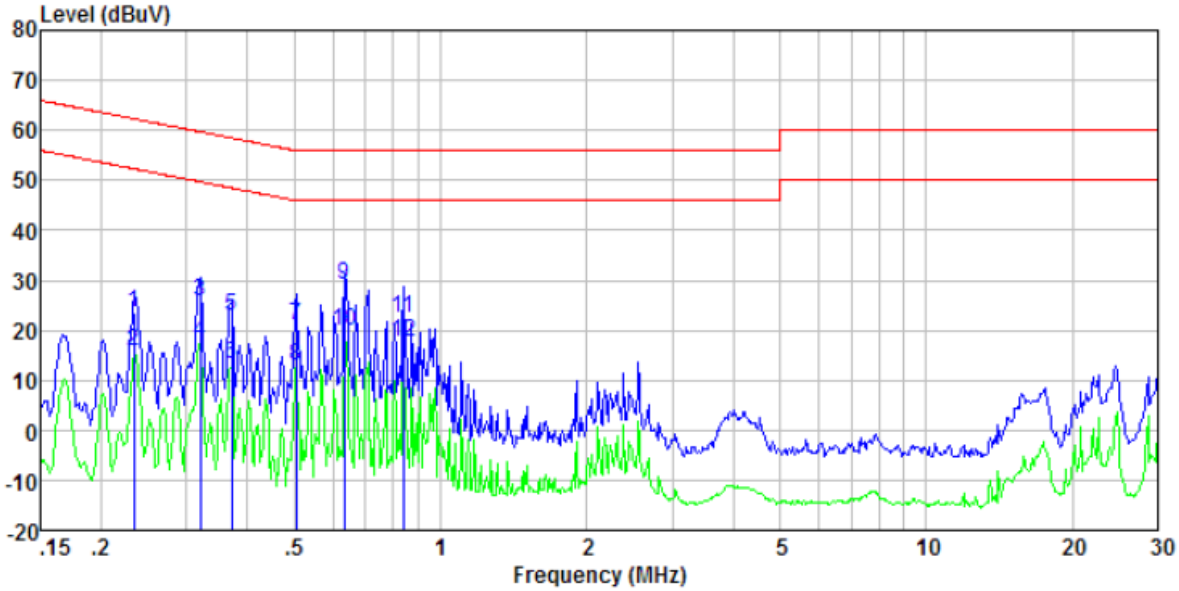
Test procedure:

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 results:	Pass					

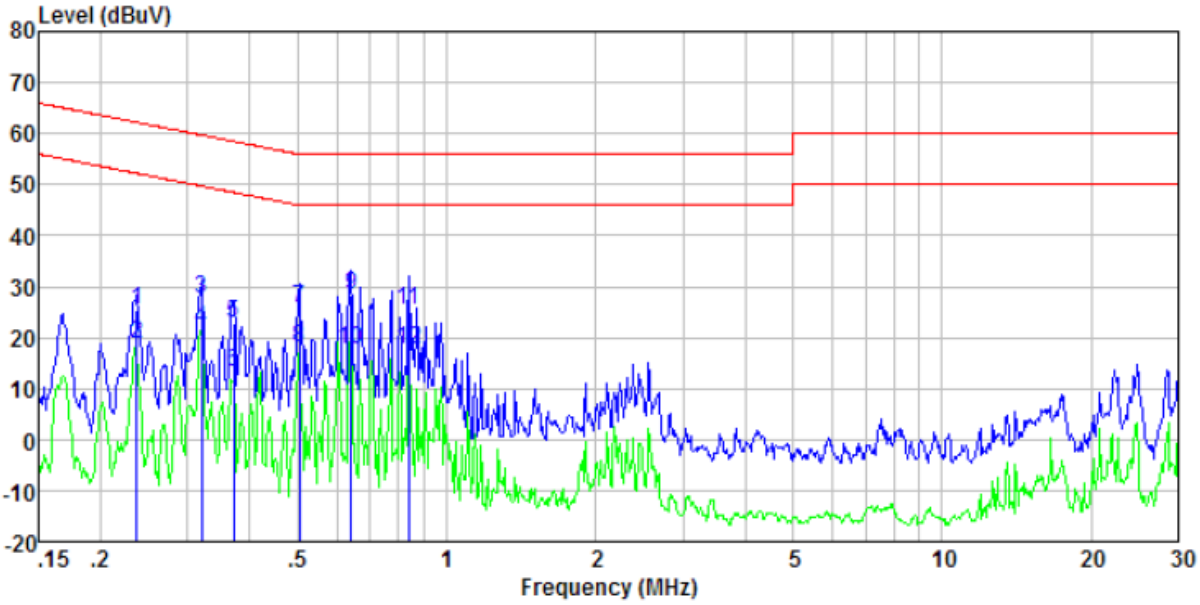
Measurement data:

Test mode:	transmitting mode	Phase Polarity:	Line



Freq MHz	Reading level dBuV	LISN/ISN factor dB/m	Cable loss dB	Level dBuV	Limit level dBuV	Over limit dB	Remark
0.23	23.05	0.40	0.11	23.56	62.30	-38.74	QP
0.23	15.36	0.40	0.11	15.87	52.30	-36.43	Average
0.32	25.21	0.39	0.10	25.70	59.71	-34.01	QP
0.32	17.11	0.39	0.10	17.60	49.71	-32.11	Average
0.37	22.47	0.36	0.10	22.93	58.47	-35.54	QP
0.37	12.80	0.36	0.10	13.26	48.47	-35.21	Average
0.50	20.36	0.31	0.11	20.78	56.00	-35.22	QP
0.50	12.54	0.31	0.11	12.96	46.00	-33.04	Average
0.63	28.83	0.28	0.12	29.23	56.00	-26.77	QP
0.63	19.53	0.28	0.12	19.93	46.00	-26.07	Average
0.84	21.98	0.23	0.14	22.35	56.00	-33.65	QP
0.84	17.21	0.23	0.14	17.58	46.00	-28.42	Average

Test mode:	transmitting mode	Phase Polarity:	Neutral



Freq MHz	Reading level dBuV	LISN/ISN factor dB/m	Cable loss dB	Level dBuV	Limit level dBuV	Over limit dB	Remark
0.24	24.72	0.40	0.11	25.23	62.22	-36.99	QP
0.24	18.13	0.40	0.11	18.64	52.22	-33.58	Average
0.32	27.20	0.39	0.10	27.69	59.71	-32.02	QP
0.32	21.17	0.39	0.10	21.66	49.71	-28.05	Average
0.37	22.36	0.36	0.10	22.82	58.47	-35.65	QP
0.37	12.73	0.36	0.10	13.19	48.47	-35.28	Average
0.50	25.32	0.31	0.11	25.74	56.00	-30.26	QP
0.50	17.62	0.31	0.11	18.04	46.00	-27.96	Average
0.64	27.83	0.27	0.12	28.22	56.00	-27.78	QP
0.64	17.38	0.27	0.12	17.77	46.00	-28.23	Average
0.84	25.08	0.23	0.14	25.45	56.00	-30.55	QP
0.84	17.34	0.23	0.14	17.71	46.00	-28.29	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.

7.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209 RSS-210 B10(a)& RSS-210 B10(b)& RSS-Gen Clause 8.9&8.10
Test Method:	ANSI C63.10:2013 and RSS-Gen
Test Frequency Range:	9kHz to 10GHz
Test site:	Measurement Distance: 3m

Receiver setup:

Frequency	Detector	RBW	VBW	Value
9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

Limit:
(Field strength of the fundamental signal)

Frequency	Limit (dBuV/m @3m)	Remark
902-928MHz	94.00	Average Value
	114.00	Peak Value

Limit:
(Spurious Emissions)

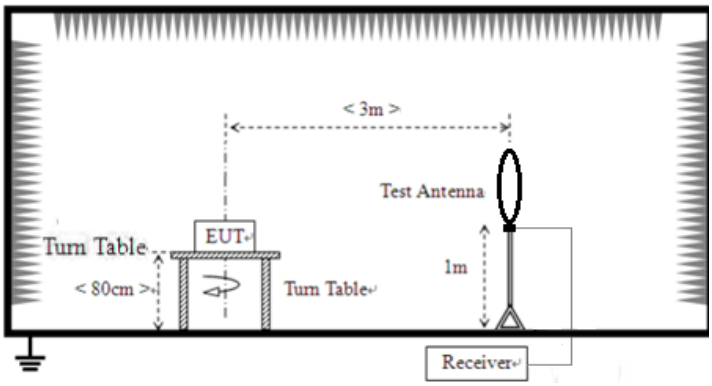
Frequency	Limit (uV/m)	Value	Measurement Distance
0.009MHz-0.490MHz	2400/F(KHz)	QP	300m
0.490MHz-1.705MHz	24000/F(KHz)	QP	30m
1.705MHz-30MHz	30	QP	30m
30MHz-88MHz	100	QP	3m
88MHz-216MHz	150	QP	
216MHz-960MHz	200	QP	
960MHz-1GHz	500	QP	
Above 1GHz	500	Average	
	5000	Peak	

Limit:
(band edge)

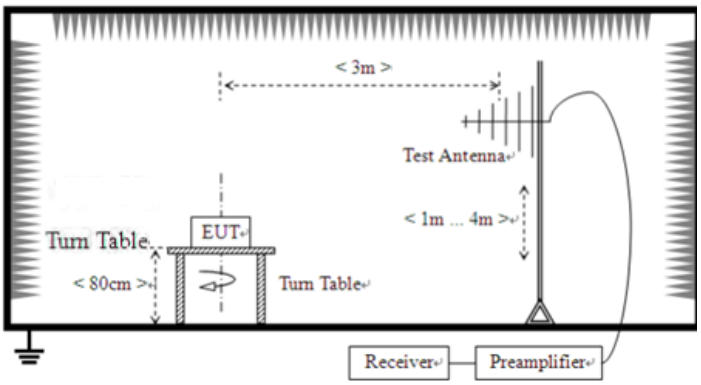
Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

Test setup:

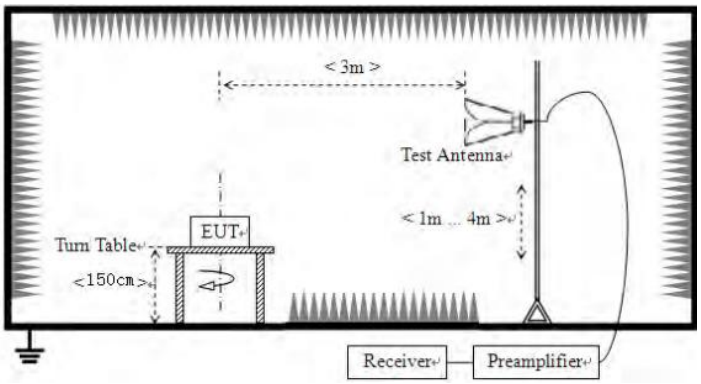
Below 30MHz



Below 1GHz



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 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.

7.2.1 Field Strength of The Fundamental Signal and spurious emissions

Peak 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	116.20	22.34	4.88	37.59	105.83	114.00	-8.17	Horizontal
908.40	113.60	22.34	4.88	37.59	103.23	114.00	-10.77	Vertical
908.42	116.10	22.34	4.88	37.59	105.73	114.00	-8.27	Horizontal
908.42	113.60	22.34	4.88	37.59	103.23	114.00	-10.77	Vertical
916.00	116.16	22.35	4.91	37.58	105.84	114.00	-8.16	Horizontal
916.00	114.12	22.35	4.91	37.58	103.80	114.00	-10.2	Vertical

Average 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	91.40	22.34	4.88	37.59	81.03	94.00	-12.97	Horizontal
908.40	89.60	22.34	4.88	37.59	79.23	94.00	-14.77	Vertical
908.42	103.40	22.34	4.88	37.59	93.03	94.00	-0.97	Horizontal
908.42	101.30	22.34	4.88	37.59	90.93	94.00	-3.07	Vertical
916.00	90.80	22.35	4.91	37.58	80.48	94.00	-13.52	Horizontal
916.00	85.80	22.35	4.91	37.58	75.48	94.00	-18.52	Vertical

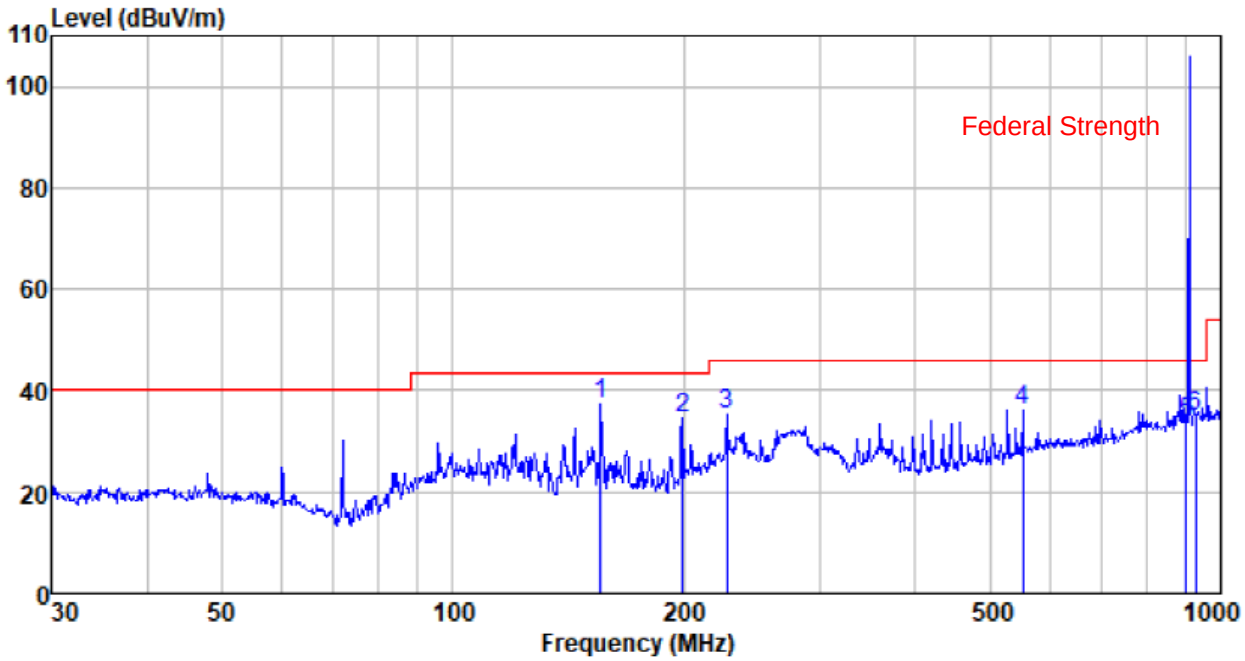
7.2.2 Spurious emissions

- Below 30MHz

  The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o), the test result no need to reported.

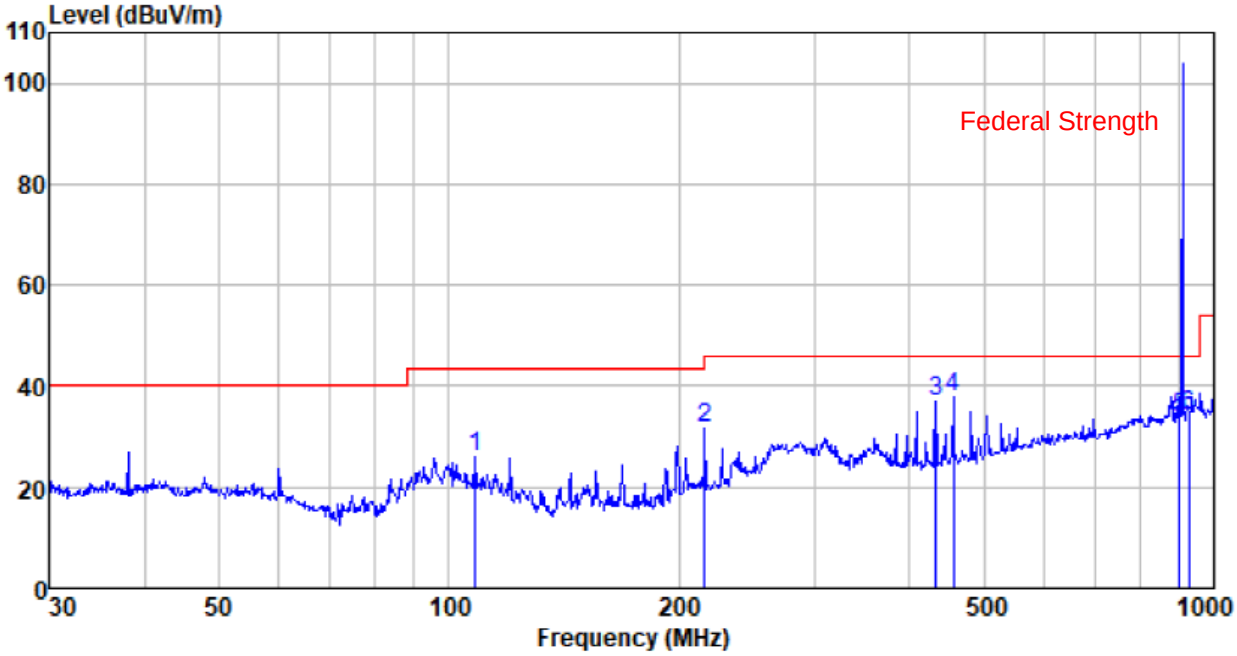
- Below 1GHz

Test mode:	transmitting mode (908.40MHz)	Antenna Polarity:	Horizontal



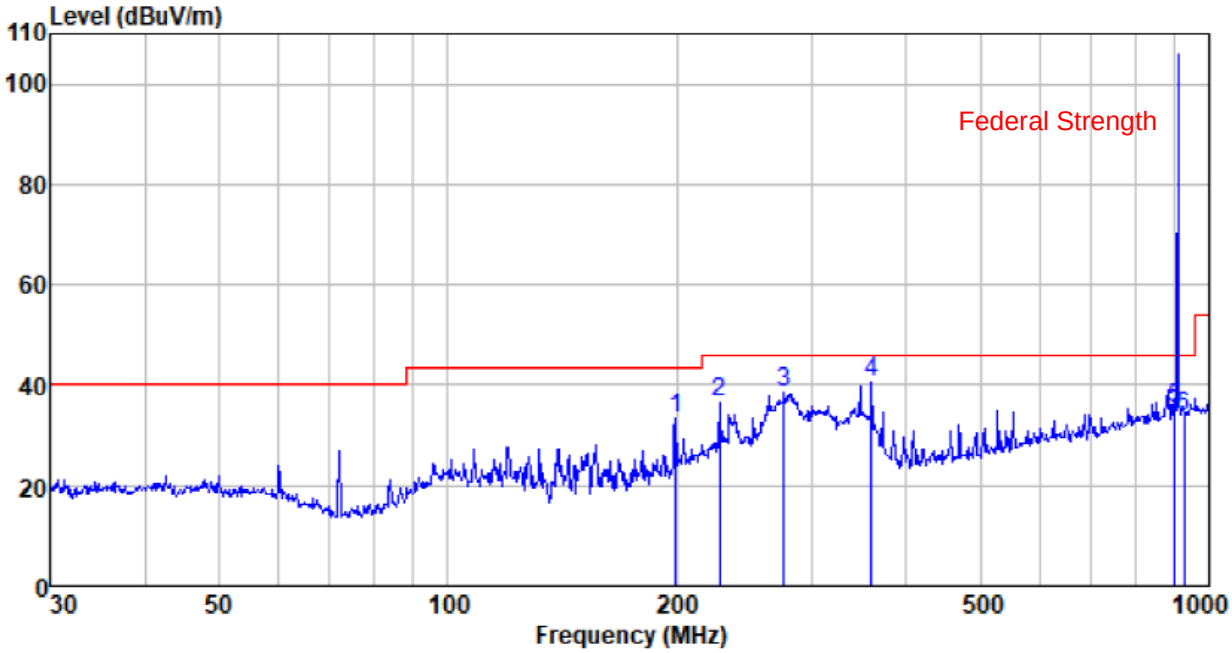
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
155.910	64.94	8.05	1.60	37.11	37.48	43.50	-6.02	QP
199.286	59.60	10.35	1.84	37.33	34.46	43.50	-9.04	QP
227.691	59.37	11.42	2.01	37.36	35.44	46.00	-10.56	QP
552.883	51.76	18.51	3.53	37.53	36.27	46.00	-9.73	QP
902.000	44.31	22.30	4.87	37.60	33.88	46.00	-12.12	QP
928.000	44.95	22.41	4.96	37.57	34.75	46.00	-11.25	QP

Test mode:	transmitting mode (908.40MHz)	Antenna Polarity:	Vertical



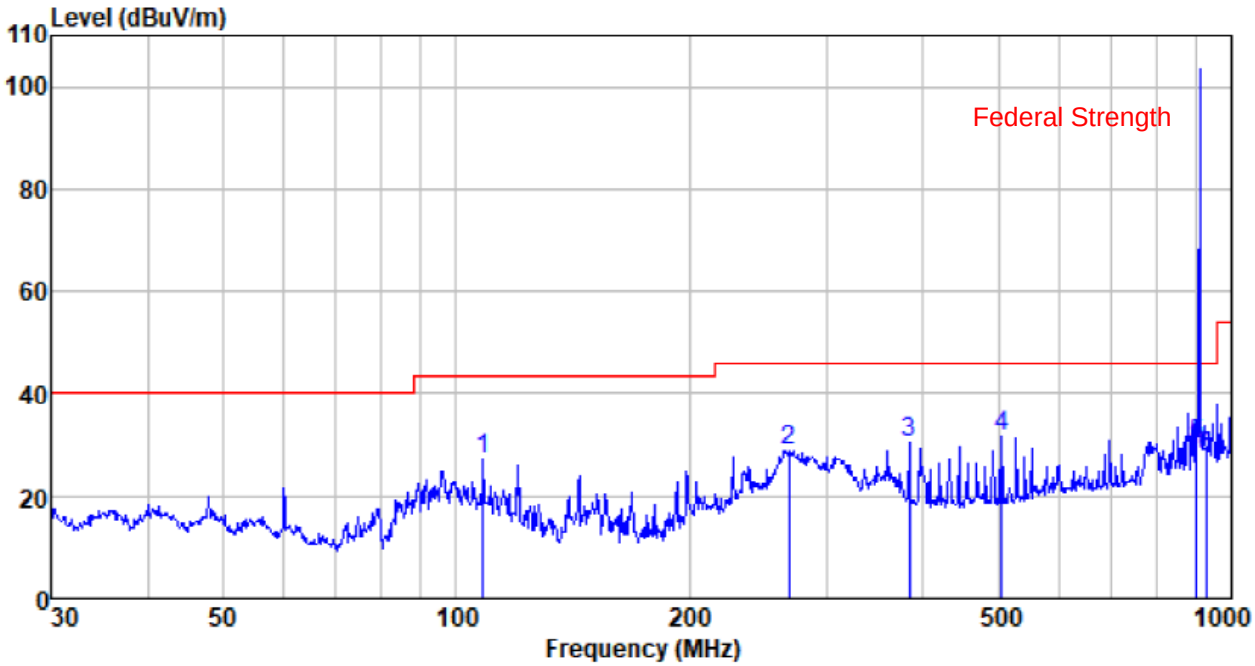
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
108.267	50.43	11.26	1.26	36.79	26.16	43.50	-17.34	QP
216.024	56.21	11.02	1.93	37.35	31.81	46.00	-14.19	QP
432.546	55.63	15.99	3.01	37.52	37.11	46.00	-8.89	QP
455.906	55.87	16.48	3.11	37.51	37.95	46.00	-8.05	QP
902.000	44.15	22.30	4.87	37.60	33.72	46.00	-12.28	QP
928.000	44.18	22.41	4.96	37.57	33.98	46.00	-12.02	QP

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



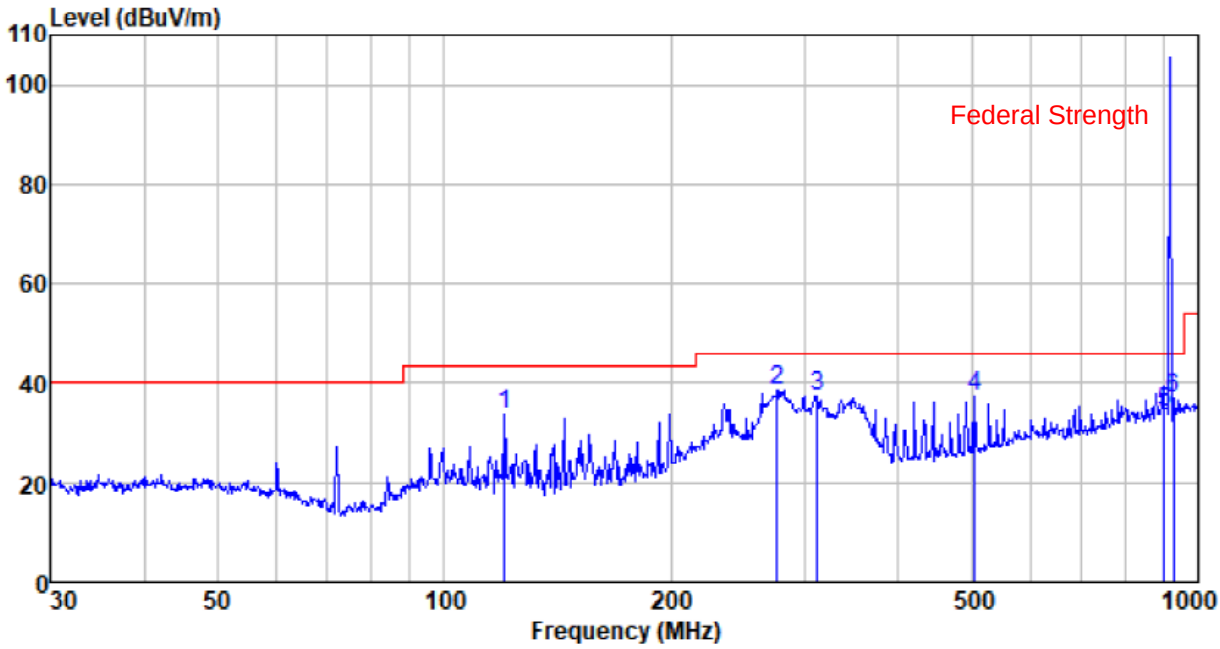
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
199.286	58.51	10.35	1.84	37.33	33.37	43.50	-10.13	QP
227.691	60.30	11.42	2.01	37.36	36.37	46.00	-9.63	QP
276.124	60.68	12.95	2.25	37.40	38.48	46.00	-7.52	QP
360.448	60.56	14.70	2.67	37.48	40.45	46.00	-5.55	QP
902.000	45.82	22.30	4.87	37.60	35.39	46.00	-10.61	QP
928.000	43.89	22.41	4.96	37.57	33.69	46.00	-12.31	QP

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



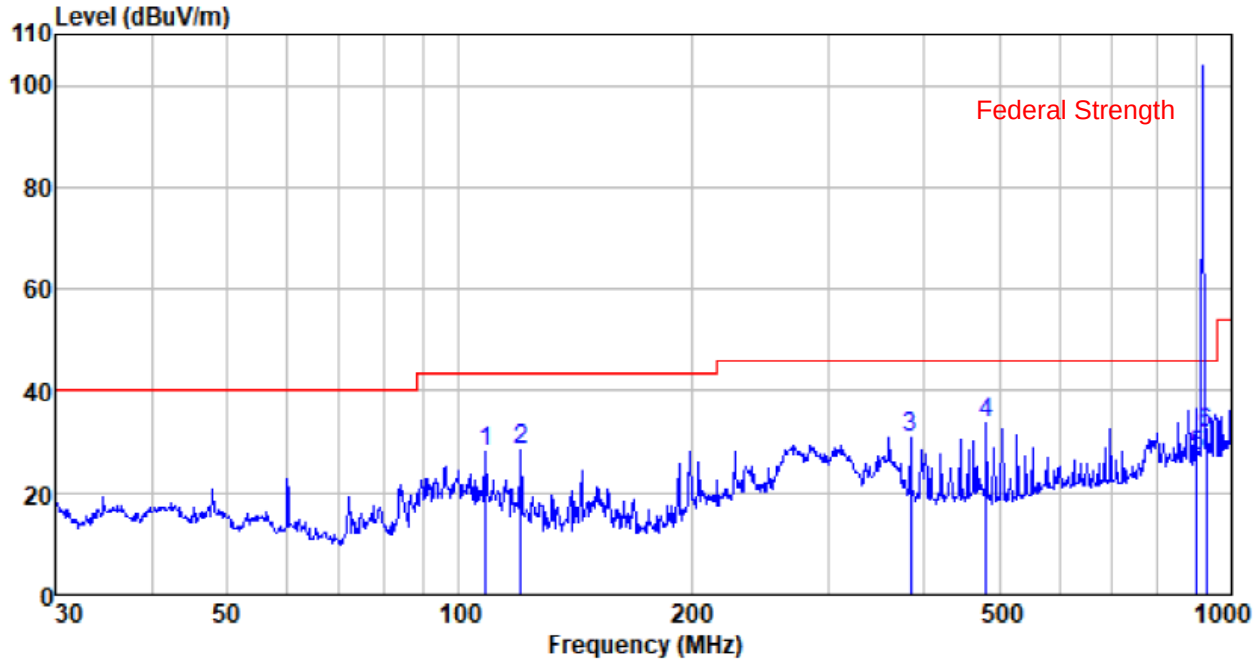
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
108.267	51.38	11.26	1.26	36.79	27.11	43.50	-16.39	QP
268.485	51.32	12.73	2.21	37.40	28.86	46.00	-17.14	QP
383.932	50.16	15.08	2.78	37.51	30.51	46.00	-15.49	QP
504.706	48.25	17.41	3.33	37.51	31.48	46.00	-14.52	QP
902.000	40.58	22.30	4.87	37.60	30.15	46.00	-15.85	QP
928.000	37.92	22.41	4.96	37.57	27.72	46.00	-18.28	QP

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	Limit level dBuV/m	Over limit dB	Remark
120.277	59.62	9.42	1.36	36.88	33.52	43.50	-9.98	QP
276.124	60.94	12.95	2.25	37.40	38.74	46.00	-7.26	QP
312.179	58.48	13.85	2.42	37.43	37.32	46.00	-8.68	QP
504.706	54.14	17.41	3.33	37.51	37.37	46.00	-8.63	QP
902.000	44.48	22.30	4.87	37.60	34.05	46.00	-11.95	QP
928.000	47.31	22.41	4.96	37.57	37.11	46.00	-8.89	QP

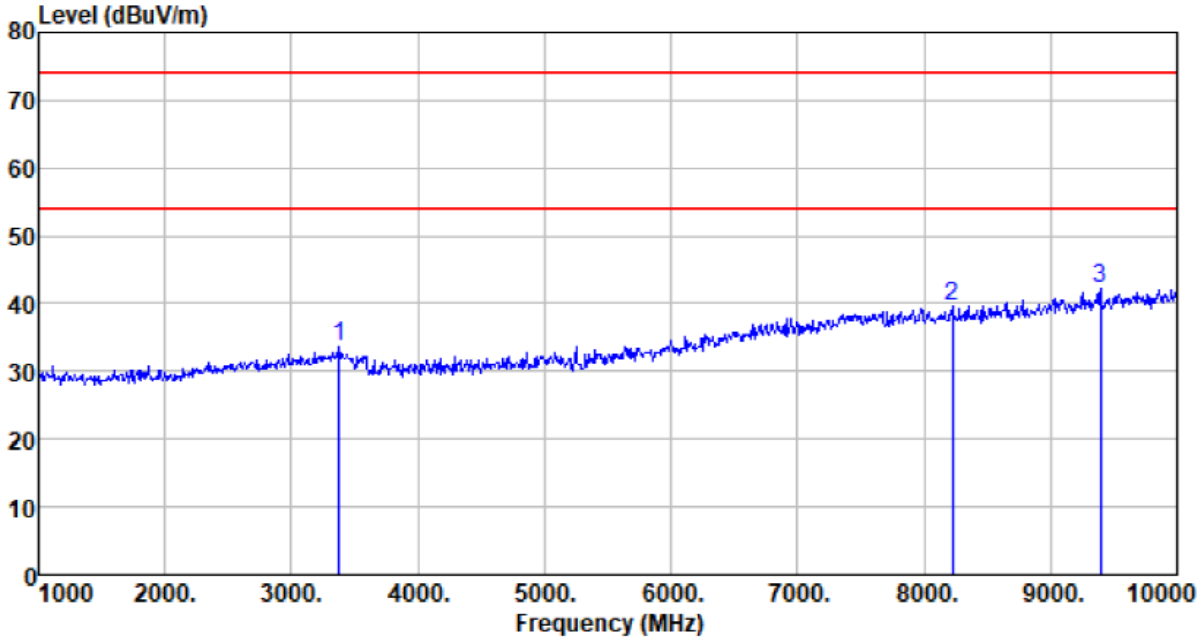
Test mode:	transmitting mode (916MHz)	Antenna Polarity:	Vertical



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
108.267	52.10	11.26	1.26	36.79	27.83	43.50	-15.67	QP
120.277	54.63	9.42	1.36	36.88	28.53	43.50	-14.97	QP
383.932	50.48	15.08	2.78	37.51	30.83	46.00	-15.17	QP
480.528	50.95	16.93	3.22	37.51	33.59	46.00	-12.41	QP
902.000	37.62	22.30	4.87	37.60	27.19	46.00	-18.81	QP
928.000	41.99	22.41	4.96	37.57	31.79	46.00	-14.21	QP

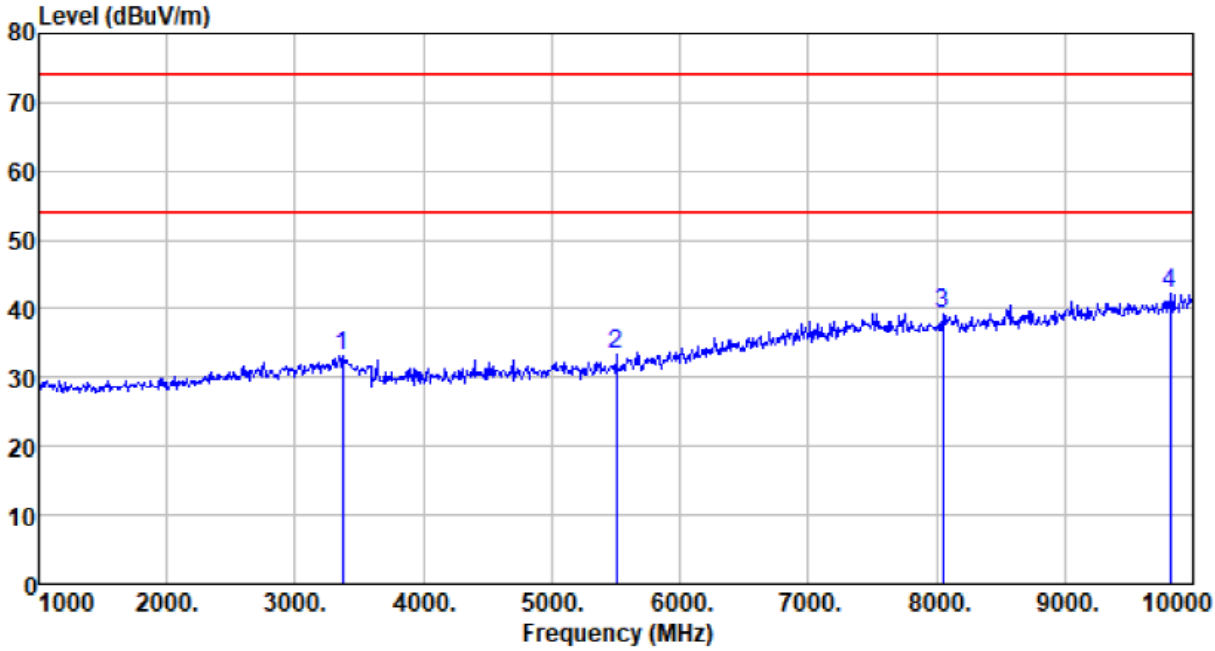
■ Above 1GHz

Test mode:	transmitting mode (908.40MHz)	Antenna Polarity:	Horizontal



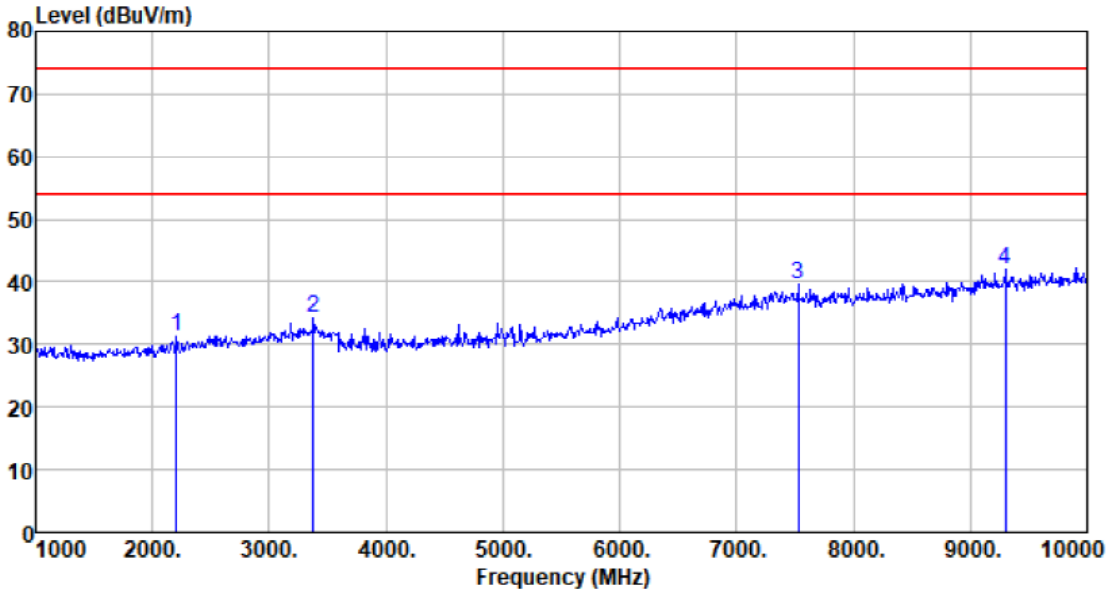
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
3376.000	39.01	28.40	3.64	37.34	33.71	74.00	-40.29	Peak
8227.000	30.47	37.35	6.90	35.18	39.54	74.00	-34.46	Peak
9397.000	31.37	37.74	7.86	34.78	42.19	74.00	-31.81	Peak

Test mode:	transmitting mode (908.40MHz)	Antenna Polarity:	Vertical



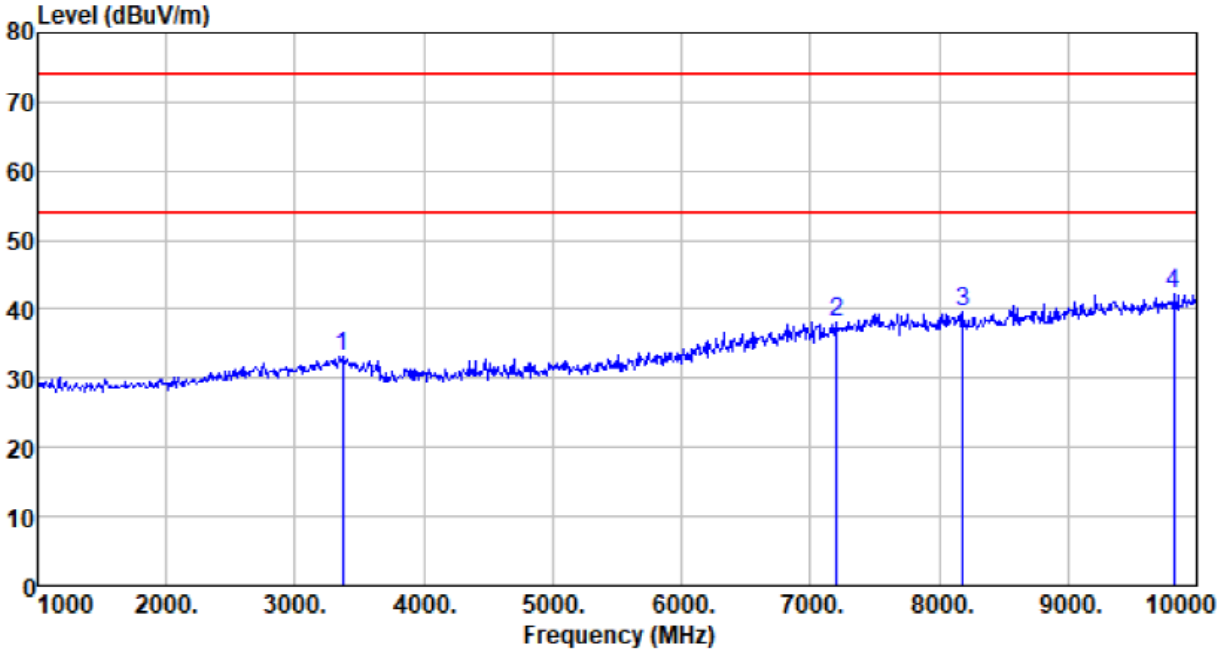
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
3367.000	38.24	28.40	3.63	37.34	32.93	74.00	-41.07	Peak
5500.000	33.55	31.70	5.23	37.07	33.41	74.00	-40.59	Peak
8047.000	30.59	37.39	6.77	35.36	39.39	74.00	-34.61	Peak
9820.000	31.03	38.17	8.05	35.07	42.18	74.00	-31.82	Peak

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



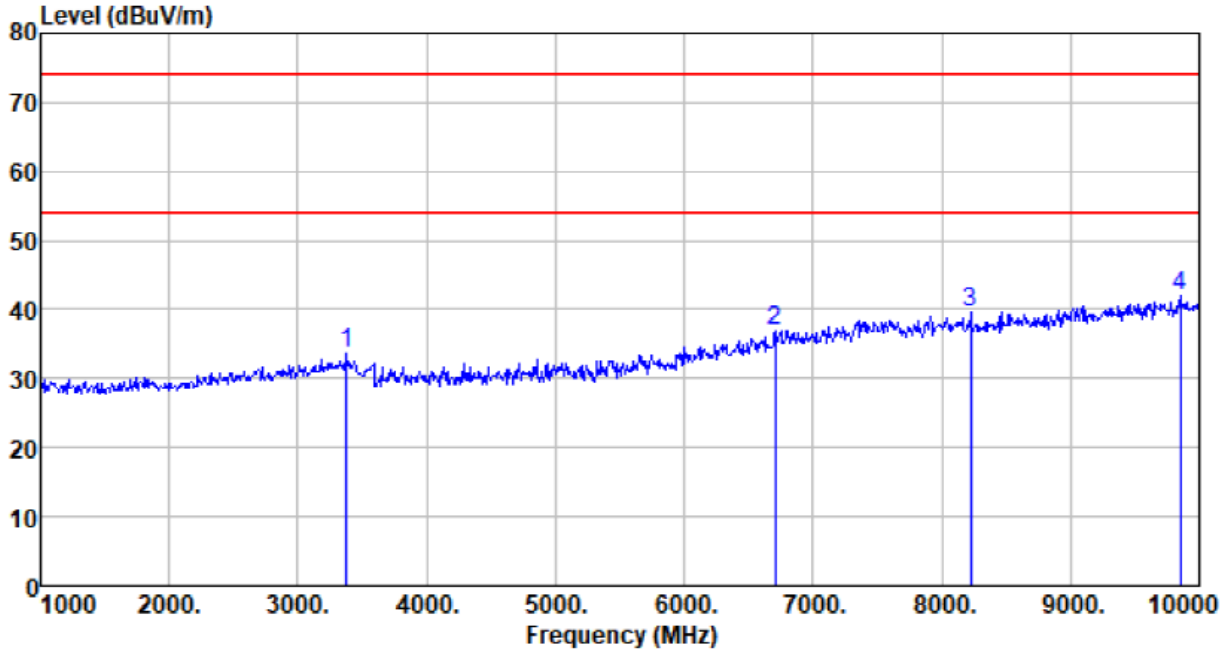
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
2206.000	38.48	26.81	2.69	36.69	31.29	74.00	-42.71	Peak
3376.000	39.58	28.40	3.64	37.34	34.28	74.00	-39.72	Peak
7525.000	31.46	36.83	6.82	35.54	39.57	74.00	-34.43	Peak
9298.000	31.08	37.67	7.79	34.71	41.83	74.00	-32.17	Peak

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



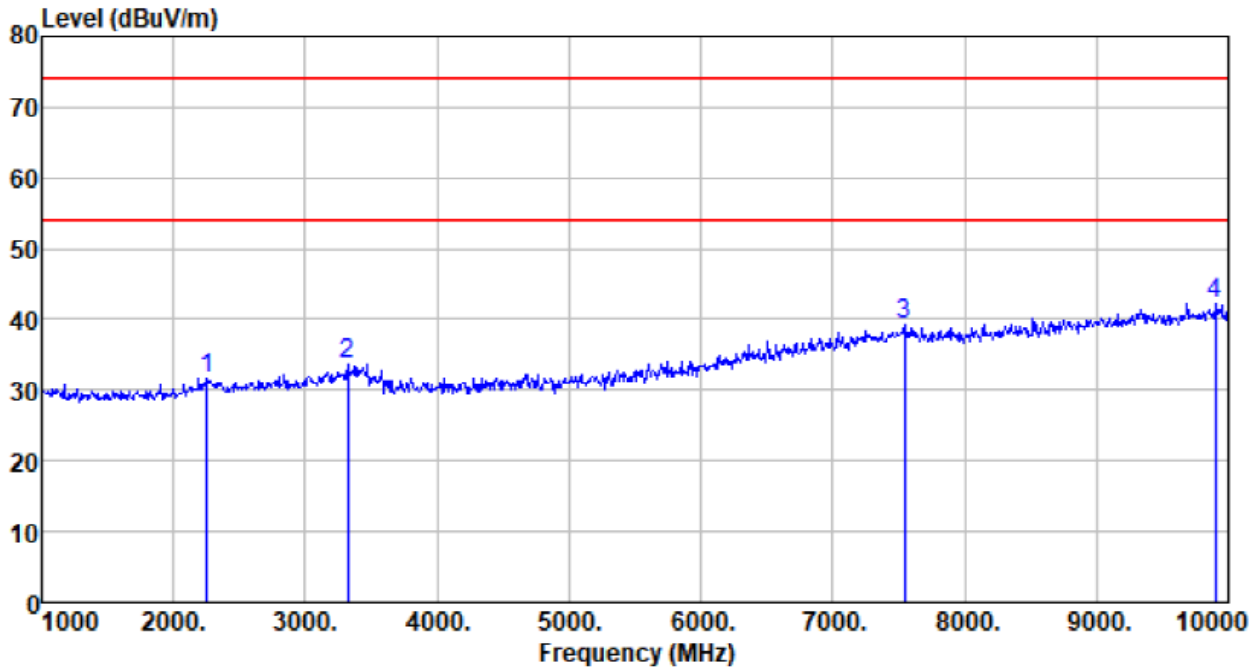
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
3367.000	38.24	28.40	3.63	37.34	32.93	74.00	-41.07	Peak
7201.000	31.20	36.16	6.48	35.63	38.21	74.00	-35.79	Peak
8182.000	30.57	37.36	6.86	35.22	39.57	74.00	-34.43	Peak
9820.000	31.03	38.17	8.05	35.07	42.18	74.00	-31.82	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	Limit level dBuV/m	Over limit dB	Remark
3376.000	39.01	28.40	3.64	37.34	33.71	74.00	-40.29	Peak
6706.000	31.95	34.92	5.99	35.90	36.96	74.00	-37.04	Peak
8227.000	30.47	37.35	6.90	35.18	39.54	74.00	-34.46	Peak
9856.000	30.84	38.23	8.07	35.11	42.03	74.00	-31.97	Peak

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

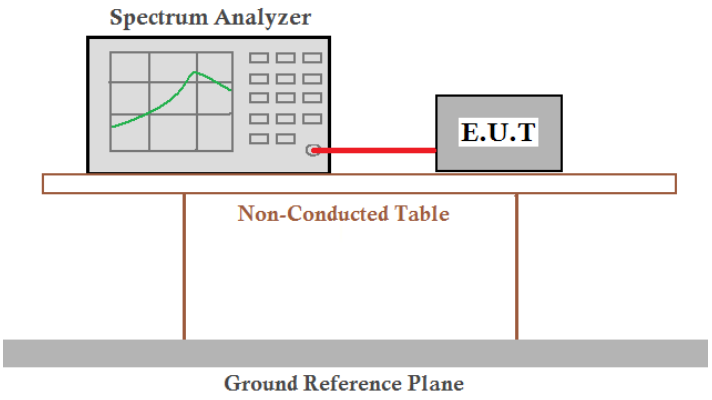


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
2251.000	38.60	26.95	2.75	36.73	31.57	74.00	-42.43	Peak
3322.000	38.90	28.40	3.63	37.33	33.60	74.00	-40.40	Peak
7543.000	31.01	36.85	6.82	35.53	39.15	74.00	-34.85	Peak
9901.000	30.89	38.27	8.09	35.12	42.13	74.00	-31.87	Peak

Remark:

1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *"*", means this data is the too weak instrument of signal is unable to test.*

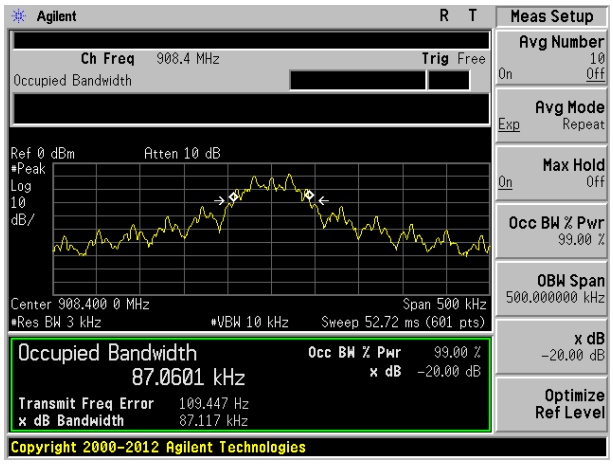
7.3 20dB Occupy Bandwidth and 99% Occupied Bandwidth

Test Requirement:	FCC Part15 C Section 15.249/15.215 RSS-Gen Section 6.7
Test Method:	ANSI C63.10:2013 and RSS-Gen
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

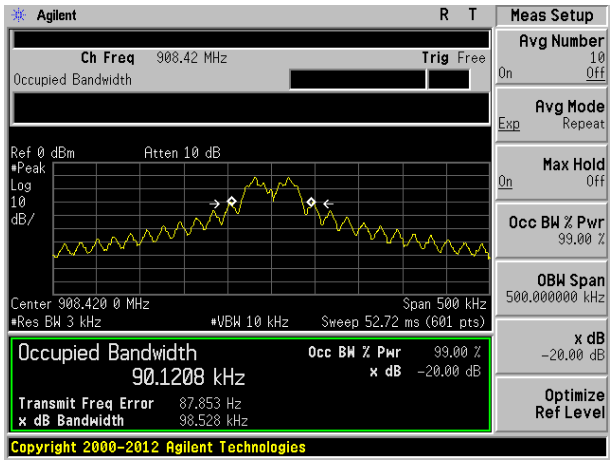
Measurement Data

Operation Frequency	20dB bandwidth(kHz)	99% Occupied bandwidth(kHz)	Result
908.40MHz	87.117	87.0601	Pass
908.42MHz	98.528	90.1208	
916MHz	112.536	110.7702	

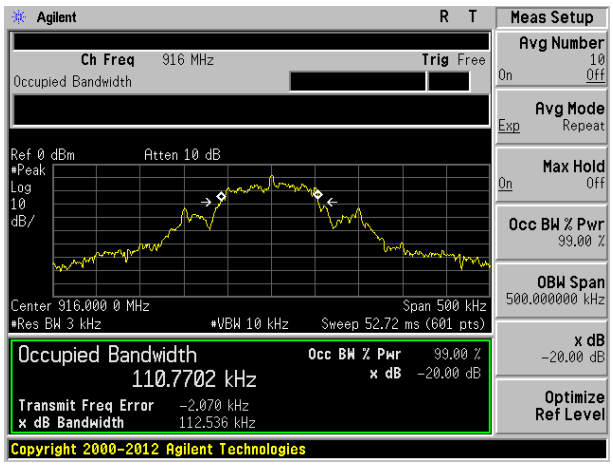
Test plot as follows:



908.40MHz



908.42MHz



916MHz

8 Test Setup Photo

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

9 EUT Constructional Details

Reference to the **appendix II** for details

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