TEST REPORT

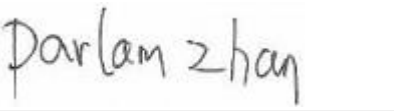
Application No.:	SHEM1812000318CR
FCC ID:	2APV2-CSW2D
IC:	23928-CSW2D
Applicant:	Hangzhou Ezviz Sofeware Co., Ltd.
Address of Applicant:	Floor 16, Unit B, Building 1, No.555, Qianmo Road, Binjiang District, Hangzhou City, Zhejiang Province
Manufacturer:	Hangzhou Ezviz Sofeware Co., Ltd.
Address of Manufacturer:	Floor 16, Unit B, Building 1, No.555, Qianmo Road, Binjiang District, Hangzhou City, Zhejiang Province
Factory:	Hangzhou Hikvision Electronics Co., Ltd.
Address of Factory:	No.299, Qiushi Road, Tonglu Economic Developemnt Zone, Tonglu County, Hangzhou.
Equipment Under Test (EUT):	
EUT Name:	Wire-Free Camera Base Station
Model No.:	CS-W2D
Trade mark:	eZVIZ
Standard(s) :	47 CFR Part 15, Subpart C 15.249 RSS-210 Issue 9 , August 2016 RSS-Gen Issue 5, April 2018
Date of Receipt:	2018-12-28
Date of Test:	2019-01-04 to 2019-01-24
Date of Issue:	2019-02-13
Test Result:	**Pass***

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

Parlam Zhan
E&E Section Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

Revision Record			
Version	**Description**	**Date**	**Remark**
00	Original	2019-02-13	/

Authorized for issue by:				
				
		Vincent Zhu / Project Engineer		
				
		Parlam Zhan / Reviewer		

2 Test Summary

Radio Spectrum Technical Requirement				
Item	**Standard**	**Method**	**Requirement**	**Result**
Antenna Requirement	47 CFR Part 15, Subpart C 15.249	N/A	47 CFR Part 15, Subpart C 15.203	Pass

Radio Spectrum Matter Part				
Item	**FCC Requirement**	**IC Requirement**	**Method**	**Result**
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart C 15.249	RSS-Gen Issue 4 Section 7.2.4	ANSI C63.10 (2013) Section 6.2	Pass
20dB Bandwidth	47 CFR Part 15, Subpart C 15.249	RSS-210 Issue 9 Annex 8	ANSI C63.10 (2013) Section 6.9	Pass
Field Strength of the Fundamental Signal (15.249(a))	47 CFR Part 15, Subpart C 15.249	RSS-210 Issue 9 Annex 2.9 (a)	ANSI C63.10 (2013) Section 6.5&6.6	Pass
Restricted Band Around Fundamental Frequency	47 CFR Part 15, Subpart C 15.249	RSS-Gen Issue 4 Section 4.9 RSS-Gen Issue 4 Section 7.2.2	ANSI C63.10 (2013) Section 6.4&6.5&6.6	Pass
Radiated Emissions	47 CFR Part 15, Subpart C 15.249	RSS-Gen Issue 4 Section 4.9 RSS-Gen Issue 4 Section 7.2.2	ANSI C63.10 (2013) Section 6.4&6.5&6.6	Pass
99% Bandwidth	-	RSS-Gen Section 6.6	ANSI C63.10 Section 6.9.3	Pass
Frequency Stability	-	RSS-Gen Section 8.11	RSS-Gen Section 6.11	Pass (Note 1)

Note 1: Frequency stability requested in RSS GEN S8.11 has been complied since the result of band edge can demonstrate.

3 Contents

4 General Information

4.1 Details of E.U.T.

Power supply:	DC 5V by Adapter Adapter: Model:HKC0115020-2B Input:100-240V~50/60Hz,0.5A Output:5V-2A
Test voltage:	AC 120V 60Hz
Cable:	USB Cable 150cm
Antenna Type	PCB antenna
Channel Spacing	2MHz
Modulation Type	FSK
Number of Channels	10
Operation Frequency	906MHz~924MHz

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Laptop	Lenovo	ThinkPad X100e	/
SecureCRT	VanDyke	V 6.2.0	/
Serial port adapter plate	/	Test Plate 3	/

4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	±8.4 x 10-8
2	Timeout	±2s
3	Duty cycle	±0.37%
4	Occupied Bandwidth	±3%
5	RF conducted power	±0.6dB
6	RF power density	±2.84dB
7	Conducted Spurious emissions	±0.75dB
8	RF Radiated power	±4.6dB (Below 1GHz)
		±4.1dB (Above 1GHz)
9	Radiated Spurious emission test	±4.2dB (Below 30MHz)
		±4.4dB (30MHz-1GHz)
		±4.8dB (1GHz-18GHz)
		±5.2dB (Above 18GHz)
10	Temperature test	±1°C
11	Humidity test	±3%
12	Supply voltages	±1.5%
13	Time	±3%

Note: The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd. Shanghai Branch

588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China

Tel: +86 21 6191 5666 Fax: +86 21 6191 5678

No tests were sub-contracted.

4.5 Test Facility

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

• CNAS (No. CNAS L0599)

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

• NVLAP (Certificate No. 201034-0)

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. is accredited by the National Voluntary Laboratory Accreditation Program(NVLAP). Certificate No. 201034-0.

• FCC –Designation Number: CN5033

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been recognized as an accredited testing laboratory.

Designation Number: CN5033. Test Firm Registration Number: 479755.

• Industry Canada (IC) – IC Assigned Code: 8617A

The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 8617A-1.

• VCCI (Member No.: 3061)

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-13868, C-14336, T-12221, G-10830 respectively.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None

5 Equipment List

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Conducted Emission at AC Power Line					
EMI test receiver	R&S	ESR7	SHEM162-1	2018-12-20	2019-12-19
LISN	Schwarzbeck	NSLK8127	SHEM061-1	2018-12-20	2019-12-19
LISN	EMCO	3816/2	SHEM019-1	2018-12-20	2019-12-19
Pulse limiter	R&S	ESH3-Z2	SHEM029-1	2018-12-20	2019-12-19
CE test Cable	/	CE01	/	2018-12-26	2019-12-25
Conducted Test					
Spectrum Analyzer	R&S	FSP-30	SHEM002-1	2018-12-20	2019-12-19
Spectrum Analyzer	Agilent	N9020A	SHEM181-1	2018-08-13	2019-08-12
Signal Generator	R&S	SMR20	SHEM006-1	2018-08-13	2019-08-12
Signal Generator	Agilent	N5182A	SHEM182-1	2018-08-13	2019-08-12
Communication Tester	R&S	CMW270	SHEM183-1	2018-08-13	2019-08-12
Switcher	Tonscend	JS0806	SHEM184-1	2018-08-13	2019-08-12
Power Sensor	Keysight	U2021XA * 4	SHEM184-1	2018-08-13	2019-08-12
Splitter	Anritsu	MA1612A	SHEM185-1	/	/
Coupler	e-meca	803-S-1	SHEM186-1	/	/
High-low Temp Cabinet	Suzhou Zhihe	TL-40	SHEM087-1	2017-09-25	2020-09-24
AC Power Stabilizer	WOCEN	6100	SHEM045-1	2018-12-26	2019-12-25
DC Power Supply	MCN	MCH-303A	SHEM210-1	2018-12-26	2019-12-25
Conducted test Cable	/	RF01~RF04	/	2018-12-26	2019-12-25
Radiated Test					
EMI test Receiver	R&S	ESU40	SHEM051-1	2018-12-20	2019-12-19
Spectrum Analyzer	R&S	FSP-30	SHEM002-1	2018-12-20	2019-12-19
Loop Antenna (9kHz-30MHz)	Schwarzbeck	FMZB1519	SHEM135-1	2017-04-10	2020-04-09
Antenna (25MHz-2GHz)	Schwarzbeck	VULB9168	SHEM048-1	2017-02-28	2020-02-27
Antenna (25MHz-3GHz)	Schwarzbeck	HL562	SHEM010-1	2017-02-28	2020-02-27
Horn Antenna (1-8GHz)	Schwarzbeck	HF906	SHEM009-1	2017-10-24	2020-10-23
Horn Antenna (1-18GHz)	Schwarzbeck	BBHA9120D	SHEM050-1	2017-01-14	2020-01-13
Horn Antenna (14-40GHz)	Schwarzbeck	BBHA 9170	SHEM049-1	2017-12-03	2020-12-02
Pre-amplifier (9KHz-2GHz)	CLAVIIO	BDLNA-0001	SHEM164-1	2018-08-13	2019-08-12
Pre-amplifier (1-18GHz)	CLAVIIO	BDLNA-0118	SHEM050-2	2018-08-13	2019-08-12
High-amplifier (14-40GHz)	Schwarzbeck	10001	SHEM049-2	2018-12-20	2019-12-19
Signal Generator	R&S	SMR40	SHEM058-1	2018-08-13	2019-08-12
Band Filter	LORCH	9BRX-875/X150	SHEM156-1	/	/
Band Filter	LORCH	13BRX-1950/X500	SHEM083-2	/	/
Band Filter	LORCH	5BRX-2400/X200	SHEM155-1	/	/
Band Filter	LORCH	5BRX-5500/X1000	SHEM157-2	/	/
High pass Filter	Wainwright	WHK3.0/18G	SHEM157-1	/	/
High pass Filter	Wainwright	WHKS1700	SHEM157-3	/	/
Semi/Fully Anechoic	ST	11*6*6M	SHEM078-2	2017-07-22	2020-07-21
RE test Cable	/	RE01, RE02, RE06	/	2018-12-26	2019-12-25

6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203

Limit:

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.

6.1.2 Conclusion

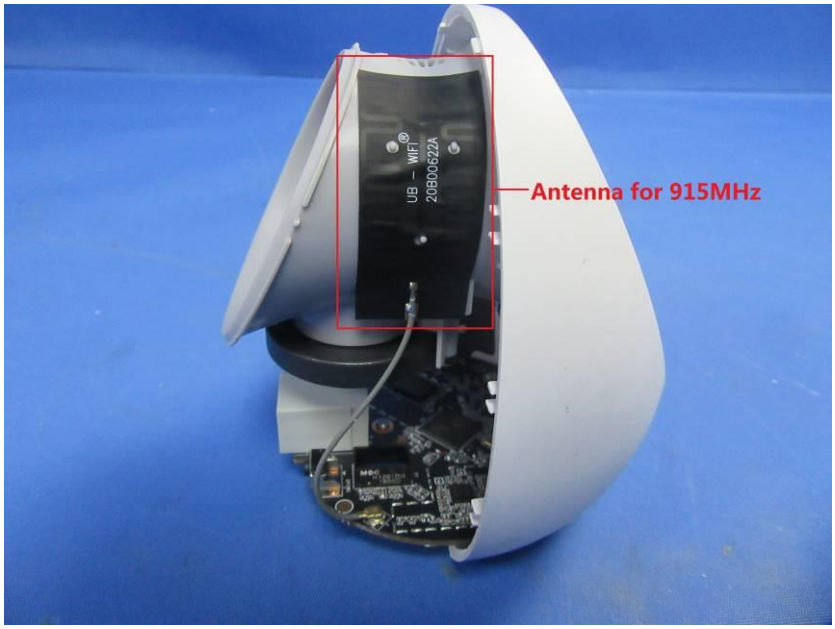
Standard Requirement:

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 PCB antenna and no consideration of replacement. The best case gain of the antenna is 4dBi.



7 Radio Spectrum Matter Test Results

7.1 Conducted Emissions at AC Power Line (150kHz-30MHz)

Test Requirement 47 CFR Part 15, Subpart C 15.207

Test Method: ANSI C63.10 (2013) Section 6.2

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.

7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1020 mbar

Test mode b:TX mode_Keep the EUT in transmitting with modulation mode.

7.1.2 Measurement Procedure and Data

1) The mains terminal disturbance voltage test was conducted in a shielded room.

2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50μH + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.

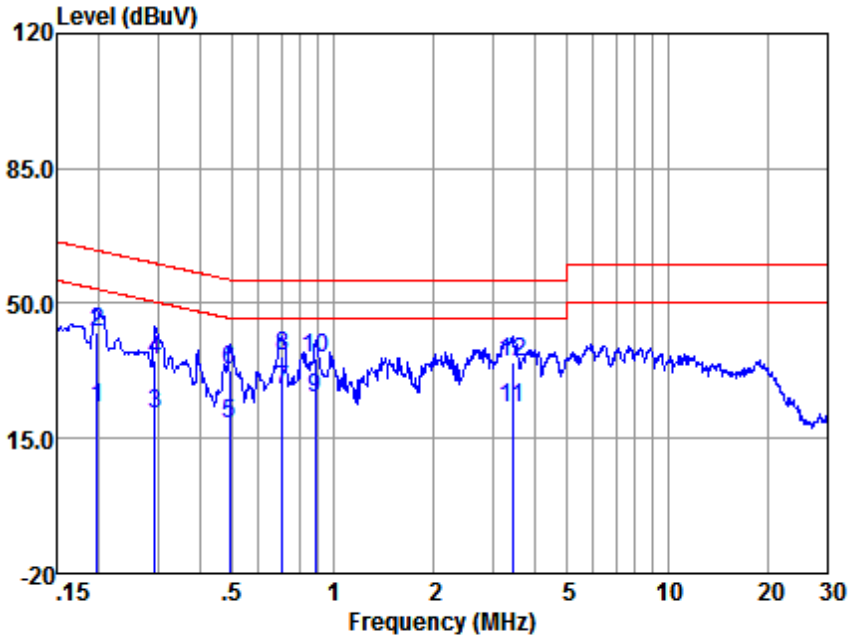
3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,

4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.

5) 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 on conducted measurement.

Remark: LISN=Read Level+ Cable Loss+ LISN Factor

Mode:b; Line:Live Line

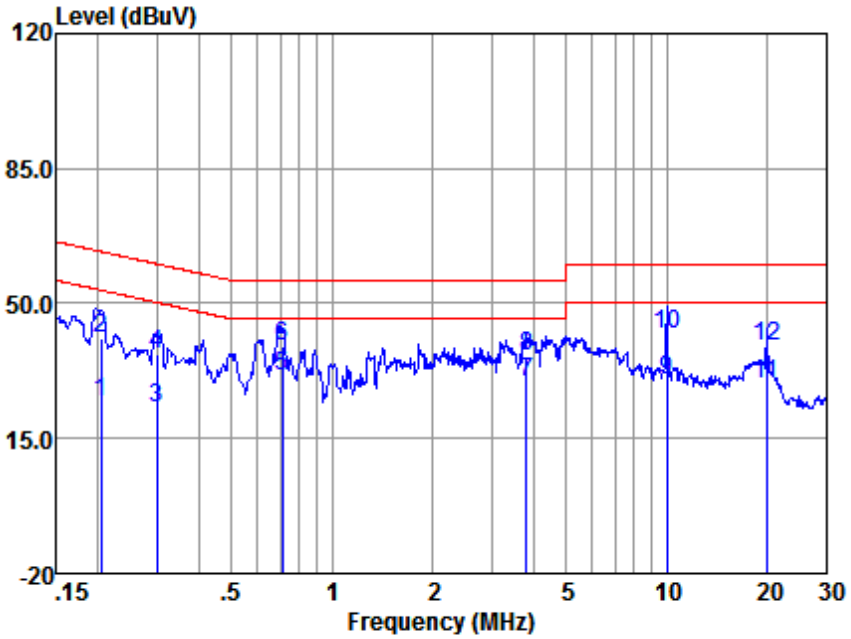


LISN : LINE
EUT/Project No : 0319CR
Test mode : b

	Freq (MHz)	Read level (dBuV)	LISN Factor (dB)	Cable Loss (dB)	Emission Level (dBuV)	Limit (dBuV)	Over Limit (dB)	Remark
1	0.20	13.07	0.05	9.83	22.95	53.71	-30.76	Average
2	0.20	32.85	0.05	9.83	42.73	63.71	-20.98	QP
3	0.29	11.39	0.05	9.85	21.29	50.41	-29.12	Average
4	0.29	25.39	0.05	9.85	35.29	60.41	-25.12	QP
5	0.49	8.91	0.05	9.81	18.77	46.14	-27.37	Average
6	0.49	22.97	0.05	9.81	32.83	56.14	-23.31	QP
7	0.70	17.46	0.04	9.85	27.35	46.00	-18.65	Average
8	0.70	26.25	0.04	9.85	36.14	56.00	-19.86	QP
9	0.88	15.64	0.05	9.88	25.57	46.00	-20.43	Average
10	0.88	25.96	0.05	9.88	35.89	56.00	-20.11	QP
11	3.44	12.73	0.07	9.89	22.69	46.00	-23.31	Average
12	3.44	24.79	0.07	9.89	34.75	56.00	-21.25	QP

Notes: Emission Level = Read Level +LISN Factor + Cable loss

Mode:b; Line:Neutral Line



LISN : NEUTRAL
EUT/Project No : 0319CR
Test mode : b

	Freq (MHz)	Read level (dBuV)	LISN Factor (dB)	Cable Loss (dB)	Emission Level (dBuV)	Limit (dBuV)	Over Limit (dB)	Remark
1	0.20	14.30	0.06	9.83	24.19	53.45	-29.26	Average
2	0.20	31.06	0.06	9.83	40.95	63.45	-22.50	QP
3	0.30	13.15	0.06	9.85	23.06	50.24	-27.18	Average
4	0.30	26.73	0.06	9.85	36.64	60.24	-23.60	QP
5	0.71	21.06	0.05	9.85	30.96	46.00	-15.04	Average
6	0.71	28.90	0.05	9.85	38.80	56.00	-17.20	QP
7	3.82	19.62	0.08	9.92	29.62	46.00	-16.38	Average
8	3.82	26.37	0.08	9.92	36.37	56.00	-19.63	QP
9	10.02	20.08	0.21	9.73	30.02	50.00	-19.98	Average
10	10.02	32.29	0.21	9.73	42.23	60.00	-17.77	QP
11	19.95	18.65	0.34	9.96	28.95	50.00	-21.05	Average
12	19.95	28.62	0.34	9.96	38.92	60.00	-21.08	QP

Notes: Emission Level = Read Level +LISN Factor + Cable loss

7.2 20dB Bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.215
Test Method: ANSI C63.10 (2013) Section 6.9
Limit: N/A

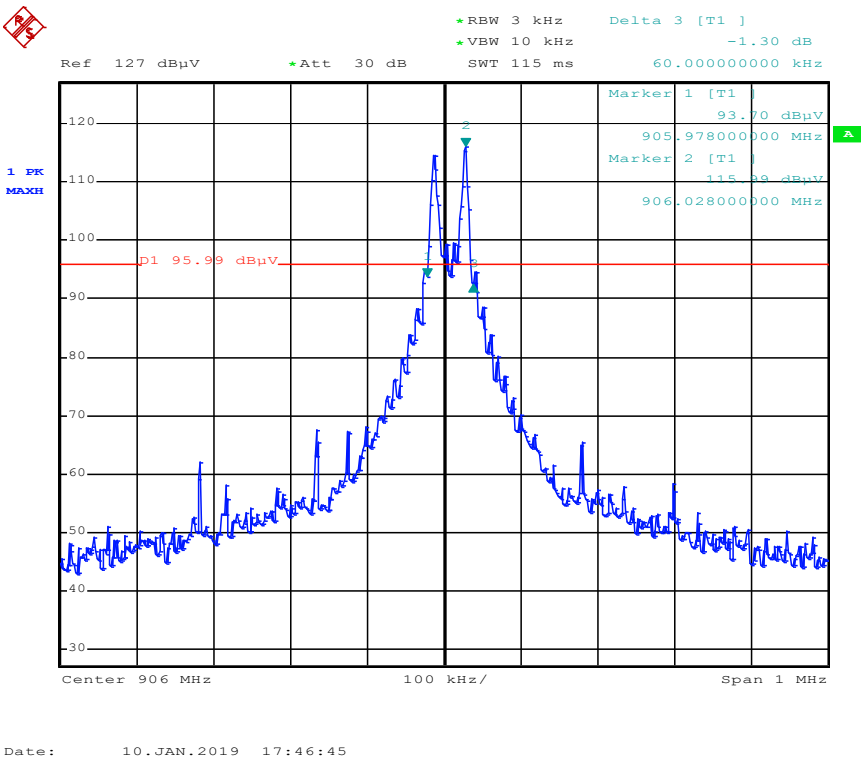
7.2.1 E.U.T. Operation

Operating Environment:
Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1002 mbar
Test mode b:TX mode_Keep the EUT in transmitting with modulation mode.

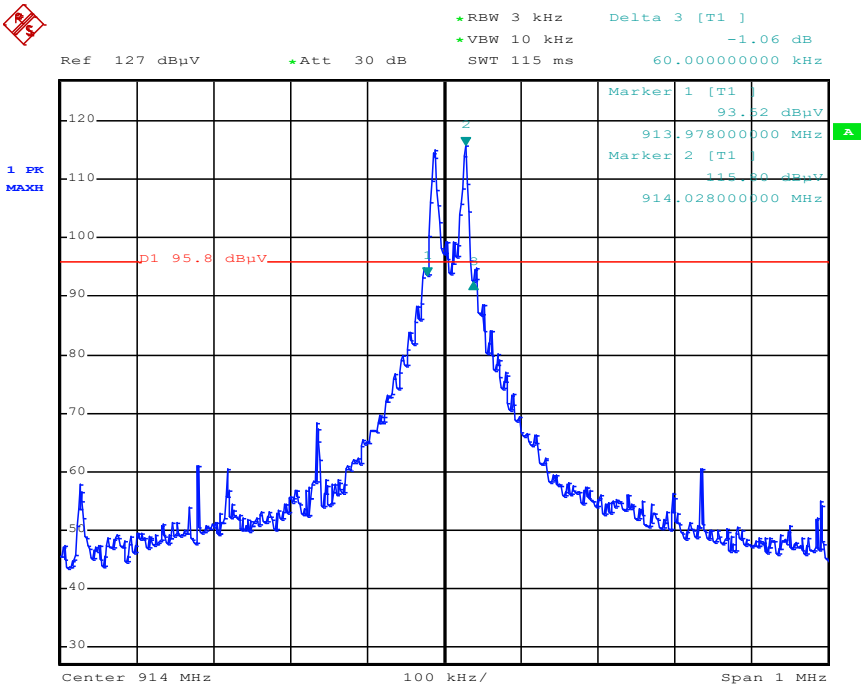
7.2.2 Measurement Procedure and Data

Frequency (MHz)	Bandwidth (MHz)	Result
906	0.06	PASS
914	0.06	PASS
924	0.06	PASS

904MHz



914



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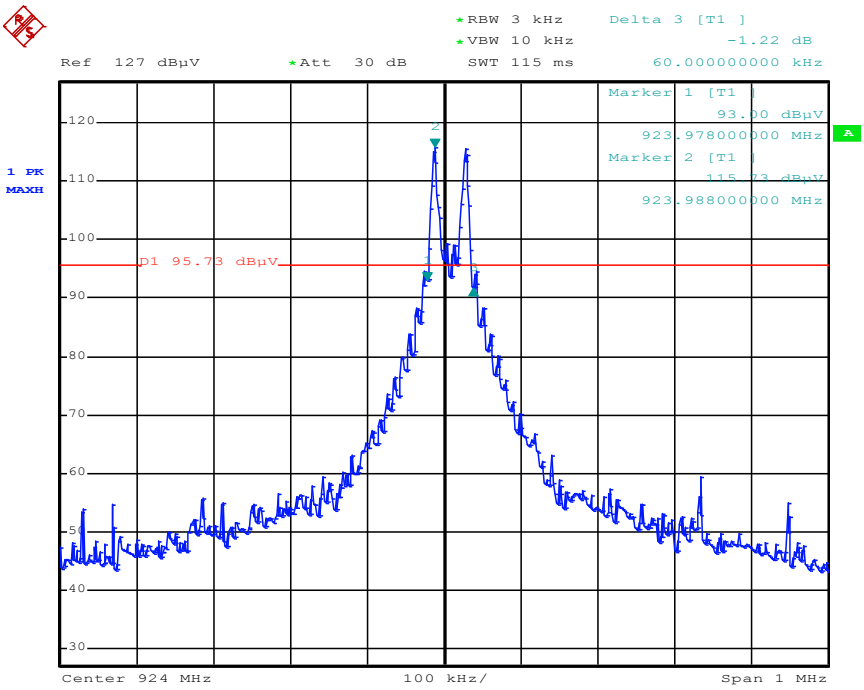
924



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7.3 Field Strength of the Fundamental Signal (15.249(a))

Test Requirement 47 CFR Part 15, Subpart C 15.249(a)

Test Method: ANSI C63.10 (2013) Section 6.5&6.6

Limit:

Frequency	Limit (dBuV/m @3m)	Remark
902MHz-928MHz	94.0	Average Value
	114.0	Peak Value

7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1002 mbar

Test mode b:TX mode_Keep the EUT in transmitting with modulation mode.

7.3.2 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

d. 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.

e. 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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

g. 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.

h. Test the EUT in the lowest channel, the middle channel, the Highest channel.

i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

j. Repeat above procedures until all frequencies measured was complete.

Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Detector	Polarization
906	109.57	17.68	91.89	94.00	-2.11	Peak	Horizontal
	112.64	17.68	94.96	114.00	-19.04	Peak	Vertical
	108.65	17.68	90.97	94	-3.03	Average	Vertical
914	112.77	17.53	95.24	114.00	-18.76	Peak	Horizontal
	107.57	17.53	90.04	94	-3.96	Average	Horizontal
	112.10	17.53	94.57	114.00	-19.43	Peak	Vertical
	107.47	17.53	89.94	94	-4.06	Average	Vertical
924	111.81	17.39	94.42	114.00	-19.58	Peak	Horizontal
	108.69	17.39	91.3	94	-2.7	Average	Horizontal
	114.09	17.39	96.70	114.00	-17.3	Peak	Vertical
	109.54	17.39	92.15	94	-1.85	Average	Vertical

Remark:

1) The basic equation with a sample calculation is as follows: Level = Read Level + Factor.

(The Factor is calculated by adding the Antenna Factor, Cable Loss and Preamp Factor)

If the Peak value below the AV Limit, the AV test doesn't perform for this submission.

7.4 Restricted Band Around Fundamental Frequency

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.249(d) & 15.209

Test Method: ANSI C63.10 (2013) Section 6.4&6.5&6.6

Limit:

Frequency	Limit (dBuV/m @3m)	Remark
30MHz-88MHz	40.0	Quasi-peak Value
88MHz-216MHz	43.5	Quasi-peak Value
216MHz-960MHz	46.0	Quasi-peak Value
960MHz-1GHz	54.0	Quasi-peak Value
Above 1GHz	54.0	Average Value
Above 1GHz	74.0	Peak Value
Emission 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.		

7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1002 mbar

Test mode b:TX mode_Keep the EUT in transmitting with modulation mode.

7.4.2 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

d. 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.

e. 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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

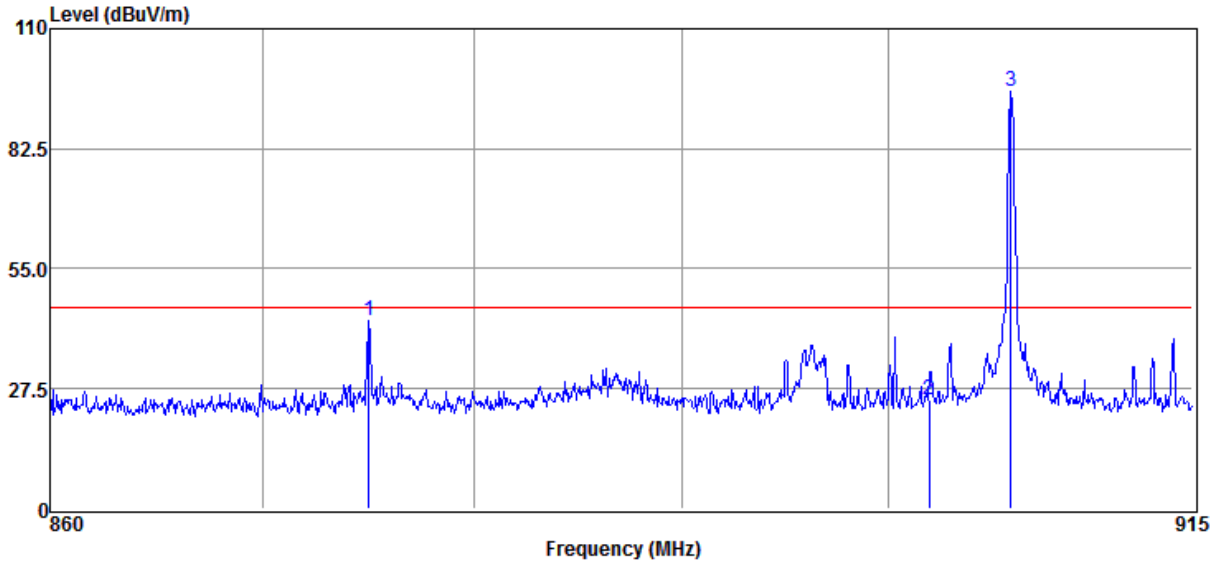
g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

h. Test the EUT in the lowest channel, the middle channel, the Highest channel.

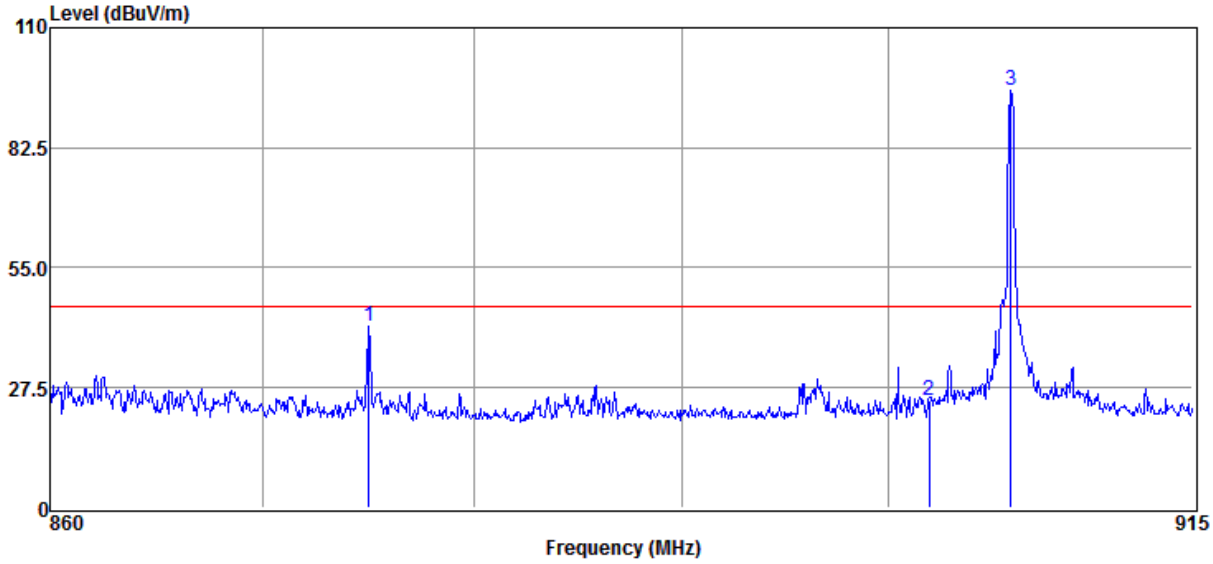
i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

j. Repeat above procedures until all frequencies measured was complete.

Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor



Item	Freq.	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector	Polarization
(Mark)	(MHz)	(dBµV)	(dB/m)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(dB)		
1	875.004	61.05	22.51	42.92	2.36	43.00	46.00	-3.00	Peak	HORIZONTAL
2	902.000	42.76	22.74	42.87	2.42	25.05	46.00	-20.95	Peak	HORIZONTAL
3	906.025	113.26	22.77	42.87	2.42	95.58	46.00	49.58	Peak	HORIZONTAL



Item	Freq.	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector	Polarization
(Mark)	(MHz)	(dBµV)	(dB/m)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(dB)		
1	875.004	59.47	22.51	42.92	2.36	41.42	46.00	-4.58	Peak	VERTICAL
2	902.000	42.20	22.74	42.87	2.42	24.49	46.00	-21.51	Peak	VERTICAL
3	906.025	113.37	22.77	42.87	2.42	95.69	46.00	49.69	Peak	VERTICAL

7.5 Radiated Emissions

Test Requirement 47 CFR Part 15, Subpart C 15.209 & 15.249 (a),(d)

Test Method: ANSI C63.10 (2013) Section 6.4&6.5&6.6

Limit:

Frequency(MHz)	Field strength (microvolts/meter)	Limit (dBuV/m)	Detector	Measurement Distance (meters)
0.009-0.490	2400/F(kHz)	-	-	300
0.490-1.705	24000/F(kHz)	-	-	30
1.705-30	30	-	-	30
30-88	100	40.0	QP	3
88-216	150	43.5	QP	3
216-960	200	46.0	QP	3
960-1000	500	54.0	QP	3
Above 1000	500	54.0	AV	3

7.5.1 E.U.T. Operation

Operating Environment:

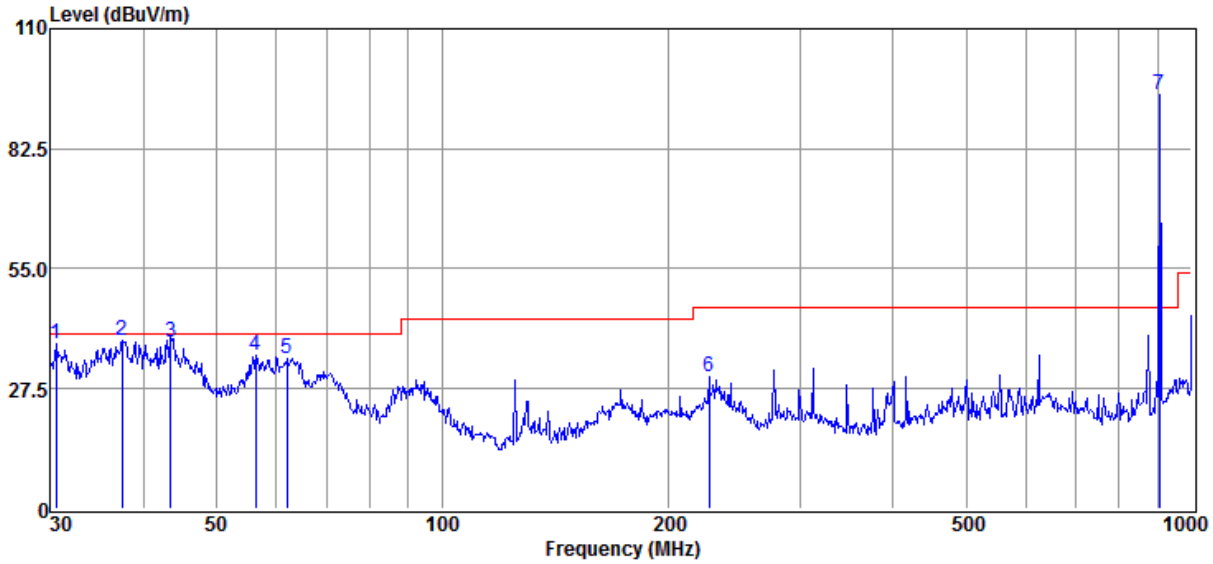
Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1002 mbar

Test mode b:TX mode_Keep the EUT in transmitting with modulation mode.

7.5.2 Measurement Procedure and Data

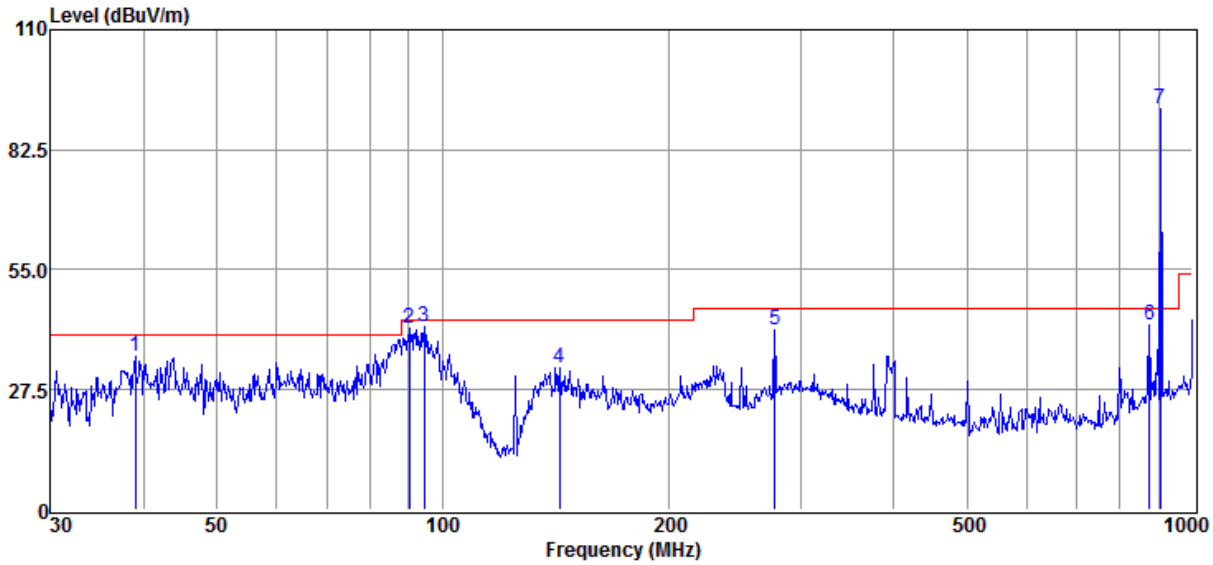
For testing performed with the loop antenna, the center of the loop was positioned 1 m above the ground and positioned with its plane vertical at the specified distance from the EUT. During testing the loop was rotated about its vertical axis for maximum response at each azimuth and also investigated with the loop positioned in the horizontal plane. Only the worst position of vertical was shown in the report.

906
30MHz-1GHz:
Vertical:



Item	Freq.	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dBμV)	(dB/m)	(dB)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
1	30.531	65.63	15.36	43.66	0.61	37.94	40.00	-2.06	QP
2	37.416	65.48	16.07	43.69	0.74	38.60	40.00	-1.40	QP
3	43.353	66.79	14.25	43.71	0.83	38.16	40.00	-1.84	QP
4	56.395	65.90	11.91	43.74	0.90	34.97	40.00	-5.03	QP
5	61.995	64.95	12.35	43.75	0.88	34.43	40.00	-5.57	QP
6	226.894	62.84	10.58	43.66	0.48	30.24	46.00	-15.76	QP
7	906.482	112.64	22.77	42.87	2.42	94.96	46.00	48.96	QP

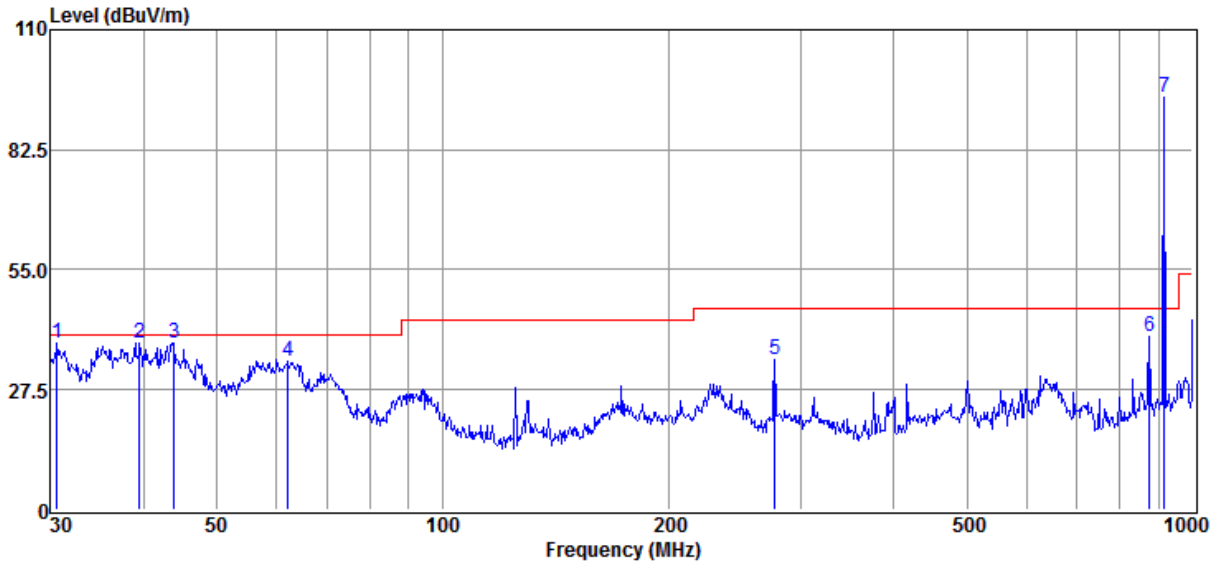
Horizontal:



Item	Freq.	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dBµV)	(dB/m)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
1	38.888	62.02	16.20	43.69	0.77	35.30	40.00	-4.70	QP
2	90.220	76.19	8.15	43.72	0.81	41.43	43.50	-2.07	QP
3	94.428	76.17	8.75	43.72	0.80	42.00	43.50	-1.50	QP
4	143.326	64.21	11.51	43.73	0.57	32.56	43.50	-10.94	QP
5	277.094	72.08	12.45	43.74	0.60	41.39	46.00	-4.61	QP
6	875.247	60.36	22.51	42.92	2.36	42.31	46.00	-3.69	QP
7	906.482	109.57	22.77	42.87	2.42	91.89	46.00	45.89	QP

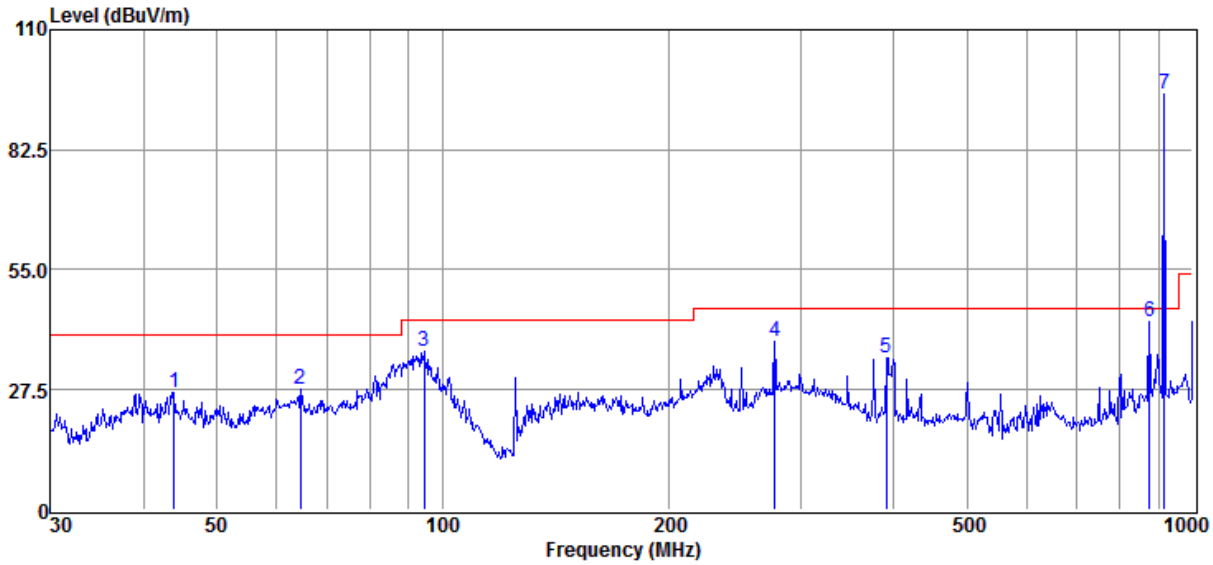
914

Vertical:



Item	Freq.	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dBµV)	(dB/m)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
1	30.638	65.69	15.37	43.66	0.62	38.02	40.00	-1.98	QP
2	39.437	64.87	16.25	43.70	0.78	38.20	40.00	-1.80	QP
3	43.812	67.24	13.98	43.71	0.84	38.35	40.00	-1.65	QP
4	62.213	64.72	12.33	43.75	0.88	34.18	40.00	-5.82	QP
5	277.094	65.20	12.45	43.74	0.60	34.51	46.00	-11.49	QP
6	875.247	57.78	22.51	42.92	2.36	39.73	46.00	-6.27	QP
7	916.069	112.10	22.88	42.85	2.44	94.57	46.00	48.57	QP

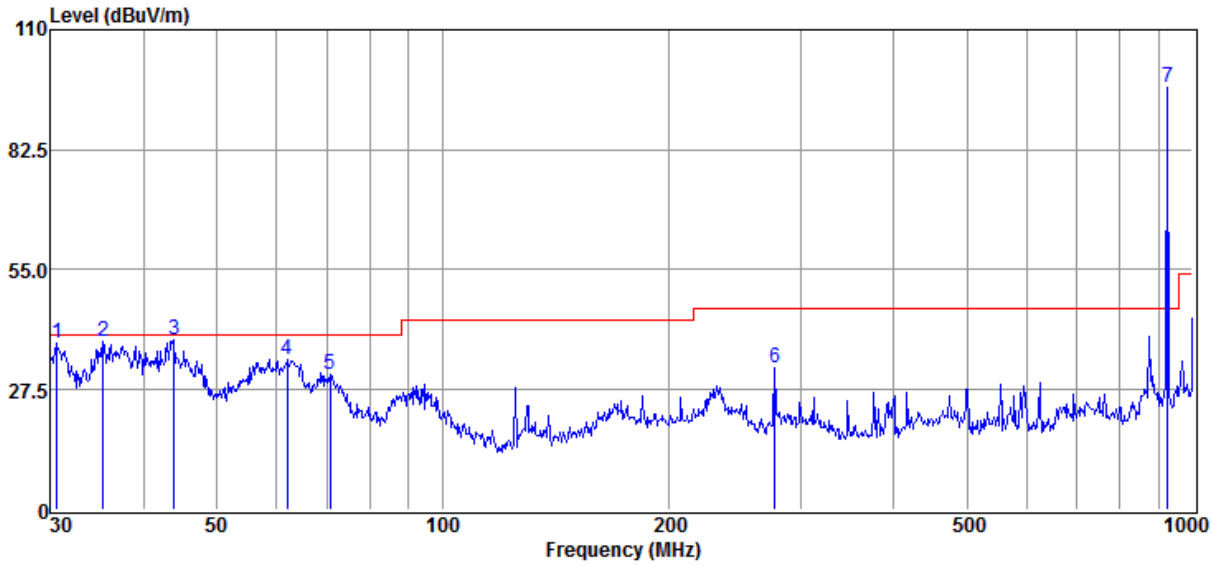
Horizontal:



Item	Freq.	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dBµV)	(dB/m)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
1	43.812	55.72	13.98	43.71	0.84	26.83	40.00	-13.17	QP
2	64.659	58.55	12.03	43.74	0.87	27.71	40.00	-12.29	QP
3	94.428	70.36	8.75	43.72	0.80	36.19	43.50	-7.31	QP
4	277.094	69.39	12.45	43.74	0.60	38.70	46.00	-7.30	QP
5	390.723	62.59	14.94	43.61	0.84	34.76	46.00	-11.24	QP
6	875.247	61.33	22.51	42.92	2.36	43.28	46.00	-2.72	QP
7	916.069	112.77	22.88	42.85	2.44	95.24	46.00	49.24	QP

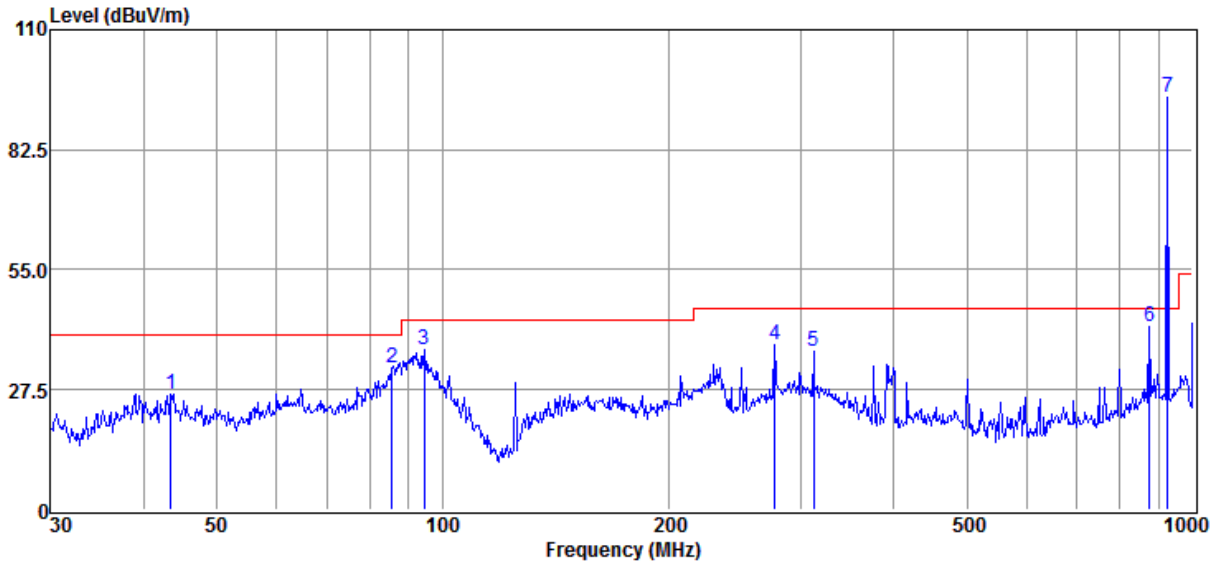
924

Vertical:



Item	Freq.	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dBµV)	(dB/m)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
1	30.638	65.97	15.37	43.66	0.62	38.30	40.00	-1.70	QP
2	35.251	65.73	15.86	43.68	0.70	38.61	40.00	-1.39	QP
3	43.812	67.64	13.98	43.71	0.84	38.75	40.00	-1.25	QP
4	61.995	64.90	12.35	43.75	0.88	34.38	40.00	-5.62	QP
5	70.832	62.87	11.13	43.74	0.86	31.12	40.00	-8.88	QP
6	277.094	63.29	12.45	43.74	0.60	32.60	46.00	-13.40	QP
7	925.756	114.09	22.99	42.82	2.44	96.70	46.00	50.70	QP

Horizontal:



Item	Freq.	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dBµV)	(dB/m)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
1	43.353	55.10	14.25	43.71	0.83	26.47	40.00	-13.53	QP
2	85.598	67.38	8.06	43.72	0.82	32.54	40.00	-7.46	QP
3	94.428	70.85	8.75	43.72	0.80	36.68	43.50	-6.82	QP
4	277.094	68.57	12.45	43.74	0.60	37.88	46.00	-8.12	QP
5	312.179	65.81	13.45	43.61	0.69	36.34	46.00	-9.66	QP
6	875.247	60.04	22.51	42.92	2.36	41.99	46.00	-4.01	QP
7	925.756	111.81	22.99	42.82	2.44	94.42	46.00	48.42	QP

Above 1GHz:

906MHz:

Mark	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Emission (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Polarization
1	6776.265	38.34	2.47	40.81	54	-13.19	peak	Horizontal
2	10545.01	38.35	8.23	46.58	54	-7.42	peak	Horizontal
3	11467	37.75	9.41	47.16	54	-6.84	peak	Horizontal
4	5104.741	41.25	-1.99	39.26	54	-14.74	peak	Vertical
5	7368.741	39.21	3.84	43.05	54	-10.95	peak	Vertical
6	11500.2	38.91	9.38	48.29	54	-5.71	peak	Vertical

914MHz:

Mark	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Emission (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Polarization
1	7432.914	40.86	3.98	44.84	54	-9.16	peak	Horizontal
2	9530.432	41.49	6.3	47.79	54	-6.21	peak	Horizontal
3	11467	38.75	9.41	48.16	54	-5.84	peak	Horizontal
4	6934.778	40.82	2.84	43.66	54	-10.34	peak	Vertical
5	7717.518	41.15	4.28	45.43	54	-8.57	peak	Vertical
6	11500.2	38.91	9.38	48.29	54	-5.71	peak	Vertical

924MHz:

Mark	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Emission (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Polarization
1	4417.841	43.85	-4.29	39.56	54	-14.44	peak	Horizontal
2	9530.432	40.49	6.3	46.79	54	-7.21	peak	Horizontal
3	12651.13	39.9	8.14	48.04	54	-5.96	peak	Horizontal
4	4547.396	45.58	-3.79	41.79	54	-12.21	peak	Vertical
5	9558.018	41.81	6.33	48.14	54	-5.86	peak	Vertical
6	11735.25	40.1	8.81	48.91	54	-5.09	peak	Vertical

7.6 99% Bandwidth

Test Requirement RSS-Gen Section 6.6

Test Method: ANSI C63.10 Section 6.9.3

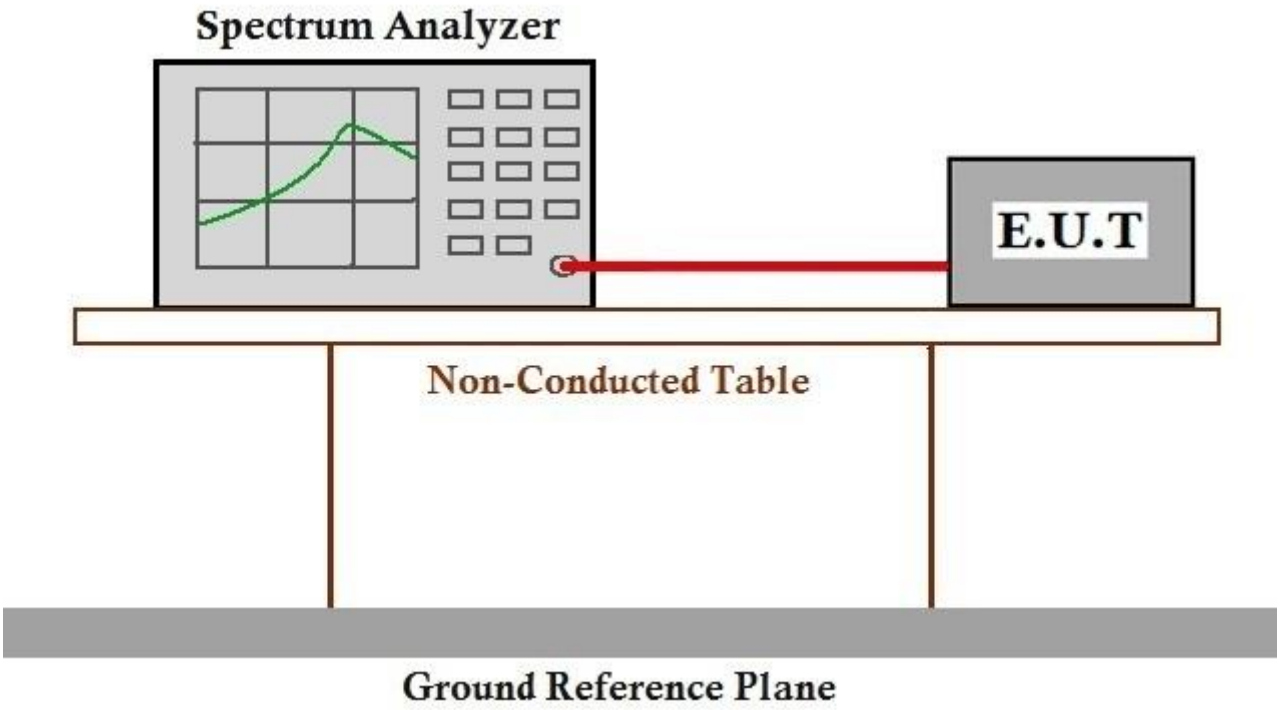
7.6.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1002 mbar

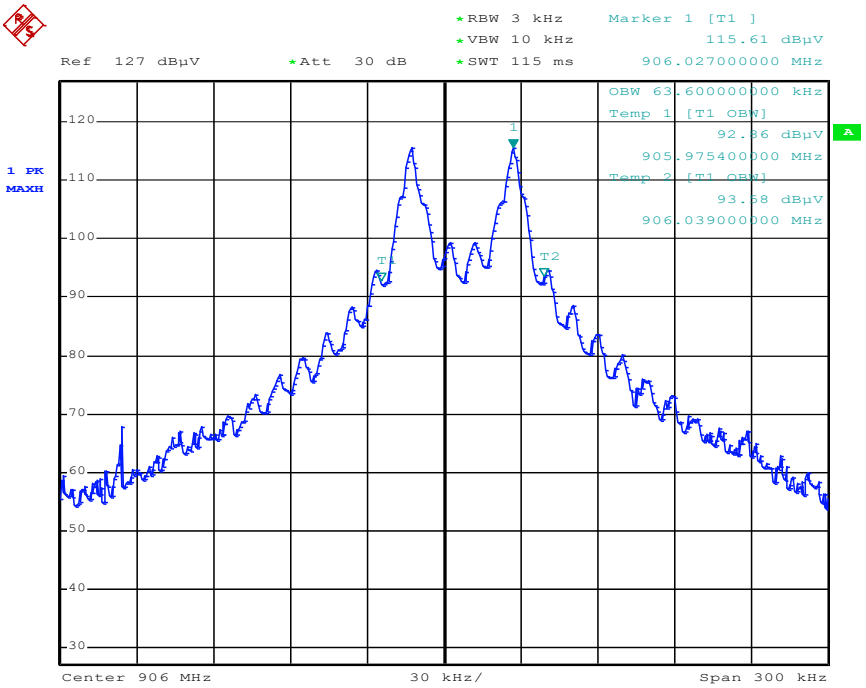
Test mode b:TX mode_Keep the EUT in transmitting with modulation mode.

7.6.2 Test Setup Diagram

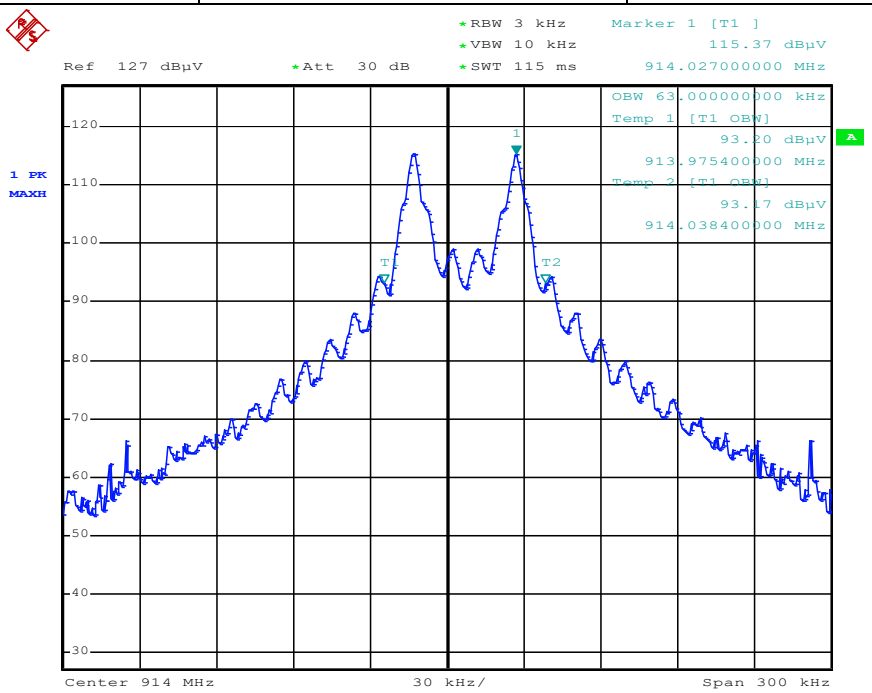


7.6.3 Measurement Procedure and Data

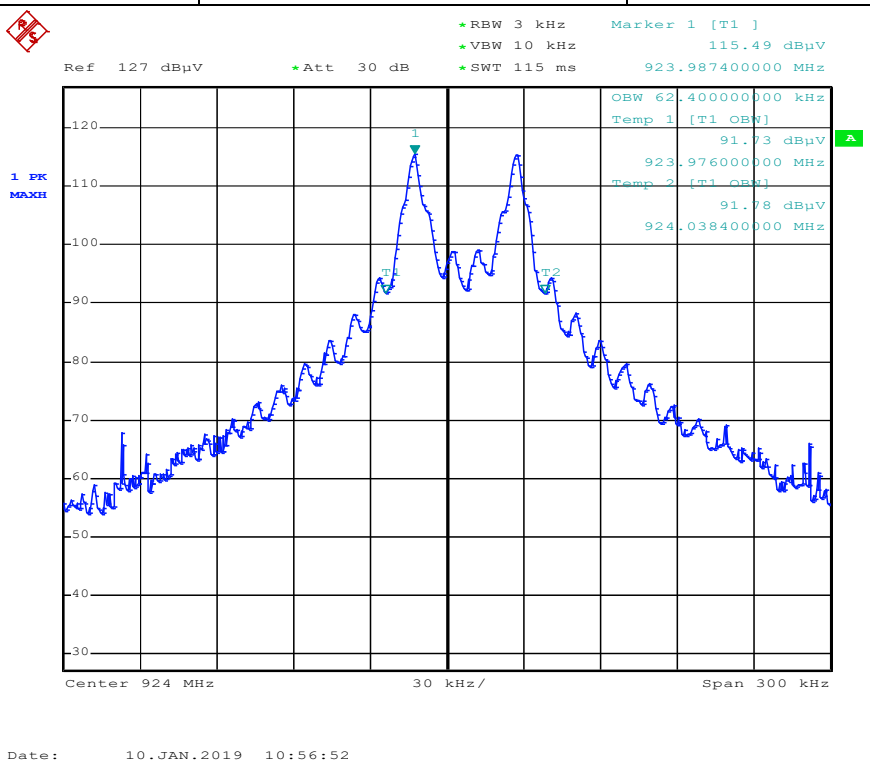
Frequency (MHz)	Bandwidth (MHz)	Result
906	0.064	PASS



Frequency (MHz)	Bandwidth (MHz)	Result
914	0.063	PASS



Frequency (MHz)	Bandwidth (MHz)	Result
924	0.062	PASS



8 Equipment Under Test Pictures

Refer to the < Test Setup Photos-FCC >

9 EUT Constructional Details

Refer to the < External Photos > & < Internal Photos >.

- End of the Report -