

FCC Radio Test Report

FCC ID: P27SWSCM01N

This report concerns (check one): ☒ Original Grant ☐ Class II Change

Project No. : 1805T073
Equipment : Z-Wave Smart Chime
Test Model : SW-SCM01N
Series Model : SW-SCM01Nxxxxxxxx (the 1st x should be "blank" or "-"; the rest x could be 0 to 9, A to Z, a to z, "blank" or "-", for marketing purpose)
Applicant : Sercomm Corporation
Address : 8F, No. 3-1, YuanQu St., NanKang, Taipei 115, Taiwan, R.O.C.

Date of Receipt : May 29, 2018
Date of Test : May 29, 2018 ~ Jul. 09, 2018
Issued Date : Jul. 31, 2018
Tested by : BTL Inc.

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Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

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BTL's laboratory quality assurance procedures are in compliance with the **ISO Guide 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements in all the possible configurations as representative of its intended use.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

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REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FCCP-1-1805T073	Original Issue.	Jul. 16, 2018
MTP1807082	Revised antenna information and power rating.	Jul. 31, 2018

1. CERTIFICATION

Equipment : Z-Wave Smart Chime
Brand Name : Sercomm, ADT
Test Model : SW-SCM01N
Series Model : SW-SCM01Nxxxxxxxx (the 1st x should be "blank" or "-"; the rest x could be 0 to 9, A to Z, a to z, "blank" or "-", for marketing purpose)
Applicant : Sercomm Corporation
Date of Test : May 29, 2018 ~ Jul. 09, 2018
Test Sample : Engineering Sample
Standard(s) : FCC Part15, Subpart C(15.249)/ ANSI C63.10-2013

The above equipment has been tested and found in compliance with the requirement of the relative standards by BTL Inc.

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCCP-1-1805T073) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC Part15, Subpart C (15.249)			
StandardSection	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.209 15.249	Radiated Spurious Emission	PASS	
-	Bandwidth	PASS	

NOTE:

(1)"N/A" denotes test is not applicable in this test report.

2.1 TEST FACILITY

The test facilities used to collect the test data in this report:

Conducted emission Test:

C05: (FCC RN:674415; FCC DN:TW0659)
No. 68-1, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan (R.O.C.)

Radiated emission Test (Below 1GHz):

CB15: (FCC RN:674415; FCC DN:TW0659; ISED Assigned Code:20088-5)
No. 68-1, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan (R.O.C.)

Radiated emission Test (Above 1GHz):

CB15: (FCC RN:674415; FCC DN:TW0659; ISED Assigned Code:20088-5)
No. 68-1, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan (R.O.C.)

2.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. The BTL measurement uncertainty is less than the CISPR 16-4-2 U_{CISPR} requirement.

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately **95 %**.

A. Conducted Measurement :

Test Site	Method	Measurement Frequency Range	$U, (\text{dB})$
C05	CISPR	150 kHz ~ 30MHz	2.68

B. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	$U, (\text{dB})$
CB15 (3m)	CISPR	9kHz ~ 150kHz	2.82
		150kHz ~ 30MHz	2.58

Test Site	Method	Measurement Frequency Range	Ant. H / V	$U, (\text{dB})$
CB15 (3m)	CISPR	30MHz ~ 200MHz	V	4.20
		30MHz ~ 200MHz	H	3.64
		200MHz ~ 1,000MHz	V	4.56
		200MHz ~ 1,000MHz	H	3.90

Test Site	Method	Measurement Frequency Range	Ant. H / V	$U, (\text{dB})$
CB15 (3m)	CISPR	1GHz ~ 6GHz	V	4.46
		1GHz ~ 6GHz	H	4.40
		6GHz ~ 18GHz	V	3.88
		6GHz ~ 18GHz	H	4.00

Test Site	Method	Measurement Frequency Range	$U, (\text{dB})$
CB15 (1m)	CISPR	18 ~ 26.5 GHz	4.62
		26.5 ~ 40 GHz	5.12

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

Our calculated Measurement Instrumentation Uncertainty is shown in the tables above. These are our U_{lab} values in CISPR 16-4-2 terminology.

Since Table 1 of CISPR 16-4-2 has values of measurement instrumentation uncertainty, called U_{CISPR} , as follows:

Conducted Disturbance (mains port) – 150 kHz – 30 MHz : 3.6 dB

Radiated Disturbance (electric field strength on an open area test site or alternative test site) – 30 MHz – 1000 MHz : 5.2 dB

It can be seen that our U_{lab} values are smaller than U_{CISPR} .

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	Z-Wave Smart Chime
Brand Name	Sercomm, ADT
Test Model	SW-SCM01N
Series Model	SW-SCM01Nxxxxxxxx (the 1st x should be "blank" or "-"; the rest x could be 0 to 9, A to Z, a to z, "blank" or "-", for marketing purpose)
Model Difference	Different model distribute to different area.
Power Source	AC Mains.
Power Rating	I/P:AC 100-120V~50Hz
Operation Frequency	908.4~916 MHz
Modulation Technology	FSK
Data rate	17.2Kbps
Field Strength	44.55dBuV/m

Note:

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

2. Channel List:

Channe	Frequency (MHz)
01	908.4
02	908.42
03	916

3. Table for Filed Antenna:

Ant.	Manufacturer	Model Name	Antenna Type	Connector	Gain (dBi)
1	Sercomm	SW-SCM01	coil antenna	N/A	-3.49

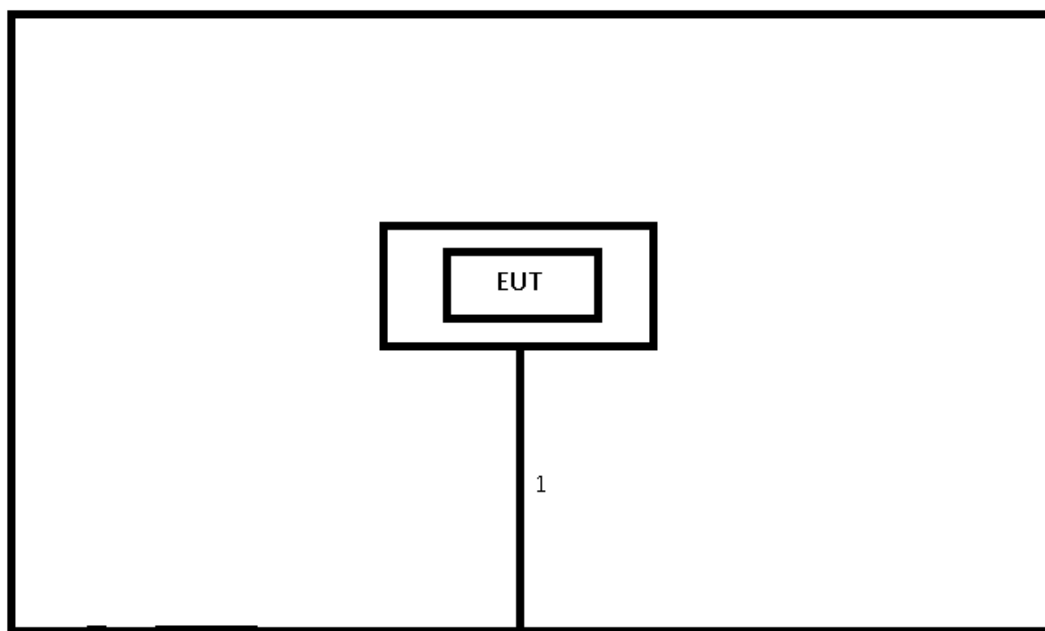
3.2 DESCRIPTION OF TEST MODES

The test system was pre-tested based on the consideration of all possible combinations of EUT operation mode.

Following mode(s) as (were) found to be the worst case(s) and selected for the final test.

Test Items	Test mode	Channel	Note
Conducted Emission	TX Mode	02	-
Radiated Spurious Emission (BELOW 1GHz)	TX Mode	01/02/03	-
Radiated Spurious Emission (ABOVE 1GHz)	TX Mode	01/02/03	-
Bandwidth	TX Mode	01/02/03	-

3.3 BLOCKDIAGRAMSHOWINGTHECONFIGURATIONOFSYSTEMTESTED



3.4 DESCRIPTION OF SUPPORT UNITS

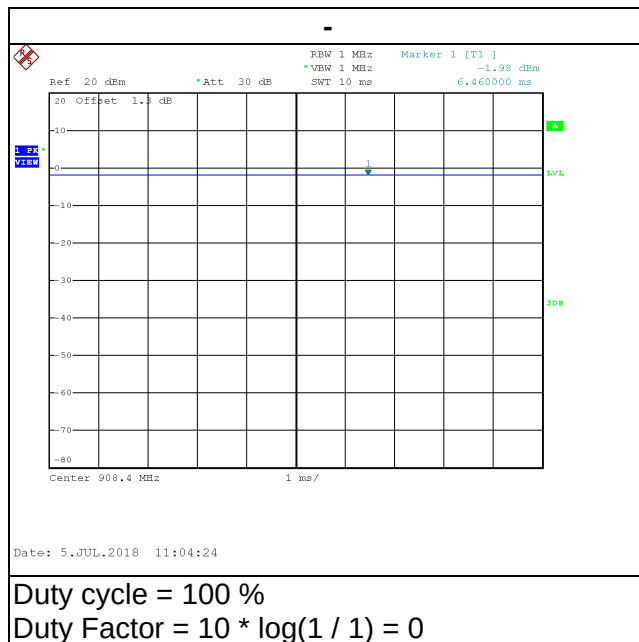
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.
-	-	-	-	-	-

Item	Shielded Type	Ferrite Core	Length	Note
1	YES	YES	1.5m	Power Cable

3.5 DUTY CYCLE

If duty cycle is $\geq 98\%$, duty factor is not required.
If duty cycle is $< 98\%$, duty factor shall be considered.



4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

Frequency of Emission (MHz)	Conducted Limit (dBμV)	
	Quasi-peak	Average
0.15 -0.50	66 to 56*	56 to 46*
0. 0 -5.0	56	46
5.0 -30.0	60	50

Note:

- (1) The limit of " * " decreases with the logarithm of the frequency
- (2) The test result calculated as following:
 Measurement Value = Reading Level + Correct Factor
 Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use)
 Margin Level = Measurement Value - Limit Value

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 KHz

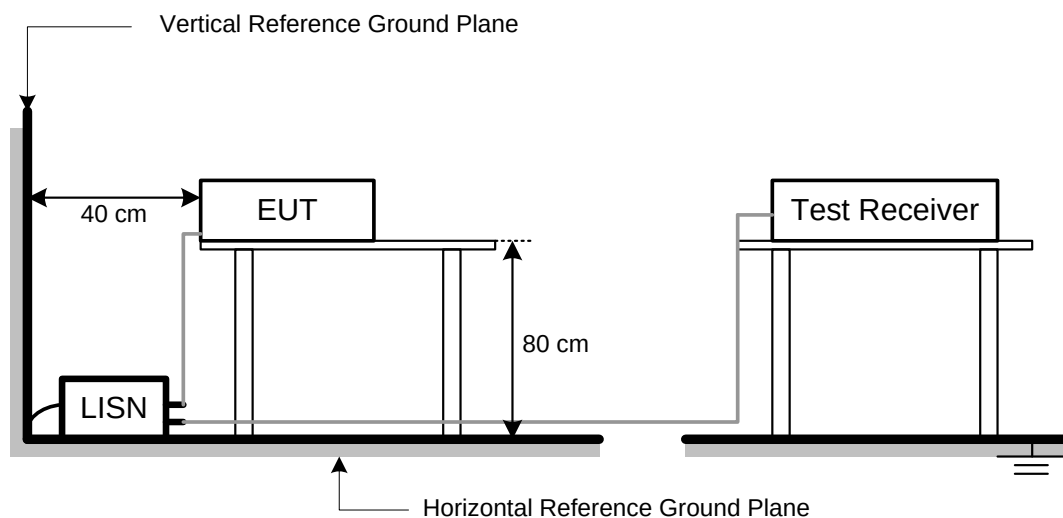
4.1.2 TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.3 DEVIATION FROM TEST STANDARD

No deviation

4.1.4 TEST SETUP



4.1.5 EUT OPERATING CONDITIONS

The EUT was placed on the test table and programmed in normal function.

4.1.6 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 45% Test Voltage: AC 120V/60Hz

4.1.7 TEST RESULTS

Please refer to the Appendix A.

4.2 RADIATED EMISSION MEASUREMENT

4.2.1 RADIATED EMISSION LIMITS (FCC 15.209)

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
960~1000	500	3

Harmonic emissions limits comply with below 54dBuV/m at 3m. Other 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 comply with the radiated emissions limits specified in section 15.209(a) limit in the table below has to be followed.

Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission level (dBuV/m)=20log Emission level (uV/m).

LIMITS OF RADIATED EMISSION MEASUREMENT (FCC 15.209)

FREQUENCY (MHz)	(dBuV/m) (at 3m)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~90kHz for PK/AVG detector
Start ~ Stop Frequency	90kHz~110kHz for QP detector
Start ~ Stop Frequency	110kHz~490kHz for PK/AVG detector
Start ~ Stop Frequency	490kHz~30MHz for QP detector
Start ~ Stop Frequency	30MHz~1000MHz for QP detector

4.2.2 TESTPROCEDURE

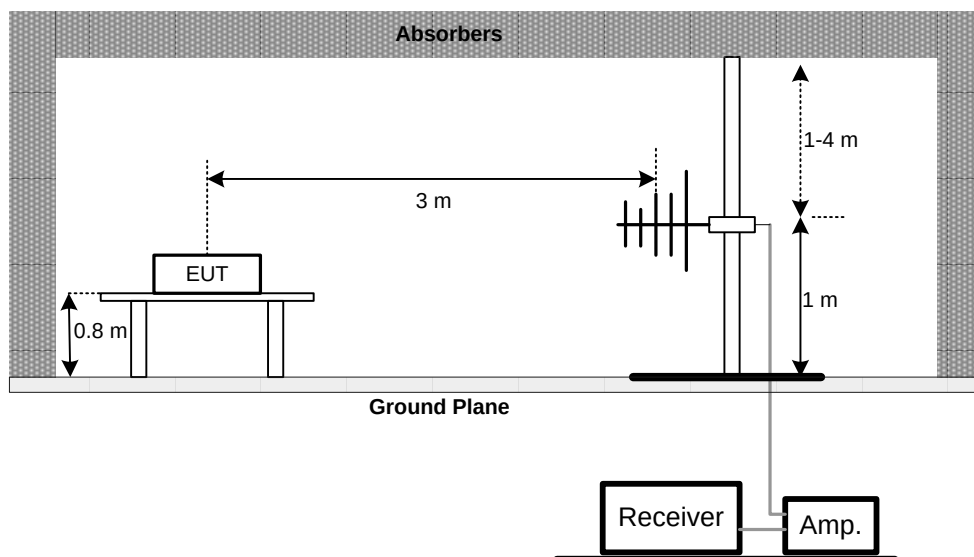
- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- c. The height of the equipment or of the substitution antenna shall be 0.8 m or 1.5m,the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1GHz.
- f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1GHz)
- h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1GHz)
- i. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.2.3 DEVIATIONFROMTESTSTANDARD

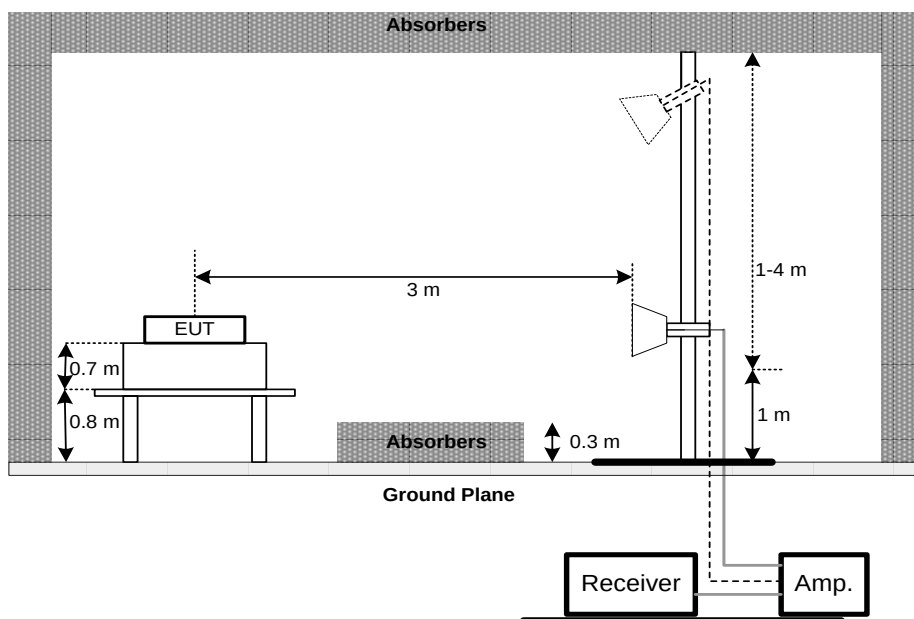
No deviation

4.2.4 TESTSETUP

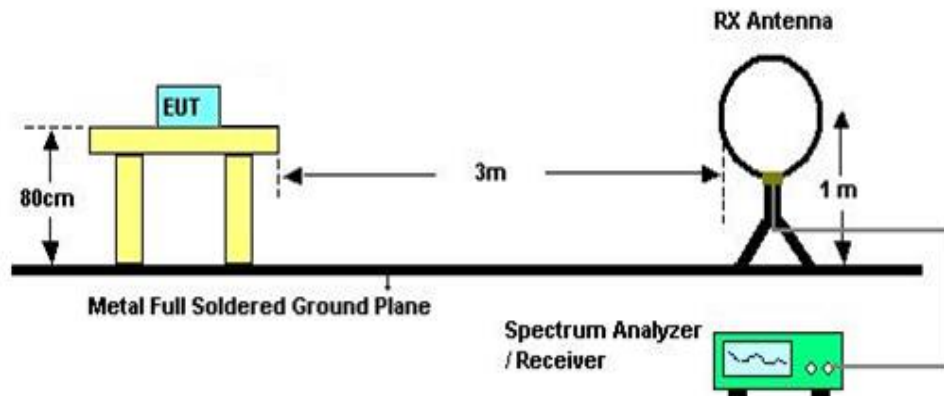
(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



(B) Radiated Emission Test Set-Up Frequency Above 1 GHz



(C) For radiated emissions below 30MHz



4.2.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.2.6 EUT TEST CONDITIONS

Temperature: 23°C Relative Humidity: 70% Test Voltage: AC 120V/60Hz

4.2.7 TEST RESULTS (9KHz TO 30MHz)

Please refer to the Appendix B.

Remark:

- (1) The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
- (2) Distance extrapolation factor = $40 \log (\text{specific distance} / \text{test distance})$ (dB);.
- (3) Limit line = specific limits (dBuV) + distance extrapolation factor..

4.2.8 TEST RESULTS (30 TO 1000 MHz)

Please refer to the Appendix C

4.2.9 TEST RESULTS (ABOVE 1000 MHz)

Please refer to the Appendix D

Remark:

- (1) EUT Orthogonal Axis:
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (2) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

5. BANDWIDTH TEST

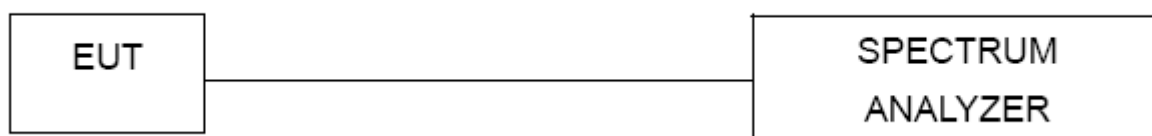
5.1 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting: RBW= 3kHz, VBW=3kHz, Sweep time = Auto.

5.2 DEVIATION FROM STANDARD

No deviation.

5.3 TEST SETUP



5.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 unless otherwise a special operating condition is specified in the follows during the testing.

5.5 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55% Test Voltage: AC 120V/60Hz

5.6 TEST RESULTS

Please refer to the Appendix E

6. MEASUREMENT INSTRUMENTS LIST AND SETTING

Conducted Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	TWO-LINE V-NETWORK	R&S	ENV216	101050	Mar. 08, 2019
2	Test Cable	EMCI	EMCCFD300-BM-BMR-6000	170715	Aug. 08, 2018
3	EMI Test Receiver	R&S	ESR7	101433	Dec. 10, 2018
4	Measurement Software	EZ	EZ EMC (Version NB-03A)	N/A	N/A

Radiated Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Preamplifier	EMCI	012645B	980267	Feb. 27, 2019
2	Preamplifier	EMCI	EMC02325	980217	Dec. 28, 2018
3	Test Cable	EMCI	EMC104-SM-SM-8000	8m	Jan. 03, 2019
4	Test Cable	EMCI	EMC104-SM-SM-800	150207	Jan. 03, 2019
5	Test Cable	EMCI	EEMC104-SM-SM-3000	151205	Jan. 03, 2019
6	MXE EMI Receiver	Agilent	N9038A	MY55420127	Jan. 08, 2019
7	Signal Analyzer	Agilent	N9010A	MY52220990	Feb. 21, 2019
8	Loop Ant	EMCI	LPA600	274	May 03, 2019
9	Horn Ant	SCHWARZBECK	BBHA 9120D	9120D-1342	Feb. 27, 2019
10	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	9168-548	Jan. 15, 2019
11	5dB Attenuator	EMCI	EMCI-N-6-05	AT-N0623	Jan. 15, 2019

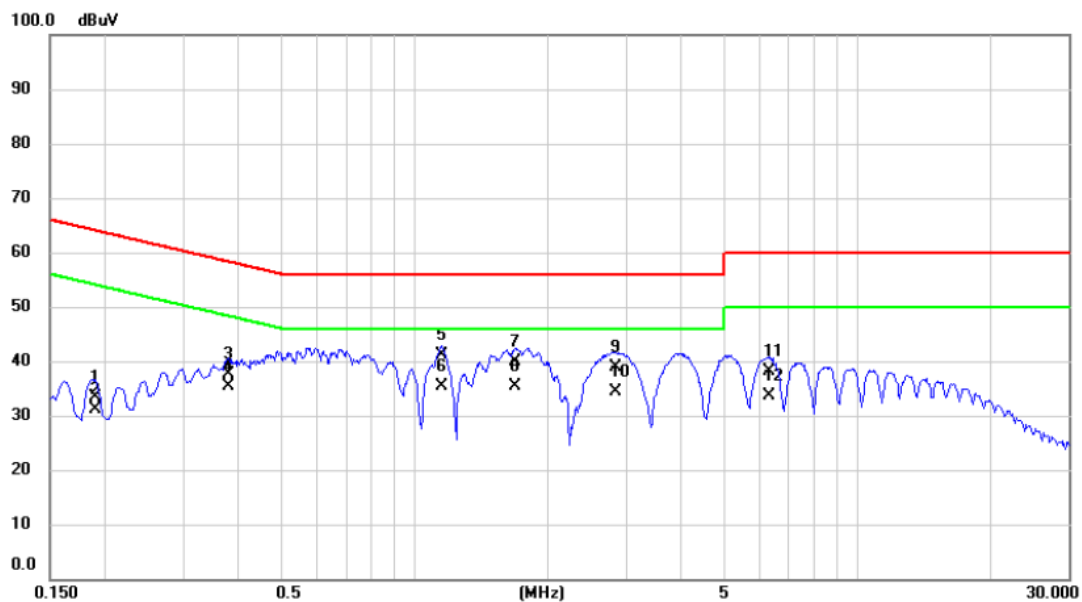
Bandwidth					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	R&S/FSP30	100854	May 24, 2019

Remark: "N/A" denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

APPENDIX A - CONDUCTED EMISSION

Test Mode:	TX 908.42MHz
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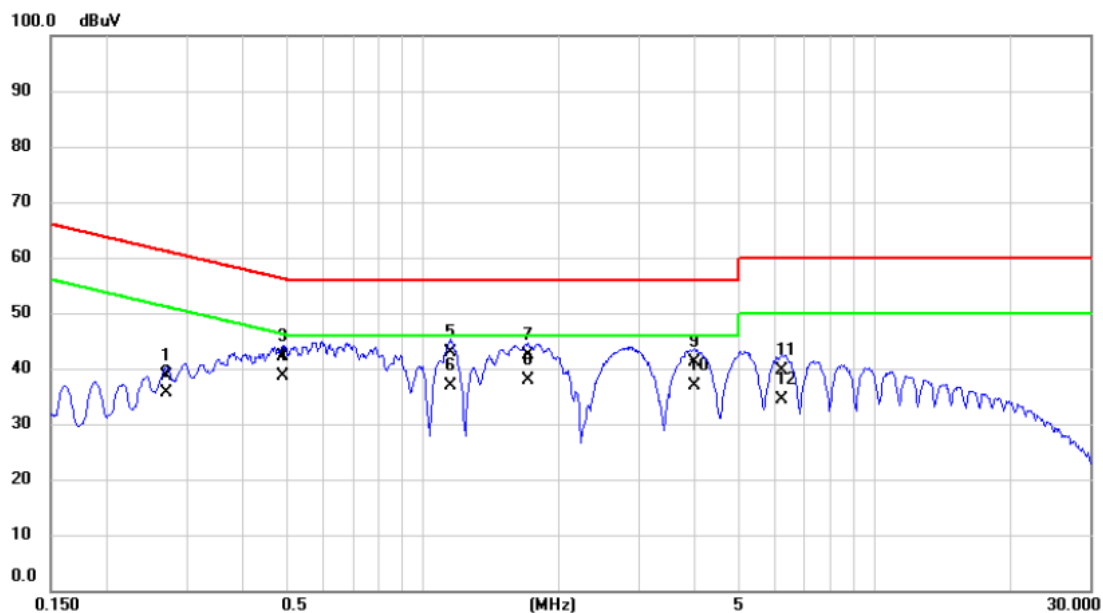
Line



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1905	23.80	9.63	33.43	64.01	-30.58	QP	
2		0.1905	21.60	9.63	31.23	54.01	-22.78	AVG	
3		0.3795	28.10	9.65	37.75	58.29	-20.54	QP	
4		0.3795	25.80	9.65	35.45	48.29	-12.84	AVG	
5		1.1535	31.40	9.67	41.07	56.00	-14.93	QP	
6	*	1.1535	25.80	9.67	35.47	46.00	-10.53	AVG	
7		1.6868	30.20	9.69	39.89	56.00	-16.11	QP	
8		1.6868	25.70	9.69	35.39	46.00	-10.61	AVG	
9		2.8500	29.20	9.71	38.91	56.00	-17.09	QP	
10		2.8500	24.70	9.71	34.41	46.00	-11.59	AVG	
11		6.3218	28.40	9.80	38.20	60.00	-21.80	QP	
12		6.3218	23.90	9.80	33.70	50.00	-16.30	AVG	

Test Mode:	TX 908.42MHz
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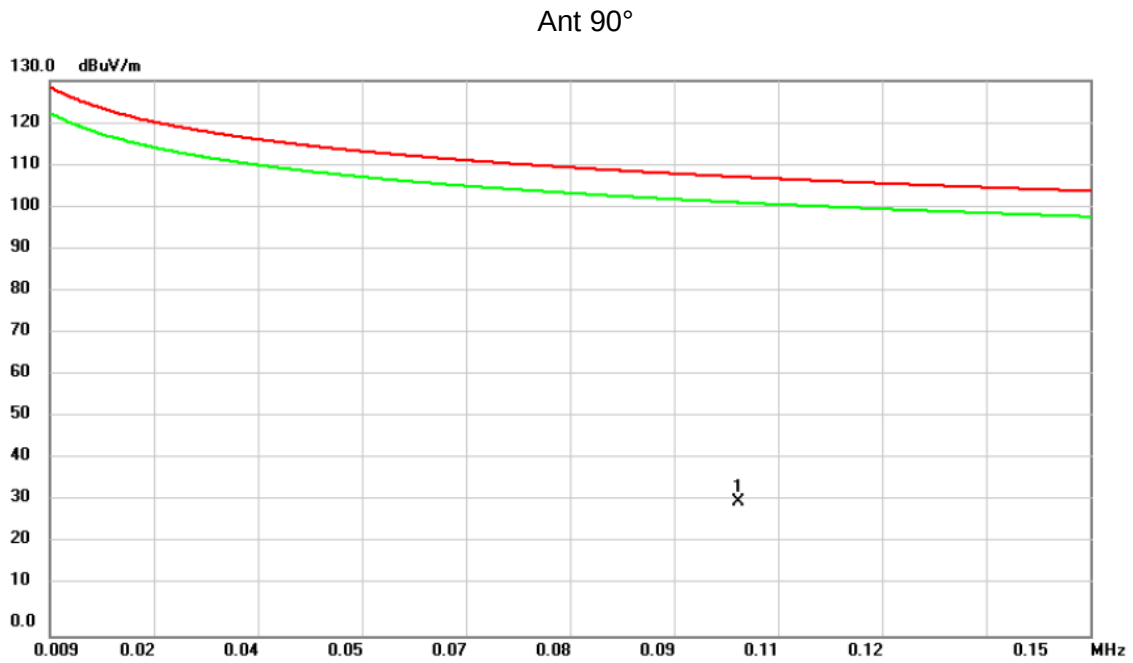
Neutral



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.2714	29.00	9.63	38.63	61.07	-22.44	QP	
2		0.2714	26.00	9.63	35.63	51.07	-15.44	AVG	
3		0.4897	32.50	9.65	42.15	56.17	-14.02	QP	
4	*	0.4897	28.90	9.65	38.55	46.17	-7.62	AVG	
5		1.1535	33.10	9.66	42.76	56.00	-13.24	QP	
6		1.1535	27.20	9.66	36.86	46.00	-9.14	AVG	
7		1.7115	32.70	9.67	42.37	56.00	-13.63	QP	
8		1.7115	28.10	9.67	37.77	46.00	-8.23	AVG	
9		3.9998	31.30	9.72	41.02	56.00	-14.98	QP	
10		3.9998	27.10	9.72	36.82	46.00	-9.18	AVG	
11		6.2475	29.80	9.79	39.59	60.00	-20.41	QP	
12		6.2475	24.70	9.79	34.49	50.00	-15.51	AVG	

APPENDIX B -RADIATED EMISSION (9KHZ TO 30MHZ)

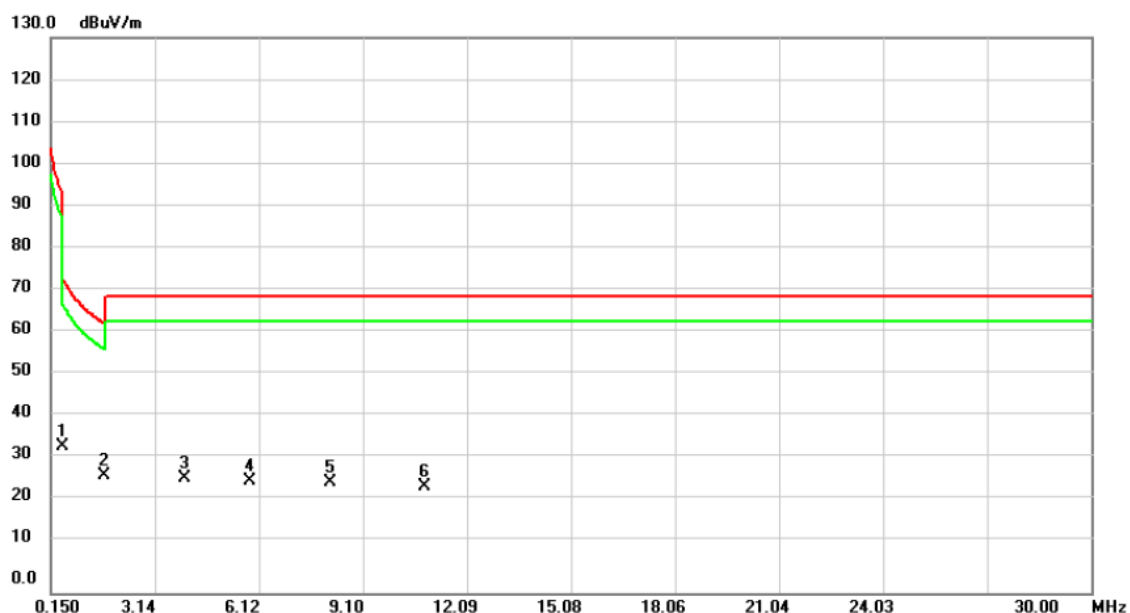
Test Mode:	TX Mode_908.42MHz
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No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1	*	0.1024	15.36	15.89	31.25	107.40	-76.15	peak	

Test Mode:	TX Mode_908.42MHz
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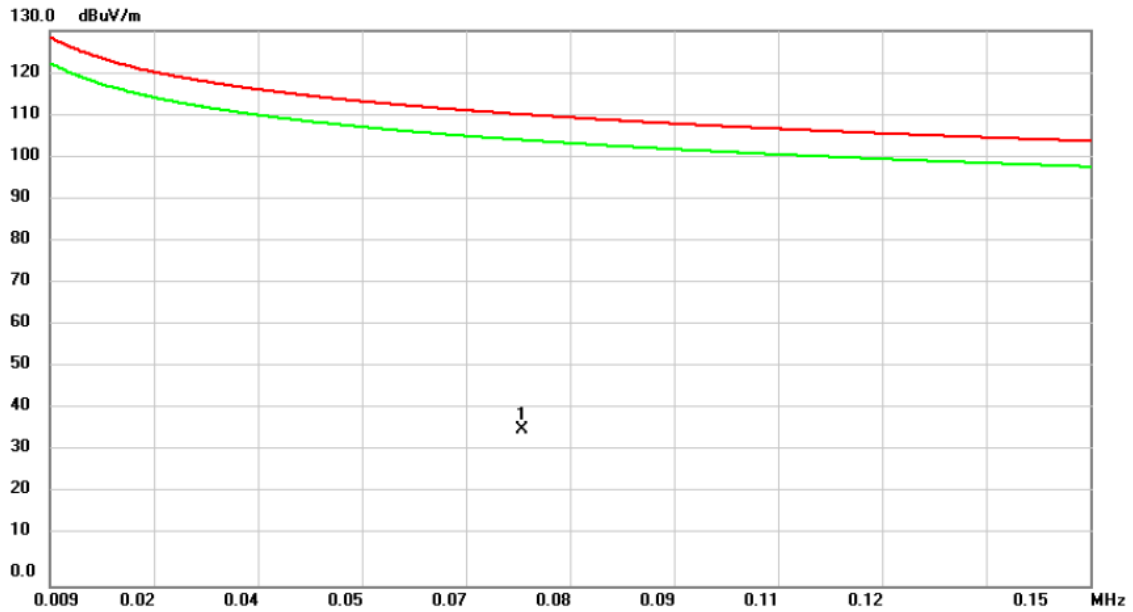
Ant 90°



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		0.5080	30.86	3.43	34.29	73.49	-39.20	peak	
2	*	1.6724	29.49	-2.09	27.40	63.14	-35.74	peak	
3		3.9708	30.48	-3.79	26.69	69.54	-42.85	peak	
4		5.8810	30.30	-4.01	26.29	69.54	-43.25	peak	
5		8.1498	30.11	-4.37	25.74	69.54	-43.80	peak	
6		10.8660	29.71	-4.80	24.91	69.54	-44.63	peak	

Test Mode:	TX Mode_908.42MHz
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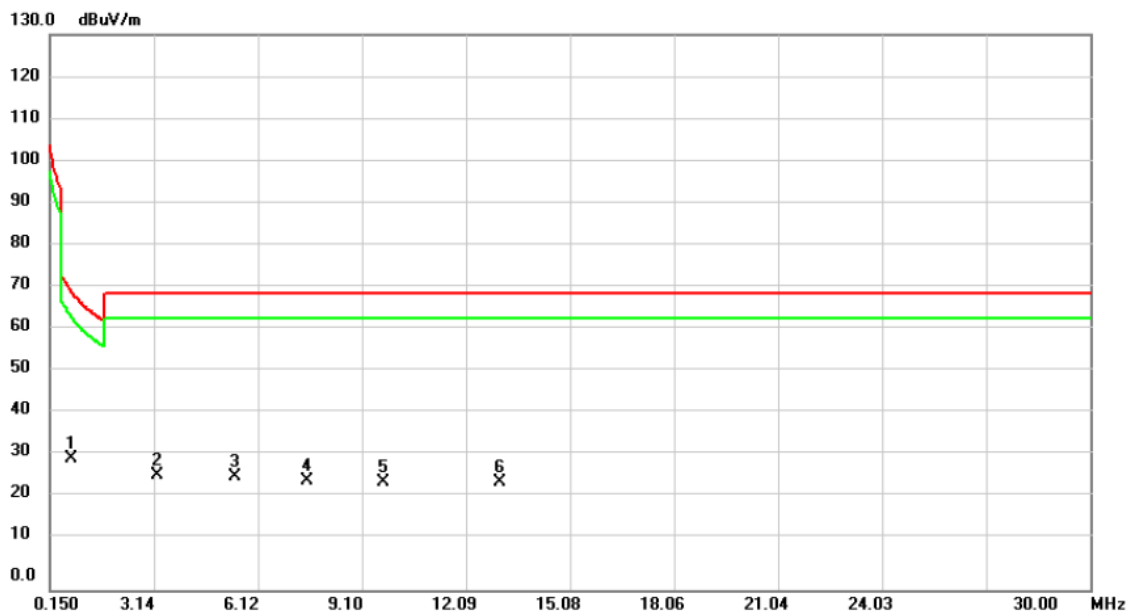
Ant 0°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0730	17.50	18.97	36.47	110.34	-73.87	peak	

Test Mode:	TX Mode_908.42MHz
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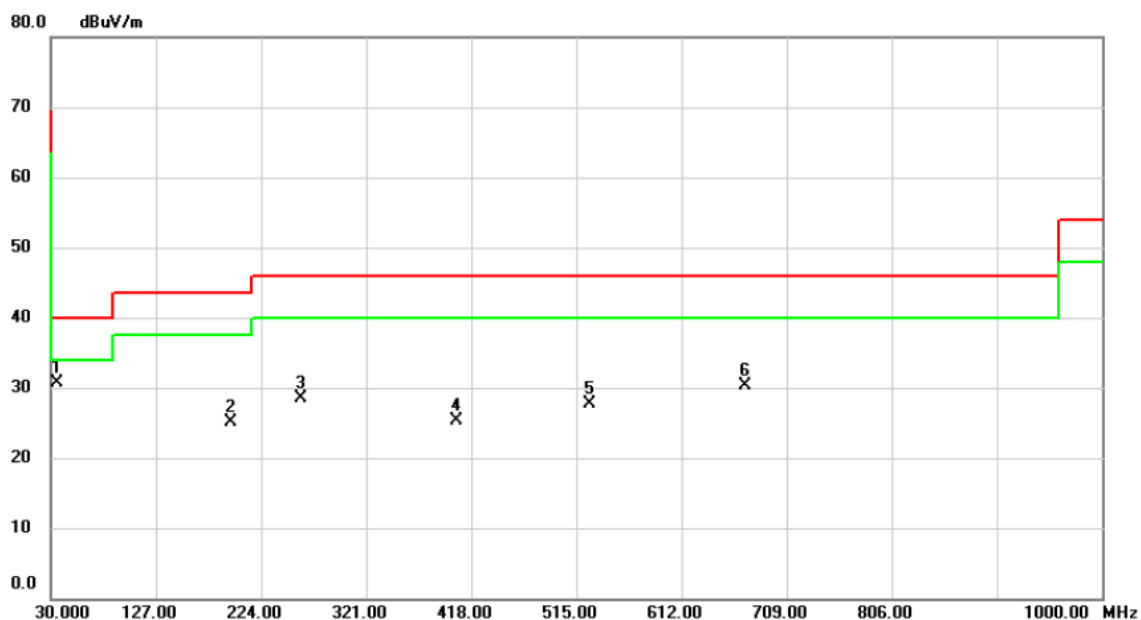
Ant 0°



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	0.7770	30.00	0.71	30.71	69.80	-39.09	peak	
2		3.2244	30.36	-3.69	26.67	69.54	-42.87	peak	
3		5.4633	30.50	-3.97	26.53	69.54	-43.01	peak	
4		7.5228	29.65	-4.22	25.43	69.54	-44.11	peak	
5		9.7317	29.85	-4.71	25.14	69.54	-44.40	peak	
6		13.0750	29.96	-4.82	25.14	69.54	-44.40	peak	

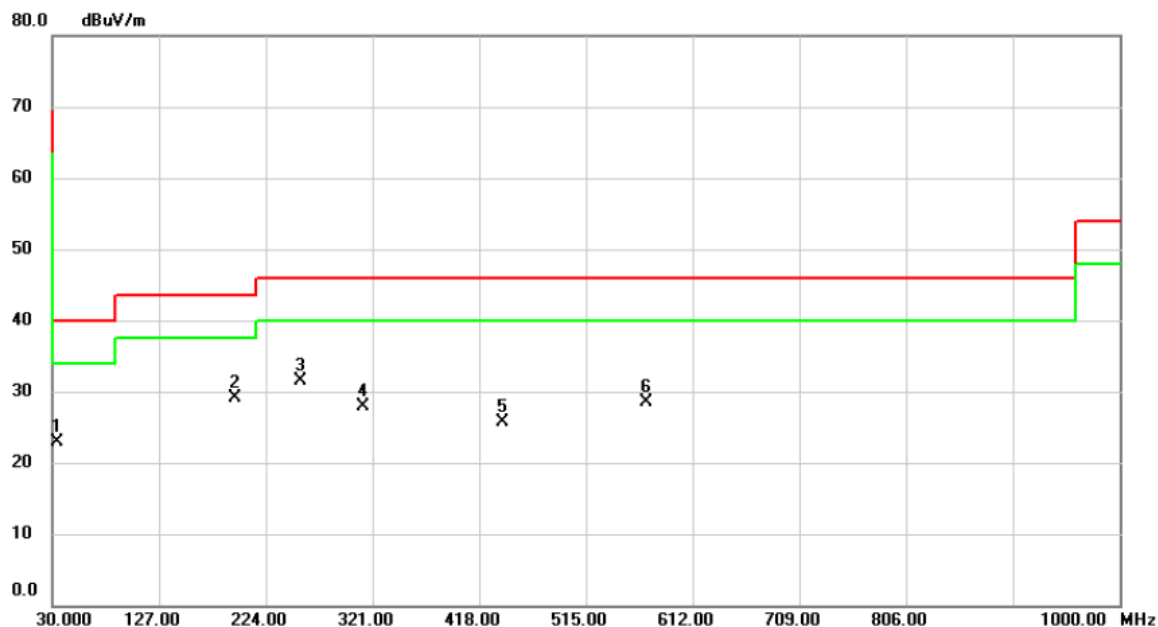
APPENDIX C -RADIATED EMISSION (30MHZ TO 1000MHZ)

Test Mode	TX Mode_908.4MHz	Polarization	Vertical
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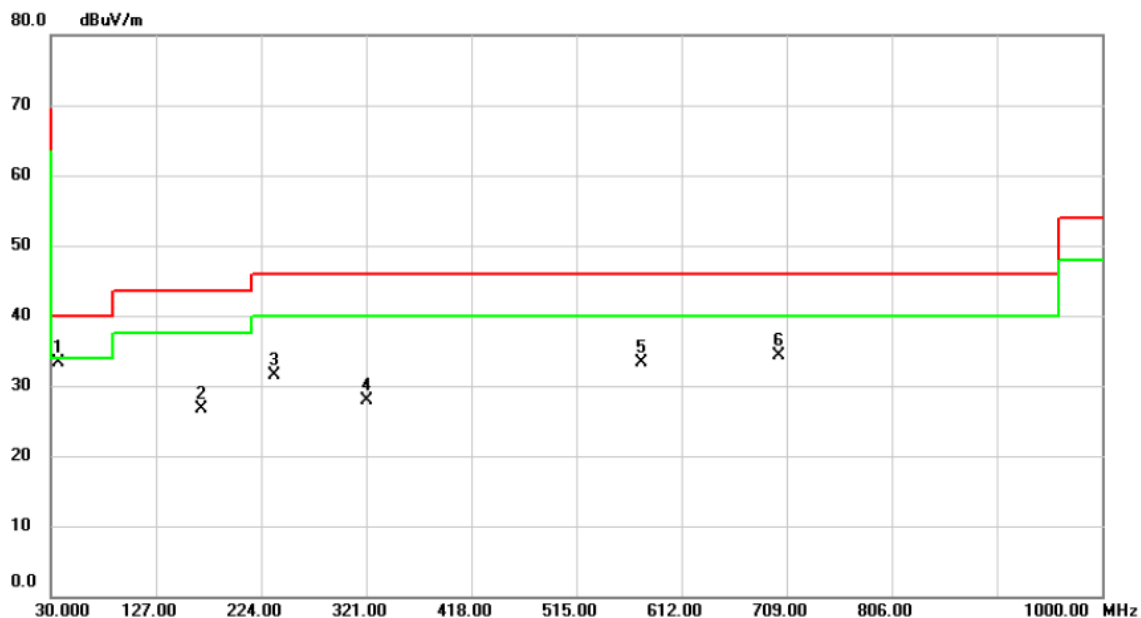
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	35.8200	39.62	-8.94	30.68	40.00	-9.32	peak	
2		195.8700	35.91	-10.86	25.05	43.50	-18.45	peak	
3		260.8600	37.24	-8.65	28.59	46.00	-17.41	peak	
4		404.4200	30.26	-4.95	25.31	46.00	-20.69	peak	
5		526.6400	30.14	-2.44	27.70	46.00	-18.30	peak	
6		671.1700	29.74	0.65	30.39	46.00	-15.61	peak	

Test Mode	TX Mode_908.4MHz	Polarization	Horizontal
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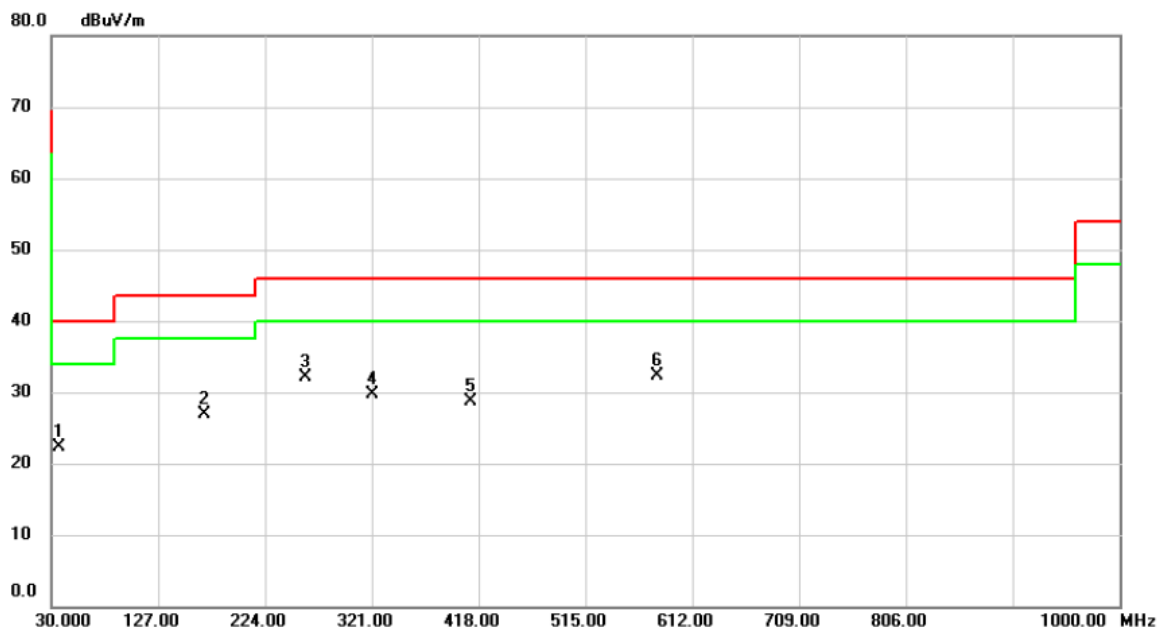
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		34.8500	31.98	-9.01	22.97	40.00	-17.03	peak	
2	*	195.8700	40.04	-10.86	29.18	43.50	-14.32	peak	
3		256.0100	40.40	-8.87	31.53	46.00	-14.47	peak	
4		312.2700	35.09	-7.18	27.91	46.00	-18.09	peak	
5		439.3400	29.71	-4.07	25.64	46.00	-20.36	peak	
6		570.2900	29.78	-1.36	28.42	46.00	-17.58	peak	

Test Mode	TX Mode_908.42MHz	Polarization	Vertical
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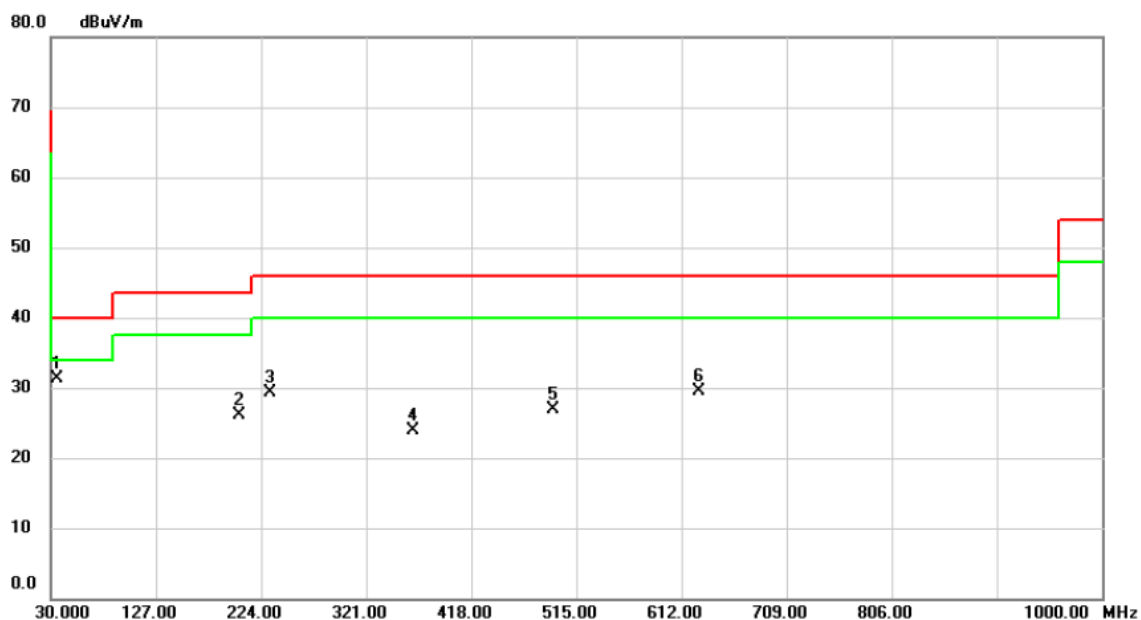
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	36.7900	42.10	-8.87	33.23	40.00	-6.77	peak	
2		168.7100	35.59	-8.82	26.77	43.50	-16.73	peak	
3		235.6400	40.81	-9.31	31.50	46.00	-14.50	peak	
4		321.9700	34.76	-6.93	27.83	46.00	-18.17	peak	
5		575.1400	34.47	-1.21	33.26	46.00	-12.74	peak	
6		701.2400	33.08	1.30	34.38	46.00	-11.62	peak	

Test Mode	TX Mode_908.42MHz	Polarization	Horizontal
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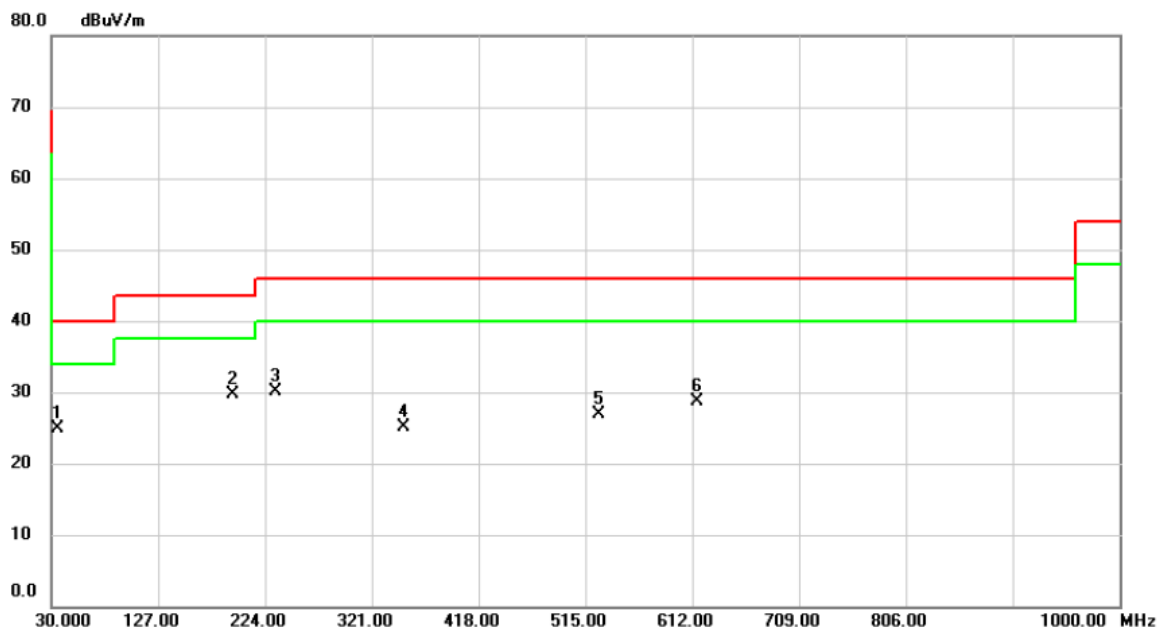
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		36.7900	31.17	-8.87	22.30	40.00	-17.70	peak	
2		168.7100	35.74	-8.82	26.92	43.50	-16.58	peak	
3		260.8600	40.76	-8.65	32.11	46.00	-13.89	peak	
4		321.0000	36.69	-6.96	29.73	46.00	-16.27	peak	
5		410.2400	33.61	-4.81	28.80	46.00	-17.20	peak	
6	*	579.9900	33.39	-1.05	32.34	46.00	-13.66	peak	

Test Mode	TX Mode_916MHz	Polarization	Vertical
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No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	35.8200	40.21	-8.94	31.27	40.00	-8.73	peak	
2		203.6300	36.93	-10.84	26.09	43.50	-17.41	peak	
3		232.7300	38.80	-9.43	29.37	46.00	-16.63	peak	
4		364.6500	29.81	-5.87	23.94	46.00	-22.06	peak	
5		493.6600	30.03	-3.04	26.99	46.00	-19.01	peak	
6		628.4900	29.53	-0.07	29.46	46.00	-16.54	peak	

Test Mode	TX Mode_916MHz	Polarization	Horizontal
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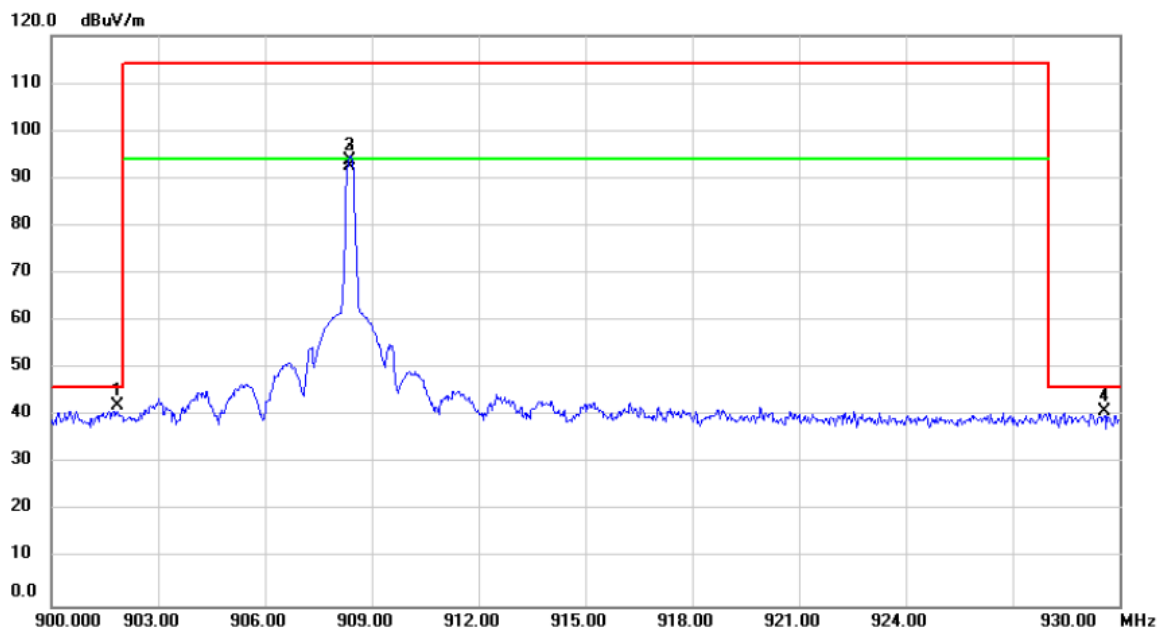


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		35.8200	33.75	-8.94	24.81	40.00	-15.19	peak	
2	*	194.9000	40.55	-10.85	29.70	43.50	-13.80	peak	
3		233.7000	39.57	-9.39	30.18	46.00	-15.82	peak	
4		350.1000	31.39	-6.20	25.19	46.00	-20.81	peak	
5		526.6400	29.39	-2.44	26.95	46.00	-19.05	peak	
6		616.8500	29.02	-0.22	28.80	46.00	-17.20	peak	

APPENDIX D -RADIATED EMISSION (ABOVE 1000MHZ)

Test Mode	TX Mode_908.4MHz	Polarization	Vertical
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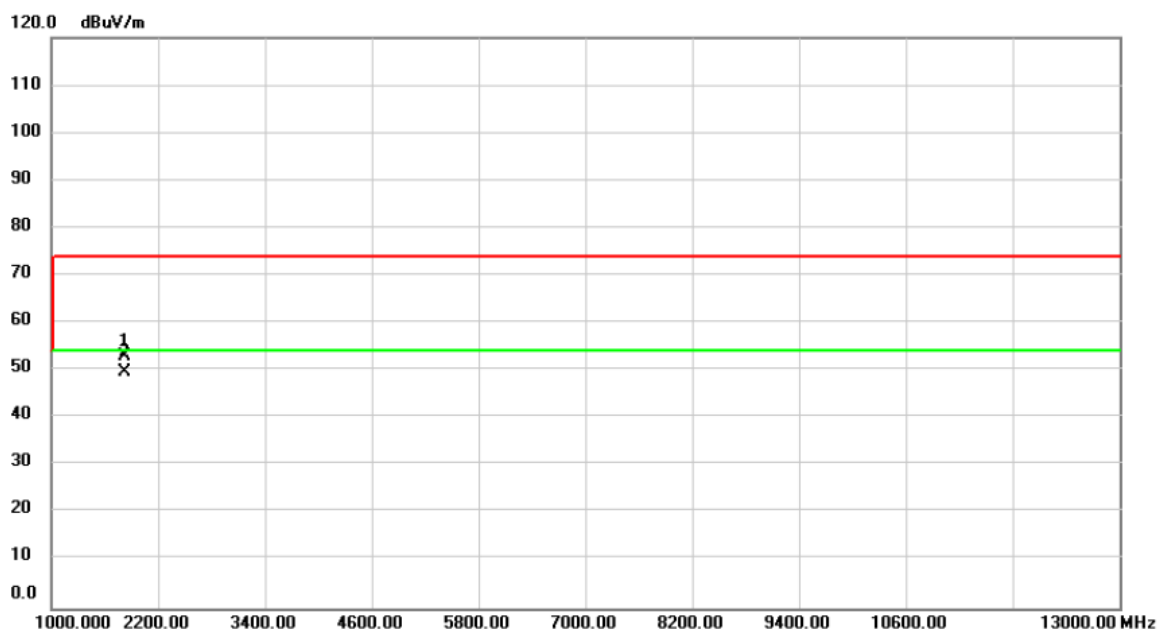
Orthogonal Axis: X



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		901.8780	10.28	31.95	42.23	46.00	-3.77	peak	
2		908.4000	61.58	32.04	93.62	114.00	-20.38	peak	
3	*	908.4000	60.45	32.04	92.49	94.00	-1.51	AVG	
4		929.5740	8.66	32.30	40.96	46.00	-5.04	peak	

Test Mode	TX Mode_908.4MHz	Polarization	Vertical
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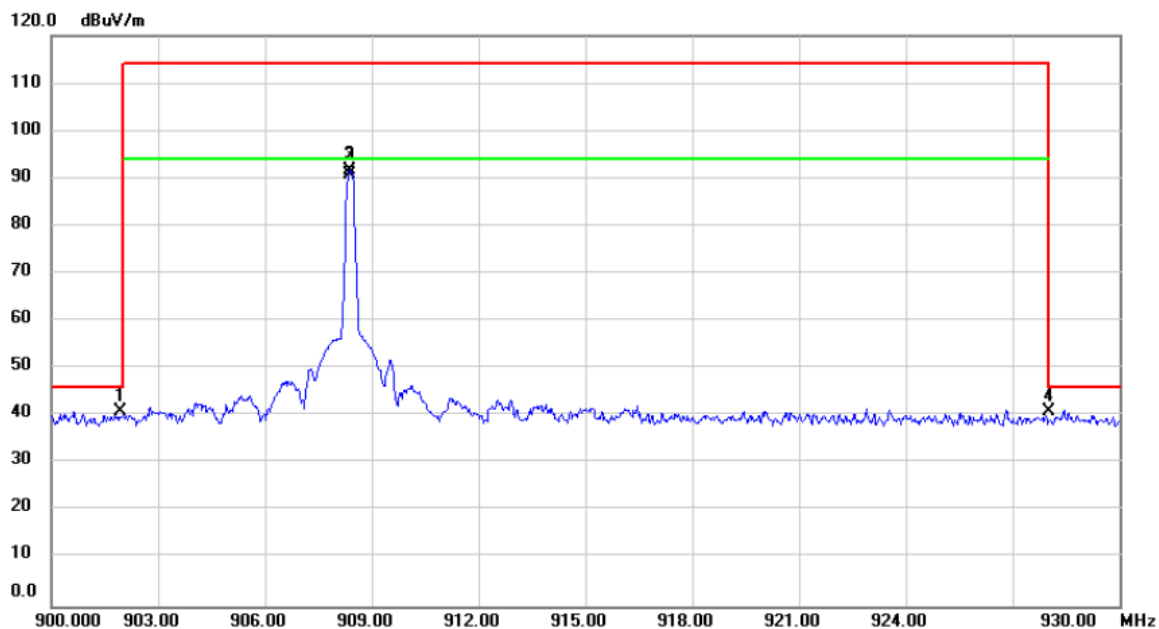
Orthogonal Axis: X



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		1816.800	72.34	-19.25	53.09	73.62	-20.53	peak	
2	*	1816.800	68.78	-19.25	49.53	72.49	-22.96	AVG	

Test Mode	TX Mode_908.4MHz	Polarization	Horizontal
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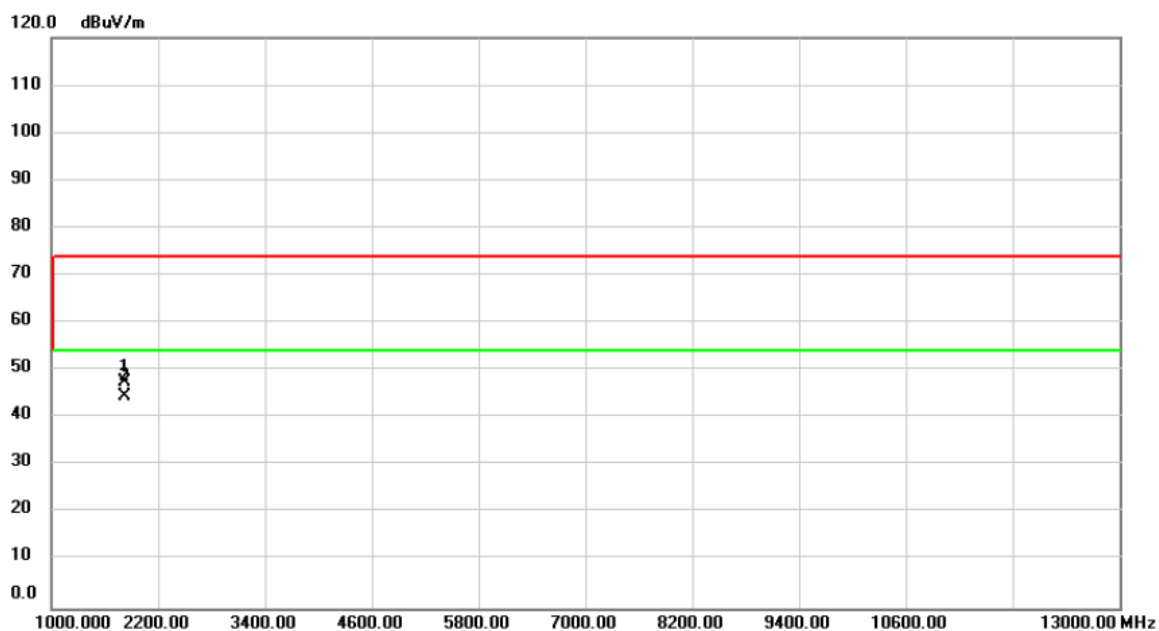
Orthogonal Axis: X



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		901.9400	9.13	31.95	41.08	46.00	-4.92	peak	
2		908.4000	59.65	32.04	91.69	114.00	-22.31	peak	
3	*	908.4000	58.62	32.04	90.66	94.00	-3.34	AVG	
4		928.0160	8.53	32.29	40.82	46.00	-5.18	peak	

Test Mode	TX Mode_908.4MHz	Polarization	Horizontal
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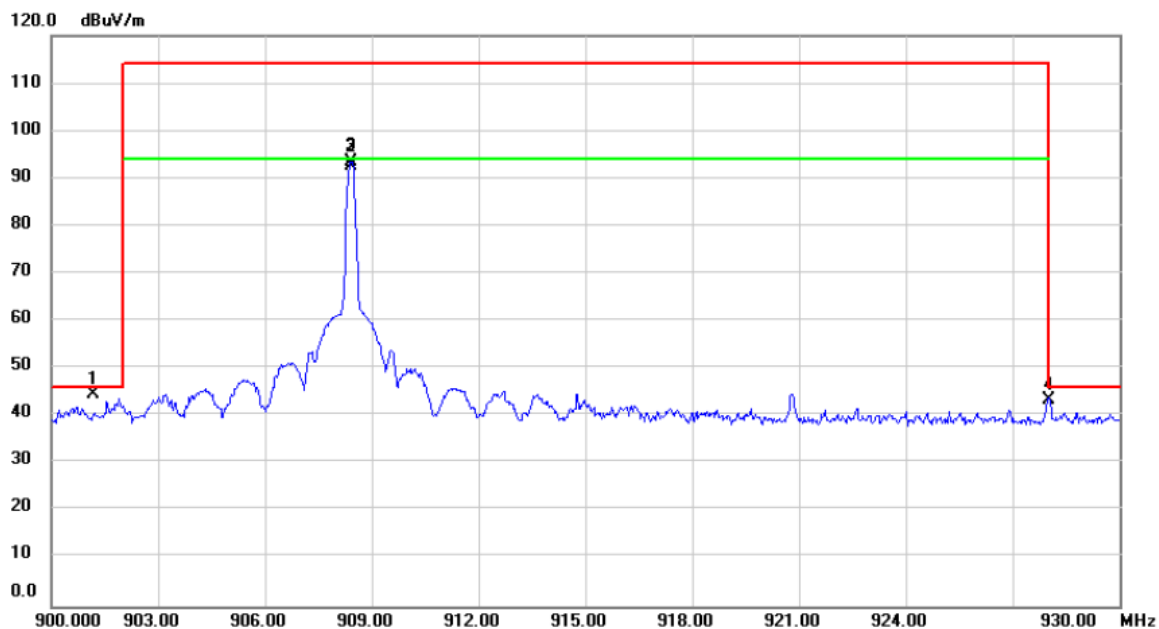
Orthogonal Axis: X



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		1816.800	66.73	-19.25	47.48	71.69	-24.21	peak	
2	*	1816.800	63.69	-19.25	44.44	70.66	-26.22	AVG	

Test Mode	TX Mode_908.42MHz	Polarization	Vertical
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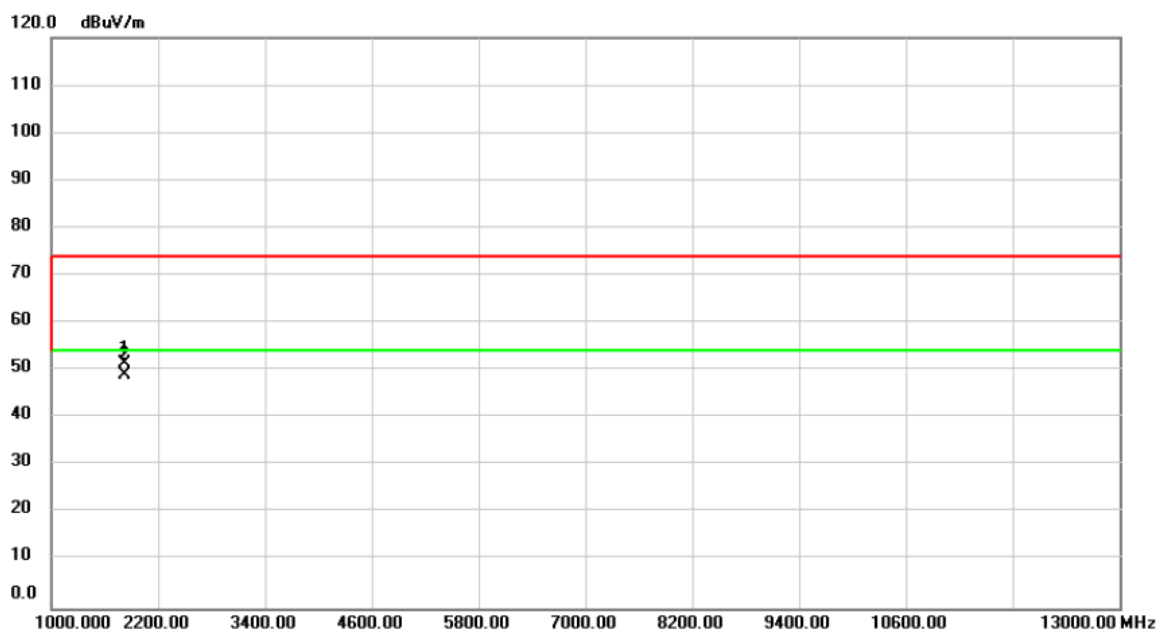
Orthogonal Axis: X



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	901.1980	12.61	31.94	44.55	46.00	-1.45	peak	
2		908.4200	61.43	32.04	93.47	114.00	-20.53	peak	
3		908.4200	60.43	32.04	92.47	94.00	-1.53	AVG	
4		928.0220	11.09	32.29	43.38	46.00	-2.62	peak	

Test Mode	TX Mode_908.42MHz	Polarization	Vertical
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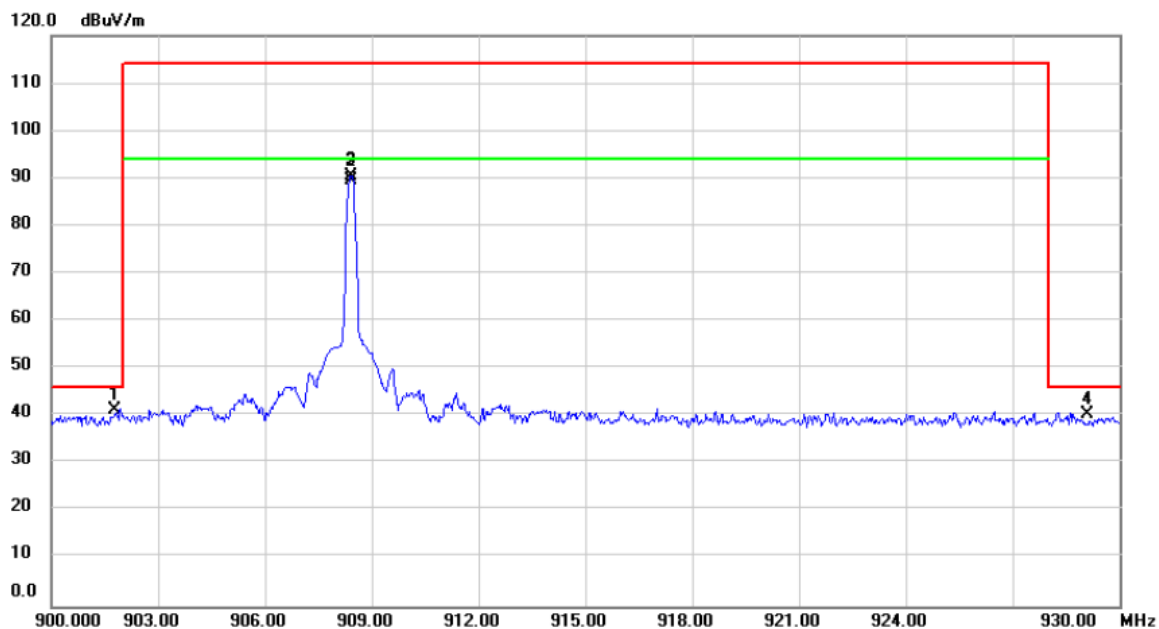
Orthogonal Axis: X



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		1816.840	70.65	-19.25	51.40	73.47	-22.07	peak	
2	*	1816.840	68.16	-19.25	48.91	72.47	-23.56	AVG	

Test Mode	TX Mode_908.42MHz	Polarization	Horizontal
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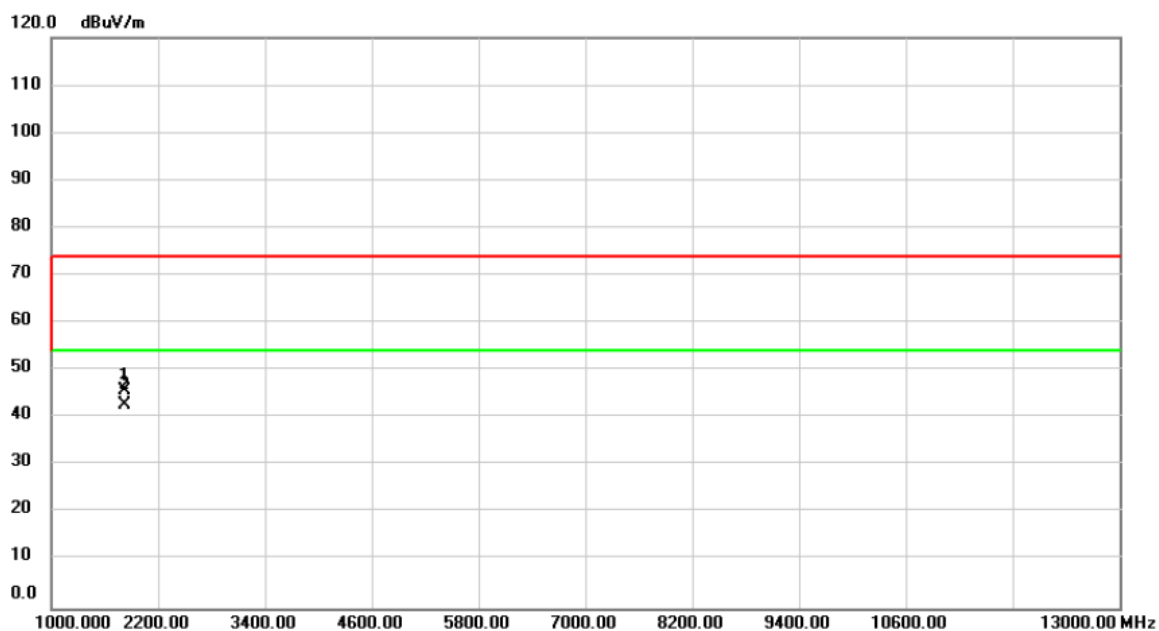
Orthogonal Axis: X



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		901.7700	9.34	31.95	41.29	46.00	-4.71	peak	
2		908.4200	58.51	32.04	90.55	114.00	-23.45	peak	
3	*	908.4200	57.46	32.04	89.50	94.00	-4.50	AVG	
4		929.0860	8.08	32.30	40.38	46.00	-5.62	peak	

Test Mode	TX Mode_908.42MHz	Polarization	Horizontal
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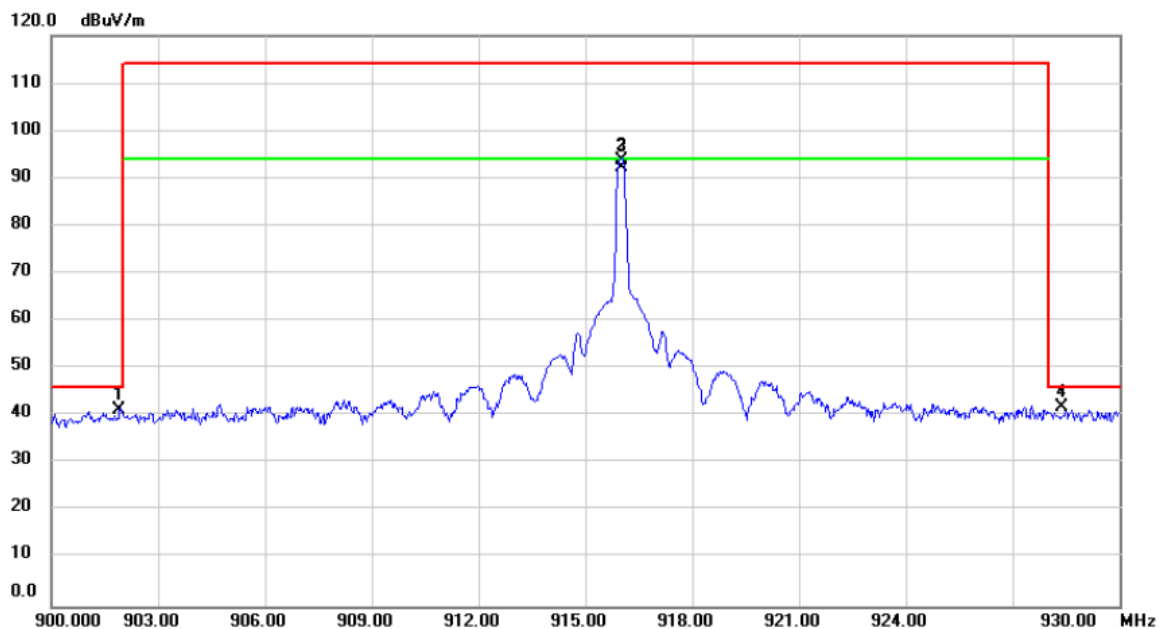
Orthogonal Axis: X



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		1816.840	64.95	-19.25	45.70	70.55	-24.85	peak	
2	*	1816.840	61.92	-19.25	42.67	69.50	-26.83	AVG	

Test Mode	TX Mode_916MHz	Polarization	Vertical
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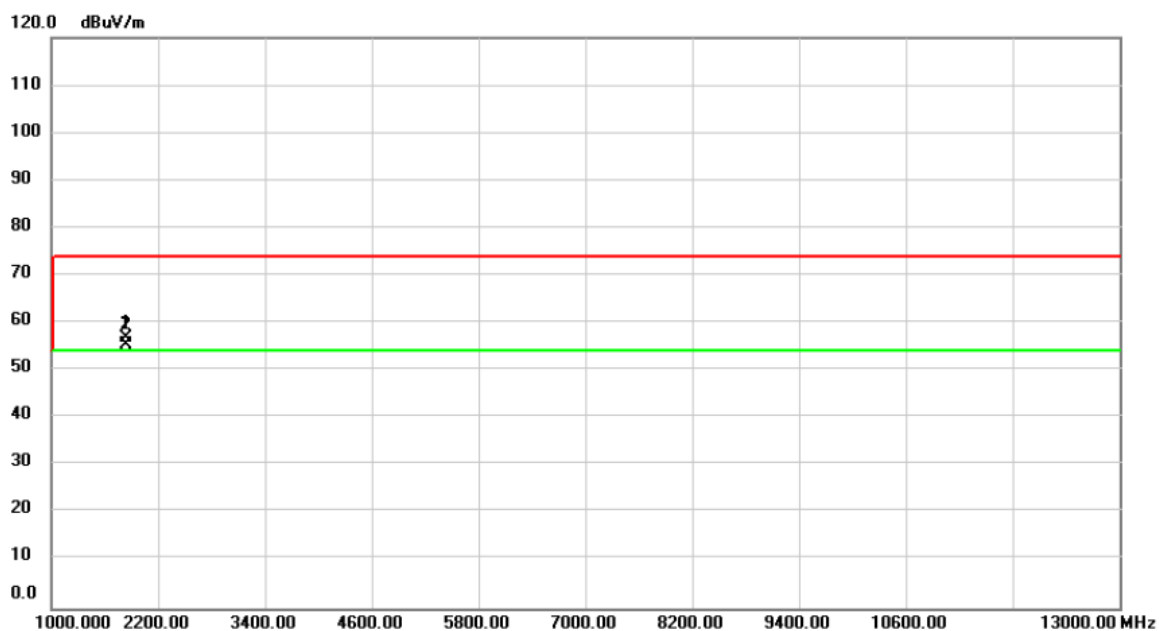
Orthogonal Axis: X



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		901.9180	9.25	31.95	41.20	46.00	-4.80	peak	
2		916.0000	61.49	32.13	93.62	114.00	-20.38	peak	
3	*	916.0000	60.21	32.13	92.34	94.00	-1.66	AVG	
4		928.3980	9.65	32.29	41.94	46.00	-4.06	peak	

Test Mode	TX Mode_916MHz	Polarization	Vertical
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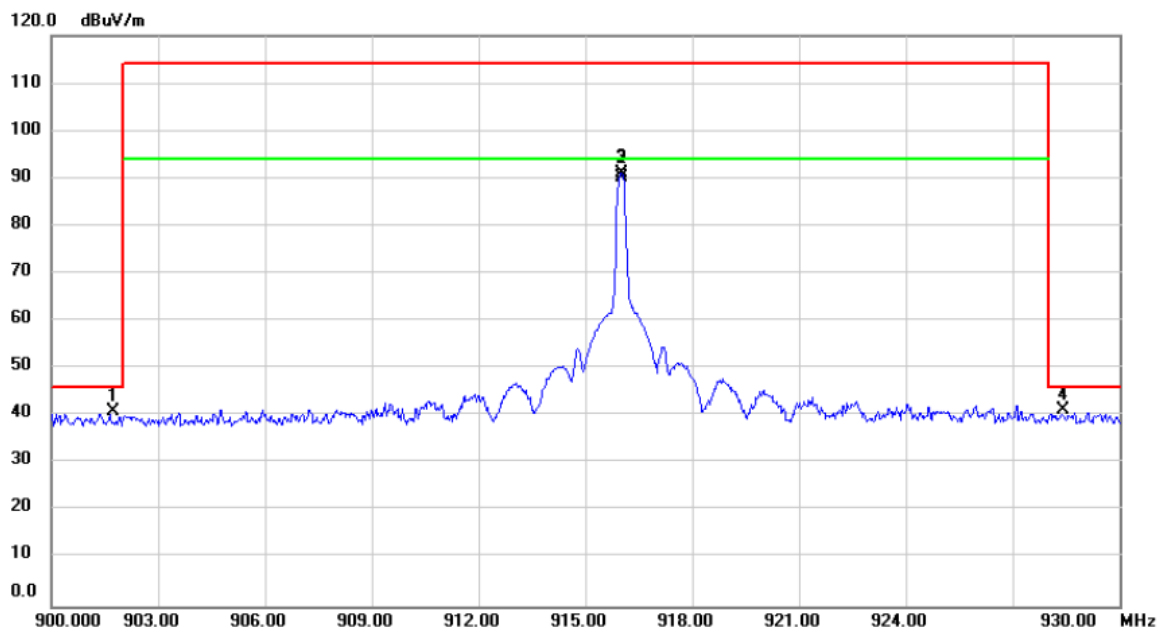
Orthogonal Axis: X



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		1832.000	76.08	-19.22	56.86	73.62	-16.76	peak	
2	*	1832.000	74.61	-19.22	55.39	72.34	-16.95	AVG	

Test Mode	TX Mode_916MHz	Polarization	Horizontal
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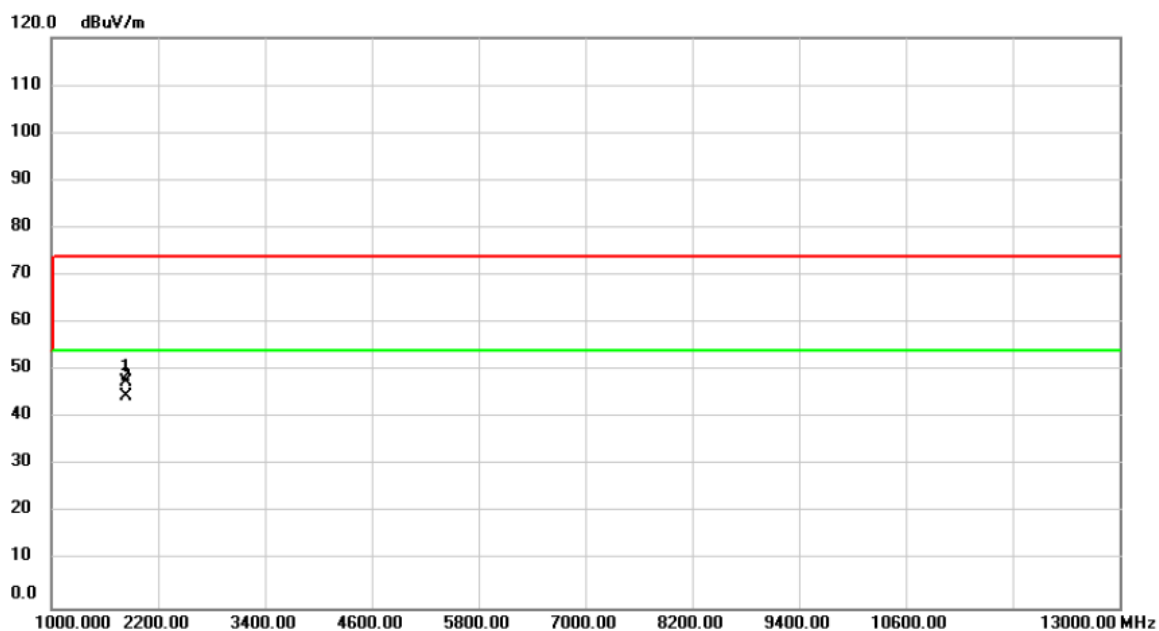
Orthogonal Axis: X



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		901.7240	9.15	31.95	41.10	46.00	-4.90	peak	
2		916.0000	58.93	32.13	91.06	114.00	-22.94	peak	
3	*	916.0000	57.90	32.13	90.03	94.00	-3.97	AVG	
4		928.4100	9.02	32.29	41.31	46.00	-4.69	peak	

Test Mode	TX Mode_916MHz	Polarization	Horizontal
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Orthogonal Axis: X



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		1832.000	66.64	-19.22	47.42	71.06	-23.64	peak	
2	*	1832.000	63.66	-19.22	44.44	70.03	-25.59	AVG	

APPENDIX E - BANDWIDTH

Test Mode :	TX Mode_ CH01/02/03
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Frequency (MHz)	20dB Bandwidth (MHz)	99% Occupied BW (MHz)
908.4	0.31	0.26
908.42	0.32	0.26
916	0.33	0.27

