TEST REPORT

Application No.:	SZEM1901010623CR
Applicant:	Zhejiang Blue Arrow Weighing Technology Co., Ltd.
Address of Applicant:	Building 5, NO.31 Xianxing Road Yuhang HangZhou Zhejiang China
Manufacturer:	Zhejiang Blue Arrow Weighing Technology Co., Ltd.
Address of Manufacturer:	Building 5, NO.31 Xianxing Road Yuhang HangZhou Zhejiang China
Factory:	Zhejiang Blue Arrow Weighing Technology Co., Ltd.
Address of Factory:	Building 5, NO.31 Xianxing Road Yuhang HangZhou Zhejiang China
Equipment Under Test (EUT):	
EUT Name:	CRANE SCALE
Model No.:	SZ-WPIII, SZ-XXYY, XZ-JJE PII (X stand for A-Z or a-z, Y stand for 0-9) ♣
♣	Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.
FCC ID:	2ASIDSZP
Standard(s) :	47 CFR Part 15, Subpart C 15.231
Date of Receipt:	2019-01-23
Date of Test:	2019-01-29 to 2019-01-30
Date of Issue:	2019-03-06
Test Result:	**Pass***

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

Keny Xu
EMC Laboratory Manager

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
01		2019-03-06		Original

Authorized for issue by:

Vincent Chen /Project Engineer

Eric Fu /Reviewer

2 Test Summary

Radio Spectrum Technical Requirement				
Item	**Standard**	**Method**	**Requirement**	**Result**
Antenna Requirement	47 CFR Part 15, Subpart C 15.231	N/A	47 CFR Part 15, Subpart C 15.203	Pass

N/A: Not applicable

Radio Spectrum Matter Part				
Item	**Standard**	**Method**	**Requirement**	**Result**
20dB Bandwidth	47 CFR Part 15, Subpart C 15.231	ANSI C63.10 (2013) Section 6.9	47 CFR Part 15, Subpart C 15.231(c)	Pass
Dwell Time (15.231(a))	47 CFR Part 15, Subpart C 15.231	ANSI C63.10 (2013) Section 7.8.4	47 CFR Part 15, Subpart C 15.231(a)	Pass
Field Strength of the Fundamental Signal (15.231(b))	47 CFR Part 15, Subpart C 15.231	ANSI C63.10 (2013) Section 6.5	47 CFR Part 15C Section 15.231(b)	Pass
Spurious Emissions	47 CFR Part 15, Subpart C 15.231	ANSI C63.10 (2013) Section 6.4&6.5&6.6	47 CFR Part 15C Section 15.231(b) and 15.209	Pass

N/A: Not applicable

Remark:

Model No.: SZ-WPIII, SZ-XXYY, XZ-JJE PII (X stand for A-Z or a-z, Y stand for 0-9)

Only the model SZ-WPIII was tested, since the electrical circuit design, layout, components used, internal wiring and functions were identical for all the above models, with only difference on model No..

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4 General Information

4.1 Details of E.U.T.

	Power supply:	DC 6.0V (4*1.5V "AA" Size Batteries) for remote controller DC 6.0V SEALED LEAD-ACID Battery for scale
	Frequency Range:	433.5125-434.2875MHz
	Number of channel:	32
	Channel Spacing:	25KHz
	Modulation Type:	ASK
	Antenna Type:	Loop Antenna
	Antenna Gain:	0dBi

4.2 Description of Support Units

The EUT has been tested as an independent unit.

4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	± 7.25 x 10^{-8}
2	Duty cycle	± 0.37%
3	Occupied Bandwidth	± 3%
4	RF conducted power	± 0.75dB
5	RF power density	± 2.84dB
6	Conducted Spurious emissions	± 0.75dB
7	RF Radiated power	± 4.5dB (below 1GHz)
		± 4.8dB (above 1GHz)
8	Radiated Spurious emission test	± 4.5dB (Below 1GHz)
		± 4.8dB (Above 1GHz)
9	Temperature test	± 1℃
10	Humidity test	± 3%
11	Supply voltages	± 1.5%
12	Time	± 3%

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4.4 Test Location

All tests were performed at:

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

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

4.5 Test Facility

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

• **CNAS (No. CNAS L2929)**

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab 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.

• **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

• **VCCI**

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

• **FCC –Designation Number: CN1178**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

• **Innovation, Science and Economic Development Canada**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None

5 Equipment List

20dB Bandwidth					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
DC Power Supply	ZhaoXin	RXN-305D	SEM011-02	2018-09-25	2019-09-24
Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2018-09-27	2019-09-26
Measurement Software	JS Tonscend	JS1120-2 BT/WIFI V2.	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2018-07-12	2019-07-11
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2018-09-27	2019-09-26
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2018-09-25	2019-09-24

Dwell Time (15.231(a))					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
DC Power Supply	ZhaoXin	RXN-305D	SEM011-02	2018-09-25	2019-09-24
Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2018-09-27	2019-09-26
Measurement Software	JS Tonscend	JS1120-2 BT/WIFI V2.	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2018-07-12	2019-07-11
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2018-09-27	2019-09-26
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2018-09-25	2019-09-24

Field Strength of the Fundamental Signal and Radiated Emissions (Below 1GHz)					
Test Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal. Date**	**Cal. Due date**
3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2017-08-05	2020-08-04
MXE EMI Receiver (20Hz-8.4GHz)	Agilent Technologies	N9038A	SEM004-05	2018-09-27	2019-09-26
BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEM003-01	2017-06-27	2020-06-26
Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEM005-01	2018-04-02	2019-04-01
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM025-01	2018-07-12	2019-07-11

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Radiated Emissions (Above 1GHz)					
Test Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal. Date**	**Cal. Due date**
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018-03-13	2021-03-12
EXA Signal Analyzer (10Hz-26.5GHz)	Agilent Technologies Inc	N9010A	SEM004-09	2018-04-13	2019-04-12
BiConiLog Antenna (26-3000MHz)	ETS-Lindgren	3142C	SEM003-01	2017-06-27	2020-06-26
Horn Antenna (800MHz-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2018-04-13	2021-04-12
Amplifier (0.1-1300MHz)	HP	8447D	SEM005-02	2018-09-25	2019-09-24
Low Noise Amplifier (100MHz-18GHz)	Black Diamond Series	BDLNA-0118-352810	SEM005-05	2018-09-25	2019-09-24
Band filter	N/A	N/A	N/A	N/A	N/A
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2018-07-12	2019-07-11

General used equipment					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-03	2018-09-27	2019-09-26
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-04	2018-09-27	2019-09-26
Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2018-09-27	2019-09-26
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2018-04-08	2019-04-07

6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203

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 antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of an 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 Welding fixed on the main PCB, Tighten and secure with screws on the board of the sample, and no consideration of replacement. The best case gain of the antenna is 0dBi.

Antenna location: Refer to Internal photos.

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7 Radio Spectrum Matter Test Results

7.1 20dB Bandwidth

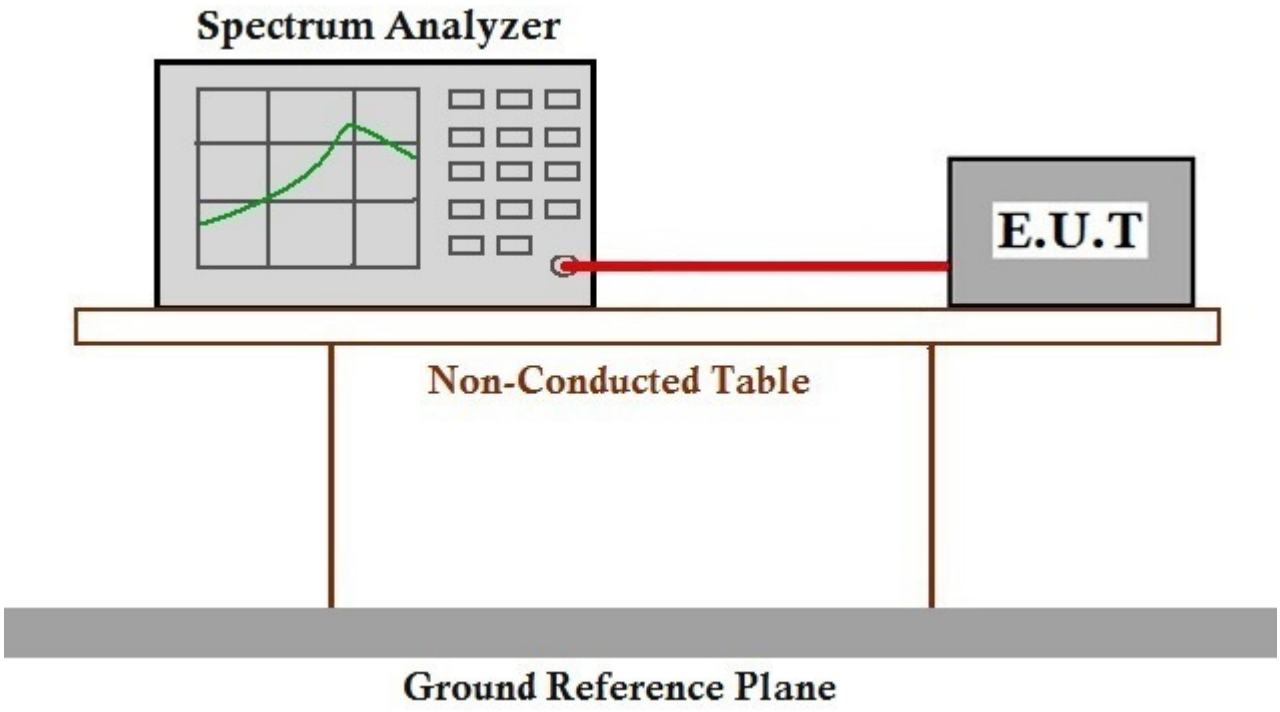
Test Requirement 47 CFR Part 15, Subpart C 15.231(c)
Test Method: ANSI C63.10 (2013) Section 6.9
Limit:

Frequency range(MHz)	Limit
70-900	No wider than 0.25% of the center frequency
Above 900	No wider than 0.5% of the center frequency

7.1.1 E.U.T. Operation

Operating Environment:
Temperature: 22.8 °C Humidity: 51.2 % RH Atmospheric Pressure: 1020 mbar
Test mode a:TX mode_Keep the EUT in transmitting with modulation mode.

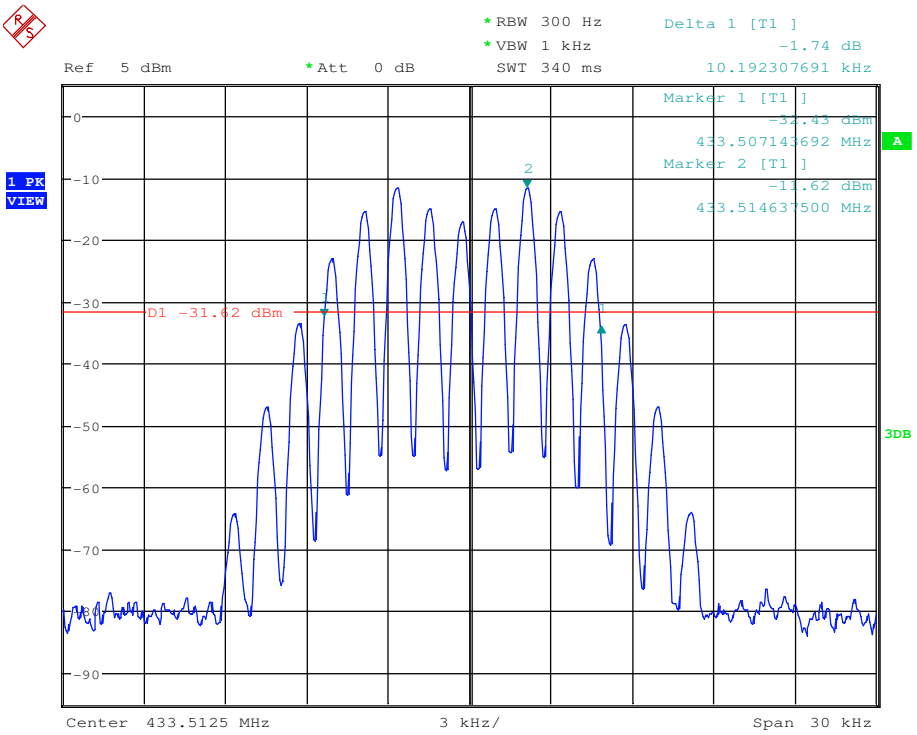
7.1.2 Test Setup Diagram



7.1.3 Measurement Procedure and Data

Mode a:

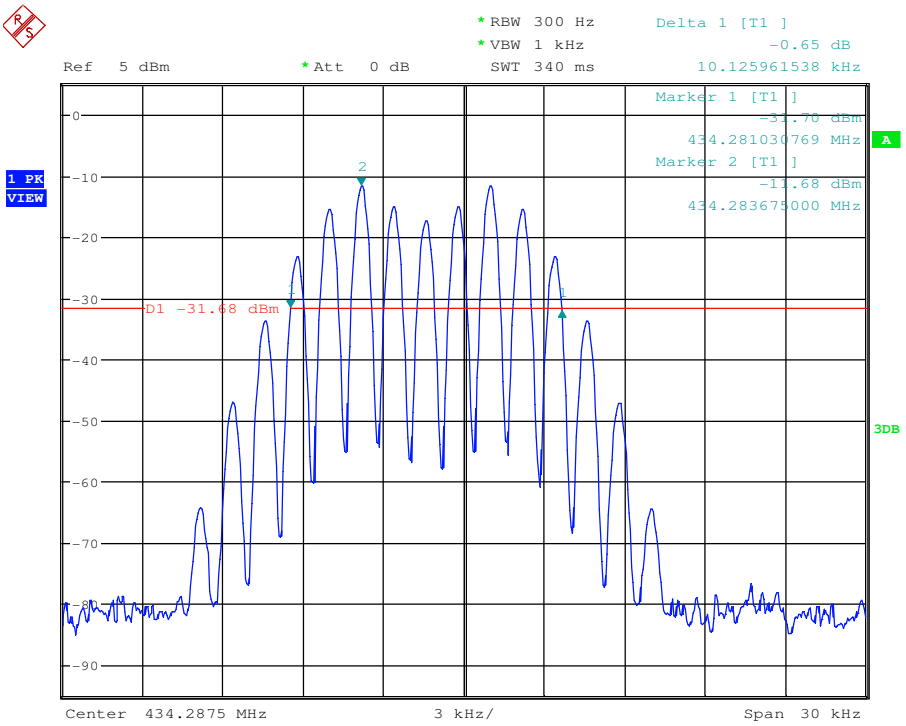
433.5125MHz



Measurement Data

20dB bandwidth (MHz)	Limit (MHz)	Results
0.01	1.08	Pass

434.2875 MHz



Measurement Data

20dB bandwidth (MHz)	Limit (MHz)	Results
0.01	1.09	Pass

7.2 Dwell Time (15.231(a))

Test Requirement 47 CFR Part 15, Subpart C 15.231(a)

Test Method: ANSI C63.10 (2013) Section 7.8.4

Limit:

Device type	Limit
Manually operated transmitter	The switch automatically deactivate the transmitter within not more than 5 seconds of being released
Automatically actived transmitter	Cease transmission within 5 seconds after activation
Periodic transmissions to determine system integrity of transmitters used in security or safety applications	The total transmission time does not exceed 2 seconds per hour

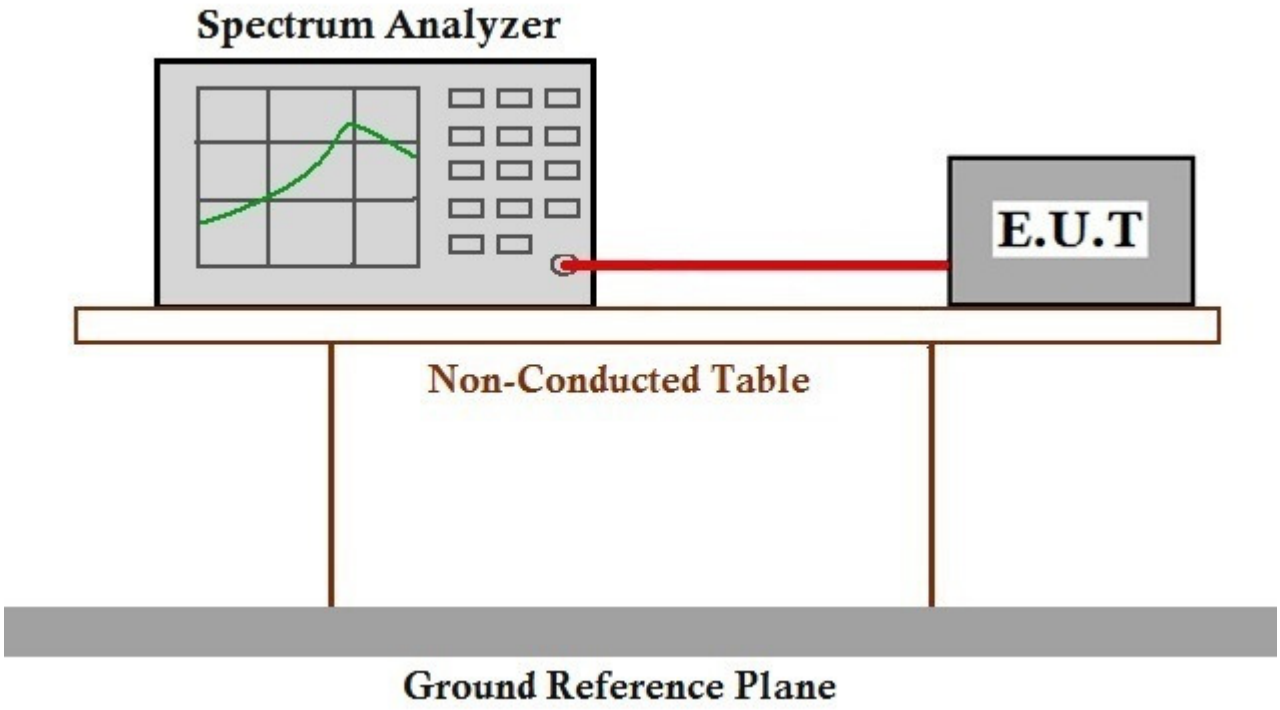
7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 23.5 °C Humidity: 53.7 % RH Atmospheric Pressure: 1020 mbar

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

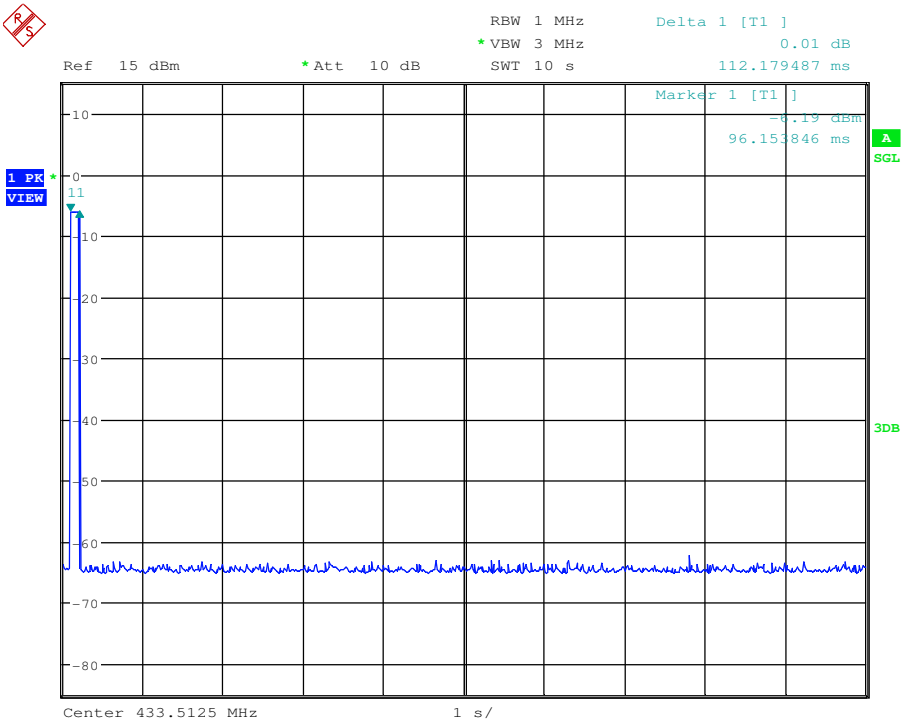
7.2.2 Test Setup Diagram



7.2.3 Measurement Procedure and Data

Mode a:

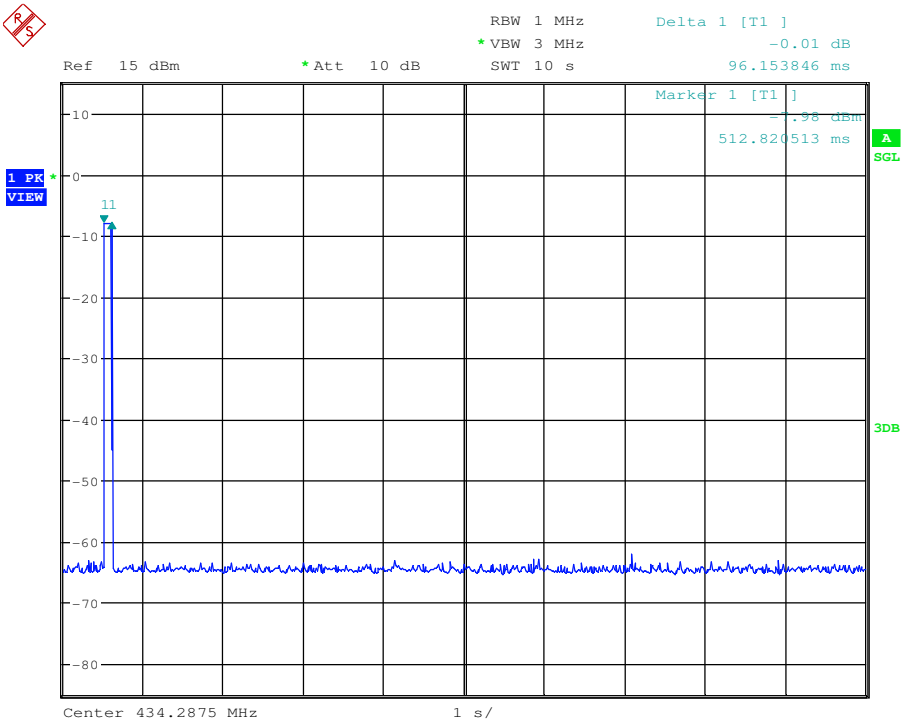
433.5125 MHz



Measurement Data

Transmitting time	Limit	Results
0.112S	⩽5S	Pass

434.2875 MHz



Measurement Data

Transmitting time	Limit	Results
0.10S	⩽5S	Pass

7.3 Field Strength of the Fundamental Signal (15.231(b))

Test Requirement: 47 CFR Part 15C Section 15.231(b) and 15.209

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

Measurement Distance: 3m

Limit: The limits on the field strength of the spurious emissions in the above table are based on the fundamental frequency of the intentional radiator. Spurious emissions shall be attenuated to the average (or, alternatively, CISPR quasi-peak) limits shown in this table or to the general limits shown in§ 15.209, whichever limit permits a higher field strength.

Fundamental frequency(MHz)	Field strength of fundamental(microvolts/meter)	Field strength of spurious emissions(microvolts/meter)
40.66-40.70	2250	225
70-130	1250	125
130-174	1250 to 3750	125 to 375
174-260	3750	375
260-470	3750 to 12500	375 to 1250
Above 470	12500	1250

Remark: the emission limit is based on measurement instrumentation employing an average detector at a distance of 3 meters. The frequencies above 1000MHz are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

or

Frequency(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
Above 960	500	3

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

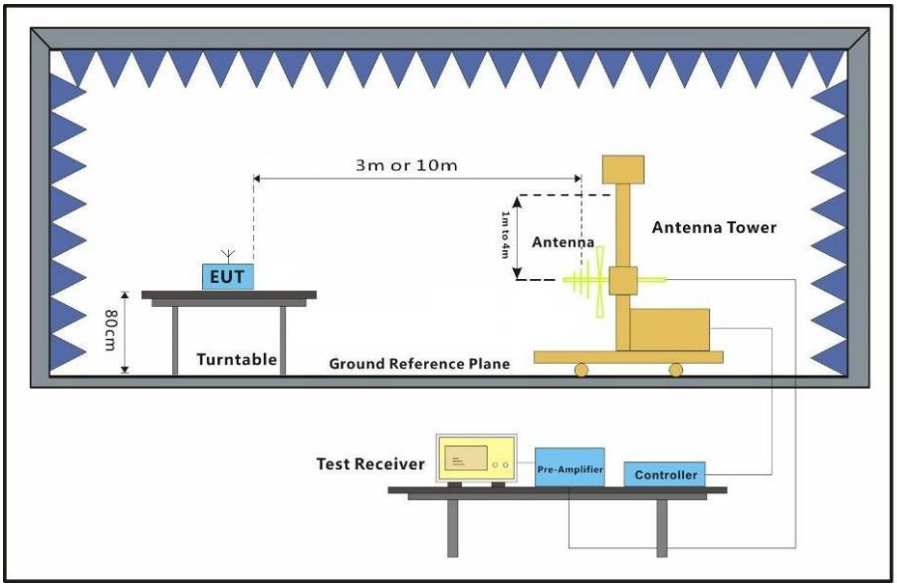
7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 22.2 °C Humidity: 55 % RH Atmospheric Pressure: 1020 mbar

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

7.3.2 Test Setup Diagram



7.3.3 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. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, only the test worst case mode is recorded in the report.

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

Mode b:

Calculate Formula:	Ton time = 0.112s
	Duty cycle= 100%

Field Strength Of The Fundamental Signal:

433.5125 MHz

Polarization	Freq (MHz)	Cable _Loss (dB)	Antenna _Factor (dB/m)	Preamp _Gain (dB)	Read _Level (dBuV)	Peak Level (dBuV/m)	Peak Limit _Line (dBuV/m)	Average Limit _Line (dBuV/m)
Horizontal	433.5125	2.35	23.19	27.34	80.72	78.92	100.8	80.8
Vertical	433.5125	2.35	23.19	27.34	76.93	75.13	100.8	80.8

434.2875 MHz

Polarization	Freq (MHz)	Cable _Loss (dB)	Antenna _Factor (dB/m)	Preamp _Gain (dB)	Read _Level (dBuV)	Peak Level (dBuV/m)	Peak Limit _Line (dBuV/m)	Average Limit _Line (dBuV/m)
Horizontal	434.2875	2.35	23.21	27.34	80.73	78.95	100.8	80.8
Vertical	434.2875	2.35	23.21	27.34	76.12	74.34	100.8	80.8

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7.4 Radiated Emissions

Test Requirement: 47 CFR Part 15C Section 15.231(b) and 15.209

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

Measurement Distance: 3m

Limit: The limits on the field strength of the spurious emissions in the above table are based on the fundamental frequency of the intentional radiator. Spurious emissions shall be attenuated to the average (or, alternatively, CISPR quasi-peak) limits shown in this table or to the general limits shown in§ 15.209, whichever limit permits a higher field strength.

Fundamental frequency(MHz)	Field strength of fundamental(microvolts/meter)	Field strength of spurious emissions(microvolts/meter)
40.66-40.70	2250	225
70-130	1250	125
130-174	1250 to 3750	125 to 375
174-260	3750	375
260-470	3750 to 12500	375 to 1250
Above 470	12500	1250
Remark: the emission limit is based on measurement instrumentation employing an average detector at a distance of 3 meters. The frequencies above 1000MHz are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.		

or

Frequency(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
Above 960	500	3
Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.		

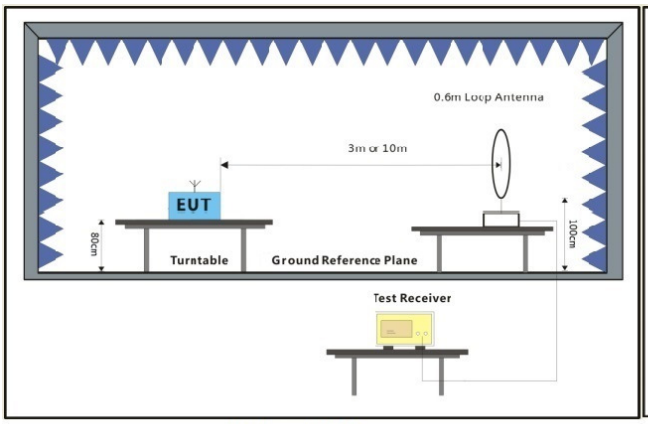
7.4.1 E.U.T. Operation

Operating Environment:

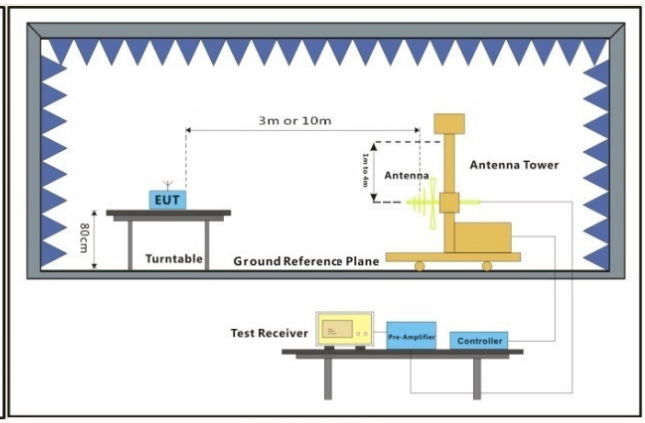
Temperature: 21.5 °C Humidity: 52.5 % RH Atmospheric Pressure: 1020 mbar

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

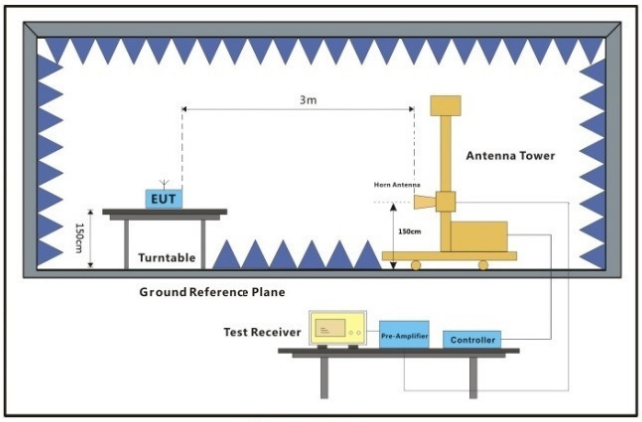
7.4.2 Test Setup Diagram



Below 30MHz



30MHz-1GHz



Above 1GHz

7.4.3 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. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, only the test worst case mode is recorded in the report.

Remark:

1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

2) Scan from 9KHz to 5GHz, the disturbance below 30MHz and from 30Mhz to 1GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

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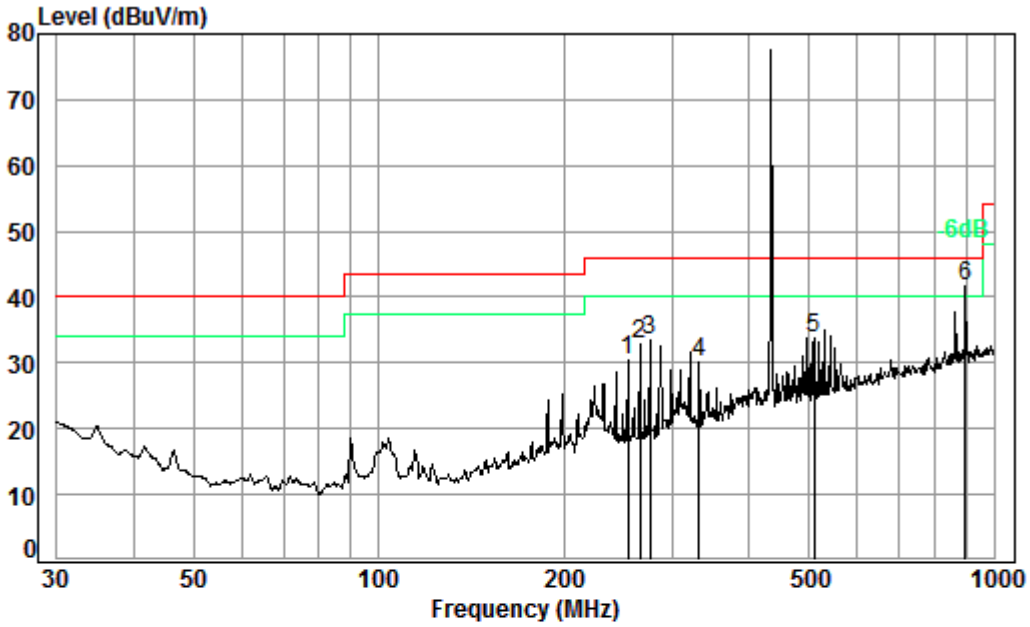
Below 1GHz :

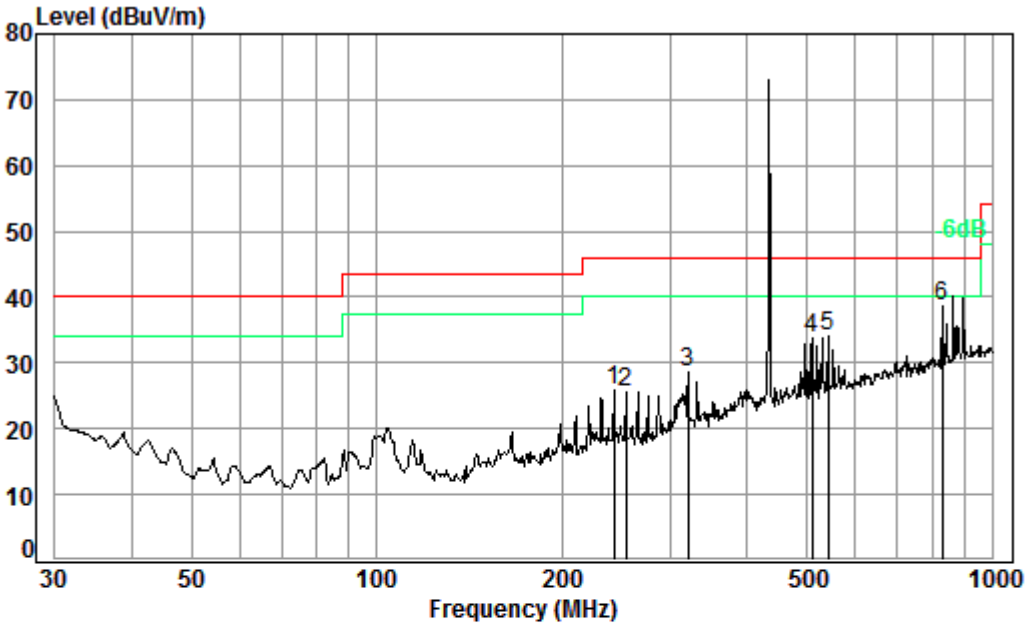
Mode:a; Polarization:Horizontal; Modulation Type:ASK; Channel: Low



Condition: 3m HORIZONTAL
Job No. : 10623CR
Test mode: a
: L

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	253.84	1.69	19.01	26.75	36.51	30.46	46.00	-15.54
2	265.68	1.75	19.01	26.72	38.83	32.87	46.00	-13.13
3	276.12	1.80	18.86	26.69	39.51	33.48	46.00	-12.52
4	331.35	2.00	20.57	26.83	34.30	30.04	46.00	-15.96
5	510.04	2.61	24.82	27.64	34.12	33.91	46.00	-12.09
6 pp	897.00	3.59	29.76	27.07	35.28	41.56	46.00	-4.44

Mode:a; Polarization:Vertical; Modulation Type:ASK; Channel: Low

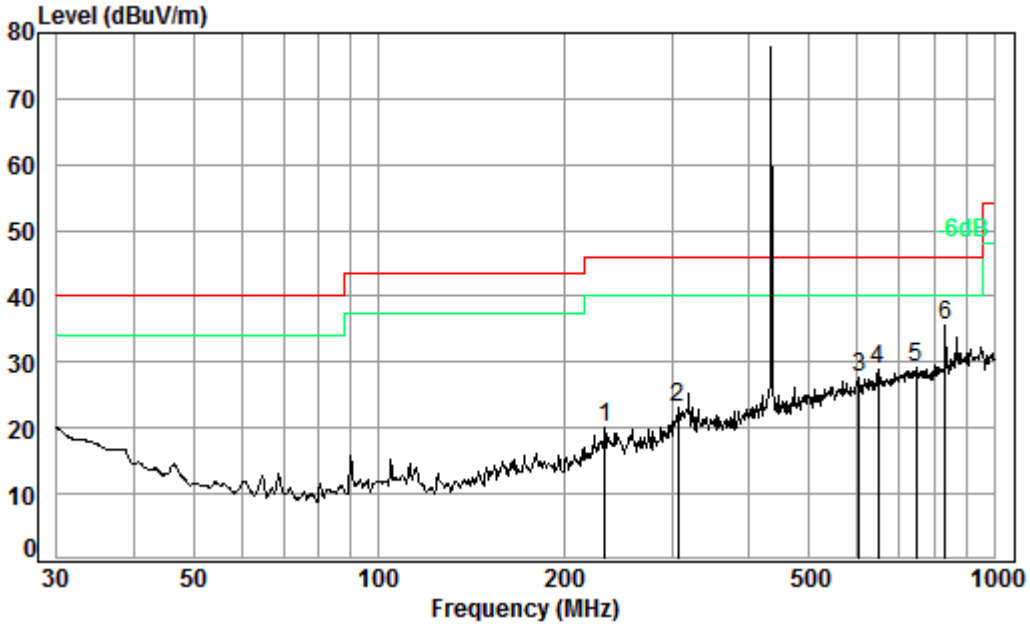


Condition: 3m VERTICAL
Job No. : 10623CR
Test mode: a
: L

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	243.38	1.64	18.85	26.78	32.19	25.90	46.00	-20.10
2	253.84	1.69	19.01	26.75	31.72	25.67	46.00	-20.33
3	321.06	1.97	20.26	26.77	33.00	28.46	46.00	-17.54
4	510.04	2.61	24.82	27.64	34.00	33.79	46.00	-12.21
5	541.37	2.64	25.47	27.76	33.60	33.95	46.00	-12.05
6 pp	830.40	3.33	28.91	27.45	33.74	38.53	46.00	-7.47

Polarization	Freq (MHz)	Cable _Loss (dB)	Antenna _Factor (dB/m)	Preamp _Gain (dB)	Read _Level (dBuV)	Quasi-peak Level (dBuV/m)	Limit _Line (dBuV/m)	Over Limit
Horizontal	867.025	3.49	29.41	27.18	38.54	44.26	60.8	-16.54
Vertical	867.025	3.49	29.41	27.18	39.36	45.08	60.8	-15.72

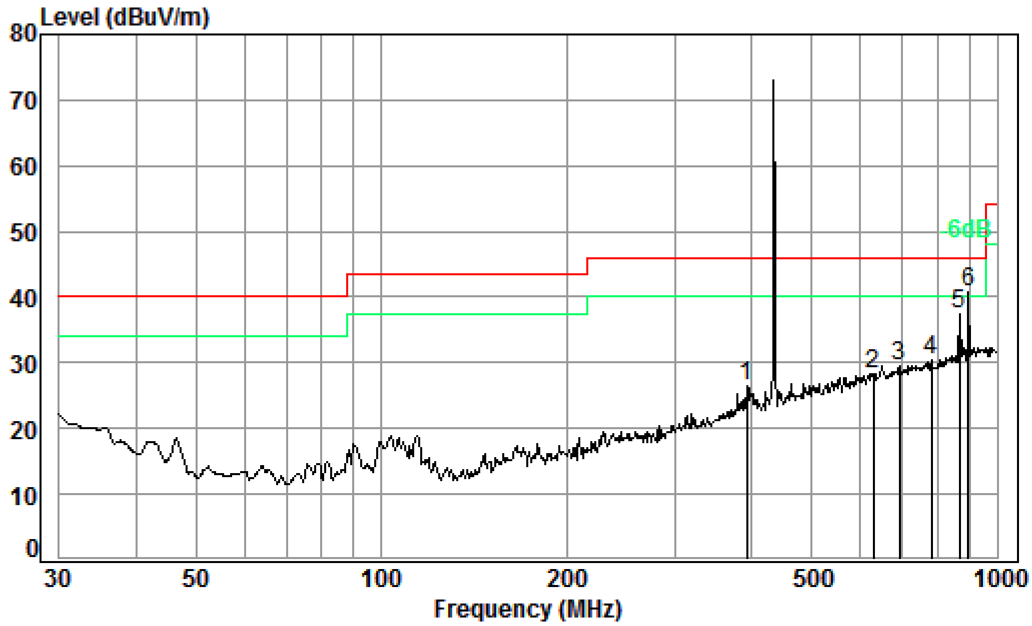
Mode:a; Polarization:Horizontal; Modulation Type:ASK; Channel: High



Condition: 3m HORIZONTAL
Job No. : 10623CR
Test mode: a
: H

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	233.35	1.59	18.28	26.80	27.05	20.12	46.00	-25.88
2	306.75	1.92	19.82	26.68	28.16	23.22	46.00	-22.78
3	603.54	2.71	26.65	27.94	26.30	27.72	46.00	-18.28
4	647.39	2.80	27.24	27.87	26.70	28.87	46.00	-17.13
5	747.48	3.05	28.19	27.71	25.70	29.23	46.00	-16.77
6 pp	833.32	3.34	28.95	27.44	30.73	35.58	46.00	-10.42

Mode:a; Polarization:Vertical; Modulation Type:ASK; Channel: High



Condition: 3m VERTICAL
Job No. : 10623CR
Test mode: a
: H

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	392.10	2.18	22.21	27.15	29.11	26.35	46.00	-19.65
2	629.48	2.76	27.00	27.90	26.47	28.33	46.00	-17.67
3	694.42	2.89	27.83	27.79	26.50	29.43	46.00	-16.57
4	782.35	3.15	28.40	27.66	26.39	30.28	46.00	-15.72
5	869.13	3.48	29.41	27.23	31.76	37.42	46.00	-8.58
6 pp	897.00	3.59	29.76	27.07	34.43	40.71	46.00	-5.29

Polarization	Freq (MHz)	Cable _Loss (dB)	Antenna _Factor (dB/m)	Preamp _Gain (dB)	Read _Level (dBuV)	Quasi-peak Level (dBuV/m)	Limit _Line (dBuV/m)	Over Limit
Horizontal	868.575	3.49	29.41	27.18	33.56	39.28	60.8	-21.52
Vertical	868.575	3.49	29.41	27.18	37.42	43.14	60.8	-17.66

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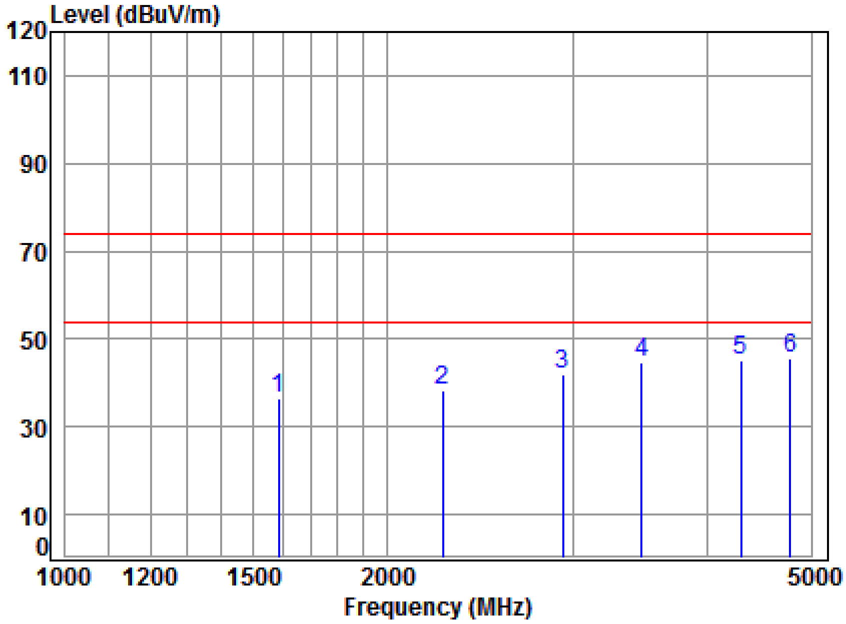
Above 1GHz:

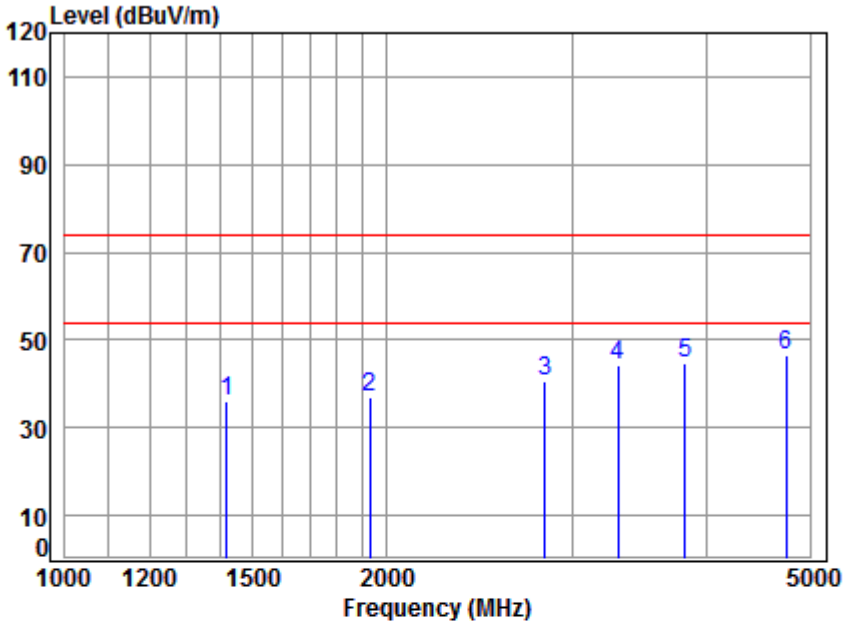
Mode:a; Polarization:Horizontal; Modulation Type:ASK; Channel: Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 10623CR
Mode : 433.5125 TX

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1584.548	5.37	26.18	40.76	45.62	36.41	74.00	-37.59	Peak
2	2257.765	5.29	28.29	41.12	45.93	38.39	74.00	-35.61	Peak
3	2925.587	5.93	30.60	41.37	46.82	41.98	74.00	-32.02	Peak
4	3469.795	6.43	31.66	42.08	48.51	44.52	74.00	-29.48	Peak
5	4298.004	7.33	33.25	43.09	47.52	45.01	74.00	-28.99	Peak
6	4779.680	7.86	33.94	43.59	47.48	45.69	74.00	-28.31	Peak

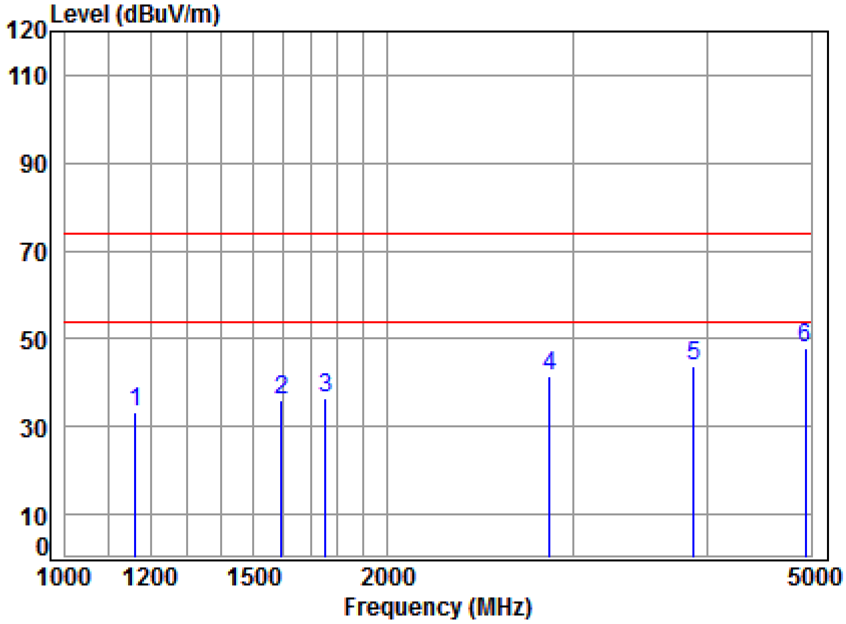
Mode:a; Polarization:Vertical; Modulation Type:ASK; Channel: Low



Site : chamber
Condition: 3m VERTICAL
Job No : 10623CR
Mode : 433.5125 TX

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1418.001	5.21	25.49	40.65	46.07	36.12	74.00	-37.88	Peak
2	1931.429	4.97	27.56	40.96	45.35	36.92	74.00	-37.08	Peak
3	2819.270	5.86	30.15	41.34	45.80	40.47	74.00	-33.53	Peak
4	3300.926	6.28	31.40	41.85	48.26	44.09	74.00	-29.91	Peak
5	3815.426	6.80	32.35	42.53	47.96	44.58	74.00	-29.42	Peak
6	4749.009	7.83	33.91	43.56	48.22	46.40	74.00	-27.60	Peak

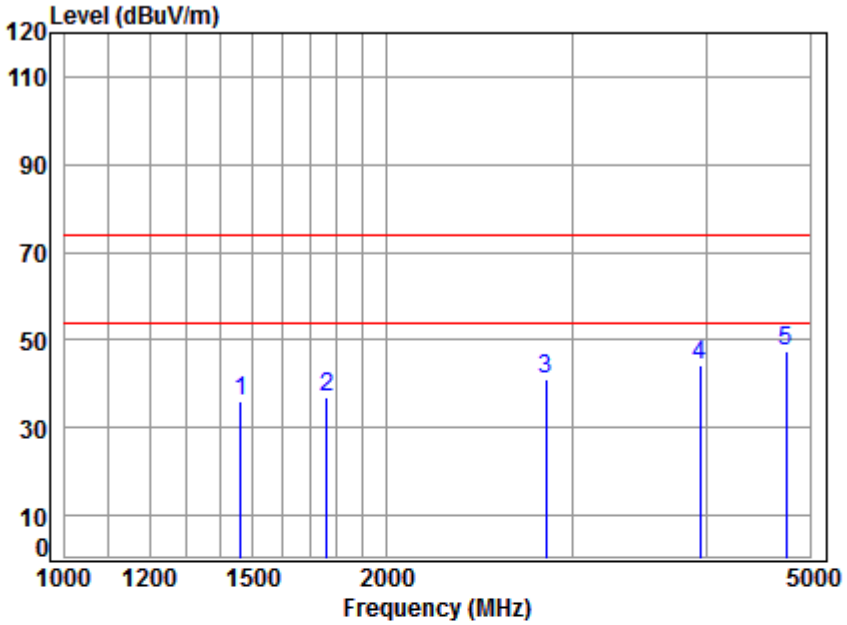
Mode:a; Polarization:Horizontal; Modulation Type:ASK; Channel: High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 10623CR
Mode : 434.2875 TX

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1163.331	4.27	24.42	40.45	45.00	33.24	74.00	-40.76	Peak
2	1594.782	5.36	26.23	40.77	45.07	35.89	74.00	-38.11	Peak
3	1753.640	5.17	26.89	40.86	45.21	36.41	74.00	-37.59	Peak
4	2846.627	5.88	30.27	41.35	46.56	41.36	74.00	-32.64	Peak
5	3883.575	6.86	32.48	42.61	47.30	44.03	74.00	-29.97	Peak
6	4943.986	8.03	34.14	43.75	49.37	47.79	74.00	-26.21	Peak

Mode:a; Polarization:Vertical; Modulation Type:ASK; Channel: High



Site : chamber
Condition: 3m VERTICAL
Job No : 10623CR
Mode : 434.2875 TX

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1462.032	5.36	25.66	40.68	45.67	36.01	74.00	-37.99	Peak
2	1762.128	5.16	26.92	40.87	45.74	36.95	74.00	-37.05	Peak
3	2828.360	5.86	30.19	41.34	46.23	40.94	74.00	-33.06	Peak
4	3946.584	6.93	32.60	42.69	47.44	44.28	74.00	-29.72	Peak
5	4749.009	7.83	33.91	43.56	49.26	47.44	74.00	-26.56	Peak

8 Photographs

8.1 Test Setup

Please refer to setup photos.

8.2 EUT Constructional Details (EUT Photos)

Please Refer to external and internal photos for details.

- End of the Report -