

TEST REPORT

Application No.: KSCR2409001776AT
FCC ID: 2AQQMLBAIRBOX
IC: 27586-LBAIRBOX
Applicant: Zhejiang Libiao Robotics Co., Ltd.
Address of Applicant: No.96,Changda Road,Linping Street,Linping District,Hangzhou City,Zhejiang Province,China
Manufacturer: Zhejiang Libiao Robotics Co., Ltd.
Address of Manufacturer: No.96,Changda Road,Linping Street,Linping District,Hangzhou City,Zhejiang Province,China
Factory: Zhejiang Libiao Robotics Co., Ltd.
Address of Factory: No.96,Changda Road,Linping Street,Linping District,Hangzhou City,Zhejiang Province,China
Equipment Under Test (EUT):
EUT Name: AirBox
Model No.: LBAirBox
Trade Mark: LiBiao
Standard(s) : 47 CFR Part 15, Subpart C 15.249
RSS-210 Issue 11 June 25, 2024
RSS-Gen Issue5 Amendment 2 (February 2021)
Date of Receipt: 2024-09-09
Date of Test: 2025-04-16 to 2025-04-24
Date of Issue: 2025-04-24

Test Result:**Pass***

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

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Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Revision Record			
Version	Description	Date	Remark
00	Original	2025-04-24	/

Authorized for issue by:				
Tested By		Damon Zhou		
		Damon_Zhou/Project Engineer		
Approved By		Terry Hou		
		Terry Hou /Reviewer		

2 Test Summary

Radio Spectrum Technical Requirement				
Item	FCC Requirement	IC Requirement	Method	Result
Antenna Requirement	47 CFR Part 15, Subpart C 15.249	RSS-Gen Clause 6.8	N/A	Pass

N/A: Not applicable

Radio Spectrum Matter Part				
Item	FCC Requirement	IC Requirement	Method	Result
20dB Emission bandwidth	47 CFR Part 15, Subpart C 15.249	RSS-210 Annex B 10	ANSI C63.10 (2013) Section 6.9	Pass
Filed strength of fundamental	47 CFR Part 15, Subpart C 15.249	RSS-210 Annex B 10	ANSI C63.10 (2013) Section 6.6	Pass
Radiated Emissions Above 1GHz	47 CFR Part 15, Subpart C 15.249	RSS-210 Annex B 10	ANSI C63.10 (2013) Section 6.6	Pass
Radiation Spurious Emission Below 1GHz	47 CFR Part 15, Subpart C 15.249	RSS-210 Annex B 10	ANSI C63.10 (2013) Section 6.4&6.5	Pass
Restricted Band Around Fundamental Frequency	47 CFR Part 15, Subpart C 15.249	RSS-210 Annex B 10	ANSI C63.10 (2013) Section 6.10.5	Pass
Field Strength of the Fundamental Signal (15.249(a))	47 CFR Part 15, Subpart C 15.249	RSS-210 Annex B 10	ANSI C63.10 (2013) Section 6.5&6.6	Pass
99% Bandwidth	N/A	RSS-Gen Section 6.7	RSS-Gen Section 6.7	Pass

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4 General Information

4.1 Details of E.U.T.

Power supply:	DC 25-29V
Test Voltage:	DC 27V
Operation Frequency:	902-928MHz
Modulation Type:	FSK
Channel Spacing:	200KHz
Channel Number:	111
Antenna Type:	Dipole Antenna
Antenna Gain:	2.54dBi (Provided by the manufacturer)
SN:	18-06-1B-30-C7-70-00
Firmware Version:	F002

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Notebook	Lenovo	/	/
DC power supply	/	/	/

4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	8.4×10^{-8}
2	Timeout	2s
3	Duty Cycle	0.37%
4	Occupied Bandwidth	3%
5	RF Conducted Power	0.6dB
6	RF Power Density	2.9dB
7	Conducted Spurious Emissions	0.75dB
8	RF Radiated Power	5.2dB (Below 1GHz)
		5.9dB (Above 1GHz)
9	Radiated Spurious Emission Test	4.2dB (Below 30MHz)
		4.5dB (30MHz-1GHz)
		5.1dB (1GHz-18GHz)
		5.4dB (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:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

No tests were sub-contracted.

Note:

1. SGS is not responsible for wrong test results due to incorrect information (e.g., max. internal working frequency, antenna gain, cable loss, etc) is provided by the applicant. (If applicable).
2. SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (If applicable).
3. Sample source: sent by customer.

4.5 Test Facility

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

- **A2LA**

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

- **FCC**

Compliance Certification Services (Kunshan) Inc. has been recognized as an accredited testing laboratory. Designation Number: CN1172.

- **ISED**

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory. Company Number: 2324E

- **VCCI**

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-20134, R-11600, C-11707, T-11499, G-10216 respectively.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None

5 Equipment List

RF Conducted Test						
1	Spectrum Analyzer	Keysight	N9020A	KUS1911E004-2	08/01/2024	07/31/2025
2	Spectrum Analyzer	Keysight	N9020A	KUS2001M001-2	08/01/2024	07/31/2025
3	Spectrum Analyzer	Keysight	N9030B	KSEM021-1	01/15/2025	01/14/2026
4	Signal Generator	R&S	SMBV100B	KSEM032	02/19/2025	02/18/2026
5	Signal Generator	R&S	SMW200A	KSEM020-1	08/02/2024	08/01/2025
6	Signal Generator	Agilent	N5182A	KUS2001M001-1	08/01/2024	07/31/2025
7	Radio Communication Test Station	Anritsu	MT8000A	KSEM001-1	08/01/2024	07/31/2025
8	Radio Communication Analyzer	Anritsu	MT8821C	KSEM002-1	02/19/2025	02/18/2026
9	Universal Radio Communication Tester	R&S	CMW500	KUS1911E004-1	08/13/2024	08/12/2025
10	Switcher	TST	FY562	KUS2001M001-4	01/15/2025	01/14/2026
11	AC Power Source	EXTECH	6605	KS301178	N.C.R	N.C.R
12	DC Power Supply	Aglient	E3632A	KS301180	N.C.R	N.C.R
13	Conducted Test Cable	Thermax	RF01-RF04	CZ301111-CZ301120	01/14/2025	01/13/2026
14	Temp. / Humidity Chamber	TERCHY	MHK-120AK	KSES104904	09/02/2024	09/01/2025
15	Temperature & Humidity Recorder	Renke Control	RS-WS-N01-6J	KSEM024-5	02/26/2025	02/25/2026
16	Software	BST	TST-PASS	/	NCR	NCR
RF Radiated Test						
1	Spectrum Analyzer	R&S	FSV40	KUS1806E003	08/06/2024	08/05/2025
2	Universal Radio Communication Tester	R&S	CMW500	KSEM009-1	02/18/2025	02/17/2026
3	Signal Generator	Agilent	E8257C	KS301066	08/06/2024	08/05/2025
4	Loop Antenna	COM-POWER	AL-130R	KUS1806E001	03/01/2025	02/28/2027
5	Bilog Antenna	TESEQ	CBL 6112D	KUS1806E005	06/29/2023	06/28/2025
6	Horn-antenna(1-18GHz)	Schwarzbeck	BBHA9120D	KS301079	03/23/2024	03/22/2026
8	Horn Antenna(18-40GHz)	Schwarzbeck	BBHA9170	CZ301058	01/07/2024	01/06/2026
9	Amplifier(30MHz~18GHz)	PANSHAN TECHNOLOGY	LNA:1~18G	KSEM010-1	01/15/2025	01/14/2026
10	Amplifier(18~40GHz)	PANSHAN TECHNOLOGY	LNA180400G40	KSEM038	08/12/2024	08/11/2025
11	RE Test Cable	REBES MICROWAVE	/	CZ301097	08/23/2024	08/22/2025
12	Temperature & Humidity Recorder	Renke Control	RS-WS-N01-6J	KSEM024-4	02/26/2025	02/25/2026
13	Software	Faratronic	EZ EMC-v 3A1	/	NCR	NCR
14	Software	ESE	E3_V 6.111221a	/	NCR	NCR

6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203 & 15.247(b)(4)

6.1.2 Conclusion

15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

The antenna is dipole antenna and no consideration of replacement. The best case gain of the antenna is 2.54dBi.

Antenna location: Refer to Internal photos

7 Radio Spectrum Matter Test Results

7.1 Radiated Emissions Above 1GHz

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

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

Measurement Distance: 3m

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
Above 1000	500	3

7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 25.2 °C

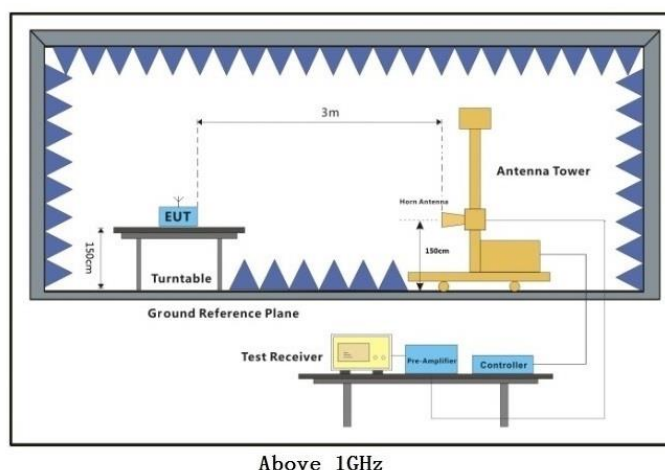
Humidity: 46.5 % RH

Atmospheric Pressure: 1010 mbar

7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	03	TX mode_Keep the EUT in continuously transmitting mode.

7.1.3 Test Setup Diagram



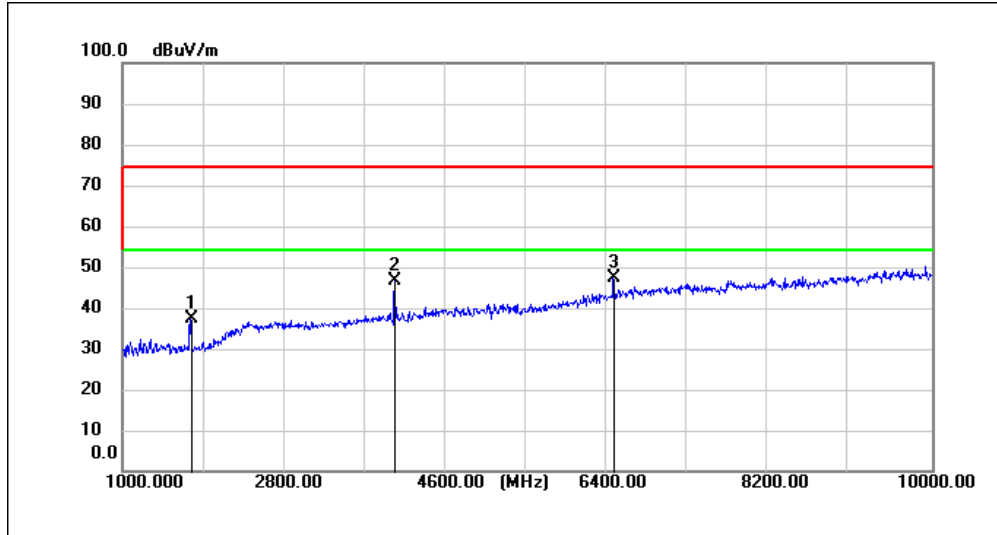
7.1.4 Measurement Procedure and Data

- a. 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.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. 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.
- d. 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.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. 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 or average method as specified and then reported in a data sheet.
- g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- h. 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.
- i. Repeat above procedures until all frequencies measured was complete.

Remark:

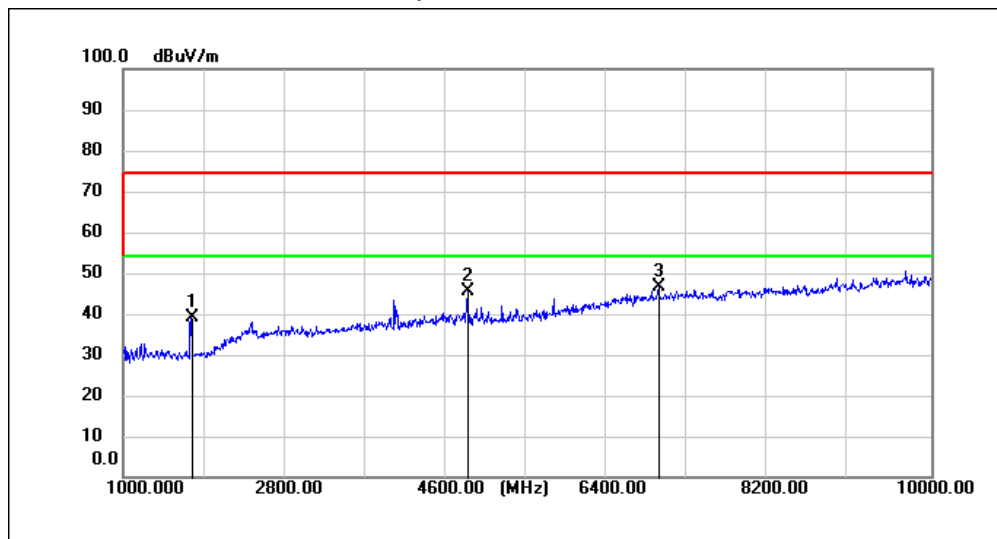
1. $\text{Level} = \text{Read Level} + \text{Cable Loss} + \text{Antenna Factor} - \text{Preamp Factor}$
2. Scan from 18GHz to 40GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
3. As shown in this section, for frequencies above 1GHz, the field strength limits 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. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

Above 1GHz; Polarity: Vertical; Channel: 904.25MHz



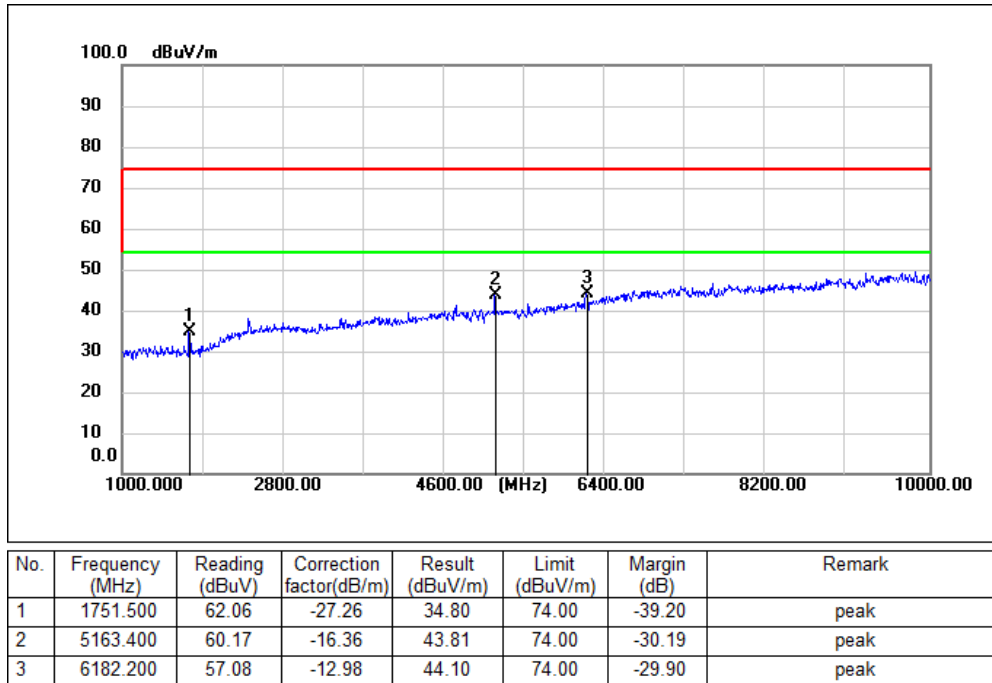
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1759.600	64.48	-27.24	37.24	74.00	-36.76	peak
2	4026.700	66.25	-19.61	46.64	74.00	-27.36	peak
3	6458.500	58.97	-11.69	47.28	74.00	-26.72	peak

Above 1GHz; Polarity: Horizontal; Channel: 904.25MHz

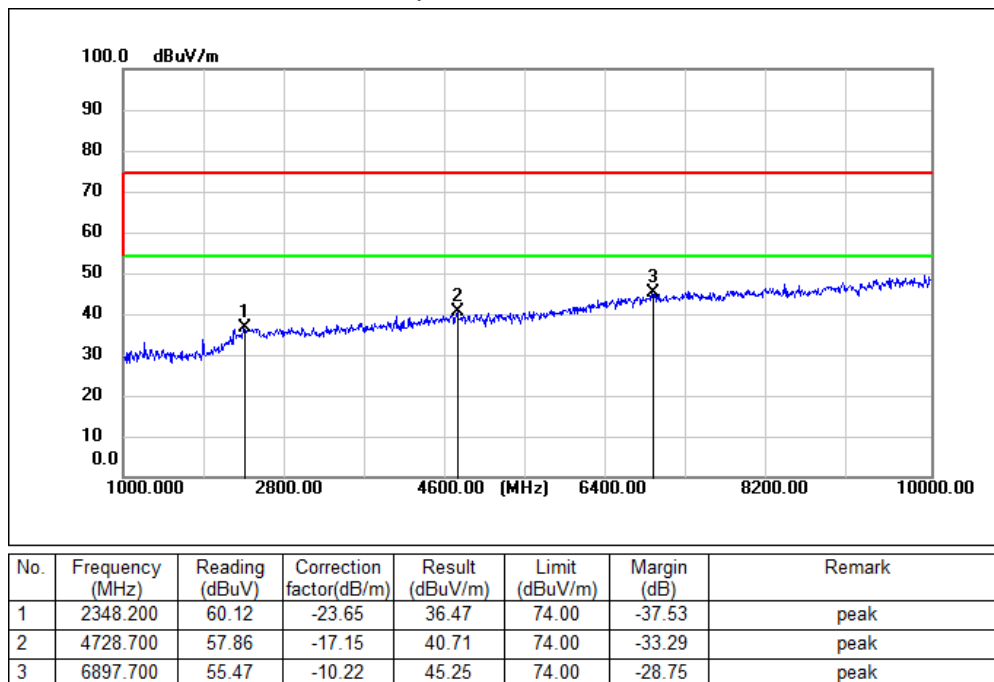


No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1758.700	66.33	-27.24	39.09	74.00	-34.91	peak
2	4834.000	62.49	-16.95	45.54	74.00	-28.46	peak
3	6967.900	56.65	-10.14	46.51	74.00	-27.49	peak

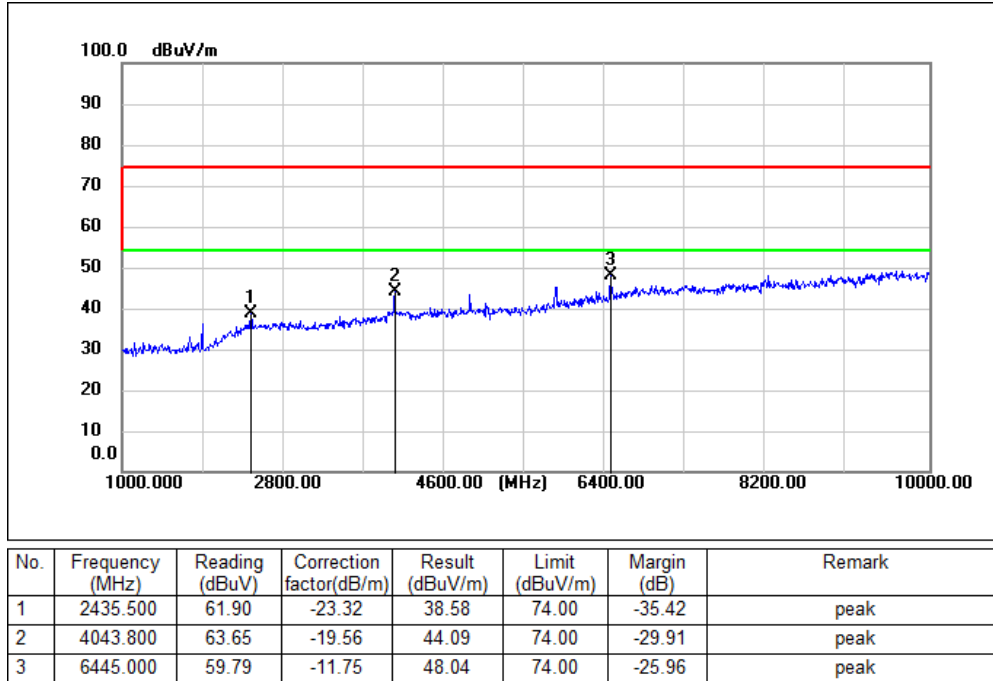
Above 1GHz; Polarity: Vertical; Channel: 915.25MHz



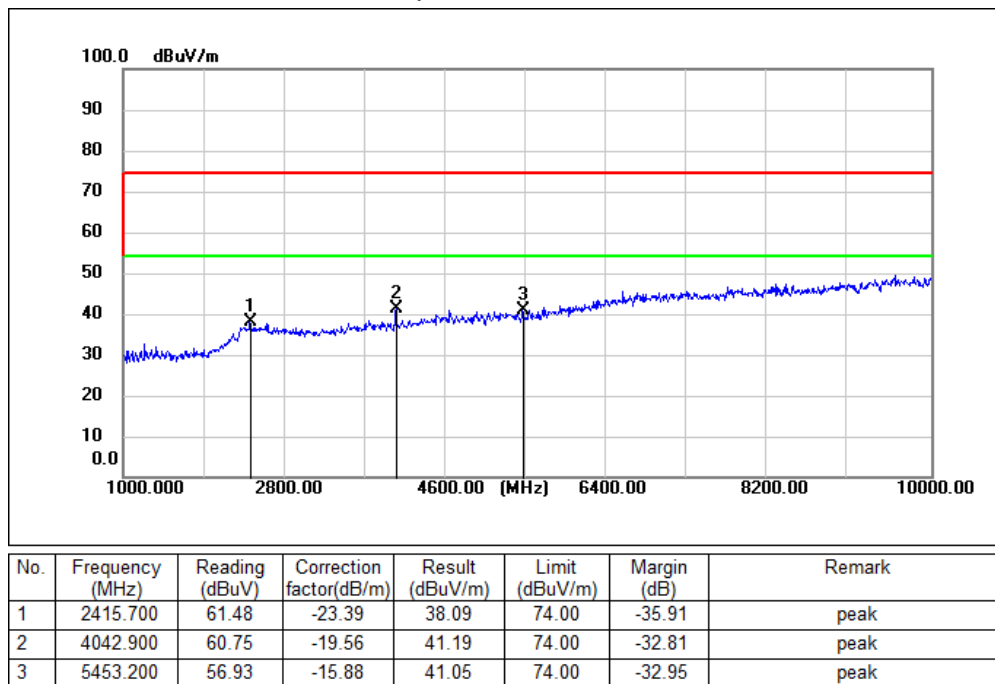
Above 1GHz; Polarity: Horizontal; Channel: 915.25MHz



Above 1GHz; Polarity: Vertical; Channel: 926.25MHz



Above 1GHz; Polarity: Horizontal; Channel: 926.25MHz



7.2 Radiated Emissions Below 1GHz

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

Limit:

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
960-1000	500	3

7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 25.2 °C

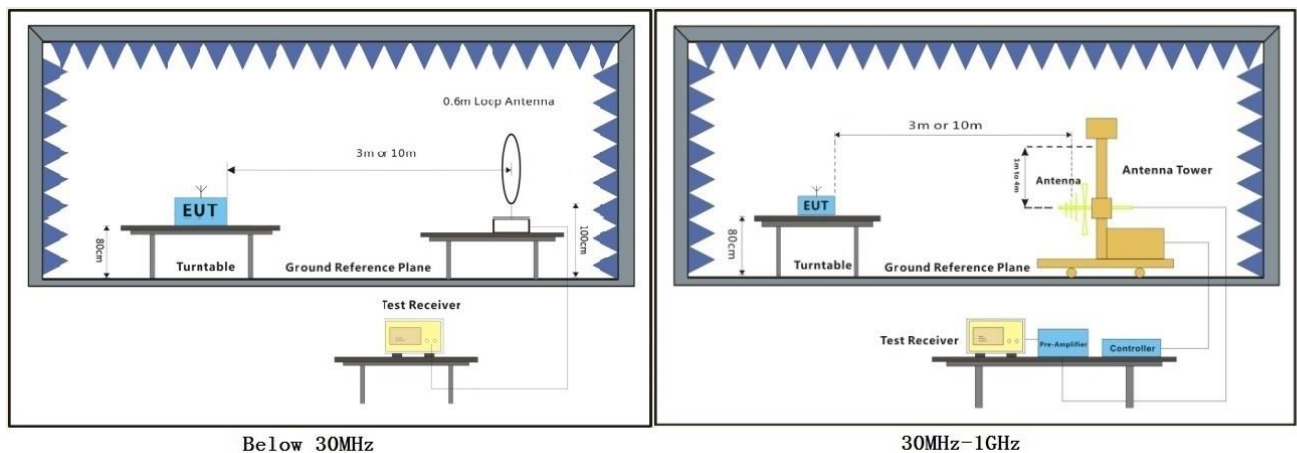
Humidity: 46.5 % RH

Atmospheric Pressure: 1010 mbar

7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	03	TX mode_Keep the EUT in continuously transmitting mode.

7.2.3 Test Setup Diagram



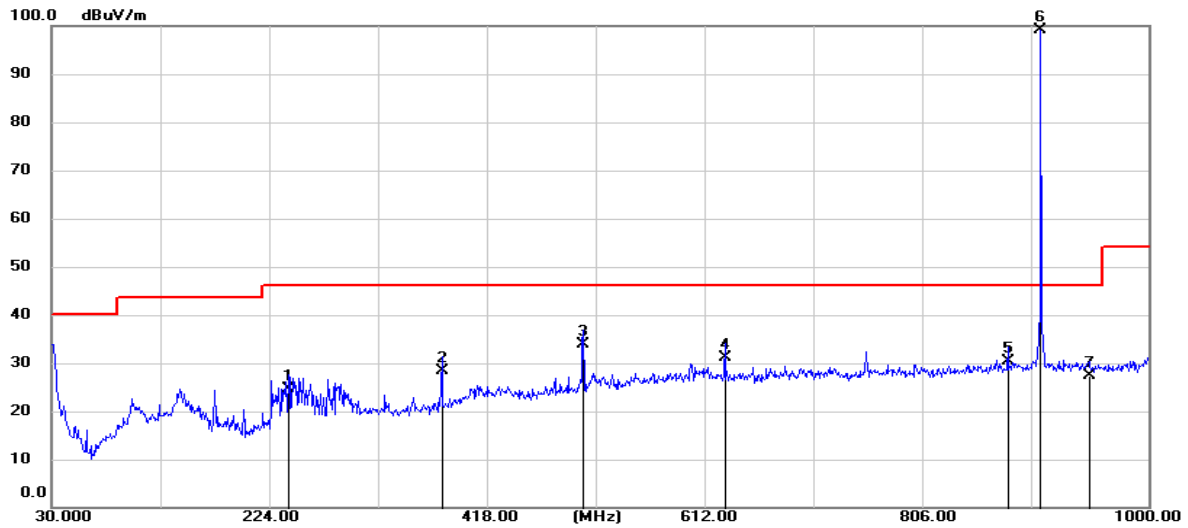
7.2.4 Measurement Procedure and Data

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. 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.
- c. 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.
- d. 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.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. 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 quasi-peak method as specified and then reported in a data sheet.
- g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- h. 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.
- i. Repeat above procedures until all frequencies measured was complete.

Remark:

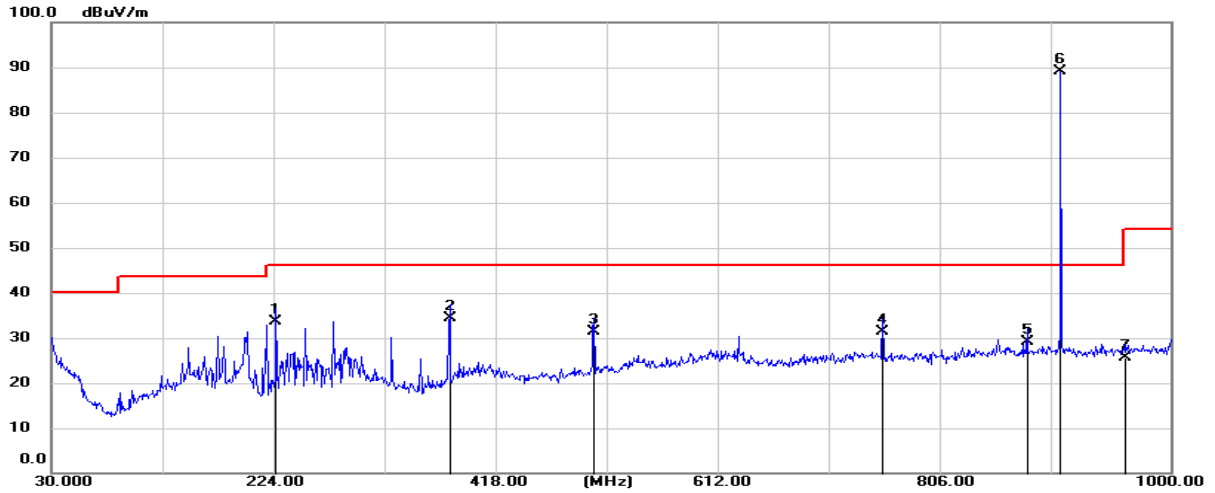
1. $\text{Level} = \text{Read Level} + \text{Cable Loss} + \text{Antenna Factor} - \text{Preamp Factor}$
2. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

Below 1GHz; Polarity: Vertical; Channel: 904.25MHz



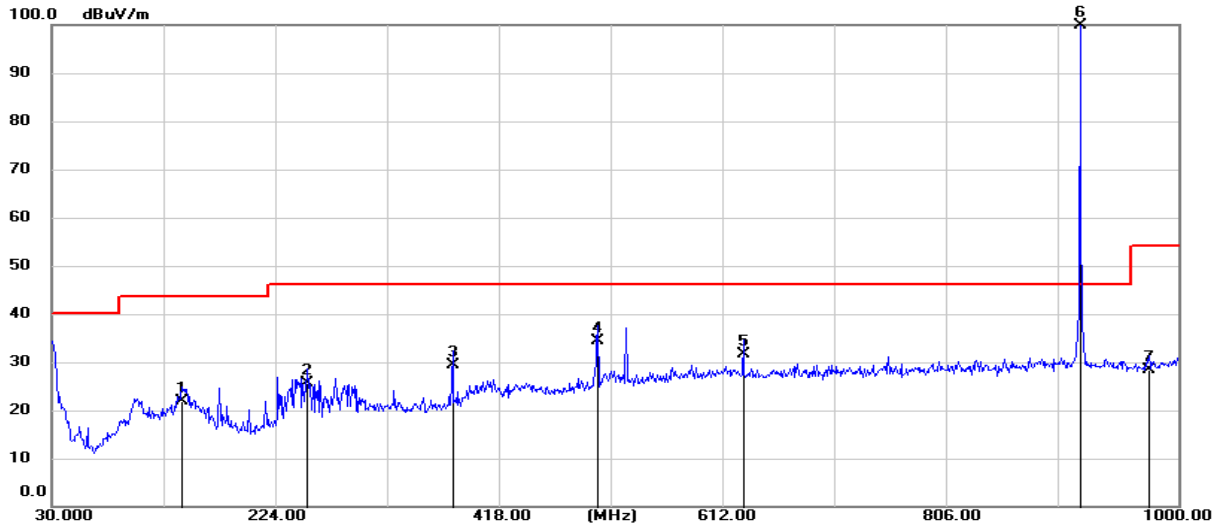
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	239.5200	10.90	13.65	24.55	46.00	-21.45	QP
2	375.3200	11.49	16.96	28.45	46.00	-17.55	QP
3	500.4500	12.87	20.95	33.82	46.00	-12.18	QP
4	625.5800	8.10	22.94	31.04	46.00	-14.96	QP
5	875.8400	5.09	25.32	30.41	46.00	-15.59	QP
6	904.9400	73.52	25.53	99.05	46.00	53.05	peak
7	947.6200	1.88	25.50	27.38	46.00	-18.62	QP

Below 1GHz; Polarity: Horizontal; Channel: 904.25MHz



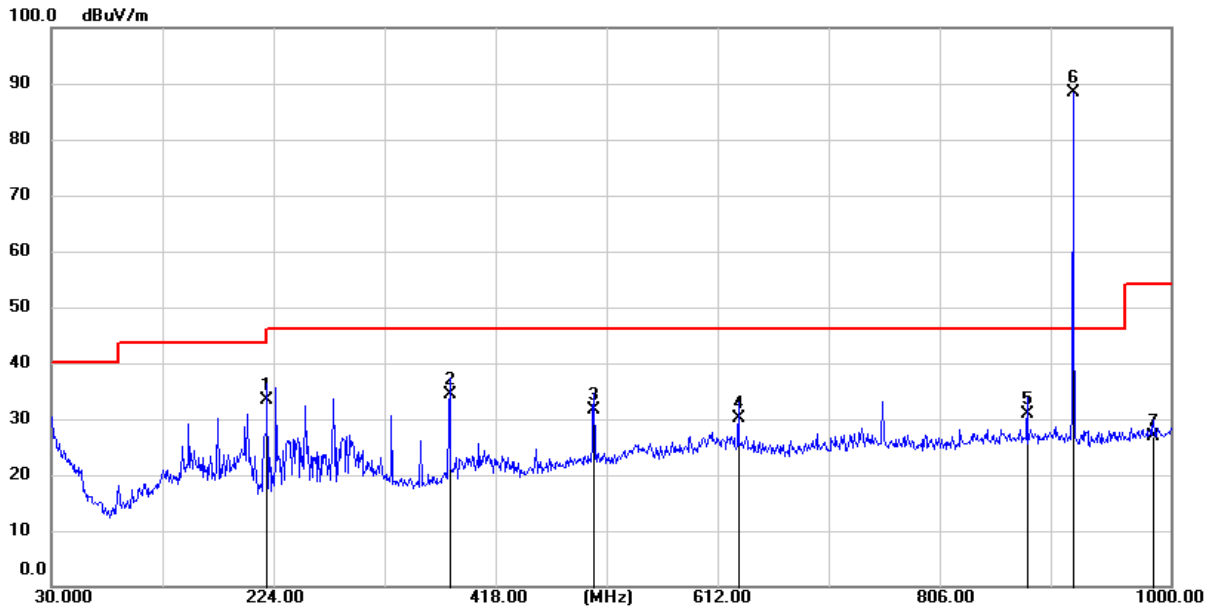
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	224.9700	22.14	11.57	33.71	46.00	-12.29	QP
2	375.3200	18.52	15.86	34.38	46.00	-11.62	QP
3	500.4500	12.31	18.98	31.29	46.00	-14.71	QP
4	750.7100	9.50	21.82	31.32	46.00	-14.68	QP
5	875.8400	6.33	22.88	29.21	46.00	-16.79	QP
6	904.9400	66.21	23.00	89.21	46.00	43.21	peak
7	961.2000	2.43	23.22	25.65	54.00	-28.35	QP

Below 1GHz; Polarity: Vertical; Channel: 915.25MHz



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	142.5200	8.05	13.76	21.81	43.50	-21.69	QP
2	250.1900	11.07	14.54	25.61	46.00	-20.39	QP
3	375.3200	12.33	16.96	29.29	46.00	-16.71	QP
4	500.4500	13.55	20.95	34.50	46.00	-11.50	QP
5	625.5800	8.77	22.94	31.71	46.00	-14.29	QP
6	915.6100	74.27	25.61	99.88	46.00	53.88	peak
7	974.7800	3.08	25.30	28.38	54.00	-25.62	QP

Below 1GHz; Polarity: Horizontal; Channel: 915.25MHz



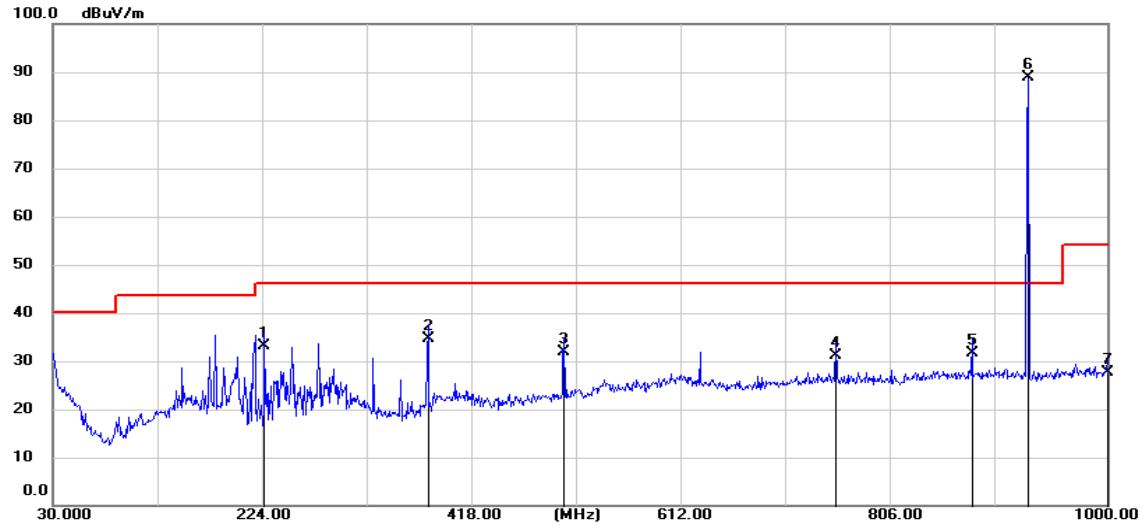
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	217.2100	21.95	11.51	33.46	46.00	-12.54	QP
2	375.3200	18.62	15.86	34.48	46.00	-11.52	QP
3	500.4500	12.71	18.98	31.69	46.00	-14.31	QP
4	625.5800	9.14	21.05	30.19	46.00	-15.81	QP
5	875.8400	8.05	22.88	30.93	46.00	-15.07	QP
6	915.6100	65.69	22.79	88.48	46.00	42.48	peak
7	985.4500	3.32	23.52	26.84	54.00	-27.16	QP

Below 1GHz; Polarity: Vertical; Channel: 926.25MHz



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.9700	11.71	18.65	30.36	40.00	-9.64	QP
2	249.2200	10.92	14.38	25.30	46.00	-20.70	QP
3	375.3200	12.27	16.96	29.23	46.00	-16.77	QP
4	500.4500	12.04	20.95	32.99	46.00	-13.01	QP
5	625.5800	7.81	22.94	30.75	46.00	-15.25	QP
6	926.2500	75.33	25.31	100.64	46.00	54.64	peak
7	986.4200	1.87	25.49	27.36	54.00	-26.64	QP

Below 1GHz; Polarity: Horizontal; Channel: 926.25MHz



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	224.9700	21.55	11.57	33.12	46.00	-12.88	QP
2	375.3200	18.74	15.86	34.60	46.00	-11.40	QP
3	500.4500	12.93	18.98	31.91	46.00	-14.09	QP
4	750.7100	9.41	21.82	31.23	46.00	-14.77	QP
5	875.8400	8.76	22.88	31.64	46.00	-14.36	QP
6	926.2500	66.10	22.75	88.85	46.00	42.85	peak
7	1000.0000	4.10	23.63	27.73	54.00	-26.27	QP

7.3 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 6.10.5

Measurement Distance: 3m

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.

7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 25.2 °C

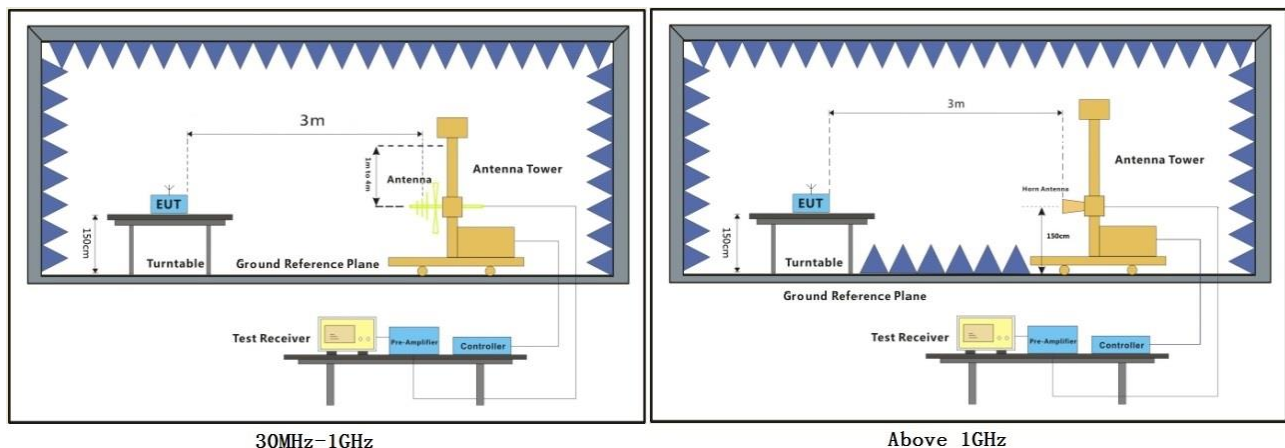
Humidity: 46.5 % RH

Atmospheric Pressure: 1010 mbar

7.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	03	TX mode_Keep the EUT in continuously transmitting mode.

7.3.3 Test Setup Diagram

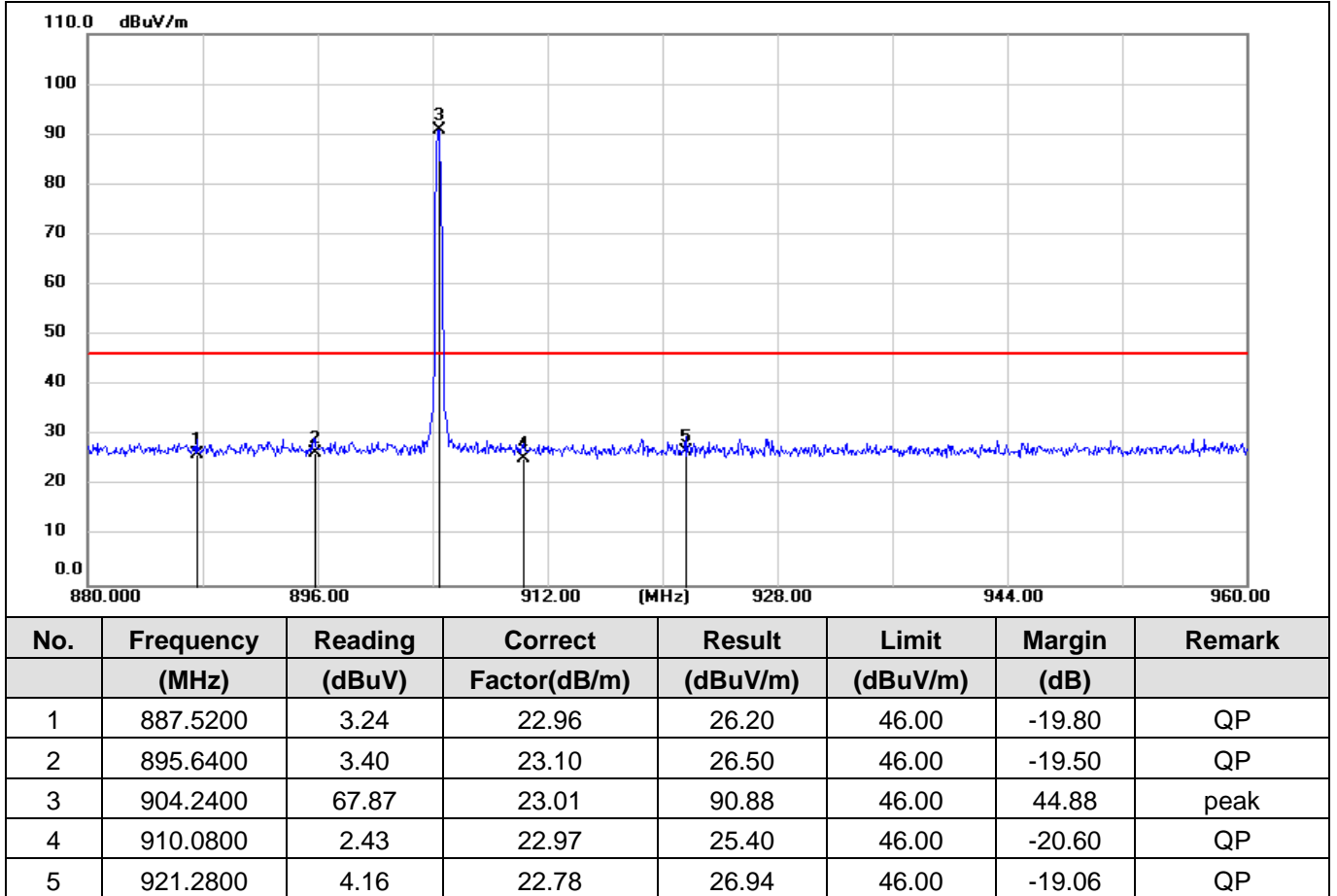


7.3.4 Measurement Procedure and Data

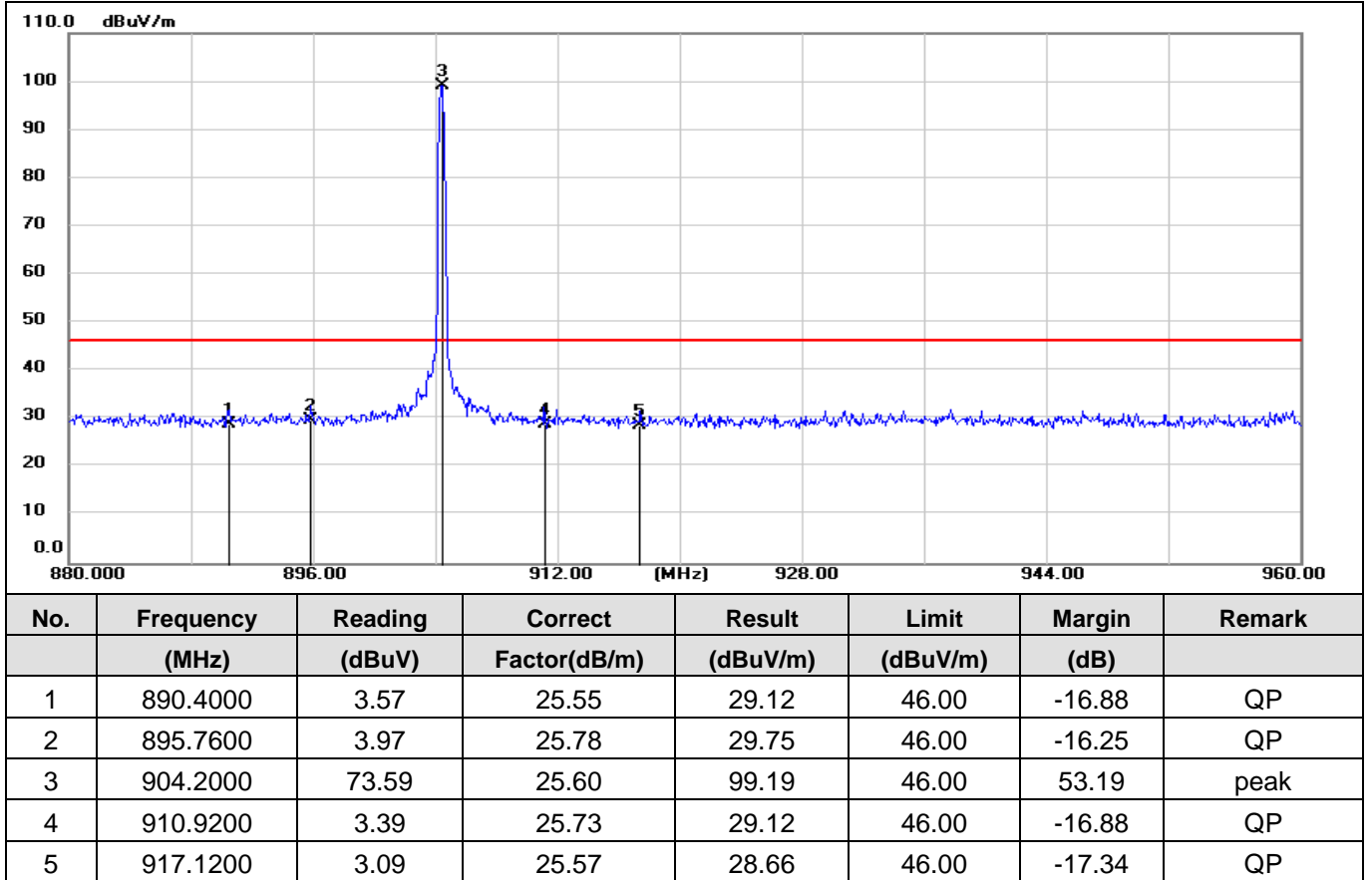
- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 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

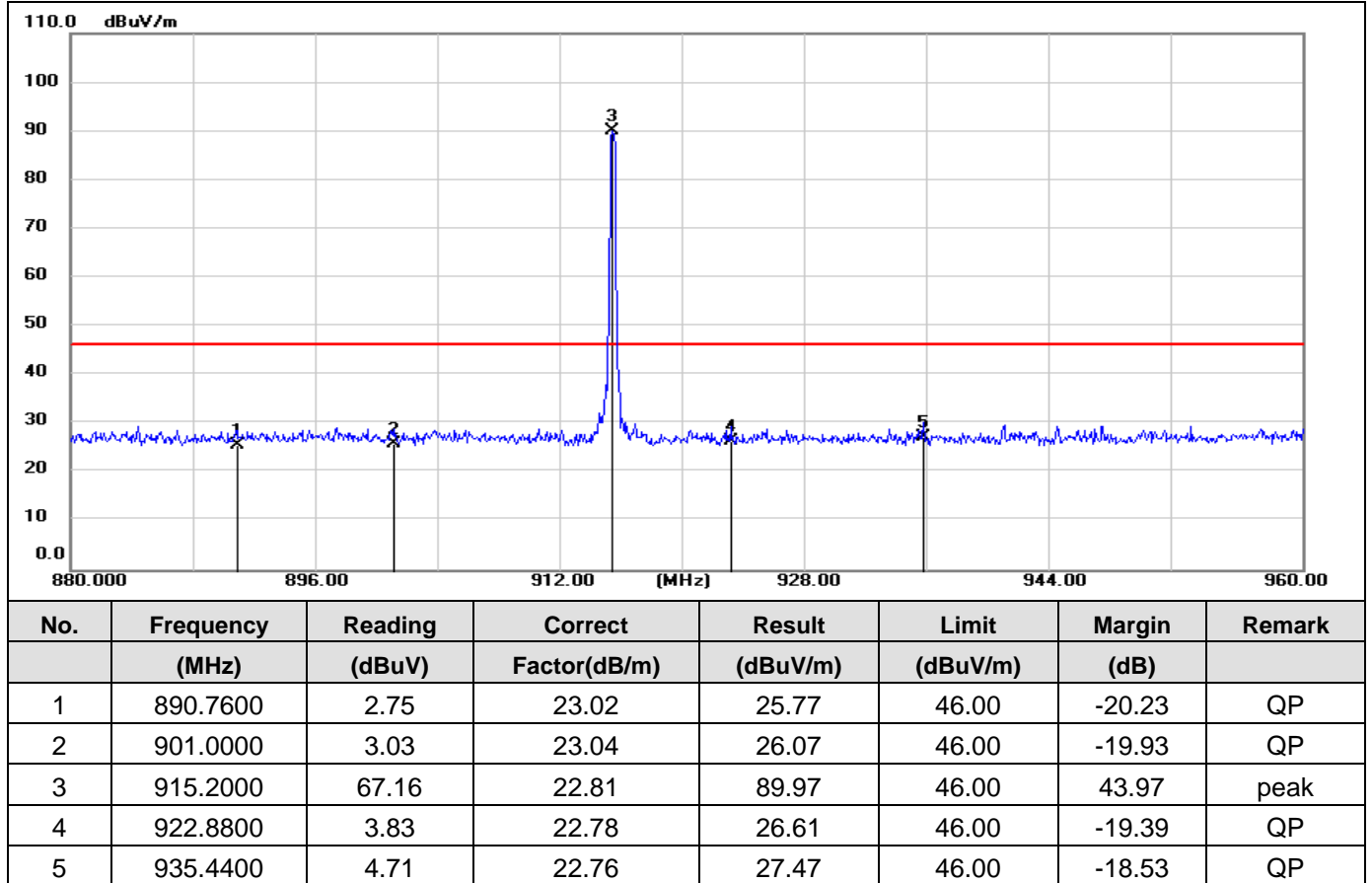
904.25MHz Horizontal



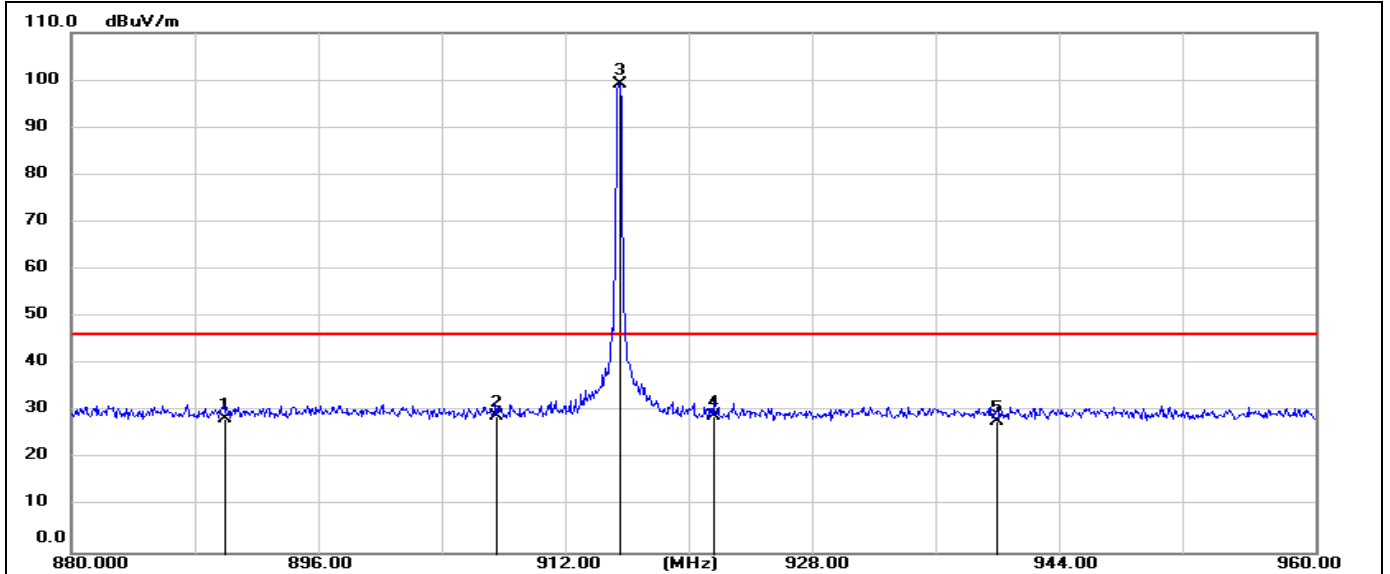
904.25MHz Vertical



915.25MHz Horizontal

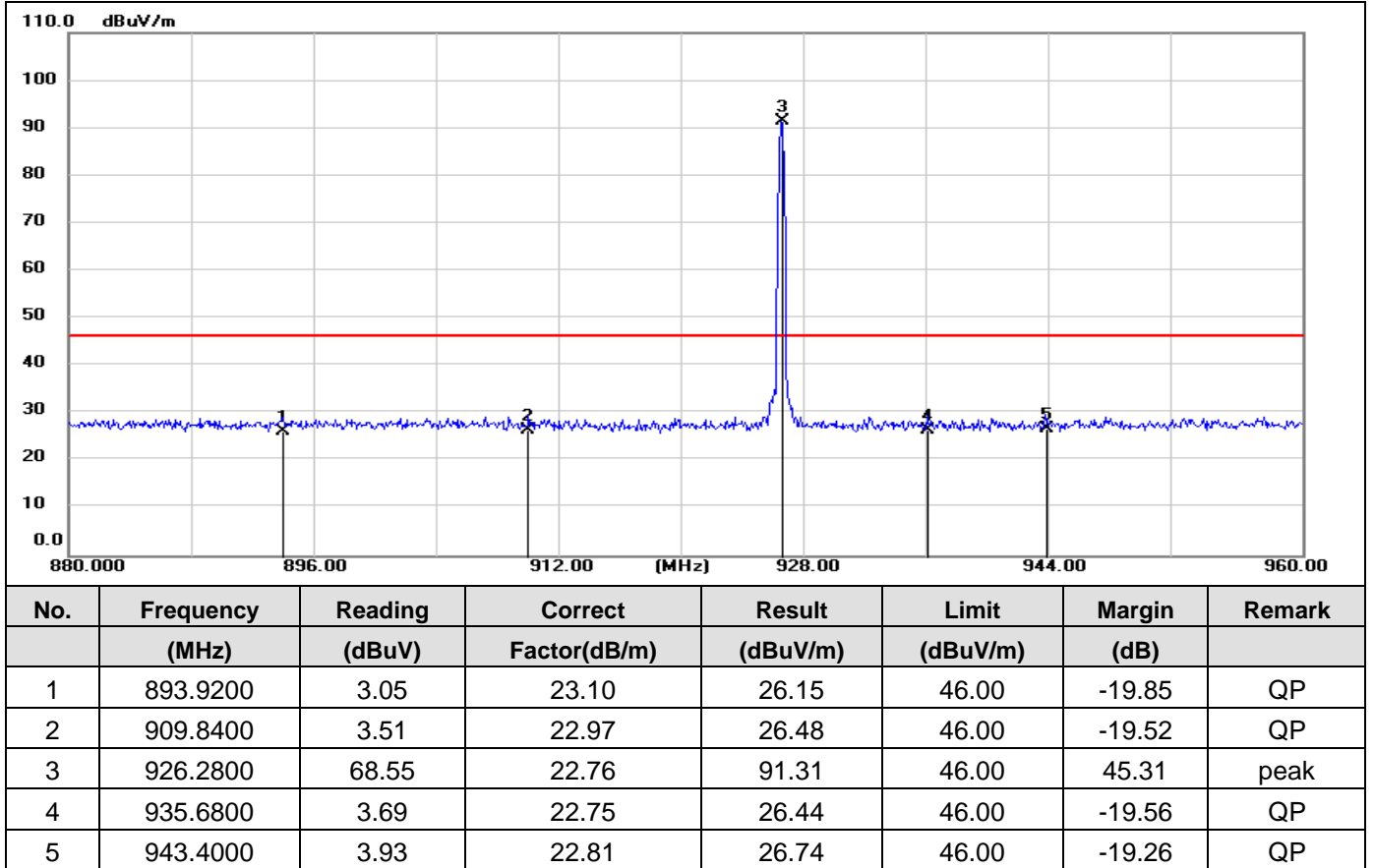


915.25MHz Vertical

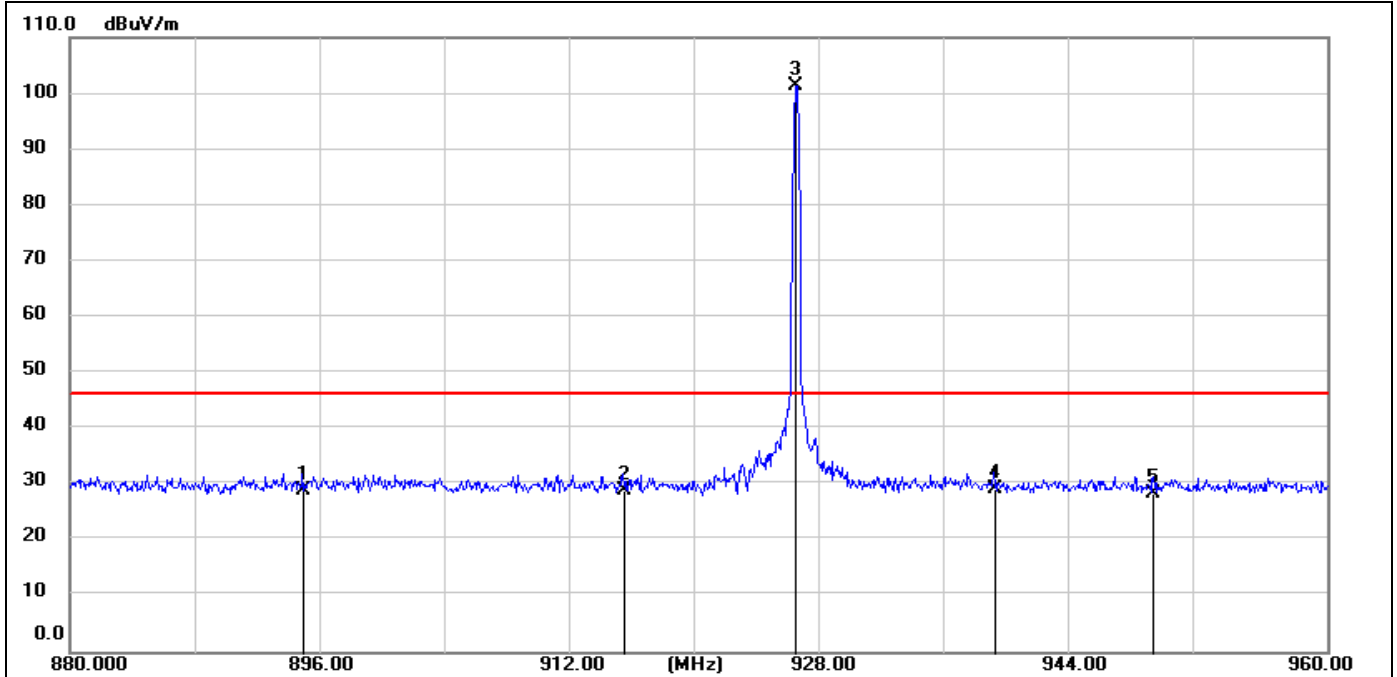


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	889.8800	2.92	25.54	28.46	46.00	-17.54	QP
2	907.3200	3.39	25.56	28.95	46.00	-17.05	QP
3	915.2800	73.47	25.59	99.06	46.00	53.06	peak
4	921.3200	3.74	25.31	29.05	46.00	-16.95	QP
5	939.5200	2.56	25.47	28.03	46.00	-17.97	QP

926.25MHz Horizontal



926.25MHz Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	894.8400	3.35	25.72	29.07	46.00	-16.93	QP
2	915.2400	3.48	25.59	29.07	46.00	-16.93	QP
3	926.2000	76.03	25.42	101.45	46.00	55.45	peak
4	938.8400	3.71	25.51	29.22	46.00	-16.78	QP
5	948.9600	3.20	25.36	28.56	46.00	-17.44	QP

7.4 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

Measurement Distance: 3m

Limit:

Fundamental frequency(MHz)	Field strength of fundamental(millivolts/meter)	Field strength of harmonics(microvolts/meter)
902-928	50	500
2400-2483.5	50	500
5725-5875	50	500
24000-24250	250	2500

Remark: 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.

For fundamental frequency in "902-928MHz", the field strength of fundamental is based on Quasi-Peak.

7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 25.2 °C

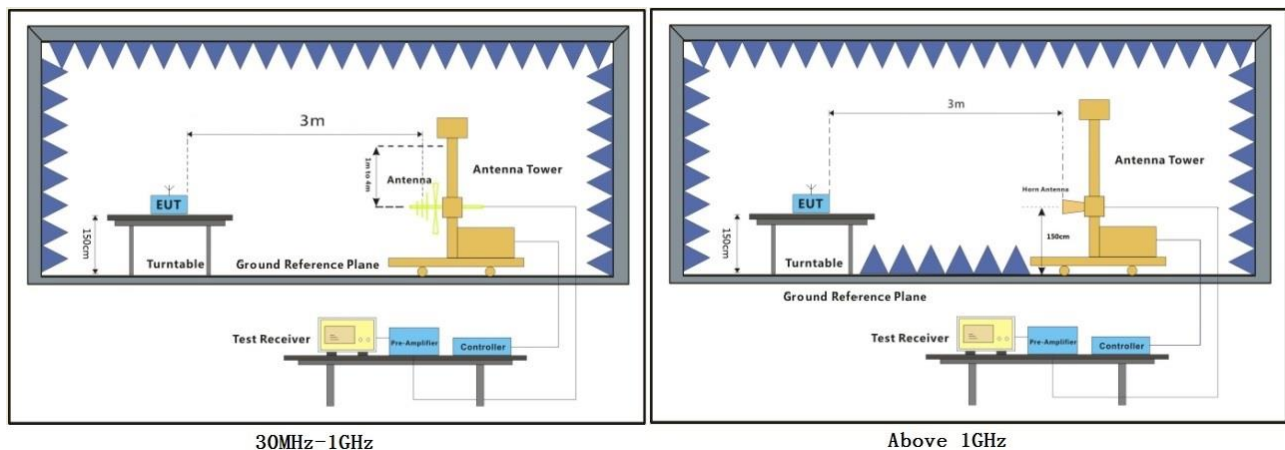
Humidity: 46.5 % RH

Atmospheric Pressure: 1010 mbar

7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	03	TX mode_Keep the EUT in continuously transmitting mode.

7.4.3 Test Setup Diagram

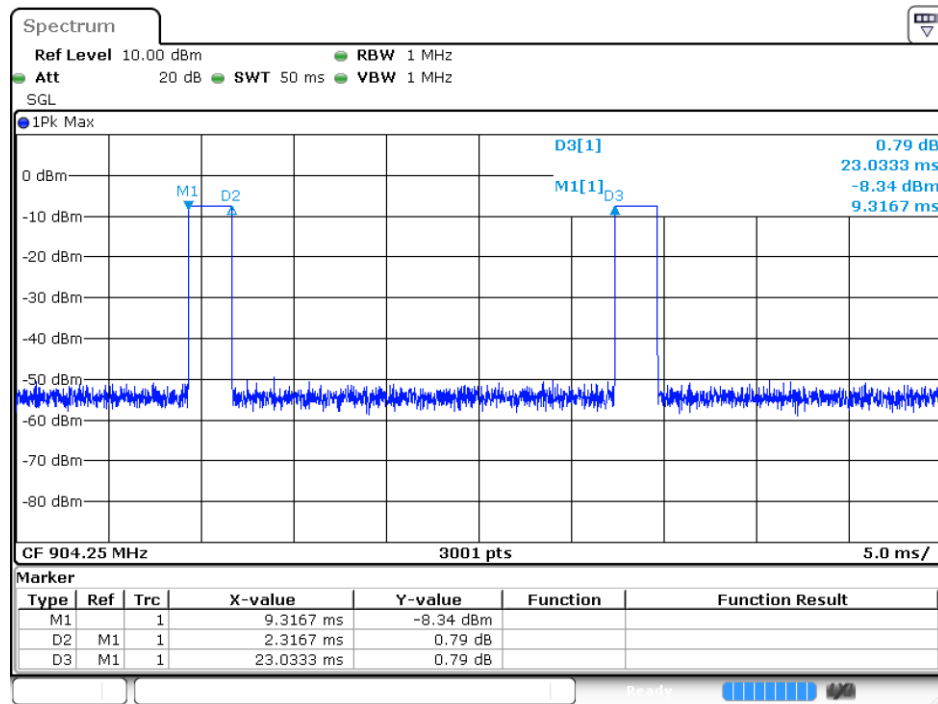


7.4.4 Measurement Procedure and Data

- 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

Test channel	Freq. (MHz)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
Low	904.25	99.19	114	-14.81	Peak	Vertical
		90.88	114	-23.12	Peak	Horizontal
		79.24	94	-14.76	AVG	Vertical
		70.93	94	-23.07	AVG	Horizontal
Middle	915.25	99.06	114	-14.94	Peak	Vertical
		89.97	114	-24.03	Peak	Horizontal
		79.11	94	-14.89	AVG	Vertical
		70.02	94	-23.98	AVG	Horizontal
High	926.25	101.45	114	-12.55	Peak	Vertical
		91.31	114	-22.69	Peak	Horizontal
		81.50	94	-12.50	AVG	Vertical
		71.36	94	-22.64	AVG	Horizontal



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Remark:

1. If the Peak value below the AV Limit, the AV test doesn't perform for this submission.
2. Average level = Peak level - Duty Cycle Factor
3. Duty Cycle Factor = $20 \cdot \log(\text{Duty Cycle}) = -19.95\text{dB}$

7.5 20dB Bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.215
 Test Method: ANSI C63.10 (2013) Section 6.9
 Measurement Distance: 3m

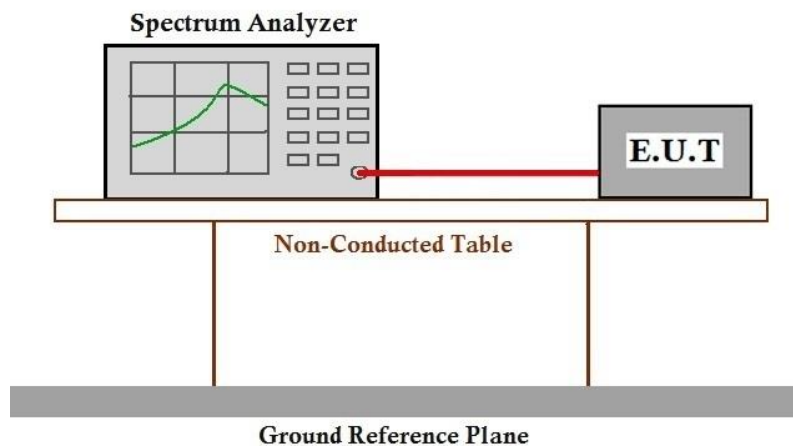
7.5.1 E.U.T. Operation

Operating Environment:
 Temperature: 25.2 °C Humidity: 46.5 % RH Atmospheric Pressure: 1010 mbar

7.5.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	03	TX mode_Keep the EUT in continuously transmitting mode.

7.5.3 Test Setup Diagram



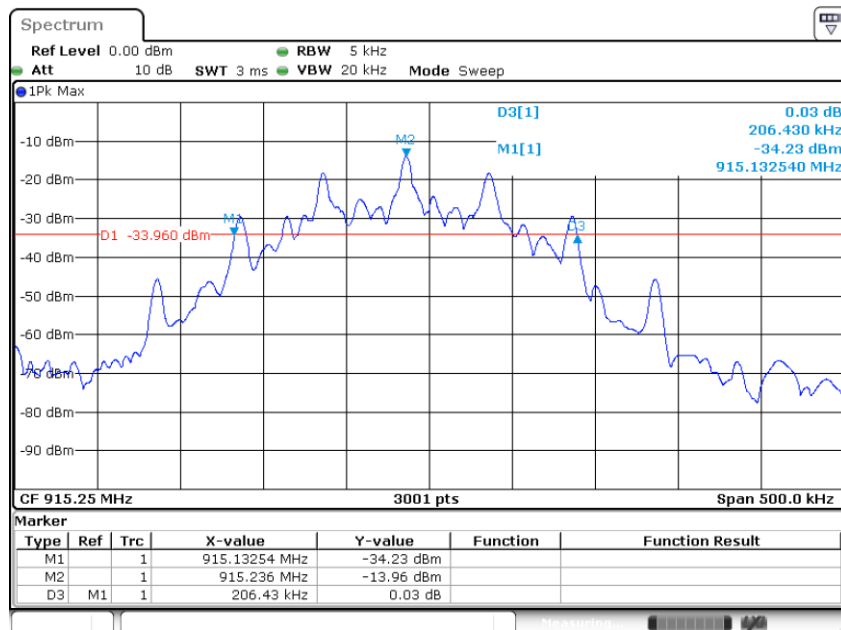
7.5.4 Measurement Procedure and Data

Channel	Frequency (MHz)	20dB Bandwidth (MHz)
Low	904.25	0.206
Middle	915.25	0.206
High	926.25	0.206

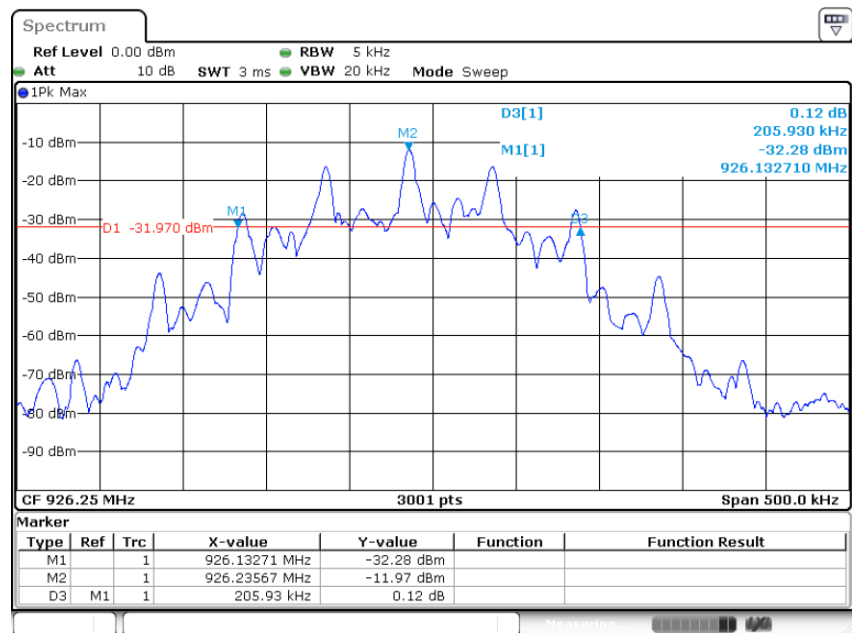
Low channel



Middle channel



High channel



7.6 99% Bandwidth

Test Requirement RSS-Gen Section 6.7
Test Method: ANSI C63.10 Section 6.9.3

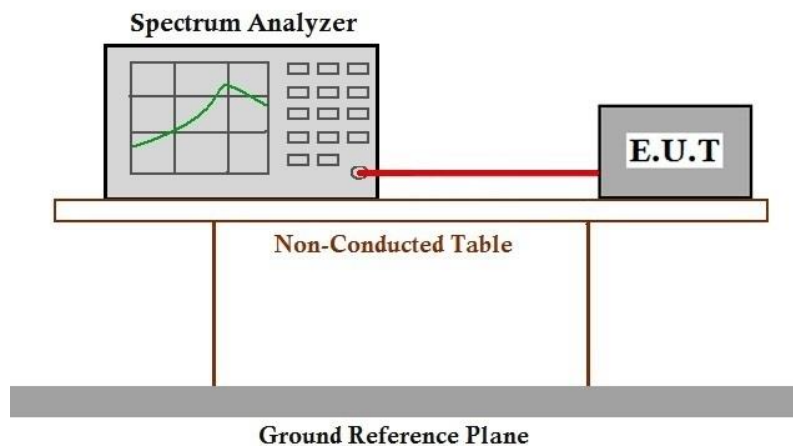
7.6.1 E.U.T. Operation

Operating Environment:
Temperature: 25.2 °C Humidity: 46.5 % RH Atmospheric Pressure: 1010 mbar

7.6.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	03	TX mode_Keep the EUT in continuously transmitting mode.

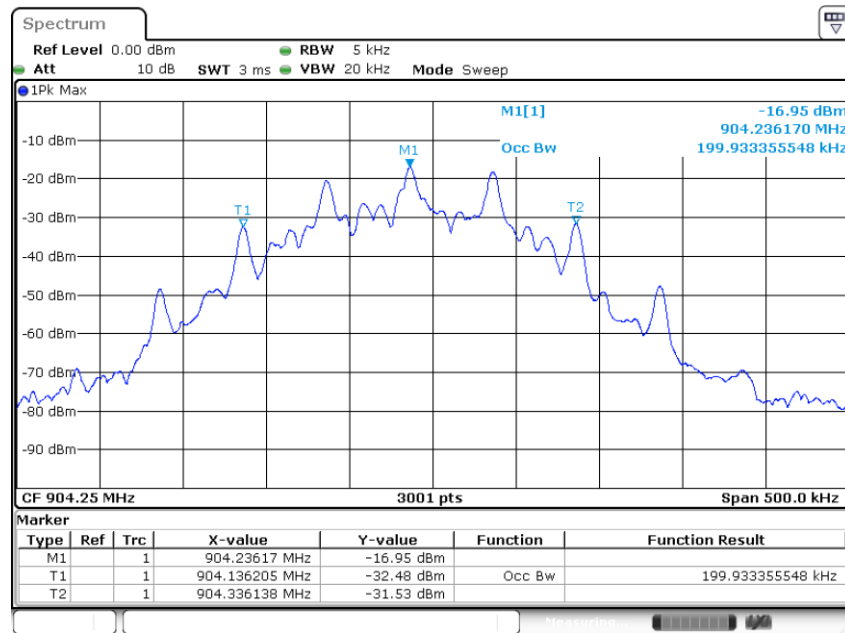
7.6.3 Test Setup Diagram



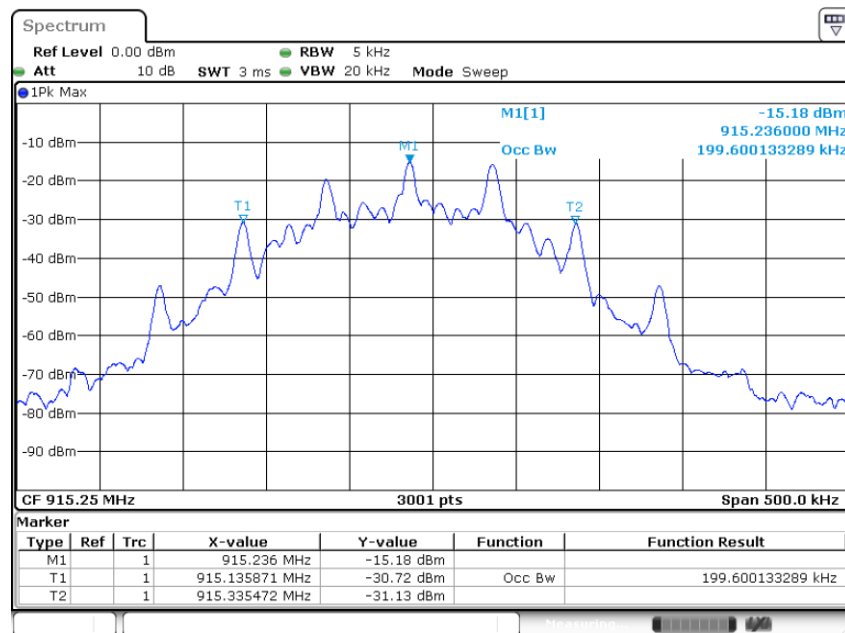
7.6.4 Measurement Procedure and Data

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	904.25	0.200
Middle	915.25	0.200
High	926.25	0.200

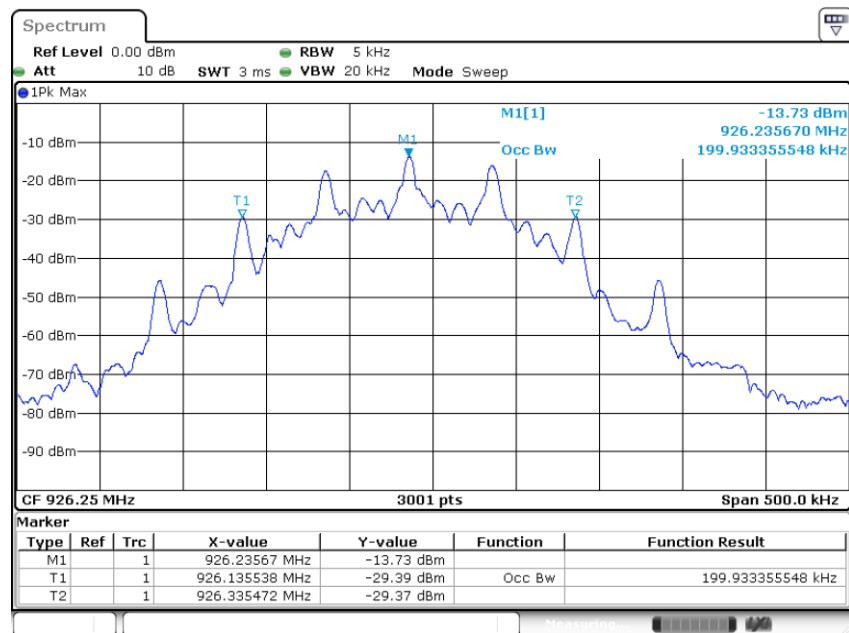
Low channel



Middle channel



High channel





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8 Test Setup Photo

Refer to Appendix - Test Setup Photo for KSCR2409001776AT

9 EUT Constructional Details (EUT Photos)

Refer to External and Internal Photos for KSCR2409001776AT

- End of the Report -