FCC Radio Test Report

FCC ID: XMR2025SC682ANA

This report concerns: Original Grant

Project No.	:	2502H027
Equipment	:	LTE Module with Wi-Fi & Bluetooth
Brand Name	:	QUECTEL
Test Model	:	SC682A-NA
Series Model	:	N/A
Applicant	:	Quectel Wireless Solutions Co., Ltd.
Address	:	Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, 200233, China.
Manufacturer	:	Quectel Wireless Solutions Co., Ltd.
Address	:	Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, 200233, China.
Date of Receipt	:	Mar. 05, 2025
Date of Test	:	Mar. 05, 2025~Apr. 12, 2025
Issued Date	:	Apr. 21, 2025
Report Version	:	R00
Test Sample	:	Engineering Sample No.: SH20250305144
Standard(s)	:	FCC CFR Title 47, Part 15, Subpart C FCC KDB 558074 D01 15.247 Meas Guidance v05r02 ANSI C63.10-2013

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

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Approved by : Riley Wei

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Tel: +86-021-61765666 Web: www.newbtl.com Service mail: btl_qa@newbtl.com

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** assumes no responsibility for the data provided by the customer, any statements, inferences or generalizations drawn by the customer or others from the reports issued by **BTL**.

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BTL's laboratory quality assurance procedures are in compliance with the ISO/IEC 17025: 2017 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 which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and 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.
Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

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REPORT ISSUED HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-3-2502H027	R00	Original Report.	Apr. 21, 2025	Valid

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC CFR Title 47, Part 15, Subpart C				
Standard(s) Section	**Test Item**	**Test Result**	**Judgment**	**Remark**
15.207	AC Power Line Conducted Emissions	APPENDIX A	N/A	------
15.247(d) 15.205(a) 15.209(a)	Radiated Emissions	APPENDIX B APPENDIX C APPENDIX D	PASS	------
15.247(a)(2)	Bandwidth	APPENDIX E	PASS	------
15.247(b)(3)	Maximum Output Power	APPENDIX F	PASS	------
15.247(d)	Conducted Spurious Emissions	APPENDIX G	PASS	------
15.247(e)	Power Spectral Density	APPENDIX H	PASS	------
15.203	Antenna Requirement	------	PASS	Note(2)

Note:

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

(2) The device what use a permanently attached antenna were considered sufficient to comply with the provisions of 15.203.

1.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No. 29, Jintang Road, Tangzhen Industry Park, Pudong New Area, Shanghai 201210,China
The co - emitted radiation data in this report were collected from No.3, Jinshagang 1st Road, Dalang, Dongguan, Guangdong, China
BTL's Registration Number for FCC: 964234
BTL's Designation Number for FCC: CN1374

1.2 MEASUREMENT UNCERTAINTY

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))
The BTL measurement uncertainty as below table:

A. Radiated emissions test:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
SH-CB02	CISPR	9 KHz~30 MHz	-	2.72
		30 MHz~200 MHz	V	4.4
		30 MHz~200 MHz	H	3.16
		200 MHz~1,000 MHz	V	4.6
		200 MHz~1,000 MHz	H	4.2
		1GHz ~ 6GHz	-	4.56
		6GHz ~ 18GHz	-	5.14
		18 ~ 26.5 GHz	-	3.36

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
DG-CB03	CISPR	30 MHz~200 MHz	V	4.4
		30 MHz~200 MHz	H	3.62
		200 MHz~1,000 MHz	V	4.58
		200 MHz~1,000 MHz	H	3.98
		1GHz ~ 6GHz	-	4.08
		6GHz ~ 18GHz	-	4.62
		18 ~ 26.5 GHz	-	3.36

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

1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage	Tested By
Radiated Emissions-9kHz to 30 MHz	18°C	42%	AC 120V/60Hz	Nicole Yan
Radiated Emissions-30MHz to 1000MHz	18°C~25°C	40%~61%	AC 120V/60Hz	Nicole Yan Chen Mo
Radiated Emissions-Above 1000MHz	18°C~25°C	34%~61%	AC 120V/60Hz	Nicole Yan Chen Mo
Bandwidth	18°C	39%~40%	DC 3.8V	Thacker Tang
Maximum Output Power	18°C	39%~40%	DC 3.8V	Thacker Tang
Conducted Spurious Emissions	18°C	39%~40%	DC 3.8V	Thacker Tang
Power Spectral Density	18°C	39%~40%	DC 3.8V	Thacker Tang

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	LTE Module with Wi-Fi & Bluetooth
Brand Name	QUECTEL
Test Model	SC682A-NA
Series Model	N/A
Model Difference(s)	N/A
Software Version	SC682ANAPAR01A01
Hardware Version	SC682A-NA
Power Source	DC Voltage supplied from host system.
Power Rating	3.55 to 4.4V; Typical：3.8V
Operation Frequency	2412 MHz ~ 2462 MHz
Modulation Type	IEEE 802.11b: DSSS IEEE 802.11g: OFDM IEEE 802.11n: OFDM
Bit Rate of Transmitter	IEEE 802.11b: 11/5.5/2/1 Mbps IEEE 802.11g: 54/48/36/24/18/12/9/6 Mbps IEEE 802.11n: up to 150 Mbps
Maximum Output Power	IEEE 802.11b: 16.41 dBm (0.0438 W)

Note:

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

2. Channel List:

CH01 - CH11 for IEEE 802.11b, IEEE 802.11g, IEEE 802.11n(HT20) CH03 - CH09 for IEEE 802.11n(HT40)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	04	2427	07	2442	10	2457
02	2417	05	2432	08	2447	11	2462
03	2422	06	2437	09	2452		

3. Antenna Specification:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	圣丹纳 SAINTENNA	SAA31578A	Folded Dipole Antenna	SMA-J	0.47

Note:

1) The antenna gain is provided by the manufacturer.

2.2 DESCRIPTION OF TEST MODES

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

Pretest Mode	Description
Mode 1	TX B Mode Channel 01/06/11
Mode 2	TX G Mode Channel 01/06/11
Mode 3	TX N(HT20) Mode Channel 01/06/11
Mode 4	TX N(HT40) Mode Channel 03/06/09

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

Radiated emissions test - Below 1GHz	
Final Test Mode	Description
Mode 1	TX B Mode Channel 01

Radiated emissions test- Above 1GHz	
Final Test Mode	Description
Mode 1	TX B Mode Channel 01/06/11
Mode 2	TX G Mode Channel 01/06/11
Mode 3	TX N(HT20) Mode Channel 01/06/11
Mode 4	TX N(HT40) Mode Channel 03/06/09

Conducted test	
Final Test Mode	Description
Mode 1	TX B Mode Channel 01/06/11
Mode 2	TX G Mode Channel 01/06/11
Mode 3	TX N(HT20) Mode Channel 01/06/11
Mode 4	TX N(HT40) Mode Channel 03/06/09

NOTE:
(1) All the bit rate of transmitter have been tested and found the lowest rate is found to be the worst case and recorded.
(2) For radiated emission below 1 GHz test, the TX B Mode Channel 01 is found to be the worst case and recorded.
(3) For radiated emission above 1 GHz test, the spurious points of 1GHz~26.5GHz have been pre-tested and in this report only recorded the worst case. The remaining spurious points are all below the limit value of 20dB.

2.3 PARAMETERS OF TEST SOFTWARE

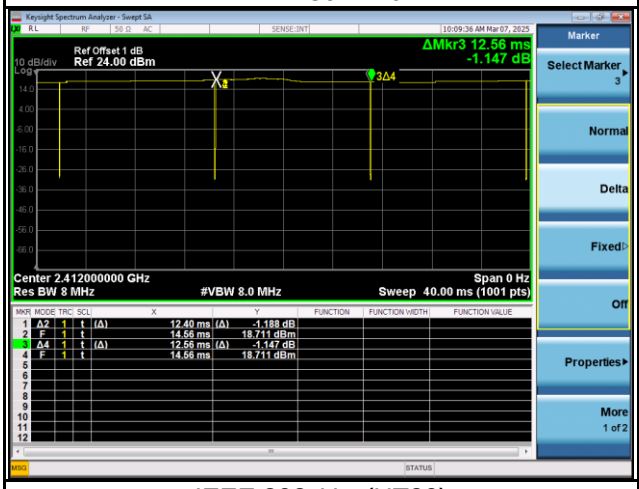
Test Software Version	QRCT4		
Frequency (MHz)	2412	2437	2462
IEEE 802.11b	15	15	14.5
IEEE 802.11g	15.5	15.5	15.5
IEEE 802.11n(HT20)	14.5	14.5	14.5
Frequency (MHz)	2422	2437	2452
IEEE 802.11n(HT40)	14	14.5	14.5

2.4 DUTY CYCLE

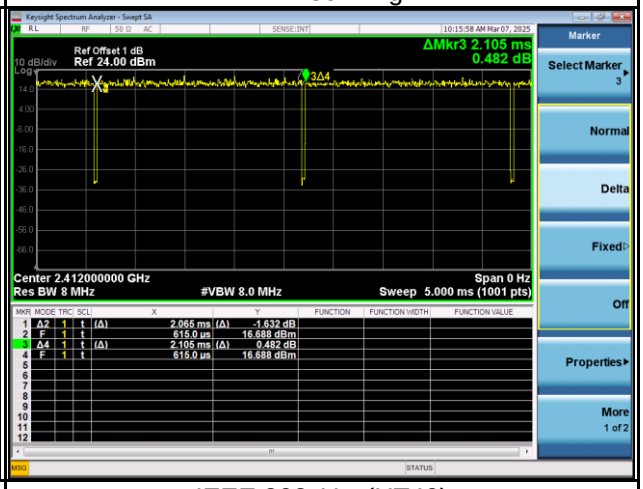
If the working period is ≥ 98%, there is no need to consider the working factor.
If the working period is < 98%, the working factor needs to be considered.

Remark	Delta 1			Delta 2	On Time/Period	10 log(1/Duty Cycle)	1/On Time (B)
Mode	ON (ms)	Numbers (ON)	On Time (B) (ms)	Period (ON+OFF) (ms)	Duty Cycle (%)	Duty Factor (dB)	1/B Minimum VBW (kHz)
IEEE 802.11b	12.400	1	12.400	12.560	98.73%	0.00	0.010
IEEE 802.11g	2.065	1	2.065	2.105	98.10%	0.00	0.010
IEEE 802.11n (HT20)	1.925	1	1.925	1.960	98.21%	0.00	0.010
IEEE 802.11n (HT40)	1.920	1	1.920	1.960	97.96%	0.09	0.521

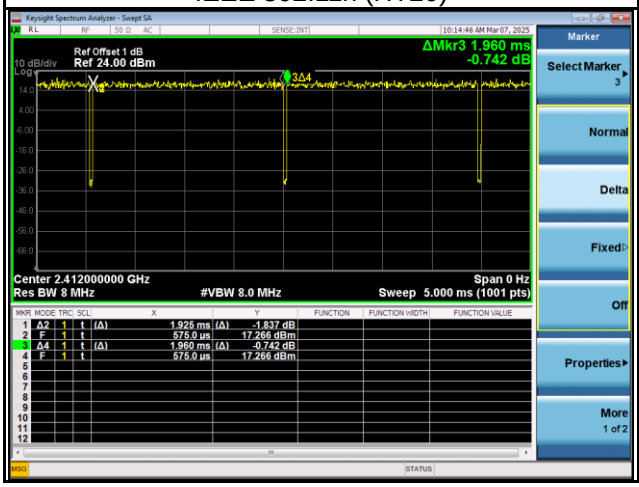
IEEE 802.11b



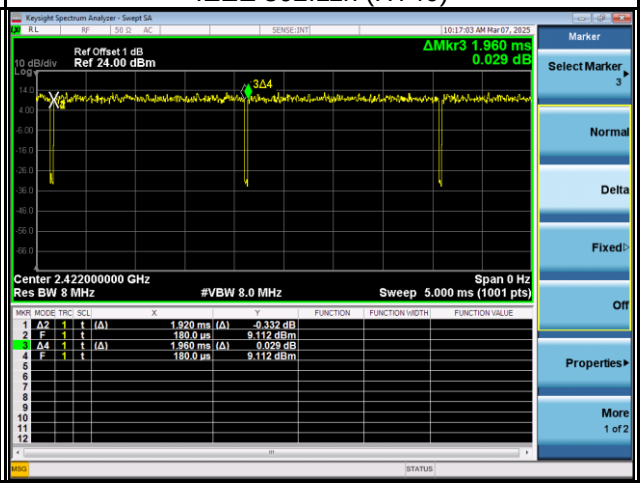
IEEE 802.11g



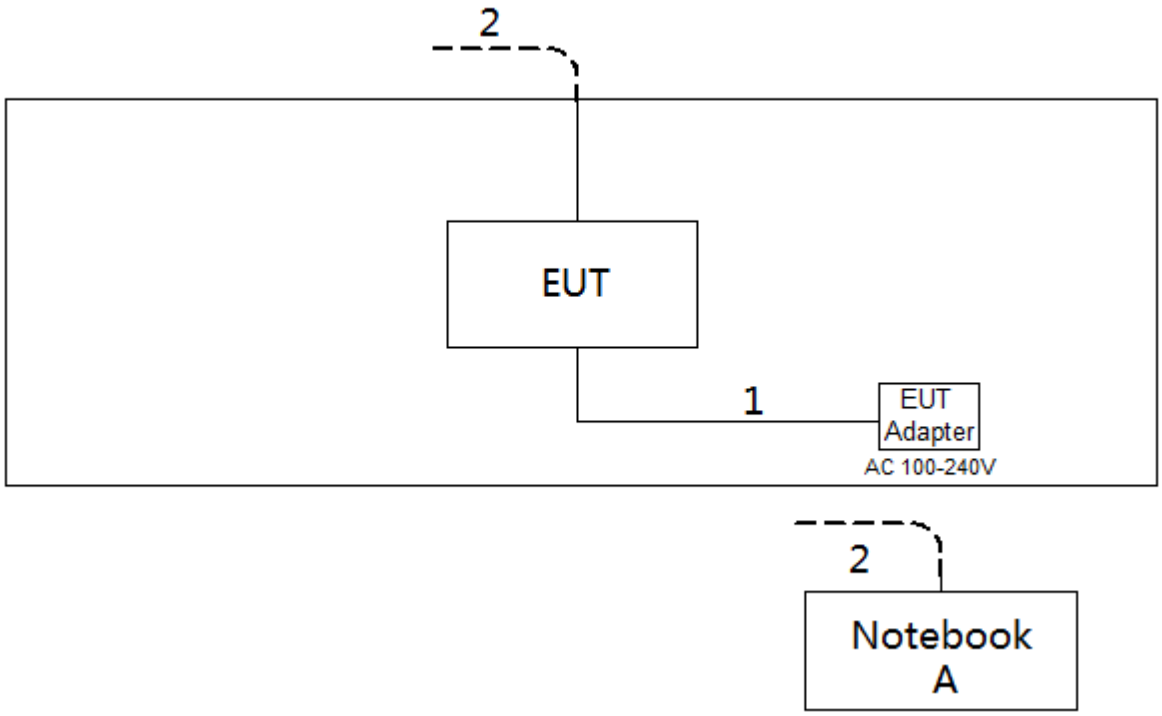
IEEE 802.11n (HT20)



IEEE 802.11n (HT40)



2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



2.6 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Series No.
A	Notebook	Dell	WIN-Q473UQS5N2A	N/A

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	DC Cable	NO	NO	1.5m
2	USB cable	NO	NO	1.5m

3. RADIATED EMISSIONS

3.1 LIMIT

In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

LIMITS OF RADIATED EMISSION MEASUREMENT (9 kHz-1000 MHz)

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

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000 MHz)

Frequency (MHz)	(dBuV/m at 3 m)	
	Peak	Average
Above 1000	74	54

NOTE:

(1) The limit for radiated test was performed according to FCC CFR Title 47, Part 15, Subpart C.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).

3.2 TEST PROCEDURE

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 1 GHz)
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 1 GHz)
c. The height of the equipment or of the substitution antenna shall be 0.8m 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 1 GHz.
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 1 GHz)
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 1 GHz)
i. For the actual test configuration, please refer to the related Item -EUT Test Photos.

The following table is the setting of the receiver:

Spectrum Parameters	Setting
Start ~ Stop Frequency	9 kHz~150 kHz for RBW 200 Hz
Start ~ Stop Frequency	0.15 MHz~30 MHz for RBW 9 kHz
Start ~ Stop Frequency	30 MHz~1000 MHz for RBW 100 kHz

Spectrum Parameters	Setting
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW (Emission in restricted band)	1 MHz / 3 MHz for PK value 1 MHz / 1/T Hz for AVG value

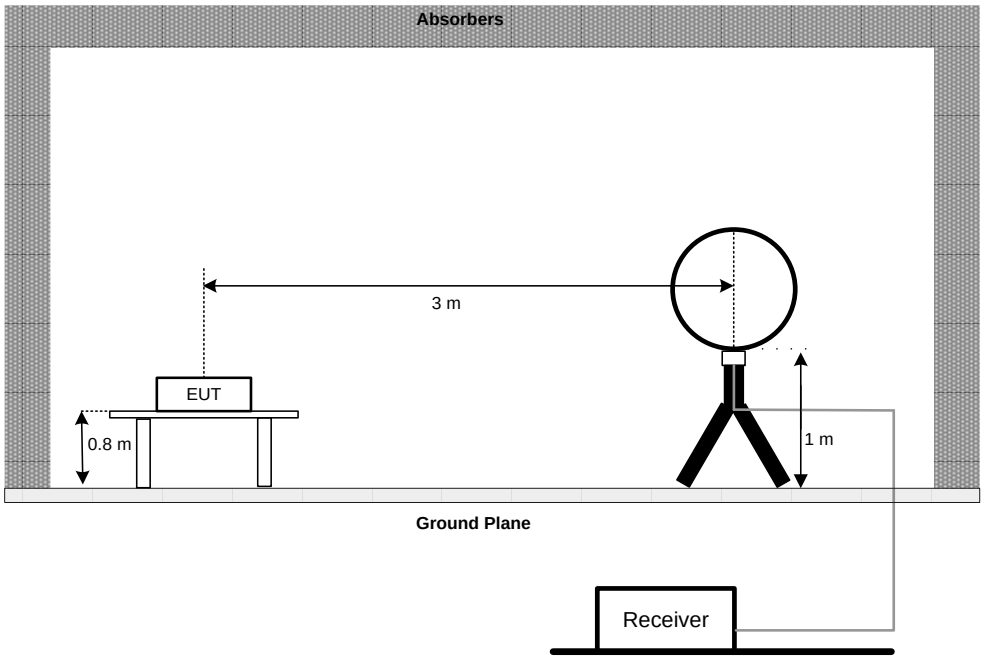
Receiver Parameters	Setting
Start ~ Stop Frequency	9 kHz~90 kHz for PK/AVG detector
Start ~ Stop Frequency	90 kHz~110 kHz for QP detector
Start ~ Stop Frequency	110 kHz~490 kHz for PK/AVG detector
Start ~ Stop Frequency	490 kHz~30 MHz for QP detector
Start ~ Stop Frequency	30 MHz~1000 MHz for QP detector
Start ~ Stop Frequency	1 GHz~26.5 GHz for PK/AVG detector

3.3 DEVIATION FROM TEST STANDARD

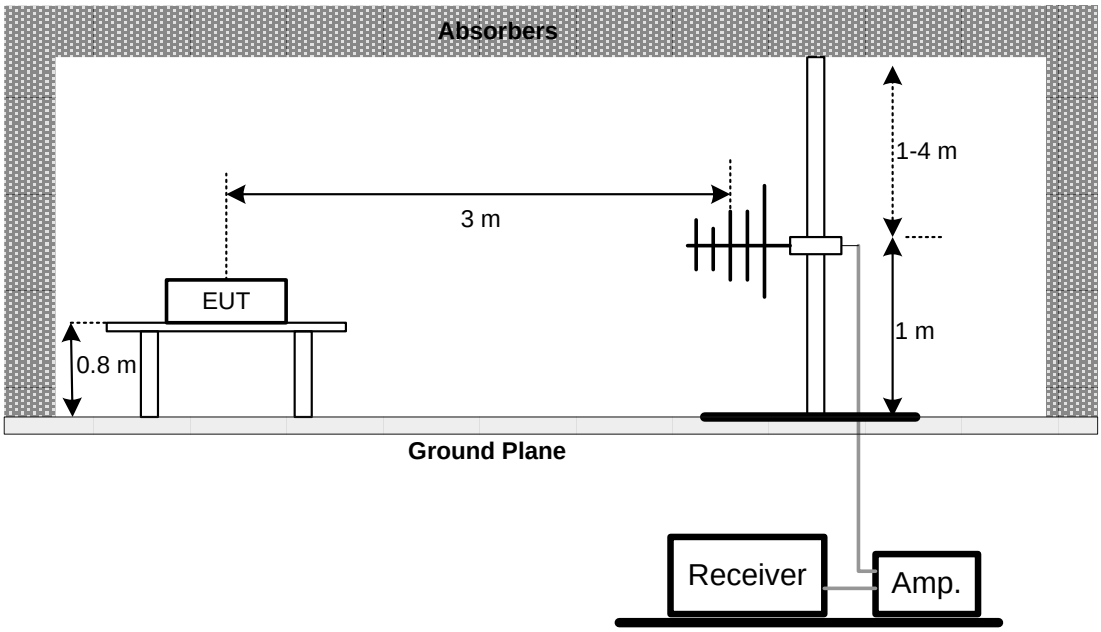
No deviation.

3.4 TEST SETUP

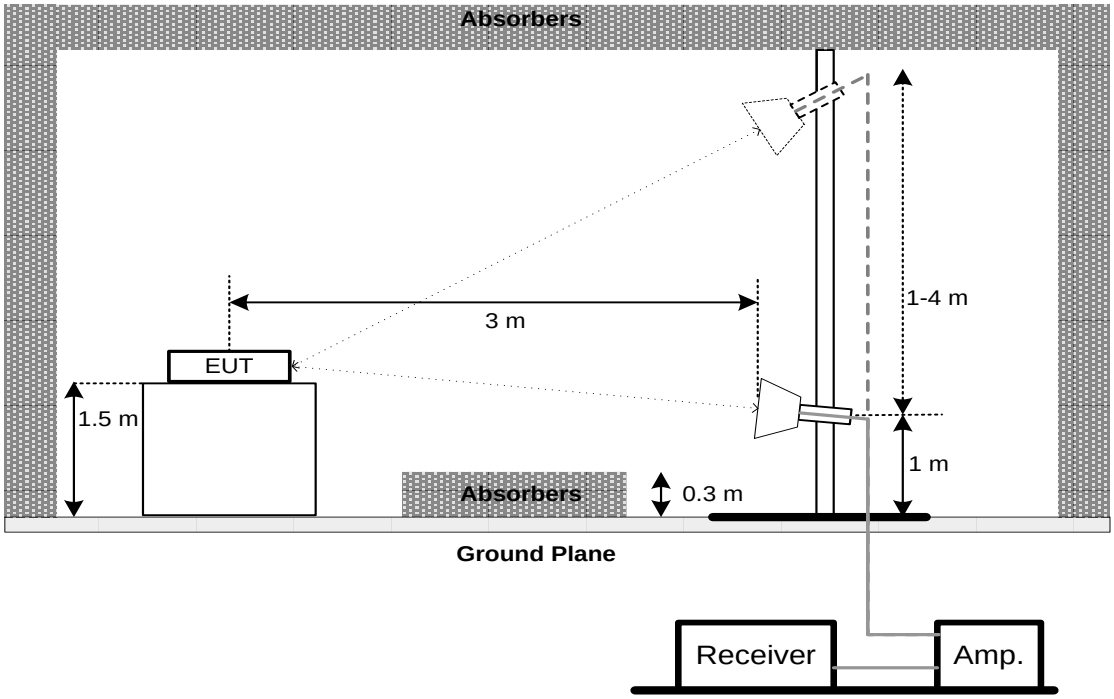
9 kHz to 30 MHz



30 MHz to 1 GHz



Above 1 GHz



3.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

3.6 TEST RESULTS - 9 KHZ TO 30 MHZ

Please refer to the APPENDIX A.

Remark:

(1) Distance extrapolation factor = 40 log (specific distance / test distance) (dB).
(2) Limit line = specific limits (dBuV) + distance extrapolation factor.

3.7 TEST RESULTS - 30 MHZ TO 1000 MHZ

Please refer to the APPENDIX B.

3.8 TEST RESULTS - ABOVE 1000 MHZ

Please refer to the APPENDIX C.

Remark:

(1) No limit: This is fundamental signal, the judgment is not applicable.
For fundamental signal judgment was referred to Peak output test.

4. BANDWIDTH

4.1 LIMIT

Section	Test Item	Limit
FCC 15.247(a)(2)	6 dB Bandwidth	Minimum 500 kHz
	99% Emission Bandwidth	-

4.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
b. The following table is the setting of the spectrum analyzer:

For 6 dB Bandwidth:

Spectrum Parameters	Setting
Span Frequency	> Measurement Bandwidth
RBW	100 kHz
VBW	300 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

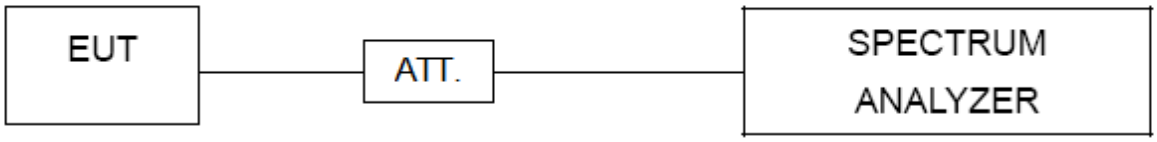
For 99% Emission Bandwidth:

Spectrum Parameters	Setting
Span Frequency	Between 1.5 times and 5.0 times the OBW
RBW	300 kHz For 20MHz 1 MHz For 40MHz
VBW	1 MHz For 20MHz 3 MHz For 40MHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

4.3 DEVIATION FROM STANDARD

No deviation.

4.4 TEST SETUP



4.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.6 TEST RESULTS

Please refer to the APPENDIX D.

5. MAXIMUM OUTPUT POWER

5.1 LIMIT

Section	Test Item	Limit
FCC 15.247(b)(3)	Maximum Output Power	1.0000 Watt or 30.00 dBm

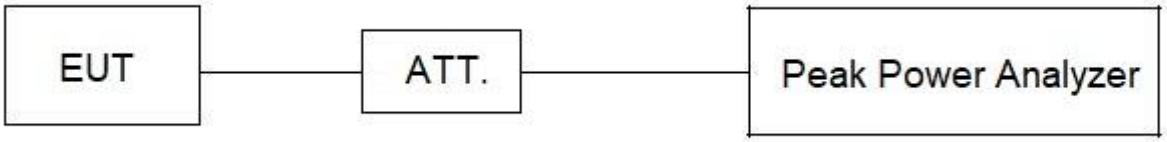
5.2 TEST PROCEDURE

a. The EUT was directly connected to the peak power analyzer and antenna output port as show in the block diagram below.
b. The maximum conducted output power was performed in accordance with method 11.9.1.3 (for peak power) of ANSI C63.10-2013.

5.3 DEVIATION FROM STANDARD

No deviation.

5.4 TEST SETUP



5.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.6 TEST RESULTS

Please refer to the APPENDIX E.

6. CONDUCTED SPURIOUS EMISSIONS

6.1 LIMIT

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak Output Power limits. If the transmitter complies with the Output Power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required.

6.2 TEST PROCEDURE

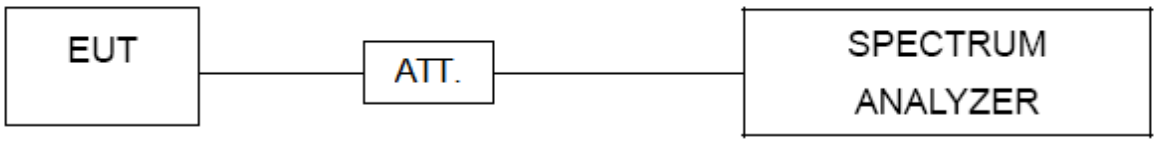
a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
b. The following table is the setting of the spectrum analyzer:

Spectrum Parameters	Setting
Start Frequency	30 MHz
Stop Frequency	26.5 GHz
RBW	100 kHz
VBW	300 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.6 TEST RESULTS

Please refer to the APPENDIX F.

7. POWER SPECTRAL DENSITY

7.1 LIMIT

Section	Test Item	Limit
FCC 15.247(e)	Power Spectral Density	8 dBm (in any 3 kHz)

7.2 TEST PROCEDURE

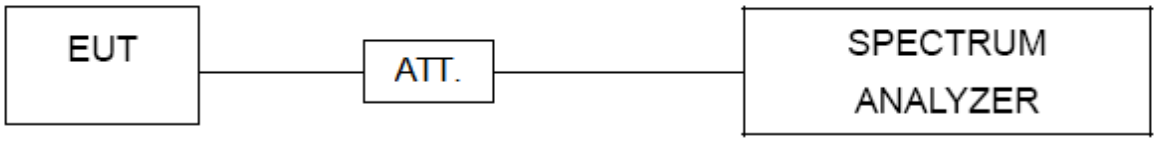
a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
b. The following table is the setting of the spectrum analyzer:

Spectrum Parameters	Setting
Span Frequency	25 MHz (20 MHz) / 60 MHz (40 MHz)
RBW	3 kHz
VBW	10 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP



7.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

7.6 TEST RESULTS

Please refer to the APPENDIX G.

8. MEASUREMENT INSTRUMENTS LIST

Radiated Emissions - 9 kHz to 30 MHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Loop Antenna	EMCI	EMCI LPA600	275	Mar. 12, 2025 Mar. 11, 2026
2	EXA Spectrum Analyzer	Keysight	N9010A	MY56480579	Jan. 18, 2026
3	Measurement Software	Farad	EZ-EMC Ver.NB-03A1	N/A	N/A
4	Pre-Amplifier	emci	EMC9135	980401	Jan. 18, 2026

Radiated Emissions - 30 MHz to 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	emci	VULB 9168	1467	Mar. 8, 2025 Mar. 7, 2026
2	Pre-Amplifier	emci	EMC9135	980401	Jan. 18, 2026
3	EXA Spectrum Analyzer	Keysight	N9010A	MY56480579	Jan. 18, 2026
4	Test Cable	emci	EMC104-SM-SM-7000	181020	May. 20, 2025
5	Test Cable	emci	RWP50-4.6A-SM SM-1M	20200928 002	May. 20, 2025
6	Test Cable	emci	EMC104-SM-SM-2500	170618	May. 20, 2025
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1	N/A	N/A

Radiated Emissions - Above 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Double-Ridged Waveguide Horn Antenna	ETS-Lindgren	BBHA 9120D	9120D-1817	Mar. 8, 2025 Mar. 7, 2026
2	Pre-Amplifier	emci	EMC051845SE	980725	Jul. 12, 2025
3	EXA Spectrum Analyzer	Keysight	N9010A	MY56480579	Jan. 18, 2026
4	Test Cable	emci	EMC104-SM-SM-7000	181020	May 20, 2025
5	Test Cable	emci	RWP50-4.6A-SMSM-1M	20200928 002	May 20, 2025
6	Test Cable	emci	EMC104-SM-SM-2500	170618	May 20, 2025
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1	N/A	N/A
8	Antenna	Schwarzbeck	BBHA9170	9170-651	Mar. 17, 2025 Mar. 16, 2026
9	Pre-Amplifier	EMC INSTRUMENT	EMC184045B	980265	Jan. 18, 2026
10	Test Cable	emci	EMC-104HS-SM-SM-1000	240625	Jul. 27, 2025
11	Test Cable	emci	EMC104HS-SM-SM-5000	240627	Aug. 5, 2025

Bandwidth					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EXA Spectrum Analyzer	Keysight	N9010A	MY56480545	Jul. 12, 2025
2	BTL Conducted Test	BTL	20250107	N/A	N/A

Maximum Output Power					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Peak Power Analyzer	Keysight	8990B	MY51000507	Jan. 18, 2026
2	Wideband Power Sensor	Keysight	N1923A	MY58310003	Jan. 18, 2026

Antenna Conducted Spurious Emissions					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EXA Spectrum Analyzer	Keysight	N9010A	MY56480545	Jul. 12, 2025
2	BTL Conducted Test	BTL	20250107	N/A	N/A

Power Spectral Density					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EXA Spectrum Analyzer	Keysight	N9010A	MY56480545	Jul. 12, 2025
2	BTL Conducted Test	BTL	20250107	N/A	N/A

Radiated Emissions - 30 MHz to 1 GHz_DG_CB03					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	01462	Dec. 14, 2025
2	Attenuator	EMC INSTRUMENT	EMCI-N-6-06	AT-06009	Dec. 14, 2025
3	Preamplifier	EMC INSTRUMENT	EMC001330	980998	May 31,2025
4	Cable	RegalWay	LMR400-NMNM-12.5m	N/A	Jun. 06, 2025
5	Cable	RegalWay	LMR400-NMNM-3m	N/A	Jun. 06, 2025
6	Cable	RegalWay	LMR400-NMNM-0.5m	N/A	Jun. 06, 2025
7	Receiver	Agilent	N9038A	MY52130039	Jan. 10, 2026
8	Positioning Controller	MF	MF-7802	N/A	N/A
9	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
10	966 Chamber room	CM	9*6*6	N/A	May 16, 2025
11	wideband radio communication tester	R&S	CMW500	152372	Dec. 06, 2025
12	Broadband double ridged horn antenna	Regalway	RW10180-N	1911004	N/A
13	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	01462	Dec. 14, 2025

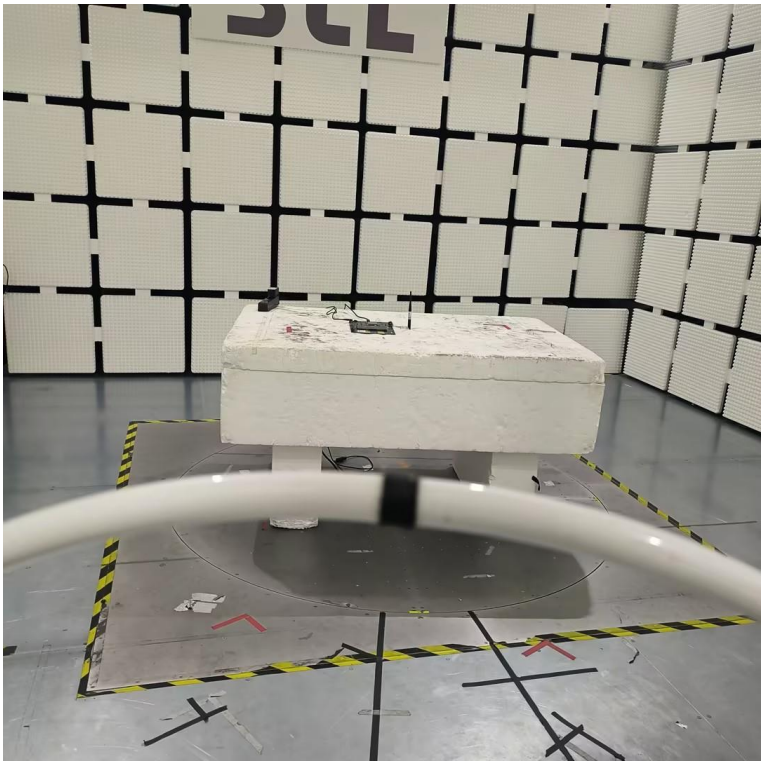
Radiated Emissions - Above 1 GHz_DG_CB03					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Receiver	Agilent	N9038A	MY52130039	Jan. 10, 2026
2	Preamplifier	EMC INSTRUMENT	EMC118A45SE	980888	Oct. 29, 2025
3	Double Ridged Guide Antenna	ETS	3115	75846	Mar. 02, 2026
4	Cable	RegalWay	RWLP50-4.0A-SMSM-12.5M	N/A	Jul. 03, 2025
5	966 Chamber room	CM	9*6*6	N/A	Dec. 28, 2025
6	Cable	RegalWay	RWLP50-4.0A-NMRASM-2.5M	N/A	Jul. 03, 2025
7	Cable	RegalWay	RWLP50-4.0A-NMRASMRA-0.8M	N/A	Jul. 03, 2025
8	Positioning Controller	MF	MF-7802	N/A	N/A
9	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
10	Filter	STI	STI15-9912	N/A	May 31, 2025
11	Filter	Wairrwright Instruments Gmbh	WHK 1.5/15G-10ST	N/A	Dec. 06, 2025
12	wideband radio communication tester	R&S	CMW500	152372	Dec. 06, 2025
13	Broadband double ridged horn antenna	Regalway	RW10180-N	1911004	N/A
14	966 Chamber room	CM	9*6*6	N/A	Dec. 28, 2025
15	Positioning Controller	MF	MF-7802	N/A	N/A
16	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
17	Preamplifier	EMC INSTRUMENT	EMC184045SE	980905	Oct. 29, 2025
18	Broad-Band Horn Antenna	Schwarzbeck	BBHA9170(3m)	9170-319	Jun. 16, 2025
19	Cable	RegalWay	RWLP50-2.6A-2.92M2.92M-1.1M	N/A	Jul. 25, 2025
20	Cable	Tonscend	HF160-KMKM-3M	N/A	Jul. 25, 2025
21	EXA Spectrum Analyzer	Keysight	N9010A	MY55150209	Aug. 20, 2025

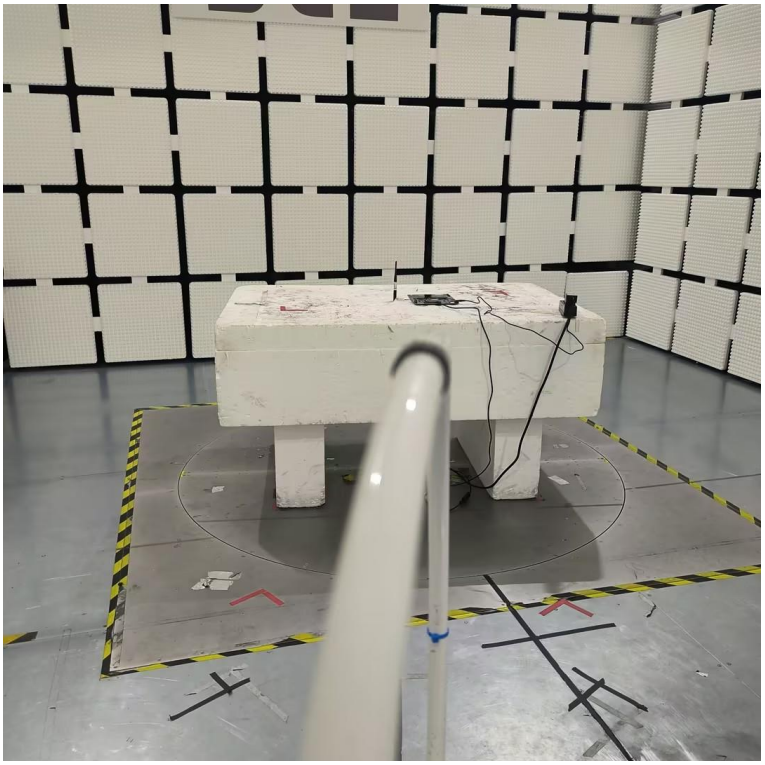
Remark: ”N/A” denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

9. EUT TEST PHOTO

Radiated Emissions Test Photos

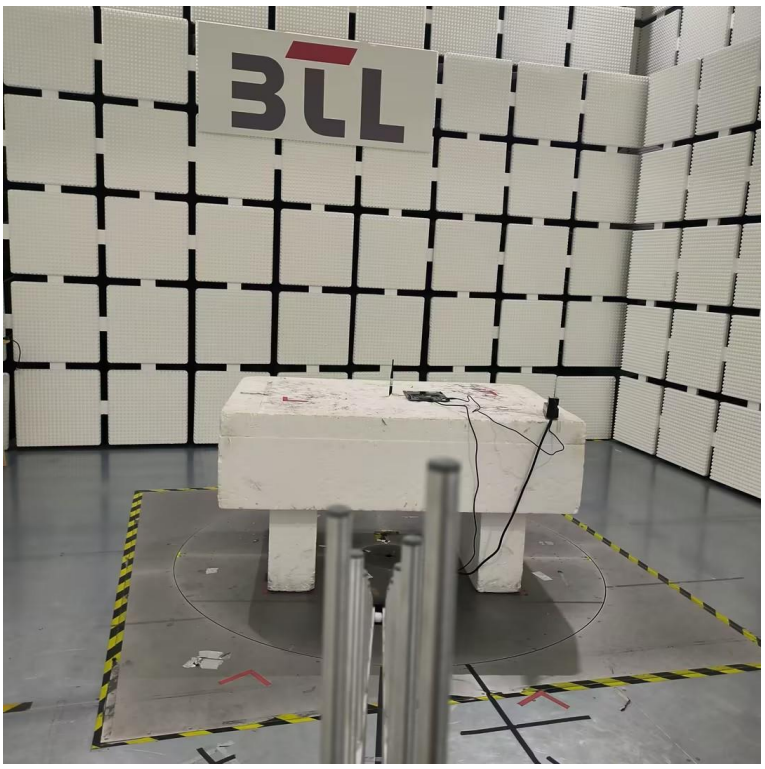
9 kHz to 30 MHz

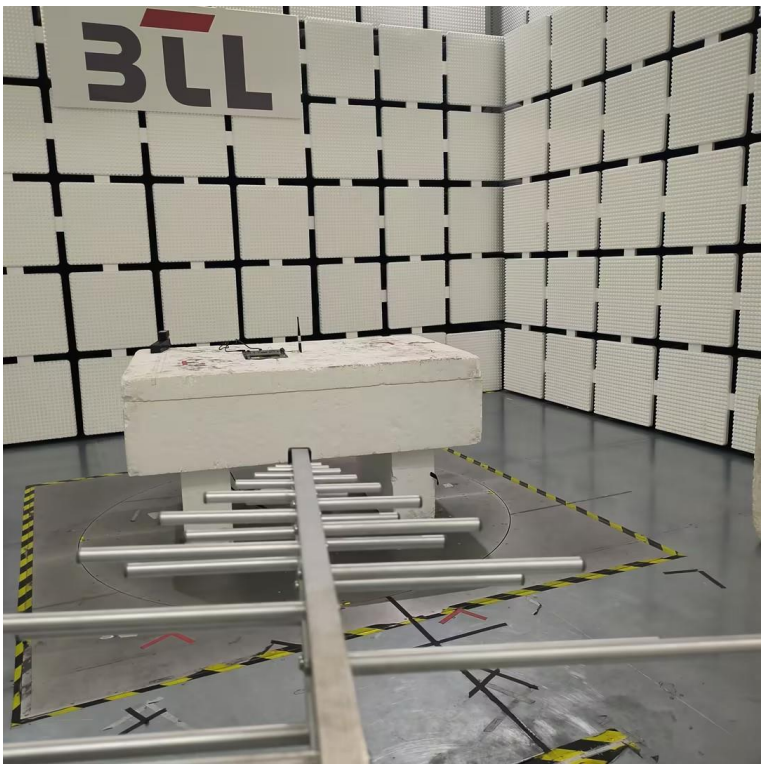




Radiated Emissions Test Photos

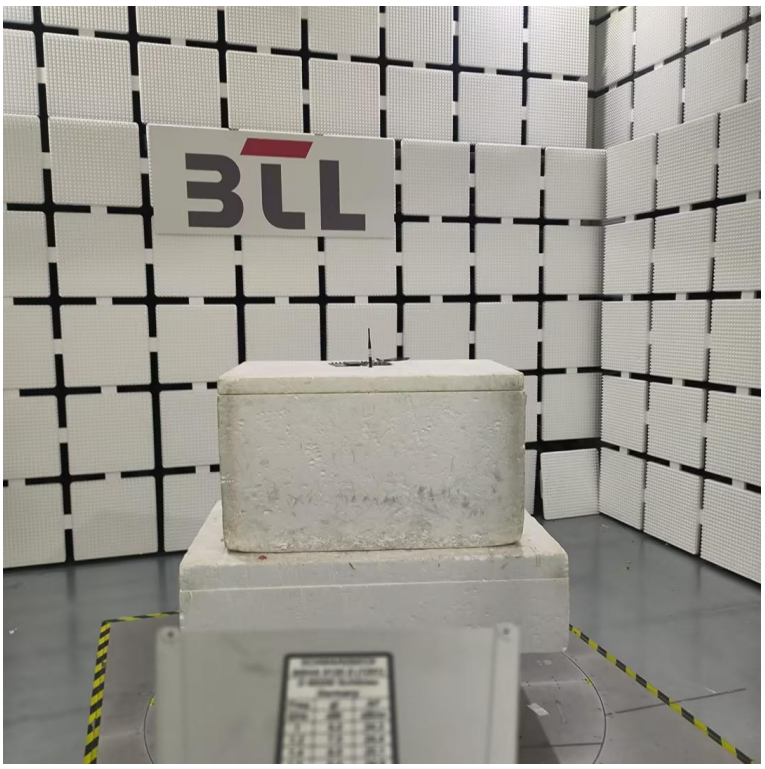
30 MHz to 1000 MHz

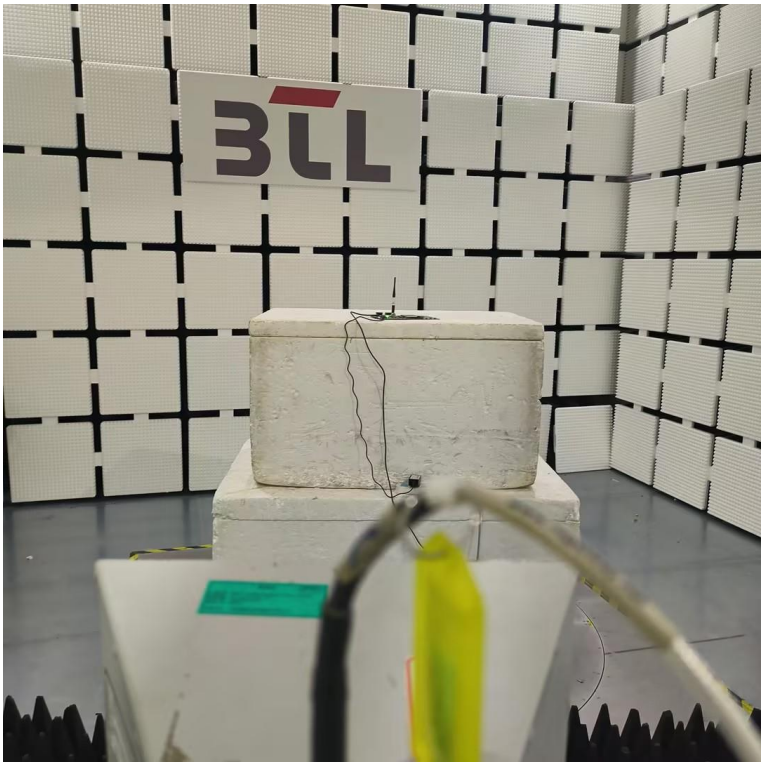




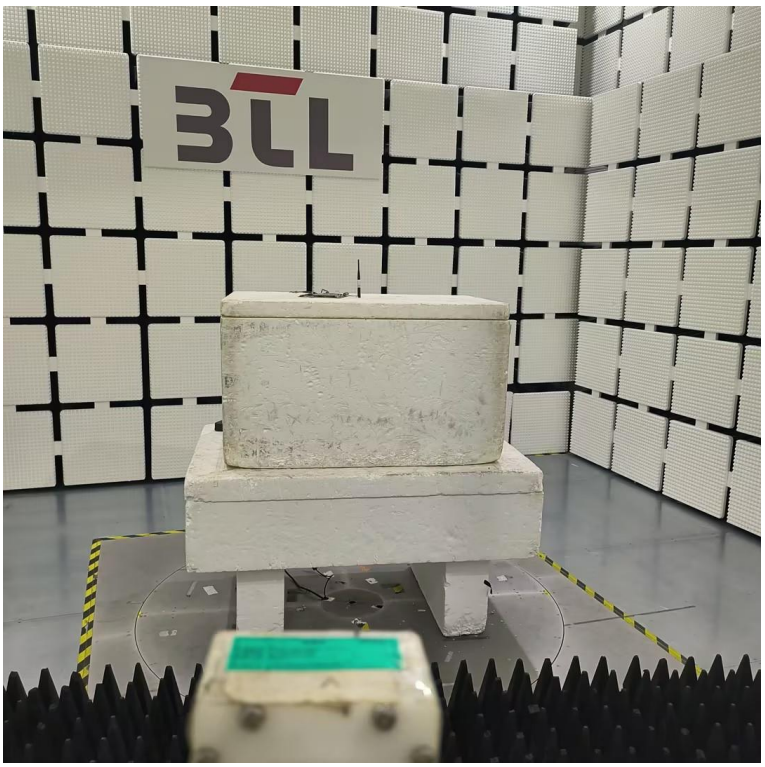
Radiated Emissions Test Photos

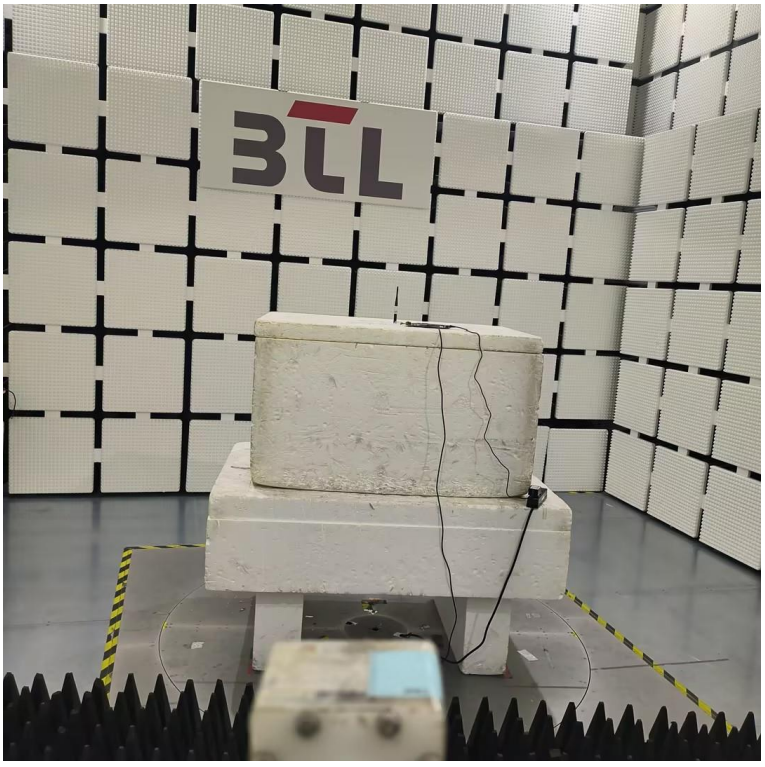
Above 1 GHz



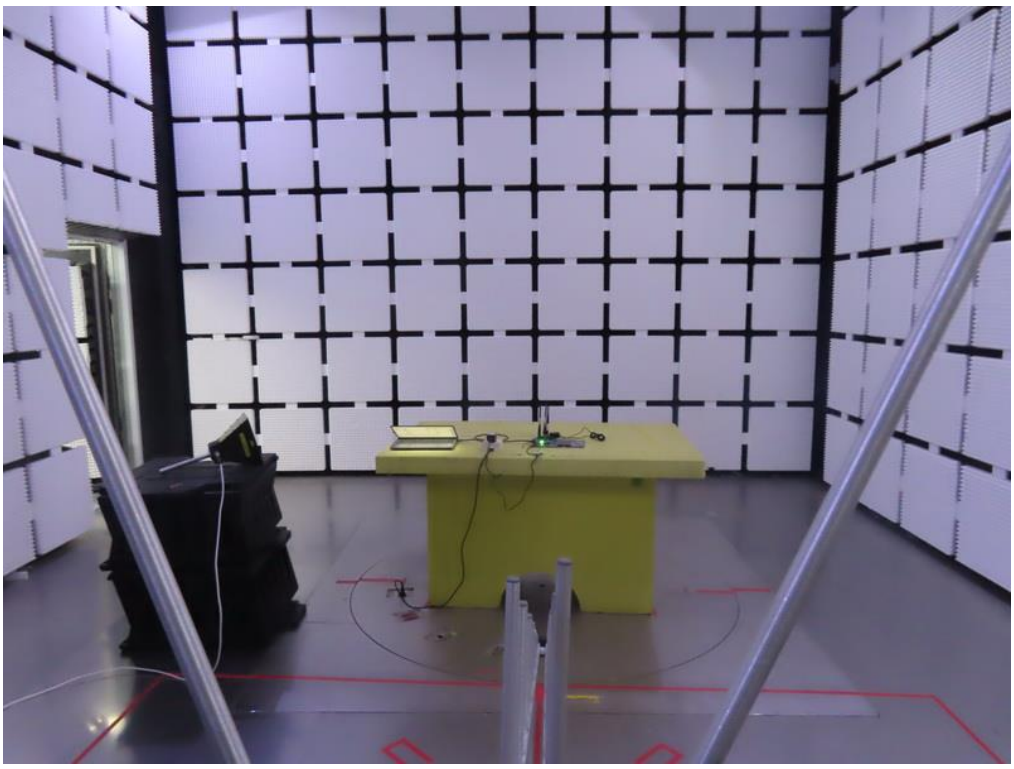


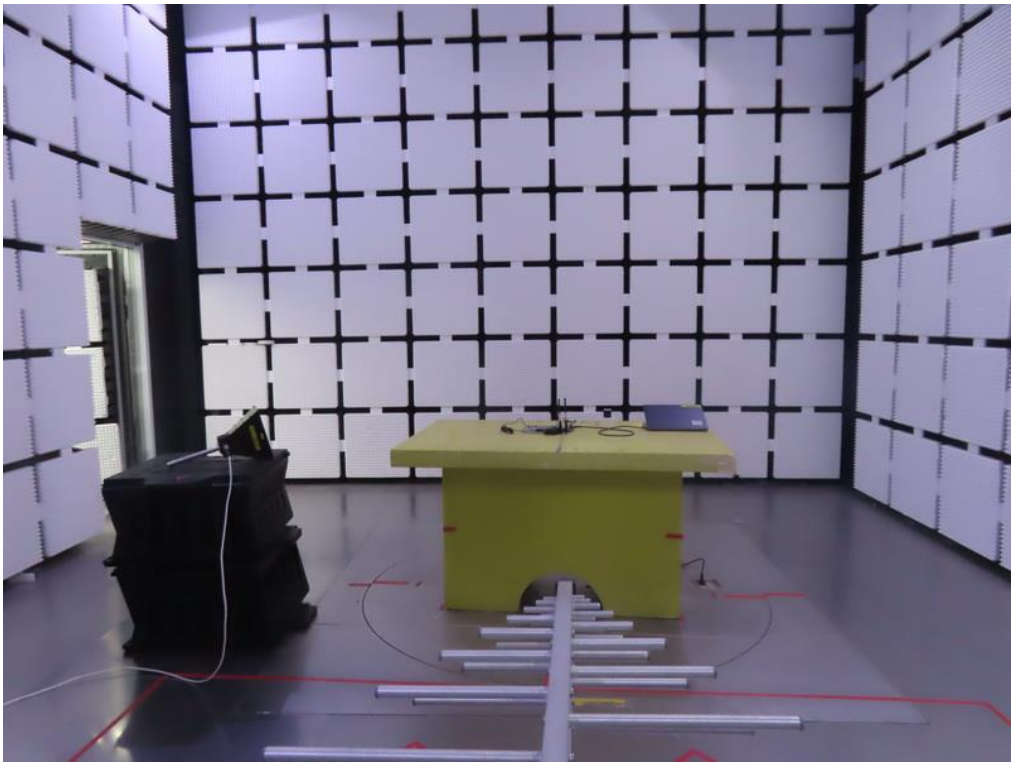
Above 18 GHz



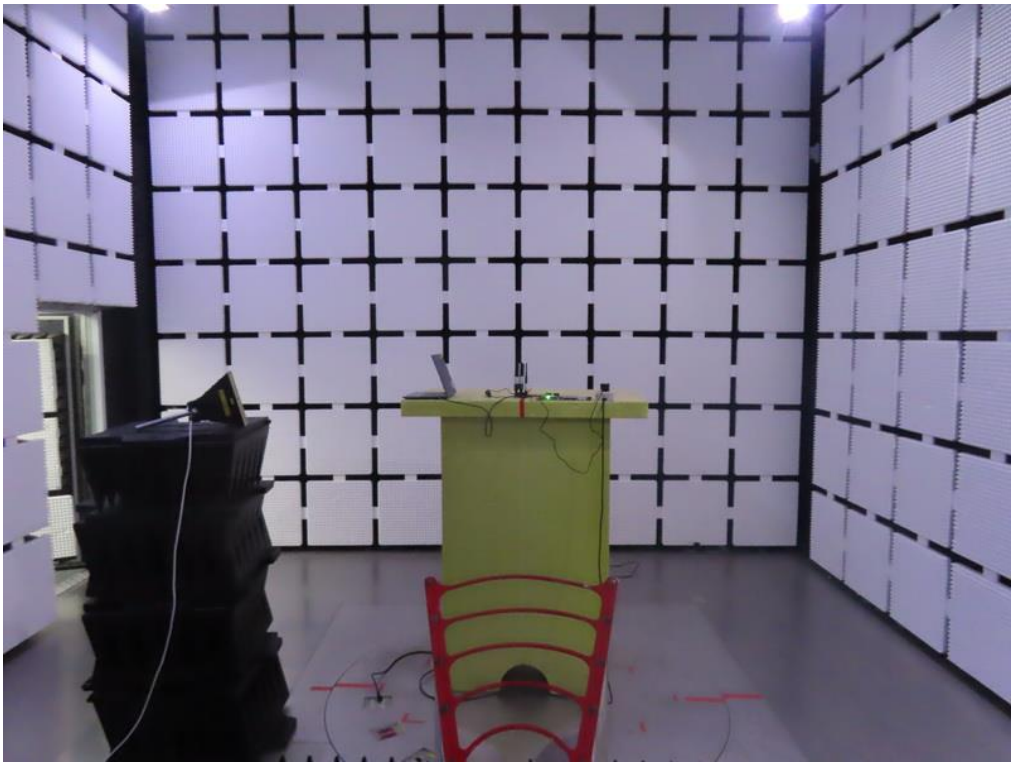


Below 1G_co - emitted radiatio

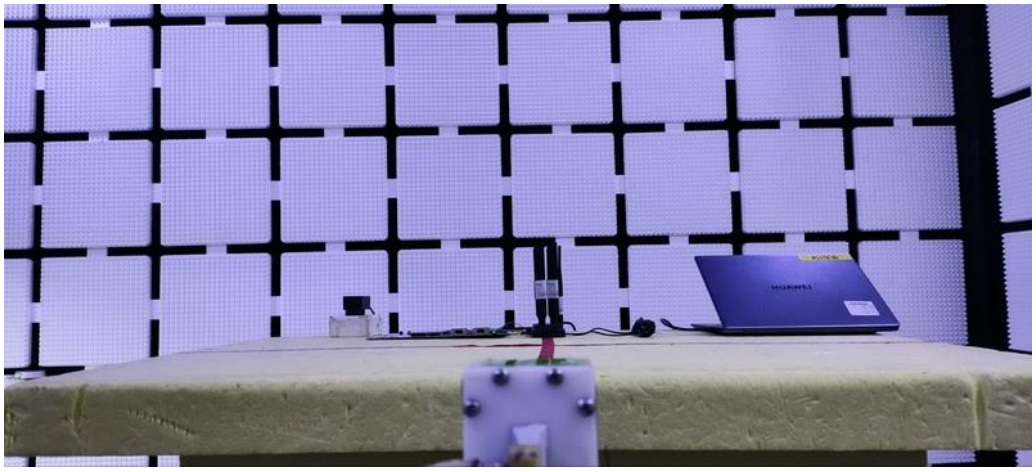


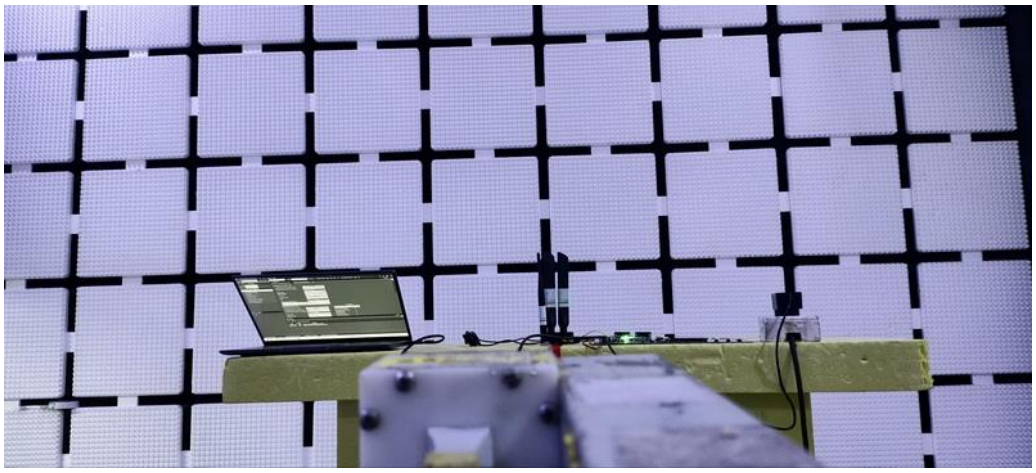


Above 1G_co - emitted radiatio



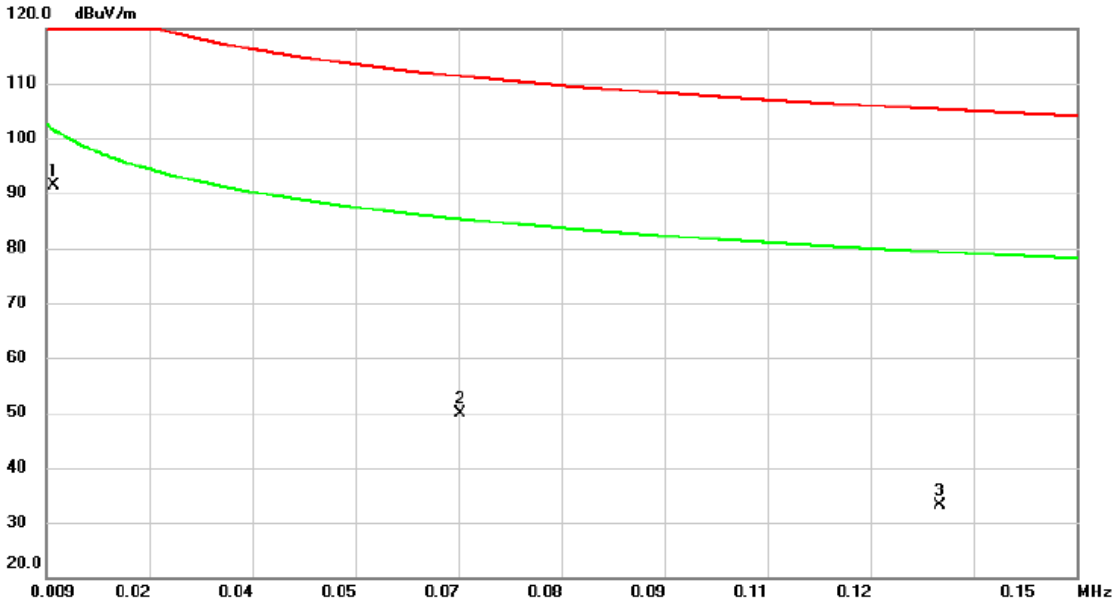
Above 18G_co - emitted radiatio





APPENDIX A - RADIATED EMISSION - 9 KHZ TO 30 MHZ

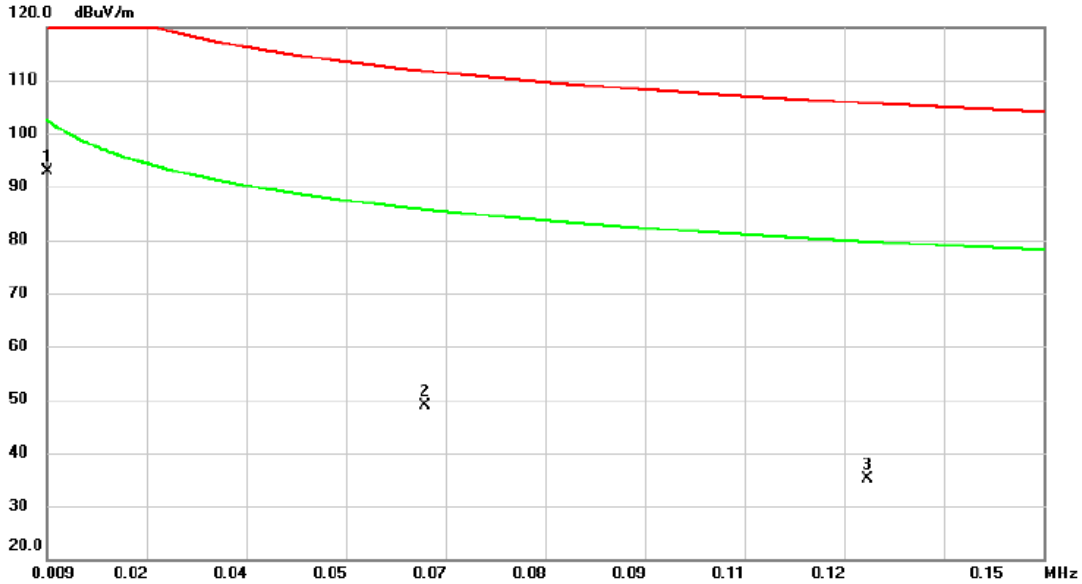
Test Mode	TX B Mode Channel 01	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV		dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0100	22.90	68.36	91.26	127.60	-36.34	peak	
2		0.0656	12.65	37.22	49.87	111.27	-61.40	peak	
3		0.1312	7.56	25.50	33.06	105.25	-72.19	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

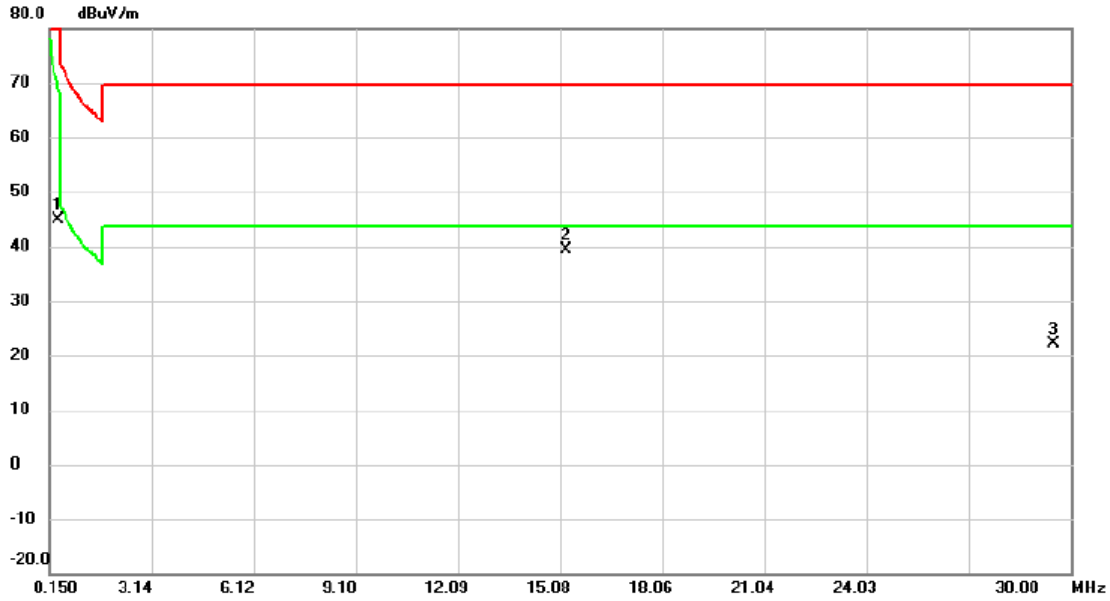
Test Mode	TX B Mode Channel 01	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV		dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0090	22.90	70.03	92.93	128.52	-35.59	peak	
2		0.0625	10.88	38.06	48.94	111.69	-62.75	peak	
3		0.1250	8.98	26.16	35.14	105.67	-70.53	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

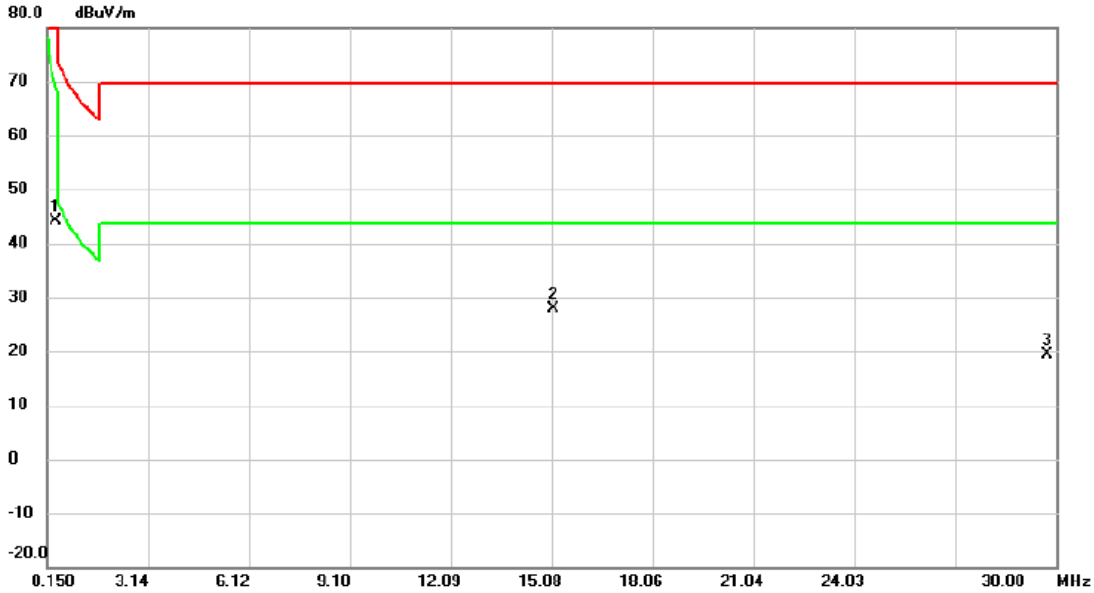
Test Mode	TX B Mode Channel 01	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV		dBuV/m	dBuV/m	dB	Detector	Comment
1		0.4037	34.59	10.23	44.82	95.48	-50.66	peak	
2	*	15.2392	42.33	-2.94	39.39	69.54	-30.15	peak	
3		29.5075	24.83	-2.60	22.23	69.54	-47.31	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX B Mode Channel 01	Polarization	Horizontal

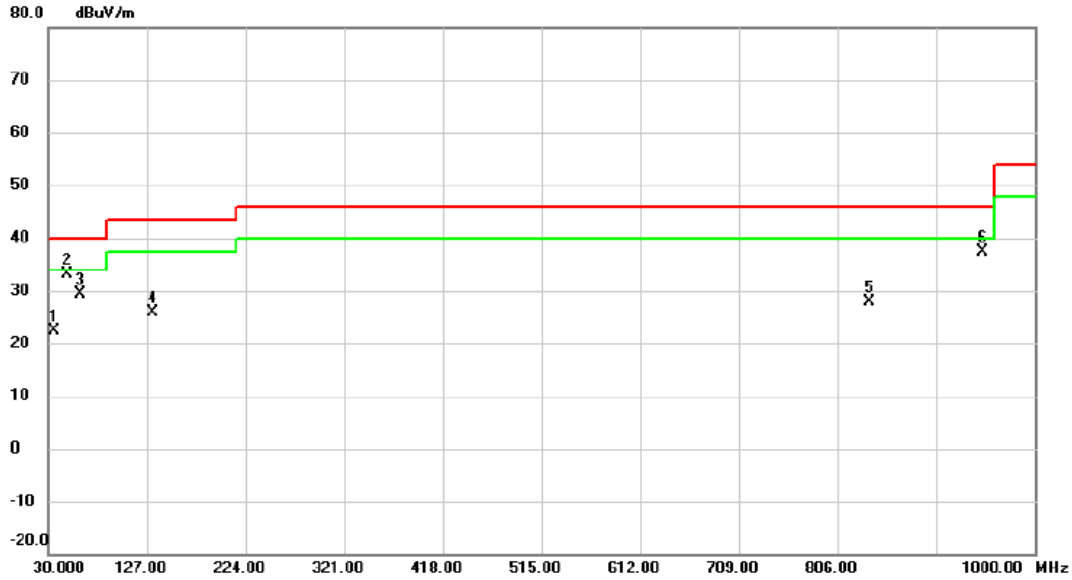


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV		dBuV/m	dBuV/m	dB	Detector	Comment
1		0.4037	34.00	10.23	44.23	95.48	-51.25	peak	
2	*	15.1347	30.89	-2.90	27.99	69.54	-41.55	peak	
3		29.7313	21.59	-2.19	19.40	69.54	-50.14	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

APPENDIX B - RADIATED EMISSION - 30 MHZ TO 1000 MHZ

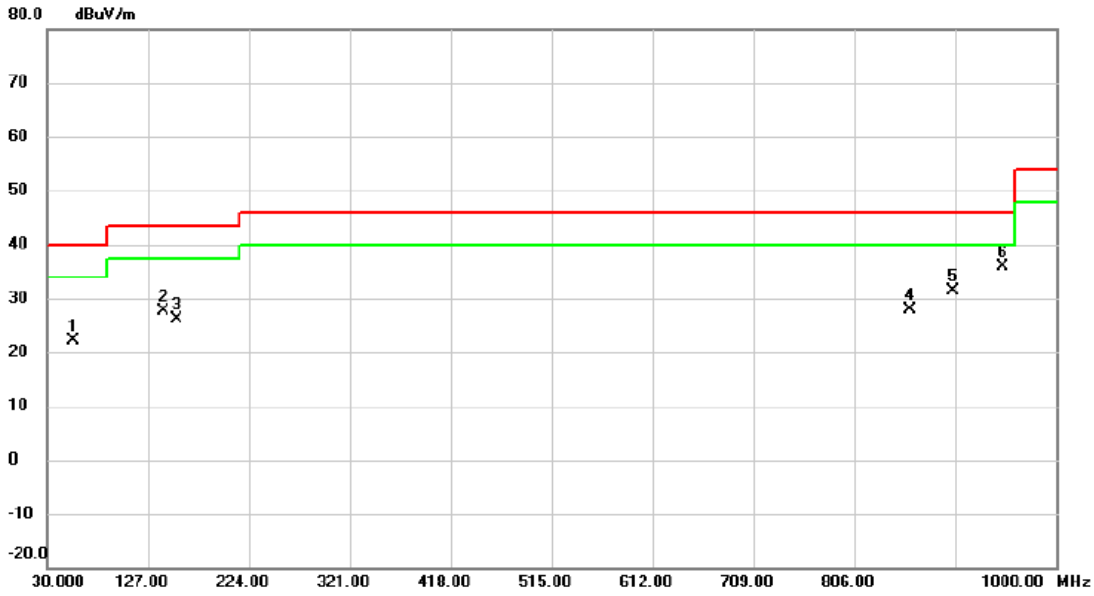
Test Mode	TX B Mode Channel 01	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV		dBuV/m	dBuV/m	dB	Detector	Comment
1		35.3350	40.70	-18.40	22.30	40.00	-17.70	peak	
2	*	48.4300	50.27	-17.18	33.09	40.00	-6.91	peak	
3		61.5250	47.41	-17.95	29.46	40.00	-10.54	peak	
4		132.3350	43.86	-17.95	25.91	43.50	-17.59	peak	
5		837.5250	34.09	-6.11	27.98	46.00	-18.02	peak	
6		948.5900	42.27	-4.85	37.42	46.00	-8.58	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

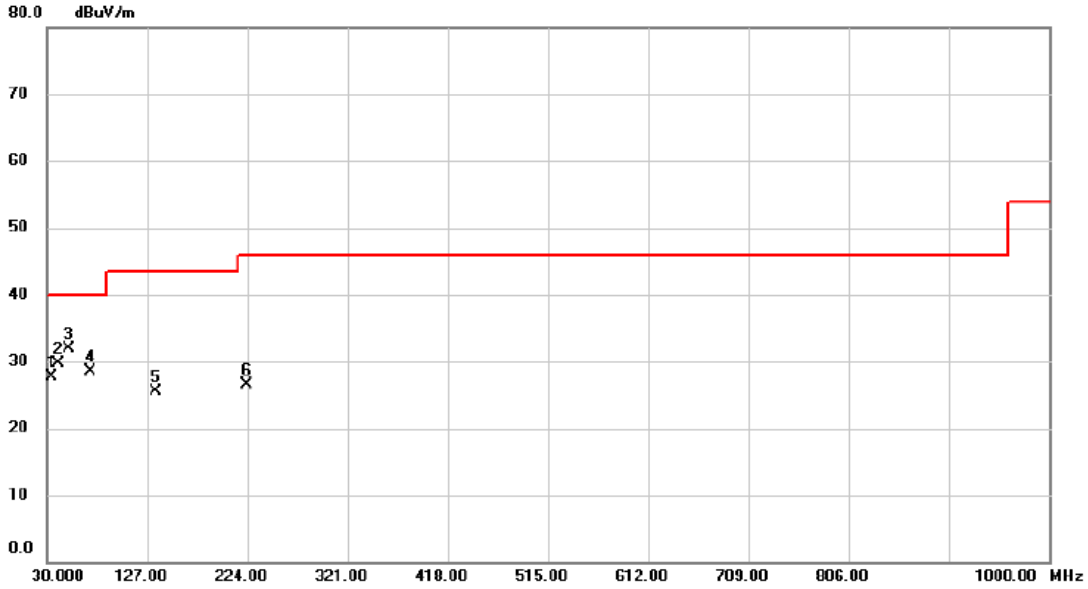
Test Mode	TX B Mode Channel 01	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV		dBuV/m	dBuV/m	dB	Detector	Comment
1		55.7050	39.43	-17.40	22.03	40.00	-17.97	peak	
2		141.5500	44.82	-17.17	27.65	43.50	-15.85	peak	
3		154.1600	42.72	-16.57	26.15	43.50	-17.35	peak	
4		859.3500	33.91	-6.10	27.81	46.00	-18.19	peak	
5		901.0600	36.99	-5.54	31.45	46.00	-14.55	peak	
6	*	948.5900	40.65	-4.85	35.80	46.00	-10.20	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

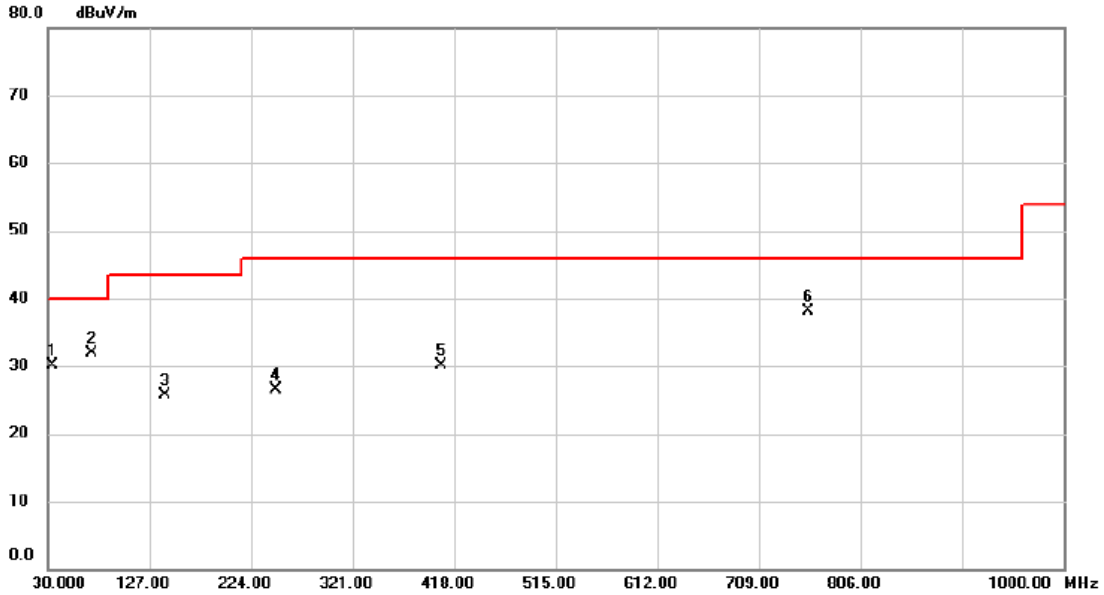
Test Mode	BT+WIFI 2.4G+WWAN	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		33.880	40.24	-12.51	27.73	40.00	-12.27	peak	
2		40.670	41.48	-11.77	29.71	40.00	-10.29	peak	
3	*	51.340	43.24	-11.32	31.92	40.00	-8.08	peak	
4		71.710	42.17	-13.60	28.57	40.00	-11.43	peak	
5		135.730	37.46	-12.04	25.42	43.50	-18.08	peak	
6		223.030	40.53	-14.07	26.46	46.00	-19.54	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Test Mode	BT+WIFI 2.4G+WWAN	Polarization	Horizontal

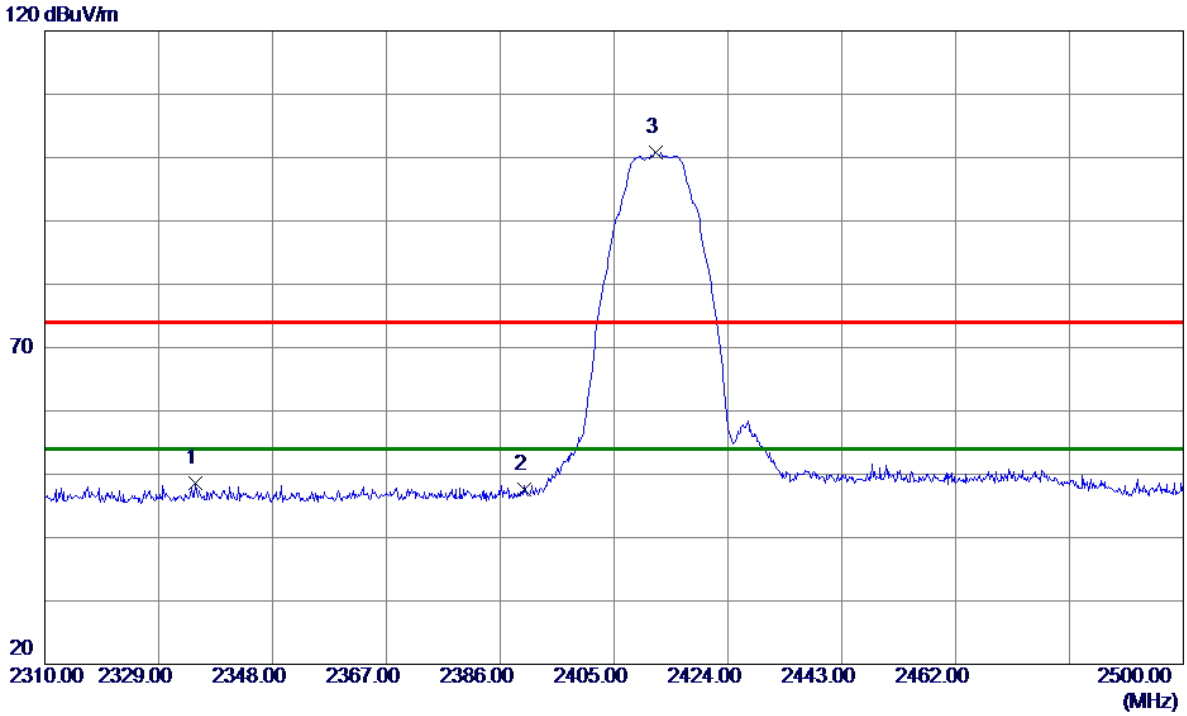


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		34.850	42.56	-12.40	30.16	40.00	-9.84	peak	
2		71.710	45.49	-13.60	31.89	40.00	-8.11	peak	
3		141.550	37.28	-11.58	25.70	43.50	-17.80	peak	
4		247.280	38.84	-12.26	26.58	46.00	-19.42	peak	
5		405.390	37.92	-7.91	30.01	46.00	-15.99	peak	
6	*	756.530	38.93	-0.82	38.11	46.00	-7.89	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

APPENDIX C - RADIATED EMISSION- ABOVE 1000 MHZ

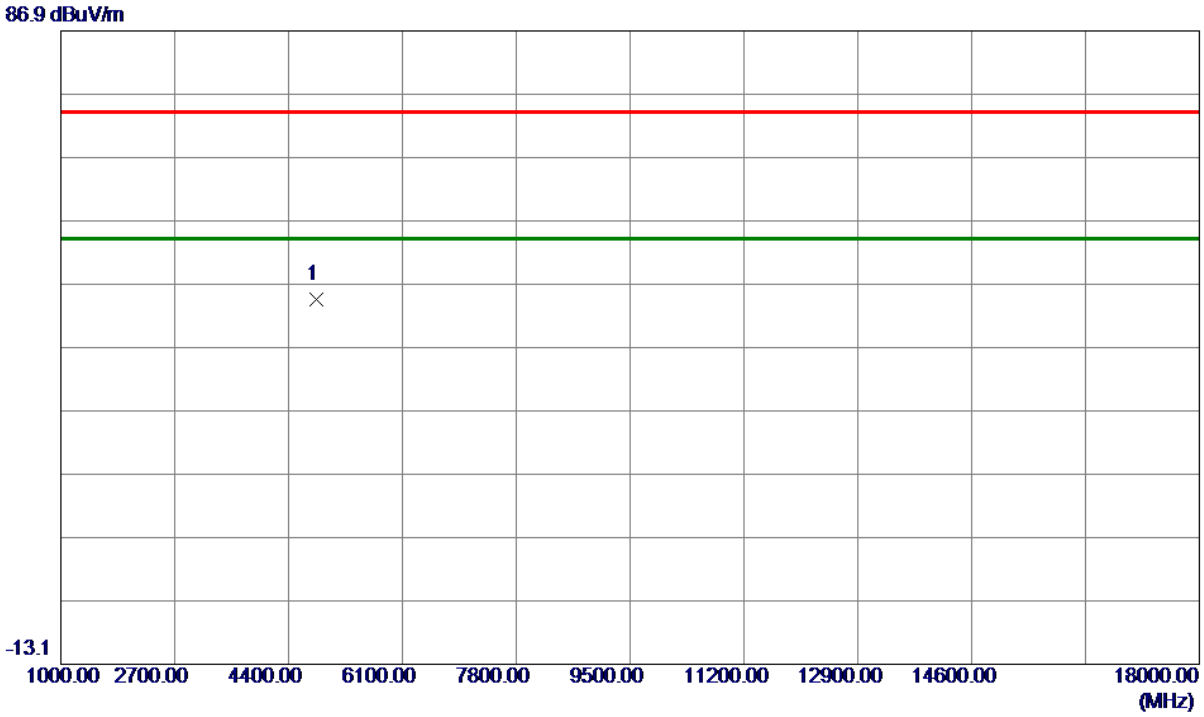
Test Mode	TX B Mode 2412 MHz	Polarization	Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2335.1940	16.56	31.98	48.54	74.00	-25.46	Peak	
2	2390.0000	15.31	32.20	47.51	74.00	-26.49	Peak	
3 *	2411.9250	68.48	32.29	100.77	74.00	26.77	Peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

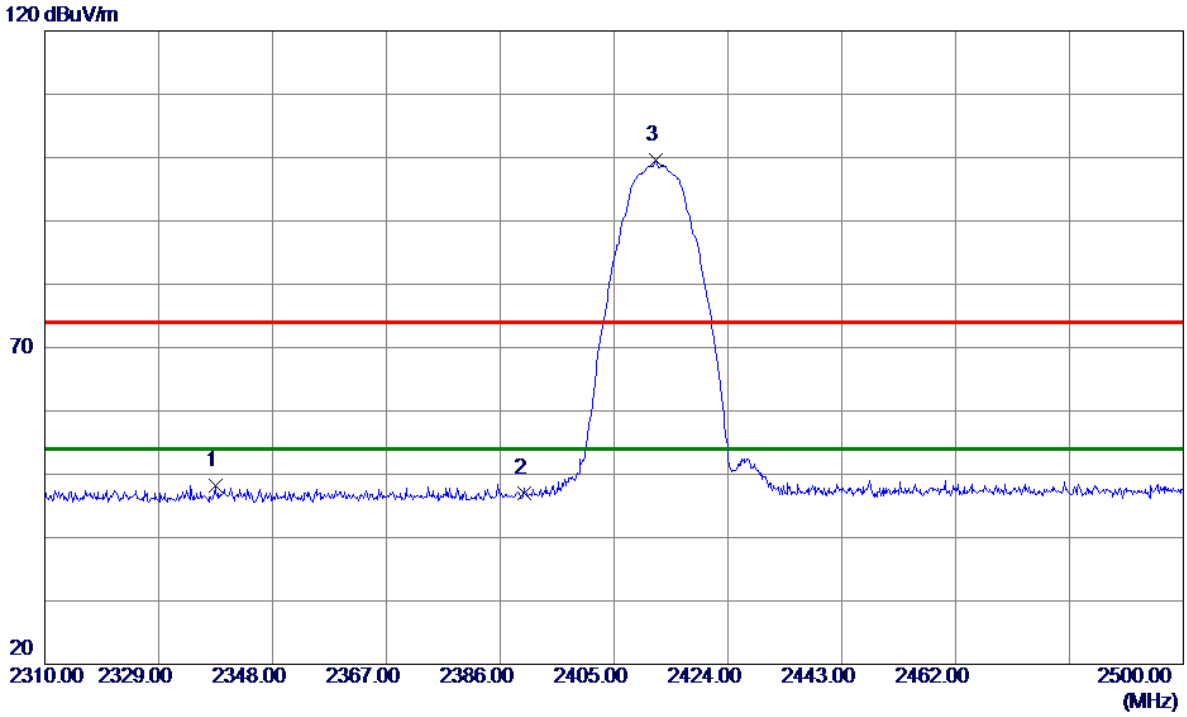
Test Mode	TX B Mode 2412 MHz	Polarization	Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4824.1500	58.60	-14.05	44.55	74.00	-29.45	Peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

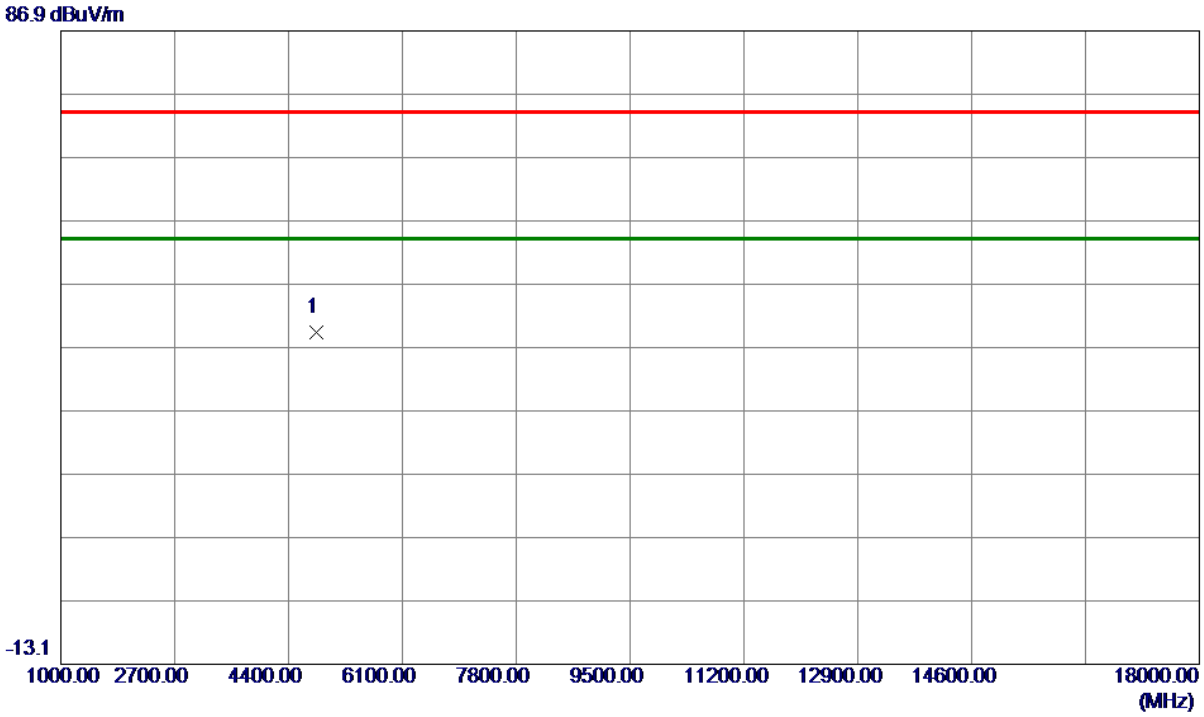
Test Mode	TX B Mode 2412 MHz	Polarization	Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2338.4720	16.30	31.99	48.29	74.00	-25.71	Peak	
2	2390.0000	14.81	32.20	47.01	74.00	-26.99	Peak	
3 *	2412.0300	67.31	32.29	99.60	74.00	25.60	Peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

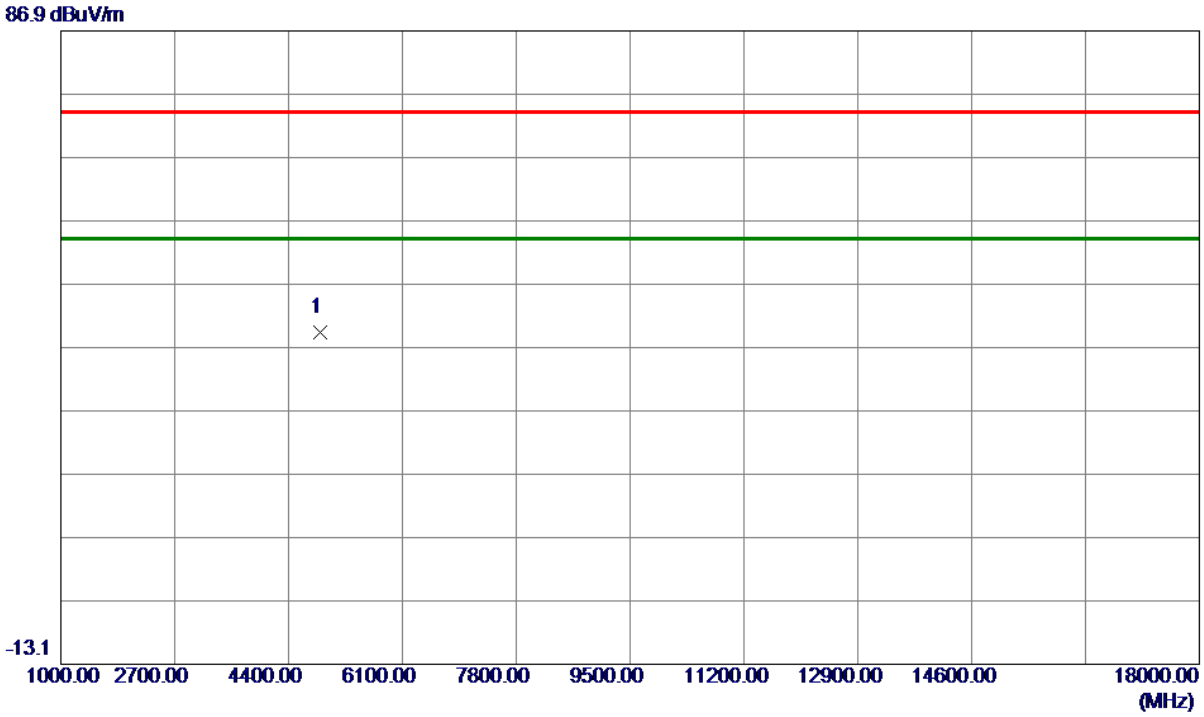
Test Mode	TX B Mode 2412 MHz	Polarization	Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4824.0000	53.27	-14.06	39.21	74.00	-34.79	Peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

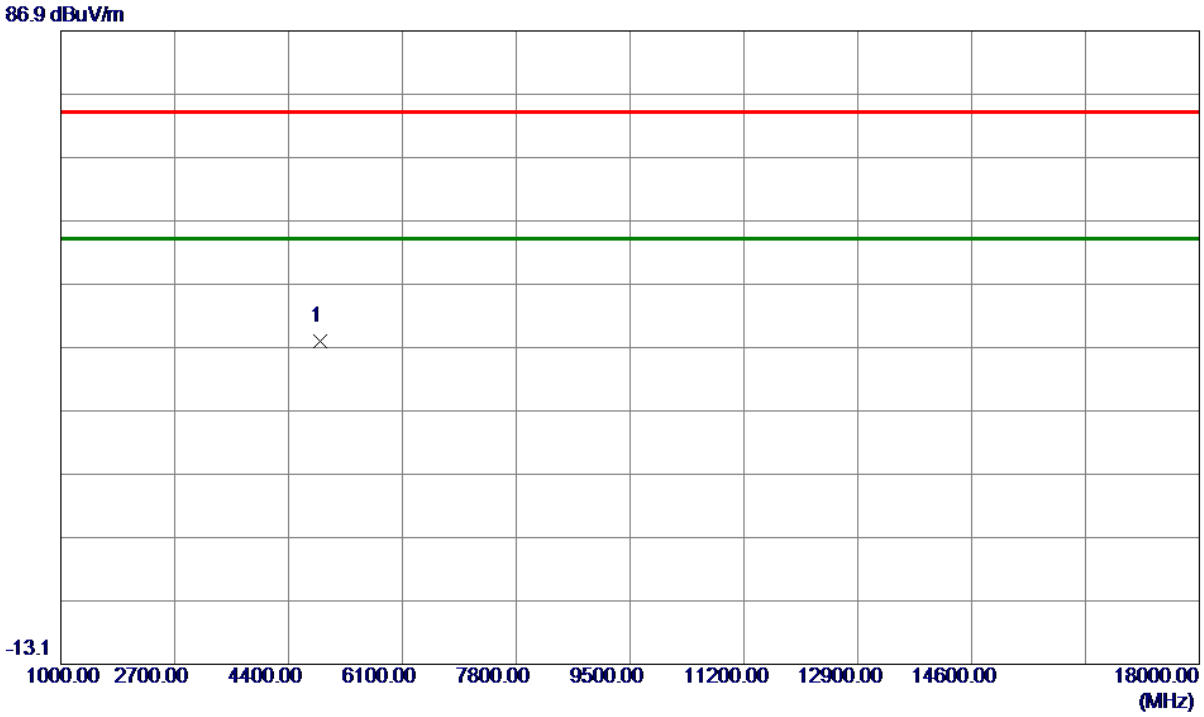
Test Mode	TX B Mode 2437 MHz	Polarization	Vertical



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4874.0000	53.12	-13.89	39.23	74.00	-34.77	Peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

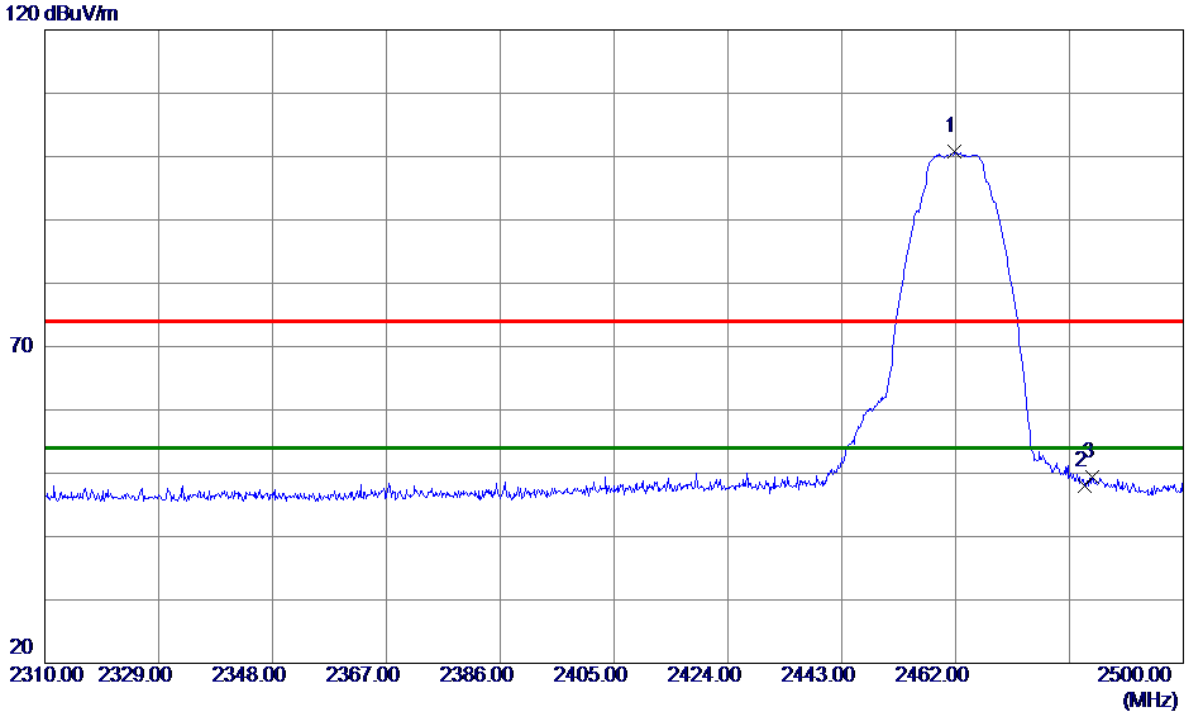
Test Mode	TX B Mode 2437 MHz	Polarization	Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4874.0000	51.73	-13.89	37.84	74.00	-36.16	Peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

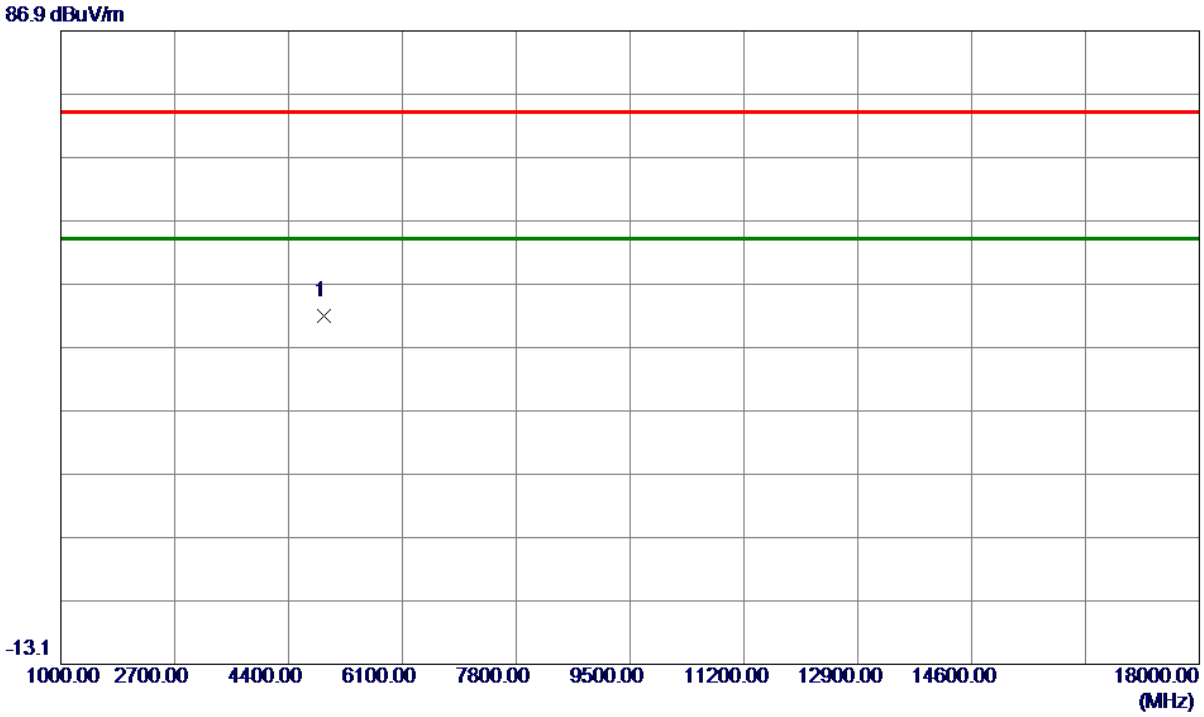
Test Mode	TX B Mode 2462 MHz	Polarization	Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2461.8670	68.27	32.49	100.76	74.00	26.76	Peak	
2	2483.5000	15.51	32.58	48.09	74.00	-25.91	Peak	
3	2484.8000	16.89	32.59	49.48	74.00	-24.52	Peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

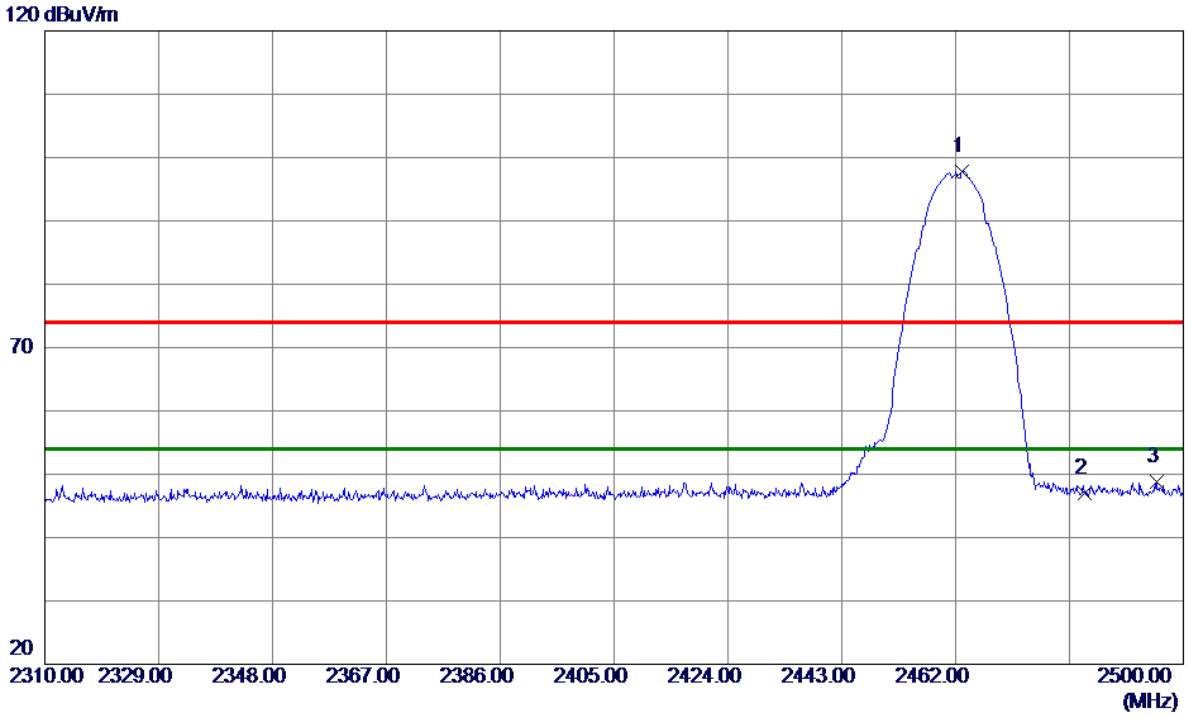
Test Mode	TX B Mode 2462 MHz	Polarization	Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4923.6000	55.57	-13.74	41.83	74.00	-32.17	Peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX B Mode 2462 MHz	Polarization	Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2463.0730	65.39	32.50	97.89	74.00	23.89	Peak	
2	2483.5000	14.40	32.58	46.98	74.00	-27.02	Peak	
3	2495.5920	16.18	32.63	48.81	74.00	-25.19	Peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.