



FCC Radio Test Report

FCC ID: 2A5LO-ZLTP90

This report concerns: Original Grant

Project No. : 2410C237
Equipment : 4G Wireless Router
Brand Name : TOZED KANGWEI
Test Model : ZLT P90
Series Model : ZLT P90Y(Y,Y can be A-J), Telsey P90
Applicant : Tozed Kangwei Tech Co., Ltd
Address : Room 1301, No. 37, Jinlong, Nansha Street, Xiangjiang Financial Business Center, Nansha District, Guangzhou,China
Manufacturer : Tozed Kangwei Tech Co., Ltd
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Factory : Tozed Kangwei Tech Co., Ltd
Address : Room 1301, No. 37, Jinlong, Nansha Street, Xiangjiang Financial Business Center, Nansha District, Guangzhou,China
Date of Receipt : Oct. 30, 2024
Date of Test : Nov. 01, 2024 ~ Dec. 05, 2024
Issued Date : Dec. 06, 2024
Report Version : R01
Test Sample : Engineering Sample No.: DG20241030390 and DG20241030389 for radiated, DG20241030387 for power.
Standard(s) : 47 CFR Part 96
47 CFR Part 2

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

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Declaration

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

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. BTL 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.

The report must not be used by the client to claim product certification, approval, or endorsement by A2LA or any agency of the U.S. Government.

This report is the confidential property of the client. As a mutual protection to the clients, the public and ourselves, the test report shall not be reproduced, except in full, without our written approval.

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.

Table of Contents	Page
REPORT ISSUED HISTORY	5
1 . APPLICABLE STANDARDS	6
2 . SUMMARY OF TEST RESULTS	6
2.1 TEST FACILITY	8
2.2 MEASUREMENT UNCERTAINTY	8
2.3 TEST ENVIRONMENT CONDITIONS	9
3 . GENERAL INFORMATION	10
3.1 GENERAL DESCRIPTION OF EUT	10
3.2 DESCRIPTION OF TEST MODES AND TEST CONDITION	11
3.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	12
3.4 DESCRIPTION OF SUPPORT UNITS	12
4 . TEST RESULT	13
4.1 OUTPUT POWER & EIRP MEASUREMENT	13
4.1.1 LIMIT	13
4.1.2 TEST PROCEDURE	13
4.1.3 TEST SETUP LAYOUT	14
4.1.4 TEST DEVIATION	14
4.1.5 TEST RESULTS	14
4.2 RADIATED EMISSIONS MEASUREMENT	15
4.2.1 LIMIT	15
4.2.2 TEST PROCEDURES	15
4.2.3 TEST SETUP LAYOUT	15
4.2.4 TEST DEVIATION	16
4.2.5 TEST RESULTS (9KHZ TO 30MHZ)	16
4.2.6 TEST RESULTS (30MHZ TO 1000MHZ)	16
4.2.7 TEST RESULTS (ABOVE 1000MHZ)	16
4. LIST OF MEASUREMENT EQUIPMENTS	17
5. EUT TEST PHOTO	20
APPENDIX A - OUTPUT POWER & EIRP	24
APPENDIX B - RADIATED SPURIOUS EMISSIONS (9KHZ TO 30MHZ)	34
APPENDIX C - RADIATED SPURIOUS EMISSIONS (30MHZ TO 1000MHZ)	36

Table of Contents	Page
APPENDIX D - RADIATED SPURIOUS EMISSIONS	38
(ABOVE 1000MHZ)	38

REPORT ISSUED HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-5-2410C237	R00	Original Report.	Nov. 29, 2024	Invalid
BTL-FCCP-5-2410C237	R01	Modified the comments.	Dec. 06, 2024	Valid

1. APPLICABLE STANDARDS

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

ANSI C63.26-2015

The following reference test guidance is not within the scope of accreditation of A2LA:

FCC KDB 971168 D01 Power Meas License Digital Systems v03r01

FCC KDB 940660 D01 Part 96 CBRS Eqpt v03

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC Part 96 & Part 2			
Standard(s) Section	Test Item	Judgment	Remark
96.41(b)	Equivalent Isotropic Radiated	PASS	-----
2.1046	Conducted Output Power	PASS	-----
2.1049	Occupied Bandwidth	PASS	-----
2.1051& 96.41(e)	Conducted Spurious Emissions	PASS	-----
2.1053 & 96.41(e)	Radiated Spurious Emissions	PASS	-----
2.1051 & 96.41(e)	Band Edge Measurements&ACLR	PASS	-----
2.1055	Frequency Stability for Temperature & Voltage	PASS	-----
96.41(g)	Peak To Average Ratio	PASS	-----

Note:

(1) "N/A" denotes test is not applicable to this device.

(2) The RF module of this 4G Wireless Router has been tested and certified. Please refer to the module report as listed in the below table for the test results of the RF module.

RF Module Model	Module FCC ID	Module Function	Report Number	Standard
SIM7912A	2AJYU-8XM0001	LTE band 48	I23W00006-LTE-RF-Rev2	47 CFR Part 96
			FG322308-01	FCC Part 96.47 FCC KDB 940660 D01 Part 96 CBRS Eqpt v03 WINNF-TS-0122-V1.0.2 CBRS CBSD Test Specification

1) The antenna gain of 4G Wireless Router is greater than that of module, so output power, EIRP, and radiated spurious emissions were tested and recorded. For the test results of all other test items please refer to above module test report.

(3)Based on the RF module the antennas for this 4G Wireless Router were updated as below table:

Ant. Model Name	Type	Ant. Manufacturer	Antenna Gain(dBi)	Note
N19-0728-R0A	PCB	Shenzhen Be-Comfortable Technology Co. Ltd	3.72	LTE Band 48

1) The antenna gain is provided by the manufacturer.

2.1 TEST FACILITY

For radiated spurious emissions(9 kHz to 30 MHz&Above 18GHz) item:

The test facilities used to collect the test data in this report is at the location of 1-2/F, 4/F, Building A, 1-2/F, Building B, 3/F, Building C, No.3, Jinshagang 1st Road, Dalang Town, Dongguan City, Guangdong People's Republic of China.

For other items:

The test facilities used to collect the test data in this report is at the location of Room 108-116, 309-310, Building 2, No.1, Yile Road, Songshan Lake Zone, Dongguan City, Guangdong, People's Republic of China.

BTL's Registration Number for FCC: 747969

BTL's Designation Number for FCC: CN1377

2.2 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 Measurement:

Test Site	Method	Measurement Frequency Range	U_i (dB)
DG-CB01	CISPR	9kHz ~ 30MHz	2.36

Test Site	Method	Measurement Frequency Range	Ant. H / V	U_i (dB)
SSL-CB01 (3m)	CISPR	30MHz ~ 200MHz	V	4.70
		30MHz ~ 200MHz	H	3.56
		200MHz ~ 1,000MHz	V	4.92
		200MHz ~ 1,000MHz	H	4.54

Test Site	Method	Measurement Frequency Range	U_i (dB)
SSL-CB01 (3m)	CISPR	1GHz ~ 6GHz	4.56
		6GHz ~ 18GHz	5.14

Test Site	Method	Measurement Frequency Range	U_i (dB)
DG-CB03 (1m)	CISPR	18 ~ 26.5 GHz	3.36
		26.5 ~ 40 GHz	3.58

B. Power Measurement:

Parameter	Uncertainty
Maximum Output Power	± 0.87 dB
Temperature	± 0.48 °C
Humidity	± 1.37 %

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

2.3 TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage	Tested By	Test Date
Output Power & EIRP	23.3-24.1°C	36-47%	DC 24V	Gavin Ge	Nov. 02, 2024 ~ Nov. 26, 2024 Dec. 05, 2024
Radiated Spurious Emissions (9 kHz to 30 MHz)	26°C	47%	AC 120V/60Hz	Vance Lv	Nov. 19, 2024
Radiated Spurious Emissions (30 MHz to 1000 MHz)	20°C	50%	AC 120V/60Hz	Young Zou	Nov. 22, 2024
Radiated Spurious Emissions (Above 1000 MHz)	20°C	50%	AC 120V/60Hz	Young Zou	Nov. 22, 2024
	24°C	53%	AC 120V/60Hz	Jensen Zhou	Nov. 27, 2024

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	4G Wireless Router			
Brand Name	TOZED KANGWEI			
Test Model	ZLT P90			
Series Model	ZLT P90Y(Y,Y can be A-J), Telsey P90			
Model Difference(s)	There is no difference except model difference, shell color and silk screen change.			
Hardware Version	TZ7.823.386A			
Software Version	V1.0			
Power Source	DC Voltage supplied from PoE adapter. Model: GS-P240100E954			
Power Rating	I/P: 100-240V ~ 50/60Hz 0.8A O/P: 24V $\overline{\overline{=}}$ 1.0A +4.5pins, -7.8pins			
IMEI No.	Radiated	868553060003943, 868553060003331		
	Conducted	868553060003646		
Modulation Type	LTE		UL: QPSK,16QAM DL: QPSK,16QAM,64QAM	
Max. EIRP	LTE	Channel Bandwidth (MHz)	QPSK (dBm/10MHz)	16QAM (dBm/10MHz)
	Band 48	5	18.44	17.46
		10	18.58	17.71
		15	18.67	18.03
		20	18.59	18.78
	LTE	Channel Bandwidth (MHz)	QPSK (dBm)	16QAM (dBm)
	Band 48	5	15.67	14.90
		10	15.62	14.84
		15	15.58	14.80
		20	15.53	14.75

Note:

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

2. The Channel List:

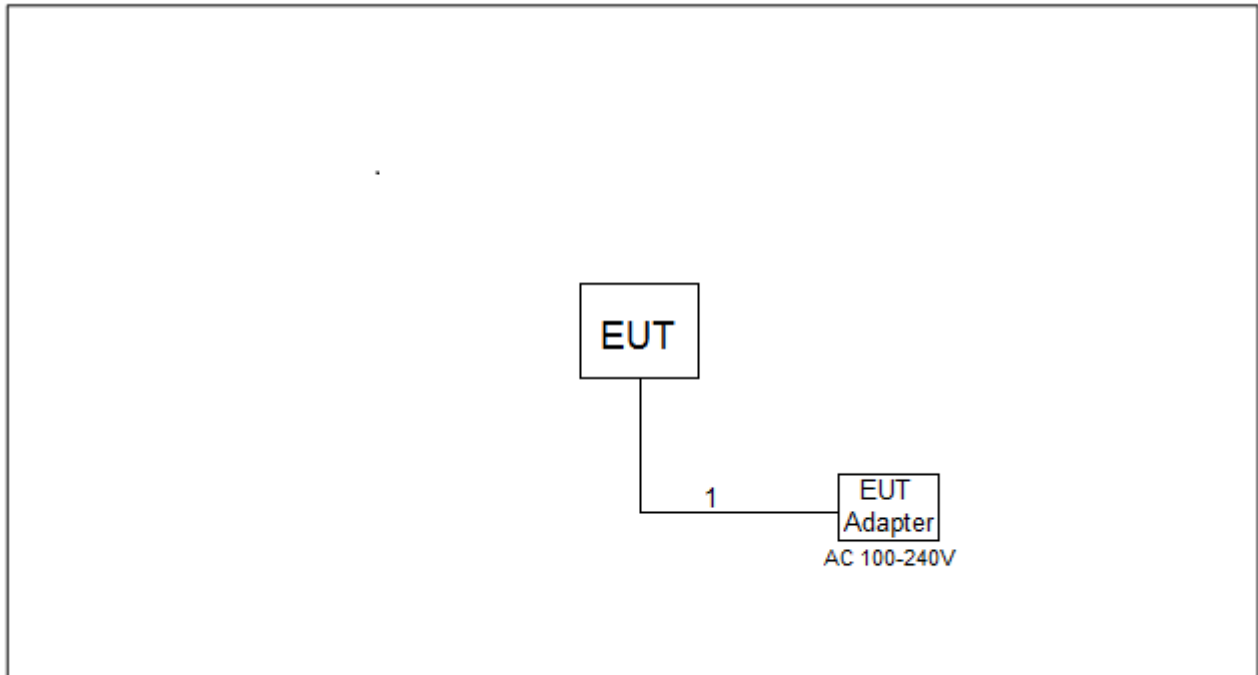
LTE Band 48(UL/DL: 3550-3700 MHz)			
Test Frequency ID	Bandwidth (MHz)	EARFCN	Frequency (UL and DL) (MHz)
Low Range	5	55265	3552.5
	10	55290	3555.0
	15	55315	3557.5
	20	55340	3560.0
Mid Range	5/10/15/20	55990	3625.0
High Range	5	56715	3697.5
	10	56690	3695.0
	15	56665	3692.5
	20	56640	3690.0

3.2 DESCRIPTION OF TEST MODES AND TEST CONDITION

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

LTE BAND 48 MODE					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
Output Power & EIRP	55265 to 56715	55265, 55990, 56715	5MHz	QPSK, 16QAM	1RB/12RB/25RB
	55290 to 56690	55290, 55990, 56690	10MHz	QPSK, 16QAM	1RB/25RB/50RB
	55315 to 56665	55315, 55990, 56665	15MHz	QPSK, 16QAM	1RB/36RB/75RB
	55340 to 56640	55340, 55990, 56640	20MHz	QPSK, 16QAM	1RB/50RB/100RB
Radiated Spurious Emissions	55265 to 56715	55990	5MHz	QPSK	1RB
	55340 to 56640	55990	20MHz	QPSK	1RB

3.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



3.4 DESCRIPTION OF SUPPORT UNITS

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

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

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	RJ45 Cable	NO	NO	1.5m

4. TEST RESULT

4.1 OUTPUT POWER & EIRP MEASUREMENT

4.1.1 LIMIT

EIRP for CBRS equipment as below table:

Device	Maximum EIRP (dBm/10 MHz)
End User Device	23
Category A CBSD	30
Category B CBSD	47

4.1.2 TEST PROCEDURE

The testing follows ANSI C63.26-2015 Section 5.2.4.4.2

Conducted Output Power:

The EUT can operate with a constant duty cycle.

- Set span to $2 \times$ to $3 \times$ the OBW.
- Set RBW = 1% to 5% of the OBW.
- Set VBW $\geq 3 \times$ RBW.
- Set number of measurement points in sweep $\geq 2 \times$ span / RBW.
- Sweep time:
 - Set = auto-couple, or
 - Set $\geq [10 \times (\text{number of points in sweep}) \times (\text{transmission symbol period})]$ for single sweep (automation-compatible) measurement.
- Detector = power averaging (rms).
- Set sweep trigger to "free run."
- Trace average at least 100 traces in power averaging (rms) mode if sweep is set to auto-couple. To accurately determine the average power over the on and off time of the transmitter, it can be necessary to increase the number of traces to be averaged above 100, or if using a manually configured sweep time, increase the sweep time.
- Compute power by integrating the spectrum across the OBW of the signal using the instrument's band or channel power measurement function with band/channel limits set equal to the OBW band edges. If the instrument does not have a band or channel power function, sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.
- Add $10 \log (1/\text{duty cycle})$ to the measured power level to compute the average power during continuous transmission. For example, add $[10 \log (1/0.25)] = 6 \text{ dB}$ if the duty cycle is a constant 25%.

EIRP Power:

The testing follows ANSI C63.26-2015 Section 5.2.5.5

According to KDB 412172 D01 Power Approach,

$\text{EIRP} = \text{PT} + \text{GT} - \text{LC}$, where

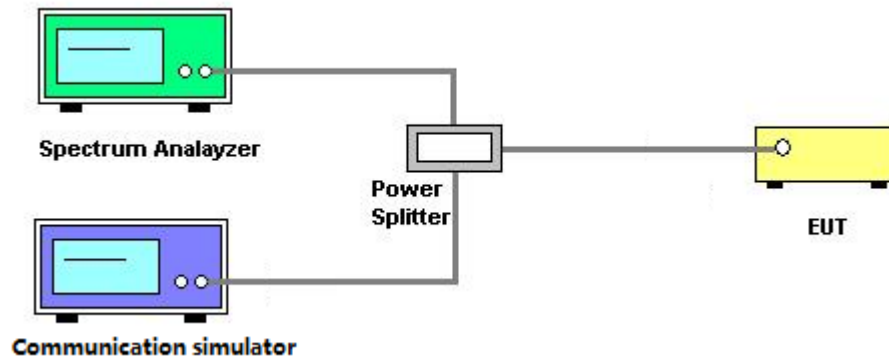
PT = transmitter output power in dBm

GT = gain of the transmitting antenna in dBi

LC = signal attenuation in the connecting cable between the transmitter and antenna in dB

4.1.3 TESTSETUP LAYOUT

Conducted Power Measurement



4.1.4 TEST DEVIATION

No deviation.

4.1.5 TEST RESULTS

Please refer to the APPENDIX A.

4.2 RADIATED EMISSIONS MEASUREMENT

4.2.1 LIMIT

Out of band emissions: The power of any emissions below 3530 MHz or above 3720 MHz shall not exceed -40dBm/MHz.

$E \text{ (dB}\mu\text{V/m)} = \text{EIRP (dBm)} - 20 \log D + 104.8$; where D is the measurement distance in meters. The emission limit equal to 55.26dB μ V/m.

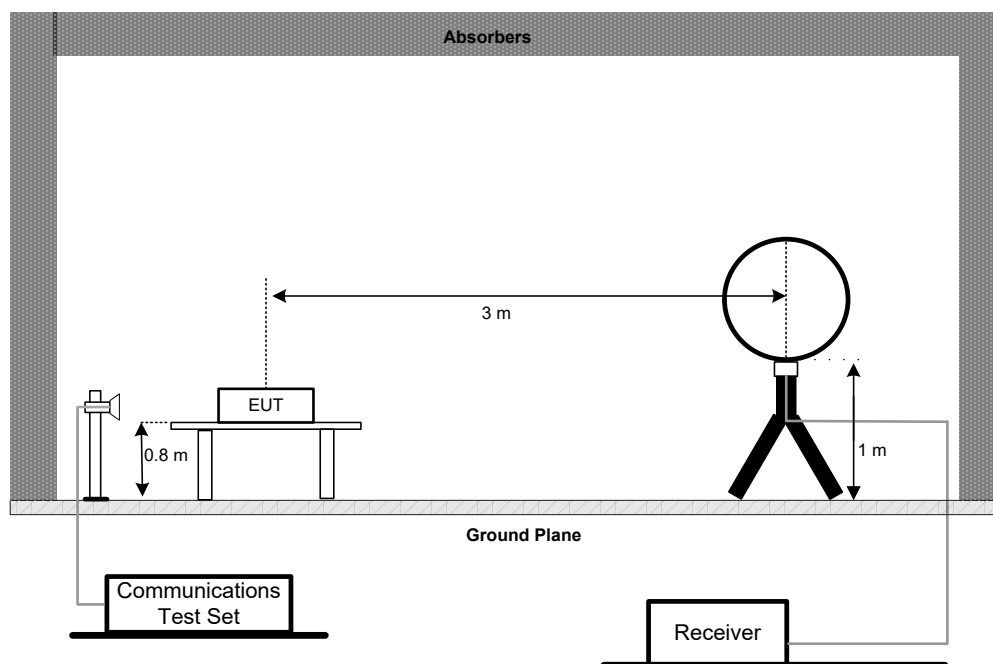
4.2.2 TEST PROCEDURES

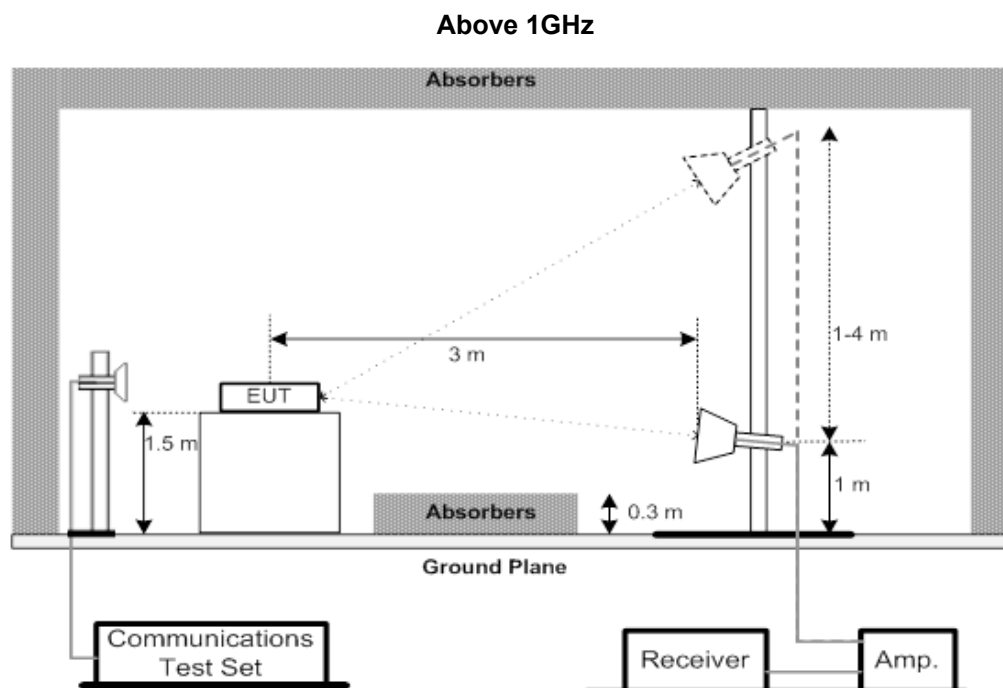
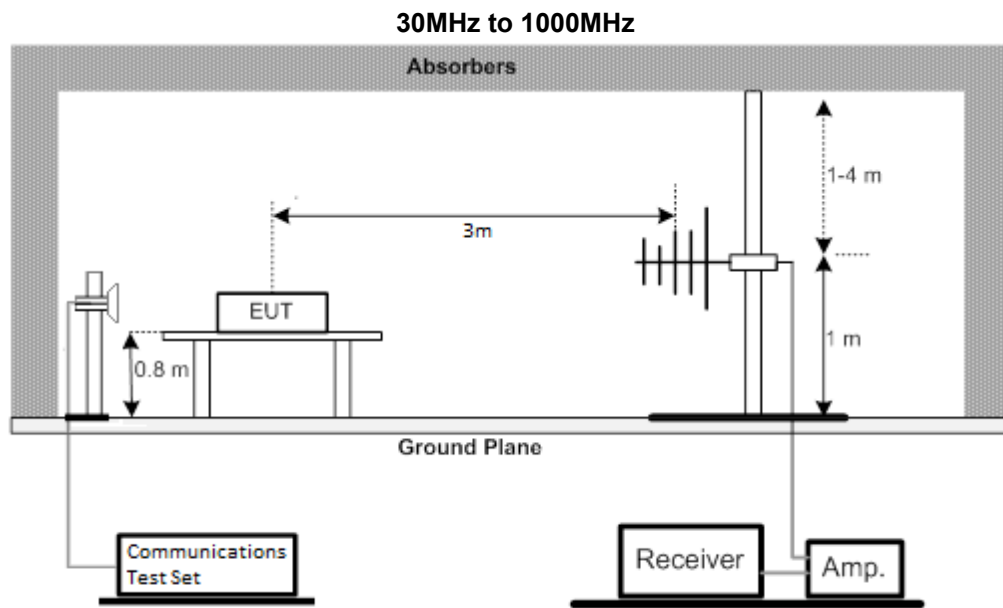
The testing follows FCC KDB 971168 v03r01 Section 6.2 or ANSI C63.26-2015 Section 5.5.

1. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
2. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
3. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
4. Start the test, rotate the table 360° to find the worst Angle, maintain the worst Angle, raise the antenna to 1-4m to find the worst height, maintain the worst height, then rotate the table to determine the final worst Angle, grab the spectrum diagram.
5. EUT shall be placed in accordance with X,Y,Z as required by Figure 5 in ANSI C63.26.
Repeat Step 5 above to find the worst placement. Test all bands according to the worst placement.
6. Then EIRP is then converted to field strength as follows in Equation
7. $E \text{ (dB}\mu\text{V/m)} = \text{EIRP (dBm)} - 20\log(D) + 104.8$; where D is the measurement distance (in the far field region) in m. The emission limit equal to 55.26dB μ V/m.

4.2.3 TEST SETUP LAYOUT

Below 30MHz





4.2.4 TEST DEVIATION

No deviation.

4.2.5 TEST RESULTS (9KHZ TO 30MHZ)

Please refer to the APPENDIX B.

4.2.6 TEST RESULTS (30MHZ TO 1000MHZ)

Please refer to the APPENDIX C.

4.2.7 TEST RESULTS (ABOVE 1000MHZ)

Please refer to the APPENDIX D.

4. LIST OF MEASUREMENT EQUIPMENTS

Radiated Emissions - 9 kHz to 30 MHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Active Loop Antenna	Schwarzbeck	FMZB 1513-60B	1513-60 B-034	Mar. 30, 2025
2	MXE EMI Receiver	Keysight	N9038A	MY56400091	Dec. 22, 2024
3	Cable	N/A	RW4950-3.8A-N MSM-1.5	N/A	Nov. 12, 2025
4	Cable	N/A	LMR400-NMNM -8M	N/A	Nov. 12, 2025
5	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
6	966 Chamber room	ETS	9*6*6	N/A	May 16, 2025
7	wideband radio communication tester	R&S	CMW500	152372	Dec. 22, 2024

Radiated Emissions - 30 MHz to 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Trilog-Broadband Antenna	Schwarzbeck	VULB9168	01269	May 18, 2025
2	Attenuator	EMCI	EMCI-N-6-06	AN-N0697	May 18, 2025
3	MXE EMI Receiver	Keysight	N9038A	MY59050118	Jun. 28, 2025
4	Preamplifier	EMC INSTRUMENT	EMC001330	980825	Jan. 19, 2025
5	Cable	EMC INSTRUMENT	EMCCFD400-NM-N M-2500	N/A	Jun. 06, 2025
6	Cable	EMC INSTRUMENT	EMCCFD400-NM-N M-7000	N/A	Jun. 06, 2025
7	Cable	EMC INSTRUMENT	EMCCFD400-NM-N M-3000	N/A	Jun. 06, 2025
8	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
9	Wideband Radio Communication Tester	R&S	CWM 500	165848	Jan. 19, 2025
10	966 Chamber room	Tai He	9*6*6(NSA&VSWR)	N/A	Jun. 06, 2025

Radiated Emissions - 1 GHz to 18GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	MXE EMI Receiver	Keysight	N9038A	MY59050118	Jun. 28, 2025
2	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
3	Preamplifier	EMC INSTRUMENT	EMC118A45SE	980739	Jan. 19, 2025
4	Cable	EMC INSTRUMENT	EMC104-SM-SM-1 0000	N/A	Jun. 06, 2025
5	Cable	EMC INSTRUMENT	EMC104-SM-SM-3 000	N/A	Jun. 06, 2025
6	Cable	EMC INSTRUMENT	EMC104-SM-SM-8 00	N/A	Jun. 06, 2025
7	Double Ridged Broadband Horn Antenna	RF SPIN	DRH18-E	210106A18E	Jul. 17, 2025
8	Band Reject Filter	COM-MW	ZHPF6-C3000-180 00-174	7213126	Jun. 28, 2025
9	Band Reject Filter	COM-MW	ZHPF6-M1000-150 00-533	7213127	Jun. 28, 2025
10	Attenuator	Talent Microwave	ATT-18G2W-10	N/A	N/A
11	966 Chamber room	Tai He	9*6*6(NSA&VSWR)	N/A	Jun. 06, 2025
12	Wideband Radio Communication Tester	R&S	CWM 500	165848	Jan. 19, 2025

Radiated Emissions - Above 18 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EXA Spectrum Analyzer	Keysight	N9010A	MY55150209	Aug. 20, 2025
2	Preamplifier	EMC INSTRUMENT	EMC184045SE	980905	Oct. 29, 2025
3	Cable	RegalWay	RWLP50-2.6A-2.92 M2.92M-1.1M	N/A	Jul. 25, 2025
4	Cable	Tonscend	HF160-KMKM-3M	N/A	Jul. 25, 2025
5	Broad-Band Horn Antenna	Schwarzbeck	BBHA9170(3m)	9170-319	Jun.16, 2025
6	966 Chamber room	CM	9*6*6	N/A	May 19, 2025
7	Positioning Controller	MF	MF-7802	N/A	N/A
8	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
9	wideband radio communication tester	R&S	CMW500	152372	Dec. 22, 2024
10	Broadband double ridged horn antenna	Regalway	RW10180-N	1911004	N/A

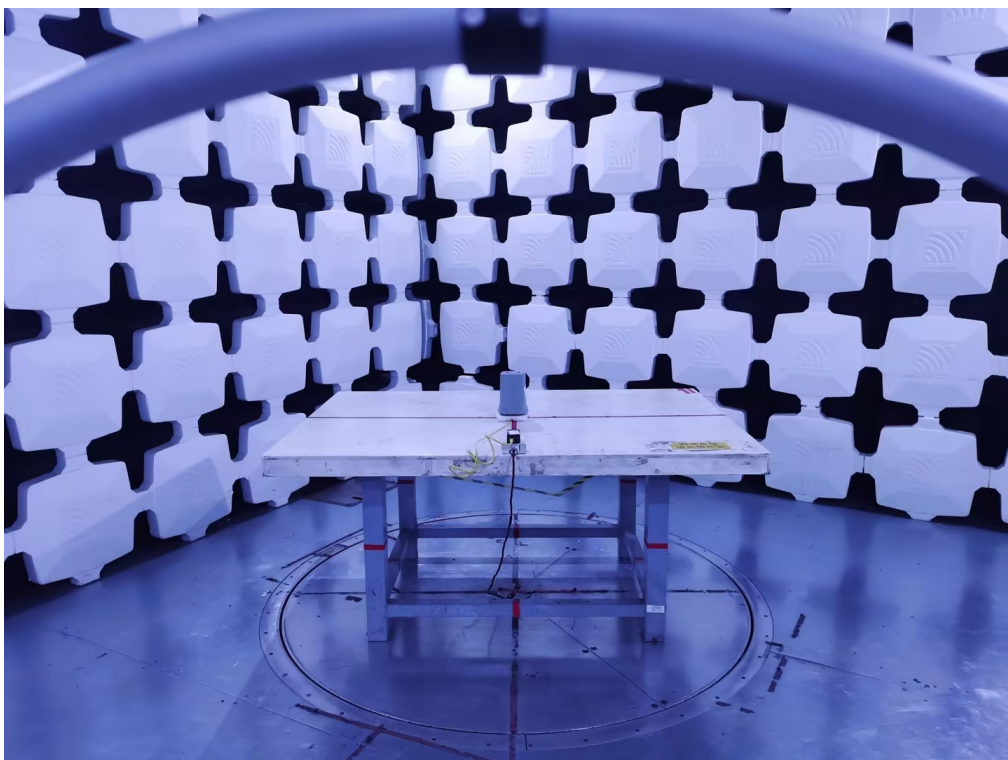
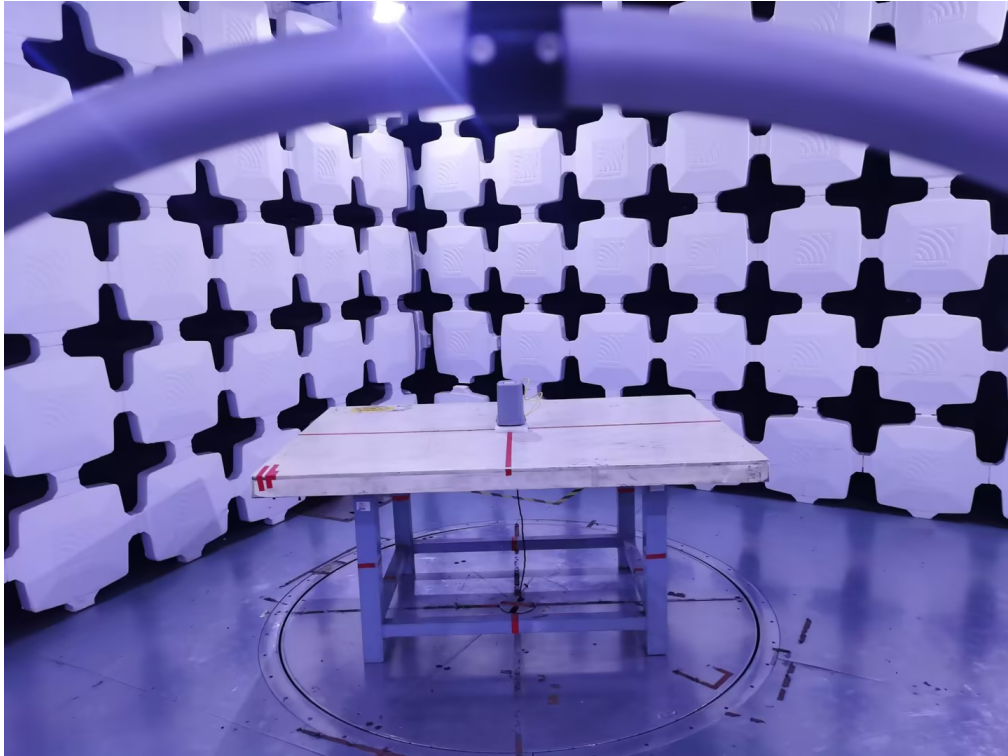
Output power Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Wideband Radio Communication Tester	R&S	CWM 500	165578	Jan. 19, 2025
2	MXA Signal Analyzer	Agilent Technologies	N9020A	MY49100060	Jun. 28, 2025
3	Radio Communication Analyzer	Anristu	MT8821C	6261915479	Jun. 28, 2025

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

5. EUT TEST PHOTO

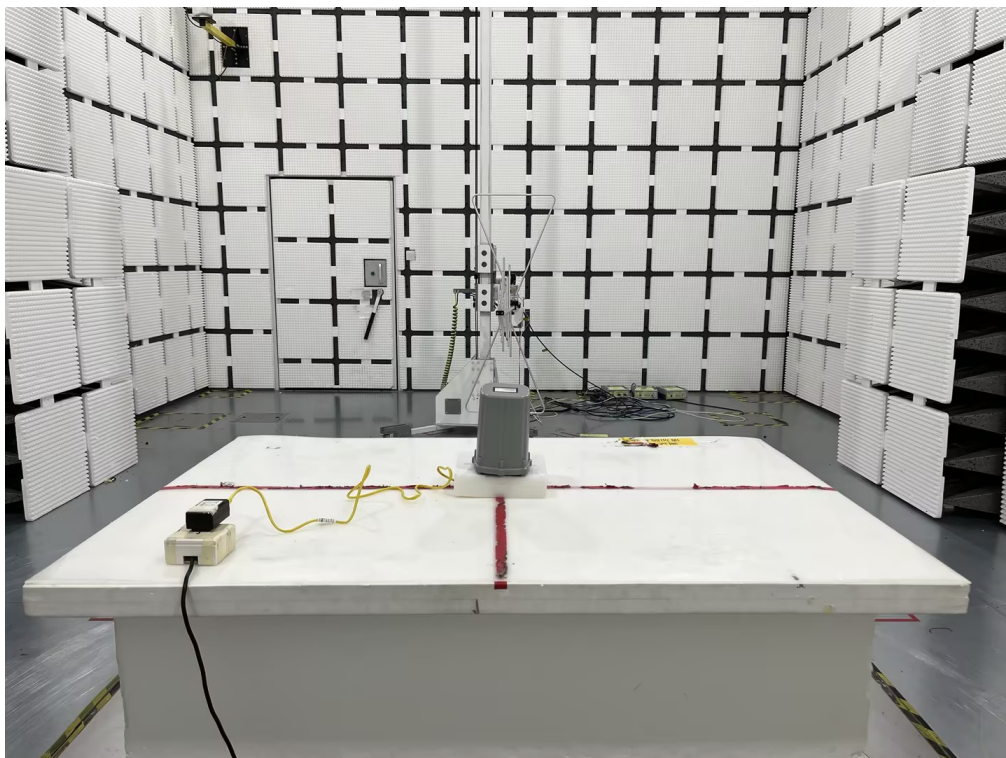
Radiated Emissions Test Photos

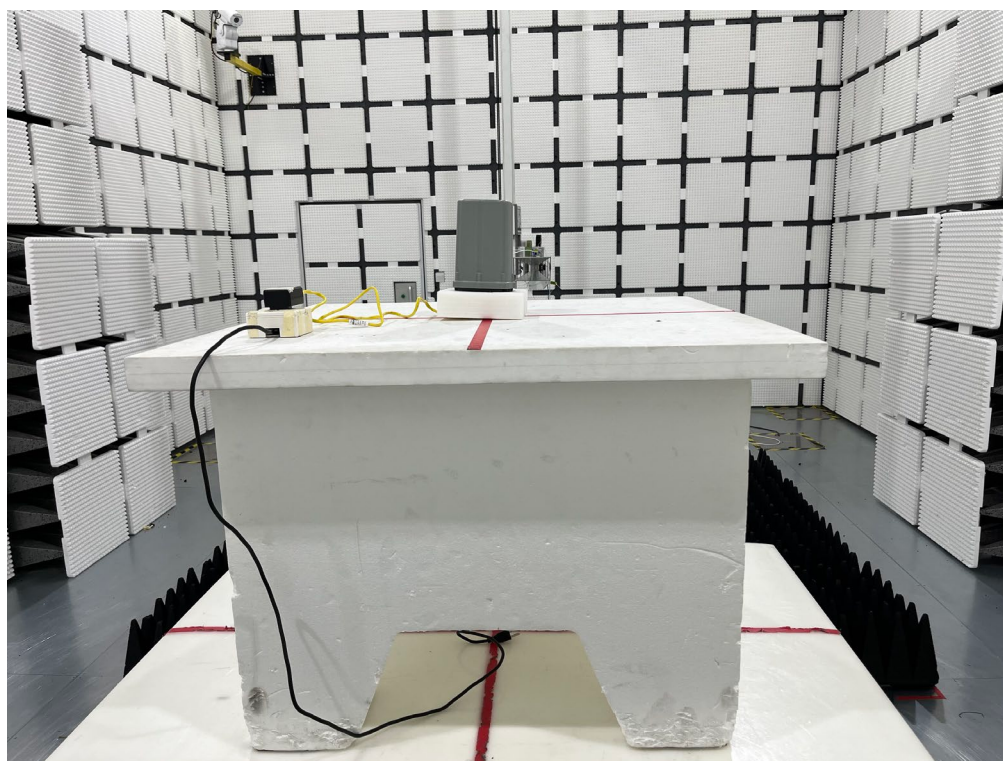
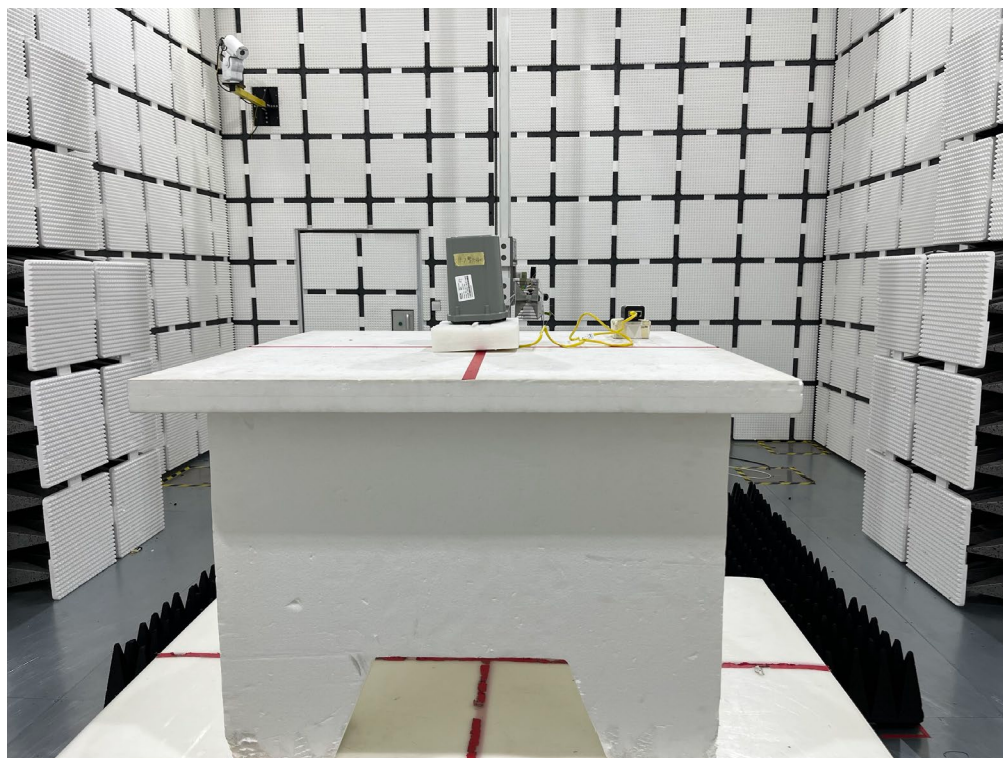
9 kHz to 30 MHz

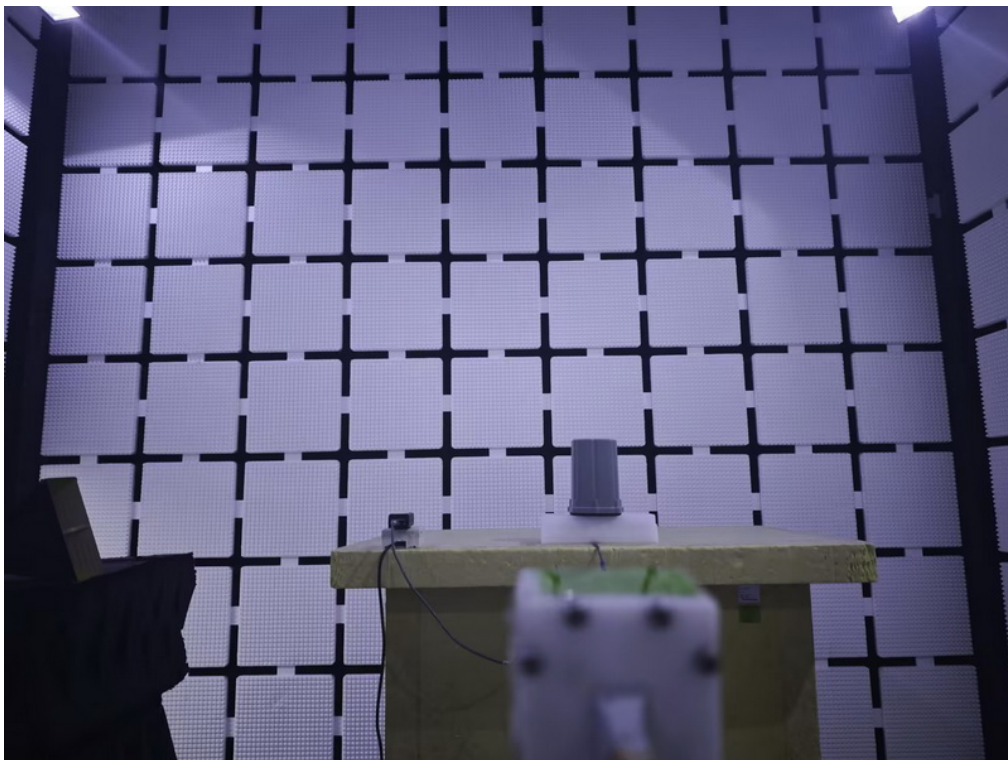


Radiated Emissions Test Photos

30 MHz to 1 GHz

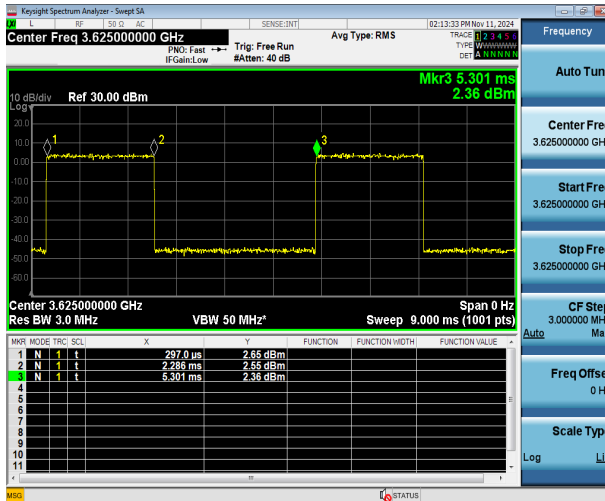


Radiated Emissions Test Photos**1 GHz to 18GHz**

Radiated Emissions Test Photos**Above 18 GHz**

APPENDIX A - OUTPUT POWER & EIRP

Duty Cycle



Duty cycle=On time/Total time

= $(2.286-0.297)/(5.301-0.297)$

Duty factor=10 log (1/duty cycle)=4.01

Conducted Power (Average power) (dBm/10MHz):

Average Power=Read Power+ Duty factor

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				55265CH	55990CH	56715CH
				3552.5MHz	3625.0MHz	3697.5MHz
48 / 5MHz	QPSK	1	0	13.32	13.50	13.82
		1	13	13.92	14.13	14.72
		1	24	13.04	14.42	14.08
		12	0	12.44	12.42	12.45
		12	6	12.33	12.39	12.47
		12	11	12.16	12.55	12.31
		25	0	11.79	12.00	12.36
	16QAM	1	0	12.30	13.06	13.60
		1	13	12.14	13.74	13.23
		1	24	12.50	13.70	13.71
		12	0	11.03	11.89	11.57
		12	6	11.25	11.19	12.04
		12	11	11.06	11.07	11.39
		25	0	10.68	11.00	11.27

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				55290CH	55990CH	56690CH
				3555.0MHz	3625.0MHz	3695.0MHz
48 / 10MHz	QPSK	1	0	14.03	14.71	13.78
		1	25	14.51	14.86	13.69
		1	49	13.96	13.97	13.83
		25	0	12.21	12.21	12.01
		25	13	12.15	12.52	11.98
		25	25	12.56	12.14	12.69
		50	0	11.57	12.01	12.15
	16QAM	1	0	13.17	13.55	13.57
		1	25	13.33	13.18	13.99
		1	49	13.76	13.20	13.24
		25	0	11.72	11.16	11.64
		25	13	11.30	11.33	11.18
		25	25	11.40	11.40	11.36
		50	0	10.71	11.07	11.00

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				55315CH	55990CH	56665CH
				3557.5MHz	3625.0MHz	3692.5MHz
48 / 15MHz	QPSK	1	0	14.86	14.76	13.67
		1	38	14.22	14.95	13.58
		1	74	14.45	14.25	13.21
		36	0	12.13	12.14	12.29
		36	18	12.09	12.27	12.38
		36	39	12.43	12.37	12.43
		75	0	10.69	10.83	11.05
	16QAM	1	0	13.89	14.08	14.19
		1	38	13.54	13.77	13.42
		1	74	13.63	14.31	13.06
		36	0	11.79	11.14	11.33
		36	18	11.35	11.67	11.49
		36	39	11.28	11.74	11.27
		75	0	9.62	9.76	9.83

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				55340CH	55990CH	56640CH
				3560.0MHz	3625.0MHz	3690.0MHz
48 / 20MHz	QPSK	1	0	14.17	14.73	14.87
		1	50	13.88	14.15	14.51
		1	99	13.30	14.39	14.19
		50	0	12.03	12.42	12.68
		50	25	12.17	12.11	12.57
		50	50	12.24	12.24	12.43
		100	0	9.85	9.65	9.96
	16QAM	1	0	13.30	13.10	15.06
		1	50	13.63	13.03	13.91
		1	99	13.08	13.67	13.29
		50	0	11.09	11.03	11.20
		50	25	11.04	11.08	11.11
		50	50	11.22	11.12	11.24
		100	0	8.41	8.65	8.72

Conducted Power/Channel bandwidth(dBm):

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				55265CH	55990CH	56715CH
				3552.5MHz	3625.0MHz	3697.5MHz
48 / 5MHz	QPSK	1	0	11.90	11.92	11.95
		1	13	11.84	11.88	11.83
		1	24	11.81	11.84	11.89
		12	0	10.91	10.92	10.90
		12	6	10.88	10.89	10.85
		12	11	10.82	10.87	10.84
		25	0	10.86	10.84	10.82
	16QAM	1	0	11.11	11.05	11.08
		1	13	11.17	11.10	11.18
		1	24	11.13	11.08	11.12
		12	0	9.82	9.79	9.81
		12	6	9.89	9.87	9.92
		12	11	9.74	9.76	9.82
		25	0	9.73	9.88	9.93

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				55290CH	55990CH	56690CH
				3555.0MHz	3625.0MHz	3695.0MHz
48 / 10MHz	QPSK	1	0	11.68	11.71	11.73
		1	25	11.75	11.78	11.80
		1	49	11.85	11.88	11.90
		25	0	10.87	10.90	10.92
		25	13	10.88	10.91	10.93
		25	25	10.89	10.92	10.94
		50	0	10.83	10.86	10.88
	16QAM	1	0	11.03	11.06	11.08
		1	25	10.99	11.02	11.04
		1	49	11.07	11.10	11.12
		25	0	9.83	9.86	9.88
		25	13	9.84	9.87	9.89
		25	25	9.86	9.89	9.91
		50	0	9.87	9.90	9.92

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				55315CH	55990CH	56665CH
				3557.5MHz	3625.0MHz	3692.5MHz
48 / 15MHz	QPSK	1	0	11.64	11.67	11.69
		1	38	11.71	11.74	11.76
		1	74	11.81	11.84	11.86
		36	0	10.83	10.86	10.88
		36	18	10.84	10.87	10.89
		36	39	10.85	10.88	10.90
		75	0	10.79	10.82	10.84
	16QAM	1	0	10.99	11.02	11.04
		1	38	10.95	10.98	11.00
		1	74	11.03	11.06	11.08
		36	0	9.79	9.82	9.84
		36	18	9.80	9.83	9.85
		36	39	9.82	9.85	9.87
		75	0	9.83	9.86	9.88

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				55340CH	55990CH	56640CH
				3560.0MHz	3625.0MHz	3690.0MHz
48 / 20MHz	QPSK	1	0	11.59	11.62	11.64
		1	50	11.66	11.69	11.71
		1	99	11.76	11.79	11.81
		50	0	10.78	10.81	10.83
		50	25	10.79	10.82	10.84
		50	50	10.80	10.83	10.85
		100	0	10.76	10.89	10.87
	16QAM	1	0	10.94	10.97	10.99
		1	50	10.90	10.93	10.95
		1	99	10.98	11.01	11.03
		50	0	9.74	9.77	9.79
		50	25	9.75	9.78	9.80
		50	50	9.77	9.80	9.82
		100	0	9.78	9.81	9.83

EIRP (dBm/10MHz):

EIRP=Average Power+Ant. Gain

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				55265CH	55990CH	56715CH
				3552.5MHz	3625.0MHz	3697.5MHz
48 / 5MHz	QPSK	1	0	17.04	17.22	17.54
		1	13	17.64	17.85	18.44
		1	24	16.76	18.14	17.80
		12	0	16.16	16.14	16.17
		12	6	16.05	16.11	16.19
		12	11	15.88	16.27	16.03
		25	0	15.51	15.72	16.08
	16QAM	1	0	16.02	16.78	17.32
		1	13	15.86	17.46	16.95
		1	24	16.22	17.42	17.43
		12	0	14.75	15.61	15.29
		12	6	14.97	14.91	15.76
		12	11	14.78	14.79	15.11
		25	0	14.40	14.72	14.99

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				55290CH	55990CH	56690CH
				3555.0MHz	3625.0MHz	3695.0MHz
48 / 10MHz	QPSK	1	0	17.75	18.43	17.50
		1	25	18.23	18.58	17.41
		1	49	17.68	17.69	17.55
		25	0	15.93	15.93	15.73
		25	13	15.87	16.24	15.70
		25	25	16.28	15.86	16.41
		50	0	15.29	15.73	15.87
	16QAM	1	0	16.89	17.27	17.29
		1	25	17.05	16.90	17.71
		1	49	17.48	16.92	16.96
		25	0	15.44	14.88	15.36
		25	13	15.02	15.05	14.90
		25	25	15.12	15.12	15.08
		50	0	14.43	14.79	14.72

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				55315CH	55990CH	56665CH
				3557.5MHz	3625.0MHz	3692.5MHz
48 / 15MHz	QPSK	1	0	18.58	18.48	17.39
		1	38	17.94	18.67	17.30
		1	74	18.17	17.97	16.93
		36	0	15.85	15.86	16.01
		36	18	15.81	15.99	16.10
		36	39	16.15	16.09	16.15
		75	0	14.41	14.55	14.77
	16QAM	1	0	17.61	17.80	17.91
		1	38	17.26	17.49	17.14
		1	74	17.35	18.03	16.78
		36	0	15.51	14.86	15.05
		36	18	15.07	15.39	15.21
		36	39	15.00	15.46	14.99
		75	0	13.34	13.48	13.55

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				55340CH	55990CH	56640CH
				3560.0MHz	3625.0MHz	3690.0MHz
48 / 20MHz	QPSK	1	0	17.89	18.45	18.59
		1	50	17.60	17.87	18.23
		1	99	17.02	18.11	17.91
		50	0	15.75	16.14	16.40
		50	25	15.89	15.83	16.29
		50	50	15.96	15.96	16.15
		100	0	13.57	13.37	13.68
	16QAM	1	0	17.02	16.82	18.78
		1	50	17.35	16.75	17.63
		1	99	16.80	17.39	17.01
		50	0	14.81	14.75	14.92
		50	25	14.76	14.80	14.83
		50	50	14.94	14.84	14.96
		100	0	12.13	12.37	12.44

EIRP/Channel bandwidth(dBm):

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				55265CH	55990CH	56715CH
				3552.5MHz	3625.0MHz	3697.5MHz
48 / 5MHz	QPSK	1	0	15.62	15.64	15.67
		1	13	15.56	15.60	15.55
		1	24	15.53	15.56	15.61
		12	0	14.63	14.64	14.62
		12	6	14.60	14.61	14.57
		12	11	14.54	14.59	14.56
		25	0	14.58	14.56	14.54
	16QAM	1	0	14.83	14.77	14.80
		1	13	14.89	14.82	14.90
		1	24	14.85	14.80	14.84
		12	0	13.54	13.51	13.53
		12	6	13.61	13.59	13.64
		12	11	13.46	13.48	13.54
		25	0	13.45	13.60	13.65

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				55290CH	55990CH	56690CH
				3555.0MHz	3625.0MHz	3695.0MHz
48 / 10MHz	QPSK	1	0	15.40	15.43	15.45
		1	25	15.47	15.50	15.52
		1	49	15.57	15.60	15.62
		25	0	14.59	14.62	14.64
		25	13	14.60	14.63	14.65
		25	25	14.61	14.64	14.66
		50	0	14.55	14.58	14.60
	16QAM	1	0	14.75	14.78	14.80
		1	25	14.71	14.74	14.76
		1	49	14.79	14.82	14.84
		25	0	13.55	13.58	13.60
		25	13	13.56	13.59	13.61
		25	25	13.58	13.61	13.63
		50	0	13.59	13.62	13.64

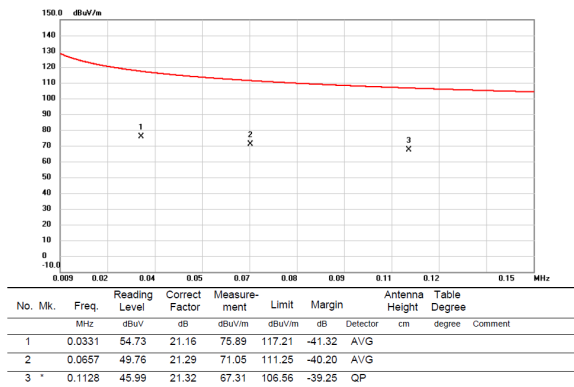
LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				55315CH	55990CH	56665CH
				3557.5MHz	3625.0MHz	3692.5MHz
48 / 15MHz	QPSK	1	0	15.36	15.39	15.41
		1	38	15.43	15.46	15.48
		1	74	15.53	15.56	15.58
		36	0	14.55	14.58	14.60
		36	18	14.56	14.59	14.61
		36	39	14.57	14.60	14.62
		75	0	14.51	14.54	14.56
	16QAM	1	0	14.71	14.74	14.76
		1	38	14.67	14.70	14.72
		1	74	14.75	14.78	14.80
		36	0	13.51	13.54	13.56
		36	18	13.52	13.55	13.57
		36	39	13.54	13.57	13.59
		75	0	13.55	13.58	13.60

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				55340CH	55990CH	56640CH
				3560.0MHz	3625.0MHz	3690.0MHz
48 / 20MHz	QPSK	1	0	15.31	15.34	15.36
		1	50	15.38	15.41	15.43
		1	99	15.48	15.51	15.53
		50	0	14.50	14.53	14.55
		50	25	14.51	14.54	14.56
		50	50	14.52	14.55	14.57
		100	0	14.48	14.61	14.59
	16QAM	1	0	14.66	14.69	14.71
		1	50	14.62	14.65	14.67
		1	99	14.70	14.73	14.75
		50	0	13.46	13.49	13.51
		50	25	13.47	13.50	13.52
		50	50	13.49	13.52	13.54
		100	0	13.50	13.53	13.55

APPENDIX B - RADIATED SPURIOUS EMISSIONS (9KHZ TO 30MHZ)

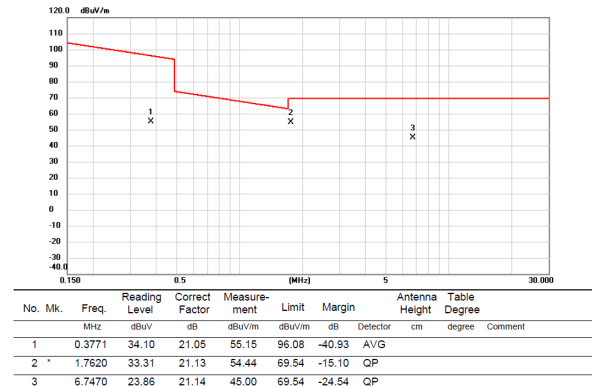
Test Mode : TX Mode

Ant 0°



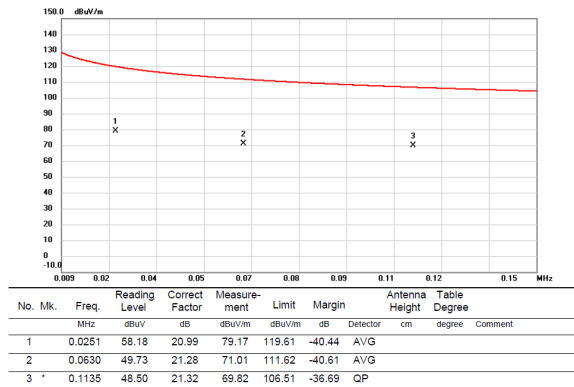
Test Mode : TX Mode

Ant 0°



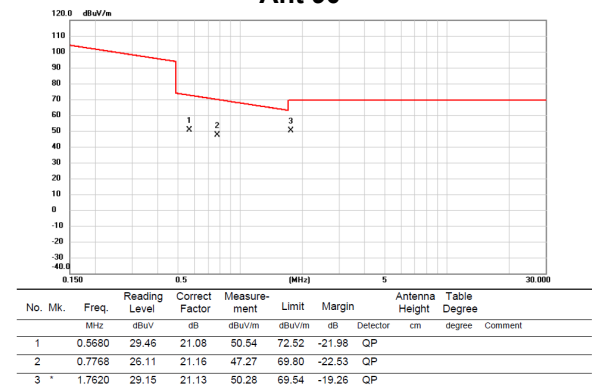
Test Mode : TX Mode

Ant 90°



Test Mode : TX Mode

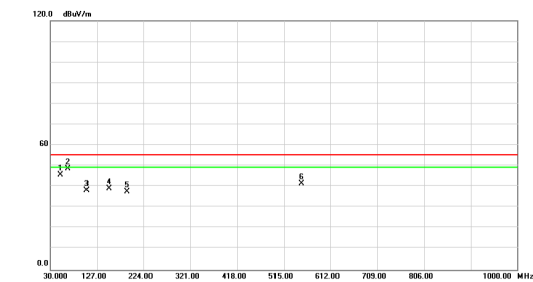
Ant 90°



APPENDIX C - RADIATED SPURIOUS EMISSIONS (30MHZ TO 1000MHZ)

Test Mode : LTE Band 48_TX CH55990_5MHz

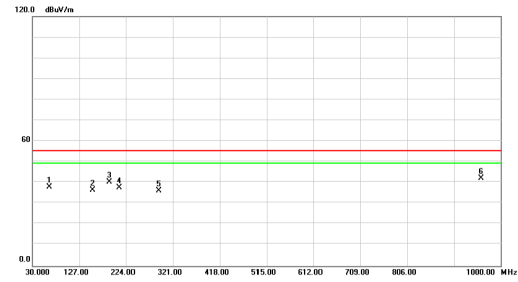
Vertical



No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	51.825	47.40	-1.55	45.85	55.30	-9.45	peak	
2 *	66.375	51.88	-3.00	48.88	55.30	-6.42	peak	
3	105.175	43.69	-5.37	38.32	55.30	-16.98	peak	
4	151.735	40.48	-1.26	39.22	55.30	-16.08	peak	
5	189.080	41.40	-3.60	37.80	55.30	-17.50	peak	
6	551.860	35.77	5.76	41.53	55.30	-13.77	peak	

Test Mode : LTE Band 48_TX CH55990_5MHz

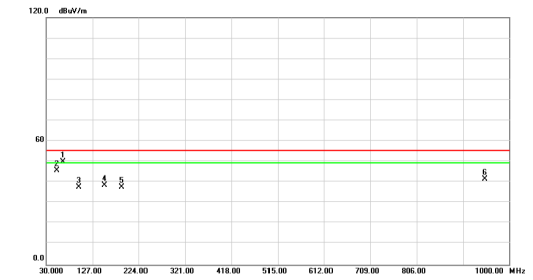
Horizontal



No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	65.405	40.92	-2.83	38.09	55.30	-17.21	peak	
2	154.645	37.79	-1.25	36.54	55.30	-18.76	peak	
3	190.050	44.19	-3.71	40.48	55.30	-14.82	peak	
4	210.905	42.11	-4.59	37.52	55.30	-17.78	peak	
5	291.900	36.95	-0.74	36.21	55.30	-19.09	peak	
6 *	959.260	30.13	12.08	42.21	55.30	-13.09	peak	

Test Mode : LTE Band 48_TX CH55990_20MHz

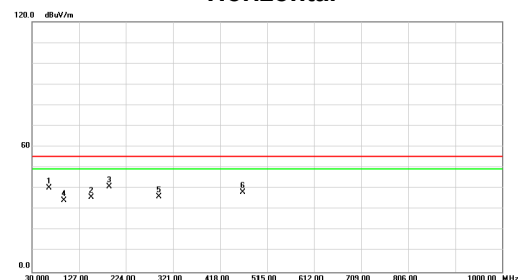
Vertical



No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	64.920	52.64	-2.75	49.89	55.30	-5.41	peak	
2	52.795	47.24	-1.58	45.66	55.30	-9.64	peak	
3	98.870	44.01	-6.27	37.74	55.30	-17.56	peak	
4	151.735	39.84	-1.26	38.58	55.30	-16.72	peak	
5	188.110	41.07	-3.49	37.58	55.30	-17.72	peak	
6	949.075	29.59	12.05	41.64	55.30	-13.66	peak	

Test Mode : LTE Band 48_TX CH55990_20MHz

Horizontal

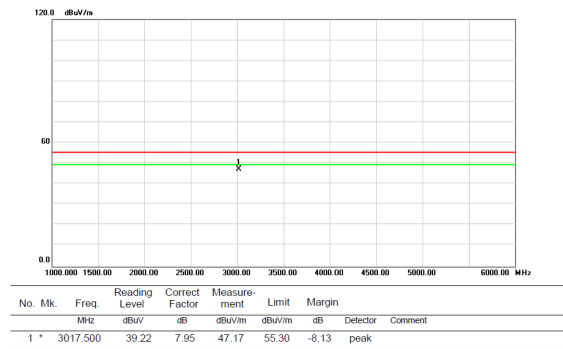


No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	65.890	43.42	-2.92	40.50	55.30	-14.80	peak	
2	152.705	37.15	-1.26	35.89	55.30	-19.41	peak	
3 *	190.050	44.75	-3.71	41.04	55.30	-14.26	peak	
4	96.445	40.81	-6.61	34.20	55.30	-21.10	peak	
5	291.415	36.85	-0.74	36.11	55.30	-19.19	peak	
6	465.530	34.14	4.05	38.19	55.30	-17.11	peak	

APPENDIX D - RADIATED SPURIOUS EMISSIONS (ABOVE 1000MHZ)

Test Mode : LTE Band 48_TX CH55990_5MHz

Vertical



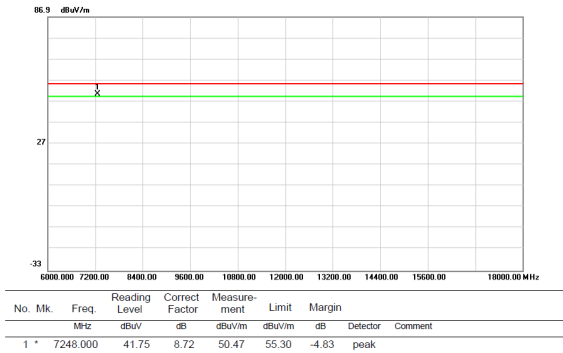
Test Mode : LTE Band 48_TX CH55990_5MHz

Horizontal



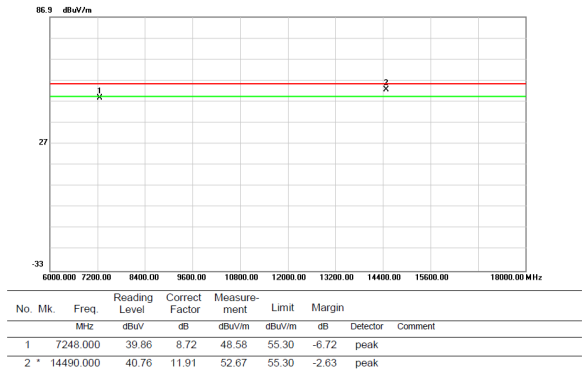
Test Mode : LTE Band 48_TX CH55990_5MHz

Vertical



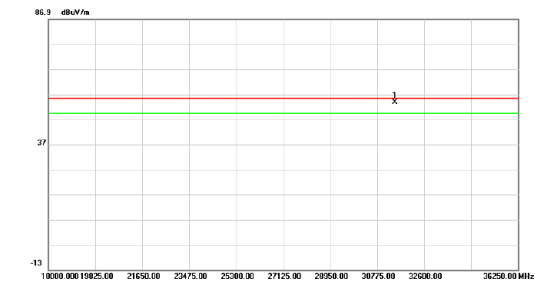
Test Mode : LTE Band 48_TX CH55990_5MHz

Horizontal



Test Mode : LTE Band 48_TX CH55990_5MHz

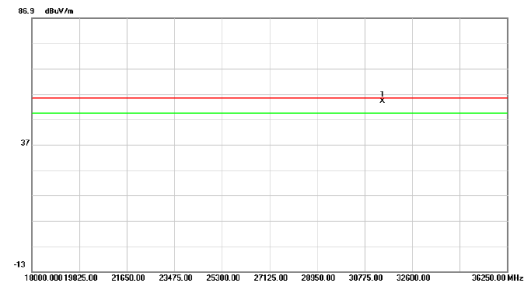
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	31459.375	48.61	5.20	53.81	55.30	-1.49	peak	

Test Mode : LTE Band 48_TX CH55990_5MHz

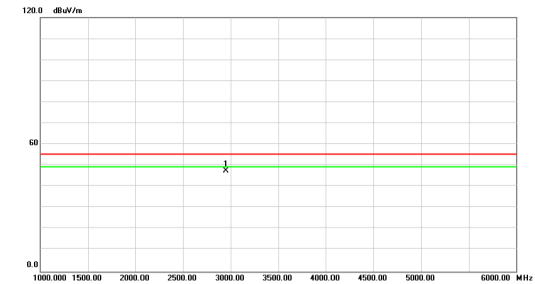
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	31468.500	48.87	5.20	54.07	55.30	-1.23	peak	

Test Mode : LTE Band 48_TX CH55990_20MHz

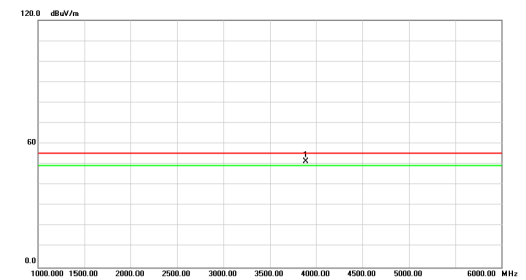
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2947.500	39.86	7.76	47.62	55.30	-7.68	peak	

Test Mode : LTE Band 48_TX CH55990_20MHz

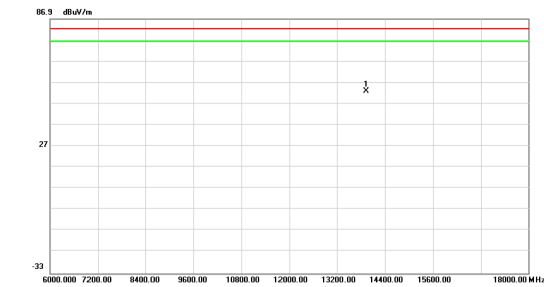
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	3890.000	41.17	10.16	51.33	55.30	-3.97	peak	

Test Mode : LTE Band 48_TX CH55990_20MHz

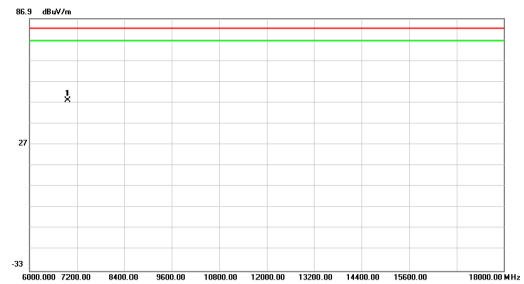
Vertical



No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	13926.000	41.04	11.77	52.81	82.30	-29.49	peak	

Test Mode : LTE Band 48_TX CH55990_20MHz

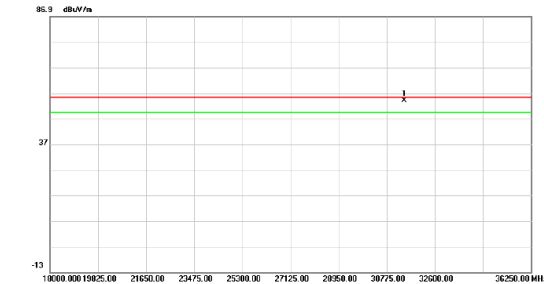
Horizontal



No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	6960.000	39.58	8.37	47.95	82.30	-34.35	peak	

Test Mode : LTE Band 48_TX CH55990_20MHz

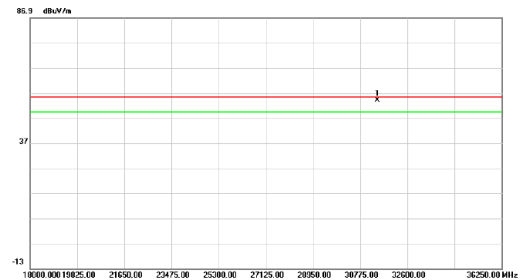
Vertical



No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	31432.000	48.74	5.20	53.94	55.30	-1.36	peak	

Test Mode : LTE Band 48_TX CH55990_20MHz

Horizontal



No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	31441.125	48.67	5.20	54.07	55.30	-1.23	peak	

End of Test Report