Certificate #7130.01

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
Address	:	Room 1301, No. 37, Jinlong, Nansha Street, Xiangjiang Financial Business Center, Nansha District, Guangzhou,China
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 ~ Nov. 27, 2024
Issued Date	:	Nov. 29, 2024
Report Version	:	R00
Test Sample	:	Engineering Sample No.: DG20241030390 and DG20241030389 for radiated, DG20241030387 for power.
Standard(s)	:	47 CFR FCC Part 27 Subpart L, 47 CFR FCC Part 27 Subpart M 47 CFR FCC Part 27 Subpart D, 47 CFR FCC 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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Edward Li

Approved by : Treey Chen

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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.

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REPORT ISSUED HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-3-2410C237	R00	Original Report.	Nov. 29, 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

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC Part 27 Subpart L, M, N, H, F & Part 2			
Standard(s) Section	**Test Item**	**Judgment**	**Remark**
2.1046	Output Power	PASS	------
27.50(d)(4) 27.50(h)(2)	Equivalent Isotropic Radiated Power	PASS	------
2.1049	Occupied Bandwidth	PASS	------
2.1051 27.53(h) 27.53(m)(4)&(m)(6)	Conducted Spurious Emissions	PASS	------
2.1053 27.53(h) 27.53(m)(4)&(m)(6)	Radiated Spurious Emissions	PASS	------
2.1051 27.53(h) 27.53(m)(4)&(m)(6)	Band Edge Measurements	PASS	------
27.50(d)(5)	Peak To Average Ratio	PASS	------
2.1055 27.54	Frequency Stability	PASS	------

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

2.1 TEST FACILITY

For radiated spurious emissions 9 kHz to 30 MHz(All bands) & Above 18GHz(All bands) and 1G to 18GHz(B40) 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*,(dB)
DG-CB01	CISPR	9kHz ~ 30MHz	2.36

Test Site	Method	Measurement Frequency Range	Ant. H / V	*U*,(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*,(dB)
SSL-CB01 (3m)	CISPR	1GHz ~ 6GHz	4.56
		6GHz ~ 18GHz	5.14

Test Site	Method	Measurement Frequency Range	*U*,(dB)
DG-CB03 (3m)	CISPR	1GHz ~ 6GHz	4.08
		6GHz ~ 18GHz	4.62

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

B. Other Measurement:

Parameter	Uncertainty
Spectrum Bandwidth	±1.74 dB
Maximum Output Power	±0.87 dB
Frequency Stability	±53.10Hz
Conducted Spurious Emissions	2.71 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
Occupied Bandwidth	23.3-24.1°C	36-47%	DC 24V	Gavin Ge	Nov. 02, 2024 ~ Nov. 26, 2024
Conducted Spurious Emissions	23.3-24.1°C	36-47%	DC 24V	Gavin Ge	Nov. 02, 2024 ~ Nov. 26, 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 Nov. 23, 2024
Radiated Spurious Emissions (Above 1000 MHz)	20°C	50%	AC 120V/60Hz	Young Zou	Nov. 22, 2024 Nov. 23, 2024
	21°C	53%	AC 120V/60Hz	Jensen Zhou	Nov. 25, 2024
	24°C	53%	AC 120V/60Hz	Jensen Zhou	Nov. 27, 2024
Band Edge	23.3-24.1°C	36-47%	DC 24V	Gavin Ge	Nov. 02, 2024 ~ Nov. 26, 2024
Peak To Average Ratio	23.3-24.1°C	36-47%	DC 24V	Gavin Ge	Nov. 02, 2024 ~ Nov. 26, 2024
Frequency Stability	Normal & Extreme	36-47%	Normal & Extreme	Gavin Ge	Nov. 02, 2024 ~ Nov. 26, 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 ⎓ 1.0A +4.5pins, -7.8pins			
IMEI No.	Radiated	868553060003943		
	Conducted	868553060003646, 868553060003331		
Modulation Type	WCDMA/HSDPA/HSUPA		UL: QPSK,16QAM DL: QPSK,16QAM, 64QAM	
	LTE		UL: QPSK,16QAM DL: QPSK,16QAM, 64QAM	
Max. EIRP	WCDMA Band IV	QPSK	23.31	dBm
	HSDPA Band IV	QPSK	22.32	dBm
	HSUPA Band IV	QPSK	22.25	dBm
	LTE	Channel Bandwidth (MHz)	QPSK (dBm)	16QAM (dBm)
	Band 4	1.4	25.43	24.55
		3	25.51	24.63
		5	25.49	24.79
		10	25.42	24.56
		15	25.46	24.53
		20	25.45	24.72
	Band 7	5	28.18	27.12
		10	28.22	27.26
		15	28.33	27.32
		20	28.21	27.39
	Band 40 (2305-2315MHz)	5	23.39	22.86
		10	23.34	22.66
	Band 40 (2350-2360MHz)	5	23.39	22.73
		10	23.20	22.54
	Band 41	5	27.55	26.69
		10	27.58	26.82
		15	27.57	26.82
		20	27.57	26.58
	Band 42	5	26.01	25.23
		10	25.94	25.23
		15	26.00	25.34
		20	26.03	25.42

	LTE	Channel Bandwidth (MHz)	QPSK (dBm)	16QAM (dBm)
Max. EIRP	CA_41C	5+20	28.68	27.69
		20+5	28.12	27.23
		10+15	28.56	27.47
		15+10	28.82	28.18
		10+20	28.6	27.47
		20+10	28.51	27.49
		15+15	28.14	27.3
		15+20	28.45	27.54
		20+15	28.3	27.42
		20+20	28.37	27.61
	CA_42C	5+20	27.19	26.34
		20+5	26.69	25.89
		10+20	23.95	22.92
		20+10	26.91	26.08
		15+20	27.12	26.26
		20+15	24	22.93
		20+20	23.94	22.88

Note:

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

2. Channel List:

WCDMA Band IV(UL: 1712.4-1752.6MHz, DL: 2112.4-2152.6MHz)				
Test Frequency ID	UARFCN	Frequency of Uplink (MHz)	UARFCN	Frequency of Downlink (MHz)
Low Range	1312	1712.4	1537	2112.4
Mid Range	1413	1732.6	1638	2132.6
High Range	1513	1752.6	1738	2152.6

LTE Band 4(UL: 1710-1755MHz, DL: 2110-2155MHz)					
Test Frequency ID	Bandwidth (MHz)	N_{UL}	Frequency of Uplink (MHz)	N_{DL}	Frequency of Downlink (MHz)
Low Range	1.4	19957	1710.7	1957	2110.7
	3	19965	1711.5	1965	2111.5
	5	19975	1712.5	1975	2112.5
	10	20000	1715	2000	2115
	15	20025	1717.5	2025	2117.5
	20	20050	1720	2050	2120
Mid Range	1.4/3/5/10/15/20	20175	1732.5	2175	2132.5
High Range	1.4	20393	1754.3	2393	2154.3
	3	20385	1753.5	2385	2153.5
	5	20375	1752.5	2375	2152.5
	10	20350	1750	2350	2150
	15	20325	1747.5	2325	2147.5
	20	20300	1740	2300	2145

LTE Band 7(UL: 2500-2570MHz, DL: 2620-2690MHz)					
Test Frequency ID	Bandwidth (MHz)	N_{UL}	Frequency of Uplink (MHz)	N_{DL}	Frequency of Downlink (MHz)
Low Range	5	20775	2502.5	2775	2622.5
	10	20800	2505	2800	2625
	15	20825	2507.5	2825	2627.5
	20	20850	2510	2850	2630
Mid Range	5/10/15/20	21100	2535	3100	2655
High Range	5	21425	2567.5	3425	2687.5
	10	21400	2565	3400	2685
	15	21375	2562.5	3375	2682.5
	20	21350	2560	3350	2680

LTE Band 40(UL/DL: 2305-2315MHz)			
Test Frequency ID	Bandwidth (MHz)	EARFCN	Frequency (UL and DL) (MHz)
Low Range	5	38725	2307.5
Mid Range	5/10	38750	2310
High Range	5	38775	2312.5

LTE Band 40(UL/DL: 2350-2360MHz)			
Test Frequency ID	Bandwidth (MHz)	EARFCN	Frequency (UL and DL) (MHz)
Low Range	5	39175	2352.5
Mid Range	5/10	39200	2355
High Range	5	39225	2357.5

LTE Band 41(UL/DL: 2496-2690MHz)			
Test Frequency ID	Bandwidth (MHz)	EARFCN	Frequency (UL and DL) (MHz)
Low Range	5	39675	2498.5
	10	39700	2501.0
	15	39725	2503.5
	20	39750	2506.0
Mid Range	5/10/15/20	40620	2593
High Range	5	41565	2687.5
	10	41540	2685.0
	15	41515	2682.5
	20	41490	2680.0

Test Mode	Bandwidth	TX / RX	RF Channel		
			Low (L)	Middle (M)	High (H)
LTE Band 42 (3450-3550)	5MHz	TX	Channel 42115	Channel 42590	Channel 43065
			3452.5 MHz	3500 MHz	3547.5 MHz
		RX	Channel 42115	Channel 42590	Channel 43065
			3452.5 MHz	3500 MHz	3547.5 MHz
	10MHz	TX	Channel 42140	Channel 42590	Channel 43040
			3455 MHz	3500 MHz	3545 MHz
		RX	Channel 42140	Channel 42590	Channel 43040
			3455 MHz	3500 MHz	3545 MHz
	15MHz	TX	Channel 42165	Channel 42590	Channel 43015
			3457.5 MHz	3500 MHz	3542.5 MHz
		RX	Channel 42165	Channel 42590	Channel 43015
			3457.5 MHz	3500 MHz	3542.5 MHz
	20MHz	TX	Channel 42190	Channel 42590	Channel 42990
			3460 MHz	3500 MHz	3540 MHz
		RX	Channel 42190	Channel 42590	Channel 42990
			3460 MHz	3500 MHz	3540 MHz

LTE CA_41C

Range	CC-Combo / N_{RB_agg} [RB]	CC1 Note1			CC2 Note1		
		BW [RB]	$N_{UL/DL}$	$f_{UL/DL}$ [MHz]	BW [RB]	$N_{UL/DL}$	$f_{UL/DL}$ [MHz]
Low	25+100	25	39683	2499.3	100	39800	2511
		100	39750	2506	25	39867	2517.7
	50+75	50	39703	2501.3	75	39823	2513.3
		75	39725	2503.5	50	39845	2515.5
	50+100	50	39705	2501.5	100	39849	2515.9
		100	39750	2506	50	39894	2520.4
	75+75	75	39725	2503.5	75	39875	2518.5
	75+100	75	39728	2503.8	100	39899	2520.9
		100	39750	2506	75	39921	2523.1
	100+100	100	39750	2506	100	39948	2525.8
Mid	25+100	25	40528	2583.8	100	40645	2595.5
		100	40595	2590.5	25	40712	2602.2
	50+75	50	40549	2585.9	75	40669	2597.9
		75	40571	2588.1	50	40691	2600.1
	50+100	50	40526	2583.6	100	40670	2598.0
		100	40571	2588.1	50	40715	2602.5
	75+75	75	40545	2585.5	75	40695	2600.5
	75+100	75	40523	2583.3	100	40694	2600.4
		100	40546	2585.6	75	40717	2602.7
	100+100	100	40521	2583.1	100	40719	2602.9
High	25+100	25	41373	2668.3	100	41490	2680
		100	41440	2675	25	41557	2686.7
	50+75	50	41395	2670.5	75	41515	2682.5
		75	41417	2672.7	50	41537	2684.7
	50+100	50	41346	2665.6	100	41490	2680
		100	41391	2670.1	50	41535	2684.5
	75+75	75	41365	2667.5	75	41515	2682.5
	75+100	75	41319	2662.9	100	41490	2680
		100	41341	2665.1	75	41512	2682.2
	100+100	100	41292	2660.2	100	41490	2680
Note 1:	Carriers in increasing frequency order.						

LTE CA_42C(3450-3550):

Range	CC-Combo / NRB_agg [RB]	CC1 Note1			CC2 Note1		
		BW [RB]	$N_{UL/DL}$	$f_{UL/DL}$ [MHz]	BW [RB]	$N_{UL/DL}$	$f_{UL/DL}$ [MHz]
Low	25+100	25	42123	3453.3	100	42240	3465
		100	42190	3460	25	42307	3471.7
	50+100	50	42145	3455.5	100	42289	3469.9
		100	42190	3460	50	42334	3474.4
	75+100	75	42168	3457.8	100	42339	3474.9
		100	42190	3460	75	42361	3477.1
	100+100	100	42190	3460	100	42388	3479.8
Mid	25+100	25	42498	3490.8	100	42615	3502.5
		100	42565	3497.5	25	42682	3509.2
	50+100	50	42496	3490.6	100	42640	3505
		100	42541	3495.1	50	42685	3509.5
	75+100	75	42493	3490.3	100	42664	3507.4
		100	42516	3492.6	75	42687	3509.7
	100+100	100	42491	3490.1	100	42689	3509.9
High	25+100	25	42873	3528.3	100	42990	3540
		100	42940	3535	25	43057	3546.7
	50+100	50	42846	3525.6	100	42990	3540
		100	42891	3530.1	50	43035	3544.5
	75+100	75	42819	3522.9	100	42990	3540
		100	42841	3525.1	75	43012	3542.2
	100+100	100	42792	3520.2	100	42990	3540

Note 1: Carriers in increasing frequency order.

3. Table for Filed Antenna:

Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
Shenzhen Be-Comfortable Technology Co. Ltd	N19-0728-R0A	PCB	N/A	4.26	WCDMA Band IV
				4.26	LTE Band 4
				6.23	LTE Band 7
				7.31	LTE Band 40 (2305-2315MHz)
				7.31	LTE Band 40 (2350-2360MHz)
				6.23	LTE Band 41
				4.88	LTE Band 42

Note: The antenna gain is provided by the manufacturer.

3.2 DESCRIPTION OF TEST MODES

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

WCDMA BAND IV MODE			
Test Item	Available Channel	Tested Channel	Mode
Output Power & EIRP	1312 to 1513	1312, 1413, 1513	WCDMA, HSDPA, HSUPA
Occupied Bandwidth	1312 to 1513	1312, 1413, 1513	WCDMA
Conducted Spurious Emissions	1312 to 1513	1413	WCDMA
Radiated Spurious Emissions	1312 to 1513	1413	WCDMA
Band Edge	1312 to 1513	1312, 1513	WCDMA
Peak To Average Ratio	1312 to 1513	1312, 1413, 1513	WCDMA
Frequency Stability	1312 to 1513	1312, 1513	WCDMA

LTE BAND 4 MODE					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
Output Power & EIRP	19957 to 20393	19957, 20175, 20393	1.4MHz	QPSK, 16QAM	1RB/3RB/6RB
	19965 to 20385	19965, 20175, 20385	3MHz	QPSK, 16QAM	1RB/8RB/15RB
	19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	1RB/12RB/25RB
	20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM	1RB/25RB/50RB
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM	1RB/36RB/75RB
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM	1RB/50RB/100RB
Occupied Bandwidth	19957 to 20393	19957, 20175, 20393	1.4MHz	QPSK, 16QAM	6RB
	19965 to 20385	19965, 20175, 20385	3MHz	QPSK, 16QAM	15RB
	19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	25RB
	20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM	50RB
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM	75RB
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM	100RB
Conducted Spurious Emissions	19957 to 20393	20175	1.4MHz	QPSK	1RB
	19975 to 20375	20175	5MHz	QPSK	1RB
	20050 to 20300	20175	20MHz	QPSK	1RB
Radiated Spurious Emissions	19957 to 20393	20175	1.4MHz	QPSK	1RB
	19975 to 20375	20175	5MHz	QPSK	1RB
	20050 to 20300	20175	20MHz	QPSK	1RB
Band Edge	19957 to 20393	19957, 20393	1.4MHz	QPSK	1RB/6RB
	19965 to 20385	19965, 20385	3MHz	QPSK	1RB/15RB
	19975 to 20375	19975, 20375	5MHz	QPSK	1RB/25RB
	20000 to 20350	20000, 20350	10MHz	QPSK	1RB/50RB
	20025 to 20325	20025, 20325	15MHz	QPSK	1RB/75RB
	20050 to 20300	20050, 20300	20MHz	QPSK	1RB/100RB
Peak To Average Ratio	19957 to 20393	19957, 20175, 20393	1.4MHz	QPSK, 16QAM	1RB
	19965 to 20385	19965, 20175, 20385	3MHz	QPSK, 16QAM	1RB
	19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	1RB
	20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM	1RB
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM	1RB
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM	1RB
Frequency Stability	20050 to 20300	20050, 20300	20MHz	QPSK	100RB

LTE BAND 7 MODE					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
Output Power & EIRP	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM	1RB/12RB/25RB
	20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM	1RB/25RB/50RB
	20825 to 21375	20825, 21100, 21375	15MHz	QPSK, 16QAM	1RB/36RB/75RB
	20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM	1RB/50RB/100RB
Occupied Bandwidth	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM	25RB
	20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM	50RB
	20825 to 21375	20825, 21100, 21375	15MHz	QPSK, 16QAM	75RB
	20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM	100RB
Conducted Spurious Emissions	20775 to 21425	21100	5MHz	QPSK	1RB
	20850 to 21350	21100	20MHz	QPSK	1RB
Radiated Spurious Emissions	20775 to 21425	21100	5MHz	QPSK	1RB
	20850 to 21350	21100	20MHz	QPSK	1RB
Band Edge	20775 to 21425	20775, 21425	5MHz	QPSK	1RB/25RB
	20800 to 21400	20800, 21400	10MHz	QPSK	1RB/50RB
	20825 to 21375	20825, 21375	15MHz	QPSK	1RB/75RB
	20850 to 21350	20850, 21350	20MHz	QPSK	1RB/100RB
Peak To Average Ratio	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM	1RB
	20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM	1RB
	20825 to 21375	20825, 21100, 21375	15MHz	QPSK, 16QAM	1RB
	20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM	1RB
Frequency Stability	20850 to 21350	20850, 21350	20MHz	QPSK	100RB

LTE BAND 40 MODE (2305-2315MHz)					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
Output Power & EIRP	38725 to 38775	38725, 38750, 38775	5MHz	QPSK, 16QAM	1RB/12RB/25RB
	38750	38750	10MHz	QPSK, 16QAM	1RB/25RB/50RB
Occupied Bandwidth	38725 to 38775	38725, 38750, 38775	5MHz	QPSK, 16QAM	25RB
	38750	38750	10MHz	QPSK, 16QAM	50RB
Band Edge	38725 to 38775	38725, 38775	5MHz	QPSK	1RB/25RB
	38750	38750	10MHz	QPSK	1RB/50RB
Conducted Emission	38725 to 38775	38750	5MHz	QPSK	1RB
	38750	38750	10MHz	QPSK	1RB
Radiated Emission	38725 to 38775	38750	5MHz	QPSK	1RB
	38750	38750	10MHz	QPSK	1RB
Peak to Average Ratio	38725 to 38775	38725, 38750, 38775	5MHz	QPSK, 16QAM	1RB
	38750	38750	10MHz	QPSK, 16QAM	1RB
Frequency Stability	38750	38750	10MHz	QPSK	50RB

LTE BAND 40 MODE (2350-2360MHz)					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
Output Power & EIRP	39175 to 39225	39175, 39200, 39225	5MHz	QPSK, 16QAM	1RB/12RB/25RB
	39200	39200	10MHz	QPSK, 16QAM	1RB/25RB/50RB
Occupied Bandwidth	39175 to 39225	39175, 39200, 39225	5MHz	QPSK, 16QAM	25RB
	39200	39200	10MHz	QPSK, 16QAM	50RB
Band Edge	39175 to 39225	39175, 39225	5MHz	QPSK	1RB/25RB
	39200	39200	10MHz	QPSK	1RB/50RB
Conducted Emission	39175 to 39225	39200	5MHz	QPSK	1RB
	39200	39200	10MHz	QPSK	1RB
Radiated Emission	39175 to 39225	39200	5MHz	QPSK	1RB
	39200	39200	10MHz	QPSK	1RB
Peak to Average Ratio	39175 to 39225	39175, 39200, 39225	5MHz	QPSK, 16QAM	1RB
	39200	38750	10MHz	QPSK, 16QAM	1RB
Frequency Stability	39200	39200	10MHz	QPSK	50RB

LTE BAND 41 MODE					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
Output Power & EIRP	39675 to 41565	39675, 40620, 41565	5MHz	QPSK, 16QAM	1RB/12RB/25RB
	39700 to 41540	39700, 40620, 41540	10MHz	QPSK, 16QAM	1RB/25RB/50RB
	39725 to 41515	39725, 40620, 41515	15MHz	QPSK, 16QAM	1RB/36RB/75RB
	39750 to 41490	39750, 40620, 41490	20MHz	QPSK, 16QAM	1RB/50RB/100RB
Occupied Bandwidth	39675 to 41565	39675, 40620, 41565	5MHz	QPSK, 16QAM	25RB
	39700 to 41540	39700, 40620, 41540	10MHz	QPSK, 16QAM	50RB
	39725 to 41515	39725, 40620, 41515	15MHz	QPSK, 16QAM	75RB
	39750 to 41490	39750, 40620, 41490	20MHz	QPSK, 16QAM	100RB
Conducted Spurious Emissions	39675 to 41565	40620	5MHz	QPSK	1RB
	39750 to 41490	40620	20MHz	QPSK	1RB
Radiated Spurious Emissions	39675 to 41565	40620	5MHz	QPSK	1RB
	39750 to 41490	40620	20MHz	QPSK	1RB
Band Edge	39675 to 41565	39675, 41565	5MHz	QPSK	1RB/25RB
	39700 to 41540	39700, 41540	10MHz	QPSK	1RB/50RB
	39725 to 41515	39725, 41515	15MHz	QPSK	1RB/75RB
	39750 to 41490	39750, 41490	20MHz	QPSK	1RB/100RB
Peak to Average Ratio	39675 to 41565	39675, 40620, 41565	5MHz	QPSK, 16QAM	1RB
	39700 to 41540	39700, 40620, 41540	10MHz	QPSK, 16QAM	1RB
	39725 to 41515	39725, 40620, 41515	15MHz	QPSK, 16QAM	1RB
	39750 to 41490	39750, 40620, 41490	20MHz	QPSK, 16QAM	1RB
Frequency Stability	39750 to 41490	39750, 41490	20MHz	QPSK	100RB

LTE BAND 42 MODE					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
Output Power & EIRP	42115 to 43065	42115, 42590, 43065	5MHz	QPSK, 16QAM	1RB/12RB/25RB
	42140 to 43040	42140, 42590, 43040	10MHz	QPSK, 16QAM	1RB/25RB/50RB
	42165 to 43015	42165, 42590, 43015	15MHz	QPSK, 16QAM	1RB/36RB/75RB
	42190 to 42990	42190, 42590, 42990	20MHz	QPSK, 16QAM	1RB/50RB/100RB
Occupied Bandwidth	42115 to 43065	42115, 42590, 43065	5MHz	QPSK, 16QAM	25RB
	42140 to 43040	42140, 42590, 43040	10MHz	QPSK, 16QAM	50RB
	42165 to 43015	42165, 42590, 43015	15MHz	QPSK, 16QAM	75RB
	42190 to 42990	42190, 42590, 42990	20MHz	QPSK, 16QAM	100RB
Conducted Spurious Emissions	42115 to 43065	42590	5MHz	QPSK	1RB
	42190 to 42990	42590	20MHz	QPSK	1RB
Radiated Spurious Emissions	42115 to 43065	42590	5MHz	QPSK	1RB
	42190 to 42990	42590	20MHz	QPSK	1RB
Band Edge	42115 to 43065	42115, 43065	5MHz	QPSK	1RB/25RB
	42140 to 43040	42140, 43040	10MHz	QPSK	1RB/50RB
	42165 to 43015	42165, 43015	15MHz	QPSK	1RB/75RB
	42190 to 42990	42190, 42990	20MHz	QPSK	1RB/100RB
Peak to Average Ratio	42115 to 43065	42115, 42590, 43065	5MHz	QPSK, 16QAM	1RB
	42140 to 43040	42140, 42590, 43040	10MHz	QPSK, 16QAM	1RB
	42165 to 43015	42165, 42590, 43015	15MHz	QPSK, 16QAM	1RB
	42190 to 42990	42190, 42590, 42990	20MHz	QPSK, 16QAM	1RB
Frequency Stability	42190 to 42990	42190, 42990	20MHz	QPSK	100RB

LTE CA_41C MODE				
Test Item	Channel Range	Channel Bandwidth	Modulation	Mode
Output Power &EIRP	Low, Mid, High	5MHz+20MHz	QPSK, 16QAM	PCC+SCC: 1RB#High+1RB#Low 1RB#Low+1RB# High Full RB+Full RB
		20MHz+5MHz		
		10MHz+15MHz		
		15MHz+10MHz		
		10MHz+20MHz		
		20MHz+10MHz		
		15MHz+15MHz		
		15MHz+20MHz		
		20MHz+15MHz		
		20MHz+20MHz		
Occupied Bandwidth	Low, Mid, High	5MHz+20MHz	QPSK, 16QAM	PCC+SCC: Full RB+Full RB
		20MHz+5MHz		
		10MHz+15MHz		
		15MHz+10MHz		
		10MHz+20MHz		
		20MHz+10MHz		
		15MHz+15MHz		
		15MHz+20MHz		
		20MHz+15MHz		
		20MHz+20MHz		
Conducted Spurious Emissions	Mid	10MHz+15MHz	QPSK	PCC+SCC: 1RB#High+1RB#Low
		10MHz+20MHz		
		15MHz+20MHz		
		20MHz+20MHz		
Radiated Spurious Emissions	Mid	10MHz+15MHz	QPSK	PCC+SCC: 1RB#High+1RB#Low
		10MHz+20MHz		
		15MHz+20MHz		
		20MHz+20MHz		
Band Edge	Low, High	5MHz+20MHz	QPSK	PCC+SCC: 1RB#High+1RB#Low 1RB#Low+1RB# High Full RB+Full RB
		20MHz+5MHz		
		10MHz+15MHz		
		15MHz+10MHz		
		10MHz+20MHz		
		20MHz+10MHz		
		15MHz+15MHz		
		15MHz+20MHz		
		20MHz+15MHz		
		20MHz+20MHz		

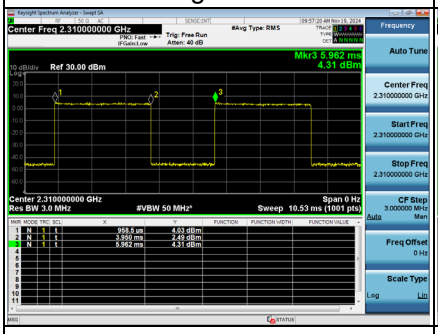
LTE CA_42C MODE				
Test Item	Channel Range	Channel Bandwidth	Modulation	Mode
Output Power &EIRP	Low, Mid, High	5MHz+20MHz	QPSK, 16QAM	PCC+SCC: 1RB#High+1RB#Low 1RB#Low+1RB# High Full RB+Full RB
		20MHz+5MHz		
		10MHz+20MHz		
		20MHz+10MHz		
		15MHz+20MHz		
		20MHz+15MHz		
		20MHz+20MHz		
Occupied Bandwidth	Low, Mid, High	5MHz+20MHz	QPSK, 16QAM	PCC+SCC: Full RB+Full RB
		20MHz+5MHz		
		10MHz+20MHz		
		20MHz+10MHz		
		15MHz+20MHz		
		20MHz+15MHz		
		20MHz+20MHz		
Conducted Spurious Emissions	Mid	20MHz+5MHz	QPSK	PCC+SCC: 1RB#High+1RB#Low
		20MHz+20MHz		
Radiated Spurious Emissions	Mid	20MHz+5MHz	QPSK	PCC+SCC: 1RB#High+1RB#Low
		20MHz+20MHz		
Band Edge	Low, High	5MHz+20MHz	QPSK	PCC+SCC: 1RB#High+1RB#Low 1RB#Low+1RB# High Full RB+Full RB
		20MHz+5MHz		
		10MHz+20MHz		
		20MHz+10MHz		
		15MHz+20MHz		
		20MHz+15MHz		
		20MHz+20MHz		

3.3 DUTY CYCLE

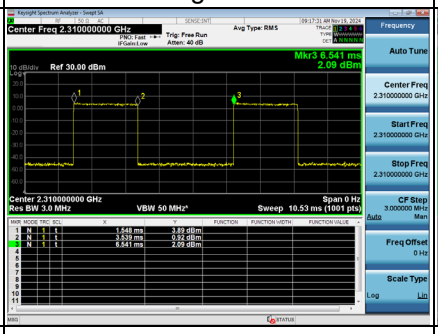
For LTE band 40 (2305-2315MHz):

Operation Band	Modulation	Bandwidth	Uplink-Downlink Configuration	Ton (ms)	Ton+off (ms)	Duty Cycle (%)
LTE Band 40	QPSK	5M	0	2.9928	5.0015	59.84
			1	1.9884	5.0014	39.76
			2	0.9992	5.0014	19.98
			3	2.9928	10.0181	29.87
			4	2.0037	10.0182	20.00
			5	0.9891	10.0181	9.87
			6	5.0065	10.0152	49.99

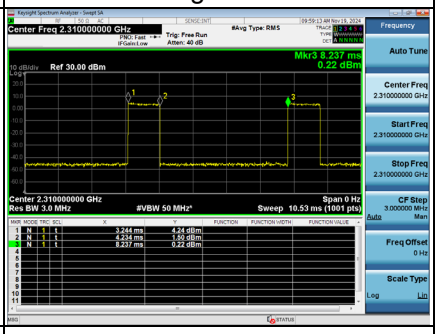
Configuration 0



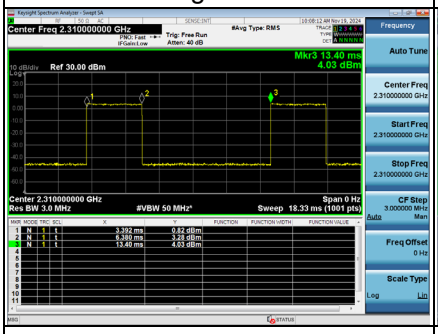
Configuration 1



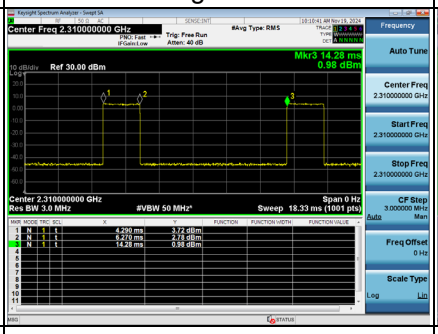
Configuration 2



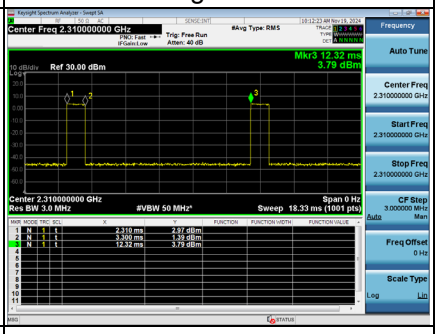
Configuration 3



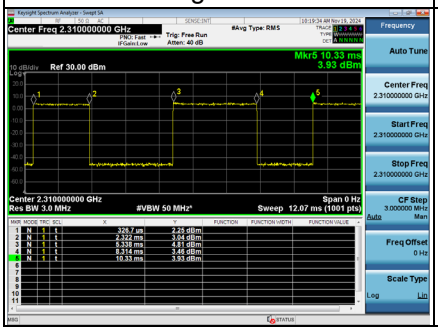
Configuration 4



Configuration 5



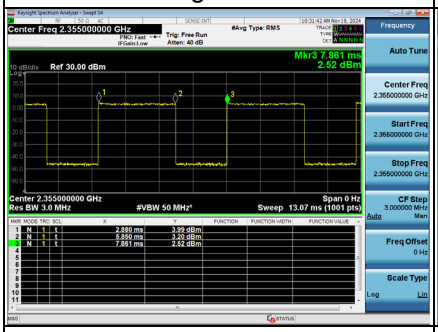
Configuration 6



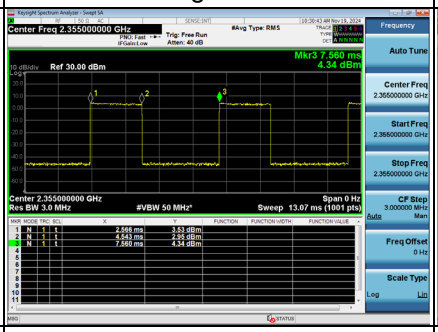
For LTE band 40 (2350-2355MHz):

Operation Band	Modulation	Bandwidth	Uplink-Downlink Configuration	Ton (ms)	Ton+off (ms)	Duty Cycle (%)
LTE Band 40	5M	QPSK	0	2.97	4.981	59.63
			1	1.977	4.994	39.59
			2	0.971	4.994	19.44
			3	2.983	9.996	29.84
			4	1.983	9.996	19.84
			5	0.963	9.996	9.63
			6	4.9603	9.9863	49.67

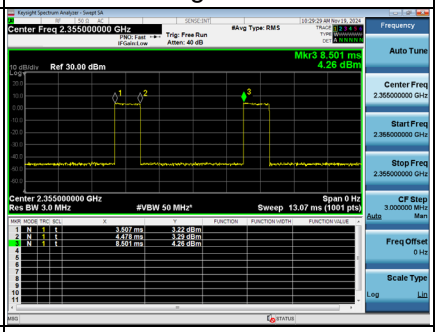
Configuration 0



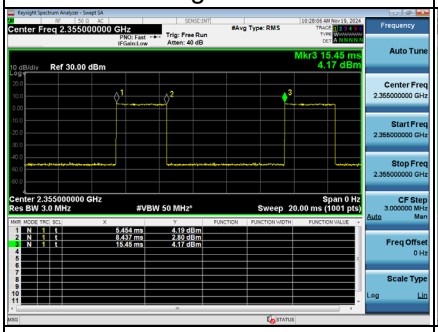
Configuration 1



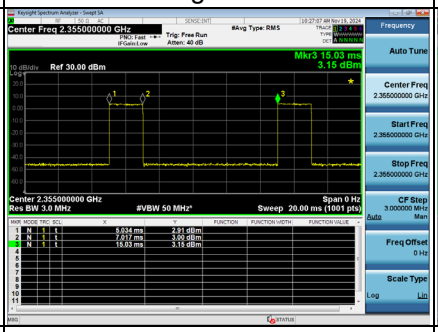
Configuration 2



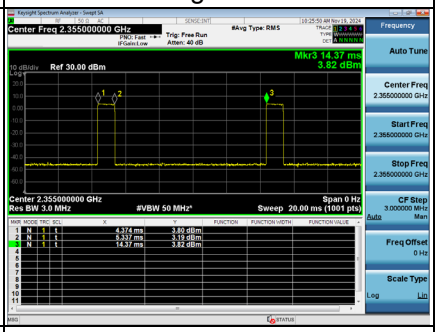
Configuration 3



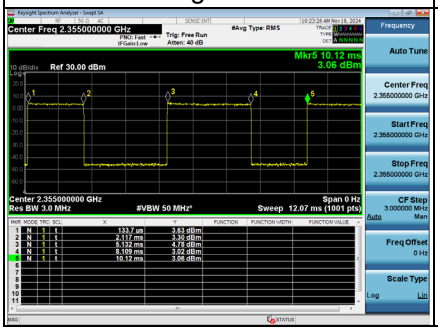
Configuration 4



Configuration 5

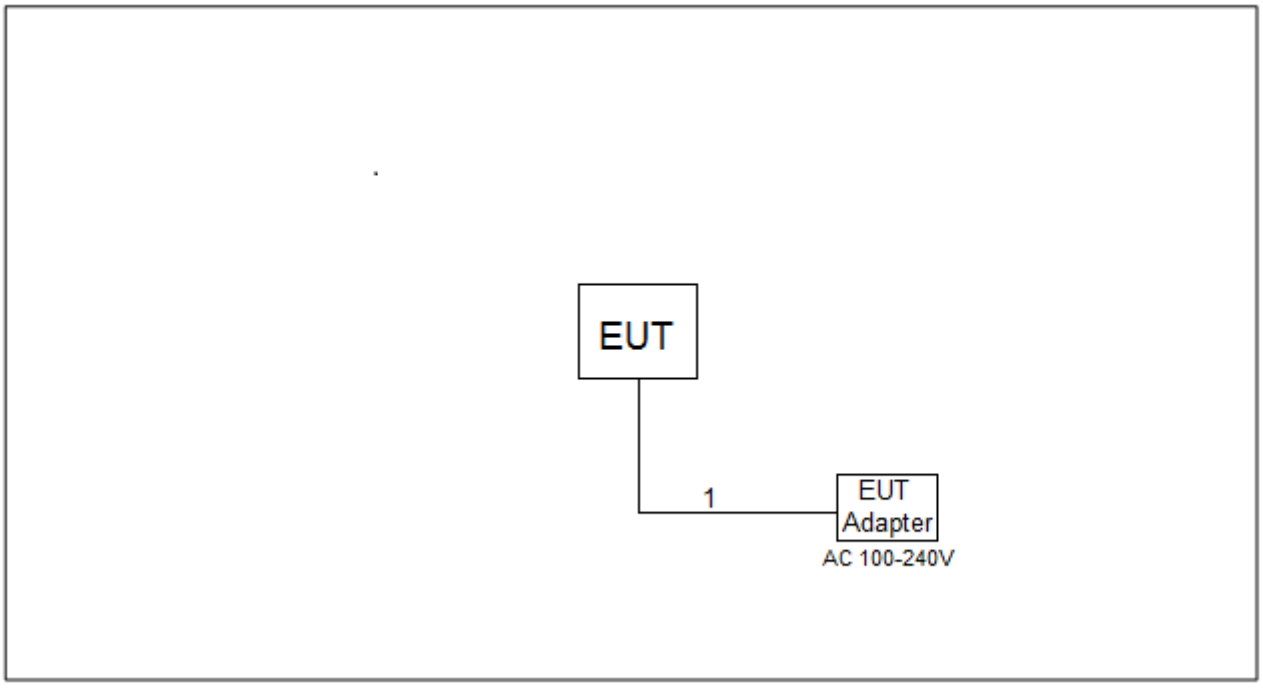


Configuration 6



Note: All of the LTE Band 40 test items were tested in configuration 3.

3.4 BLOCK DIGRAM SHOWING THECONFIGURATIONOFSYSTEMTESTED



2.4 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 MEASUREMENT

4.1.1 LIMIT

Fixed, mobile, and portable (hand-held) stations operating in the 1710–1755 MHz band and mobile and portable stations operating in the 1695–1710 MHz and 1755–1780 MHz bands are limited to 1 watt EIRP.

Mobile stations of BRS/EBS are operating in the 2496–2690 MHz band limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

Control stations and mobile stations transmitting in the 746–757 MHz, 776–788 MHz, and 805–806 MHz bands and fixed stations transmitting in the 787–788 MHz and 805–806 MHz bands are limited to 30 watts ERP.
Portable stations (hand-held devices) transmitting in the 746–757 MHz, 776–788 MHz, and 805–806 MHz bands are limited to 3 watts ERP.

Control and mobile stations in the 698–746 MHz band are limited to 30 watts ERP.
Portable stations (hand-held devices) in the 600 MHz uplink band and the 698–746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP.

For mobile and portable stations transmitting in the 2305–2315 MHz band or the 2350–2360 MHz band, the average EIRP must not exceed 50 milliwatts within any 1 megahertz of authorized bandwidth, except that for mobile and portable stations compliant with 3GPP LTE standards or another advanced mobile broadband protocol that avoids concentrating energy at the edge of the operating band the average EIRP must not exceed 250 milliwatts within any 5 megahertz of authorized bandwidth but may exceed 50 milliwatts within any 1 megahertz of authorized bandwidth. For mobile and portable stations using time division duplexing (TDD) technology, the duty cycle must not exceed 38 percent in the 2305–2315 MHz and 2350–2360 MHz bands. Mobile and portable stations using FDD technology are restricted to transmitting in the 2305–2315 MHz band. Power averaging shall not include intervals in which the transmitter is off.

4.1.2 TEST PROCEDURE

The testing follows FCC KDB 971168 v03r01 Section 5 or ANSI C63.26-2015 Section 5.2.

EIRP:

EIRP = Output Power + Antenan gain

ERP:

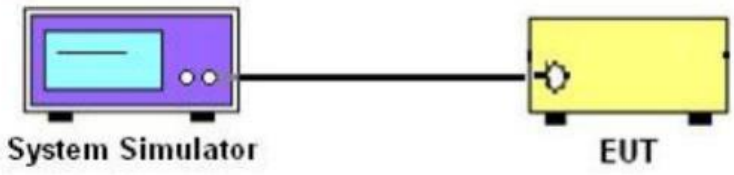
ERP = EIRP-2.15

Output Power:

The EUT was set up for the maximum power with WCDMA and LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

4.1.3 TEST SETUP LAYOUT

Output Power Measurement



4.1.4 TEST DEVIATION

No deviation.

4.1.5 TEST RESULTS

Please refer to the APPENDIX A.

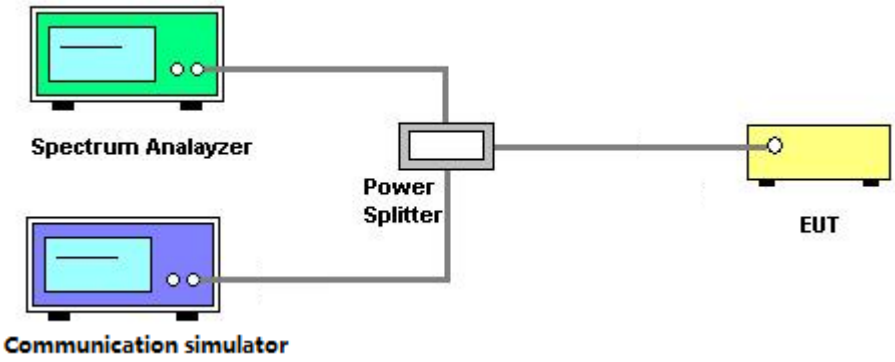
4.2 OCCUPIED BANDWIDTH MEASUREMENT

4.2.1 TEST PROCEDURE

The testing follows FCC KDB 971168 v03r01 Section 4 or ANSI C63.26-2015 Section 5.4.

1. The EUT makes a call to the communication simulator. All measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth and 26dB bandwidth.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. RBW=(1% ~ 5%)*EBW
   VBW≥3* RBW
4. Set spectrum analyzer with Peak detector.

4.2.2 TEST SETUP LAYOUT



4.2.3 TEST DEVIATION

No deviation.

4.2.4 TEST RESULTS

Please refer to the APPENDIX B.

4.3 CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

4.3.1 LIMIT

For operations in the 600MHz band and 698 -746 MHz band, 776-788 MHz band, 1710-1755 MHz band:
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. The emission limit equal to -13dBm.

For operations in the 2496 -2690 MHz band:
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 55 + 10 log(P) dB. The emission limit equal to -25dBm.

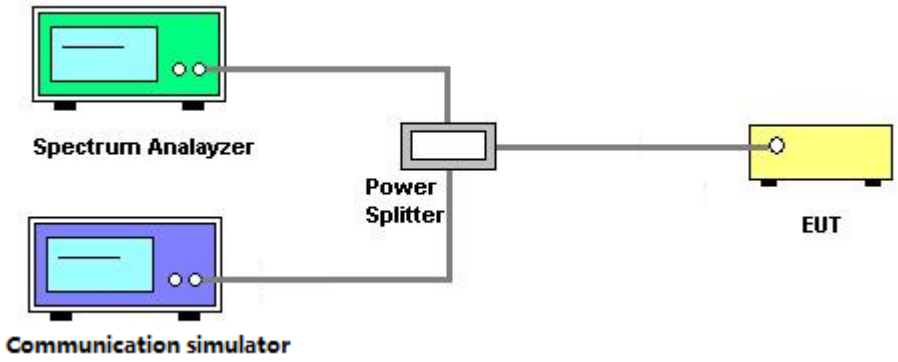
For operations in the 2305-2315 MHz and 2350-2360 MHz bands:
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 70 + 10 log(P) dB. The emission limit equal to -40dBm.

4.3.2 TEST PROCEDURES

The testing follows FCC KDB 971168 v03r01 Section 6 or ANSI C63.26-2015 Section 5.7.

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The band edges of low and high channels for the highest RF powers were measured. Set RBW>=1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
3. Set spectrum analyzer with Peak or RMS detector.
4. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

4.3.3 TEST SETUP LAYOUT



4.3.4 TEST DEVIATION

No deviation.

4.3.5 TEST RESULTS

Please refer to the APPENDIX C.

4.4 RADIATED SPURIOUS EMISSIONS MEASUREMENT

4.4.1 LIMIT

For band 4,12,13,17,71,66,85, the power of any emission outside of theauthorized operating frequency ranges must be attenuated below the transmitting power (P) by a factorof at least 43 + 10 log(P) dB. The emission limit equal to -13dBm.
For Band 13, the operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz (-40dBm/MHz) equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW (-50dBm) EIRP for discrete emissions of less than 700 Hz bandwidth.

For Band 7, 38,41, the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 55 + 10 log(P) dB. The emission limit equal to -25dBm.

For Band 30,40, the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 70 + 10 log(P) dB. The emission limit equal to -40dBm.

E (dBμV/m) = EIRP (dBm) - 20 log D + 104.8; where D is the measurement distance in meters. The emission limit equal to 82.26dBμV/m or 70.26dBμV/m or 55.26dBμV/m.

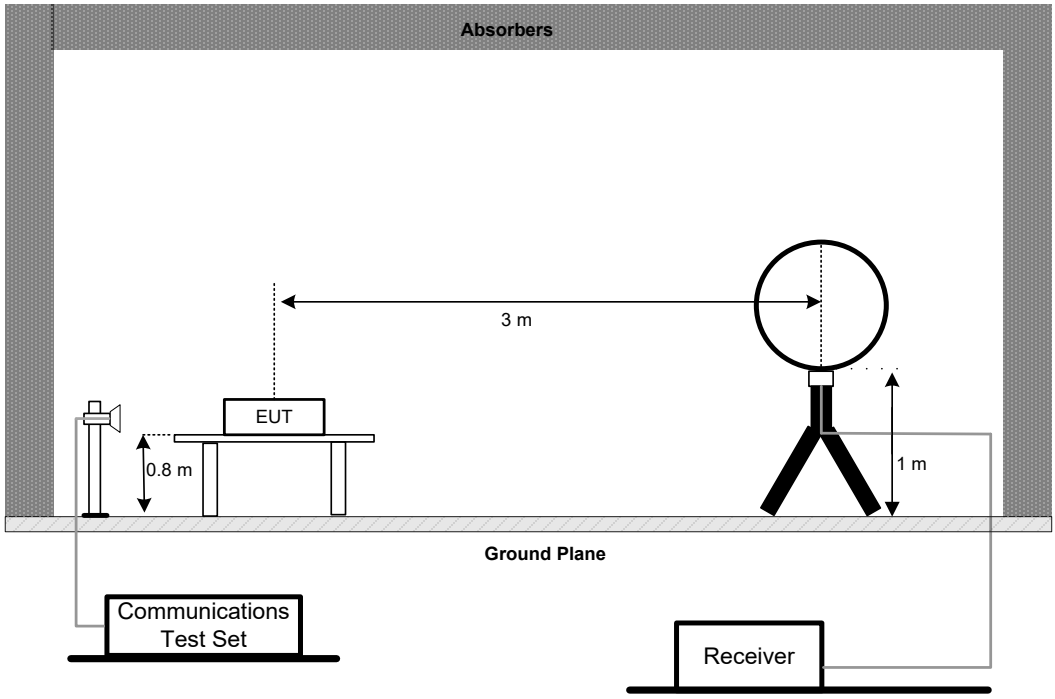
4.4.2 TEST PROCEDURES

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

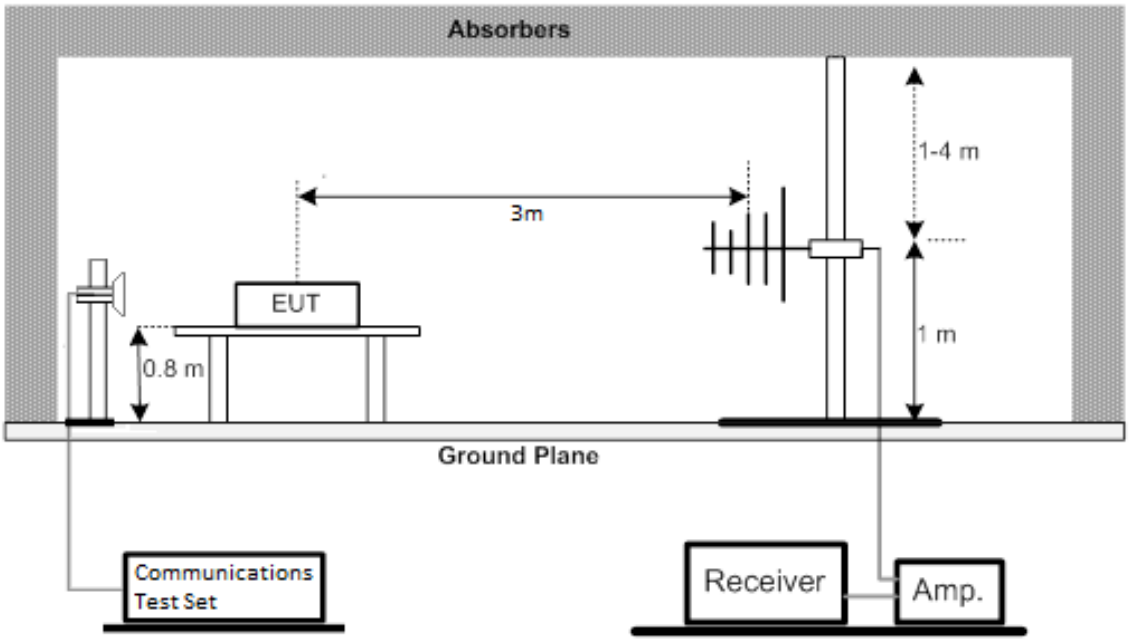
1. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
2. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
3. During the measurement, the system simulator parameters 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 (dBuV/m) = EIRP (dBm) - 20log(D) + 104.8; where D is the measurement distance (in the far field region) in m.The emission limit equal to 82.26dBuV/m or 70.26dBμV/m or 55.26dBμV/m.

4.4.3 TEST SETUP LAYOUT

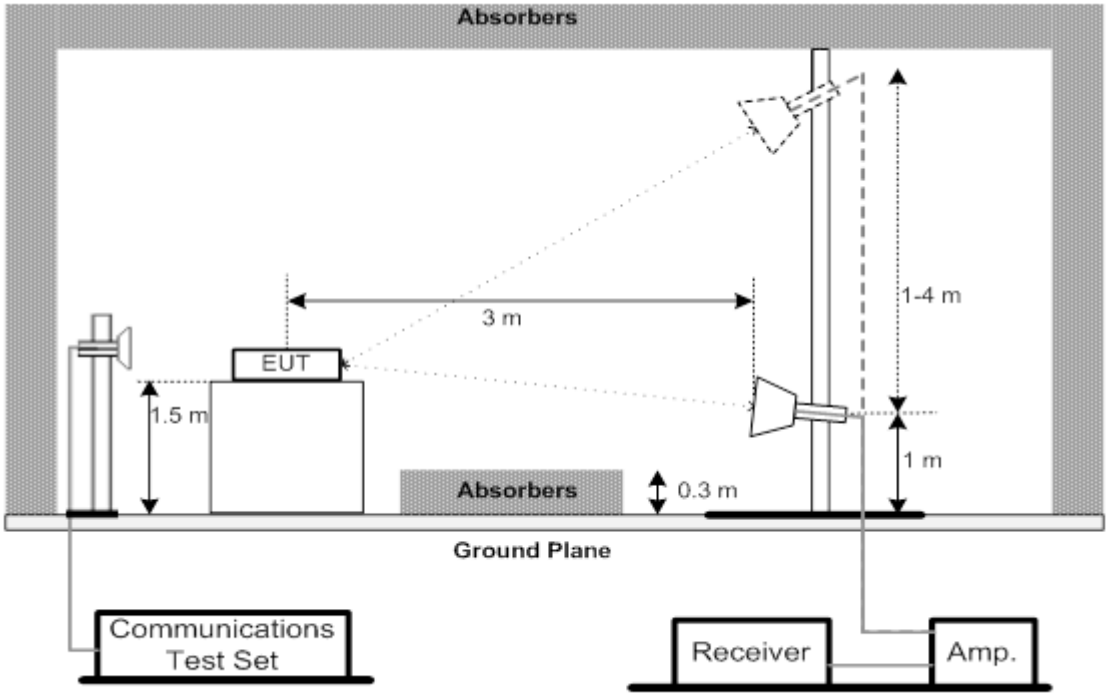
Below 30MHz



30MHz to 1GHz



Above 1GHz



4.4.4 TEST RESULTS (9KHZ TO 30MHZ)

Please refer to the APPENDIX D.

4.4.5 TEST RESULTS (30MHZ TO 1000MHZ)

Please refer to the APPENDIX E.

4.4.6 TEST RESULTS (ABOVE 1000MHZ)

Please refer to the APPENDIX F.

4.5 BAND EDGE MEASUREMENT

4.5.1 LIMIT

For operations in the 776-788 MHz band, the FCC limit is 43 + 10log10(P[Watts]) dB below the transmitter power P(Watts) in a 100 kHz bandwidth. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed. In addition, the power of any unwanted emissions in any 6.25 kHz bandwidth for all frequencies between 763-775 MHz and 793-806 MHz shall be attenuated below the transmitter power, P (dBW), by at least 65 + 10 log10 p(watts), dB, for mobile and portable equipment.

For operations in the 600MHz band and 698 -746 MHz band, the FCC limit is 43 + 10log10(P[Watts]) dB below the transmitter power P(Watts) in a 100 kHz bandwidth. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

For operations in the 1710 – 1755 MHz band, the FCC limit is 43 + 10log10(P[Watts]) dB below the transmitter power P(Watts) in a 1 MHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

For mobile and portable stations operating in the 2305-2315 MHz and 2350-2360 MHz bands:
(i) By a factor of
not less than: 43 + 10 log (P) dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation,
not less than 55 + 10 log (P) dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz,
not less than 61 + 10 log (P) dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz,
and not less than 67 + 10 log (P) dB on all frequencies between 2328 and 2337 MHz;
(ii) By a factor of
not less than 43 + 10 log (P) dB on all frequencies between 2300 and 2305 MHz,
55 + 10 log (P) dB on all frequencies between 2296 and 2300 MHz,
61 + 10 log (P) dB on all frequencies between 2292 and 2296 MHz,
67 + 10 log (P) dB on all frequencies between 2288 and 2292 MHz, and 70 + 10 log (P) dB below 2288 MHz;
(iii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2360 and 2365 MHz,
and not less than 70 + 10 log (P) dB above 2365 MHz.

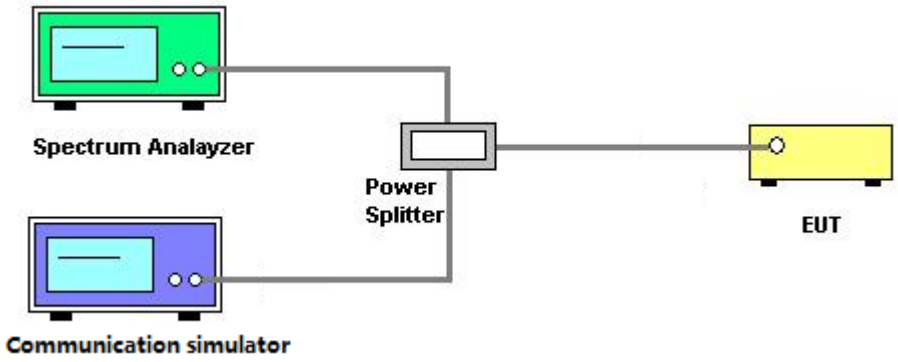
For mobile and portable stations operating in the 2305-2315 MHz and 2350-2360 MHz bands:
(i) By a factor of not less than: 43 + 10 log (P) dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than 55 + 10 log (P) dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than 61 + 10 log (P) dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than 67 + 10 log (P) dB on all frequencies between 2328 and 2337 MHz;
(ii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2300 and 2305 MHz, 55 + 10 log (P) dB on all frequencies between 2296 and 2300 MHz, 61 + 10 log (P) dB on all frequencies between 2292 and 2296 MHz, 67 + 10 log (P) dB on all frequencies between 2288 and 2292 MHz, and 70 + 10 log (P) dB below 2288 MHz;
(iii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2360 and 2365 MHz, and not less than 70 + 10 log (P) dB above 2365 MHz.

4.5.2 TEST PROCEDURES

The testing follows FCC KDB 971168 v03r01 Section 6 or ANSI C63.26-2015 Section 5.7.

1. All measurements were done at low and high operational frequency range.
2. Record the max trace plot into the test report.

4.5.3 TEST SETUP LAYOUT



4.5.4 TEST DEVIATION

No deviation.

4.5.5 TEST RESULTS

Please refer to the APPENDIX G.

4.6 PEAK TO AVERAGE RATIO MEASUREMENT

4.6.1 LIMIT

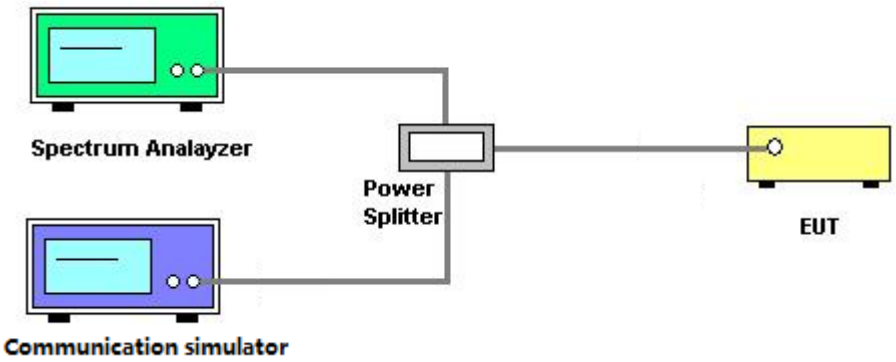
In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB.

4.6.2 TEST PROCEDURES

The testing follows FCC KDB 971168 v03r01 Section 5.7 or ANSI C63.26-2015 Section 5.2.6.

1. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Record the maximum PAPR level associated with a probability of 0.1%.

4.6.3 TEST SETUP LAYOUT



4.6.4 TEST DEVIATION

No deviation.

4.6.5 TEST RESULTS

Please refer to the APPENDIX H.

4.7 FREQUENCY STABILITY MEASUREMENT

4.7.1 LIMIT

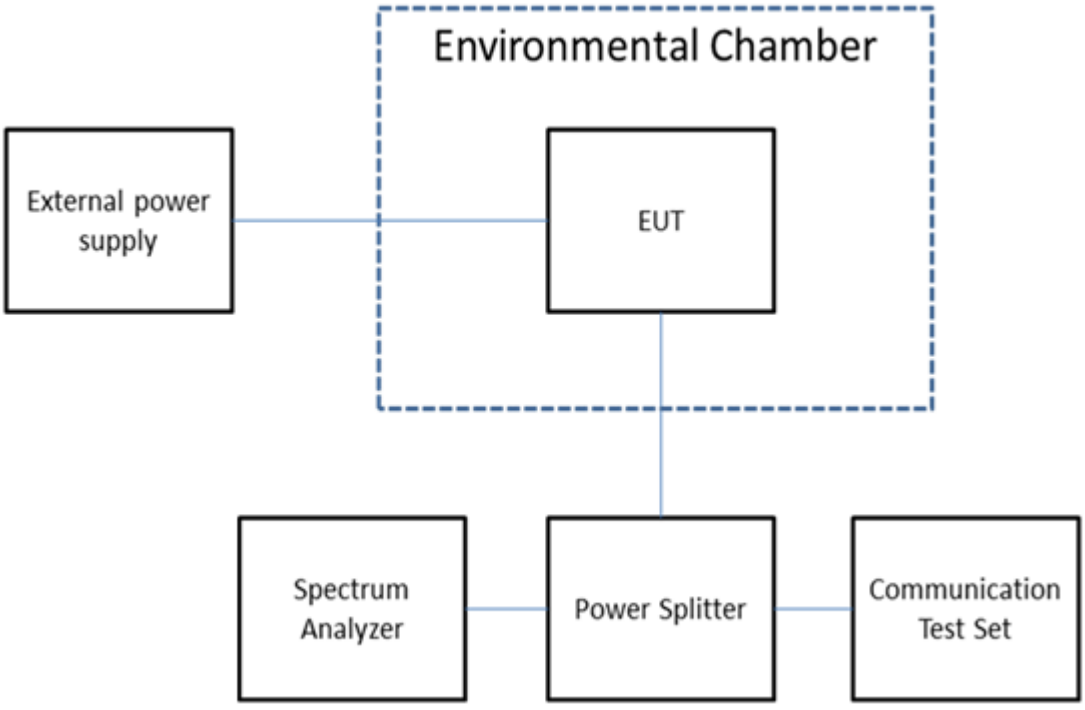
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

4.7.2 TEST PROCEDURES

The testing follows FCC KDB 971168 v03r01 Section 9 or ANSI C63.26-2015 Section 5.6.

1. A reference point shall be established at the applicable unwanted emissions limit using a RBW equal to the RBW required by the unwantedemissions specification of the applicable regulatory standard. These reference points measuredusing the lowest and highest channel of operation shall be identified as f L and f H respectively. The worst-case frequency offset determined in the above methods shall be added or subtracted from the values of f L and f H and the resulting frequencies must remain within the band.
2. The EUT was set up in the thermal chamber and connected with the system simulator.
3. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
4. With power OFF, the temperature was raised in 10°C step up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

4.7.3 TEST SETUP LAYOUT



4.7.4 TEST DEVIATION

No deviation.

4.7.5 TEST RESULTS

Please refer to the APPENDIX I.

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-NMSM-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-NM-2500	N/A	Jun. 06, 2025
6	Cable	EMC INSTRUMENT	EMCCFD400-NM-NM-7000	N/A	Jun. 06, 2025
7	Cable	EMC INSTRUMENT	EMCCFD400-NM-NM-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 For SSL-CB01					
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-10000	N/A	Jun. 06, 2025
5	Cable	EMC INSTRUMENT	EMC104-SM-SM-3000	N/A	Jun. 06, 2025
6	Cable	EMC INSTRUMENT	EMC104-SM-SM-800	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-C3000-18000-174	7213126	Jun. 28, 2025
9	Band Reject Filter	COM-MW	ZHPF6-M1000-15000-533	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 - 1 GHz to 18GHz For DG-CB03					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Receiver	Agilent	N9038A	MY52130039	Dec. 22, 2024
2	Preamplifier	EMC INSTRUMENT	EMC118A45SE	980888	Oct. 29, 2025
3	Double Ridged Guide Antenna	ETS	3115	75789	Jun. 15, 2025
4	Cable	RegalWay	RWLP50-4.0A-SMSM-12.5M	N/A	Jul. 03, 2025
5	Cable	RegalWay	RWLP50-4.0A-NMRASM-2.5M	N/A	Jul. 03, 2025
6	Cable	RegalWay	RWLP50-4.0A-NMRASMRA-0.8M	N/A	Jul. 03, 2025
7	966 Chamber room	CM	9*6*6	N/A	May 19, 2025
8	Filter	STI	STI15-9912	N/A	May 31, 2025
9	Positioning Controller	MF	MF-7802	N/A	N/A
10	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
11	wideband radio communication tester	R&S	CMW500	152372	Dec. 22, 2024
12	Broadband double ridged horn antenna	Regalway	RW10180-N	1911004	N/A

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

Conducted Measurement For TR06					
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	Signal Analyzer	R&S	FSV 40	100948	Jun. 28, 2025
3	MXA Signal Analyzer	Agilent Technologies	N9020A	MY49100060	Jun. 28, 2025
4	MXA Signal Analyzer	Agilent Technologies	N9020B	MY49100060	Oct. 29, 2025
5	Temperature Chamber	ESPEC	SU-242	93018786	Jun. 28, 2025
6	DC Source metter	Iteck	IT6154	006104126768201001	Jun. 28, 2025

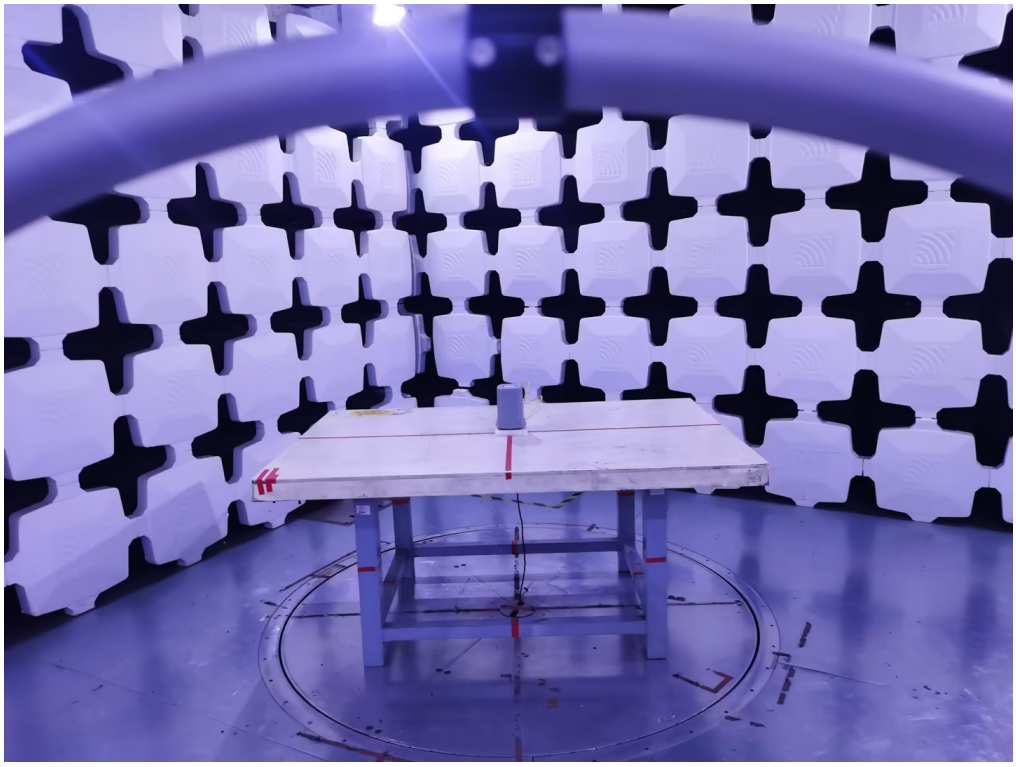
Conducted Measurement For TR02					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	8960 SERIES 10 Wireless Communications Test Set	Agilent Technologies	E5515E	MY54491001	Jun. 28, 2025
2	RF Interface	KEYSIGHT	N1960-80103	MY45490268	N/A
3	Measurement Software	Keysight	GS-8800(SW Ver:DVT.3.4.1.0.0)	N/A	N/A

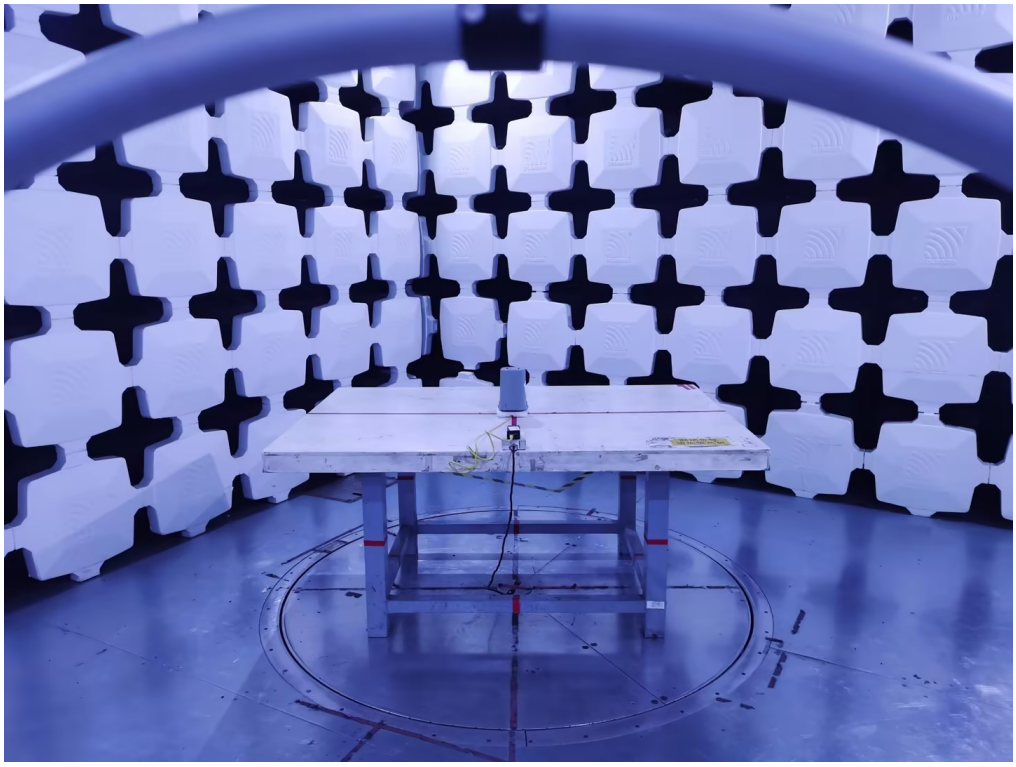
Remark: ”N/A” denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

5. EUT TEST PHOTO

Radiated Emissions Test Photos

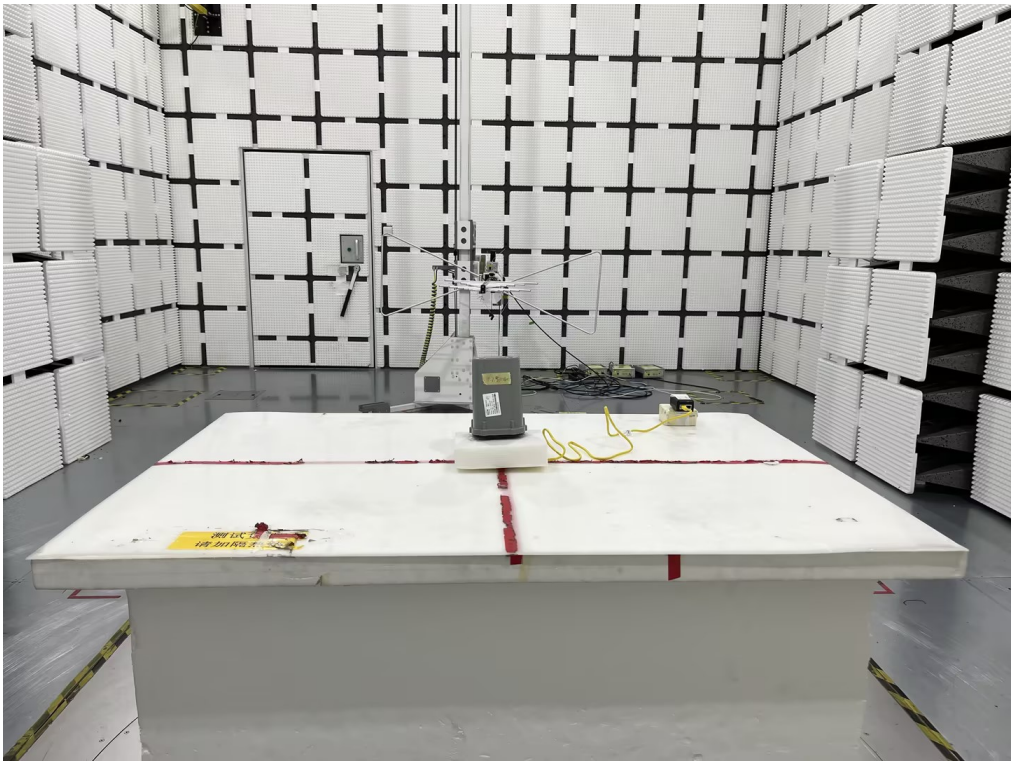
9 kHz to 30 MHz

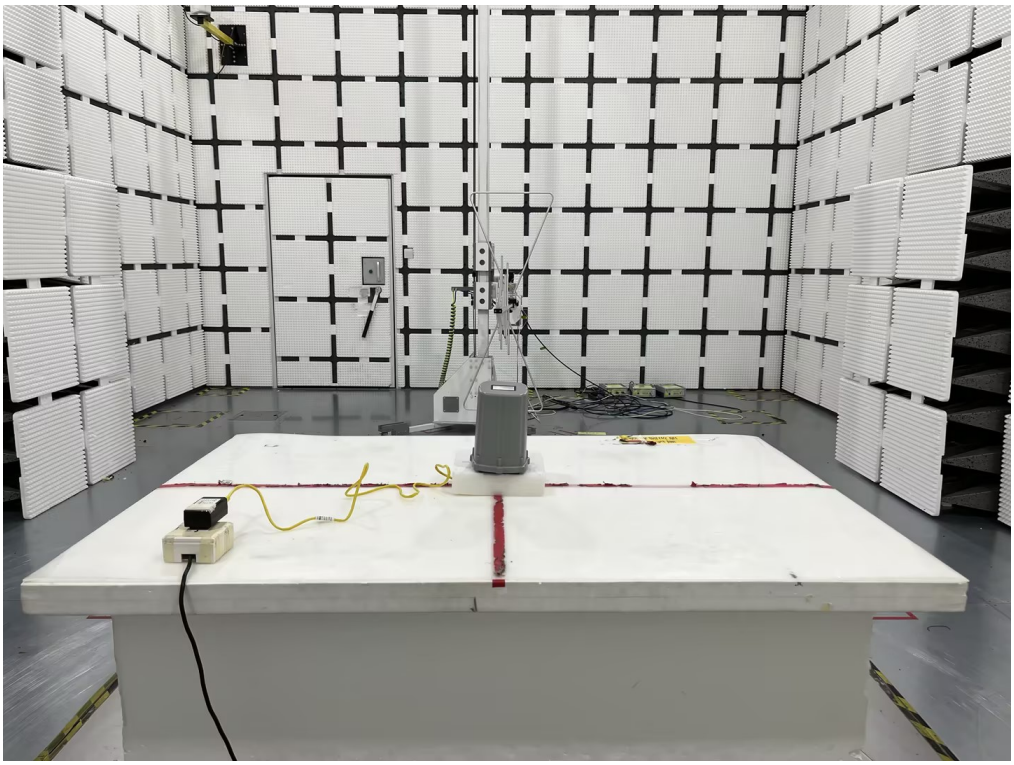




Radiated Emissions Test Photos

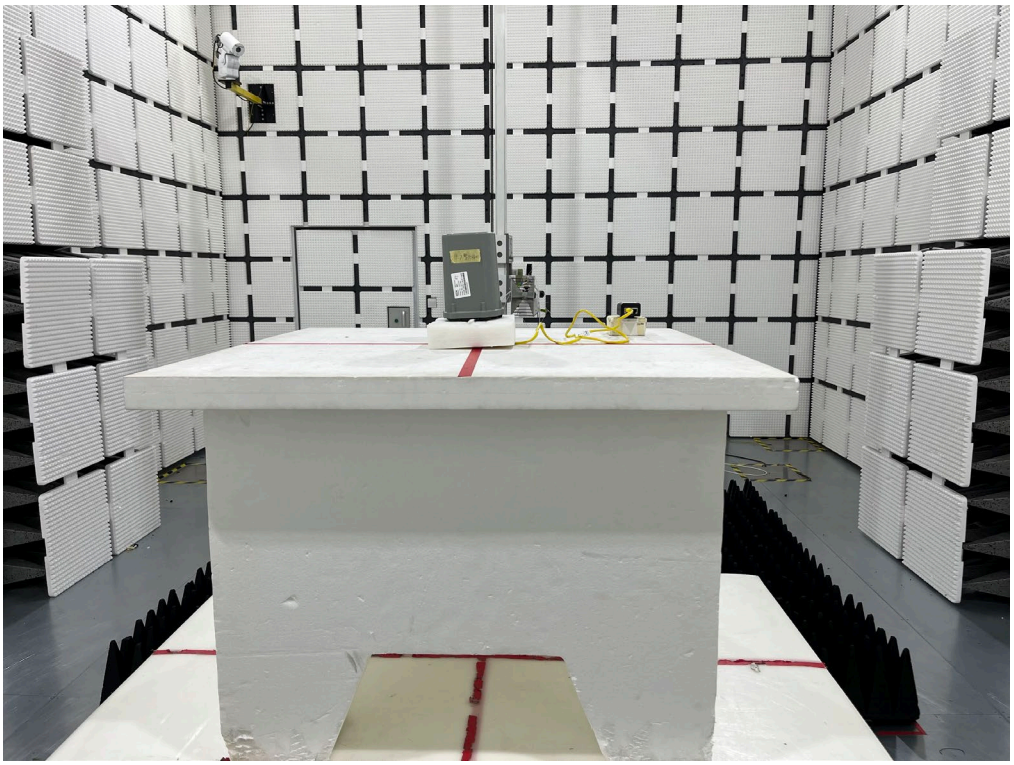
30 MHz to 1 GHz

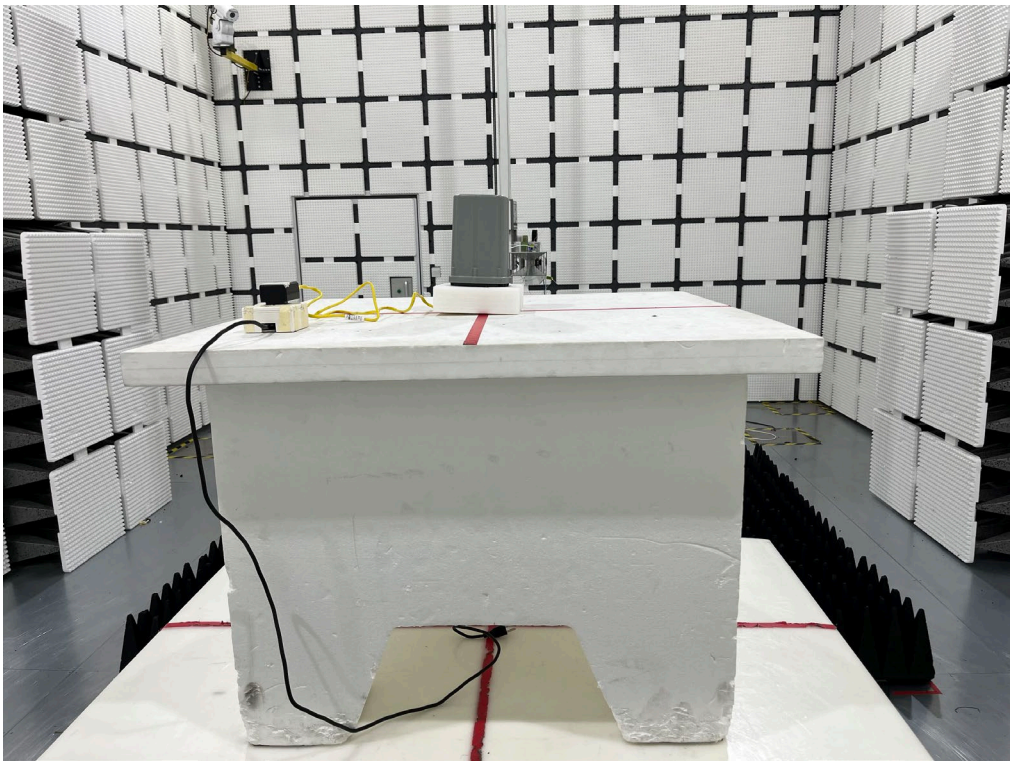




Radiated Emissions Test Photos

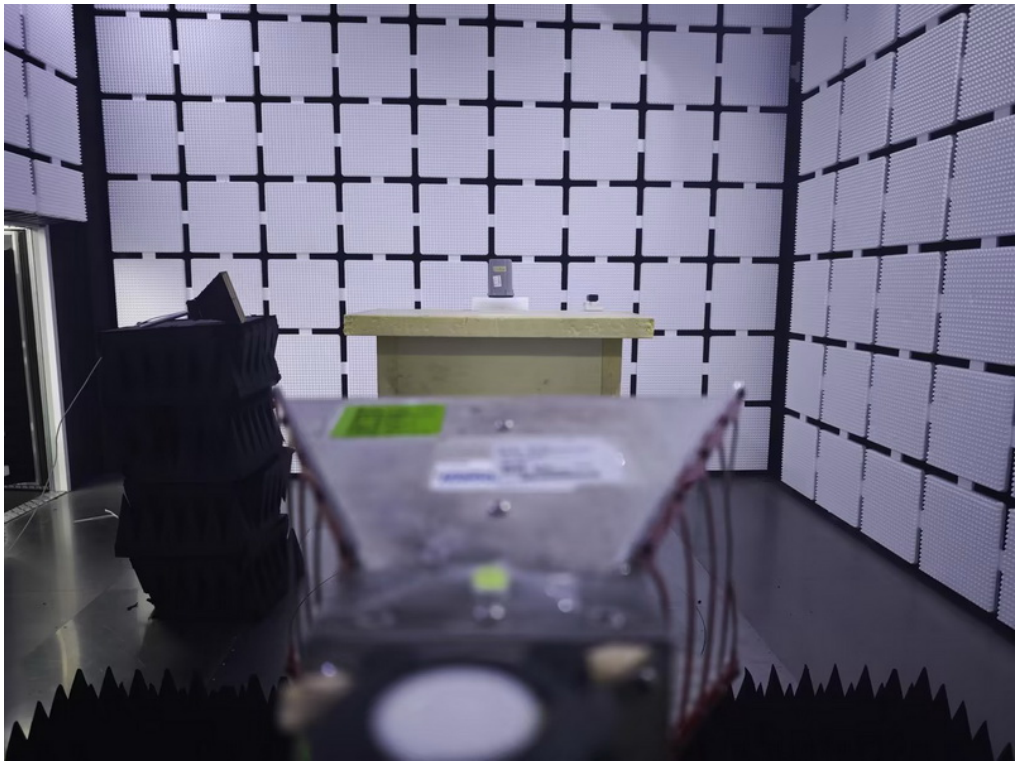
1 GHz to 18GHz For SSL-CB01

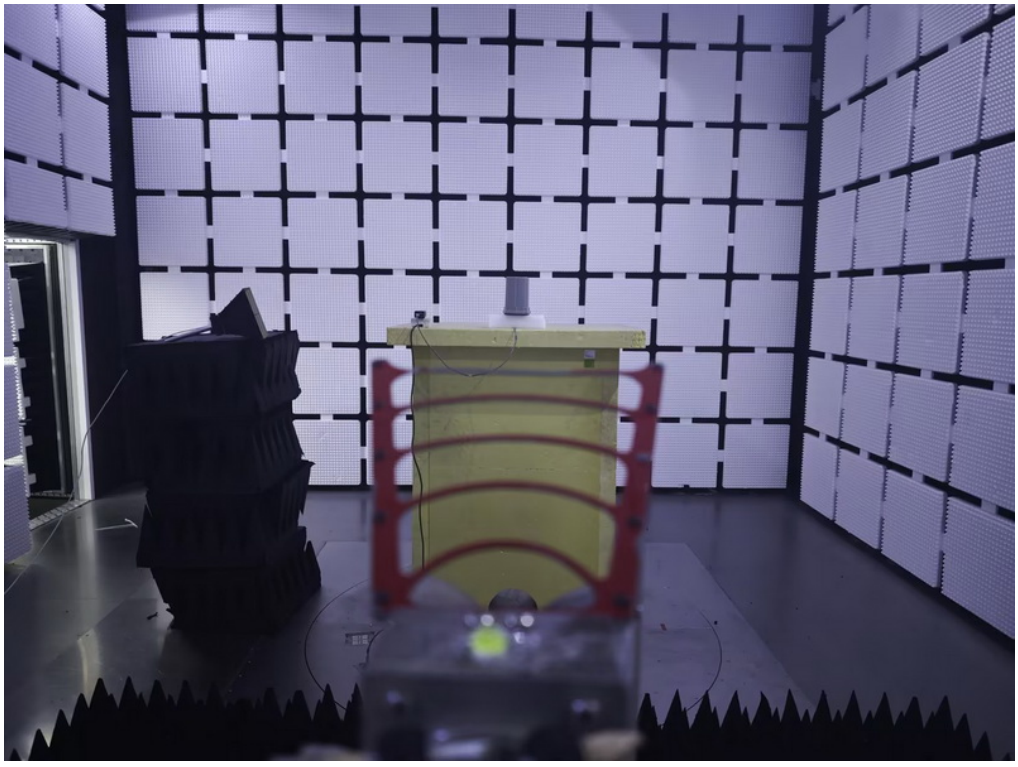




Radiated Emissions Test Photos

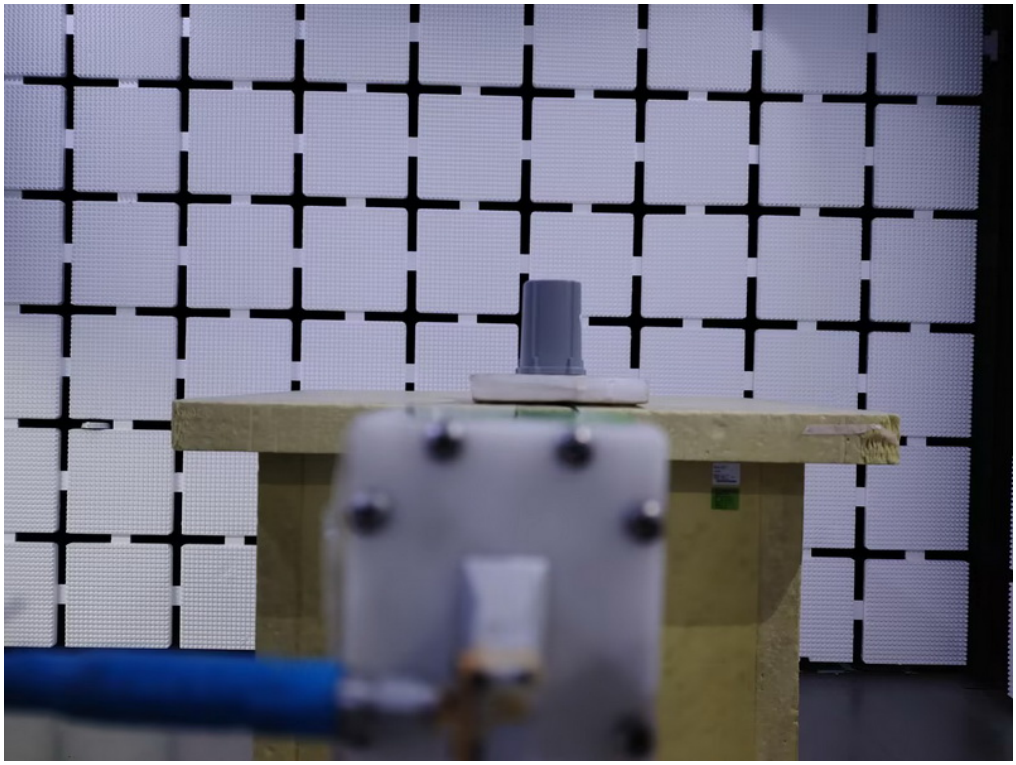
1 GHz to 18GHz For DG-CB03

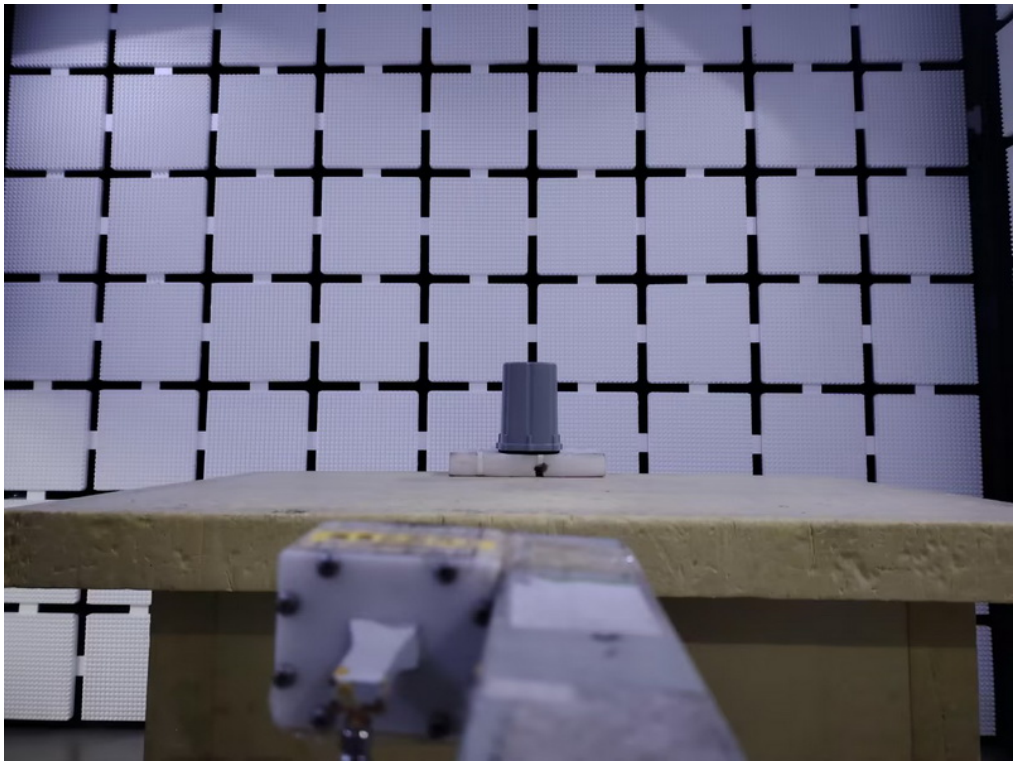




Radiated Emissions Test Photos

Above 18 GHz





APPENDIX A - OUTPUT POWER

Output Power(dBm)

Modulation	Band	WCDMA Band IV		
	Tx Channel	1312CH	1413CH	1513CH
	Frequency	1712.4MHz	1732.6MHz	1752.6MHz
QPSK	RMC 12.2K	19.05	18.94	18.94
	RMC 64K	19.01	18.93	18.98
	RMC 144K	19.01	18.96	18.94
	RMC 384K	19	18.93	18.93
	HSDPA Subtest-1	18.01	17.98	18
	HSDPA Subtest-2	18.06	17.91	17.96
	HSDPA Subtest-3	17.2	17.45	17.47
	HSDPA Subtest-4	17.55	17.45	17.42
	HSUPA Subtest-1	17.99	17.9	17.95
	HSUPA Subtest-2	15.98	15.9	15.93
	HSUPA Subtest-3	16.99	16.8	16.98
	HSUPA Subtest-4	16.01	15.9	15.94
	HSUPA Subtest-5	17.83	17.81	17.81

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				19957CH	20175CH	20393CH
				1710.7MHz	1732.5MHz	1754.3MHz
4 / 1.4MHz	QPSK	1	0	20.24	21.10	19.92
		1	2	20.14	21.17	19.93
		1	5	19.94	21.09	19.86
		3	0	20.06	20.95	19.90
		3	1	20.05	20.97	19.94
		3	2	19.92	20.92	19.89
		6	0	19.94	20.09	19.89
	16QAM	1	0	19.81	20.29	19.30
		1	2	19.68	20.29	19.30
		1	5	19.49	20.28	19.25
		3	0	19.46	20.01	19.38
		3	1	19.39	20.08	19.40
		3	2	19.27	19.99	19.33
		6	0	18.93	18.85	19.25

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				19965CH	20175CH	20385CH
				1711.5MHz	1732.5MHz	1753.5MHz
4 / 3MHz	QPSK	1	0	20.26	21.13	20.23
		1	7	19.86	21.25	20.01
		1	14	19.59	21.15	19.99
		8	0	19.99	20.11	20.07
		8	4	19.86	20.14	20.00
		8	7	19.66	20.10	19.97
		15	0	19.84	20.04	20.02
	16QAM	1	0	19.52	20.31	19.55
		1	7	19.13	20.37	19.30
		1	14	18.81	20.28	19.28
		8	0	19.08	19.08	19.15
		8	4	19.09	19.09	19.20
		8	7	19.11	19.04	19.14
		15	0	19.01	19.02	19.09

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				19975CH	20175CH	20375CH
				1712.5MHz	1732.5MHz	1752.5MHz
4 / 5MHz	QPSK	1	0	20.55	21.05	20.69
		1	13	19.66	21.23	20.13
		1	24	19.44	21.15	20.20
		12	0	19.99	20.06	20.07
		12	6	19.64	20.07	20.09
		12	11	19.43	20.05	20.03
		25	0	19.70	20.07	20.05
	16QAM	1	0	19.86	20.46	19.95
		1	13	19.01	20.53	19.39
		1	24	18.80	20.42	19.47
		12	0	19.08	19.15	19.09
		12	6	18.97	19.12	19.12
		12	11	18.77	19.09	19.07
		25	0	18.95	19.03	19.00

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20000CH	20175CH	20350CH
				1715MHz	1732.5MHz	1750MHz
4 / 10MHz	QPSK	1	0	20.02	20.27	21.01
		1	25	18.96	21.16	20.23
		1	49	18.64	21.16	19.65
		25	0	19.50	20.05	20.00
		25	13	19.06	20.08	20.05
		25	25	18.77	20.05	19.93
		50	0	19.13	20.05	20.03
	16QAM	1	0	19.19	19.80	19.96
		1	25	18.15	20.30	19.46
		1	49	17.80	20.24	18.85
		25	0	18.74	19.03	19.07
		25	13	18.31	18.98	19.12
		25	25	18.01	18.96	19.08
		50	0	18.36	19.01	19.04