FCC Radio Test Report

FCC ID: 2AIBC-GOLIGHT3

This report concerns: Original Grant

Project No.	:	2410C020
Equipment	:	Light Phone III
Brand Name	:	Light
Test Model	:	TLP301
Series Model	:	N/A
Applicant	:	The Light Phone Inc.
Address	:	19 Morris Avenue Brooklyn, NY 11205 United States
Manufacturer	:	The Light Phone Inc.
Address	:	19 Morris Avenue Brooklyn, NY 11205 United States
Factory	:	SHENZHEN FUTAIHONG PRECISION INDUSTRY CO.,LTD.
Address	:	ROOM 101, FOXCONN F7 FACTORY, NO.2, DONGHUAN 2ND ROAD, FUKANG COMMUNITY, LONGHUA STREET, LONGHUA DISTRICT, SHENZHEN, P.R.CHINA
Date of Receipt	:	Oct. 09, 2024
Date of Test	:	Oct. 11, 2024 ~ Feb. 18, 2025
Issued Date	:	Mar. 03, 2025
Report Version	:	R01
Test Sample	:	Engineering Sample No.: SSL20241009197 for radiated, SSL20250102152, SSL20241009196, SSL20241009195 for conducted.
Standard(s)	:	47 CFR FCC Part 90 Subpart R 47 CFR FCC Part 2

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

Prepared by : Edward Li

Edward Li

Approved by : Steven Lu

Steven Lu

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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-12-2410C020	R00	Original Report.	Feb. 20, 2025	Invalid
BTL-FCCP-12-2410C020	R01	Update the address of applicant.	Mar. 03, 2025	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 90 Subpart R & Part 2			
Standard(s) Section	**Test Item**	**Judgment**	**Remark**
2.1046 & 90.542 (a)(7)	Effective Radiated Power	PASS	------
2.1049	Occupied Bandwidth	PASS	------
2.1053 & 90.543(e)(3)	Conducted Spurious Emissions	PASS	------
2.1053 & 90.543(e)(3) & 90.543(f)	Radiated Spurious Emissions	PASS	------
2.1051 & 90.210(n)	Mask Measurements	PASS	------
-	Peak To Average Ratio	PASS	Record Only
2.1053 & 90.543(e)(2)(3)	Condcted Band Edge Measurement	PASS	------
2.1055 & 90.539(e)	Frequency Stability	PASS	------

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

2.1 TEST FACILITY

For Radiated test:
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 others:
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)
DG-CB03 (3m)	CISPR	30MHz ~ 200MHz	V	4.40
		30MHz ~ 200MHz	H	3.62
		200MHz ~ 1,000MHz	V	4.58
		200MHz ~ 1,000MHz	H	3.98

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

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 & ERP	25°C	37%	DC 3.8V	Gavin Ge	Oct. 11, 2024 ~ Feb. 18, 2025
Occupied Bandwidth	25°C	37%	DC 3.8V	Gavin Ge	Oct. 11, 2024 ~ Feb. 18, 2025
Conducted Spurious Emissions	25°C	37%	DC 3.8V	Gavin Ge	Oct. 11, 2024 ~ Feb. 18, 2025
Radiated Spurious Emissions (9 kHz to 30 MHz)	26°C	47%	DC 3.8V	Vance Lv	Dec. 12, 2024
Radiated Spurious Emissions (30 MHz to 1000 MHz)	21-23°C	38-49%	DC 3.8V	Allen Tong	Dec. 15, 2024 Dec. 18, 2024
Radiated Spurious Emissions (Above 1000 MHz)	23-24°C	49-59%	DC 3.8V	Allen Tong Calvin Wen	Dec. 15, 2024 Dec. 22, 2024
Band Edge	25°C	37%	DC 3.8V	Gavin Ge	Oct. 11, 2024 ~ Feb. 18, 2025
Peak to Average Ratio	25°C	37%	DC 3.8V	Gavin Ge	Oct. 11, 2024 ~ Feb. 18, 2025
Condcted Band Edge Measurement	25°C	37%	DC 3.8V	Gavin Ge	Oct. 11, 2024 ~ Feb. 18, 2025
Frequency Stability	Normal & Extreme	37%	Normal & Extreme	Gavin Ge	Oct. 11, 2024 ~ Feb. 18, 2025

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	Light Phone III					
Brand Name	Light					
Test Model	TLP301					
Series Model	N/A					
Model Difference(s)	N/A					
Software Version	V1.330.00.0_B01_00WW					
Hardware Version	DVT					
Power Source	1# Supplied from USB-C port. 2# Battery supplied. Model: HE414					
Power Rating	1# DC 5V/900mA 2# Rated Capacity: 1730mAh/6.67Wh 1800mAh/6.93Wh Rated Voltage: 3.85V					
IMEI No.	Radiated	359125420005706				
	Conducted	359125420007496/359125420003834/359125420004907				
Modulation Type	LTE	UL: QPSK,16QAM,64QAM,256QAM DL: QPSK,16QAM,64QAM,256QAM				
	5G NR	DFT-s-OFDM PI/2 BPSK				
		DFT-s-OFDM QPSK	CP-OFDM QPSK			
		DFT-s-OFDM 16QAM	CP-OFDM 16QAM			
		DFT-s-OFDM 64QAM	CP-OFDM 64QAM			
		DFT-s-OFDM 256QAM	CP-OFDM 256QAM			
Max. ERP	LTE Band 14	Channel Bandwidth (MHz)	QPSK (dBm)	16QAM (dBm)	64QAM (dBm)	256QAM (dBm)
		5	14.44	13.85	12.64	11.22
		10	14.45	13.80	12.57	11.13
	5GNR n14	Please refer to note 2.				

Note:

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

2. Max. ERP For 5G NR n14:

Band	Channel Bandwidth (MHz)	Modulation Type	ERP (dBm)
n14	5M	DFT-s-OFDM PI/2 BPSK	14.94
n14	10M	DFT-s-OFDM PI/2 BPSK	14.4
n14	5M	DFT-s-OFDM QPSK	14.92
n14	10M	DFT-s-OFDM QPSK	14.89
n14	5M	DFT-s-OFDM 16QAM	14.05
n14	10M	DFT-s-OFDM 16QAM	13.92
n14	5M	DFT-s-OFDM 64QAM	12.64
n14	10M	DFT-s-OFDM 64QAM	12.56
n14	5M	DFT-s-OFDM 256QAM	10.47
n14	5M	DFT-s-OFDM 256QAM	10.38
n14	5M	CP-OFDM QPSK	13.65
n14	10M	CP-OFDM QPSK	13.33
n14	5M	CP-OFDM 16QAM	13.11
n14	10M	CP-OFDM 16QAM	12.97
n14	5M	CP-OFDM 64QAM	11.55
n14	10M	CP-OFDM 64QAM	11.45
n14	5M	CP-OFDM 256QAM	8.59
n14	10M	CP-OFDM 256QAM	8.56

3. Channel List:

LTE Band 14(UL: 788-798 MHz, DL: 758-768 MHz)					
Test Frequency ID	Bandwidth (MHz)	N_{UL}	Frequency of Uplink (MHz)	N_{DL}	Frequency of Downlink (MHz)
Low Range	5	23305	790.5	5305	760.5
	10	23330	793	5330	763
Mid Range	5/10	23330	793	5330	763
High Range	5	23355	795.5	5.55	763.5
	10	23330	793	5330	763

5G NR n14						
Bandwidth	Low Channel	Mid Channel	High Channel	Low Frequency	Mid Frequency	High Frequency
5	158100	158600	159100	790.5	793	795.5
10	/	152600	/	/	763	/

4. Table for Filed Antenna:

Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
N/A	N/A	PIFA	N/A	-5.76	LTE Band 14
					5G NR n14

Note: The antenna gain is provided by the manufacturer.

3.2 DESCRIPTION OF TEST MODES

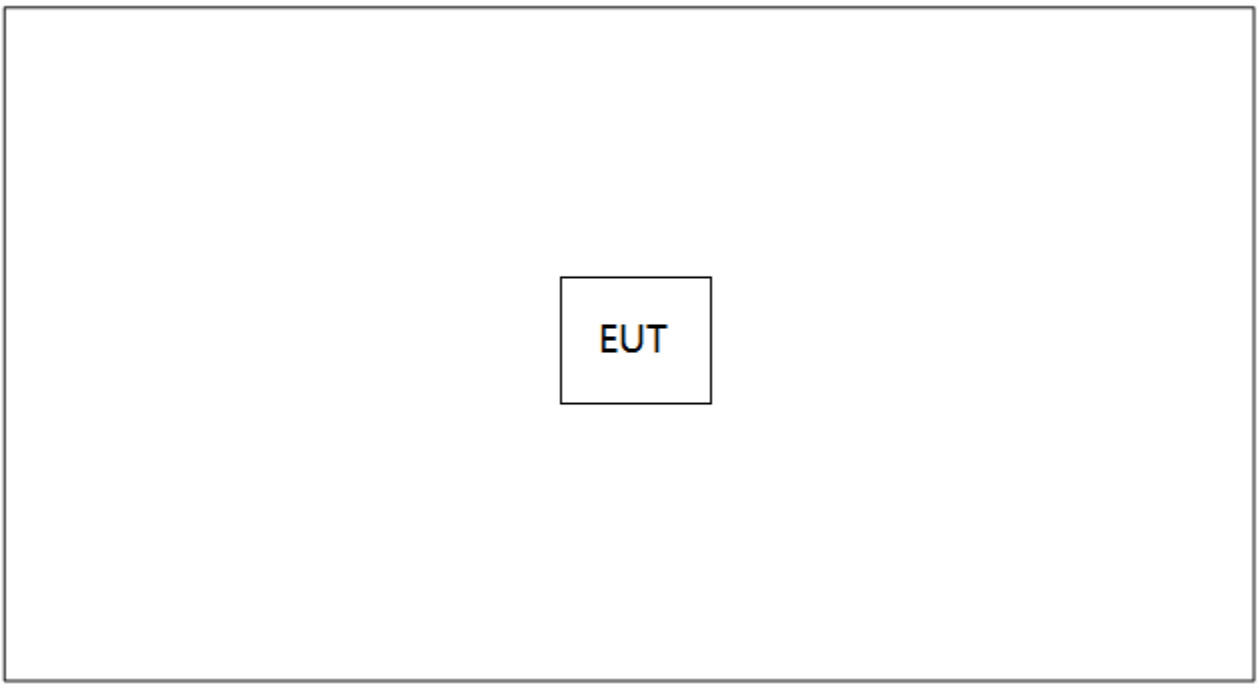
Following mode(s) is (were) found to be the worst case(s) and selected for the final test.

LTE BAND 14 MODE					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
Output Power &ERP	23305 to 23355	23305, 23330, 23355	5MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB/12RB/25RB
	23330	23330	10MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB/25RB/50RB
Occupied Bandwidth	23305 to 23355	23305, 23330, 23355	5MHz	QPSK, 16QAM, 64QAM, 256QAM	25RB
	23330	23330	10MHz	QPSK, 16QAM, 64QAM, 256QAM	50RB
Conducted Spurious Emissions	23305 to 23355	23330	5MHz	QPSK	1RB
	23330	23330	10MHz	QPSK	1RB
Radiated Spurious Emissions	23305 to 23355	23330	5MHz	QPSK	1RB
	23330	23330	10MHz	QPSK	1RB
Mask	23305 to 23355	23305, 23355	5MHz	QPSK	1RB
					25RB
	23330	23330	10MHz	QPSK	1RB
					50RB
Peak To Average Ratio	23305 to 23355	23305, 23330, 23355	5MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB
	23330	23330	10MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB
Condcted Band Edge Measurement	23305 to 23355	23305, 23355	5MHz	QPSK	1RB
					25RB
	23330	23330	10MHz	QPSK	1RB
					50RB
Frequency Stability	23305 to 23355	23330	10MHz	QPSK	50RB

NR n14				
Test Item	Tested Channel	Channel Bandwidth	Modulation	RB allocation
Conducted Output Power and Effective Radiated Power	Low, Mid, High Mid	5MHz	DFT-s-OFDM PI/2 BPSK, DFT-s-OFDM BPSK DFT-s-OFDM QPSK DFT-s-OFDM 16QAM DFT-s-OFDM 64QAM DFT-s-OFDM 256QAM CP-OFDM QPSK CP-OFDM 16QAM CP-OFDM 64QAM CP-OFDM 256QAM	Inner_Full Edge_1RB_Left Edge_1RB_Right Outer_Full
		10MHz		
Occupied Bandwidth	Mid	5MHz	DFT-s-OFDM PI/2 BPSK, DFT-s-OFDM QPSK DFT-s-OFDM 16QAM DFT-s-OFDM 64QAM DFT-s-OFDM 256QAM CP-OFDM QPSK CP-OFDM 16QAM CP-OFDM 64QAM CP-OFDM 256QAM	Outer Full
	Mid	10MHz		
Conducted Spurious Emission	Low, Mid, High	5MHz	DFT-s-OFDM PI/2 BPSK, DFT-s-OFDM QPSK	1RB # 0
	Mid	10MHz		
Radiated Spurious Emission	Mid	5MHz	DFT-s-OFDM QPSK	1RB # 0
	Mid	10MHz		
Band Edge & Mark	Low, Mid, High	5MHz	DFT-s-OFDM PI/2 BPSK, DFT-s-OFDM QPSK	Edge 1RB Left Edge 1RB Right Outer Full
	Mid	10MHz		
Peak To Average Ratio	Low, Mid, High	5MHz	DFT-s-OFDM PI/2 BPSK, DFT-s-OFDM QPSK	Edge 1RB Left Outer Full
Frequency Stability	Mid	10MHz	DFT-s-OFDM QPSK	Outer Full

Note:
1) Since the power of DFT-S-OFDM modulation mode is higher than that of CP-OFMD, and the power of PI/2 BPSK and QPSK is greater than that of other modulation modes, we chose DFT-S-OFDM PI/2 BPSK and DFT-S-OFDM QPSK modulation mode to test other items except power and OBW.
2) All X, Y and Z axes are evaluated, but only the worst case (X axis) is recorded.

3.3 BLOCK DIGRAM SHOWING THE CONFIGURATIONOFSYSTEMTESTED



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	Brand	Model No.	Series No.
-	-	-	-	-

Item	Cable Type	Shielded Type	Ferrite Core	Length
-	-	-	-	-

4. TEST RESULT

4.1 OUTPUT POWER MEASUREMENT

4.1.1 LIMIT

Control stations and mobile stations transmitting in the 758–768 MHz band and the 788–798 MHz band are limited to 30 watts ERP.

Portable stations (hand-held devices) transmitting in the 758–768 MHz band and the 788–798 MHz band are limited to 3 watts ERP.

4.1.2 TEST PROCEDURE

The testing follows FCC KDB 971168 v03r01 Section 5.0 or ANSI C63.26-2015 Section 5.2.

ERP:

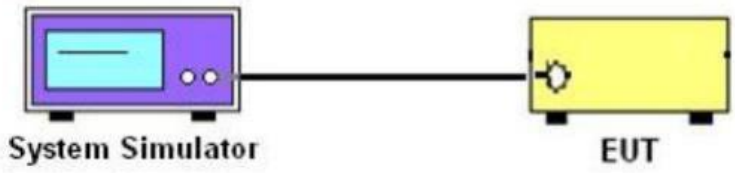
EIRP= Output Power + Antenan gain
ERP = EIPR - 2.15dBi.

Output Power:

The EUT was set up for the maximum power with GSM, GPRS, EDGE, WCDMA, CDMA, 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.

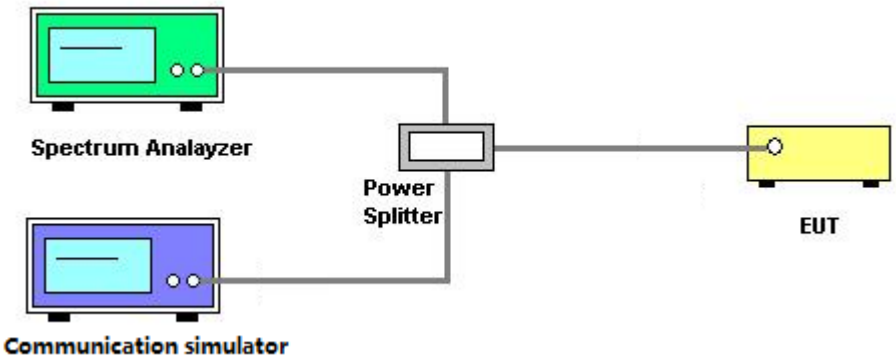
4.2 OCCUPIED BANDWIDTH MEASUREMENT

4.2.1 TEST PROCEDURE

The testing follows FCC KDB 971168 v03r01 Section 4.0 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 RMS 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

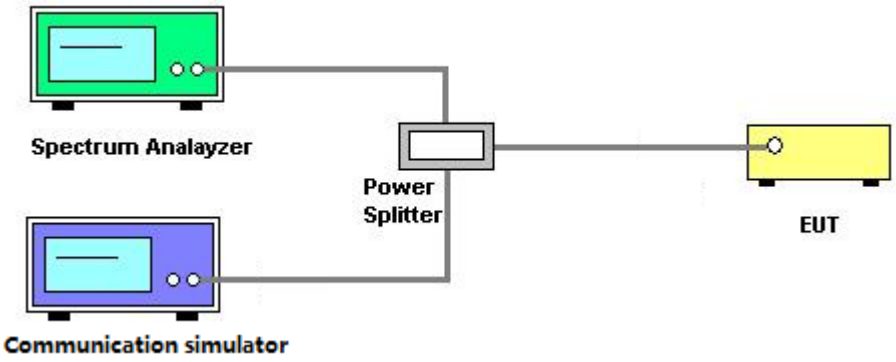
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. The emission limit equal to -13dBm.

4.3.2 TEST PROCEDURES

The testing follows FCC KDB 971168 v03r01 Section 6.0 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

Out of band emissions: The powerof 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 operations in the 758–775 MHz and 788–805 MHz bands, all emissions including harmonics in the band 1559–1610 MHz shall be limited to −70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and −80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

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 55.26dBμV/m.

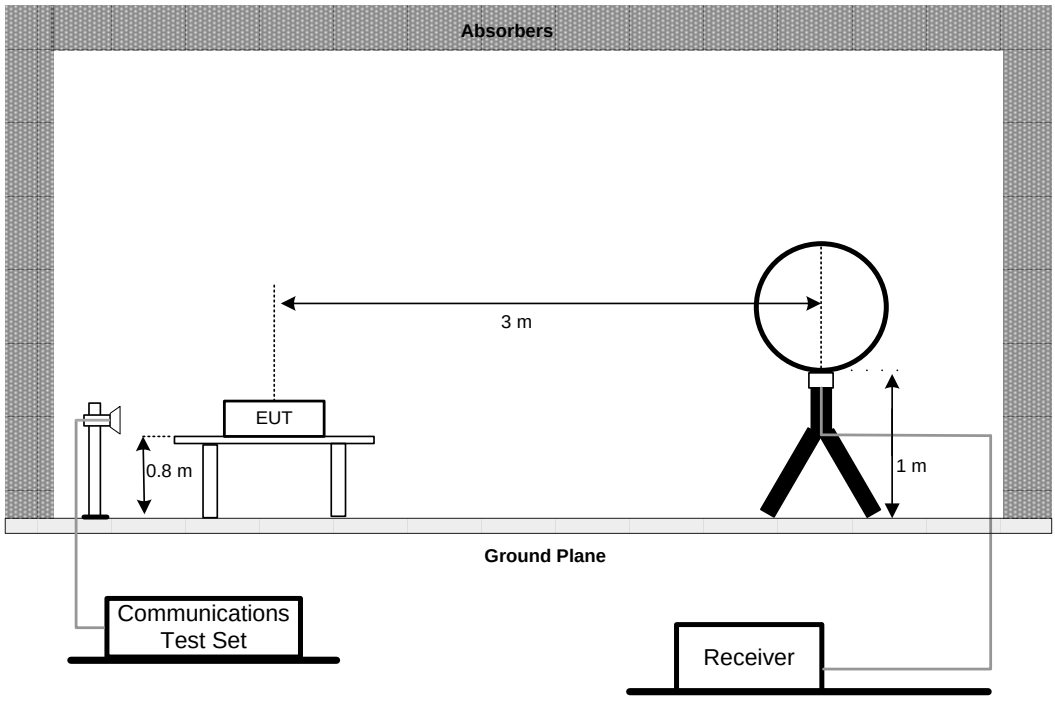
4.4.2 TEST PROCEDURES

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

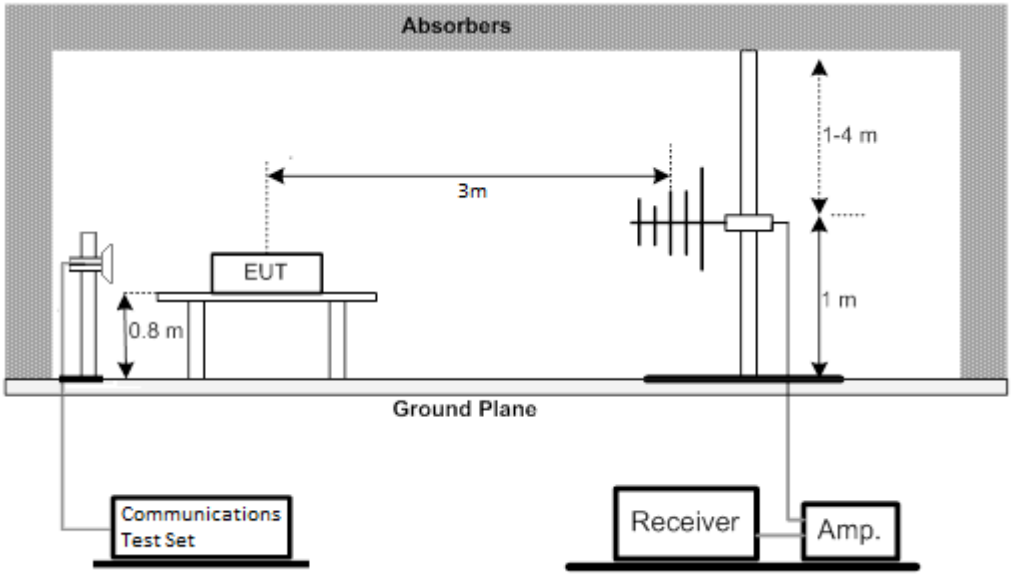
1. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
2. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
3. During the measurement, the system simulator parameters 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 55.26dBμV/m.

4.4.3 TEST SETUP LAYOUT

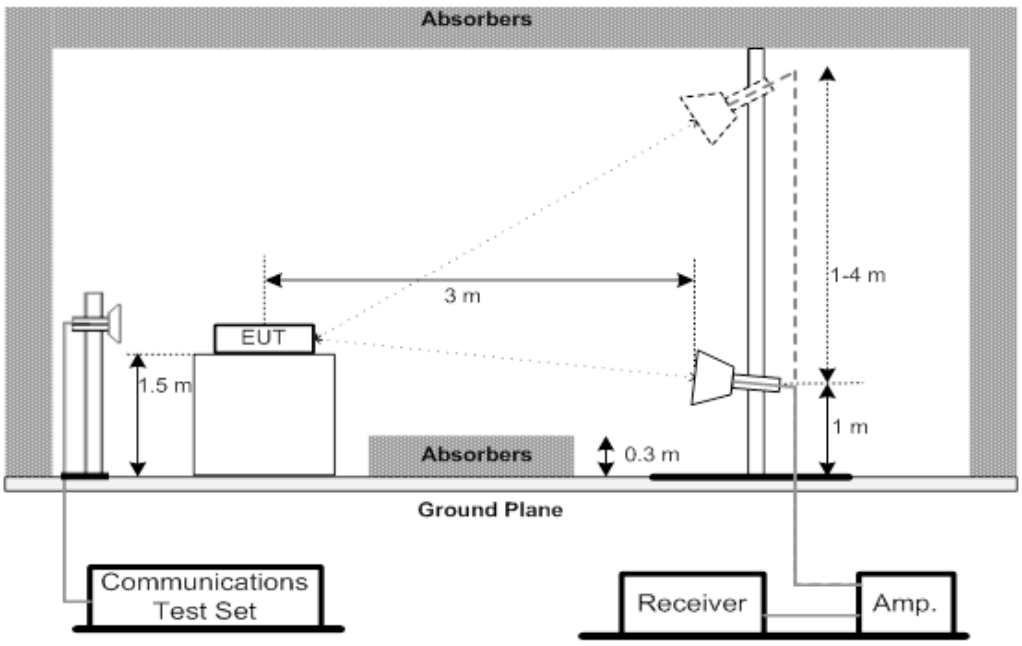
Below 30MHz



30MHz to 1000MHz



Above 1GHz



4.4.4 TEST DEVIATION

No deviation.

4.4.5 TEST RESULTS (9KHZ TO 30MHZ)

Please refer to the APPENDIX D.

4.4.6 TEST RESULTS (30MHZ TO 1000MHZ)

Please refer to the APPENDIX E.

4.4.7 TEST RESULTS (ABOVE 1000MHZ)

Please refer to the APPENDIX F.

4.5 MASK MEASUREMENTS

4.5.1 LIMIT

<Mask B>

For transmitter that are equipped with an audio low-pass filter, the power of any emission must be attenuated below the unmodulated carrier power (P) as follows:

(1) On any frequency removed from the assigned frequency by more than 50 percent, but not more than 100 percent of the authorized bandwidth: At least 25 dB.

(2) On any frequency removed from the assigned frequency by more than 100 percent, but not more than 250 percent of the authorized bandwidth: At least 35 dB.

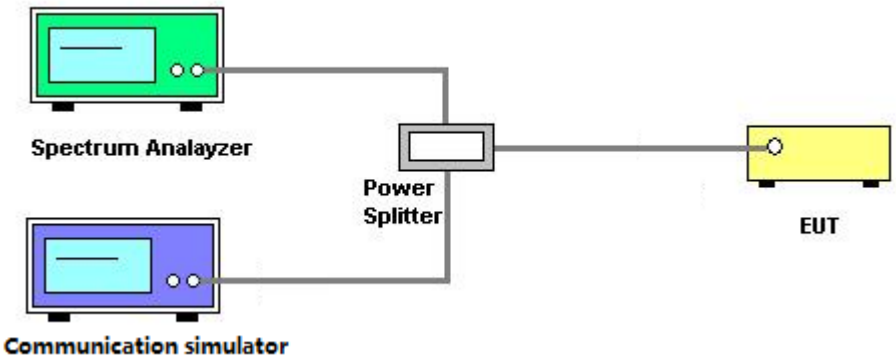
(3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least 43+10log(P) dB.

4.5.2 TEST PROCEDURES

The testing follows FCC KDB 971168 v03r01 Section 6.0 or ANSI C63.26-2015 Section 5.7.

1. All measurements were done at low and high operational frequency range.
2. Set RBW=1% of 26dBc bandwidth, VBW=3 X RBW, detector=RMS, Sweep time = Auto.
3. 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

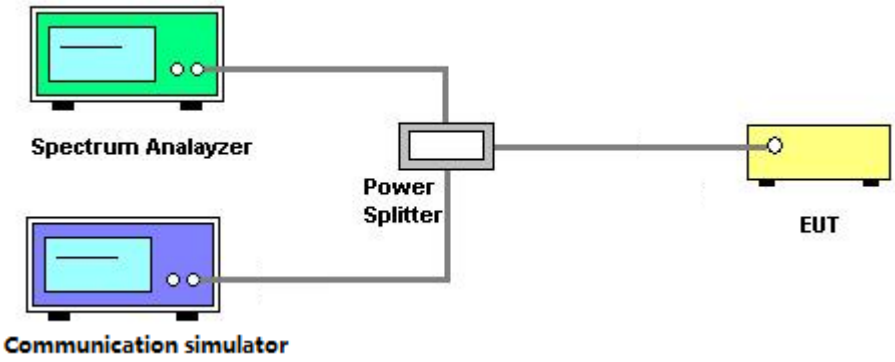
In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB.

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 CONDUCTED BAND EDGE MEASUREMENT

4.7.1 LIMIT

(1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than 76+10log(P) dB In a 6.25 KHz band segment, for base and fixed stations.

(2) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than 65+10log(P) dB In a 6.25 KHz band segment, for mobile and portable stations.

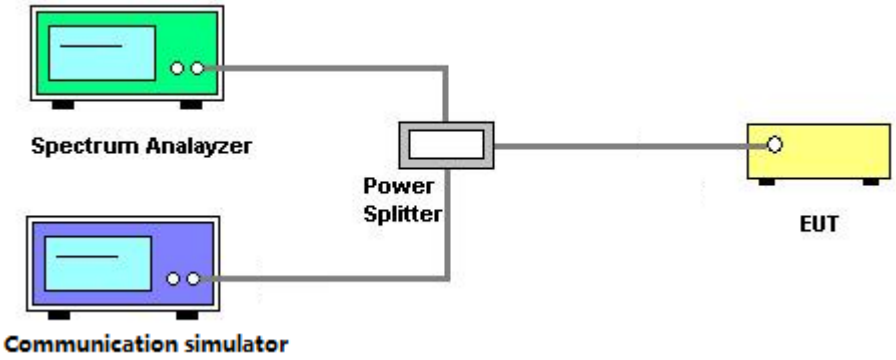
(3) On all frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least 43+10log(P) dB.

4.7.2 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.

4.7.3 TEST SETUP LAYOUT



4.7.4 TEST DEVIATION

No deviation.

4.7.5 TEST RESULTS

Please refer to the APPENDIX I.

4.8 FREQUENCY STABILITY MEASUREMENT

4.8.1 LIMIT

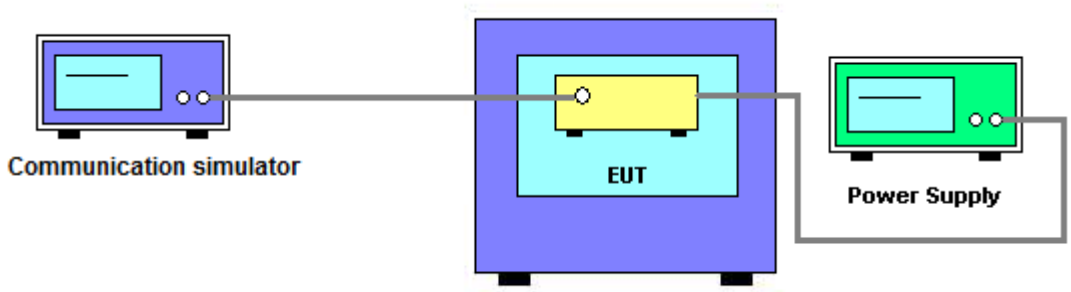
Tht frequency stability of mobile portable and control transmitters operating in the wideband segment must be 1.25 parts per million or better.

4.8.2 TEST PROCEDURES

The testing follows FCC KDB 971168 v03r01 Section 9.0 or ANSI C63.26-2015 Section 5.6.

1. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
2. EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
3. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the ±0.5°C during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.
4. The frequency error was recorded frequency error from the communication simulator.

4.8.3 TEST SETUP LAYOUT



4.8.4 TEST DEVIATION

No deviation.

4.8.5 TEST RESULTS

Please refer to the APPENDIX J.

5. 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. 06, 2025
8	5G Wireless Test Platform	Star Point	SP9500	SP9500-20419	Jan. 19, 2025

Radiated Emissions - 30 MHz to 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Trilog-Broadband Antenna	Schwarzbeck	VULB9168	587	May 12, 2025
2	Attenuator	SHX	TS2-6-6-A	240124196	May 12, 2025
3	Preamplifier	EMC INSTRUMENT	EMC001330	980998	May 31, 2025
4	Cable	RegalWay	LMR400-NMNM-12.5m	N/A	Jun. 06, 2025
5	Cable	RegalWay	LMR400-NMNM-3m	N/A	Jun. 06, 2025
6	Cable	RegalWay	LMR400-NMNM-0.5m	N/A	Jun. 06, 2025
7	MXE EMI Receiver	KEYSIGHT	N9038B	MY62210123	Oct. 29, 2025
8	Attenuator	Talent Microwave	TA10A2-S-18	N/A	N/A
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	966 Chamber room	CM	9*6*6	N/A	May 16, 2025
12	Broadband double ridged horn antenna	Regalway	RW10180-N	1911004	N/A
13	wideband radio communication tester	R&S	CMW500	152372	Dec. 06, 2025
14	Broadband double ridged horn antenna	Regalway	RW10180-N	1911004	N/A

Radiated Emissions - Above 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Receiver	Agilent	N9038A	MY52130039	Jan. 10, 2026
2	Preamplifier	EMC INSTRUMENT	EMC118A45SE	980878	Nov. 25, 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	Dec. 28, 2025
8	Positioning Controller	MF	MF-7802	N/A	N/A
9	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
10	Filter	STI	STI15-9912	N/A	May 31, 2025
11	Filter	Wairrwright Instruments Gmbh	WHK 1.5/15G-10ST	N/A	Dec. 06, 2025
12	5G Wireless Test Platform	Star Point	SP9500	SP9500-20419	Jan. 19, 2025
13	Broadband double ridged horn antenna	Regalway	RW10180-N	1911004	N/A
14	wideband radio communication tester	R&S	CMW500	152372	Dec. 06, 2025

Conducted Measurement For TR06					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Wideband Radio Communication Tester	R&S	CWM 500	104462	Jun. 28, 2025
2	Wideband Radio Communication Tester	R&S	CWM 500	165578	Jan. 19, 2025 Jan. 10, 2026
3	MXA Signal Analyzer	Agilent Technologies	N9020A	MY49100060	Jun. 28, 2025
4	MXA Signal Analyzer	KEYSIGHT	N9020B	MY63380204	Oct. 29, 2025
5	Signal Analyzer	R&S	FSV 40	100948	Jun. 28, 2025
6	Temperature Chamber	ESPEC	SU-242	93018786	Jun. 28, 2025
7	OUTPUT DC POWER SUPPLY	NA	IT6332C	803416011767330025	Jan. 19, 2025 Jan. 10, 2026
8	Measurement Software	BTL	BTL-Mobile Test20231204(1246884249)	N/A	N/A

Conducted Measurement For TR05					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Control Interface	Anritsu	ARS200	862200005	N/A
2	Radio Communication Test Station	Anritsu	MT8000A	6261867313	Jan. 19, 2025 Jan. 10, 2026
3	Measurement Software	Anritsu	UCTS (SW Ver:6.24.1227.99)	N/A	N/A

Conducted Measurement For TR01					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	5G Wireless Test Platform	Star Point	SP9500	SP9500-20335	Jan. 29, 2025 Jan. 10, 2026
2	5G Wireless Test Platform	Star Point	SP9500	SP9500-20419	Jan. 19, 2025 Jan. 10, 2026
3	MXA Signal Analyzer	Agilent Technologies	N9020A	MY49100060	Jun. 28, 2025
4	MXA Signal Analyzer	KEYSIGHT	N9020B	MY63380204	Oct. 29, 2025
5	Signal Analyzer	R&S	FSV 40	100948	Jun. 28, 2025
6	Temperature Chamber	ESPEC	SU-242	93018777	Jun. 28, 2025
7	OUTPUT DC POWER SUPPLY	NA	IT6332C	803416011767330025	Jan. 19, 2025 Jan. 10, 2026

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

APPENDIX A - OUTPUT POWER

Output Power (dBm)

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				23305CH	23330CH	23355CH
				790.5MHz	793MHz	795.5MHz
14 / 5MHz	QPSK	1	0	22.33	22.31	22.27
		1	13	22.31	22.35	22.27
		1	24	22.25	22.27	22.21
		12	0	21.40	21.33	21.20
		12	6	21.41	21.35	21.22
		12	11	21.27	21.28	21.28
		25	0	21.28	21.29	21.19
	16QAM	1	0	21.73	21.67	21.68
		1	13	21.72	21.64	21.76
		1	24	21.60	21.63	21.63
		12	0	20.40	20.36	20.22
		12	6	20.44	20.36	20.22
		12	11	20.30	20.29	20.25
		25	0	20.33	20.33	20.20
	64QAM	1	0	20.37	20.48	20.40
		1	13	20.36	20.55	20.36
		1	24	20.35	20.37	20.27
		12	0	19.30	19.22	19.22
		12	6	19.36	19.27	19.21
		12	11	19.32	19.23	19.19
		25	0	19.29	19.20	19.18
	256QAM	1	0	19.13	18.98	19.03
		1	13	19.00	19.13	18.98
		1	24	19.03	19.10	18.96
		12	0	17.95	17.96	18.05
		12	6	17.95	18.01	18.09
		12	11	18.10	18.09	17.99
		25	0	18.12	17.94	18.10

LTE Band / BW	Modulation	RB Size	RB Offset	Mid CH
				23330CH
				793MHz
14 / 10MHz	QPSK	1	0	22.36
		1	25	22.31
		1	49	22.17
		25	0	21.37
		25	13	21.34
		25	25	21.28
		50	0	21.34
	16QAM	1	0	21.71
		1	25	21.59
		1	49	21.50
		25	0	20.40
		25	13	20.36
		25	25	20.25
		50	0	20.37
	64QAM	1	0	20.45
		1	25	20.48
		1	49	20.31
		25	0	19.24
		25	13	19.27
		25	25	19.18
		50	0	19.26
	256QAM	1	0	18.99
		1	25	18.98
		1	49	19.04
		25	0	18.13
		25	13	17.98
		25	25	18.11
		50	0	18.07

ERP (dBm)

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				23305CH	23330CH	23355CH
				790.5MHz	793MHz	795.5MHz
14 / 5MHz	QPSK	1	0	14.42	14.40	14.36
		1	13	14.40	14.44	14.36
		1	24	14.34	14.36	14.30
		12	0	13.49	13.42	13.29
		12	6	13.50	13.44	13.31
		12	11	13.36	13.37	13.37
		25	0	13.37	13.38	13.28
	16QAM	1	0	13.82	13.76	13.77
		1	13	13.81	13.73	13.85
		1	24	13.69	13.72	13.72
		12	0	12.49	12.45	12.31
		12	6	12.53	12.45	12.31
		12	11	12.39	12.38	12.34
		25	0	12.42	12.42	12.29
	64QAM	1	0	12.46	12.57	12.49
		1	13	12.45	12.64	12.45
		1	24	12.44	12.46	12.36
		12	0	11.39	11.31	11.31
		12	6	11.45	11.36	11.30
		12	11	11.41	11.32	11.28
		25	0	11.38	11.29	11.27
	256QAM	1	0	11.22	11.07	11.12
		1	13	11.09	11.22	11.07
		1	24	11.12	11.19	11.05
		12	0	10.04	10.05	10.14
		12	6	10.04	10.10	10.18
		12	11	10.19	10.18	10.08
		25	0	10.21	10.03	10.19

LTE Band / BW	Modulation	RB Size	RB Offset	Mid CH
				23330CH
				793MHz
14 / 10MHz	QPSK	1	0	14.45
		1	25	14.40
		1	49	14.26
		25	0	13.46
		25	13	13.43
		25	25	13.37
		50	0	13.43
	16QAM	1	0	13.80
		1	25	13.68
		1	49	13.59
		25	0	12.49
		25	13	12.45
		25	25	12.34
		50	0	12.46
	64QAM	1	0	12.54
		1	25	12.57
		1	49	12.40
		25	0	11.33
		25	13	11.36
		25	25	11.27
		50	0	11.35
	256QAM	1	0	11.08
		1	25	11.07
		1	49	11.13
		25	0	10.22
		25	13	10.07
		25	25	10.20
		50	0	10.16

5G NR n14

Band	Channel	Test Item	Measured Value	ERP
n14	152100	RF power output:n14_5MHz_15kHz_152100;5;DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	22.83	14.92
n14	152100	RF power output:n14_5MHz_15kHz_152100;6;DFT-s-OFDM PI/2 BPSK^Edge_1RB_Left:PC3	22.2	14.29
n14	152100	RF power output:n14_5MHz_15kHz_152100;7;DFT-s-OFDM PI/2 BPSK^Edge_1RB_Right:PC3	22.2	14.29
n14	152100	RF power output:n14_5MHz_15kHz_152100;8;DFT-s-OFDM PI/2 BPSK^Outer_Full:PC3	22.24	14.33
n14	152100	RF power output:n14_5MHz_15kHz_152100;9;DFT-s-OFDM QPSK^Inner_Full:PC3	22.83	14.92
n14	152100	RF power output:n14_5MHz_15kHz_152100;10;DFT-s-OFDM QPSK^Edge_1RB_Left:PC3	21.7	13.79
n14	152100	RF power output:n14_5MHz_15kHz_152100;11;DFT-s-OFDM QPSK^Edge_1RB_Right:PC3	21.73	13.82
n14	152100	RF power output:n14_5MHz_15kHz_152100;12;DFT-s-OFDM QPSK^Outer_Full:PC3	21.88	13.97
n14	152100	RF power output:n14_5MHz_15kHz_152100;13;DFT-s-OFDM 16QAM^Inner_Full:PC3	21.96	14.05
n14	152100	RF power output:n14_5MHz_15kHz_152100;14;DFT-s-OFDM 16QAM^Edge_1RB_Left:PC3	20.74	12.83
n14	152100	RF power output:n14_5MHz_15kHz_152100;15;DFT-s-OFDM 16QAM^Edge_1RB_Right:PC3	20.78	12.87
n14	152100	RF power output:n14_5MHz_15kHz_152100;16;DFT-s-OFDM 16QAM^Outer_Full:PC3	20.91	13
n14	152100	RF power output:n14_5MHz_15kHz_152100;17;DFT-s-OFDM 64QAM^Edge_1RB_Left:PC3	20.46	12.55
n14	152100	RF power output:n14_5MHz_15kHz_152100;18;DFT-s-OFDM 64QAM^Edge_1RB_Right:PC3	20.47	12.56
n14	152100	RF power output:n14_5MHz_15kHz_152100;19;DFT-s-OFDM 64QAM^Outer_Full:PC3	20.37	12.46
n14	152100	RF power output:n14_5MHz_15kHz_152100;20;DFT-s-OFDM 256QAM^Edge_1RB_Left:PC3	17.69	9.78
n14	152100	RF power output:n14_5MHz_15kHz_152100;21;DFT-s-OFDM 256QAM^Edge_1RB_Right:PC3	17.75	9.84
n14	152100	RF power output:n14_5MHz_15kHz_152100;22;DFT-s-OFDM 256QAM^Outer_Full:PC3	18.29	10.38
n14	152100	RF power output:n14_5MHz_15kHz_152100;23;CP-OFDM QPSK^Inner_Full:PC3	21.51	13.6
n14	152100	RF power output:n14_5MHz_15kHz_152100;24;CP-OFDM QPSK^Edge_1RB_Left:PC3	19.77	11.86
n14	152100	RF power output:n14_5MHz_15kHz_152100;25;CP-OFDM QPSK^Edge_1RB_Right:PC3	19.82	11.91
n14	152100	RF power output:n14_5MHz_15kHz_152100;26;CP-OFDM QPSK^Outer_Full:PC3	19.85	11.94
n14	152100	RF power output:n14_5MHz_15kHz_152100;27;CP-OFDM 16QAM^Inner_Full:PC3	20.87	12.96
n14	152100	RF power output:n14_5MHz_15kHz_152100;28;CP-OFDM 16QAM^Edge_1RB_Left:PC3	19.88	11.97
n14	152100	RF power output:n14_5MHz_15kHz_152100;29;CP-OFDM 16QAM^Edge_1RB_Right:PC3	19.99	12.08
n14	152100	RF power output:n14_5MHz_15kHz_152100;30;CP-OFDM 16QAM^Outer_Full:PC3	19.86	11.95
n14	152100	RF power output:n14_5MHz_15kHz_152100;31;CP-OFDM 64QAM^Edge_1RB_Left:PC3	19.25	11.34
n14	152100	RF power output:n14_5MHz_15kHz_152100;32;CP-OFDM 64QAM^Edge_1RB_Right:PC3	19.35	11.44
n14	152100	RF power output:n14_5MHz_15kHz_152100;33;CP-OFDM 64QAM^Outer_Full:PC3	19.46	11.55
n14	152100	RF power output:n14_5MHz_15kHz_152100;34;CP-OFDM 256QAM^Edge_1RB_Left:PC3	16.36	8.45
n14	152100	RF power output:n14_5MHz_15kHz_152100;35;CP-OFDM 256QAM^Edge_1RB_Right:PC3	16.42	8.51
n14	152100	RF power output:n14_5MHz_15kHz_152100;36;CP-OFDM 256QAM^Outer_Full:PC3	16.28	8.37

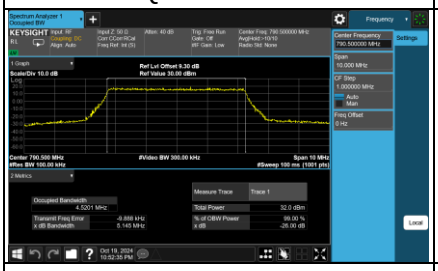
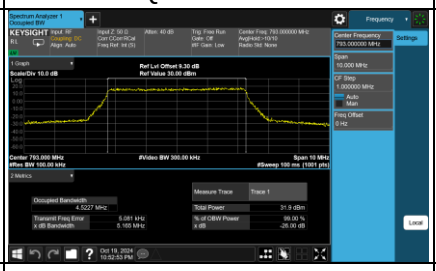
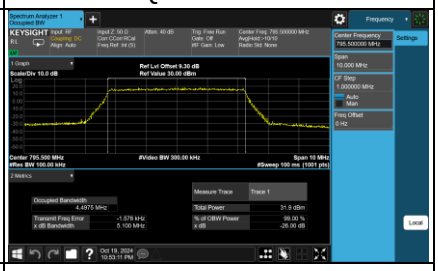
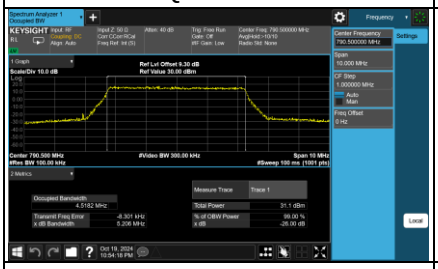
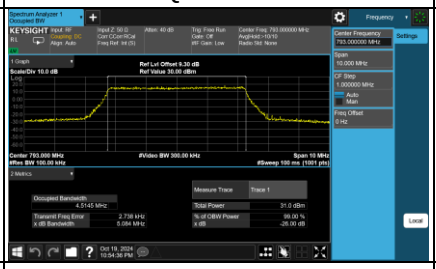
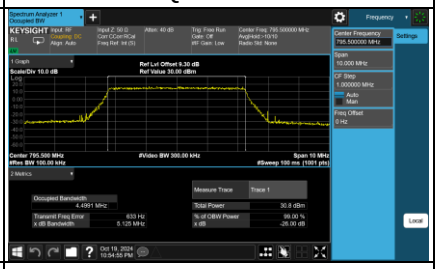
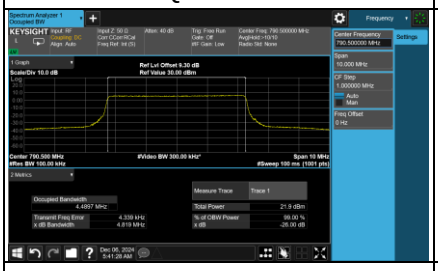
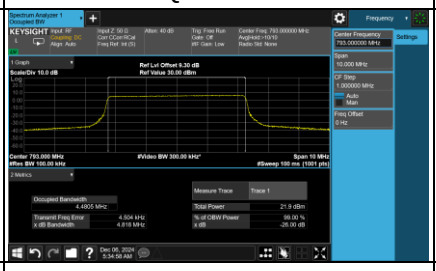
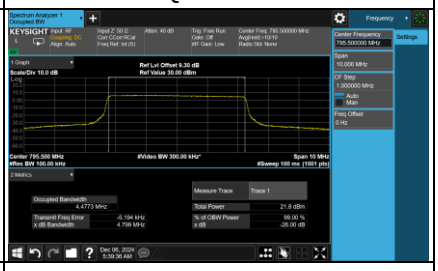
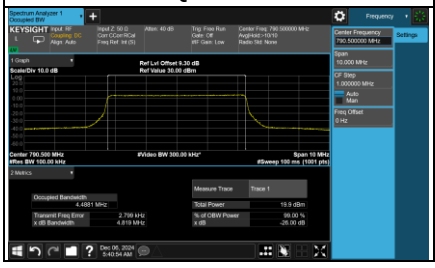
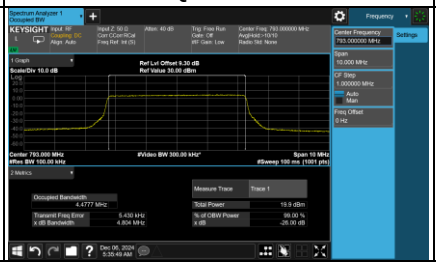
Band	Channel	Test Item	Measured Value	ERP
n14	152600	RF power output:n14_5MHz_15kHz_152600;5;DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	22.82	14.91
n14	152600	RF power output:n14_5MHz_15kHz_152600;6;DFT-s-OFDM PI/2 BPSK^Edge_1RB_Left:PC3	22.28	14.37
n14	152600	RF power output:n14_5MHz_15kHz_152600;7;DFT-s-OFDM PI/2 BPSK^Edge_1RB_Right:PC3	22.21	14.3
n14	152600	RF power output:n14_5MHz_15kHz_152600;8;DFT-s-OFDM PI/2 BPSK^Outer_Full:PC3	22.25	14.34
n14	152600	RF power output:n14_5MHz_15kHz_152600;9;DFT-s-OFDM QPSK^Inner_Full:PC3	22.78	14.87
n14	152600	RF power output:n14_5MHz_15kHz_152600;10;DFT-s-OFDM QPSK^Edge_1RB_Left:PC3	21.81	13.9
n14	152600	RF power output:n14_5MHz_15kHz_152600;11;DFT-s-OFDM QPSK^Edge_1RB_Right:PC3	21.74	13.83
n14	152600	RF power output:n14_5MHz_15kHz_152600;12;DFT-s-OFDM QPSK^Outer_Full:PC3	21.77	13.86
n14	152600	RF power output:n14_5MHz_15kHz_152600;13;DFT-s-OFDM 16QAM^Inner_Full:PC3	21.94	14.03
n14	152600	RF power output:n14_5MHz_15kHz_152600;14;DFT-s-OFDM 16QAM^Edge_1RB_Left:PC3	20.85	12.94
n14	152600	RF power output:n14_5MHz_15kHz_152600;15;DFT-s-OFDM 16QAM^Edge_1RB_Right:PC3	20.72	12.81
n14	152600	RF power output:n14_5MHz_15kHz_152600;16;DFT-s-OFDM 16QAM^Outer_Full:PC3	20.83	12.92
n14	152600	RF power output:n14_5MHz_15kHz_152600;17;DFT-s-OFDM 64QAM^Edge_1RB_Left:PC3	20.52	12.61
n14	152600	RF power output:n14_5MHz_15kHz_152600;18;DFT-s-OFDM 64QAM^Edge_1RB_Right:PC3	20.42	12.51
n14	152600	RF power output:n14_5MHz_15kHz_152600;19;DFT-s-OFDM 64QAM^Outer_Full:PC3	20.29	12.38
n14	152600	RF power output:n14_5MHz_15kHz_152600;20;DFT-s-OFDM 256QAM^Edge_1RB_Left:PC3	17.75	9.84
n14	152600	RF power output:n14_5MHz_15kHz_152600;21;DFT-s-OFDM 256QAM^Edge_1RB_Right:PC3	17.71	9.8
n14	152600	RF power output:n14_5MHz_15kHz_152600;22;DFT-s-OFDM 256QAM^Outer_Full:PC3	18.27	10.36
n14	152600	RF power output:n14_5MHz_15kHz_152600;23;CP-OFDM QPSK^Inner_Full:PC3	21.5	13.59
n14	152600	RF power output:n14_5MHz_15kHz_152600;24;CP-OFDM QPSK^Edge_1RB_Left:PC3	19.92	12.01
n14	152600	RF power output:n14_5MHz_15kHz_152600;25;CP-OFDM QPSK^Edge_1RB_Right:PC3	19.88	11.97
n14	152600	RF power output:n14_5MHz_15kHz_152600;26;CP-OFDM QPSK^Outer_Full:PC3	19.81	11.9
n14	152600	RF power output:n14_5MHz_15kHz_152600;27;CP-OFDM 16QAM^Inner_Full:PC3	20.83	12.92
n14	152600	RF power output:n14_5MHz_15kHz_152600;28;CP-OFDM 16QAM^Edge_1RB_Left:PC3	19.84	11.93
n14	152600	RF power output:n14_5MHz_15kHz_152600;29;CP-OFDM 16QAM^Edge_1RB_Right:PC3	20.01	12.1
n14	152600	RF power output:n14_5MHz_15kHz_152600;30;CP-OFDM 16QAM^Outer_Full:PC3	19.82	11.91
n14	152600	RF power output:n14_5MHz_15kHz_152600;31;CP-OFDM 64QAM^Edge_1RB_Left:PC3	19.28	11.37
n14	152600	RF power output:n14_5MHz_15kHz_152600;32;CP-OFDM 64QAM^Edge_1RB_Right:PC3	19.26	11.35
n14	152600	RF power output:n14_5MHz_15kHz_152600;33;CP-OFDM 64QAM^Outer_Full:PC3	19.46	11.55
n14	152600	RF power output:n14_5MHz_15kHz_152600;34;CP-OFDM 256QAM^Edge_1RB_Left:PC3	16.48	8.57
n14	152600	RF power output:n14_5MHz_15kHz_152600;35;CP-OFDM 256QAM^Edge_1RB_Right:PC3	16.37	8.46
n14	152600	RF power output:n14_5MHz_15kHz_152600;36;CP-OFDM 256QAM^Outer_Full:PC3	16.25	8.34

Band	Channel	Test Item	Measured Value	ERP
n14	153100	RF power output:n14_5MHz_15kHz_153100;5;DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	22.85	14.94
n14	153100	RF power output:n14_5MHz_15kHz_153100;6;DFT-s-OFDM PI/2 BPSK^Edge_1RB_Left:PC3	22.39	14.48
n14	153100	RF power output:n14_5MHz_15kHz_153100;7;DFT-s-OFDM PI/2 BPSK^Edge_1RB_Right:PC3	22.32	14.41
n14	153100	RF power output:n14_5MHz_15kHz_153100;8;DFT-s-OFDM PI/2 BPSK^Outer_Full:PC3	22.43	14.52
n14	153100	RF power output:n14_5MHz_15kHz_153100;9;DFT-s-OFDM QPSK^Inner_Full:PC3	22.83	14.92
n14	153100	RF power output:n14_5MHz_15kHz_153100;10;DFT-s-OFDM QPSK^Edge_1RB_Left:PC3	21.87	13.96
n14	153100	RF power output:n14_5MHz_15kHz_153100;11;DFT-s-OFDM QPSK^Edge_1RB_Right:PC3	21.84	13.93
n14	153100	RF power output:n14_5MHz_15kHz_153100;12;DFT-s-OFDM QPSK^Outer_Full:PC3	21.81	13.9
n14	153100	RF power output:n14_5MHz_15kHz_153100;13;DFT-s-OFDM 16QAM^Inner_Full:PC3	21.95	14.04
n14	153100	RF power output:n14_5MHz_15kHz_153100;14;DFT-s-OFDM 16QAM^Edge_1RB_Left:PC3	20.88	12.97
n14	153100	RF power output:n14_5MHz_15kHz_153100;15;DFT-s-OFDM 16QAM^Edge_1RB_Right:PC3	20.84	12.93
n14	153100	RF power output:n14_5MHz_15kHz_153100;16;DFT-s-OFDM 16QAM^Outer_Full:PC3	20.89	12.98
n14	153100	RF power output:n14_5MHz_15kHz_153100;17;DFT-s-OFDM 64QAM^Edge_1RB_Left:PC3	20.55	12.64
n14	153100	RF power output:n14_5MHz_15kHz_153100;18;DFT-s-OFDM 64QAM^Edge_1RB_Right:PC3	20.51	12.6
n14	153100	RF power output:n14_5MHz_15kHz_153100;19;DFT-s-OFDM 64QAM^Outer_Full:PC3	20.35	12.44
n14	153100	RF power output:n14_5MHz_15kHz_153100;20;DFT-s-OFDM 256QAM^Edge_1RB_Left:PC3	17.78	9.87
n14	153100	RF power output:n14_5MHz_15kHz_153100;21;DFT-s-OFDM 256QAM^Edge_1RB_Right:PC3	17.81	9.9
n14	153100	RF power output:n14_5MHz_15kHz_153100;22;DFT-s-OFDM 256QAM^Outer_Full:PC3	18.38	10.47
n14	153100	RF power output:n14_5MHz_15kHz_153100;23;CP-OFDM QPSK^Inner_Full:PC3	21.56	13.65
n14	153100	RF power output:n14_5MHz_15kHz_153100;24;CP-OFDM QPSK^Edge_1RB_Left:PC3	19.98	12.07
n14	153100	RF power output:n14_5MHz_15kHz_153100;25;CP-OFDM QPSK^Edge_1RB_Right:PC3	20.01	12.1
n14	153100	RF power output:n14_5MHz_15kHz_153100;26;CP-OFDM QPSK^Outer_Full:PC3	19.95	12.04
n14	153100	RF power output:n14_5MHz_15kHz_153100;27;CP-OFDM 16QAM^Inner_Full:PC3	21.02	13.11
n14	153100	RF power output:n14_5MHz_15kHz_153100;28;CP-OFDM 16QAM^Edge_1RB_Left:PC3	20.11	12.2
n14	153100	RF power output:n14_5MHz_15kHz_153100;29;CP-OFDM 16QAM^Edge_1RB_Right:PC3	20.03	12.12
n14	153100	RF power output:n14_5MHz_15kHz_153100;30;CP-OFDM 16QAM^Outer_Full:PC3	19.82	11.91
n14	153100	RF power output:n14_5MHz_15kHz_153100;31;CP-OFDM 64QAM^Edge_1RB_Left:PC3	19.32	11.41
n14	153100	RF power output:n14_5MHz_15kHz_153100;32;CP-OFDM 64QAM^Edge_1RB_Right:PC3	19.33	11.42
n14	153100	RF power output:n14_5MHz_15kHz_153100;33;CP-OFDM 64QAM^Outer_Full:PC3	19.44	11.53
n14	153100	RF power output:n14_5MHz_15kHz_153100;34;CP-OFDM 256QAM^Edge_1RB_Left:PC3	16.46	8.55
n14	153100	RF power output:n14_5MHz_15kHz_153100;35;CP-OFDM 256QAM^Edge_1RB_Right:PC3	16.5	8.59
n14	153100	RF power output:n14_5MHz_15kHz_153100;36;CP-OFDM 256QAM^Outer_Full:PC3	16.44	8.53

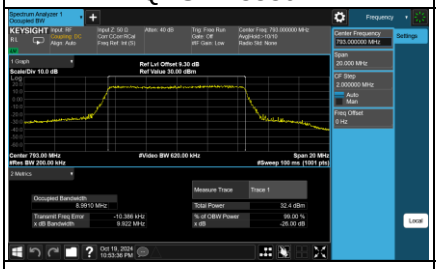
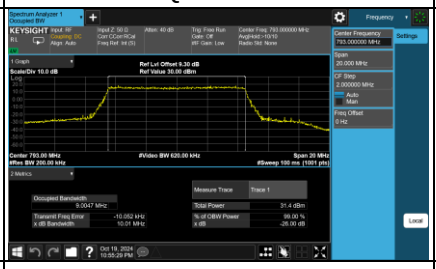
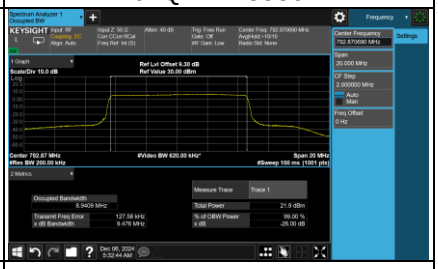
Band	Channel	Test Item	Measured Value	ERP
n14	152600	RF power output:n14_10MHz_15kHz_152600;5;DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	22.74	14.83
n14	152600	RF power output:n14_10MHz_15kHz_152600;6;DFT-s-OFDM PI/2 BPSK^Edge_1RB_Left:PC3	22.31	14.4
n14	152600	RF power output:n14_10MHz_15kHz_152600;7;DFT-s-OFDM PI/2 BPSK^Edge_1RB_Right:PC3	22.3	14.39
n14	152600	RF power output:n14_10MHz_15kHz_152600;8;DFT-s-OFDM PI/2 BPSK^Outer_Full:PC3	22.32	14.41
n14	152600	RF power output:n14_10MHz_15kHz_152600;9;DFT-s-OFDM QPSK^Inner_Full:PC3	22.8	14.89
n14	152600	RF power output:n14_10MHz_15kHz_152600;10;DFT-s-OFDM QPSK^Edge_1RB_Left:PC3	21.74	13.83
n14	152600	RF power output:n14_10MHz_15kHz_152600;11;DFT-s-OFDM QPSK^Edge_1RB_Right:PC3	21.88	13.97
n14	152600	RF power output:n14_10MHz_15kHz_152600;12;DFT-s-OFDM QPSK^Outer_Full:PC3	21.83	13.92
n14	152600	RF power output:n14_10MHz_15kHz_152600;13;DFT-s-OFDM 16QAM^Inner_Full:PC3	21.83	13.92
n14	152600	RF power output:n14_10MHz_15kHz_152600;14;DFT-s-OFDM 16QAM^Edge_1RB_Left:PC3	20.84	12.93
n14	152600	RF power output:n14_10MHz_15kHz_152600;15;DFT-s-OFDM 16QAM^Edge_1RB_Right:PC3	20.87	12.96
n14	152600	RF power output:n14_10MHz_15kHz_152600;16;DFT-s-OFDM 16QAM^Outer_Full:PC3	20.86	12.95
n14	152600	RF power output:n14_10MHz_15kHz_152600;17;DFT-s-OFDM 64QAM^Edge_1RB_Left:PC3	20.43	12.52
n14	152600	RF power output:n14_10MHz_15kHz_152600;18;DFT-s-OFDM 64QAM^Edge_1RB_Right:PC3	20.47	12.56
n14	152600	RF power output:n14_10MHz_15kHz_152600;19;DFT-s-OFDM 64QAM^Outer_Full:PC3	20.3	12.39
n14	152600	RF power output:n14_10MHz_15kHz_152600;20;DFT-s-OFDM 256QAM^Edge_1RB_Left:PC3	17.6	9.69
n14	152600	RF power output:n14_10MHz_15kHz_152600;21;DFT-s-OFDM 256QAM^Edge_1RB_Right:PC3	17.77	9.86
n14	152600	RF power output:n14_10MHz_15kHz_152600;22;DFT-s-OFDM 256QAM^Outer_Full:PC3	18.29	10.38
n14	152600	RF power output:n14_10MHz_15kHz_152600;23;CP-OFDM QPSK^Inner_Full:PC3	21.24	13.33
n14	152600	RF power output:n14_10MHz_15kHz_152600;24;CP-OFDM QPSK^Edge_1RB_Left:PC3	19.9	11.99
n14	152600	RF power output:n14_10MHz_15kHz_152600;25;CP-OFDM QPSK^Edge_1RB_Right:PC3	19.96	12.05
n14	152600	RF power output:n14_10MHz_15kHz_152600;26;CP-OFDM QPSK^Outer_Full:PC3	19.79	11.88
n14	152600	RF power output:n14_10MHz_15kHz_152600;27;CP-OFDM 16QAM^Inner_Full:PC3	20.88	12.97
n14	152600	RF power output:n14_10MHz_15kHz_152600;28;CP-OFDM 16QAM^Edge_1RB_Left:PC3	20.05	12.14
n14	152600	RF power output:n14_10MHz_15kHz_152600;29;CP-OFDM 16QAM^Edge_1RB_Right:PC3	20.14	12.23
n14	152600	RF power output:n14_10MHz_15kHz_152600;30;CP-OFDM 16QAM^Outer_Full:PC3	19.8	11.89
n14	152600	RF power output:n14_10MHz_15kHz_152600;31;CP-OFDM 64QAM^Edge_1RB_Left:PC3	19.19	11.28
n14	152600	RF power output:n14_10MHz_15kHz_152600;32;CP-OFDM 64QAM^Edge_1RB_Right:PC3	19.24	11.33
n14	152600	RF power output:n14_10MHz_15kHz_152600;33;CP-OFDM 64QAM^Outer_Full:PC3	19.36	11.45
n14	152600	RF power output:n14_10MHz_15kHz_152600;34;CP-OFDM 256QAM^Edge_1RB_Left:PC3	16.3	8.39
n14	152600	RF power output:n14_10MHz_15kHz_152600;35;CP-OFDM 256QAM^Edge_1RB_Right:PC3	16.47	8.56
n14	152600	RF power output:n14_10MHz_15kHz_152600;36;CP-OFDM 256QAM^Outer_Full:PC3	16.38	8.47

APPENDIX B - OCCUPIED BANDWIDTH

LTE Band 14_5MHz									
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)				26dB Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
23305	790.5	4.5201	4.5182	4.4897	4.4881	5.145	5.206	4.819	4.819
23330	793	4.5227	4.5145	4.4805	4.4777	5.165	5.084	4.818	4.804
23355	795.5	4.4975	4.4991	4.4773	4.4732	5.100	5.125	4.799	4.805

Spectrum Plot		
QPSK-23305	QPSK-23330	QPSK-23355
		
16QAM-23305	16QAM-23330	16QAM-23355
		
64QAM-23305	64QAM-23330	64QAM-23355
		
256QAM-23305	256QAM-23330	256QAM-23355
		

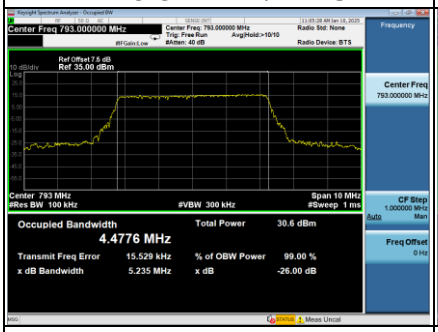
LTE Band 14_10MHz									
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)				26dB Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
23330	793	8.9910	9.0047	8.9409	8.9375	9.922	10.01	9.476	9.476

Spectrum Plot		
QPSK-23330	16QAM-23330	64QAM-23330
		
256QAM-23330	-	-
	-	-

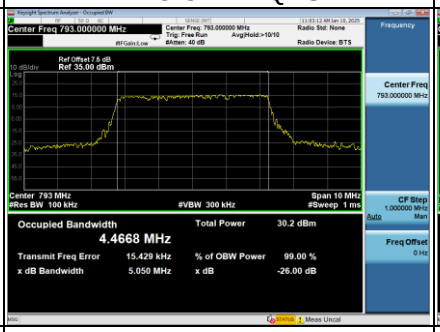
NR n14_Mid CH_5MHz		
Modulation	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
DFT-s-OFDM PI/2 BPSK	4.4776	5.235
DFT-s-OFDM QPSK	4.4668	5.050
DFT-s-OFDM 16QAM	4.4650	5.031
DFT-s-OFDM 64QAM	4.4839	5.002
DFT-s-OFDM 256QAM	4.4778	5.072
CP-OFDM QPSK	4.4741	5.092
CP-OFDM 16QAM	4.4974	5.097
CP-OFDM 64QAM	4.4977	5.064
CP-OFDM 256QAM	4.4753	5.034

Spectrum Plot

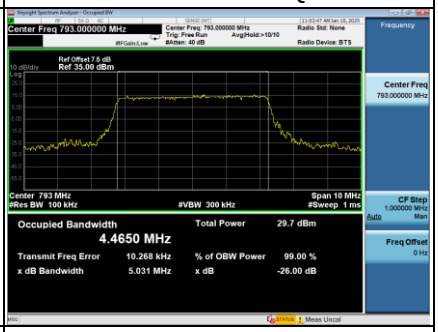
DFT-s-OFDM PI/2 BPSK



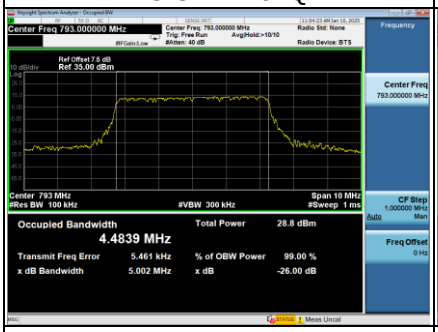
DFT-s-OFDM QPSK



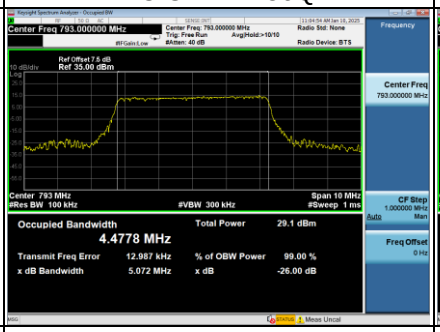
DFT-s-OFDM 16QAM



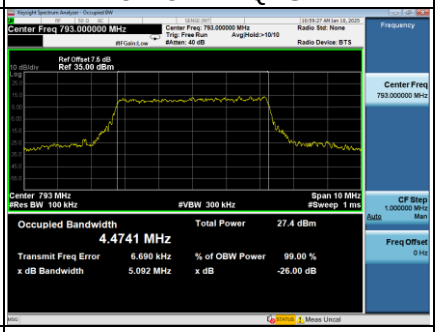
DFT-s-OFDM 64QAM



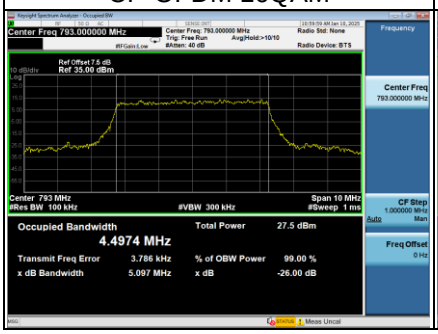
DFT-s-OFDM 256QAM



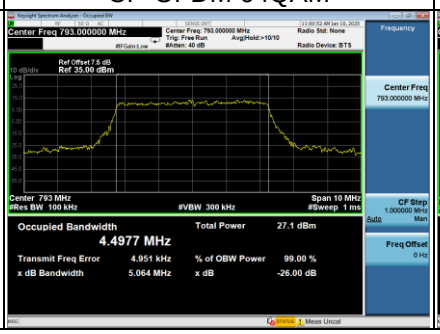
CP-OFDM QPSK



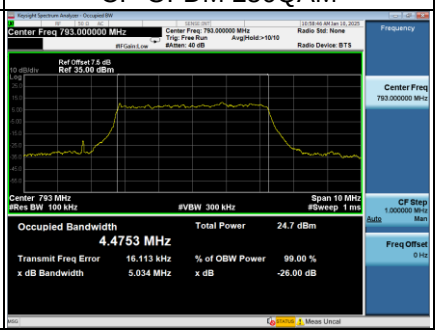
CP-OFDM 16QAM



CP-OFDM 64QAM



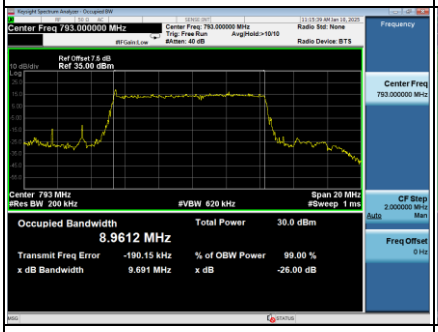
CP-OFDM 256QAM



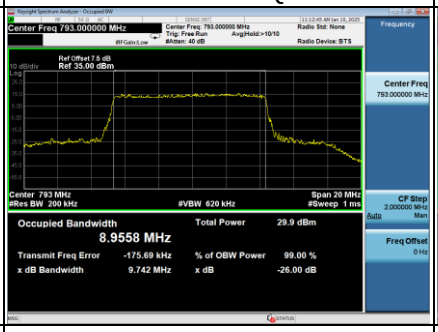
NR n14_Mid CH_10MHz		
Modulation	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
DFT-s-OFDM PI/2 BPSK	8.9612	9.691
DFT-s-OFDM QPSK	8.9558	9.742
DFT-s-OFDM 16QAM	8.9654	9.683
DFT-s-OFDM 64QAM	8.9593	9.535
DFT-s-OFDM 256QAM	8.9531	9.566
CP-OFDM QPSK	9.3080	10.02
CP-OFDM 16QAM	9.2897	10.03
CP-OFDM 64QAM	9.3170	10.24
CP-OFDM 256QAM	9.3374	10.26

Spectrum Plot

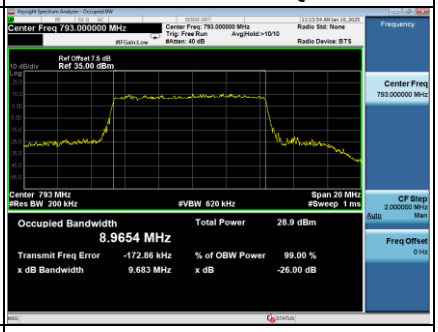
DFT-s-OFDM PI/2 BPSK



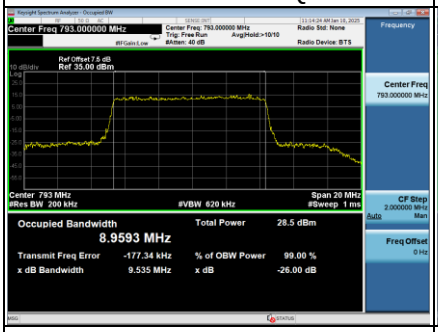
DFT-s-OFDM QPSK



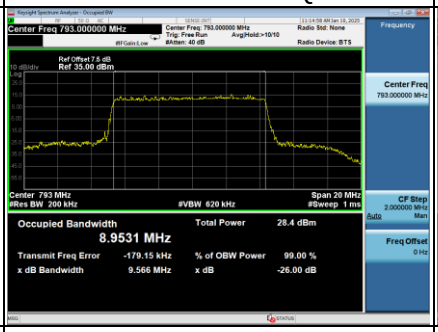
DFT-s-OFDM 16QAM



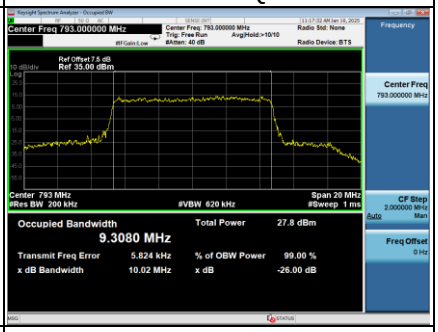
DFT-s-OFDM 64QAM



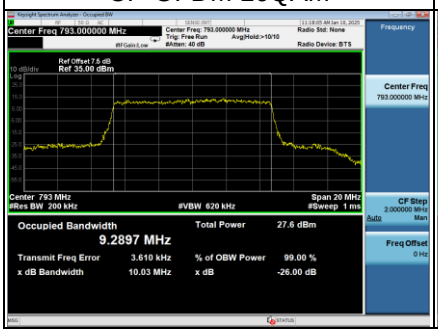
DFT-s-OFDM 256QAM



CP-OFDM QPSK

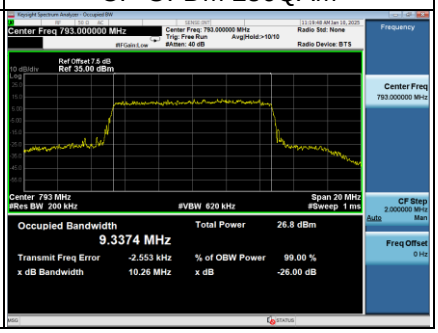


CP-OFDM 16QAM

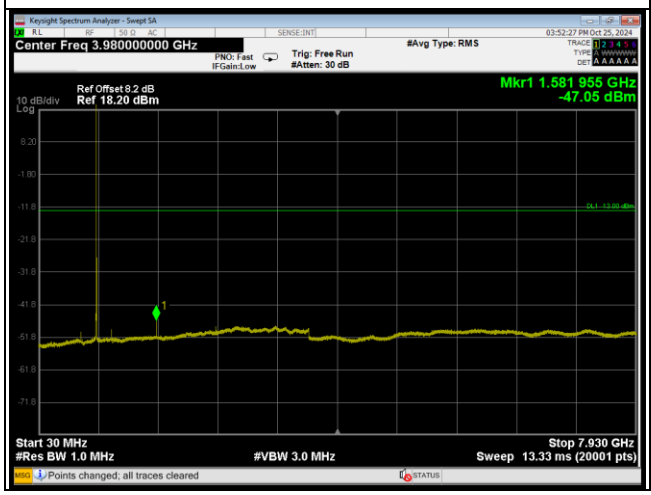
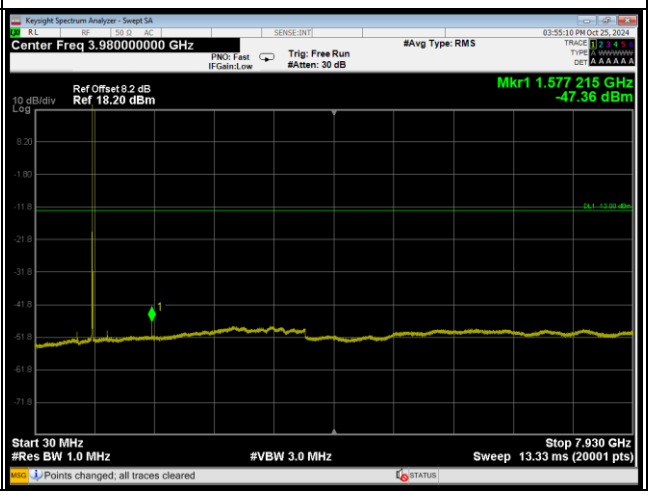


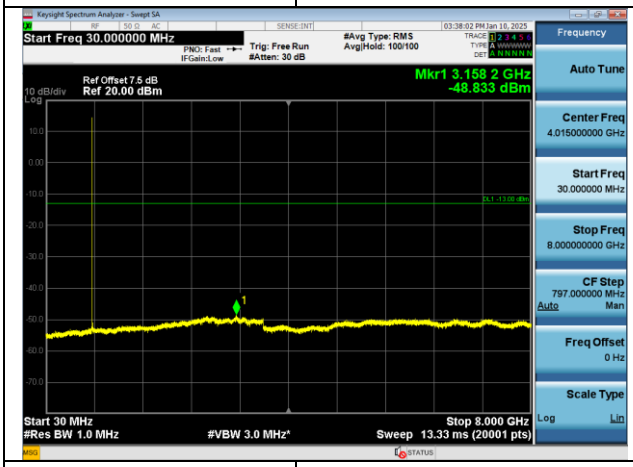
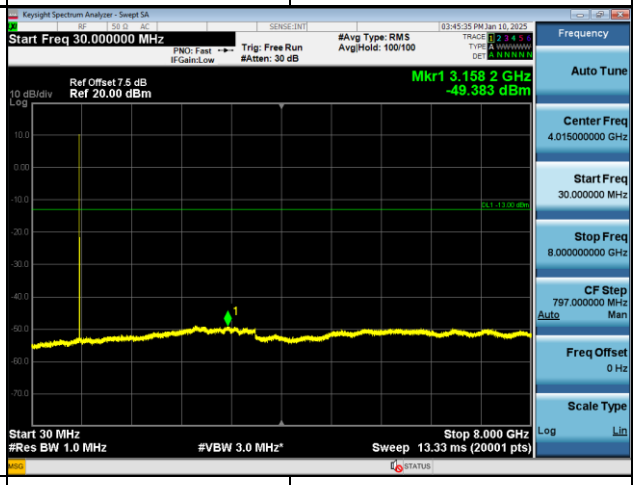
CP-OFDM 64QAM

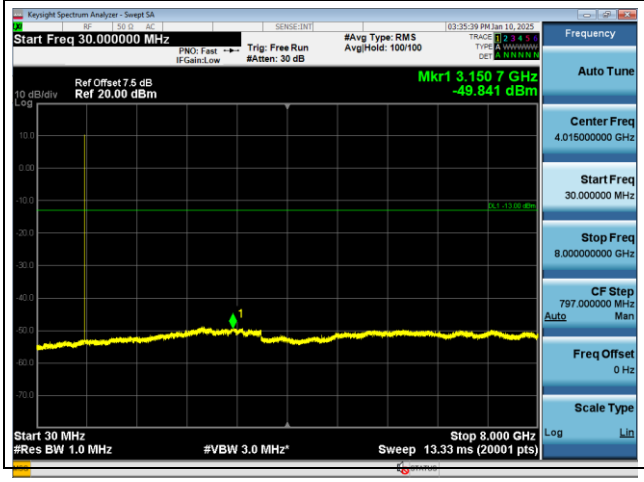
CP-OFDM 256QAM



APPENDIX C - CONDUCTED SPURIOUS EMISSIONS

LTE Band 14_ Spectrum Plot	
5MHz	10MHz
	

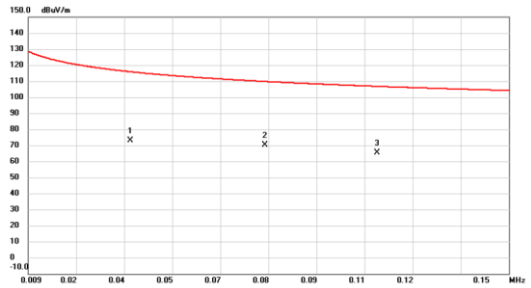
NR n14_5M Spectrum Plot			
DFT-s-OFDM PI/2 BPSK		DFT-s-OFDM QPSK	
Channel	Low	Channel	Low
			
Channel	Mid	Channel	Mid
			
Channel	High	Channel	High
			

NR n14_10M Spectrum Plot			
DFT-s-OFDM PI/2 BPSK		DFT-s-OFDM QPSK	
Channel	Mid	Channel	Mid
			

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

Test Mode :	TX Mode

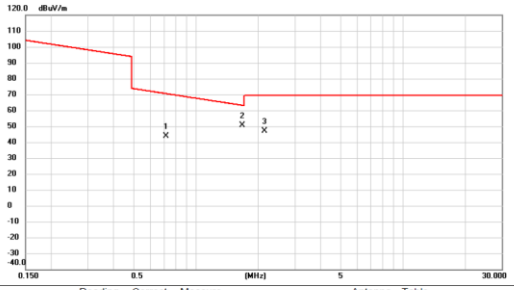
Ant 0°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		0.0390	51.91	21.18	73.09	115.78	-42.69	AVG			
2	*	0.0785	48.67	21.34	70.01	109.71	-39.70	AVG			
3		0.1114	44.13	21.32	65.45	106.67	-41.22	QP			

Test Mode :	TX Mode

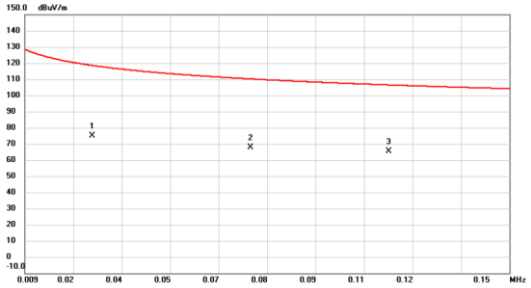
Ant 0°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		0.7171	22.84	21.13	43.97	70.49	-26.52	QP			
2	*	1.6724	29.59	21.14	50.73	63.14	-12.41	QP			
3		2.1500	25.80	21.11	46.91	69.54	-22.63	QP			

Test Mode :	TX Mode

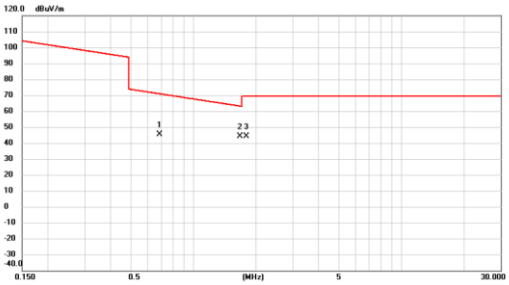
Ant 90°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		0.0287	53.75	21.10	74.85	118.45	-43.60	AVG			
2		0.0747	46.45	21.32	67.77	110.14	-42.37	AVG			
3	*	0.1150	44.09	21.32	65.41	106.39	-40.98	QP			

Test Mode :	TX Mode

Ant 90°

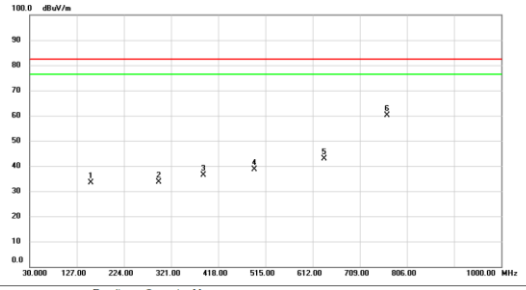


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		0.6873	24.14	21.12	45.26	70.86	-25.60	QP			
2	*	1.6724	23.26	21.14	44.40	63.14	-18.74	QP			
3		1.7917	23.16	21.13	44.29	69.54	-25.25	QP			

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

Test Mode :	LTE Band 14_TX CH23330_5MHz

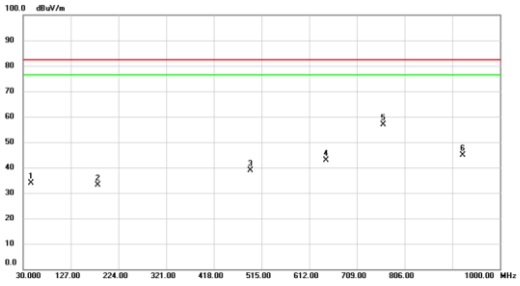
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		156.585	34.27	-0.95	33.32	82.30	-48.98	peak	
2		296.265	34.25	-0.65	33.60	82.30	-48.70	peak	
3		386.960	34.77	1.65	36.42	82.30	-45.88	peak	
4		492.205	34.74	3.85	38.59	82.30	-43.71	peak	
5		635.280	35.84	6.94	42.78	82.30	-39.52	peak	
6	*	764.775	51.27	8.88	60.15	82.30	-22.15	peak	

Test Mode :	LTE Band 14_TX CH23330_5MHz

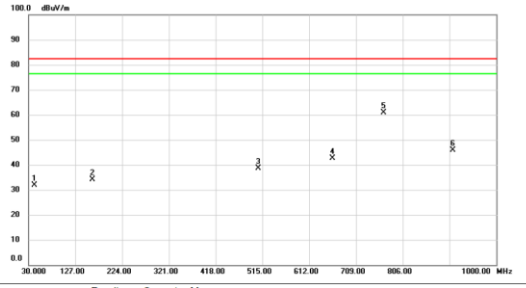
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		46.490	35.17	-1.30	33.87	82.30	-48.43	peak	
2		181.320	35.49	-2.47	33.02	82.30	-49.28	peak	
3		492.690	35.13	3.87	39.00	82.30	-43.30	peak	
4		646.920	35.68	7.12	42.80	82.30	-39.50	peak	
5	*	762.835	48.08	8.89	56.97	82.30	-25.33	peak	
6		924.340	34.36	10.41	44.77	82.30	-37.53	peak	

Test Mode :	LTE Band 14_TX CH23330_10MHz

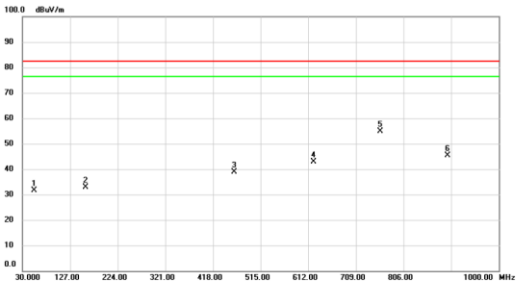
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		42.610	33.44	-1.51	31.93	82.30	-50.37	peak	
2		162.405	35.16	-0.94	34.22	82.30	-48.08	peak	
3		506.755	34.61	4.12	38.73	82.30	-43.57	peak	
4		660.985	35.40	7.29	42.69	82.30	-39.61	peak	
5	*	766.715	51.98	8.88	60.86	82.30	-21.44	peak	
6		910.275	35.49	10.34	45.83	82.30	-36.47	peak	

Test Mode :	LTE Band 14_TX CH23330_10MHz

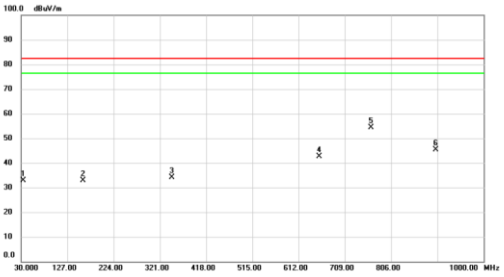
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		54.250	33.10	-1.42	31.68	82.30	-50.62	peak	
2		159.010	33.75	-0.87	32.88	82.30	-49.42	peak	
3		461.165	35.47	3.39	38.86	82.30	-43.44	peak	
4		622.670	36.16	6.75	42.91	82.30	-39.39	peak	
5	*	758.955	45.88	8.90	54.78	82.30	-27.52	peak	
6		895.725	35.09	10.24	45.33	82.30	-36.97	peak	

Test Mode :	5G NR n14_TX Mid CH_5MHz

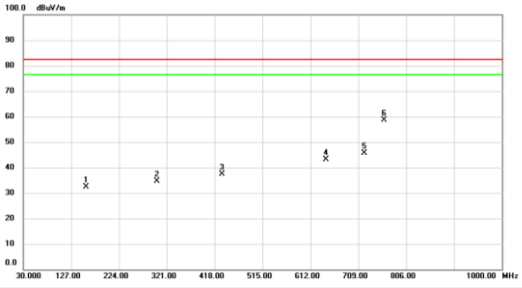
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		34.850	35.10	-2.30	32.80	82.30	-49.50	peak	
2		159.980	33.68	-0.84	32.84	82.30	-49.46	peak	
3		346.705	33.57	0.53	34.10	82.30	-48.20	peak	
4		655.165	35.45	7.23	42.68	82.30	-39.62	peak	
5	*	763.320	45.38	8.89	54.27	82.30	-28.03	peak	
6		899.120	35.14	10.29	45.43	82.30	-36.87	peak	

Test Mode :	5G NR n14_TX Mid CH_5MHz

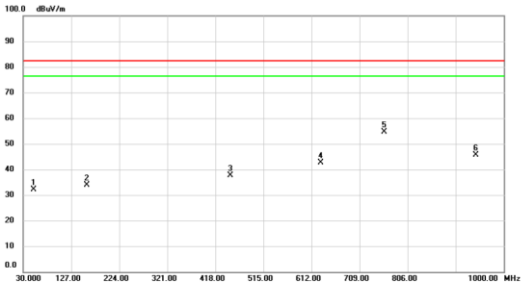
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		157.070	33.35	-0.94	32.41	82.30	-49.89	peak	
2		301.115	35.11	-0.56	34.55	82.30	-47.75	peak	
3		433.035	34.50	2.79	37.29	82.30	-45.01	peak	
4		643.525	36.13	7.07	43.20	82.30	-39.10	peak	
5		720.640	37.40	8.21	45.61	82.30	-36.69	peak	
6	*	761.380	49.78	8.90	58.68	82.30	-23.62	peak	

Test Mode :	5G NR n14_TX Mid CH_10MHz

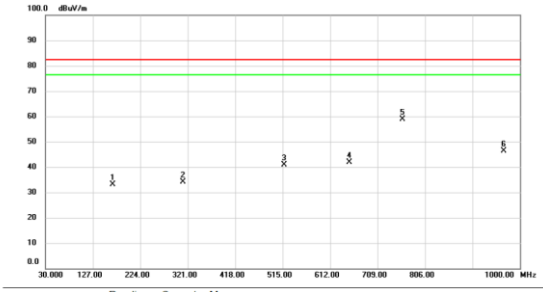
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		51.825	33.32	-1.31	32.01	82.30	-50.29	peak	
2		159.010	34.82	-0.87	33.95	82.30	-48.35	peak	
3		448.070	34.49	3.18	37.67	82.30	-44.63	peak	
4		630.915	35.68	6.88	42.56	82.30	-39.74	peak	
5	*	758.955	45.73	8.90	54.63	82.30	-27.67	peak	
6		944.225	35.18	10.52	45.70	82.30	-36.60	peak	

Test Mode :	5G NR n14_TX Mid CH_10MHz

Horizontal

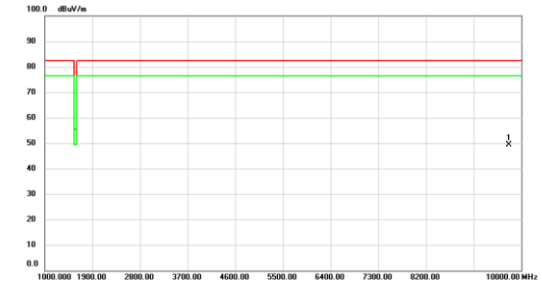


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		167.740	34.36	-1.15	33.21	82.30	-49.09	peak	
2		311.785	34.40	-0.27	34.13	82.30	-48.17	peak	
3		517.910	36.56	4.35	40.91	82.30	-41.39	peak	
4		651.770	34.80	7.19	41.99	82.30	-40.31	peak	
5	*	760.410	49.91	8.91	58.82	82.30	-23.48	peak	
6		966.535	35.71	10.70	46.41	82.30	-35.89	peak	

APPENDIX F - RADIATED SPURIOUS EMISSIONS (ABOVE 1000MHZ)

Test Mode :	LTE Band 14_TX CH23330_5MHz

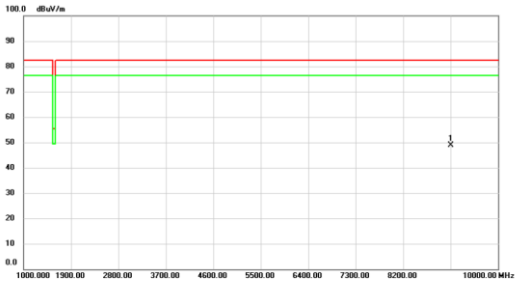
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1	*	9770.500	40.59	8.71	49.30	82.30	-33.00	peak	

Test Mode :	LTE Band 14_TX CH23330_5MHz

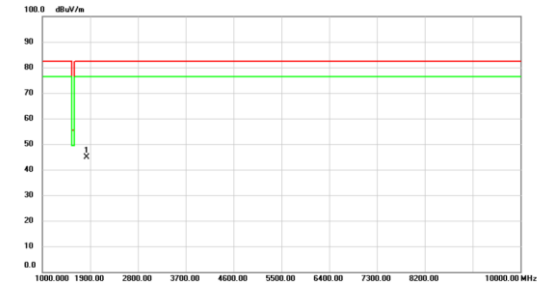
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1	*	9100.000	40.20	8.78	48.98	82.30	-33.32	peak	

Test Mode :	LTE Band 14_TX CH23330_10MHz

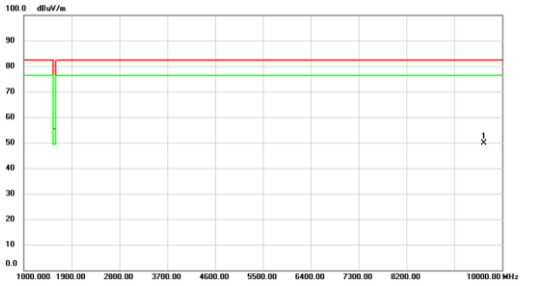
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1	*	1837.000	48.73	-3.96	44.77	82.30	-37.53	peak	

Test Mode :	LTE Band 14_TX CH23330_10MHz

Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1	*	9658.000	41.03	8.74	49.77	82.30	-32.53	peak	