

FCC Radio Test Report

FCC ID: M82-NMCR014T

Report No. : BTL-FCCP-2-2405T119A
Equipment : NMC LTE Card
Model Name : NMC-R014T, NMC-R014TZXXXXXXXXXXXXXXXXX,
NMC-YYR014TZXXXXXXXXXXXXXXXXX (Where "X" may be any
alphanumeric character, "-" or Blank, Y only for A-Z marketing purpose. Z is
equal to 0~9 or any alphanumeric character, except "N".)
Brand Name : Advantech
Applicant : Advantech Co., Ltd.
Address : No.1, Alley 20, Lane 26, Rueiguang Road, Neihu District, Taipei 11491,
Taiwan.
Radio Function : WCDMA Band II & LTE Band 2, 25
FCC Rule Part(s) : FCC CFR Title 47, Part 24, Subpart E
Date of Receipt : 2024/7/1
Date of Test : 2025/1/6 ~ 2025/3/6
Issued Date : 2025/4/9

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

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Declaration

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

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** assumes no responsibility for the data provided by the Customer, any statements, inferences or generalizations drawn by the customer or others from the reports issued by **BTL**.

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** 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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REVISION HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-2-2405T119A	R00	Original Report.	2025/4/9	Valid

1 SUMMARY OF TEST RESULTS

Test procedures according to the technical standards.

Standard(s) Section	Description	Test Result	Judgement	Remark
2.1046 24.232(c)	Conducted Output Power Effective Isotropic Radiated Power	APPENDIX A	Pass	-----
2.1049	Occupied Bandwidth	APPENDIX B	Pass	-----
2.1051 24.238(a)	Conducted Spurious Emissions	APPENDIX C	Pass	-----
2.1053 24.238(a)	Radiated Spurious Emissions	APPENDIX D	Pass	-----
24.238(a)	Band Edge Measurements	APPENDIX E	Pass	-----
24.232(d)	Peak To Average Ratio	APPENDIX F	Pass	-----
2.1055 24.235	Frequency Stability	APPENDIX G	Pass	-----

Statement of Conformity

The statement of conformity is based on the binary decision rule according to IEC Guide 115 and ILAC G8 "simple acceptance" principle. Without considering measurement uncertainty, its specific risk is less than 50% PFA. (PFA: Probability of False Accept)

NOTE:

- (1) "N/A" denotes test is not applicable in this Test Report.
- (2) The report format version is TP.1.1.1.

1.1 REFERENCE TEST GUIDANCE

ANSI C63.26-2015
ANSI/TIA-603-E-2016
FCC KDB 971168 D01 Power Meas License Digital Systems v03r01

1.2 TEST FACILITY

No. 68-1, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan
(FCC DN: TW0659)

☐ C05 ☐ CB08 ☐ CB11 ☒ SR10 ☐ SR11

No. 72, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan
(FCC DN: TW0659)

☐ C06 ☒ CB21 ☐ CB22

1.3 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k = 2$, providing a level of confidence of approximately **95 %**.

A. Effective Isotropic Radiated Power and Radiated emissions test :

Test Site	Measurement Frequency Range	U,(dB)
CB21	0.03 GHz ~ 0.2 GHz	4.17
	0.2 GHz ~ 1 GHz	4.72
	1 GHz ~ 6 GHz	5.21
	6 GHz ~ 18 GHz	5.51
	18 GHz ~ 26 GHz	3.69
	26 GHz ~ 40 GHz	4.23

NOTE:

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

1.4 TEST ENVIRONMENT CONDITIONS

Test Item	Environment Condition	Test Voltage	Tested by
Conducted Output Power	23.3 °C, 51 %	AC 120V	Dolly Lin
Effective Isotropic Radiated Power	Refer to data	AC 120V	Mark Wang
Occupied Bandwidth	23.3 °C, 51 %	AC 120V	Dolly Lin
Conducted Spurious Emissions	23.3 °C, 51 %	AC 120V	Dolly Lin
Radiated Spurious Emissions	Refer to data	AC 120V	Mark Wang
Band Edge	23.3 °C, 51 %	AC 120V	Dolly Lin
Peak to Average Ratio	23.3 °C, 51 %	AC 120V	Dolly Lin
Frequency Stability	Normal and Extreme		Dolly Lin

2 GENERAL INFORMATION

2.1 DESCRIPTION OF EUT

Equipment	NMC LTE Card			
Model Name	NMC-R014T, NMC-R014TZXXXXXXXXXXXXXXXXXX, NMC-YYYYR014TZXXXXXXXXXXXXXXXXXX (Where “X” may be any alphanumeric character, “-”or Blank, Y only for A-Z marketing purpose. Z is equal to 0~9 or any alphanumeric character, except “N”.)			
Brand Name	Advantech			
Model Difference	Different model distribute to different area.			
Power Source	DC voltage supplied from host system.			
Power Rating	DC 12V			
Products Covered	1* LTE Module: Telit / LN920A12-WW			
IMEI No.	WCDMA Call Setup Screen Call Control Active Cell Operating Mode Cell Params Operating Mode Active Cell End Call Paging Parameters Handovers Clear UE Info 1 of 6 Active Cell Connected 1 of 3 UE Information UE Expected Open Loop Transmit Power Cell Processing Status Radio Information Our UE HS-DSCH Conf Sys Type: UTRA FDD Cell Power Channel Type 12.2k RMC Paging Service RB Test Mode HSPA Parameters Sk121 Preset Cell Configs Channel (UMRACH) Params 2025/01/06 11:52 (Fundamental Measurement) Output Main Connected Continuous Phone-2 Phone-1 LTE Parameter Fundamental UE Report 1 UE Power : 22.1 dBm UE Report Measuring UE Report Signaling Trace IE Report IMS1(DEC) DGI UE Category PW Type IPV4v6 RSCP RSCP SINR-1 RSCP SINR-2 RSCP RSCP Neighbour Cell Cell ID RSCP RSCP W-CDMA/TD-SCDMA RAI Cell ID RSCP Band WFFN N.D. REC PROLV			
Operation Frequency	Band	UL Frequency (MHz)		DL Frequency (MHz)
	WCDMA II	1850 ~ 1910		1930 ~ 1990
	LTE 2	1850 ~ 1910		1930 ~ 1990
	LTE 25	1850 ~ 1915		1930 ~ 1995
Maximum EIRP	Band	BW (MHz)	Mode	Power (W)
	WCDMA II	-	-	0.286
	LTE 2	1.4	QPSK	0.269
			16QAM	0.261
			64QAM	0.222
			256QAM	0.225
		3	QPSK	0.271
			16QAM	0.265
			64QAM	0.225
			256QAM	0.227
		5	QPSK	0.275
			16QAM	0.270
			64QAM	0.229
			256QAM	0.229
		10	QPSK	0.278
			16QAM	0.274
			64QAM	0.232
			256QAM	0.232
		15	QPSK	0.281
			16QAM	0.276
64QAM			0.235	
256QAM			0.234	
20	QPSK	0.284		
	16QAM	0.279		
	64QAM	0.238		
	256QAM	0.237		

	LTE 25	1.4	QPSK	0.267
			16QAM	0.270
			64QAM	0.216
			256QAM	0.217
		3	QPSK	0.271
			16QAM	0.274
			64QAM	0.219
			256QAM	0.220
		5	QPSK	0.274
			16QAM	0.278
			64QAM	0.223
			256QAM	0.223
		10	QPSK	0.276
			16QAM	0.281
			64QAM	0.226
			256QAM	0.225
		15	QPSK	0.281
			16QAM	0.284
			64QAM	0.229
			256QAM	0.229
		20	QPSK	0.284
			16QAM	0.287
			64QAM	0.232
			256QAM	0.231
Test Model	NMC-R014T			
Sample Status	Engineering Sample			
EUT Modification(s)	N/A			

NOTE:

(1) The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

(2) Channel List:

WCDMA Band II				
Test Frequency ID	UARFCN	Frequency of Uplink (MHz)	UARFCN	Frequency of Downlink (MHz)
Low Range	9262	1852.4	9662	1932.4
Mid Range	9400	1880.0	9800	1960.0
High Range	9538	1907.6	9938	1987.6

LTE Band 2					
Test Frequency ID	Bandwidth (MHz)	N _{UL}	Frequency of Uplink (MHz)	N _{DL}	Frequency of Downlink (MHz)
Low Range	1.4	18607	1850.7	607	1930.7
	3	18615	1851.5	615	1931.5
	5	18625	1852.5	625	1932.5
	10	18650	1855	650	1935
	15	18675	1857.5	675	1937.5
	20	18700	1860	700	1940
Mid Range	1.4/3/5/10/15/20	18900	1880	900	1960
High Range	1.4	19193	1909.3	1193	1989.3
	3	19185	1908.5	1185	1988.5
	5	19175	1907.5	1175	1987.5
	10	19150	1905	1150	1985
	15	19125	1902.5	1125	1982.5
	20	19100	1900	1100	1980

LTE Band 25					
Test Frequency ID	Bandwidth (MHz)	N _{UL}	Frequency of Uplink (MHz)	N _{DL}	Frequency of Downlink (MHz)
Low Range	1.4	26047	1850.7	8047	1930.7
	3	26055	1851.5	8055	1931.5
	5	26065	1852.5	8065	1932.5
	10	26090	1855	8090	1935
	15	26115	1857.5	8115	1937.5
	20	26140	1860	8140	1940
Mid Range	1.4/3/5/10/15/20	26365	1882.5	8365	1962.5
High Range	1.4	26683	1914.3	8683	1994.3
	3	26675	1913.5	8675	1993.5
	5	26665	1912.5	8665	1992.5
	10	26640	1910	8640	1990
	15	26615	1907.5	8615	1987.5
	20	26590	1905	8590	1985

(3) Table for Filed Antenna:

Dipole Antenna:

Antenna	Manufacture	Part Number	Type	Connector	Gain (dBi)	Note
1	Cortec	AN0750-64S01BSM	Dipole	SMA Male	1.46	WCDMA Band II
					1.46	LTE Band 2
					1.46	LTE Band 25

Patch Type Antenna:

Antenna	Manufacture	Part Number	Type	Connector	Gain (dBi)	Note
1	Cortec	DR0727-9007BSM	PiFa	SMA Male	-3.5	WCDMA Band II
					-3.5	LTE Band 2
					-3.5	LTE Band 25
2	Cortec	DR0727-9007BSM	PiFa	SMA Male	-2.91	WCDMA Band II
					-2.91	LTE Band 2
					-2.91	LTE Band 25

- (4) The above Antenna information are derived from the antenna data sheet provided by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

2.2 TEST MODES

WCDMA BAND II MODE			
Test Item	Available Channel	Tested Channel	Mode
Conducted Output Power and Effective Isotropic Radiated Power	9262 to 9538	9262, 9400, 9538	WCDMA, HSDPA, HSUPA, HSPA+
Occupied Bandwidth	9262 to 9538	9262, 9400, 9538	WCDMA
Conducted Spurious Emissions	9262 to 9538	9400	WCDMA
Radiated Spurious Emissions	9262 to 9538	9400	WCDMA
Band Edge	9262 to 9538	9262, 9538	WCDMA
Peak to Average Ratio	9262 to 9538	9262, 9400, 9538	WCDMA
Frequency Stability	9262 to 9538	9400	WCDMA

LTE BAND 2 MODE					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
Conducted Output Power	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB/3RB/6RB
	18615 to 19185	18615, 18900, 19185	3MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB/8RB/15RB
	18625 to 19175	18625, 18900, 19175	5MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB/12RB/25RB
	18650 to 19150	18650, 18900, 19150	10MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB/25RB/50RB
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB/36RB/75RB
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB/50RB/100RB
Occupied Bandwidth	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK, 16QAM, 64QAM, 256QAM	6RB
	18615 to 19185	18615, 18900, 19185	3MHz	QPSK, 16QAM, 64QAM, 256QAM	15RB
	18625 to 19175	18625, 18900, 19175	5MHz	QPSK, 16QAM, 64QAM, 256QAM	25RB
	18650 to 19150	18650, 18900, 19150	10MHz	QPSK, 16QAM, 64QAM, 256QAM	50RB
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK, 16QAM, 64QAM, 256QAM	75 RB
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK, 16QAM, 64QAM, 256QAM	100RB

LTE BAND 2 MODE					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
Conducted Spurious Emissions	18607 to 19193	18900	1.4MHz	QPSK	1RB
	18615 to 19185	18900	3MHz	QPSK	1RB
	18625 to 19175	18900	5MHz	QPSK	1RB
	18650 to 19150	18900	10MHz	QPSK	1RB
	18675 to 19125	18900	15MHz	QPSK	1RB
	18700 to 19100	18900	20MHz	QPSK	1RB
Radiated Spurious Emissions	18607 to 19193	18900	1.4MHz	QPSK	1RB
	18615 to 19185	18900	3MHz	QPSK	1RB
	18625 to 19175	18900	5MHz	QPSK	1RB
	18650 to 19150	18900	10MHz	QPSK	1RB
	18675 to 19125	18900	15MHz	QPSK	1RB
	18700 to 19100	18900	20MHz	QPSK	1RB
Band Edge	18607 to 19193	18607, 19193	1.4MHz	QPSK	1RB/6RB
	18615 to 19185	18615, 19185	3MHz	QPSK	1RB/15RB
	18625 to 19175	18625, 19175	5MHz	QPSK	1RB/25RB
	18650 to 19150	18650, 19150	10MHz	QPSK	1RB/50RB
	18675 to 19125	18675, 19125	15MHz	QPSK	1RB/75RB
	18700 to 19100	18700, 19100	20MHz	QPSK	1RB/100RB
Peak To Average Ratio	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB
	18615 to 19185	18615, 18900, 19185	3MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB
	18625 to 19175	18625, 18900, 19175	5MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB
	18650 to 19150	18650, 18900, 19150	10MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB
Frequency Stability	18607 to 19193	18900	1.4MHz	QPSK	1RB
	18615 to 19185	18900	3MHz	QPSK	1RB
	18625 to 19175	18900	5MHz	QPSK	1RB
	18650 to 19150	18900	10MHz	QPSK	1RB
	18675 to 19125	18900	15MHz	QPSK	1RB
	18700 to 19100	18900	20MHz	QPSK	1RB

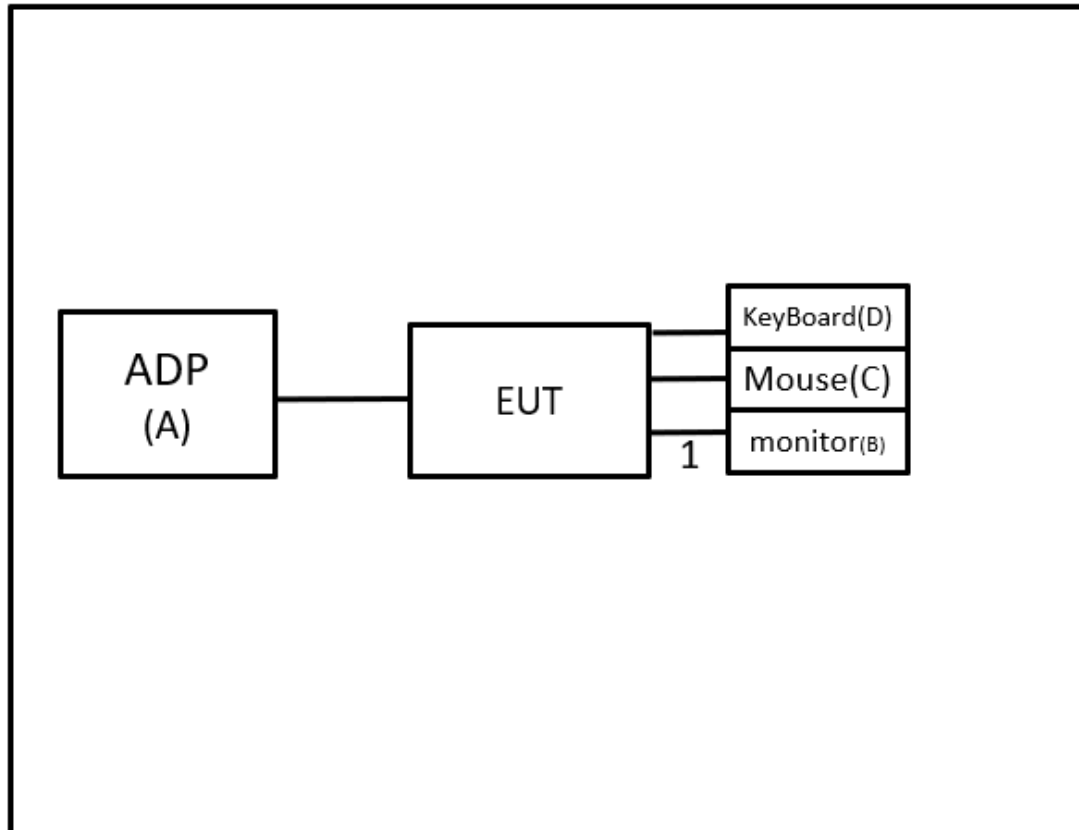
LTE BAND 25 MODE					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
Conducted Output Power	26047 to 26683	26047, 26365, 22683	1.4MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB/3RB/6RB
	26055 to 26675	26055, 26365, 26675	3MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB/8RB/15RB
	26065 to 26665	26065, 26365, 26665	5MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB/12RB/25RB
	26090 to 26640	26090, 26365, 26640	10MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB/25RB/50RB
	26115 to 26615	26115, 26365, 26615	15MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB/36RB/75RB
	26140 to 26590	26140, 26365, 26590	20MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB/50RB/100RB
Occupied Bandwidth	26047 to 26683	26047, 26365, 22683	1.4MHz	QPSK, 16QAM, 64QAM, 256QAM	6RB
	26055 to 26675	26055, 26365, 26675	3MHz	QPSK, 16QAM, 64QAM, 256QAM	15RB
	26065 to 26665	26065, 26365, 26665	5MHz	QPSK, 16QAM, 64QAM, 256QAM	25RB
	26090 to 26640	26090, 26365, 26640	10MHz	QPSK, 16QAM, 64QAM, 256QAM	50RB
	26115 to 26615	26115, 26365, 26615	15MHz	QPSK, 16QAM, 64QAM, 256QAM	75RB
	26140 to 26590	26140, 26365, 26590	20MHz	QPSK, 16QAM, 64QAM, 256QAM	100RB
Conducted Spurious Emissions	26047 to 26683	26365	1.4MHz	QPSK	1RB
	26065 to 26665	26365	5MHz	QPSK	1RB
	26140 to 26590	26365	20MHz	QPSK	1RB
Radiated Spurious Emissions	26047 to 26683	26365	1.4MHz	QPSK	1RB
	26065 to 26665	26365	5MHz	QPSK	1RB
	26140 to 26590	26365	20MHz	QPSK	1RB
Band Edge	26047 to 26683	26047, 26683	1.4MHz	QPSK	1RB/6RB
	26055 to 26675	26055, 26675	3MHz	QPSK	1RB/15RB
	26065 to 26665	26065, 26665	5MHz	QPSK	1RB/25RB
	26090 to 26640	26090, 26640	10MHz	QPSK	1RB/50RB
	26115 to 26615	26115, 26615	15MHz	QPSK	1RB/75RB
	26140 to 26590	26140, 26590	20MHz	QPSK	1RB/100RB
Peak To Average Ratio	26047 to 26683	26047, 26365, 22683	1.4MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB
	26055 to 26675	26055, 26365, 26675	3MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB
	26065 to 26665	26065, 26365, 26665	5MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB
	26090 to 26640	26090, 26365, 26640	10MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB
	26115 to 26615	26115, 26365, 26615	15MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB
	26140 to 26590	26140, 26365, 26590	20MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB
Frequency Stability	26140 to 26590	26140, 26590	20MHz	QPSK	100RB

NOTE:

(1) For Radiated Spurious Emissions both QPSK and 16QAM are evaluated, but only the worst case (QPSK) is recorded.

2.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Equipment letters and Cable numbers refer to item numbers described in the tables of clause 2.4.



2.4 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Series No.	Remarks
A	ADP	FSP GROUP INC	FSP150-AHAN3	N/A	Supplied by test requester.
B	Monitor	ACER	V227-Q	N/A	Furnished by test lab.
C	Mouse	Lenovo	SM-8823	N/A	Furnished by test lab.
D	Keyboard	Bloody	KB-8	N/A	Furnished by test lab.

Item	Shielded	Ferrite Core	Length	Cable Type	Remarks
1	N/A	N/A	1m	VGA HD-15	Furnished by test lab.

3 CONDUCTED OUTPUT POWER AND EFFECTIVE ISOTROPIC RADIATED POWER MEASUREMENT

3.1 LIMIT

Mobile / Portable station are limited to 2 watts e.i.r.p.

NOTE:

(1) The test result calculated as following:

Measurement Value = Reading Level + Correct Factor

Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use)

Margin Level = Measurement Value - Limit Value

Calculation example:

Reading Level (dBm)		Correct Factor (dB)		Measurement Value (dBm)
-29.66	+	34.26	=	4.60

Measurement Value (dBm)		Limit Value (dBm)		Margin Level (dB)
4.60	-	38.45	=	-33.85

3.2 TEST PROCEDURE

The testing follows FCC KDB 971168 v03r01 Section 5.

EIRP / ERP Power Measurement:

EIRP = Conducted Power + Antenna gain.

ERP power = EIPR power - 2.15 dBi.

Conducted Measurement:

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.

Radiated Measurement:

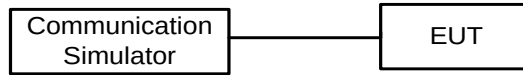
- Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value " of step a. Record the power level of S.G
- EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.
- ERP can be calculated form EIRP by subtracting the gain of dipole, ERP = EIPR - 2.15dBi..
- The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

3.3 DEVIATION FROM TEST STANDARD

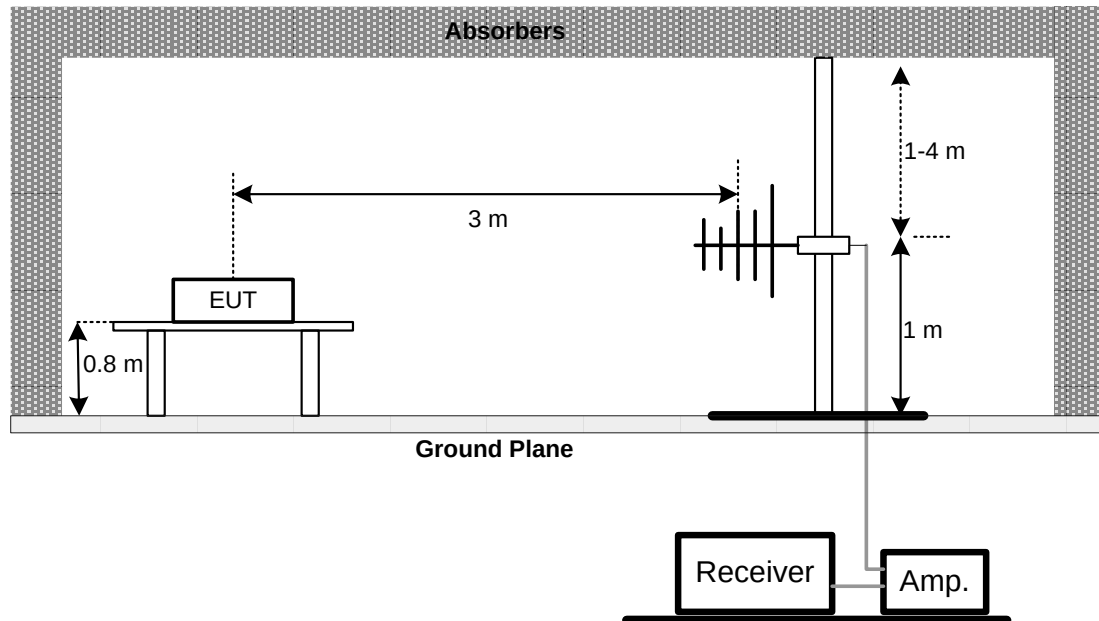
No deviation.

3.4 TEST SETUP

Conducted Measurement:



Radiated Measurement:



3.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

3.6 TEST RESULT

Please refer to the APPENDIX A.

4 OCCUPIED BANDWIDTH MEASUREMENT

4.1 TEST PROCEDURE

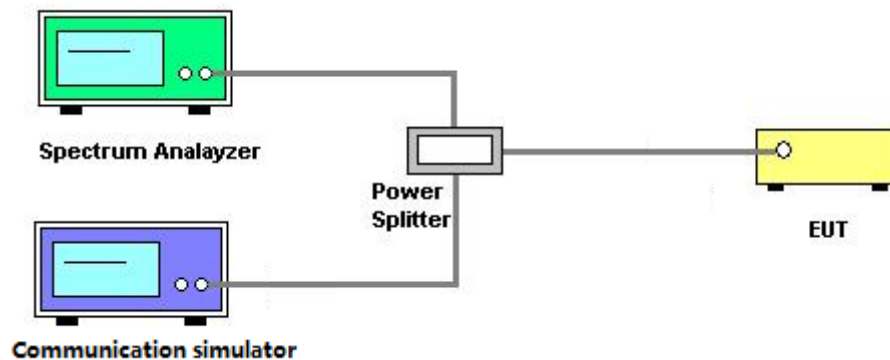
The testing follows FCC KDB 971168 v03r01 Section 4.

- 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.
- The EUT was connected to spectrum analyzer and system simulator via a power divider.
- $RBW = (1\% \sim 5\%) * EBW$
 $VBW \geq 3 * RBW$.
- Set spectrum analyzer with Peak detector.

4.2 DEVIATION FROM TEST STANDARD

No deviation.

4.3 TEST SETUP



4.4 TEST RESULT

Please refer to the APPENDIX B

5 CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

5.1 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.

5.2 TEST PROCEDURE

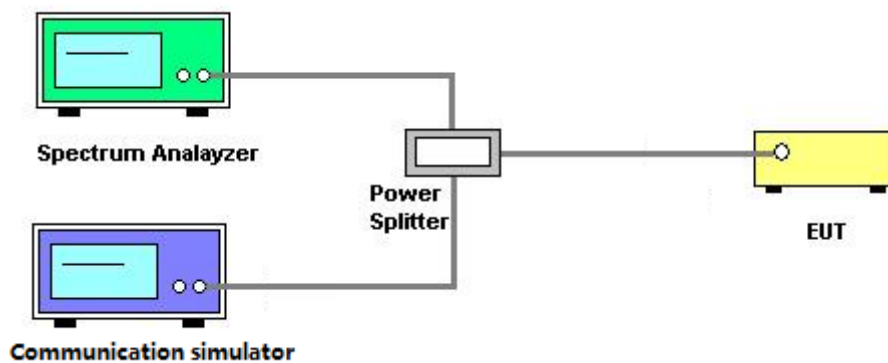
The testing follows FCC KDB 971168 v03r01 Section 6.

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

5.3 DEVIATION FROM TEST STANDARD

No deviation.

5.4 TEST SETUP



5.5 TEST RESULT

Please refer to the APPENDIX C.

6 RADIATED SPURIOUS EMISSIONS MEASUREMENT

6.1 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.

NOTE:

(1) The test result calculated as following:

Measurement Value = Reading Level + Correct Factor

Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use)

Margin Level = Measurement Value - Limit Value

Calculation example:

Reading Level (dBm)		Correct Factor (dB)		Measurement Value (dBm)
-50.43	+	-2.11	=	-52.54

Measurement Value (dBm)		Limit Value (dBm)		Margin Level (dB)
-52.54	-	-13	=	-39.54

6.2 TEST PROCEDURE

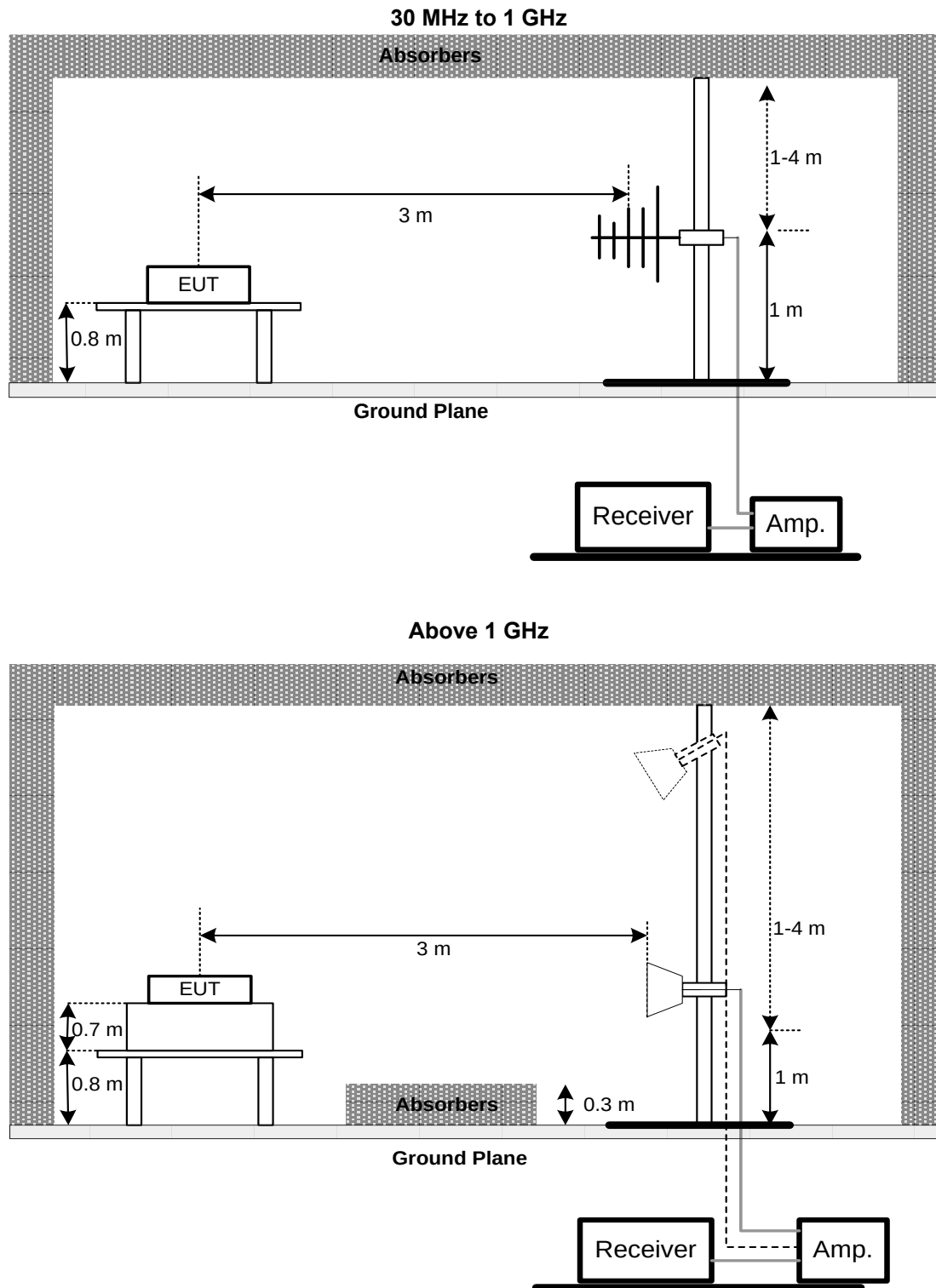
The testing follows FCC KDB 971168 v03r01 Section 6.2.

- In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value " of step a. Record the power level of S.G
- $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}.$
- ERP power can be calculated form EIRP power by subtracting the gain of dipole,
 $ERP \text{ power} = EIRP \text{ power} - 2.15 \text{ dBi}.$
- The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz / 3 MHz.

6.3 DEVIATION FROM TEST STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.6 TEST RESULT

Please refer to the APPENDIX D.

7 BAND EDGE MEASUREMENT

7.1 LIMIT

A 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. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

7.2 TEST PROCEDURE

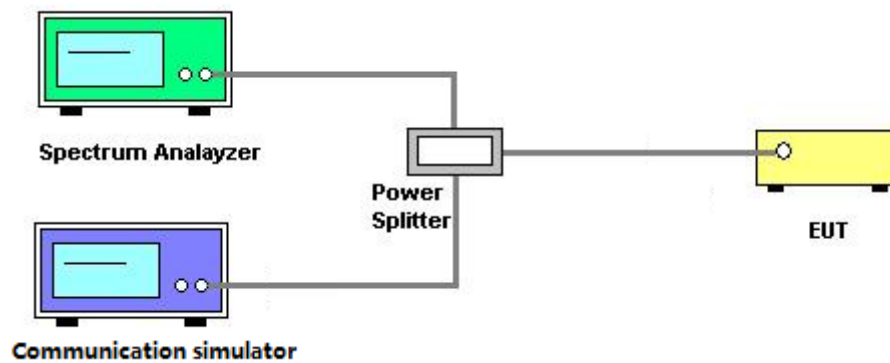
The testing follows FCC KDB 971168 v03r01 Section 6.

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

7.3 DEVIATION FROM TEST STANDARD

No deviation.

7.4 TEST SETUP



7.5 TEST RESULT

Please refer to the APPENDIX E

8 PEAK TO AVERAGE RATIO MEASUREMENT

8.1 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.

8.2 TEST PROCEDURE

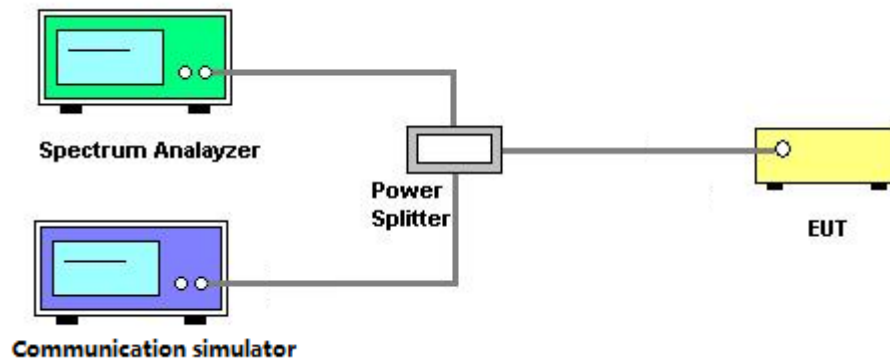
The testing follows FCC KDB 971168 v03r01 Section 5.7.

- Set resolution/measurement bandwidth $\geq$ signal's occupied bandwidth.
- Set the number of counts to a value that stabilizes the measured CCDF curve.
- Record the maximum PAPR level associated with a probability of 0.1%.

8.3 DEVIATION FROM TEST STANDARD

No deviation.

8.4 TEST SETUP



8.5 TEST RESULT

Please refer to the APPENDIX F.

9 FREQUENCY STABILITY MEASUREMENT

9.1 LIMIT

± 1.5 ppm is for base and fixed station. ± 2.5 ppm is for mobile station.

9.2 TEST PROCEDURE

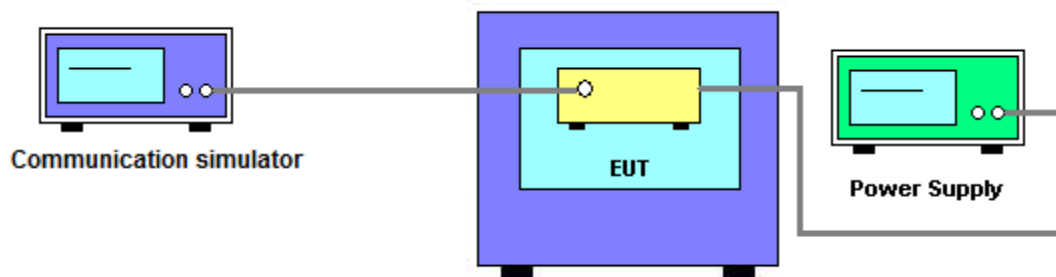
The testing follows FCC KDB 971168 v03r01 Section 9.

- 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.
- 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.
- The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the $\pm 0.5^{\circ}\text{C}$ 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.
- The frequency error was recorded frequency error from the communication simulator.

9.3 DEVIATION FROM TEST STANDARD

No deviation.

9.4 TEST SETUP



9.5 TEST RESULT

Please refer to the APPENDIX G

10 LIST OF MEASURING EQUIPMENTS

Effective Isotropic Radiated Power and Radiated Emissions						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Preamplifier	EMCI	EMC330N	980850	2024/9/5	2025/9/4
2	Preamplifier	EMCI	EMC118A45SE	980819	2024/3/6	2025/3/5
3	Preamplifier	EMCI	EMC118A45SE	980819	2025/3/5	2026/3/4
4	Pre-Amplifier	EMCI	EMC184045SE	980907	2024/9/4	2025/9/3
5	Preamplifier	EMCI	EMC001340	980579	2024/9/4	2025/9/3
6	Test Cable	EMCI	EMC104-SM-1000	180809	2024/3/8	2025/3/7
7	Test Cable	EMCI	EMC104-SM-SM-3000	220322	2024/3/8	2025/3/7
8	Test Cable	EMCI	EMC104-SM-SM-7000	220324	2024/3/8	2025/3/7
9	EXA Signal Analyzer	keysight	N9020B	MY57120120	2024/2/23	2025/2/22
10	EXA Signal Analyzer	keysight	N9020B	MY57120120	2025/2/19	2026/2/18
11	Loop Ant	Electro-Metrics	EMCI-LPA600	291	2024/9/9	2025/9/8
12	Horn Antenna	RFSPIN	DRH18-E	211202A18EN	2024/5/9	2025/5/8
13	Horn Ant	Schwarzbeck	BBHA 9170D	1136	2024/5/17	2025/5/16
14	Log-bicon Antenna	Schwarzbeck	VULB9168	1369	2024/6/14	2025/6/13
15	6dB Attenuator	EMCI	EMCI-N-6-06	AT-06001	2024/6/14	2025/6/13
16	Test Cable	EMCI	EMC101G-KM-KM-3000	220329	2024/3/13	2025/3/12
17	Test Cable	EMCI	EMC102-KM-KM-1000	220327	2024/3/13	2025/3/12
18	Measurement Software	EZ	EZ EMC (Version NB-03A1-01)	N/A	N/A	N/A
19	Radio Communication Test Station	ANRITSU	MT8821C	6262044728	2024/11/19	2025/11/18

Conducted Measurement						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Spectrum Analyzer	R&S	FSV7	103032	2024/8/7	2025/8/6
2	EXA Spectrum Analyzer	Keysight	N9010A	MY56480489	2025/1/2	2026/1/1
3	Thermal Chamber	HOLINK	H-TH-2SP-B	EK04101902	2024/6/28	2025/6/27
4	WIRELESS COMMUNICATION TEST SET	Agilent	E5515C	GB47390193	2024/7/7	2025/7/6
5	Radio Communication Analyzer	ANRITSU	MT8820C	6201168846	2024/8/20	2025/8/19

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

11 EUT TEST PHOTO

Please refer to document Appendix No.: TP-2405T119A-FCCP-1 (APPENDIX-TEST PHOTOS).

12 EUT PHOTOS

Please refer to document Appendix No.: EP-2405T119A-1 (APPENDIX-EUT PHOTOS).

APPENDIX A EFFECTIVE ISOTROPIC RADIATED POWER

Conducted Output Power and Calculated EIRP:
WCDMA Band II Power:

Band	Mode	UL/DL Channel No.	Frequency(MHz)	Average power(dBm)	EIRP power (dBm)	EIRP power (W)
WCDMA Band II	Rel 99	9262/9662	1852.4	23.10	24.56	0.286
		9400/9800	1880.0	23.01	24.47	0.280
		9538/9938	1907.6	23.03	24.49	0.281

Band	Sub-test	UL/DL Channel No.	Frequency(MHz)	Average power(dBm)	EIRP power (dBm)	EIRP power (W)
HSDPA II	1	9262/9662	1852.4	22.10	23.56	0.227
		9400/9800	1880.0	22.23	23.69	0.234
		9538/9938	1907.6	22.04	23.50	0.224
	2	9262/9662	1852.4	22.07	23.53	0.225
		9400/9800	1880.0	22.11	23.57	0.228
		9538/9938	1907.6	22.03	23.49	0.223
	3	9262/9662	1852.4	21.66	23.12	0.205
		9400/9800	1880.0	21.62	23.08	0.203
		9538/9938	1907.6	21.53	22.99	0.199
	4	9262/9662	1852.4	21.53	22.99	0.199
		9400/9800	1880.0	21.57	23.03	0.201
		9538/9938	1907.6	21.52	22.98	0.199

Band	Sub-test	UL/DL Channel No.	Frequency(MHz)	Average power(dBm)	EIRP power (dBm)	EIRP power (W)
HSUPA II	1	9262/9662	1852.4	22.06	23.52	0.225
		9400/9800	1880.0	22.05	23.51	0.224
		9538/9938	1907.6	22.10	23.56	0.227
	2	9262/9662	1852.4	20.03	21.49	0.141
		9400/9800	1880.0	20.13	21.59	0.144
		9538/9938	1907.6	20.15	21.61	0.145
	3	9262/9662	1852.4	21.18	22.64	0.184
		9400/9800	1880.0	21.12	22.58	0.181
		9538/9938	1907.6	21.08	22.54	0.179
	4	9262/9662	1852.4	20.19	21.65	0.146
		9400/9800	1880.0	20.17	21.63	0.146
		9538/9938	1907.6	20.07	21.53	0.142
	5	9262/9662	1852.4	22.16	23.62	0.230
		9400/9800	1880.0	22.11	23.57	0.228
		9538/9938	1907.6	22.12	23.58	0.228

NOTE:

(1) EIRP = Average power + Antenna gain.

(2) ERP = EIRP - 2.15.

(3) $P(W) = 1 \text{ W} \cdot 10^{(P(\text{dBm}) / 10) / 1000}$

LTE Band 2 Power:

Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	EIRP power (dBm)	EIRP power (W)
2	1.4	18607	1850.7	QPSK	1	0	0	22.67	24.13	0.259
					1	2	0	22.74	24.20	0.263
					1	5	0	22.76	24.22	0.264
					6	0	1	21.79	23.25	0.211
				16QAM	1	0	1	22.62	24.08	0.256
					1	2	1	22.63	24.09	0.256
					1	5	1	22.71	24.17	0.261
					6	0	2	21.95	23.41	0.219
				64QAM	1	0	2	21.85	23.31	0.214
					1	2	2	21.88	23.34	0.216
					1	5	2	21.80	23.26	0.212
					6	0	3	21.02	22.48	0.177
				256QAM	1	0	4	21.81	23.27	0.212
					1	2	4	21.81	23.27	0.212
					1	5	4	21.86	23.32	0.215
					6	0	5	21.02	22.48	0.177
		18900	1880.0	QPSK	1	0	0	22.75	24.21	0.264
					1	2	0	22.73	24.19	0.262
					1	5	0	22.83	24.29	0.269
					6	0	1	21.86	23.32	0.215
				16QAM	1	0	1	22.61	24.07	0.255
					1	2	1	22.67	24.13	0.259
					1	5	1	22.64	24.10	0.257
					6	0	2	21.88	23.34	0.216
				64QAM	1	0	2	21.98	23.44	0.221
					1	2	2	22.00	23.46	0.222
					1	5	2	21.91	23.37	0.217
					6	0	3	21.00	22.46	0.176
				256QAM	1	0	4	22.06	23.52	0.225
					1	2	4	22.02	23.48	0.223
					1	5	4	21.85	23.31	0.214
					6	0	5	21.00	22.46	0.176
		19193	1909.3	QPSK	1	0	0	22.77	24.23	0.265
					1	2	0	22.65	24.11	0.258
					1	5	0	22.80	24.26	0.267
					6	0	1	21.79	23.25	0.211
				16QAM	1	0	1	22.71	24.17	0.261
					1	2	1	22.71	24.17	0.261
					1	5	1	22.67	24.13	0.259
					6	0	2	21.86	23.32	0.215
				64QAM	1	0	2	21.90	23.36	0.217
					1	2	2	21.88	23.34	0.216
					1	5	2	21.92	23.38	0.218
					6	0	3	21.02	22.48	0.177
				256QAM	1	0	4	21.88	23.34	0.216
					1	2	4	21.84	23.30	0.214
					1	5	4	21.80	23.26	0.212
					6	0	5	21.01	22.47	0.177

NOTE:

(1) EIRP = Average power + Antenna gain.

(2) ERP = EIRP - 2.15.

(3) $P(W) = 1 W \cdot 10^{(P(dBm) / 10) / 1000}$

Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	EIRP power (dBm)	EIRP power (W)
2	3	18615	1851.5	QPSK	1	0	0	22.74	24.20	0.263
					1	8	0	22.81	24.27	0.267
					1	14	0	22.83	24.29	0.269
					15	0	1	21.86	23.32	0.215
				16QAM	1	0	1	22.70	24.16	0.261
					1	8	1	22.70	24.16	0.261
					1	14	1	22.76	24.22	0.264
					15	0	2	21.99	23.45	0.221
				64QAM	1	0	2	21.92	23.38	0.218
					1	8	2	21.95	23.41	0.219
					1	14	2	21.84	23.30	0.214
					15	0	3	21.03	22.49	0.177
				256QAM	1	0	4	21.86	23.32	0.215
					1	8	4	21.87	23.33	0.215
					1	14	4	21.91	23.37	0.217
					15	0	5	21.03	22.49	0.177
		18900	1880.0	QPSK	1	0	0	22.79	24.25	0.266
					1	8	0	22.79	24.25	0.266
					1	14	0	22.87	24.33	0.271
					15	0	1	21.94	23.40	0.219
				16QAM	1	0	1	22.67	24.13	0.259
					1	8	1	22.73	24.19	0.262
					1	14	1	22.71	24.17	0.261
					15	0	2	21.95	23.41	0.219
				64QAM	1	0	2	22.03	23.49	0.223
					1	8	2	22.07	23.53	0.225
					1	14	2	21.99	23.45	0.221
					15	0	3	21.02	22.48	0.177
				256QAM	1	0	4	22.10	23.56	0.227
					1	8	4	22.07	23.53	0.225
					1	14	4	21.89	23.35	0.216
					15	0	5	21.03	22.49	0.177
		19185	1908.5	QPSK	1	0	0	22.82	24.28	0.268
					1	8	0	22.72	24.18	0.262
					1	14	0	22.86	24.32	0.270
					15	0	1	21.85	23.31	0.214
				16QAM	1	0	1	22.78	24.24	0.265
					1	8	1	22.77	24.23	0.265
					1	14	1	22.72	24.18	0.262
					15	0	2	21.91	23.37	0.217
				64QAM	1	0	2	21.98	23.44	0.221
					1	8	2	21.95	23.41	0.219
					1	14	2	21.99	23.45	0.221
					15	0	3	21.04	22.50	0.178
				256QAM	1	0	4	21.94	23.40	0.219
					1	8	4	21.90	23.36	0.217
					1	14	4	21.88	23.34	0.216
					15	0	5	21.06	22.52	0.179

NOTE:

(1) EIRP = Average power + Antenna gain.

(2) ERP = EIRP - 2.15.

(3) P(W) = $1 \text{ W} \cdot 10^{(P(\text{dBm}) / 10) / 1000}$

Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	EIRP power (dBm)	EIRP power (W)
2	5	18625	1852.5	QPSK	1	0	0	22.82	24.28	0.268
					1	12	0	22.88	24.34	0.272
					1	24	0	22.90	24.36	0.273
					25	0	1	21.90	23.36	0.217
				16QAM	1	0	1	22.75	24.21	0.264
					1	12	1	22.78	24.24	0.265
					1	24	1	22.84	24.30	0.269
					25	0	2	22.04	23.50	0.224
				64QAM	1	0	2	21.96	23.42	0.220
					1	12	2	22.01	23.47	0.222
					1	24	2	21.91	23.37	0.217
					25	0	3	21.10	22.56	0.180
				256QAM	1	0	4	21.93	23.39	0.218
					1	12	4	21.93	23.39	0.218
					1	24	4	21.97	23.43	0.220
					25	0	5	21.05	22.51	0.178
		18900	1880.0	QPSK	1	0	0	22.86	24.32	0.270
					1	12	0	22.87	24.33	0.271
					1	24	0	22.93	24.39	0.275
					25	0	1	22.02	23.48	0.223
				16QAM	1	0	1	22.73	24.19	0.262
					1	12	1	22.78	24.24	0.265
					1	24	1	22.77	24.23	0.265
					25	0	2	22.02	23.48	0.223
				64QAM	1	0	2	22.11	23.57	0.228
					1	12	2	22.14	23.60	0.229
					1	24	2	22.05	23.51	0.224
					25	0	3	21.04	22.50	0.178
				256QAM	1	0	4	22.14	23.60	0.229
					1	12	4	22.14	23.60	0.229
					1	24	4	21.96	23.42	0.220
					25	0	5	21.04	22.50	0.178
		19175	1907.5	QPSK	1	0	0	22.88	24.34	0.272
					1	12	0	22.80	24.26	0.267
					1	24	0	22.90	24.36	0.273
					25	0	1	21.90	23.36	0.217
				16QAM	1	0	1	22.86	24.32	0.270
					1	12	1	22.84	24.30	0.269
					1	24	1	22.77	24.23	0.265
					25	0	2	21.95	23.41	0.219
				64QAM	1	0	2	22.06	23.52	0.225
					1	12	2	22.03	23.49	0.223
					1	24	2	22.06	23.52	0.225
					25	0	3	21.06	22.52	0.179
				256QAM	1	0	4	22.01	23.47	0.222
					1	12	4	21.96	23.42	0.220
					1	24	4	21.93	23.39	0.218
					25	0	5	21.07	22.53	0.179

NOTE:

(1) EIRP = Average power + Antenna gain.

(2) ERP = EIRP - 2.15.

(3) P(W) = $1 \text{ W} \cdot 10^{(P(\text{dBm}) / 10) / 1000}$

Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	EIRP power (dBm)	EIRP power (W)
2	10	18650	1855.0	QPSK	1	0	0	22.86	24.32	0.270
					1	24	0	22.93	24.39	0.275
					1	49	0	22.94	24.40	0.275
					50	0	1	21.97	23.43	0.220
				16QAM	1	0	1	22.82	24.28	0.268
					1	24	1	22.83	24.29	0.269
					1	49	1	22.90	24.36	0.273
					50	0	2	22.11	23.57	0.228
				64QAM	1	0	2	22.01	23.47	0.222
					1	24	2	22.06	23.52	0.225
					1	49	2	21.99	23.45	0.221
					50	0	3	21.15	22.61	0.182
				256QAM	1	0	4	21.97	23.43	0.220
					1	24	4	21.99	23.45	0.221
					1	49	4	22.04	23.50	0.224
					50	0	5	21.12	22.58	0.181
		18900	1880.0	QPSK	1	0	0	22.91	24.37	0.274
					1	24	0	22.94	24.40	0.275
					1	49	0	22.98	24.44	0.278
					50	0	1	22.09	23.55	0.226
				16QAM	1	0	1	22.80	24.26	0.267
					1	24	1	22.83	24.29	0.269
					1	49	1	22.84	24.30	0.269
					50	0	2	22.07	23.53	0.225
				64QAM	1	0	2	22.17	23.63	0.231
					1	24	2	22.20	23.66	0.232
					1	49	2	22.12	23.58	0.228
					50	0	3	21.11	22.57	0.181
				256QAM	1	0	4	22.20	23.66	0.232
					1	24	4	22.18	23.64	0.231
					1	49	4	22.02	23.48	0.223
					50	0	5	21.08	22.54	0.179
		19150	1905.0	QPSK	1	0	0	22.94	24.40	0.275
					1	24	0	22.87	24.33	0.271
					1	49	0	22.94	24.40	0.275
					50	0	1	21.98	23.44	0.221
				16QAM	1	0	1	22.91	24.37	0.274
					1	24	1	22.88	24.34	0.272
					1	49	1	22.82	24.28	0.268
					50	0	2	21.99	23.45	0.221
				64QAM	1	0	2	22.13	23.59	0.229
					1	24	2	22.09	23.55	0.226
					1	49	2	22.13	23.59	0.229
					50	0	3	21.12	22.58	0.181
				256QAM	1	0	4	22.05	23.51	0.224
					1	24	4	22.01	23.47	0.222
					1	49	4	21.98	23.44	0.221
					50	0	5	21.11	22.57	0.181

NOTE:

(1) EIRP = Average power + Antenna gain.

(2) ERP = EIRP - 2.15.

(3) P(W) = $1 \text{ W} \cdot 10^{(P(\text{dBm}) / 10) / 1000}$

Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	EIRP power (dBm)	EIRP power (W)
2	15	18675	1857.5	QPSK	1	0	0	22.94	24.40	0.275
					1	38	0	22.99	24.45	0.279
					1	74	0	23.01	24.47	0.280
					75	0	1	22.05	23.51	0.224
				16QAM	1	0	1	22.88	24.34	0.272
					1	38	1	22.91	24.37	0.274
					1	74	1	22.95	24.41	0.276
					75	0	2	22.15	23.61	0.230
				64QAM	1	0	2	22.07	23.53	0.225
					1	38	2	22.12	23.58	0.228
					1	74	2	22.03	23.49	0.223
					75	0	3	21.22	22.68	0.185
				256QAM	1	0	4	22.02	23.48	0.223
					1	38	4	22.06	23.52	0.225
					1	74	4	22.12	23.58	0.228
					75	0	5	21.15	22.61	0.182
		18900	1880.0	QPSK	1	0	0	22.97	24.43	0.277
					1	38	0	23.01	24.47	0.280
					1	74	0	23.02	24.48	0.281
					75	0	1	22.15	23.61	0.230
				16QAM	1	0	1	22.87	24.33	0.271
					1	38	1	22.91	24.37	0.274
					1	74	1	22.89	24.35	0.272
					75	0	2	22.12	23.58	0.228
				64QAM	1	0	2	22.23	23.69	0.234
					1	38	2	22.25	23.71	0.235
					1	74	2	22.19	23.65	0.232
					75	0	3	21.18	22.64	0.184
				256QAM	1	0	4	22.24	23.70	0.234
					1	38	4	22.22	23.68	0.233
					1	74	4	22.08	23.54	0.226
					75	0	5	21.16	22.62	0.183
		19125	1902.5	QPSK	1	0	0	23.00	24.46	0.279
					1	38	0	22.95	24.41	0.276
					1	74	0	23.01	24.47	0.280
					75	0	1	22.02	23.48	0.223
				16QAM	1	0	1	22.95	24.41	0.276
					1	38	1	22.93	24.39	0.275
					1	74	1	22.88	24.34	0.272
					75	0	2	22.04	23.50	0.224
				64QAM	1	0	2	22.21	23.67	0.233
					1	38	2	22.14	23.60	0.229
					1	74	2	22.19	23.65	0.232
					75	0	3	21.18	22.64	0.184
				256QAM	1	0	4	22.13	23.59	0.229
					1	38	4	22.05	23.51	0.224
					1	74	4	22.03	23.49	0.223
					75	0	5	21.15	22.61	0.182

NOTE:

(1) EIRP = Average power + Antenna gain.

(2) ERP = EIRP - 2.15.

(3) $P(W) = 1 W \cdot 10^{(P(dBm) / 10) / 1000}$

Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	EIRP power (dBm)	EIRP power (W)
2	20	18700	1860.0	QPSK	1	0	0	23.01	24.47	0.280
					1	49	0	23.06	24.52	0.283
					1	99	0	23.07	24.53	0.284
					100	0	1	22.12	23.58	0.228
				16QAM	1	0	1	22.92	24.38	0.274
					1	49	1	22.95	24.41	0.276
					1	99	1	22.99	24.45	0.279
					100	0	2	22.19	23.65	0.232
				64QAM	1	0	2	22.12	23.58	0.228
					1	49	2	22.19	23.65	0.232
					1	99	2	22.10	23.56	0.227
					100	0	3	21.29	22.75	0.188
				256QAM	1	0	4	22.08	23.54	0.226
					1	49	4	22.14	23.60	0.229
					1	99	4	22.17	23.63	0.231
					100	0	5	21.19	22.65	0.184
		18900	1880.0	QPSK	1	0	0	23.02	24.48	0.281
					1	49	0	23.07	24.53	0.284
					1	99	0	23.08	24.54	0.284
					100	0	1	22.19	23.65	0.232
				16QAM	1	0	1	22.93	24.39	0.275
					1	49	1	22.96	24.42	0.277
					1	99	1	22.94	24.40	0.275
					100	0	2	22.17	23.63	0.231
				64QAM	1	0	2	22.28	23.74	0.237
					1	49	2	22.30	23.76	0.238
					1	99	2	22.24	23.70	0.234
					100	0	3	21.23	22.69	0.186
				256QAM	1	0	4	22.29	23.75	0.237
					1	49	4	22.27	23.73	0.236
					1	99	4	22.13	23.59	0.229
					100	0	5	21.21	22.67	0.185
		19100	1900.0	QPSK	1	0	0	23.05	24.51	0.282
					1	49	0	23.00	24.46	0.279
					1	99	0	23.06	24.52	0.283
					100	0	1	22.07	23.53	0.225
				16QAM	1	0	1	23.00	24.46	0.279
					1	49	1	22.98	24.44	0.278
					1	99	1	22.93	24.39	0.275
					100	0	2	22.09	23.55	0.226
				64QAM	1	0	2	22.26	23.72	0.236
					1	49	2	22.19	23.65	0.232
					1	99	2	22.24	23.70	0.234
					100	0	3	21.23	22.69	0.186
				256QAM	1	0	4	22.18	23.64	0.231
					1	49	4	22.10	23.56	0.227
					1	99	4	22.08	23.54	0.226
					100	0	5	21.20	22.66	0.185

NOTE:

(1) EIRP = Average power + Antenna gain.

(2) ERP = EIRP - 2.15.

(3) P(W) = $1 \text{ W} \cdot 10^{(P(\text{dBm}) / 10)} / 1000$

LTE Band 25 Power:

Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	EIRP power (dBm)	EIRP power (W)
25	1.4	26047	1850.7	QPSK	1	0	0	22.58	24.04	0.254
					1	2	0	22.70	24.16	0.261
					1	5	0	22.67	24.13	0.259
					6	0	1	21.78	23.24	0.211
				16QAM	1	0	1	22.68	24.14	0.259
					1	2	1	22.67	24.13	0.259
					1	5	1	22.73	24.19	0.262
					6	0	2	21.76	23.22	0.210
				64QAM	1	0	2	21.68	23.14	0.206
					1	2	2	21.68	23.14	0.206
					1	5	2	21.67	23.13	0.206
					6	0	3	21.03	22.49	0.177
				256QAM	1	0	4	21.72	23.18	0.208
					1	2	4	21.72	23.18	0.208
					1	5	4	21.69	23.15	0.207
					6	0	5	21.00	22.46	0.176
		26365	1882.5	QPSK	1	0	0	22.75	24.21	0.264
					1	2	0	22.67	24.13	0.259
					1	5	0	22.80	24.26	0.267
					6	0	1	21.78	23.24	0.211
				16QAM	1	0	1	22.76	24.22	0.264
					1	2	1	22.72	24.18	0.262
					1	5	1	22.75	24.21	0.264
					6	0	2	21.81	23.27	0.212
				64QAM	1	0	2	21.68	23.14	0.206
					1	2	2	21.66	23.12	0.205
					1	5	2	21.69	23.15	0.207
					6	0	3	21.01	22.47	0.177
				256QAM	1	0	4	21.78	23.24	0.211
					1	2	4	21.91	23.37	0.217
					1	5	4	21.90	23.36	0.217
					6	0	5	21.02	22.48	0.177
		26683	1914.3	QPSK	1	0	0	22.76	24.22	0.264
					1	2	0	22.66	24.12	0.258
					1	5	0	22.81	24.27	0.267
					6	0	1	21.79	23.25	0.211
				16QAM	1	0	1	22.73	24.19	0.262
					1	2	1	22.85	24.31	0.270
					1	5	1	22.82	24.28	0.268
					6	0	2	21.96	23.42	0.220
				64QAM	1	0	2	21.79	23.25	0.211
					1	2	2	21.88	23.34	0.216
					1	5	2	21.80	23.26	0.212
					6	0	3	21.02	22.48	0.177
				256QAM	1	0	4	21.79	23.25	0.211
					1	2	4	21.81	23.27	0.212
					1	5	4	21.80	23.26	0.212
					6	0	5	21.02	22.48	0.177

Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	EIRP power (dBm)	EIRP power (W)
25	3	26055	1851.5	QPSK	1	0	0	22.65	24.11	0.258
					1	8	0	22.77	24.23	0.265
					1	14	0	22.74	24.20	0.263
					15	0	1	21.85	23.31	0.214
				16QAM	1	0	1	22.76	24.22	0.264
					1	8	1	22.74	24.20	0.263
					1	14	1	22.78	24.24	0.265
					15	0	2	21.80	23.26	0.212
				64QAM	1	0	2	21.75	23.21	0.209
					1	8	2	21.75	23.21	0.209
					1	14	2	21.71	23.17	0.207
					15	0	3	21.05	22.51	0.178
				256QAM	1	0	4	21.77	23.23	0.210
					1	8	4	21.78	23.24	0.211
					1	14	4	21.74	23.20	0.209
					15	0	5	21.02	22.48	0.177
		26365	1882.5	QPSK	1	0	0	22.79	24.25	0.266
					1	8	0	22.73	24.19	0.262
					1	14	0	22.84	24.30	0.269
					15	0	1	21.86	23.32	0.215
				16QAM	1	0	1	22.82	24.28	0.268
					1	8	1	22.78	24.24	0.265
					1	14	1	22.82	24.28	0.268
					15	0	2	21.88	23.34	0.216
				64QAM	1	0	2	21.73	23.19	0.208
					1	8	2	21.73	23.19	0.208
					1	14	2	21.77	23.23	0.210
					15	0	3	21.03	22.49	0.177
				256QAM	1	0	4	21.82	23.28	0.213
					1	8	4	21.96	23.42	0.220
					1	14	4	21.94	23.40	0.219
					15	0	5	21.04	22.50	0.178
		26675	1913.5	QPSK	1	0	0	22.81	24.27	0.267
					1	8	0	22.73	24.19	0.262
					1	14	0	22.87	24.33	0.271
					15	0	1	21.85	23.31	0.214
				16QAM	1	0	1	22.80	24.26	0.267
					1	8	1	22.91	24.37	0.274
					1	14	1	22.87	24.33	0.271
					15	0	2	22.01	23.47	0.222
				64QAM	1	0	2	21.87	23.33	0.215
					1	8	2	21.95	23.41	0.219
					1	14	2	21.87	23.33	0.215
					15	0	3	21.03	22.49	0.177
				256QAM	1	0	4	21.85	23.31	0.214
					1	8	4	21.87	23.33	0.215
					1	14	4	21.88	23.34	0.216
					15	0	5	21.03	22.49	0.177

Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	EIRP power (dBm)	EIRP power (W)
25	5	26065	1852.5	QPSK	1	0	0	22.73	24.19	0.262
					1	12	0	22.84	24.30	0.269
					1	24	0	22.81	24.27	0.267
					25	0	1	21.89	23.35	0.216
				16QAM	1	0	1	22.81	24.27	0.267
					1	12	1	22.82	24.28	0.268
					1	24	1	22.86	24.32	0.270
					25	0	2	21.85	23.31	0.214
				64QAM	1	0	2	21.79	23.25	0.211
					1	12	2	21.81	23.27	0.212
					1	24	2	21.78	23.24	0.211
					25	0	3	21.07	22.53	0.179
				256QAM	1	0	4	21.84	23.30	0.214
					1	12	4	21.84	23.30	0.214
					1	24	4	21.80	23.26	0.212
					25	0	5	21.04	22.50	0.178
		26365	1882.5	QPSK	1	0	0	22.86	24.32	0.270
					1	12	0	22.81	24.27	0.267
					1	24	0	22.90	24.36	0.273
					25	0	1	21.94	23.40	0.219
				16QAM	1	0	1	22.88	24.34	0.272
					1	12	1	22.83	24.29	0.269
					1	24	1	22.88	24.34	0.272
					25	0	2	21.95	23.41	0.219
				64QAM	1	0	2	21.81	23.27	0.212
					1	12	2	21.80	23.26	0.212
					1	24	2	21.83	23.29	0.213
					25	0	3	21.04	22.50	0.178
				256QAM	1	0	4	21.86	23.32	0.215
					1	12	4	22.03	23.49	0.223
					1	24	4	22.01	23.47	0.222
					25	0	5	21.05	22.51	0.178
		26665	1912.5	QPSK	1	0	0	22.87	24.33	0.271
					1	12	0	22.81	24.27	0.267
					1	24	0	22.91	24.37	0.274
					25	0	1	21.90	23.36	0.217
				16QAM	1	0	1	22.88	24.34	0.272
					1	12	1	22.98	24.44	0.278
					1	24	1	22.92	24.38	0.274
					25	0	2	22.05	23.51	0.224
				64QAM	1	0	2	21.95	23.41	0.219
					1	12	2	22.03	23.49	0.223
					1	24	2	21.94	23.40	0.219
					25	0	3	21.04	22.50	0.178
				256QAM	1	0	4	21.92	23.38	0.218
					1	12	4	21.93	23.39	0.218
					1	24	4	21.93	23.39	0.218
					25	0	5	21.05	22.51	0.178

Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	EIRP power (dBm)	EIRP power (W)
25	10	26090	1855.0	QPSK	1	0	0	22.77	24.23	0.265
					1	24	0	22.89	24.35	0.272
					1	49	0	22.85	24.31	0.270
					50	0	1	21.90	23.36	0.217
				16QAM	1	0	1	22.88	24.34	0.272
					1	24	1	22.87	24.33	0.271
					1	49	1	22.92	24.38	0.274
					50	0	2	21.92	23.38	0.218
				64QAM	1	0	2	21.84	23.30	0.214
					1	24	2	21.86	23.32	0.215
					1	49	2	21.86	23.32	0.215
					50	0	3	21.08	22.54	0.179
				256QAM	1	0	4	21.88	23.34	0.216
					1	24	4	21.90	23.36	0.217
					1	49	4	21.87	23.33	0.215
					50	0	5	21.06	22.52	0.179
		26365	1882.5	QPSK	1	0	0	22.91	24.37	0.274
					1	24	0	22.88	24.34	0.272
					1	49	0	22.95	24.41	0.276
					50	0	1	22.01	23.47	0.222
				16QAM	1	0	1	22.95	24.41	0.276
					1	24	1	22.88	24.34	0.272
					1	49	1	22.95	24.41	0.276
					50	0	2	22.00	23.46	0.222
				64QAM	1	0	2	21.87	23.33	0.215
					1	24	2	21.86	23.32	0.215
					1	49	2	21.90	23.36	0.217
					50	0	3	21.11	22.57	0.181
				256QAM	1	0	4	21.92	23.38	0.218
					1	24	4	22.07	23.53	0.225
					1	49	4	22.07	23.53	0.225
					50	0	5	21.09	22.55	0.180
		26640	1910.0	QPSK	1	0	0	22.93	24.39	0.275
					1	24	0	22.88	24.34	0.272
					1	49	0	22.95	24.41	0.276
					50	0	1	21.98	23.44	0.221
				16QAM	1	0	1	22.93	24.39	0.275
					1	24	1	23.02	24.48	0.281
					1	49	1	22.97	24.43	0.277
					50	0	2	22.09	23.55	0.226
				64QAM	1	0	2	22.02	23.48	0.223
					1	24	2	22.09	23.55	0.226
					1	49	2	22.01	23.47	0.222
					50	0	3	21.06	22.52	0.179
				256QAM	1	0	4	21.96	23.42	0.220
					1	24	4	21.98	23.44	0.221
					1	49	4	21.98	23.44	0.221
					50	0	5	21.09	22.55	0.180

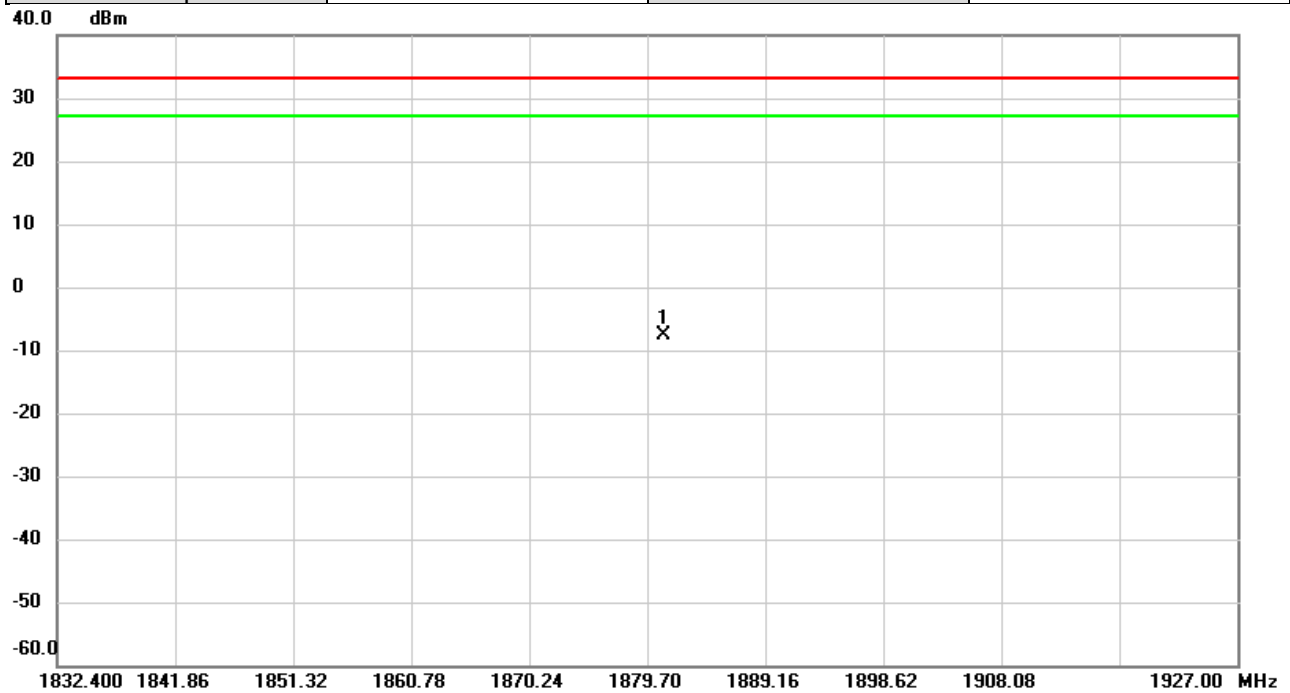
Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	EIRP power (dBm)	EIRP power (W)
25	15	26115	1857.5	QPSK	1	0	0	22.85	24.31	0.270
					1	38	0	22.95	24.41	0.276
					1	74	0	22.92	24.38	0.274
					75	0	1	21.98	23.44	0.221
				16QAM	1	0	1	22.94	24.40	0.275
					1	38	1	22.95	24.41	0.276
					1	74	1	22.97	24.43	0.277
					75	0	2	21.96	23.42	0.220
				64QAM	1	0	2	21.90	23.36	0.217
					1	38	2	21.92	23.38	0.218
					1	74	2	21.90	23.36	0.217
					75	0	3	21.10	22.56	0.180
				256QAM	1	0	4	21.93	23.39	0.218
					1	38	4	21.97	23.43	0.220
					1	74	4	21.95	23.41	0.219
					75	0	5	21.12	22.58	0.181
		26365	1882.5	QPSK	1	0	0	22.97	24.43	0.277
					1	38	0	22.95	24.41	0.276
					1	74	0	22.99	24.45	0.279
					75	0	1	22.07	23.53	0.225
				16QAM	1	0	1	23.02	24.48	0.281
					1	38	1	22.96	24.42	0.277
					1	74	1	23.00	24.46	0.279
					75	0	2	22.05	23.51	0.224
				64QAM	1	0	2	21.93	23.39	0.218
					1	38	2	21.91	23.37	0.217
					1	74	2	21.97	23.43	0.220
					75	0	3	21.13	22.59	0.182
				256QAM	1	0	4	21.96	23.42	0.220
					1	38	4	22.11	23.57	0.228
					1	74	4	22.13	23.59	0.229
					75	0	5	21.17	22.63	0.183
		26615	1907.5	QPSK	1	0	0	22.99	24.45	0.279
					1	38	0	22.96	24.42	0.277
					1	74	0	23.02	24.48	0.281
					75	0	1	22.02	23.48	0.223
				16QAM	1	0	1	22.97	24.43	0.277
					1	38	1	23.07	24.53	0.284
					1	74	1	23.03	24.49	0.281
					75	0	2	22.14	23.60	0.229
				64QAM	1	0	2	22.10	23.56	0.227
					1	38	2	22.14	23.60	0.229
					1	74	2	22.07	23.53	0.225
					75	0	3	21.12	22.58	0.181
				256QAM	1	0	4	22.04	23.50	0.224
					1	38	4	22.02	23.48	0.223
					1	74	4	22.03	23.49	0.223
					75	0	5	21.10	22.56	0.180

Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	EIRP power (dBm)	EIRP power (W)
25	20	26140	1860.0	QPSK	1	0	0	22.92	24.38	0.274
					1	49	0	23.02	24.48	0.281
					1	99	0	22.98	24.44	0.278
					100	0	1	22.05	23.51	0.224
				16QAM	1	0	1	22.98	24.44	0.278
					1	49	1	22.99	24.45	0.279
					1	99	1	23.01	24.47	0.280
					100	0	2	22.00	23.46	0.222
				64QAM	1	0	2	21.95	23.41	0.219
					1	49	2	21.99	23.45	0.221
					1	99	2	21.97	23.43	0.220
					100	0	3	21.17	22.63	0.183
				256QAM	1	0	4	21.99	23.45	0.221
					1	49	4	22.05	23.51	0.224
					1	99	4	22.00	23.46	0.222
					100	0	5	21.18	22.64	0.184
		26365	1882.5	QPSK	1	0	0	23.02	24.48	0.281
					1	49	0	23.01	24.47	0.280
					1	99	0	23.05	24.51	0.282
					100	0	1	22.11	23.57	0.228
				16QAM	1	0	1	23.08	24.54	0.284
					1	49	1	23.01	24.47	0.280
					1	99	1	23.05	24.51	0.282
					100	0	2	22.10	23.56	0.227
				64QAM	1	0	2	21.98	23.44	0.221
					1	49	2	21.96	23.42	0.220
					1	99	2	22.02	23.48	0.223
					100	0	3	21.18	22.64	0.184
				256QAM	1	0	4	22.01	23.47	0.222
					1	49	4	22.16	23.62	0.230
					1	99	4	22.18	23.64	0.231
					100	0	5	21.22	22.68	0.185
		26590	1905.0	QPSK	1	0	0	23.04	24.50	0.282
					1	49	0	23.01	24.47	0.280
					1	99	0	23.07	24.53	0.284
					100	0	1	22.07	23.53	0.225
				16QAM	1	0	1	23.02	24.48	0.281
					1	49	1	23.12	24.58	0.287
					1	99	1	23.08	24.54	0.284
					100	0	2	22.19	23.65	0.232
				64QAM	1	0	2	22.15	23.61	0.230
					1	49	2	22.19	23.65	0.232
					1	99	2	22.12	23.58	0.228
					100	0	3	21.17	22.63	0.183
				256QAM	1	0	4	22.09	23.55	0.226
					1	49	4	22.07	23.53	0.225
					1	99	4	22.08	23.54	0.226
					100	0	5	21.15	22.61	0.182

Radiated EIRP Power:

Dipole Antenna:

Test Mode	WCDMA Band II	Test Date	2025/1/21
Test Channel	CH9400	Polarization	Vertical
Temp	25°C	Hum.	61%

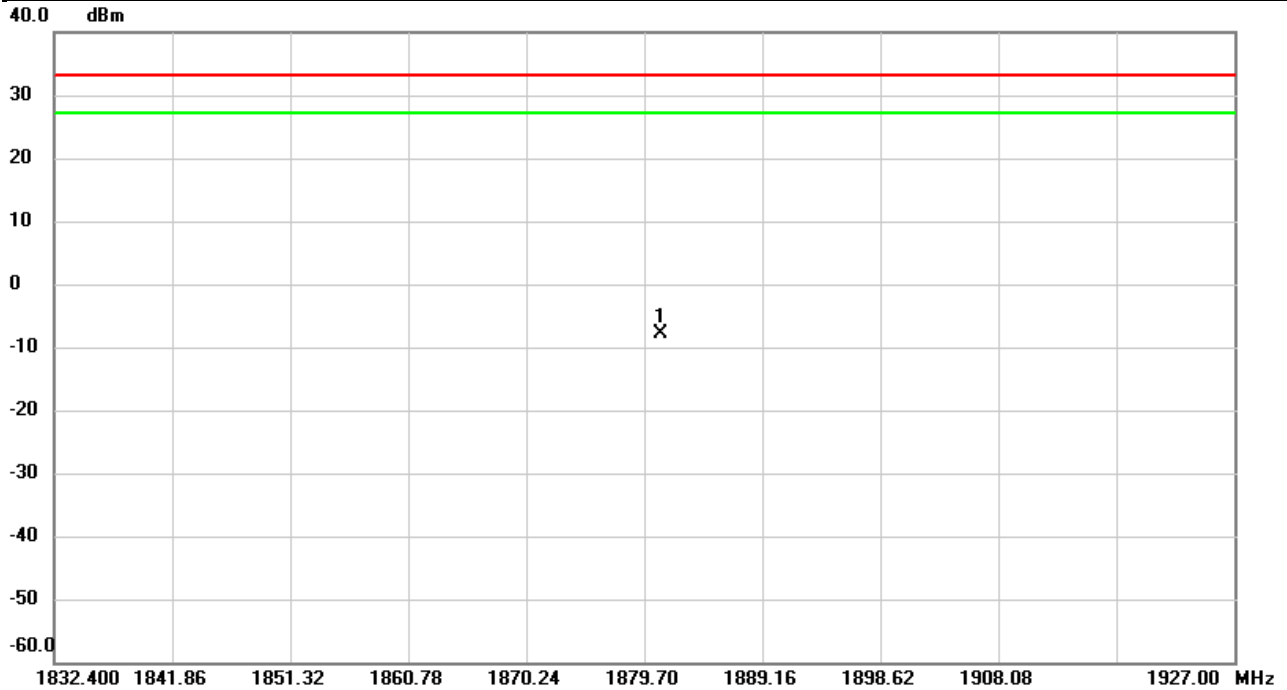


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Detector	Comment
		MHz	dBm	dB	dBm	dBm	dB		
1	*	1880.968	-13.58	5.94	-7.64	33.01	-40.65	peak	

REMARKS:

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

Test Mode	WCDMA Band II	Test Date	2025/1/21
Test Channel	CH9400	Polarization	Horizontal
Temp	25°C	Hum.	61%



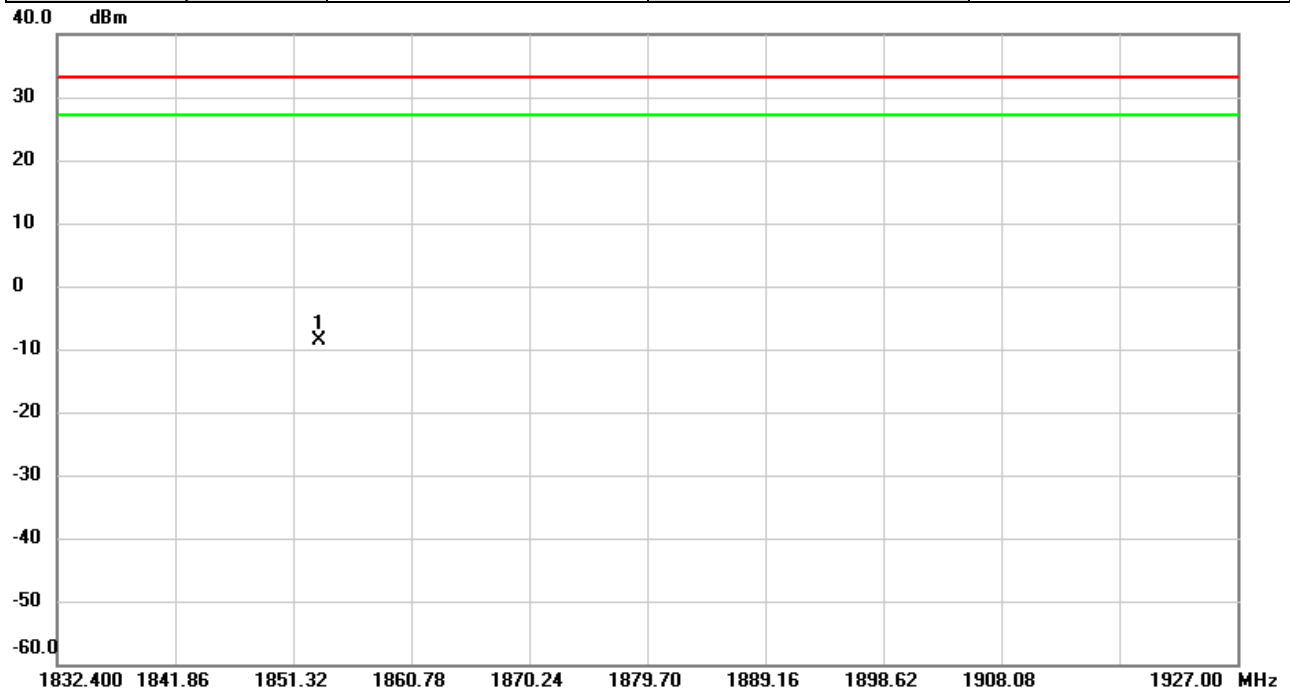
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	1880.993	-13.58	5.64	-7.94	33.01	-40.95	peak	

REMARKS:

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

Patch Type Antenna:

Test Mode	WCDMA Band II	Test Date	2025/1/21
Test Channel	CH9262	Polarization	Horizontal
Temp	23°C	Hum.	64%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	1853.414	-13.75	5.16	-8.59	33.01	-41.60	peak	

REMARKS:

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

APPENDIX B OCCUPIED BANDWIDTH

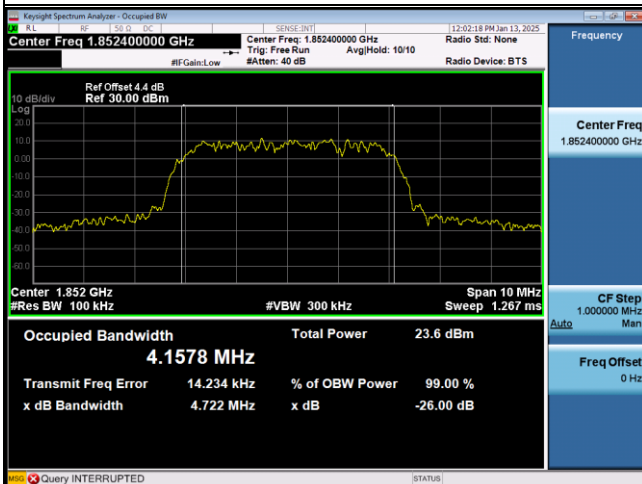
WCDMA Band II_WCDMA

QPSK

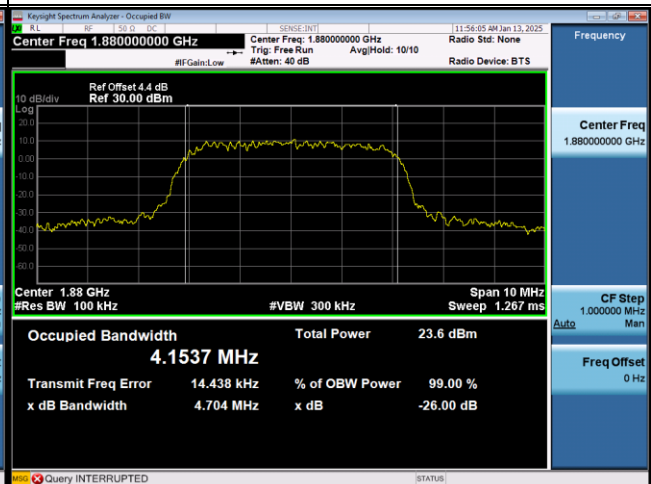
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
9262	1852.4	4.1578	9262	1852.4	4.722
9400	1880	4.1537	9400	1880	4.704
9538	1907.6	4.1671	9538	1907.6	4.729

Spectrum Plot

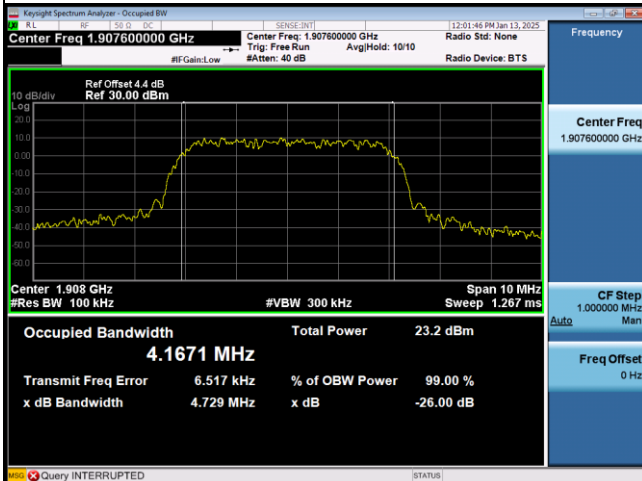
9262



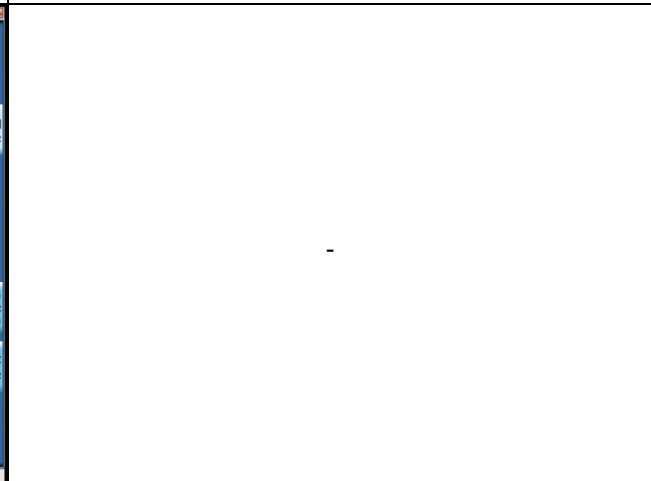
9400



9538



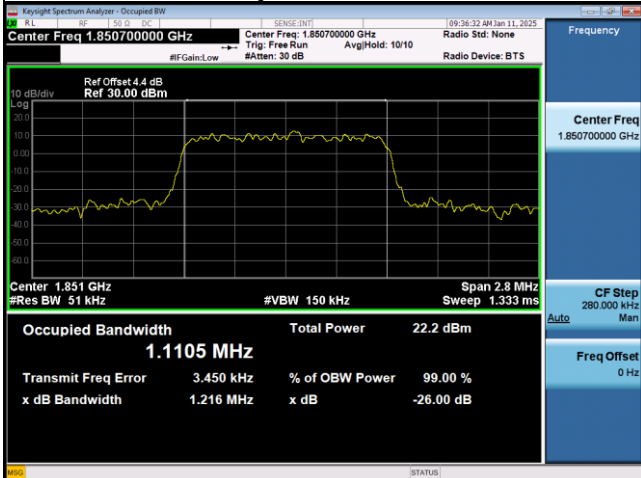
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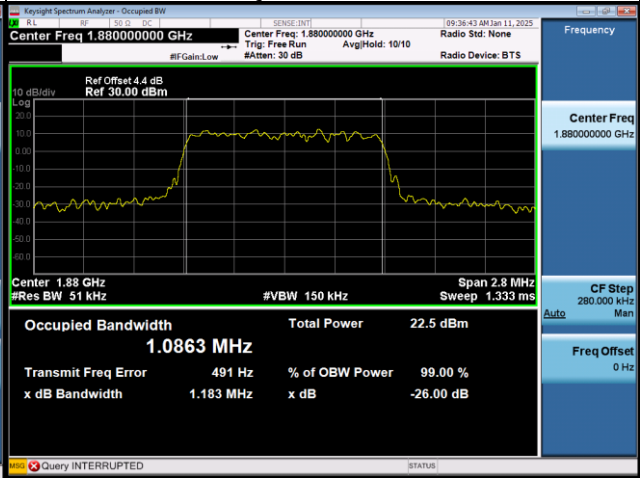
LTE Band 2_1.4M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18607	1850.7	1.1105	18607	1850.7	1.216
18900	1880	1.0863	18900	1880	1.183
19193	1909.3	1.0920	19193	1909.3	1.230
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18607	1850.7	1.0954	18607	1850.7	1.220
18900	1880	1.1046	18900	1880	1.253
19193	1909.3	1.0972	19193	1909.3	1.199
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18607	1850.7	1.0965	18607	1850.7	1.228
18900	1880	1.0839	18900	1880	1.241
19193	1909.3	1.1084	19193	1909.3	1.232
256QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18607	1850.7	1.0983	18607	1850.7	1.196
18900	1880	1.1026	18900	1880	1.229
19193	1909.3	1.0854	19193	1909.3	1.199

Spectrum Plot

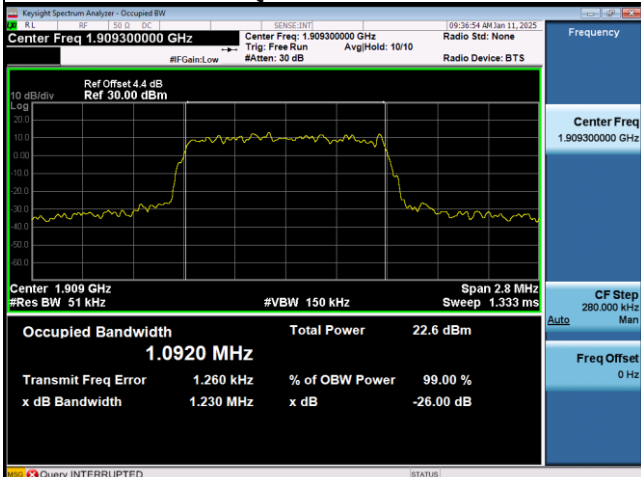
QPSK-18607



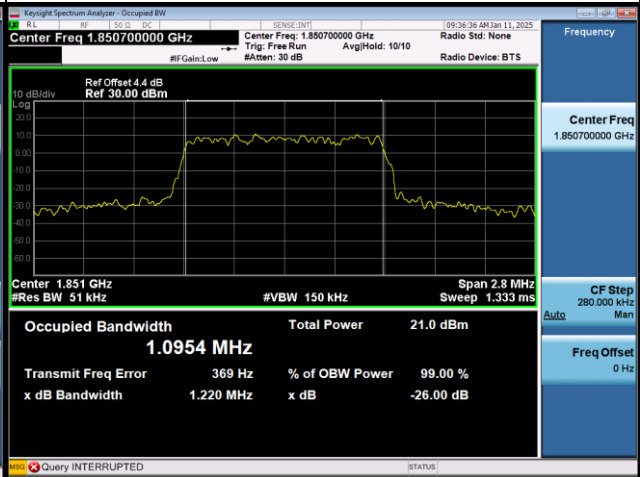
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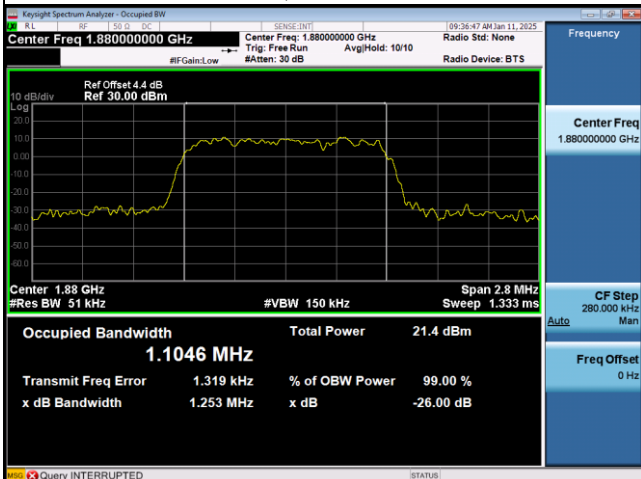
QPSK-19193



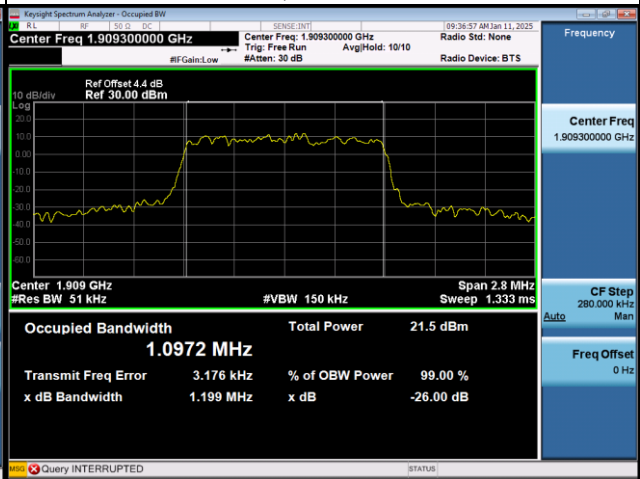
16QAM-18607

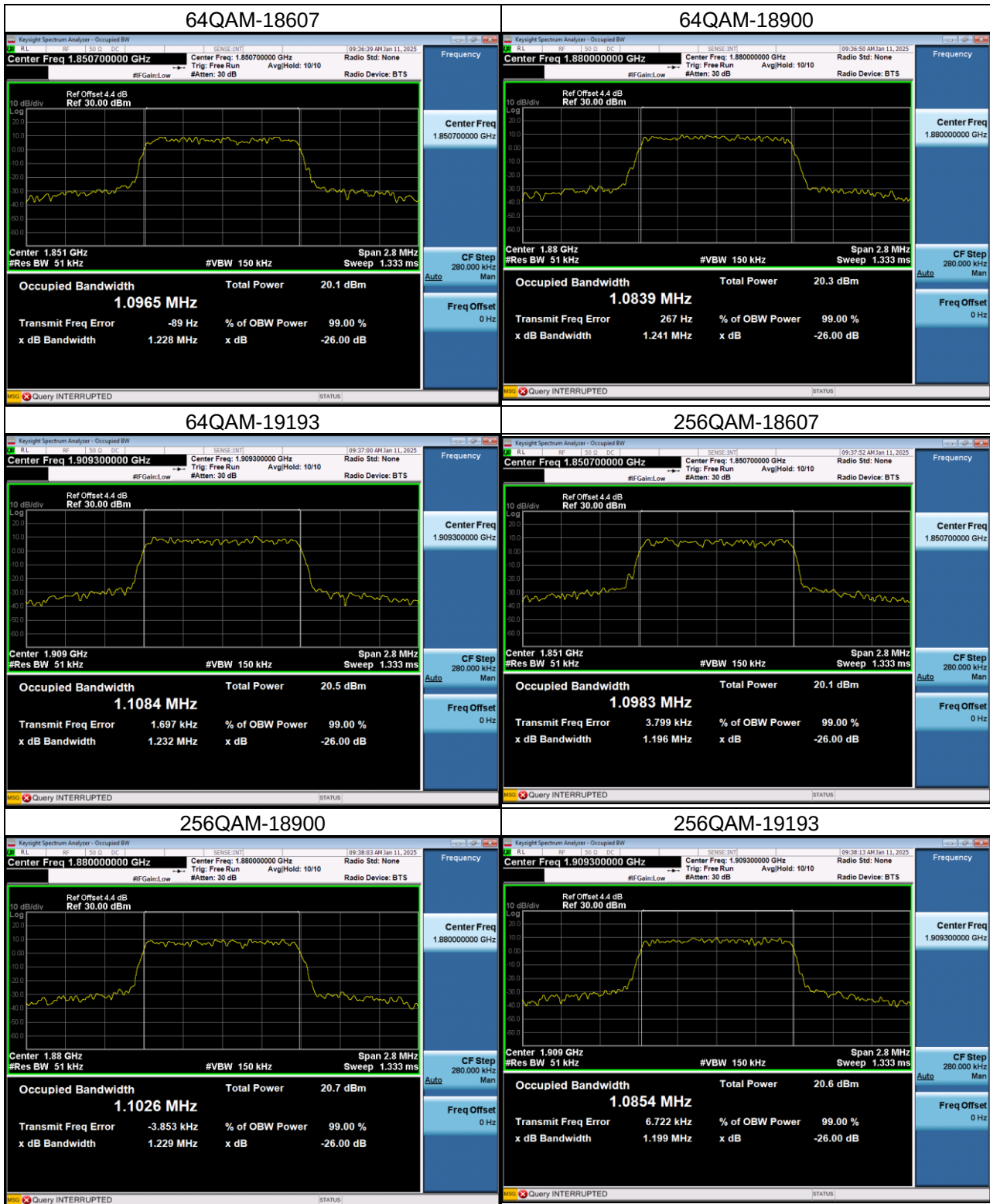


16QAM-18900



16QAM-19193

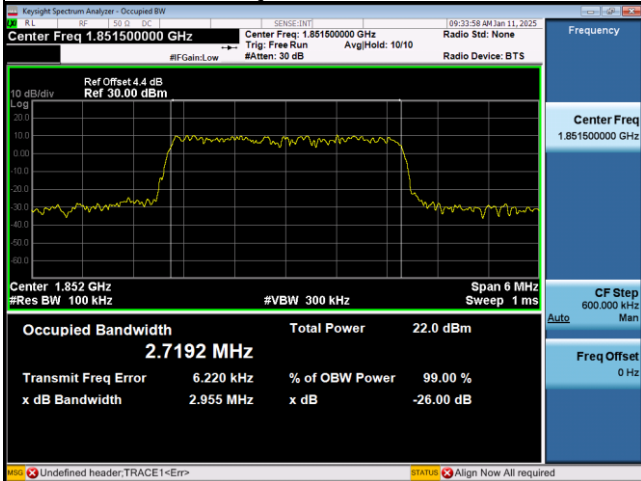




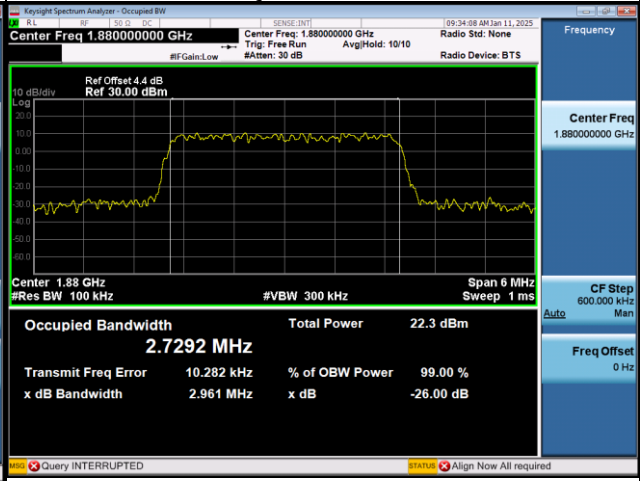
LTE Band 2_3M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18615	1851.5	2.7192	18615	1851.5	2.955
18900	1880	2.7292	18900	1880	2.961
19185	1908.5	2.7067	19185	1908.5	2.931
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18615	1851.5	2.7292	18615	1851.5	2.924
18900	1880	2.7225	18900	1880	2.927
19185	1908.5	2.7368	19185	1908.5	2.961
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18615	1851.5	2.7226	18615	1851.5	2.926
18900	1880	2.7211	18900	1880	2.917
19185	1908.5	2.6910	19185	1908.5	2.964
256QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18615	1851.5	2.7015	18615	1851.5	2.931
18900	1880	2.7079	18900	1880	2.922
19185	1908.5	2.7244	19185	1908.5	2.945

Spectrum Plot

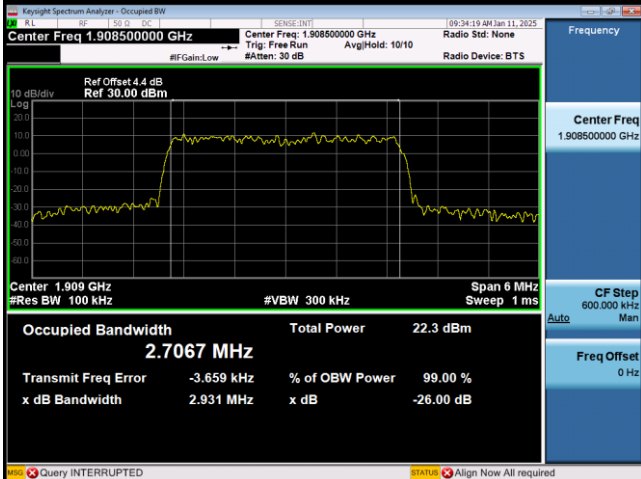
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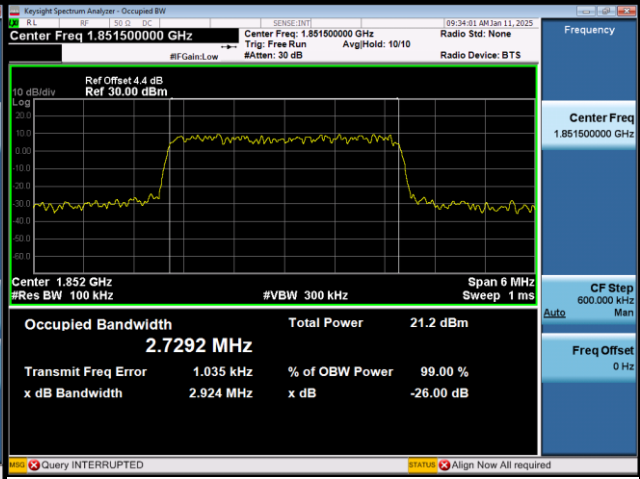
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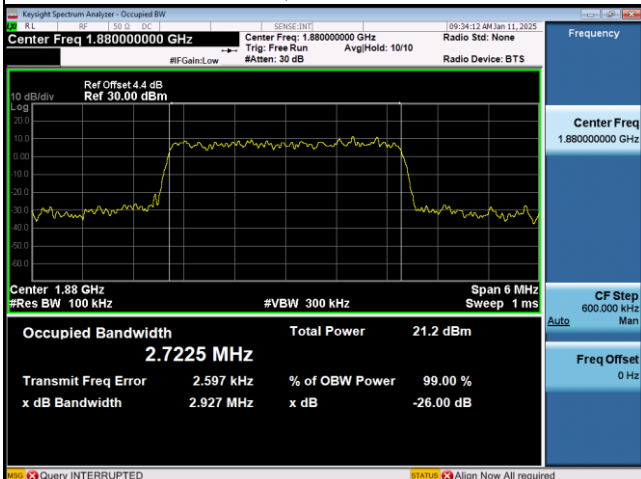
QPSK-19185



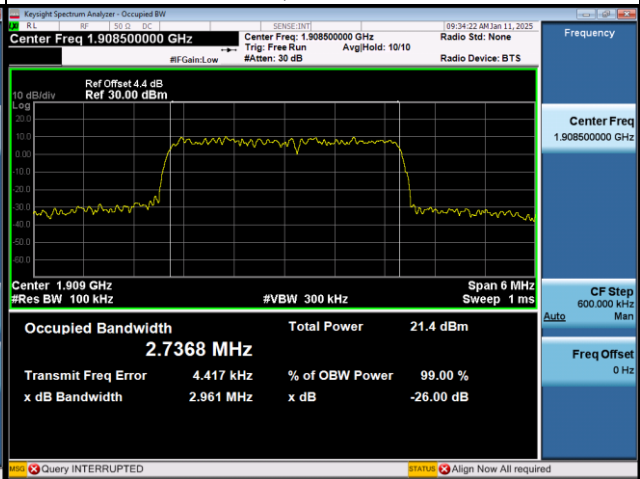
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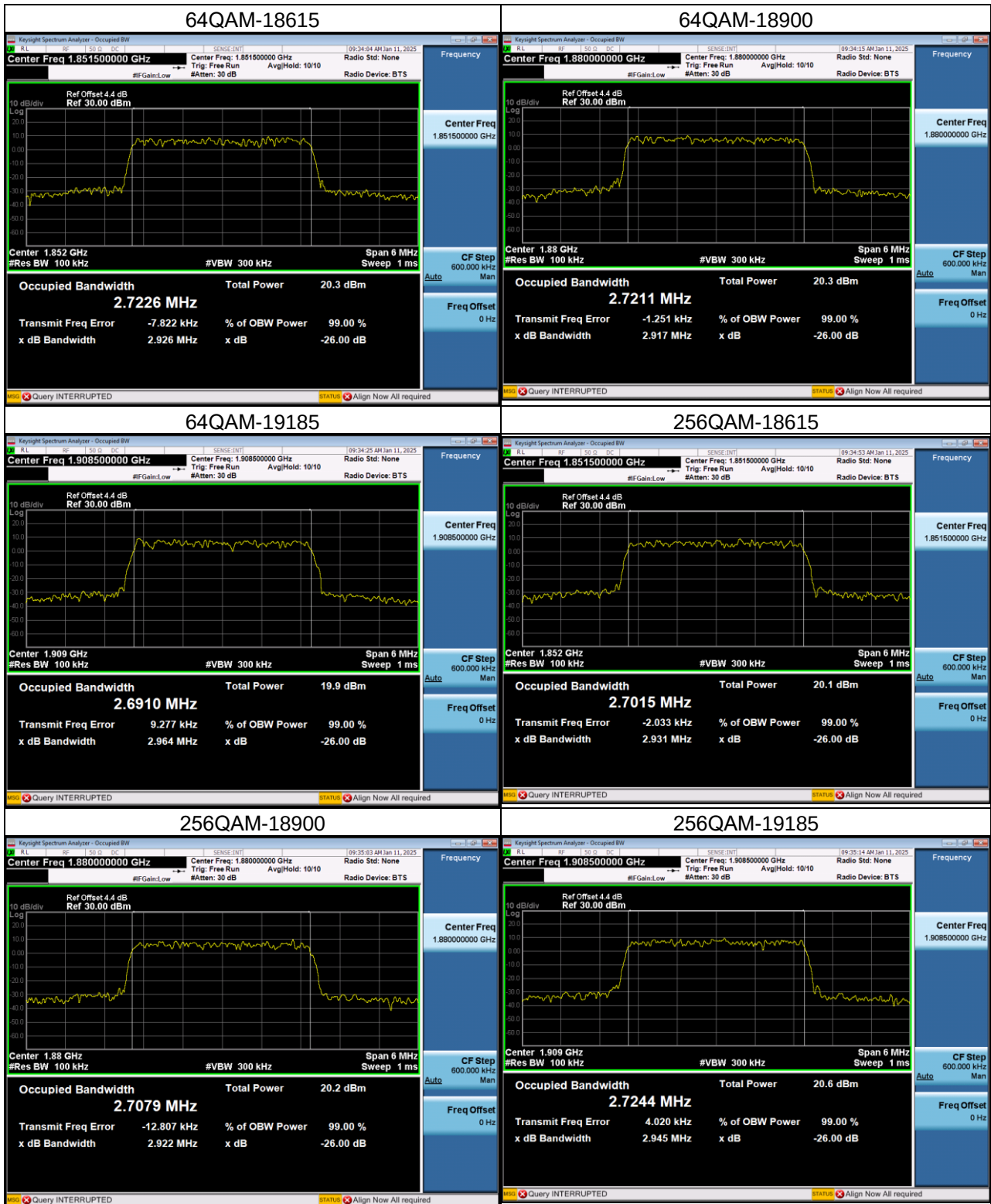


16QAM-18900



16QAM-19185

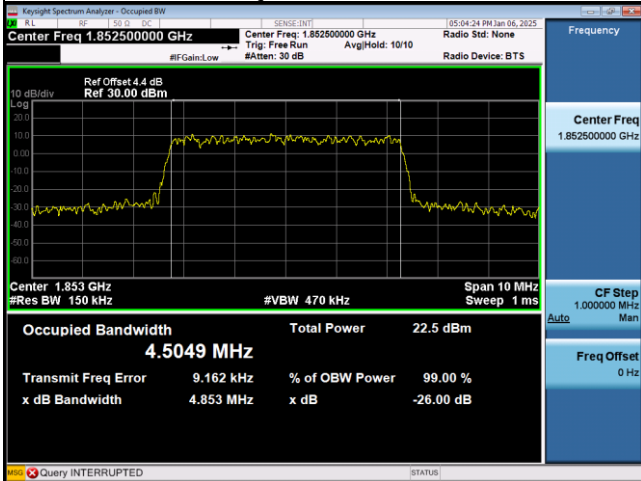




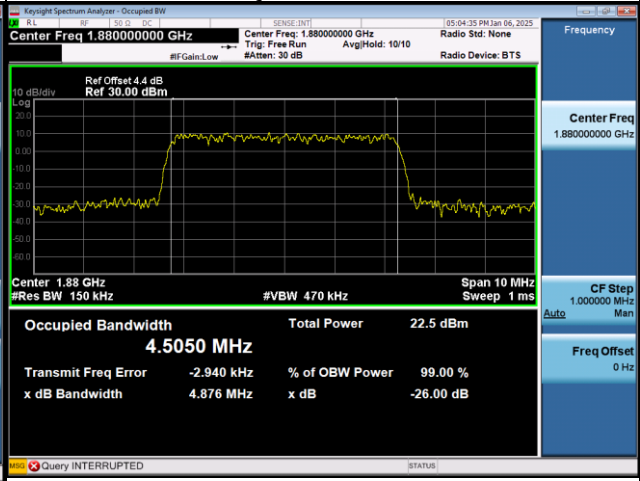
LTE Band 2_5M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18625	1852.5	4.5049	18625	1852.5	4.853
18900	1880	4.5050	18900	1880	4.876
19175	1907.5	4.5099	19175	1907.5	4.848
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18625	1852.5	4.5262	18625	1852.5	4.837
18900	1880	4.5246	18900	1880	4.881
19175	1907.5	4.4866	19175	1907.5	4.837
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18625	1852.5	4.5064	18625	1852.5	4.862
18900	1880	4.5206	18900	1880	4.918
19175	1907.5	4.5155	19175	1907.5	4.843
256QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18625	1852.5	4.5181	18625	1852.5	4.854
18900	1880	4.5136	18900	1880	4.844
19175	1907.5	4.5062	19175	1907.5	4.863

Spectrum Plot

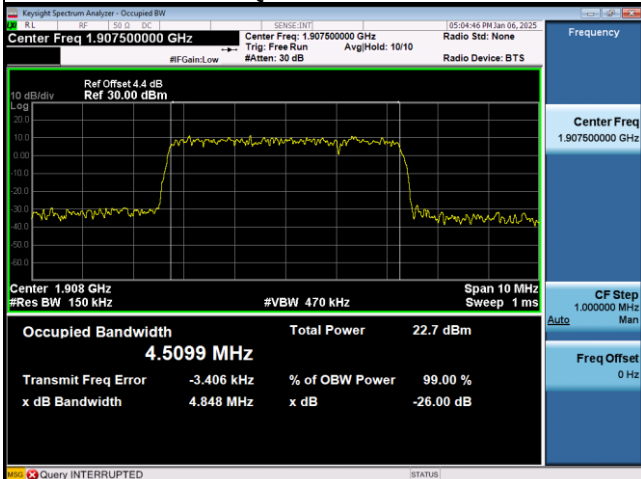
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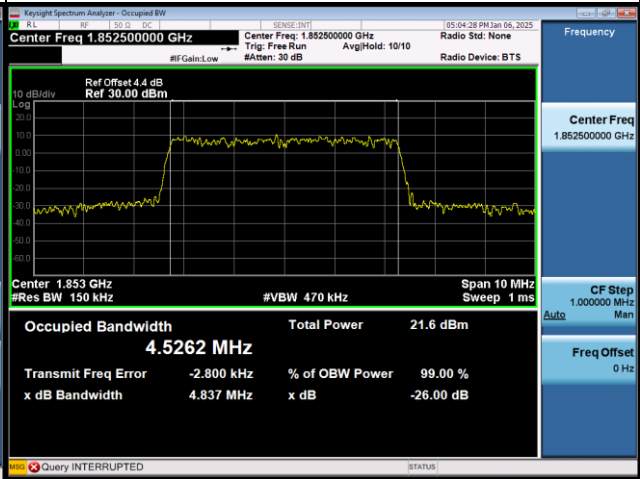
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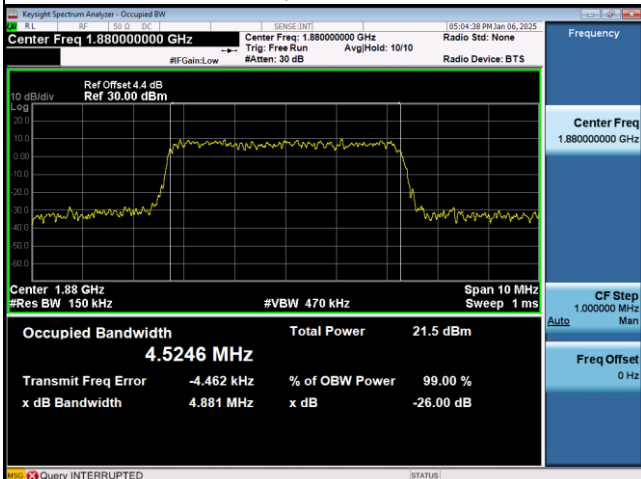
QPSK-19175



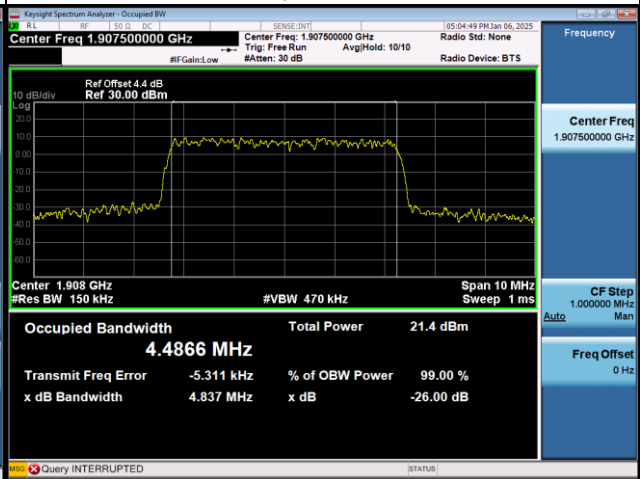
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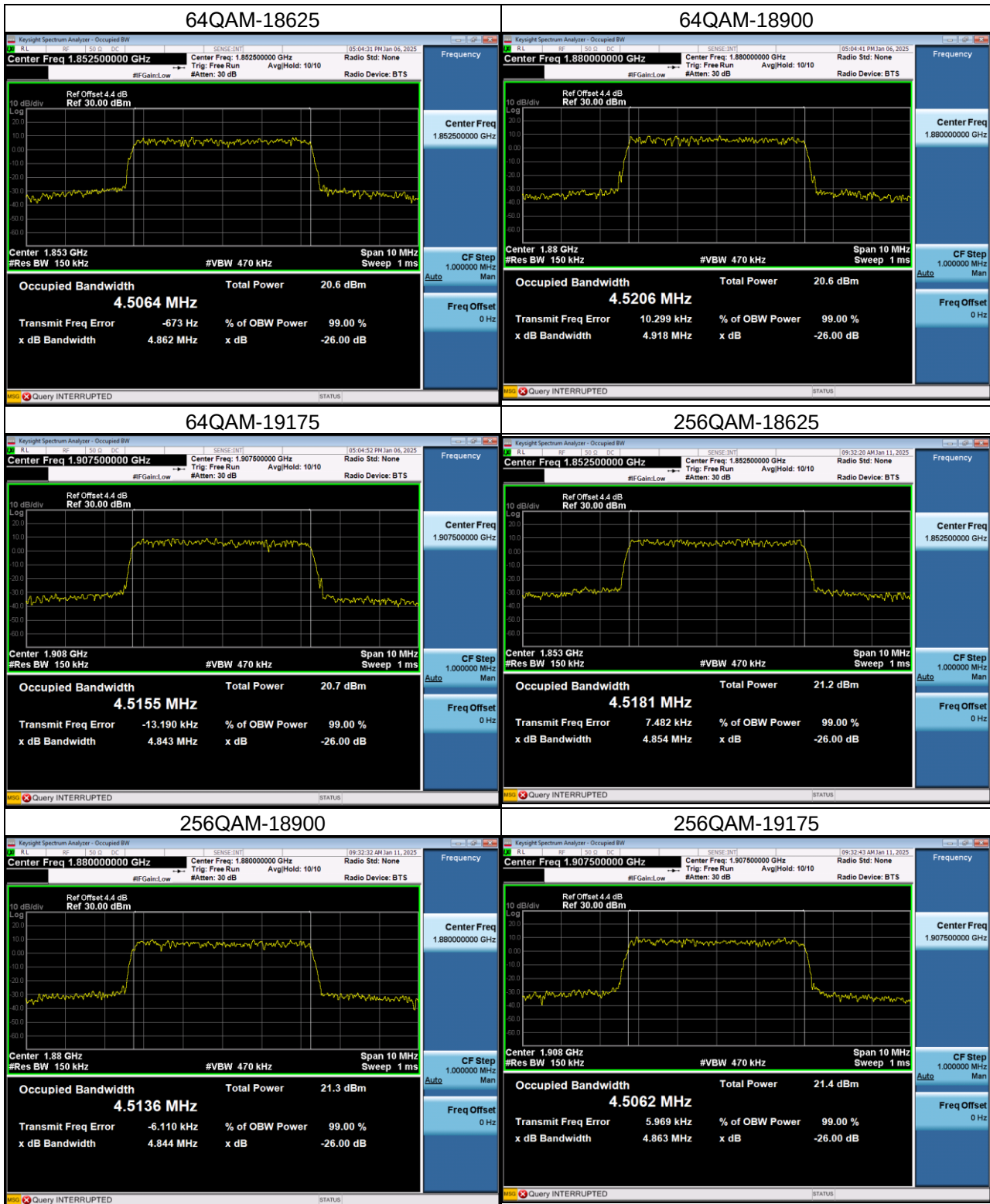


16QAM-18900



16QAM-19175

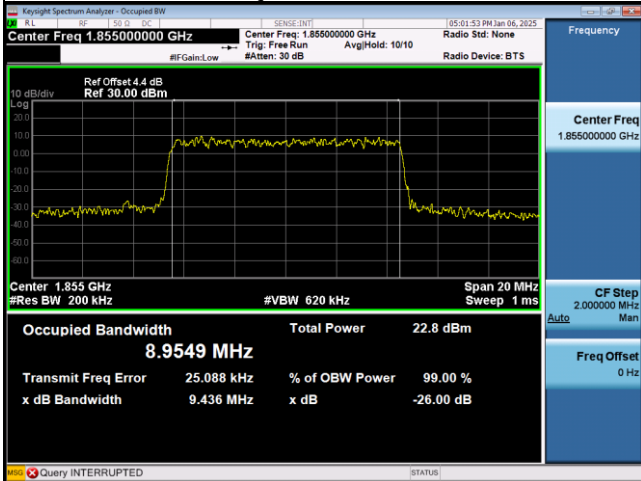




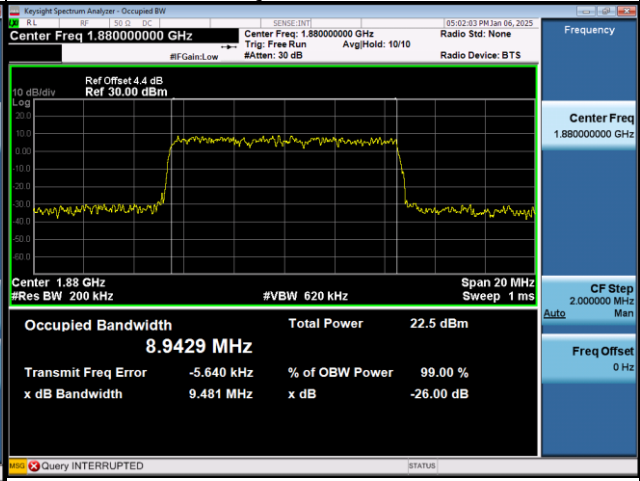
LTE Band 2_10M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18650	1855	8.9549	18650	1855	9.436
18900	1880	8.9429	18900	1880	9.481
19150	1905	8.9435	19150	1905	9.449
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18650	1855	8.9875	18650	1855	9.442
18900	1880	8.9475	18900	1880	9.469
19150	1905	8.9472	19150	1905	9.423
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18650	1855	8.9437	18650	1855	9.502
18900	1880	8.9683	18900	1880	9.569
19150	1905	8.9428	19150	1905	9.471
256QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18650	1855	8.9967	18650	1855	9.522
18900	1880	9.0049	18900	1880	9.455
19150	1905	8.9717	19150	1905	9.618

Spectrum Plot

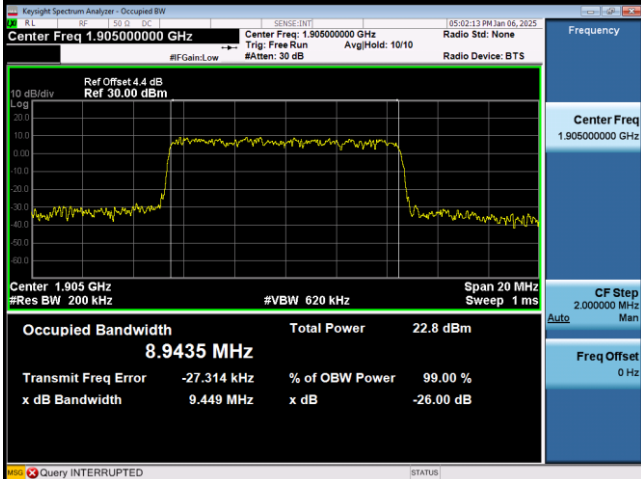
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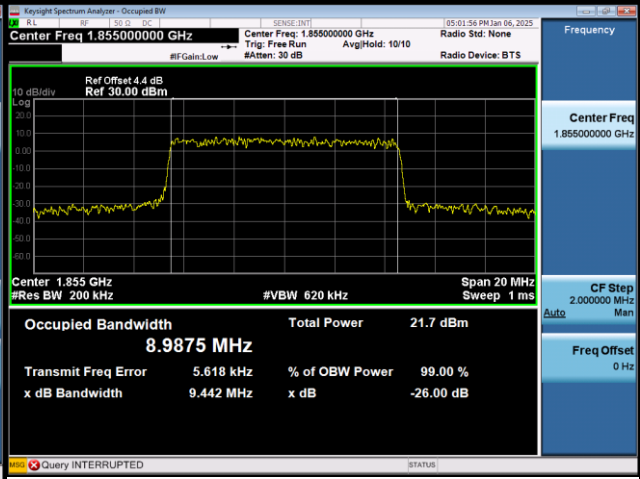
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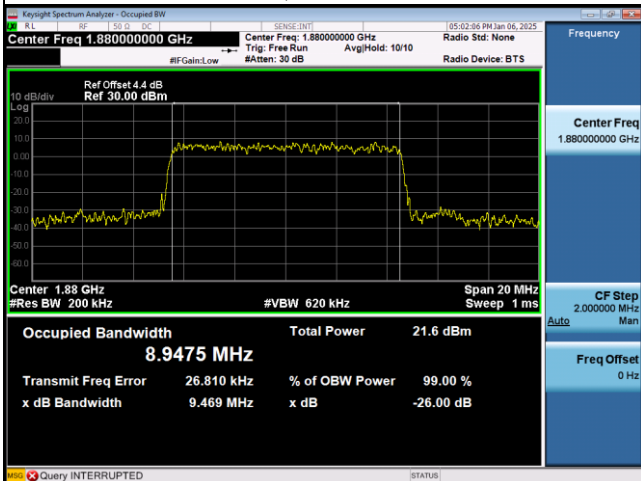
QPSK-19150



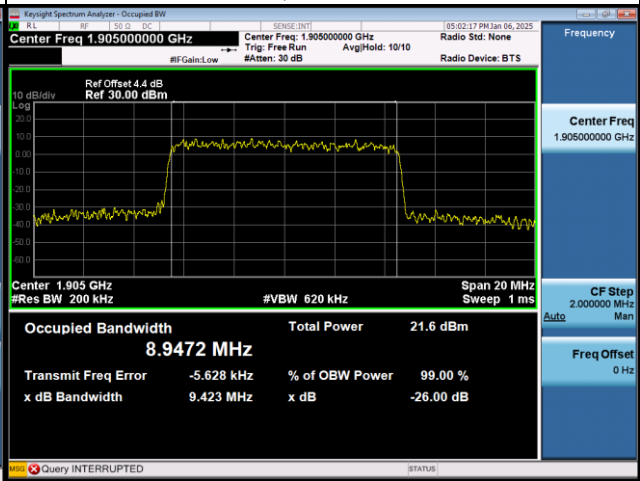
16QAM-18650

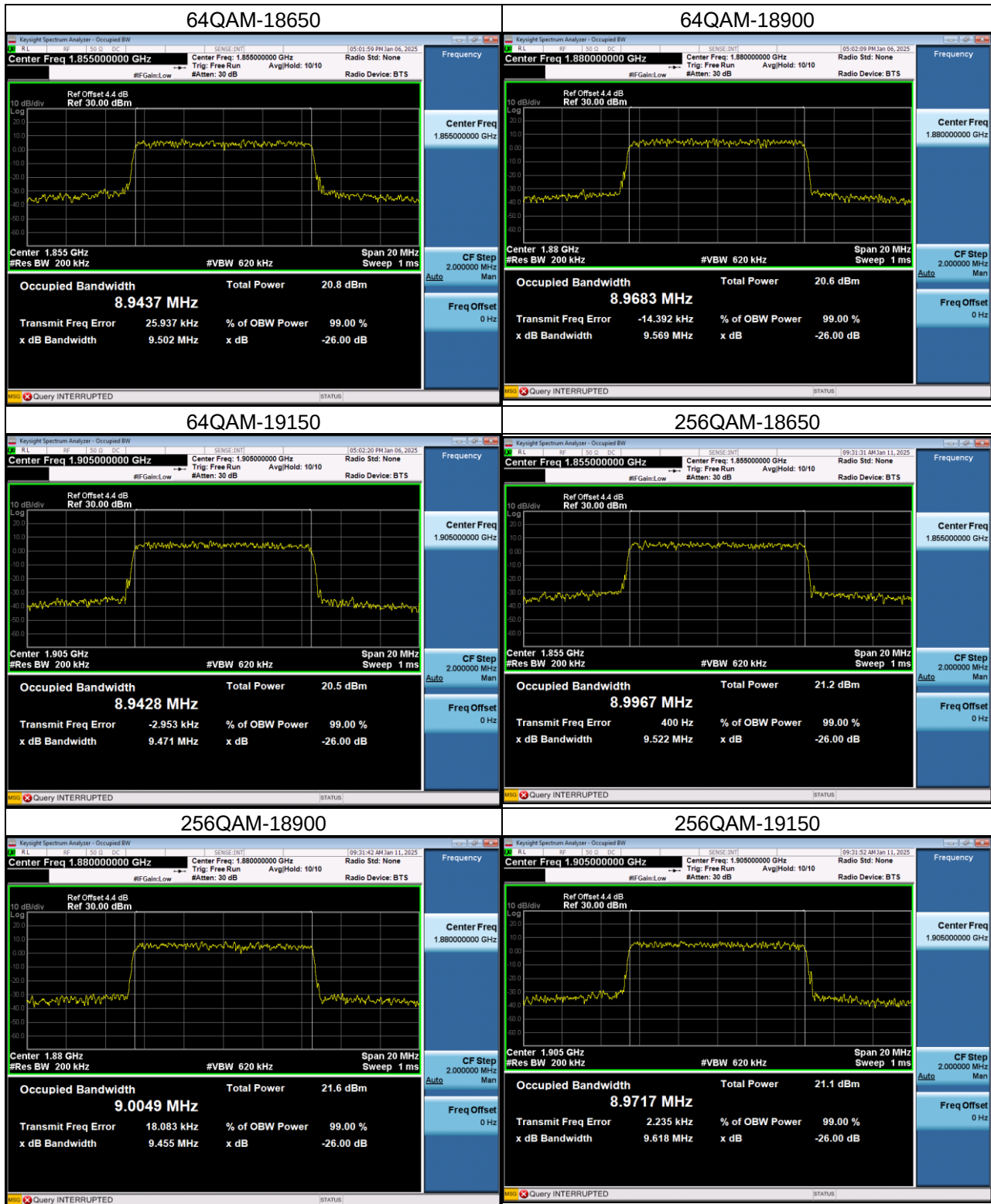


16QAM-18900



16QAM-19150





LTE Band 2_15M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18675	1857.5	13.424	18675	1857.5	14.17
18900	1880	13.516	18900	1880	14.22
19125	1902.5	13.398	19125	1902.5	14.24
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18675	1857.5	13.465	18675	1857.5	14.14
18900	1880	13.449	18675	1857.5	14.15
19125	1902.5	13.419	18900	1880	14.19
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18675	1857.5	13.462	18675	1857.5	14.12
18900	1880	13.374	18900	1880	14.11
19125	1902.5	13.367	19125	1902.5	14.16
256QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18675	1857.5	13.432	18675	1857.5	14.16
18900	1880	13.418	18900	1880	14.15
19125	1902.5	13.401	19125	1902.5	14.18