



Accred. no. 10363  
Testing  
ISO/IEC 17025



# Report On

FCC Testing of the Ericsson AIR 3283 B25 B66, KRD 901 892/2, LTE and NR (1900 MHz) Base Station in accordance with FCC CFR 47 Part 2 and FCC CFR 47 Part 24

COMMERCIAL-IN-CONFIDENCE

FCC: TA8AKRD901892

PREPARED BY

A handwritten signature in blue ink, appearing to read 'Maggie Whiting'.

Maggie Whiting  
Key Account Manager

APPROVED BY

A handwritten signature in blue ink, appearing to read 'Steve Scarfe'.

Steve Scarfe  
Authorised Signatory

DATED

14 August 2024

Document 75961458 Report 01 Issue 3

August 2024



## CONTENTS

Section	Page No
<b>1</b>	<b>REPORT INFORMATION ..... 2</b>
1.1	Report Details ..... 3
1.2	Brief Summary of Results ..... 4
1.3	Test Rationale..... 5
1.4	Configuration Description ..... 6
1.5	Declaration of Build Status ..... 10
1.6	Product Information ..... 12
1.7	Test Setup ..... 13
1.8	Test Conditions..... 16
1.9	Deviation From The Standard ..... 16
1.10	Modification Record ..... 16
1.11	Additional Information ..... 17
<b>2</b>	<b>TEST DETAILS ..... 18</b>
2.1	Maximum Peak Output Power and Peak to Average Ratio - Conducted..... 19
2.2	Occupied Bandwidth..... 55
2.3	Band Edge ..... 66
2.4	Transmitter Spurious Emissions..... 78
2.5	Frequency Stability ..... 106
<b>3</b>	<b>TEST EQUIPMENT USED ..... 108</b>
3.1	Test Equipment Used ..... 109
3.2	Measurement Uncertainty ..... 111
3.3	Measurement Software Used ..... 112
<b>4</b>	<b>ACCREDITATION, DISCLAIMERS AND COPYRIGHT..... 113</b>
4.1	Accreditation, Disclaimers and Copyright..... 114
<b>ANNEX A</b>	<b>Module Lists.....A.2</b>



## **SECTION 1**

### **REPORT INFORMATION**



## 1.1 REPORT DETAILS

Manufacturer	Ericsson
Address	Torshamnsgatan 23 Kista SE-16480 Stockholm Sweden
Product Name & Product Number	AIR 3283 B25 B66 - KRD 901 892/2
Serial Number(s)	Module 1 -E23F527361 Module 2 – E23F529480
Software Version	CXP2021151/1 R21A984
Hardware Version	R1C
Non-Tested Variant (See Section 1.11 Additional Information)	KRD 901 892/1 KRD 901 892/11 KRD 901 892/21
Test Specification/Issue/Date	FCC CFR 47 Part 2: 2023 FCC CFR 47 Part 24: 2023
Test Plan	General RA FCC Test Plan for AIR 3283 B25B66_H-2
Start of Test	02-July-2024
Finish of Test	01-August-2024
Name of Engineer(s)	Shashi Kiran Gangaraju Vinodhini Chandrasekaran
Related Document(s)	KDB 971168 D01 v02r02 KDB 662911 D01 v02r01 ANSI C63.26-2015

---

### ENGINEERING STATEMENT

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported testing was carried out on a sample equipment to demonstrate compliance with and FCC CFR 47 Part 2: 2023 and FCC CFR 47 Part 24: 2023. The sample tested was found to comply with the requirements defined in the applied rules.

Test Engineer(s);

Shashi Kiran Gangaraju, Vinodhini Chandrasekaran

**This report has been amended to Issue 3 and should be read in place of Issue 2. This report has been amended to correct the Declaration of Build Status**



## 1.2 BRIEF SUMMARY OF RESULTS

The tests that have been selected are detailed in the customer Test Plan as defined in section 1.1 of this report. The Test Plan is based on the TÜV SÜD FCC Test Plan Rationale, available on request.

A brief summary of results for each configuration, in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 24 is shown below.

Section	Specification Clause		Test Description	Result
	FCC CFR 47 Part 2	FCC CFR 47 Part 24		
2.1	2.1046	24.232	Maximum Peak Output Power and Peak to Average Ratio - Conducted	Pass
2.2	2.1049	24.238 (b)	Occupied Bandwidth	Pass
2.3	2.1051	24.238 (b)	Band Edge	Pass
2.4	2.1051	24.238 (a)	Transmitter Spurious Emissions	Pass
2.5	2.1055	24.235	Frequency Stability	Pass
-	2.1053	24.238 (a)	Radiated Spurious Emissions*	Pass

Testing in this Report covers only B25 (1930 MHz -1995 MHz) and B2 (1930 MHz -1990 MHz).

For additional configurations and test cases not contained within this test report, refer to the following report:

TÜV SÜD Document 75961458 Report 02 – FCC Part 27 – B66 (2110 MHz -2200 MHz)

\* - Testing for Radiated Spurious Emissions are recorded in the following report:  
FCC Part 24/27 – Intertek Test Report reference 2310419STO-101 AIR3283 FCC2427



### 1.3 TEST RATIONALE

The tests that have been selected are detailed in the customer Test Plan as defined in section 1.1 of this report. The Test Plan is based on the TÜV SÜD FCC Test Plan Rationale, available on request.



## 1.4 CONFIGURATION DESCRIPTION

Config No	No Of carriers	RAT Band	Carrier Bandwidth (MHz)	Carrier Frequency Configuration (MHz)				
				Channel position B (MHz)	Channel position M (MHz)	Channel position T (MHz)	Power (W) per carrier	Power (dBm) per RDNB connector
1 Sections 2.1, 2.2, 2.4, 2.5	1	LTE 25	5	1932.5	1962.5	1992.5	60	32.74
			10	1935.0	1962.5	1990.0	120	35.74
			15	1937.5	1962.5	1987.5	180	37.50
			20	1940.0	1962.5	1985.0	240	38.75
1 Section 2.3			5	1932.5	N/A	1992.5	60	32.74
			10	1935.0	N/A	1990.0	120	35.74
			15	1937.5	N/A	1987.5	180	37.50
			20	1940.0	N/A	1985.0	240	38.75
2 Section 2.2	2	LTE 25	5	1932.5 + 1937.5	1960.0 + 1965.0	1992.5 + 1987.5	2x40W	2x30.96
			10	1935.0 + 1945.0	1957.5 + 1967.5	1990.0 + 1980.0	2x 80W	2x33.97
			15	1937.5 + 1952.5	1955.0 + 1970.0	1987.5 + 1972.5	2x 120W	2x35.74
			20	1940.0 + 1960.0	1952.5 + 1972.5	1985.0 + 1965.0	2x120W	2x35.74
2 Section 2.3			5	1932.5 + 1937.5	N/A	1992.5 + 1987.5	2x40	2x30.96
			10	1935.0 + 1945.0	N/A	1990.0 + 1980.0	2x80	2x33.97
			15	1937.5 + 1952.5	N/A	1987.5 + 1972.5	2x120	2x35.74
			20	1940.0 + 1960.0	N/A	1985.0 + 1965.0	2x120	2x35.74
2 Section 2.4			5	1932.5 + 1960.0	1945.0 + 1980.0	1965.0 + 1992.5	2x40	2x30.96
			10	1935.0 + 1957.5	1945.0 + 1980.0	1972.5 + 1990.0	2x80	2x33.97
			15	1937.5 + 1955.0	1945.0 + 1980.0	1970.0 + 1987.5	2x120	2x35.74
			20	1940.0 + 1962.5	1945.0 + 1980.0	1962.5 + 1985.0	2x120	2x35.74
3 Section 2.1, 2.2, 2.4, 2.5	1	NR 25	5 – 15 kHz SCS	1932.5	1962.5	1992.5	60	32.74
			10 – 15 kHz SCS	1935.0	1962.5	1990.0	120	35.74
			15 – 15 kHz SCS	1937.5	1962.5	1987.5	180	37.50
			20 – 15 kHz SCS	1940.0	1962.5	1985.0	240	38.75
3 Section 2.3			5 – 15 kHz SCS	1932.5	N/A	1992.5	60	32.74
			10 – 15 kHz SCS	1935.0	N/A	1990.0	120	35.74
			15 – 15 kHz SCS	1937.5	N/A	1987.5	180	37.50
			20 – 15 kHz SCS	1940.0	N/A	1985.0	240	38.75



Config No	No Of carriers	RAT Band	Carrier Bandwidth (MHz)	Carrier Frequency Configuration (MHz)					
				Channel position B (MHz)	Channel position M (MHz)	Channel position T (MHz)	Power (W) per carrier	Power (dBm) per RDNB connector	
4 Section 2.2	2	NR 25	5 – 15 kHz SCS	1932.5 + 1937.5	1960.0 + 1965.0	1992.5 + 1987.5	2X40W	2x30.96	
			10 – 15 kHz SCS	1935.0 + 1945.0	1957.5 + 1967.5	1990.0 + 1980.0	2x 80W	2x33.97	
			15 – 15 kHz SCS	1937.5 + 1952.5	1955.0 + 1970.0	1987.5 + 1972.5	2x120W	2x35.74	
			20 – 15 kHz SCS	1940.0 + 1960.0	1952.5 + 1972.5	1985.0 + 1965.0	2x120W	2x35.74	
4 Section 2.3			NR 25	5 – 15 kHz SCS	1932.5 + 1937.5	N/A	1992.5 + 1987.5	2x40	2x30.96
				10 – 15 kHz SCS	1935.0 + 1945.0	N/A	1990.0 + 1980.0	2x80	2x33.97
				15 – 15 kHz SCS	1937.5 + 1952.5	N/A	1987.5 + 1972.5	2x120	2x35.74
				20 – 15 kHz SCS	1940.0 + 1960.0	N/A	1985.0 + 1965.0	2x120	2x35.74
4 Section 2.4			NR 25	5 – 15 kHz SCS	1932.5 + 1960.0	1945.0 + 1980.0	1967.5 + 1992.5	2x40	2x30.96
				10 – 15 kHz SCS	1935.0 + 1957.5	1945.0 + 1980.0	1972.5 + 1990.0	2x80	2x33.97
				15 – 15 kHz SCS	1937.5 + 1955.0	1945.0 + 1980.0	1970.0 + 1987.5	2x120	2x35.74
				20 – 15 kHz SCS	1940.0 + 1962.5	1945.0 + 1980.0	1962.5 + 1985.0	2x120	2x35.74
5 Section 2.3	2	LTE + NR 25	LTE 5 (64QAM) + NR 20 (QPSK)	1932.5(LTE) + 1945.0(NR)	N/A	1992.5 (LTE)+ 1980.0(NR)	40(LTE) + 160(NR)	30.96(LTE)+ 36.98(NR)	
5 Section 2.4			LTE 5 (64QAM) + NR 20 (QPSK)	1932.5(LTE) + 1950.0(NR)	1945.0 (LTE)+ 1970.0(NR)	1992.5 (LTE)+ 1975.0(NR)	40(LTE) + 160(NR)	30.96(LTE)+ 36.98(NR)	
6 Sections 2.1, 2.2, 2.3, 2.4	1	LTE 2	5	N/A	N/A	1987.5	60	32.74	
			10	N/A	N/A	1985.0	120W	35.74	
			15	N/A	N/A	1982.5	180W	37.50	
			20	N/A	N/A	1980.0	240W	38.75	
7 Sections 2.1,2.2, 2.3, 2.4	1	NR 2	5	N/A	N/A	1987.5	60	32.74	
			10	N/A	N/A	1985.0	120W	35.74	
			15	N/A	N/A	1982.5	180W	37.50	
			20	N/A	N/A	1980.0	240W	38.75	
8 Sections 2.3, 2.4	2	LTE+NR 2	LTE 5 (64QAM) + NR 20 (QPSK)	N/A	N/A	1987.5 (LTE)+ 1975.0(NR)	40(LTE) + 160(NR)	30.96(LTE)+ 36.98(NR)	
9 Section 2.4	2	LTE 25 NR 66	LTE-5M 64QAM Band 25 + NR-20M QPSK Band 66	1932.5 + 2120.0	1962.5 + 2155.0	1992.5 + 2190.0	60(LTE) + 240(NR)	32.74(LTE)+ 38.75(NR)	





Config No	No Of carriers	RAT Band	Carrier Bandwidth (MHz)	Carrier Frequency Configuration (MHz)				
				Channel position B (MHz)	Channel position M (MHz)	Channel position T (MHz)	Power (W) per carrier	Power (dBm) per RDNB connector
10 Section 2.1, 2.4	4	LTE 25 NR 25 LTE 66 NR 66	LTE-5M 64QAM Band 25 + NR-20M QPSK Band 25 + LTE 20 MHz QPSK B66 + NR 20 MHz QPSK B66	1932.5+1940.0+2140.0+2120.0	1945.0+1980.0+2135.0+2175.0	1992.5+1985.0+2170.0+2190.0	30(LTE) + 120(NR) + 80(LTE)+ 80(NR)	29.72(LTE)+ 35.74(NR)+ 33.97(LTE)+ 33.97(NR)
11 Section 2.4	2	LTE 2 NR 66	LTE-5M 64QAM Band 2 + NR-20M QPSK Band 66	N/A	N/A	1987.5 + 2190.0	60(LTE) + 240(NR)	32.74(LTE)+ 38.75(NR)
12 Sections 2.1, 2.4	4	LTE 2 NR 2 LTE 66 NR 66	LTE-5M 64QAM Band 2 + NR-20M QPSK Band 2 + LTE 20 MHz QPSK B66 + NR 20 MHz QPSK B66	N/A	N/A	1987.5+1980.0+2170.0+2190.0	30(LTE) + 120(NR) + 80(LTE)+ 80(NR)	29.72(LTE)+ 35.74(NR)+ 33.97(LTE)+ 33.97(NR)
13 Sections 2.1	1	LTE 25	5	1932.5	1962.5	1992.5	30	29.72
			10	1935.0	1962.5	1990.0	60	32.74
			15	1937.5	1962.5	1987.5	90	34.49
			20	1940.0	1962.5	1985.0	120	35.74
14 Section 2.1	1	NR 25	5 – 15 kHz SCS	1932.5	1962.5	1992.5	30	29.72
			10 – 15 kHz SCS	1935.0	1962.5	1990.0	60	32.74
			15 – 15 kHz SCS	1937.5	1962.5	1987.5	90	34.49
			20 – 15 kHz SCS	1940.0	1962.5	1985.0	120	35.74
15 Section 2.1	1	LTE 2	5	N/A	N/A	1987.5	30	29.72
			10	N/A	N/A	1985.0	60	32.74
			15	N/A	N/A	1982.5	90	34.49
			20	N/A	N/A	1980.0	120	35.74
16 Section 2.1	1	NR 2	5 – 15 kHz SCS	N/A	N/A	1987.5	30	29.72
			10 – 15 kHz SCS	N/A	N/A	1985.0	60	32.74
			15 – 15 kHz SCS	N/A	N/A	1982.5	90	34.49
			20 – 15 kHz SCS	N/A	N/A	1980.0	120	35.74



Config No	No Of carriers	RAT Band	Carrier Bandwidth (MHz)	Carrier Frequency Configuration (MHz)				
				Channel position B (MHz)	Channel position M (MHz)	Channel position T (MHz)	Power (W) per carrier	Power (dBm) per RDNB connector
17 Section 2.1	2	LTE 25	5	1932.5 + 1960.0	1945.0 + 1980.0	1965.0 + 1992.5	2X30W	2x29.72
			10	1935.0 + 1957.5	1945.0 + 1980.0	1972.5 + 1990.0	2x 60W	2x32.74
			15	1937.5 + 1955.0	1945.0 + 1980.0	1970.0 + 1987.5	2x 90W	2x34.49
			20	1940.0 + 1962.5	1945.0 + 1980.0	1962.5 + 1985.0	2x120W	2x35.74
18 Section 2.1	2	NR 25	5 – 15 kHz SCS	1932.5 + 1960.0	1945.0 + 1980.0	1967.5 + 1992.5	2X30W	2x29.72
			10 – 15 kHz SCS	1935.0 + 1957.5	1945.0 + 1980.0	1972.5 + 1990.0	2x 60W	2x32.74
			15 – 15 kHz SCS	1937.5 + 1955.0	1945.0 + 1980.0	1970.0 + 1987.5	2x 90W	2x34.49
			20 – 15 kHz SCS	1940.0 + 1962.5	1945.0 + 1980.0	1962.5 + 1985.0	2x120W	2x35.74
19 Section 2.1	2	LTE+NR 25	LTE 5 (64QAM) + NR 20 (QPSK)	1932.5(LTE) + 1950.0(NR)	1945.0 (LTE)+ 1970.0(NR)	1992.5 (LTE)+ 1975.0(NR)	30(LTE) +120(NR)	29.72(LTE)+ 35.74(NR)
20 Section 2.1	2	LTE + NR 2	LTE 5 (64QAM) + NR 20 (QPSK)	N/A	N/A	1987.5 (LTE)+ 1975.0(NR)	30(LTE) +120(NR)	29.72(LTE)+ 35.74(NR)
21 Section 2.1	2	LTE 25 +NR 66	LTE 5 (64QAM) + NR 20 (QPSK)	1932.5 (LTE) + 2120.0(NR)	1962.5 (LTE) + 2155.0(NR)	1992.5 (LTE) + 2190.0(NR)	30(LTE) +115(NR)	29.72(LTE)+ 35.55(NR)
22 Section 2.1	2	LTE 2 + NR 66	LTE 5 (64QAM) + NR 20 (QPSK)	N/A	N/A	1987.5 (LTE)+ 2190.0(NR)	30(LTE) +115(NR)	29.72(LTE)+ 35.55(NR)



1.5 DECLARATION OF BUILD STATUS

Equipment Description		
Technical Description:	Multi standard AIR 3283 B25 B66 32Tx/32Rx	
Manufacturer:	Ericsson AB	
Model:	AIR 3283 B25 B66	
Part Number:	KRD 901 892/1 With Antenna, Security Unlocked. KRD 901 892/11** With Antenna, Security Locked KRD 901 892/2* CAB-unit, Security Unlocked KRD 901 892/21 CAB unit, Security Locked	
	Note*: Tested unit	
	Note**: This will be the marketed, sold unit	
Hardware Version:	R1C	
Software Version:	CXP 202 1151/1 R21A984	
FCC ID of the product under test	TA8AKRD901892	
Intentional Radiators		
RAT	LTE	NR SCS 15kHz
Frequency Range (MHz to MHz) B25/n25	1930MHz -1995MHz	1930MHz -1995MHz
Frequency Range (MHz to MHz) B2/n2	1930MHz -1990MHz	1930MHz -1990MHz
Frequency Range (MHz to MHz) B66/n66	2110MHz -2200MHz	2110MHz -2200MHz
Conducted Declared Output Power (dBm)	40dBm (10W)Max output power per carrier	40dBm (10W)Max output power per carrier
	53,8dBm(240W)Max output power per band	53,8dBm(240W)Max output power per band
	55dBm (320W )Max output power multi band per Radio	55dBm (320W )Max output power multi band per Radio
Antenna Gain (dBi)	B2/n2, B25/n25 is 23.7 dBi and B66/n66 is 23.7 dBi	
Antenna Impedance(Ω)	50	
Total RF bandwidth (BW) B25/n25	65MHz	65MHz
Total RF bandwidth (BW) B66/n66	90MHz	90MHz
Total RF bandwidth (BW) B2/n2	60MHz	60MHz
Total RF bandwidth (BW) multiband(B2/n2, B25/n25 + B66/n66)	270 MHz(Both SRO and MRO)	270 MHz(Both SRO and MRO)
Maximum Operational bandwidth (BW) multiband(B25/B2, B66)	100 MHz(Both SRO and MRO)	100 MHz(Both SRO and MRO)
Supported Bandwidth(s) (MHz) B2/n2, B25/n25, B66/n66	LTE: 5,10, 15,20MHz	NR: 5,10,15, 20MHz
Modulation Scheme(s) B2/n2, B25/n25, B66/n66	LTE:QPSK, 16QAM, 64QAM, 256QAM	NR: QPSK, 16QAM, 64QAM, 256QAM
ITU Emission Designator B2/n2, B25/n25	5MHz BW: 4M50W7D	5MHz BW: 4M48W7D
	10MHz BW: 8M96W7D	10MHz BW: 9M28W7D
	15MHz BW: 13M5W7D	15MHz BW: 14M2W7D
	20MHz BW: 17M9W7D	20MHz BW: 19M0W7D
	carrier aggregation:37M7W7D(20MHz+20MHz)	carrier aggregation: BW: 38M7W7D(20MHz+20MHz)
ITU Emission Designator B66/n66	5MHz BW: 4M48W7D	5MHz BW: 4M48W7D
	10MHz BW: 8M96W7D	10MHz BW: 9M28W7D
	15MHz BW: 13M5W7D	15MHz BW: 14M2W7D
	20MHz BW: 17M9W7D	20MHz BW: 18M9W7D
	carrier aggregation: 37M7W7D(20MHz+20MHz)	carrier aggregation: BW: 38M7W7D(20MHz+20MHz)
Duplex mode:	FDD	



Supported transmission modes:	32 x 32 MIMO	32 x 32 MIMO	
Maximum number of carriers per band B25/n25 /Port	2 (Both SRO and MRO)	2 (Both SRO and MRO)	
Maximum number of carriers per band B2/n2 /Port	2 (Both SRO and MRO)	2(Both SRO and MRO)	
Maximum number of carriers per band B66/n66 /Port	2 (Both SRO and MRO)	2 (Both SRO and MRO)	
Maximum number of carriers per multi band (B2/n2, B25/n25 + B66/n66)/Port	4(Both SRO and MRO)	4(Both SRO and MRO)	
<b>Antenna Characteristics</b>			
Temporary antenna connector	State impedance	50 Ohm	
Integral antenna	Type:	AAS (Advanced Antenna System)	
EIRP Limit to be used	Non-rural :B66/n66 PSD <5.75W/MHz and B25/n25, B2/n2 PSD <6W/MHz		
<b>Unintentional Radiators</b>			
Highest frequency generated or used in the device or on which the device operates or tunes	Up to 25.8 Gbit/s		
Lowest frequency generated or used in the device or on which the device operates or tunes if <30MHz	.-		
Class A Digital Device (Use in commercial, industrial or business environment)	.-		
Class B Digital Device (Use in residential environment)	Class B		
<b>DC Power Supply (Delete if Not Applicable)</b>			
Nominal voltage:	-48V		
Extreme upper voltage:	-36V		
Extreme lower voltage:	-58.5V		
Max current:	50A		
<b>Temperature</b>			
Minimum temperature:	-40°C		
Maximum temperature:	55°C		
<b>Ancillaries</b>			
Equipment Description	Model:	Part Number:	Manufacturer:
Baseband simulator CT-DU25	LPC 102 500/1	T01G52253 4	Ericsson
Power Supply Unit CT-DU25/LP2x700W	BML 901 468/1	LP00318	
I hereby declare that I am entitled to sign on behalf of the manufacturer and that the information supplied is correct and complete.			
Name:	Afrah Ali sadiq		
Position held:	Regulatory Approval Engineer		
Email address:	<a href="mailto:Afrah.ali.sadiq@ericsson.com">Afrah.ali.sadiq@ericsson.com</a>		
Telephone number:	.+46724650796		
Date:	22/07/2024		

No responsibility will be accepted by TÜV SÜD as to the accuracy of the information declared in this document by the manufacturer.

## 1.6 PRODUCT INFORMATION

### 1.6.1 Technical Description

The Equipment Under Test (EUT) AIR 3283 B25 B66 - KRD 901 892/2 is an Ericsson AB Radio Unit working in the public mobile service Band 2, 25, 66 band which provides communication connections to Band 2, 25, 66 network.

The EUT is declared as operating from a nominal -48V DC supply.

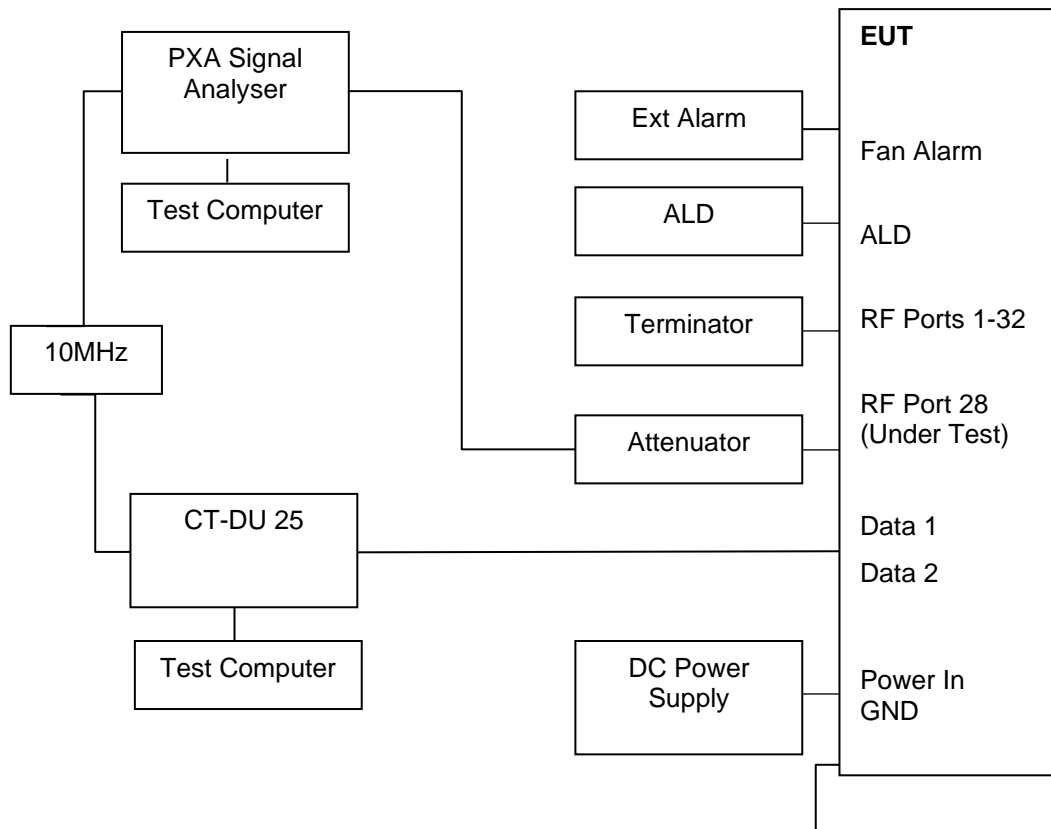
The Equipment Under Test (EUT) is shown in the photograph below. A full technical description can be found in the Manufacturer's documentation.



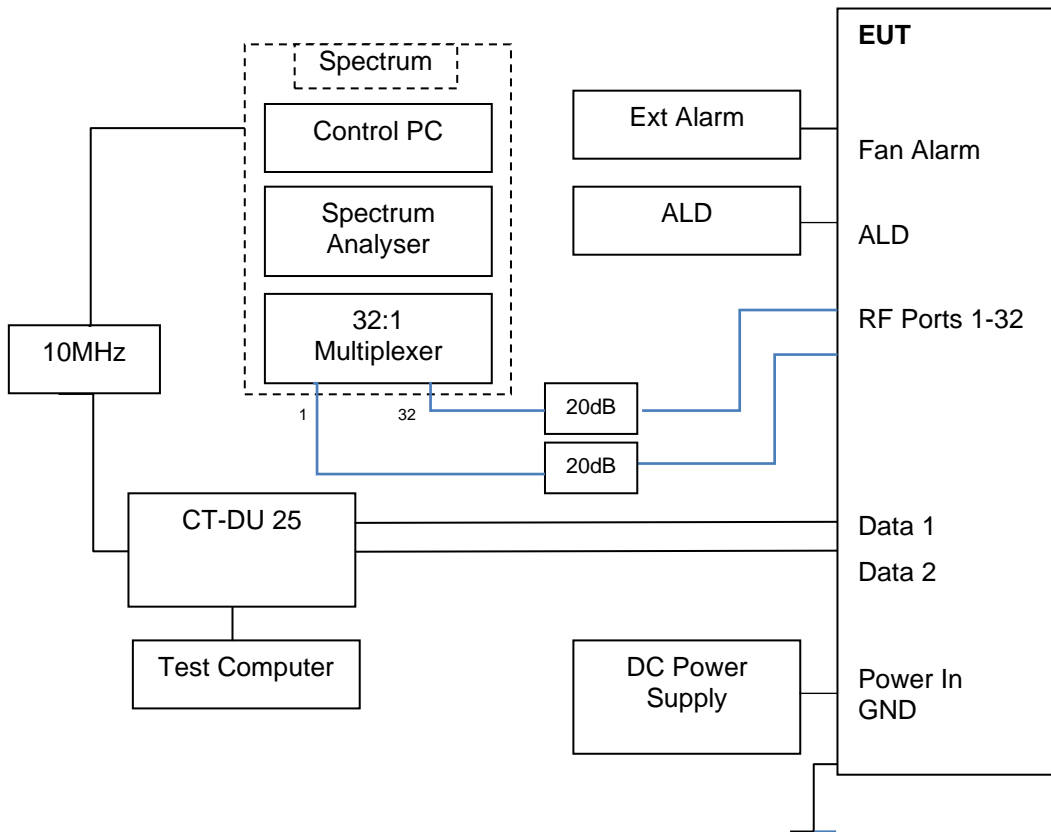
Equipment Under Test

## 1.7 TEST SETUP

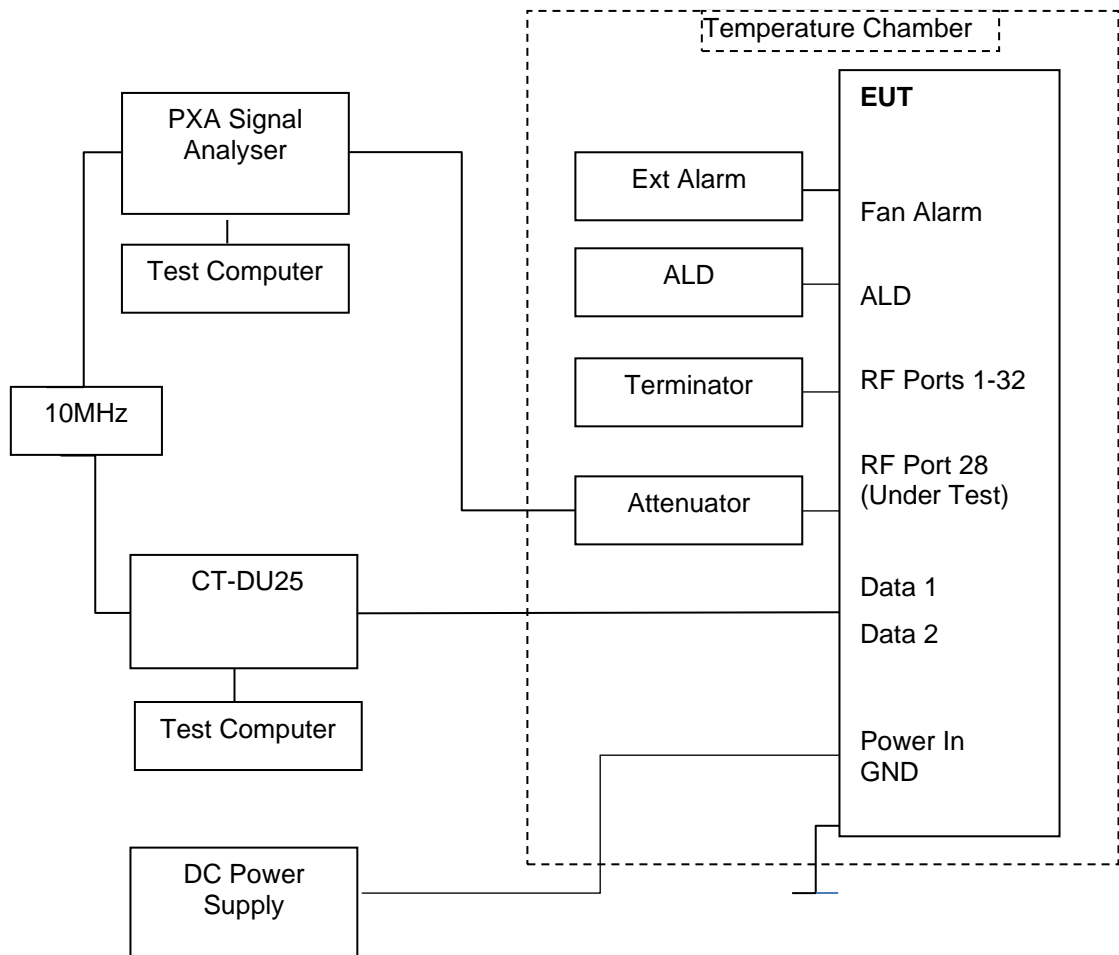
Conducted Test Set Up – Carrier Power, PAR, PSD, Band Edge, OBW, Conducted Emissions



Conducted Test Set Up, Power, PSD, PAR, Occupied Bandwidth



Conducted Test Set Up – Frequency Stability  
 Dashed line indicates equipment inside the Temperature Chamber for testing







## 1.8 TEST CONDITIONS

For all tests the EUT was set up in accordance with the relevant test standard and to represent typical operating conditions. Tests were applied with the EUT situated as described in the Test Method for each Test.

The EUT was powered from a -53.22 V DC supply unless otherwise stated.

FCC Measurement Facility Registration Number  
563983 Ericsson Test Laboratory, Kista  
Postal Address: Ericsson AB, Isafjordsgatan 10, Stockholm, SE-16 440, Sweden

Under our group Swedac Accreditation, TÜV SÜD Sverige conducted the following tests  
Ericsson Test Lab, Kista.

Test Name	Name of Engineer(s)	Module Number
Maximum Peak Output Power and Peak to Average Ratio - Conducted	Shashi Kiran Gangaraju	1
Occupied Bandwidth	Shashi Kiran Gangaraju	1
Band Edge	Shashi Kiran Gangaraju	1
Transmitter Spurious Emissions	Shashi Kiran Gangaraju	1
Frequency Stability	Vinodhini Chandrasekaran	2

## 1.9 DEVIATION FROM THE STANDARD

No deviations from the applicable test standards or test plan were made during testing.

## 1.10 MODIFICATION RECORD

No modifications were made to the EUT during testing.



## 1.11 ADDITIONAL INFORMATION

The Test Plan is based on the TÜV SÜD Document FCC and ISED Test Plan Rationale for Base Station Equipment.

Pre-testing was performed in accordance with the Test Plan to establish the worst-case Port, modulation schemes and bandwidths using Module 1, as defined below and in the Module Annex.

### Band 25/2

The port with the highest power, worst case port was port 28.

Worst case modulation was 64QAM for LTE.

Worst case modulation was QPSK for NR.

Worst case bandwidth was 5 MHz for LTE.

Worst case bandwidth was 20 MHz for NR.

### Band 66

The port with the highest power, worst case port was port 24

Worst case modulation was QPSK for LTE.

Worst case modulation was QPSK for NR.

Worst case bandwidth was 20 MHz for LTE.

Worst case bandwidth was 20 MHz for NR.

These worst-case results are presented in this report to demonstrate compliance.

TÜV SÜD retains all results, plots and printouts for the tests performed and also calibration details of the test equipment used.

This EUT uses the same port for Tx and Rx and therefore RX Spurious Emissions has not been performed. Rx Spurious Emissions have been covered by testing to FCC Part 15B, which are covered by a separate test report.

Ericsson have provided the following details about the variants of the AIR 3283 B25 B66

KRD 901 892/1 With Antenna, Security Unlocked.

KRD 901 892/11\*\* With Antenna, Security Locked

KRD 901 892/2\* CAB-unit, Security Unlocked

KRD 901 892/21 CAB unit, Security Locked

Note\*: Tested unit

Note\*\*: This will be the marketed, sold unit

The KRD 901 892/11 is equivalent to KRD 901 892/2 in conducted radio performance terms, as such no extra testing is required to prove conformity.

To expedite testing two AIR 3283 B25 B66 radios were used, the Hardware and Software Versions were identical. The table in Section 1.8 indicates which units were used for which tests and refers to them throughout as Module 1 and Module 2.

In Section 1.5 Ericsson's Declaration of Build Status shows the EIRP Limit to be used under the Antenna Characteristics section.

Throughout this report the power unit dBm is used. dBm is a unit of level used to indicate that a power level is expressed in decibels (dB) with reference to one milliwatt (mW). It is used as a convenient measure of absolute power because of its capability to express both very large and very small values in a short form.

Testing shows Regulatory Compliance for the AIR 3283 B25 B66, KRD 901 892/2.



## **SECTION 2**

### **TEST DETAILS**



## 2.1 MAXIMUM PEAK OUTPUT POWER AND PEAK TO AVERAGE RATIO - CONDUCTED

### 2.1.1 Specification Reference

FCC CFR 47 Part 24, Clause 24.232  
FCC CFR 47 Part 2, Clause 2.1046

### 2.1.2 Date of Test and Modification State

04, 05, 08, 15, 16, 23 and 24-July-2024 - Modification State 0

### 2.1.3 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

### 2.1.4 Environmental Conditions

Ambient Temperature	21.1 - 27.4°C
Relative Humidity	40.3 - 45.3%

### 2.1.5 Test Method

All measurements were made in accordance with FCC KDB 971168 D01, clause 5.2.1 and summed in accordance with FCC KDB 662911 D01.

Measurements and calculations for In Band Power Spectral Density (PSD) have been made either in accordance with FCC KDB 662911 D01 V02r01 E 2) a) and ANSI C63.26.6.4.3.2.2 for In-Band Power Spectral Density (PSD) Measurements, Measure and sum the spectra across the outputs or in accordance with FCC KDB 662911 D01 V02r01 E 2) c) and ANSI C63.26.6.4.3.2.4 Measure and add [10 log (Nout)] dB using the following calculation

Calculations:

Total power = Measured Output Power (port x, worst case) + 10log (NANT) + Declared Antenna Gain

Where NANT refers to the number of Ports.

The worst case PSD plots are presented here, all other applicable plots are retained by TÜV SUD and available for presentation if required



2.1.6 Test Results

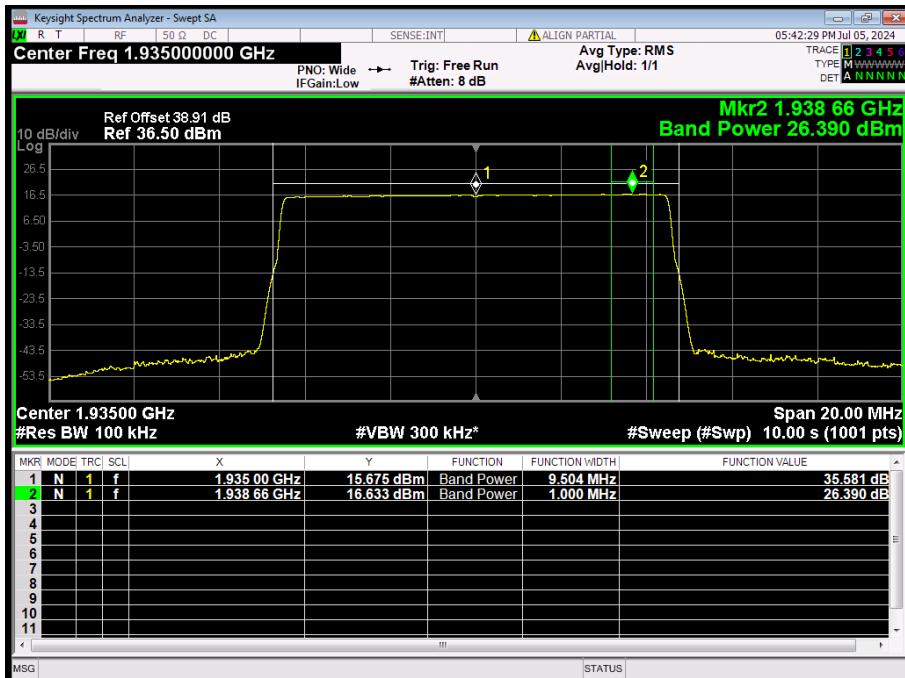
Configuration 1

Maximum Output Power 38.75 dBm

Antenna	LTE Modulation	LTE Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD							
			Channel Position B							
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit 65.15	
			dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB		
28	64QAM	5.0 MHz	8.49	32.62	26.34	41.39	23.70	65.09	0.06	
28	64QAM	10.0 MHz	8.66	35.58	26.39	41.44	23.70	65.14	0.01	
28	64QAM	15.0 MHz	8.69	37.41	See Below – Measured on all 32 Ports					
28	64QAM	20.0 MHz	8.72	38.64	See Below – Measured on all 32 Ports					

Test Channel	Number of Measurements	PSD (dBm/MHz)			Declared Antenna Gain dBi	Total EIRP dBm/MHz	Total EIRP Limit 65.15 dB
		Min	Max	Σ			
Bottom 15 MHz BW	32	25.49	26.41	41.11	23.7	64.81	0.34
Bottom 20 MHz BW	32	25.43	26.47	41.17	23.7	64.87	0.28

Antenna 28 - LTE Modulation 64QAM – LTE Carrier Bandwidth 10.0 MHz 15 kHz SCS - Channel Position B





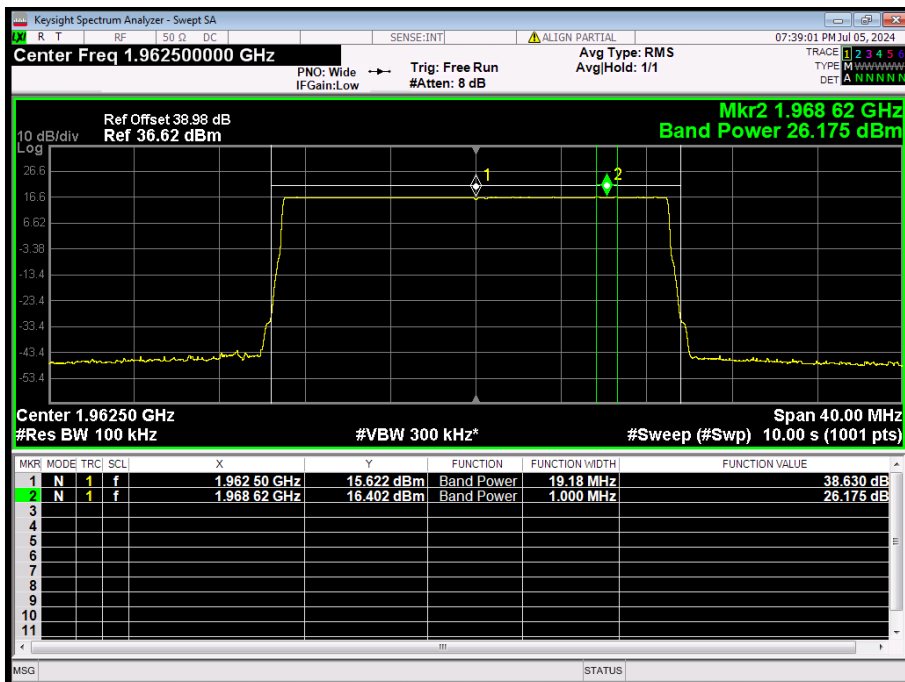
Configuration 1

Maximum Output Power 38.75 dBm

Antenna	LTE Modulation	LTE Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position M						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit 65.15
			dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB	
28	64QAM	5.0 MHz	8.45	32.58	See Below – Measured on all 32 Ports				
28	64QAM	10.0 MHz	8.45	35.63	26.17	41.22	23.70	64.92	0.23
28	64QAM	15.0 MHz	8.46	37.37	26.15	41.20	23.70	64.90	0.25
28	64QAM	20.0 MHz	8.46	38.63	26.18	41.23	23.70	64.93	0.22

Test Channel	Number of Measurements	PSD (dBm/MHz)			Declared Antenna Gain	Total EIRP	Total EIRP Limit 65.15
		Min	Max	Σ	dBi	dBm/MHz	dB
Middle 5 MHz	32	25.65	26.17	40.87	23.7	64.57	0.58

Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 20.0 MHz 15 kHz SCS - Channel Position M



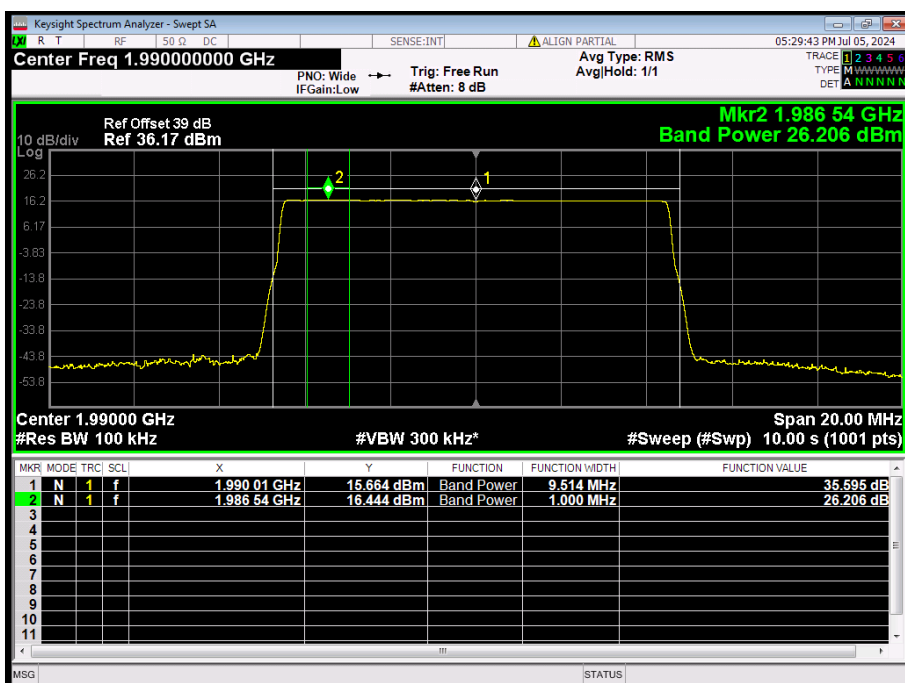


Configuration 1

Maximum Output Power 38.75 dBm

Antenna	LTE Modulation	LTE Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position T						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	64QAM	5.0 MHz	8.49	32.51	26.13	41.18	23.70	64.88	0.27
28	64QAM	10.0 MHz	8.51	35.60	26.21	41.26	23.70	64.96	0.19
28	64QAM	15.0 MHz	8.52	37.34	26.20	41.25	23.70	64.95	0.20
28	64QAM	20.0 MHz	8.55	38.57	26.13	41.18	23.70	64.88	0.27

Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 10.0 MHz - Channel Position T



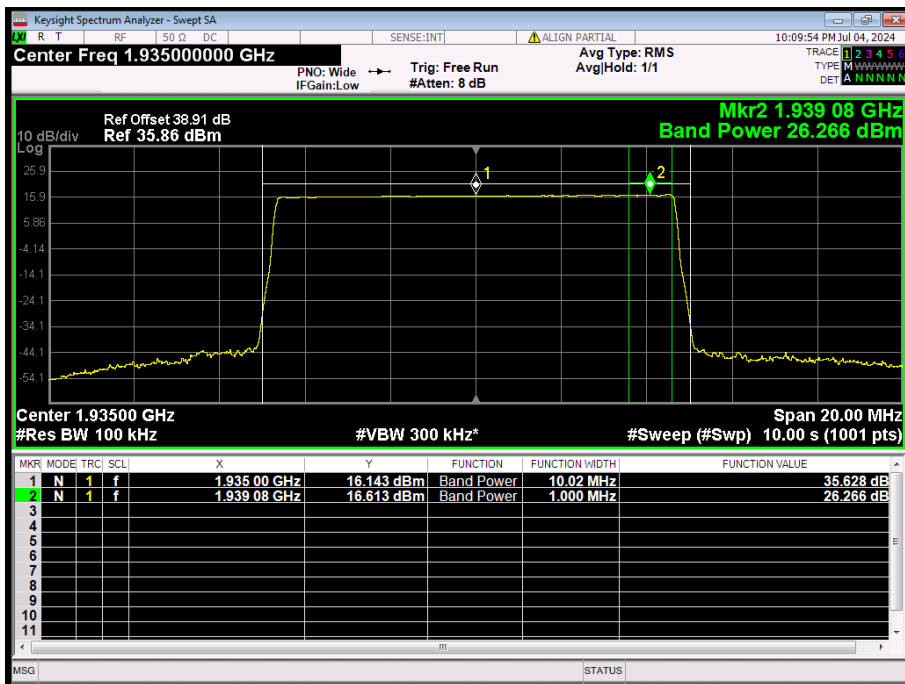


Configuration 3

Maximum Output Power 38.75 dBm

Antenna	NR Modulation	NR Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position B						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	QPSK	5.0 MHz	8.53	32.52	26.22	41.27	23.70	64.97	0.18
28	QPSK	10.0 MHz	8.55	35.63	26.27	41.32	23.70	65.02	0.13
28	QPSK	15.0 MHz	8.72	37.40	26.25	41.30	23.70	65.00	0.15
28	QPSK	20.0 MHz	8.81	38.68	26.24	41.29	23.70	64.99	0.16

Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 10.0 MHz 15 kHz SCS - Channel Position B







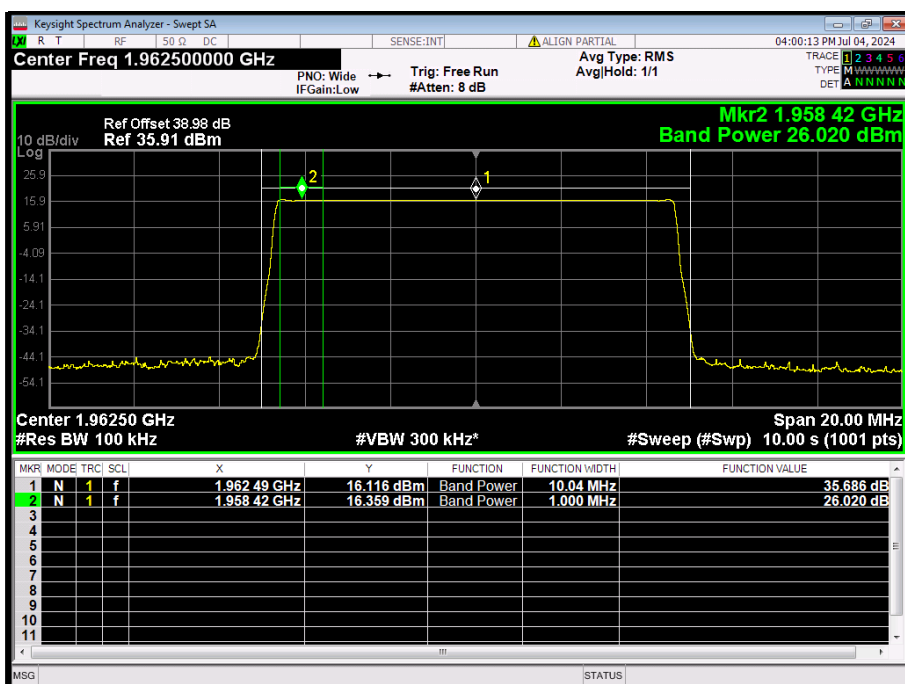
Configuration 3

Maximum Output Power 38.75 dBm

Antenna	NR Modulation	NR Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position M						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit 65.15
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	QPSK	5.0 MHz	8.45	32.59	See Below – Measured on all 32 Ports				
28	QPSK	10.0 MHz	8.42	35.69	26.02	41.07	23.70	64.77	0.38
28	QPSK	15.0 MHz	8.46	37.39	25.90	40.95	23.70	64.65	0.50
28	QPSK	20.0 MHz	8.45	38.59	25.83	40.88	23.70	64.58	0.57

Test Channel	Number of Measurements	PSD (dBm/MHz)			Declared Antenna Gain dBi	EIRP dBm/MHz	Total EIRP dBm/MHz	Total EIRP Limit 65.15 dB
		Min	Max	Σ				
Middle	32	25.69	26.09	40.87	23.7	64.57	64.57	0.58

Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 10.0 MHz 15 kHz SCS - Channel Position M



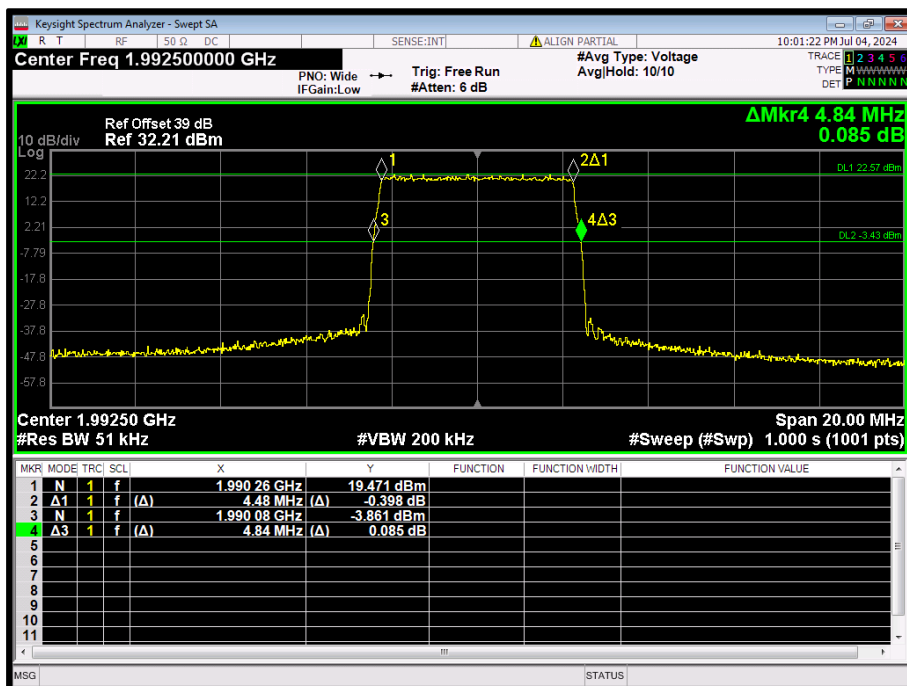


Configuration 3

Maximum Output Power 38.75 dBm

Antenna	NR Modulation	NR Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position T						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	QPSK	5.0 MHz	8.51	32.53	26.11	41.16	23.70	64.86	0.29
28	QPSK	10.0 MHz	8.47	35.60	26.08	41.13	23.70	64.83	0.32
28	QPSK	15.0 MHz	8.54	37.36	25.96	41.01	23.70	64.71	0.44
28	QPSK	20.0 MHz	8.52	38.56	25.88	40.93	23.70	64.63	0.52

Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 5.0 MHz 15 kHz SCS - Channel Position T



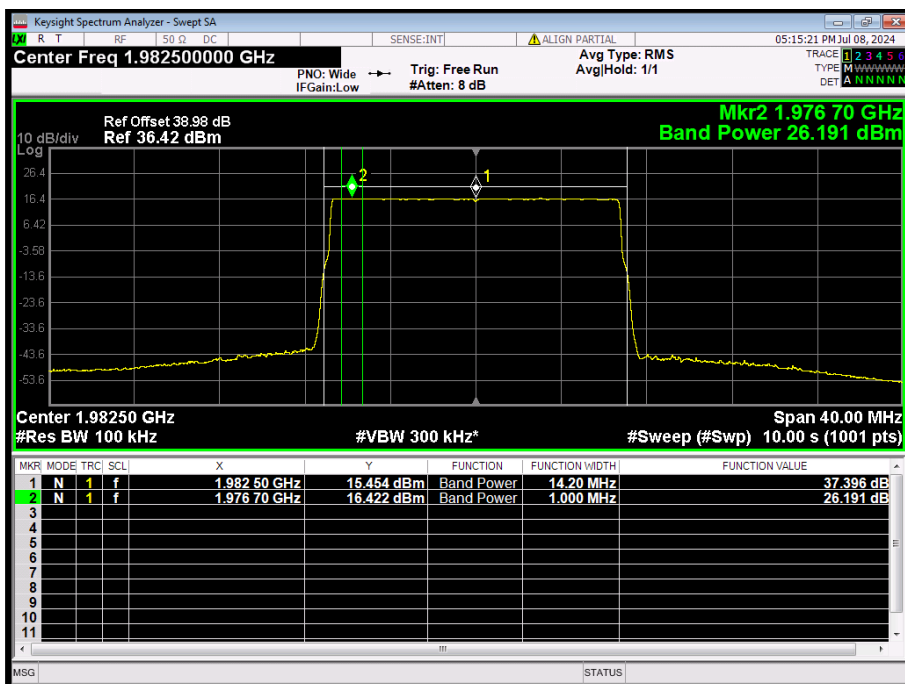


Configuration 6

Maximum Output Power 38.75 dBm

Antenna	LTE Modulation	LTE Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position T						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	64QAM	5.0 MHz	8.49	32.62	26.15	41.20	23.70	64.90	0.25
28	64QAM	10.0 MHz	8.50	35.63	26.15	41.20	23.70	64.90	0.25
28	64QAM	15.0 MHz	8.51	37.40	26.19	41.24	23.70	64.94	0.21
28	64QAM	20.0 MHz	8.50	38.60	26.17	41.22	23.70	64.92	0.23

Antenna 28 – LTE Modulation 64QAM - LTE Carrier Bandwidth 15.0 MHz 15 kHz SCS - Channel Position T



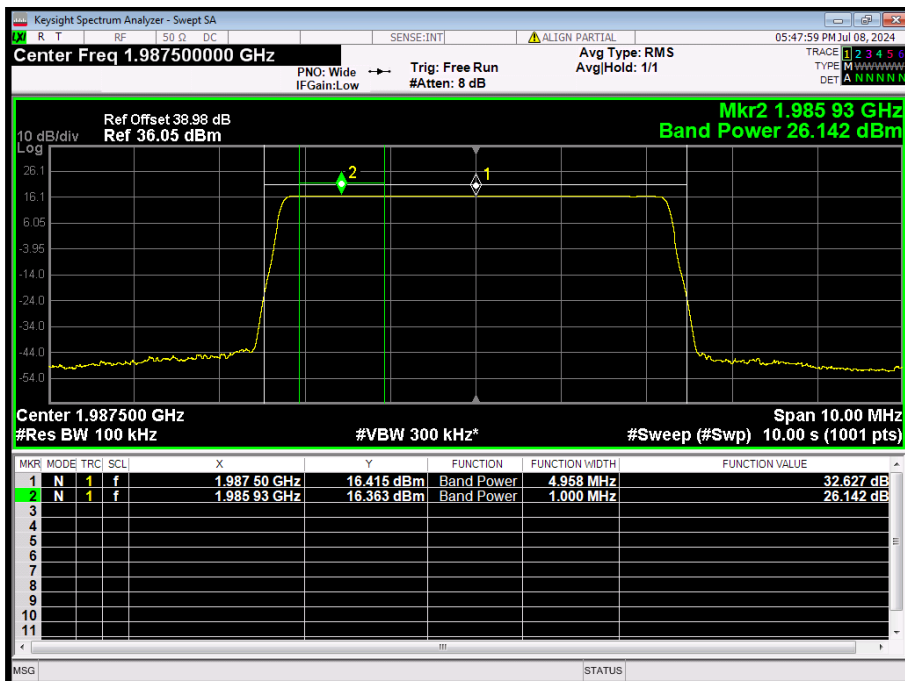


Configuration 7

Maximum Output Power 38.75 dBm

Antenna	NR Modulation	NR Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position T						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit 65.15
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	QPSK	5.0 MHz	8.50	32.63	26.14	41.19	23.70	64.89	0.26
28	QPSK	10.0 MHz	8.46	35.65	26.00	41.05	23.70	64.75	0.40
28	QPSK	15.0 MHz	8.51	37.36	25.90	40.95	23.70	64.65	0.50
28	QPSK	20.0 MHz	8.48	38.63	25.97	41.02	23.70	64.72	0.43

Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 5.0 MHz 15 kHz SCS - Channel Position T



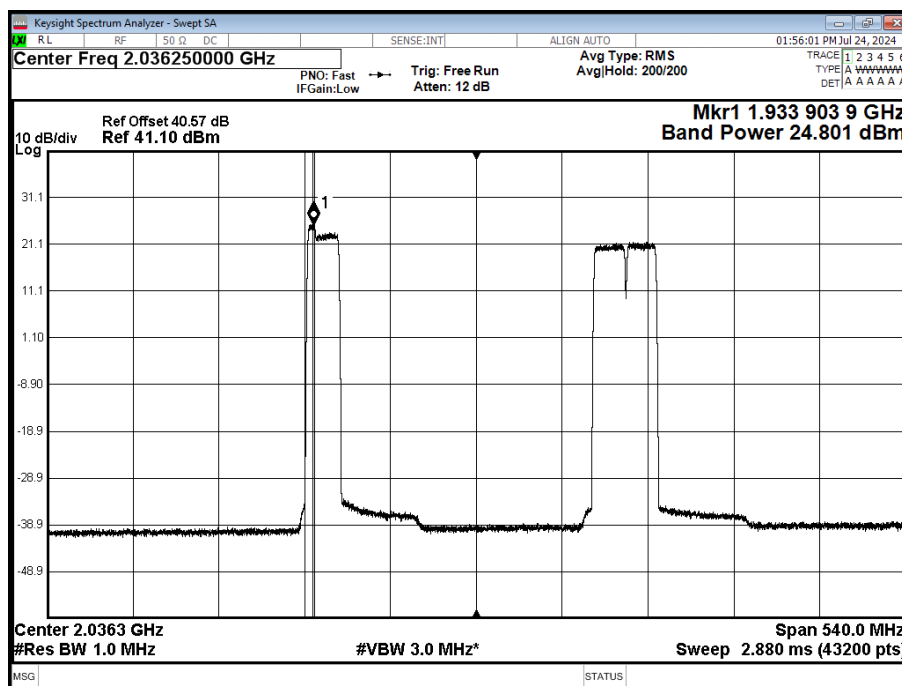


Configuration 10

Maximum Output Power 29.72(LTE)+35.74(NR)+ 33.97(LTE)+33.97(NR) dBm

Antenna	LTE / NR Modulation	LTE / NR Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position B <sub>RF</sub> BW						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit 65.15
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz				
28	LTE-64QAM Band25 +NR-QPSK Band25 + LTE-QPSK Band66+ NR-QPSK Band66	LTE-5M Band25 +NR-20M Band25 + LTE-20M Band66+ NR-20M Band66	-	39.00	24.08	39.13	23.70	62.83	2.32

Antenna 28 - LTE-5M 64QAM Band25 +NR-20M QPSK Band25 + LTE-20M QPSK Band66+ NR-20M QPSK Band66- Channel Position B



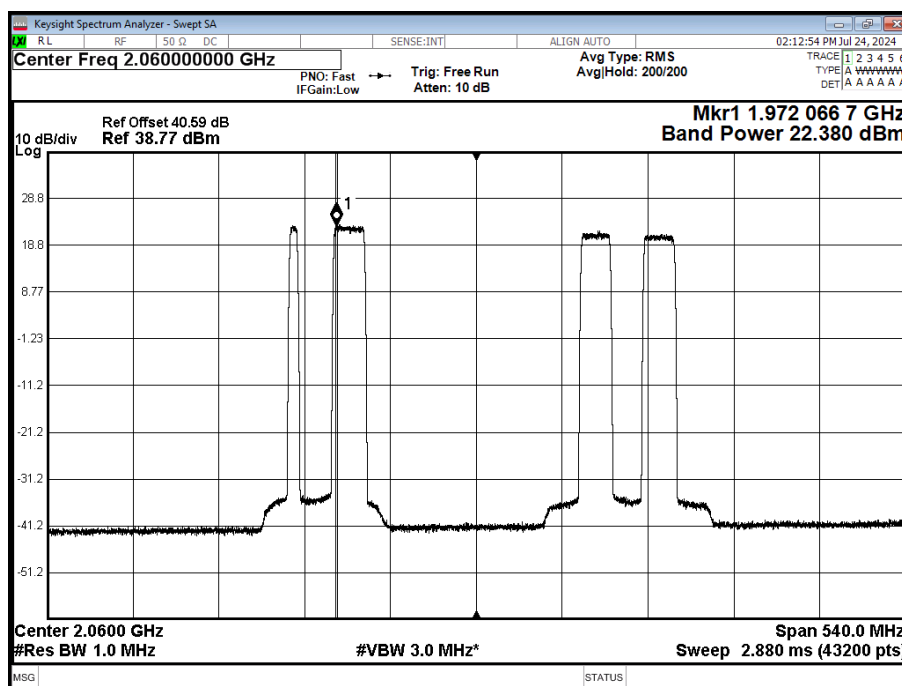


Configuration 10

Maximum Output Power 29.72(LTE)+35.74(NR)+ 33.97(LTE)+33.97(NR) dBm

Antenna	LTE / NR Modulation	LTE / NR Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position M <sub>RFBW</sub>						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit 65.15
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz				
28	LTE-64QAM Band25 +NR-QPSK Band25 + LTE-QPSK Band66+ NR-QPSK Band66	LTE-5M Band25 +NR-20M Band25 + LTE-20M Band66+ NR-20M Band66	-	38.90	22.38	37.43	23.70	61.13	4.02

Antenna 28 LTE-5M 64QAM Band25 +NR-20M QPSK Band25 + LTE-20M QPSK Band66+ NR-20M QPSK Band66- Channel Position M



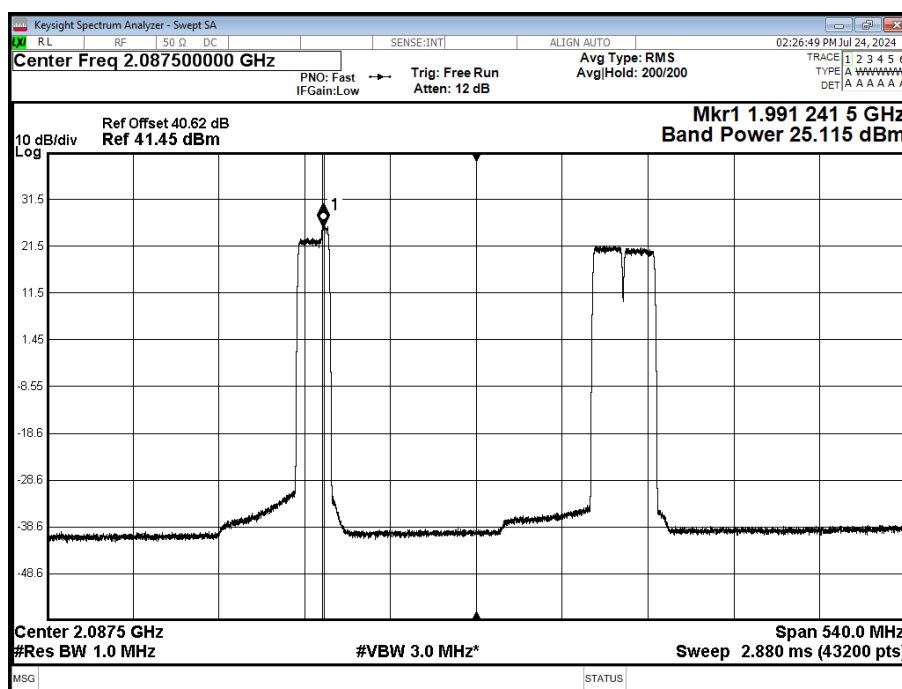


Configuration 10

Maximum Output Power 29.72(LTE)+35.74(NR)+ 33.97(LTE)+33.97(NR) dBm

Antenna	LTE / NR Modulation	LTE / NR Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position $T_{RFBW}$						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit 65.15
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	LTE-64QAM Band25 +NR-QPSK Band25 + LTE-QPSK Band66+ NR-QPSK Band66	LTE-5M Band25 +NR-20M Band25 + LTE-20M Band66+ NR-20M Band66	-	38.90	25.12	40.17	23.70	63.87	1.28

Antenna 28 - LTE-5M 64QAM Band25 +NR-20M QPSK Band25 + LTE-20M QPSK Band66+ NR-20M QPSK Band66 - Channel Position T



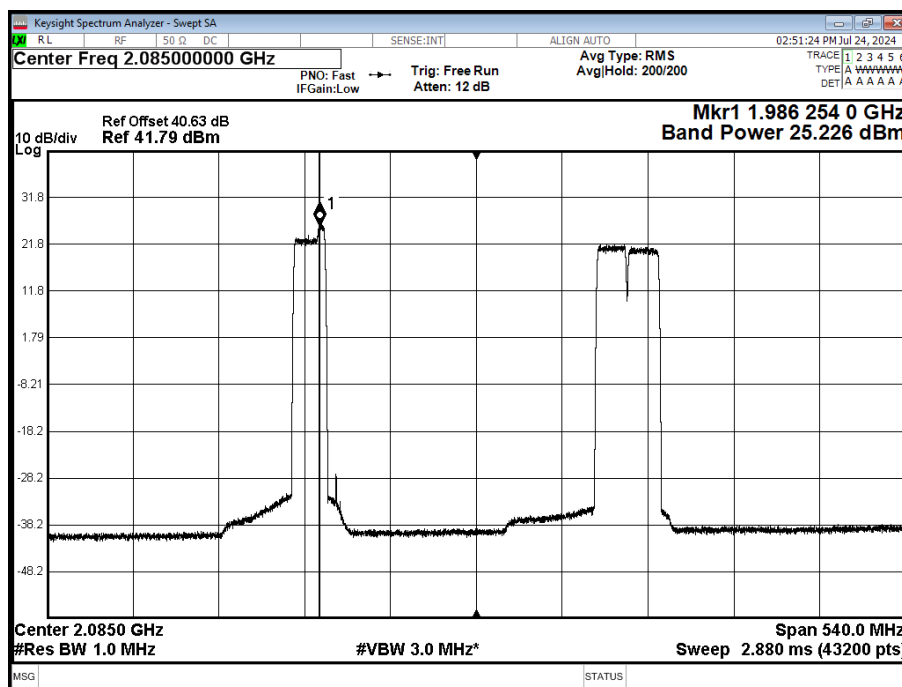


Configuration 12

Maximum Output Power 29.72(LTE)+35.74(NR)+ 33.97(LTE)+33.97(NR) dBm

Antenna	LTE / NR Modulation	LTE / NR Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position TRFBW						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit 65.15
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	LTE- 64QAM Band25 +NR-QPSK Band25 + LTE- QPSK Band66+ NR-QPSK Band66	LTE-5M Band25 +NR-20M Band25 + LTE-20M Band66+ NR-20M Band66	-	38.99	25.23	40.28	23.70	63.98	1.17

Antenna 28 - LTE-5M 64QAM Band25 +NR-20M QPSK Band25 + LTE-20M QPSK Band66+ NR-20M QPSK Band66 - Channel Position T







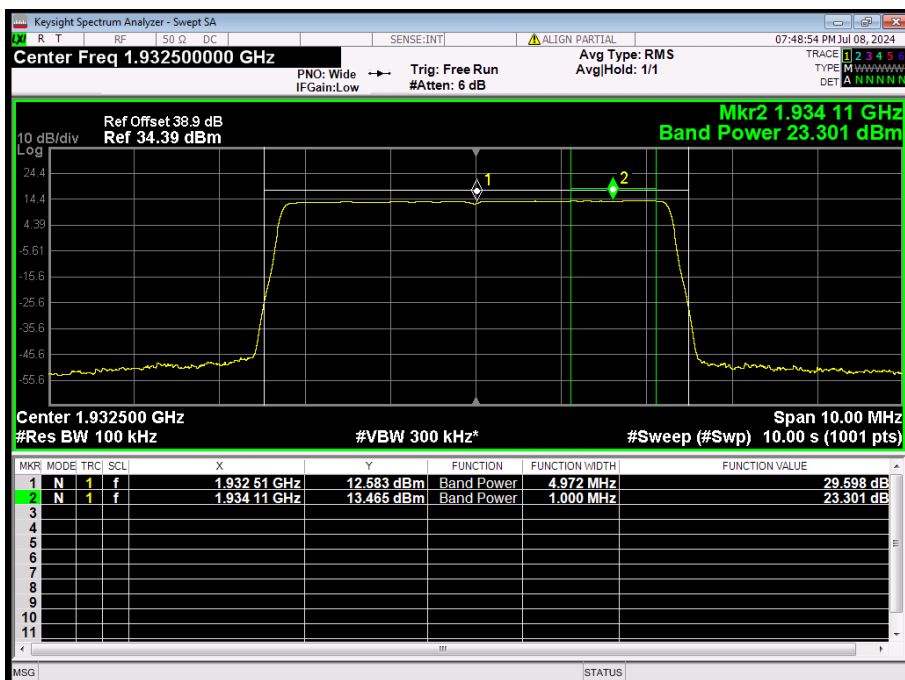
Configuration 13

Maximum Output Power 35.74 dBm

Antenna	LTE Modulation	LTE Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position B						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit 62.15
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	64QAM	5.0 MHz	8.50	29.60	23.30	38.35	23.70	62.05	0.10
28	64QAM	10.0 MHz	8.61	32.62	See Below – Measured on all 32 Ports				
28	64QAM	15.0 MHz	8.70	34.39	See Below – Measured on all 32 Ports				
28	64QAM	20.0 MHz	8.73	35.76	See Below – Measured on all 32 Ports				

Test Channel	Number of Measurements	PSD (dBm/MHz)			Declared Antenna Gain dBi	Total EIRP dBm/MHz	Total EIRP Limit 62.15 dB
		Min	Max	Σ			
Bottom 10 MHz BW	32	22.87	23.31	38.10	23.7	61.80	0.35
Bottom 15 MHz BW	32	22.83	23.35	38.09	23.7	61.79	0.36
Bottom 20 MHz BW	32	22.88	23.44	38.17	23.7	61.87	0.28

Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position B



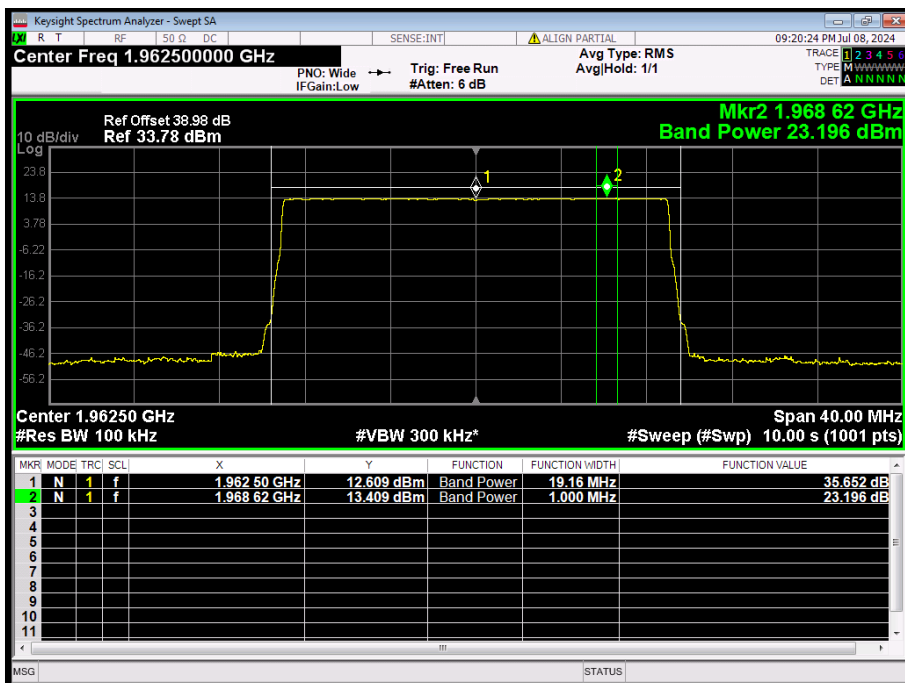


Configuration 13

Maximum Output Power 35.74 dBm

Antenna	LTE Modulation	LTE Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position M						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	64QAM	5.0 MHz	8.44	29.65	23.15	38.20	23.70	61.90	0.25
28	64QAM	10.0 MHz	8.46	32.63	23.16	38.21	23.70	61.91	0.24
28	64QAM	15.0 MHz	8.46	34.37	23.15	38.20	23.70	61.90	0.25
28	64QAM	20.0 MHz	8.47	35.65	23.20	38.25	23.70	61.95	0.20

Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 20.0 MHz - Channel Position M



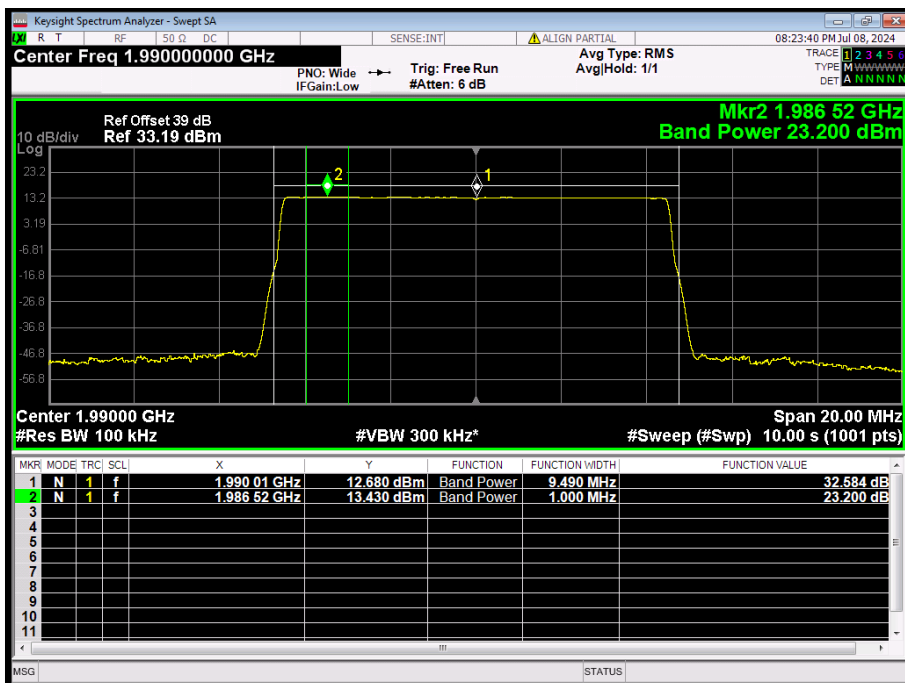


Configuration 13

Maximum Output Power 35.74 dBm

Antenna	LTE Modulation	LTE Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position T						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	64QAM	5.0 MHz	8.50	29.55	23.13	38.18	23.70	61.88	0.27
28	64QAM	10.0 MHz	8.50	32.58	23.20	38.25	23.70	61.95	0.20
28	64QAM	15.0 MHz	8.50	34.34	23.19	38.24	23.70	61.94	0.21
28	64QAM	20.0 MHz	8.54	35.60	23.18	38.23	23.70	61.93	0.22

Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 10.0 MHz - Channel Position T



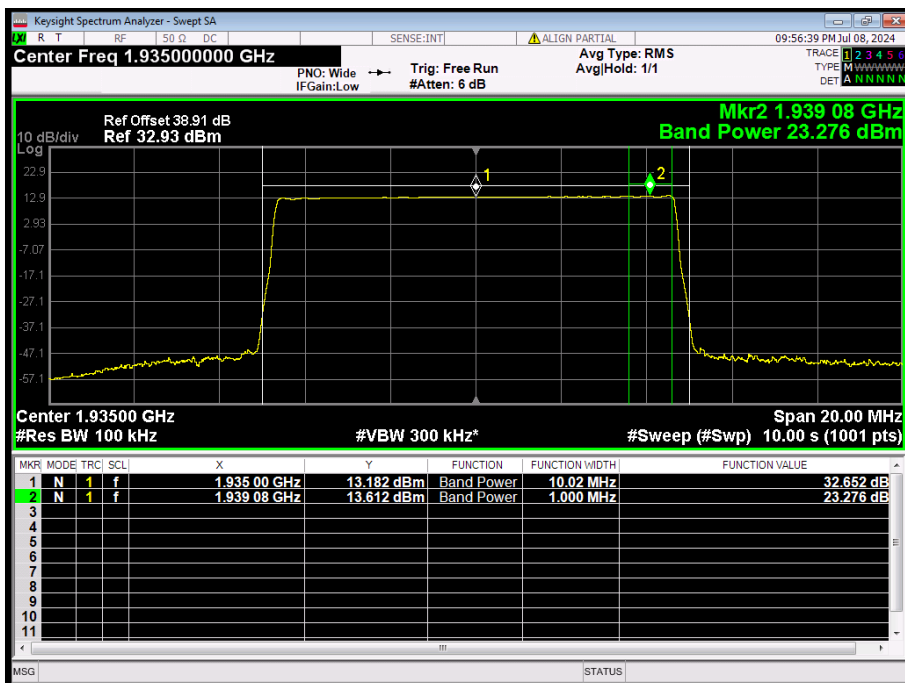


Configuration 14

Maximum Output Power 35.74 dBm

Antenna	NR Modulation	NR Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position B						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	QPSK	5.0 MHz	8.55	29.57	23.27	38.32	23.70	62.02	0.13
28	QPSK	10.0 MHz	8.55	32.65	23.28	38.33	23.70	62.03	0.12
28	QPSK	15.0 MHz	8.75	34.40	23.24	38.29	23.70	61.99	0.16
28	QPSK	20.0 MHz	8.81	35.73	23.27	38.32	23.70	62.02	0.13

Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 10.0 MHz - Channel Position B



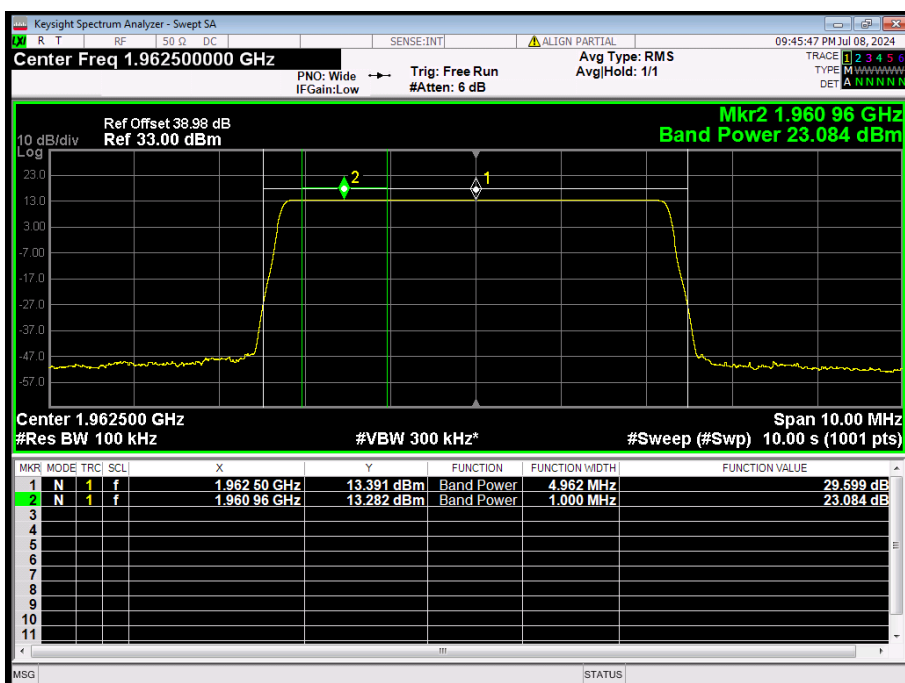


Configuration 14

Maximum Output Power 35.74 dBm

Antenna	NR Modulation	NR Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position M						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	QPSK	5.0 MHz	8.46	29.60	23.08	38.13	23.70	61.83	0.32
28	QPSK	10.0 MHz	8.42	32.65	22.98	38.03	23.70	61.73	0.42
28	QPSK	15.0 MHz	8.45	34.38	22.89	37.94	23.70	61.64	0.51
28	QPSK	20.0 MHz	8.47	35.65	22.91	37.96	23.70	61.66	0.49

Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 5.0 MHz - Channel Position M



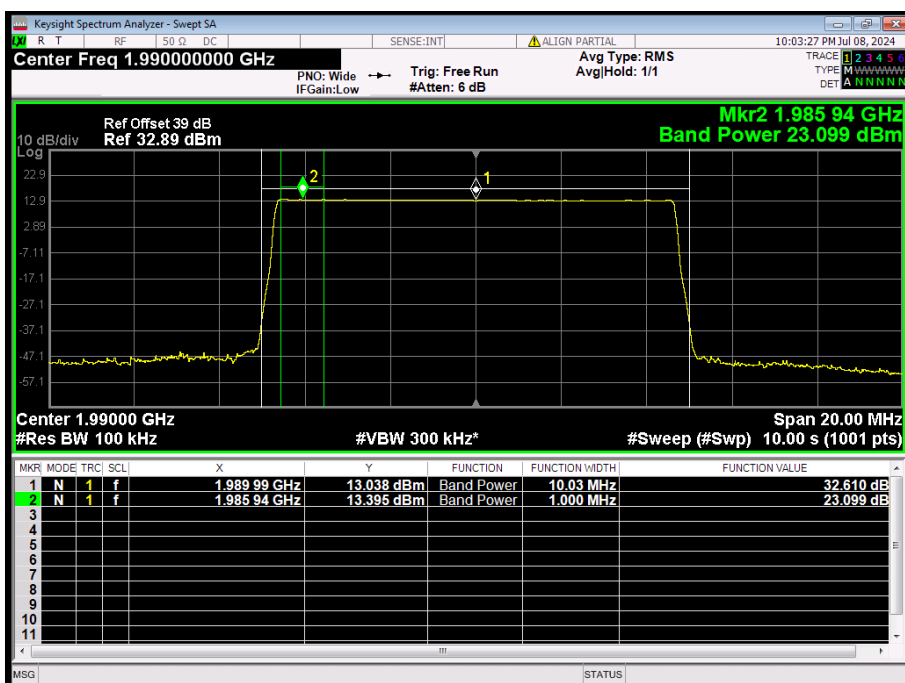


Configuration 14

Maximum Output Power 35.74 dBm

Antenna	NR Modulation	NR Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position T						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	QPSK	5.0 MHz	8.51	29.53	23.09	38.14	23.70	61.84	0.31
28	QPSK	10.0 MHz	8.48	32.61	23.10	38.15	23.70	61.85	0.30
28	QPSK	15.0 MHz	8.55	34.34	22.93	37.98	23.70	61.68	0.47
28	QPSK	20.0 MHz	8.53	35.63	22.97	38.02	23.70	61.72	0.43

Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 10.0 MHz - Channel Position T



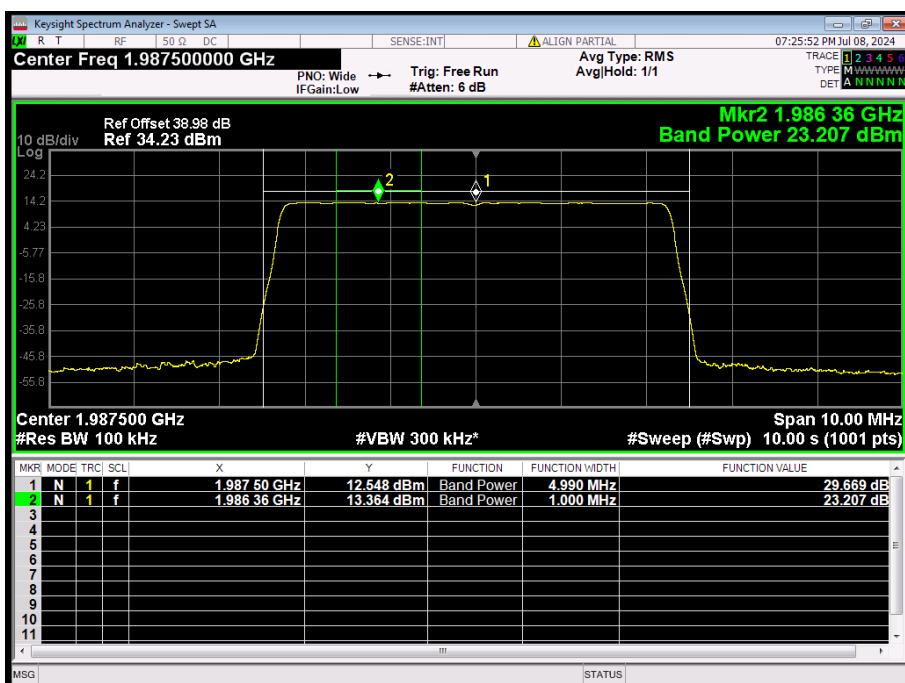


Configuration 15

Maximum Output Power 35.74 dBm

Antenna	LTE Modulation	LTE Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position T						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	64QAM	5.00 MHz	8.48	29.67	23.21	38.26	23.70	61.96	0.19
28	64QAM	10.0 MHz	8.50	32.58	23.10	38.15	23.70	61.85	0.30
28	64QAM	15.0 MHz	8.49	34.30	23.09	38.14	23.70	61.84	0.31
28	64QAM	20.0 MHz	8.50	35.63	23.21	38.26	23.70	61.96	0.19

Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position T



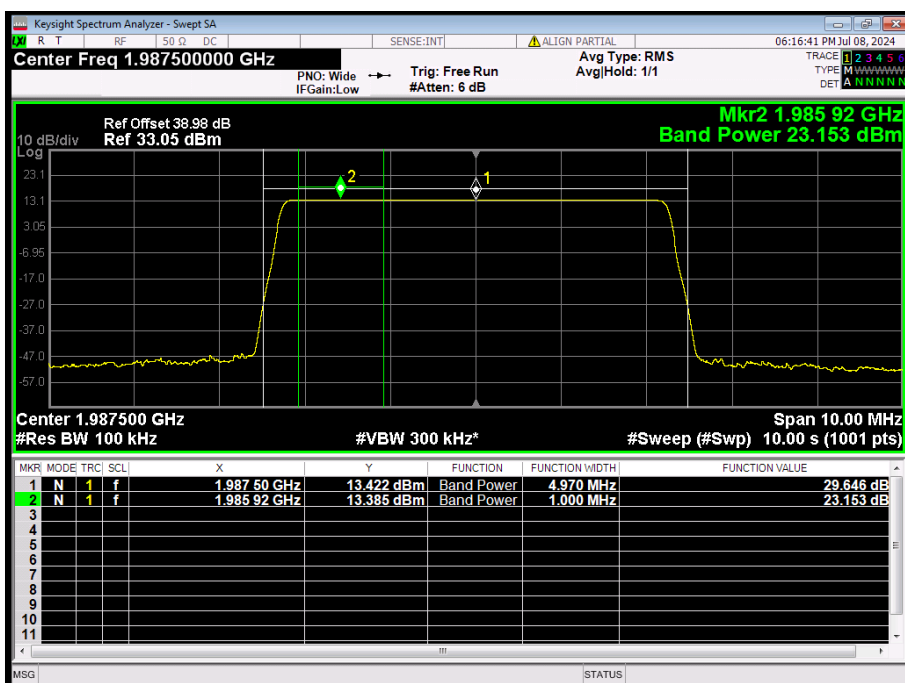


Configuration 16

Maximum Output Power 35.74 dBm

Antenna	NR Modulation	NR Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position T						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	QPSK	5.0 MHz	8.51	29.65	23.15	38.20	23.70	61.90	0.25
28	QPSK	10.0 MHz	8.46	32.62	22.95	38.00	23.70	61.70	0.45
28	QPSK	15.0 MHz	8.52	34.30	22.86	37.91	23.70	61.61	0.54
28	QPSK	20.0 MHz	8.49	35.60	22.95	38.00	23.70	61.70	0.45

Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 5.0 MHz - Channel Position T





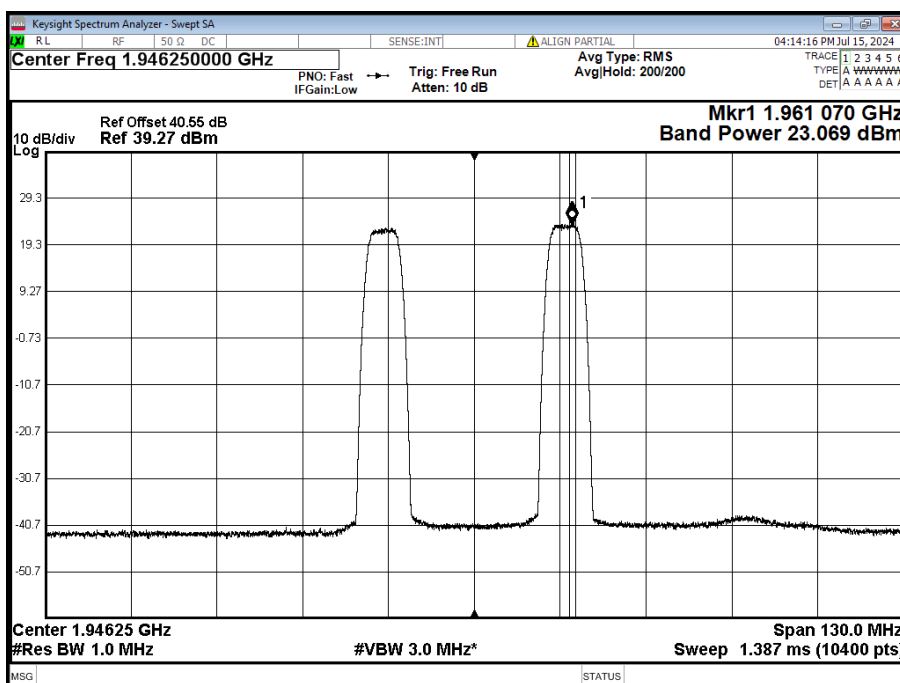


Configuration 17

Maximum Output Power 2 x 35.74 dBm

Antenna	LTE Modulation	LTE Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position B						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	64QAM	5.0 MHz	-	32.06	23.07	38.12	23.70	61.82	0.33
28	64QAM	10.0 MHz	-	35.04	22.97	38.02	23.70	61.72	0.43
28	64QAM	15.0 MHz	-	36.73	22.80	37.85	23.70	61.55	0.60
28	64QAM	20.0 MHz	-	38.01	22.82	37.87	23.70	61.57	0.58

Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position B



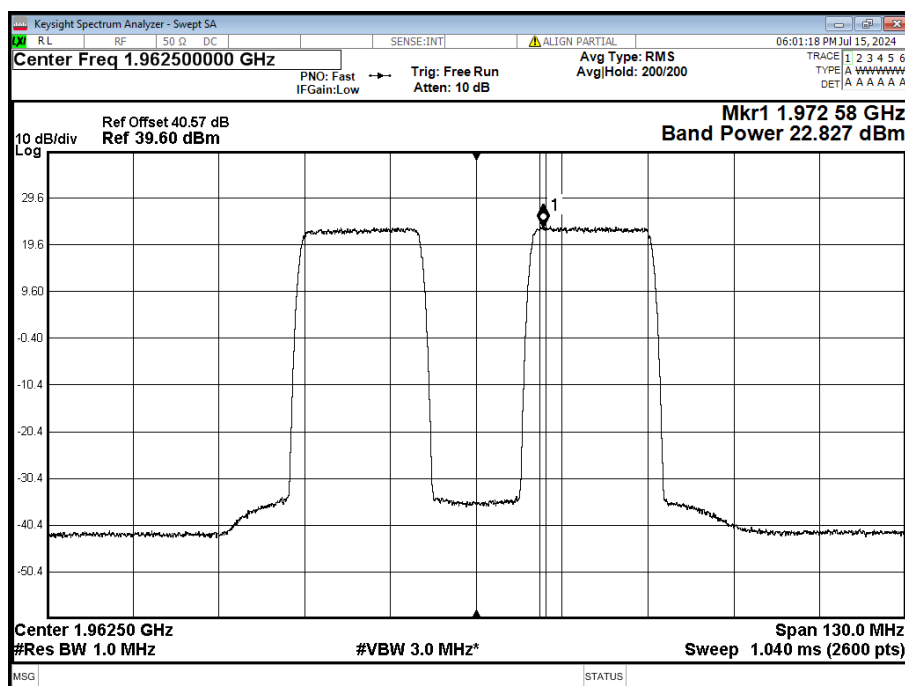


Configuration 17

Maximum Output Power 2 x 35.74 dBm

Antenna	LTE Modulation	LTE Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position M						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	64QAM	5.0 MHz	-	32.04	22.69	37.74	23.70	61.44	0.71
28	64QAM	10.0 MHz	-	35.10	22.71	37.76	23.70	61.46	0.69
28	64QAM	15.0 MHz	-	36.71	22.64	37.69	23.70	61.39	0.76
28	64QAM	20.0 MHz	-	38.03	22.83	37.88	23.70	61.58	0.57

Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 20.0 MHz - Channel Position M



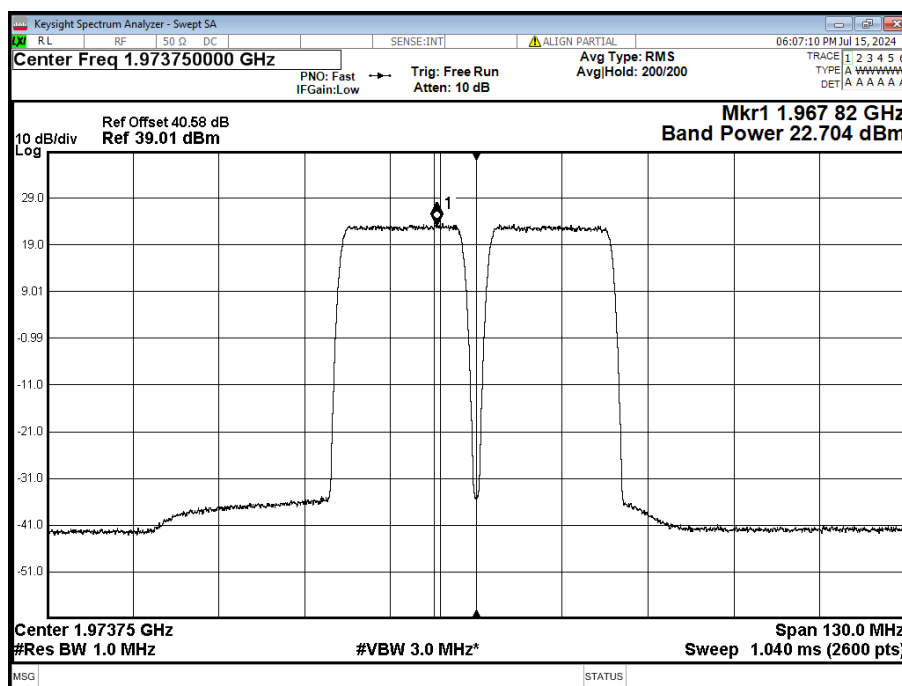


Configuration 17

Maximum Output Power 2 x 35.74 dBm

Antenna	LTE Modulation	LTE Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position T						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	64QAM	5.0 MHz	-	31.92	22.49	37.54	23.70	61.24	0.91
28	64QAM	10.0 MHz	-	35.02	22.69	37.74	23.70	61.44	0.71
28	64QAM	15.0 MHz	-	36.65	22.52	37.57	23.70	61.27	0.88
28	64QAM	20.0 MHz	-	37.94	22.70	37.75	23.70	61.45	0.70

Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 20.0 MHz - Channel Position T

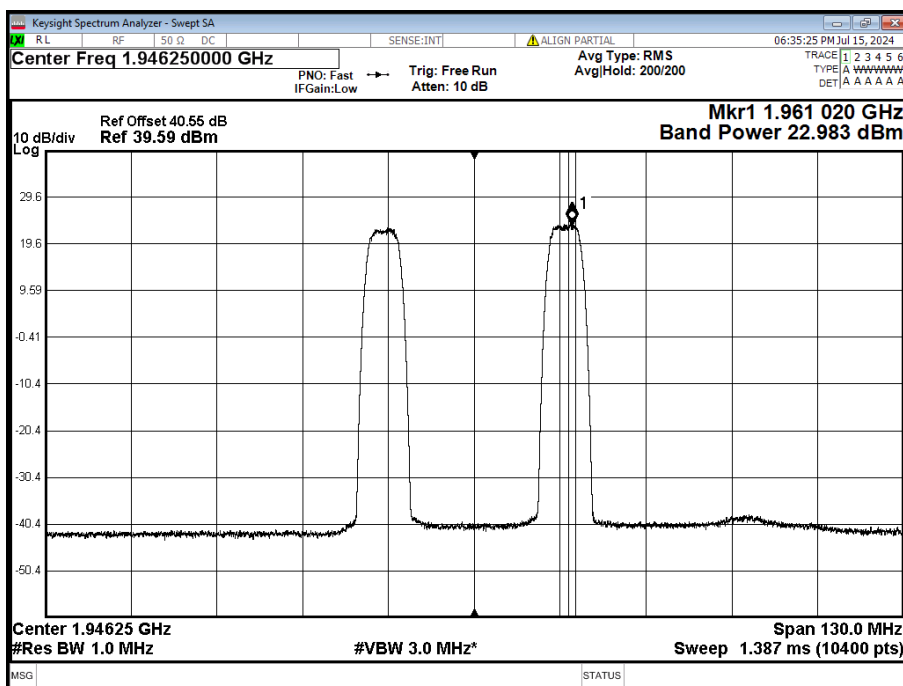


Configuration 18

Maximum Output Power 2 x 35.74 dBm

Antenna	NR Modulation	NR Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position B						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	QPSK	5.0 MHz 15 kHz SCS	-	32.05	22.98	38.03	23.70	61.73	0.42
28	QPSK	10.0 MHz 15 kHz SCS	-	35.10	22.76	37.81	23.70	61.51	0.64
28	QPSK	15.0 MHz 15 kHz SCS	-	36.74	22.63	37.68	23.70	61.38	0.77
28	QPSK	20.0 MHz 15 kHz SCS	-	38.00	22.52	37.57	23.70	61.27	0.88

Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 5.0 MHz - Channel Position B

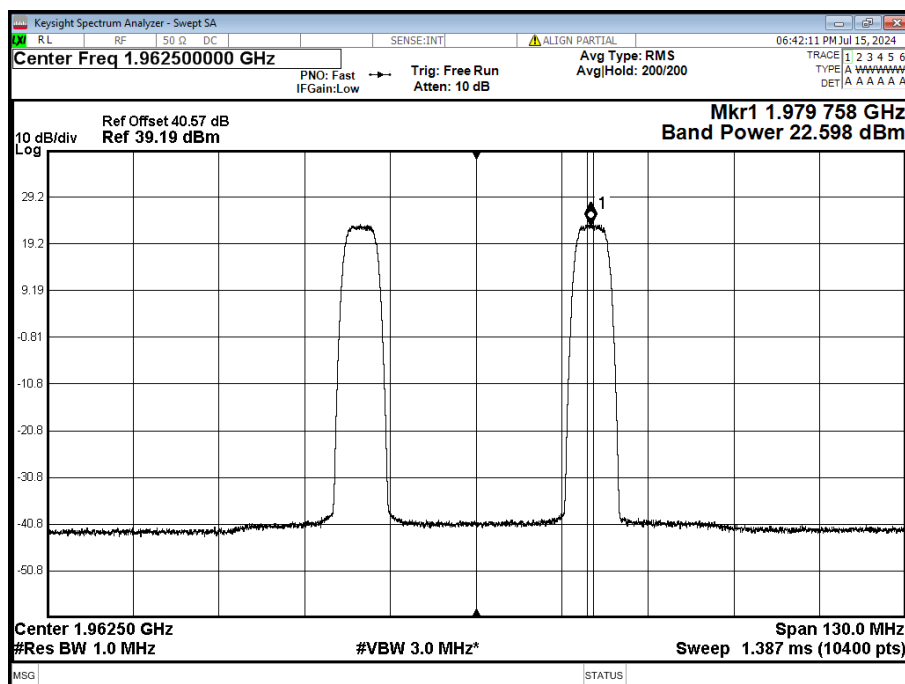


Configuration 18

Maximum Output Power 2 x 35.74 dBm

Antenna	NR Modulation	NR Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position M						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	QPSK	5.0 MHz 15 kHz SCS	-	32.06	22.60	37.65	23.70	61.35	0.80
28	QPSK	10.0 MHz 15 kHz SCS	-	35.08	22.53	37.58	23.70	61.28	0.87
28	QPSK	15.0 MHz 15 kHz SCS	-	36.74	22.49	37.54	23.70	61.24	0.91
28	QPSK	20.0 MHz 15 kHz SCS	-	38.01	22.50	37.55	23.70	61.25	0.90

Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 5.0 MHz - Channel Position M

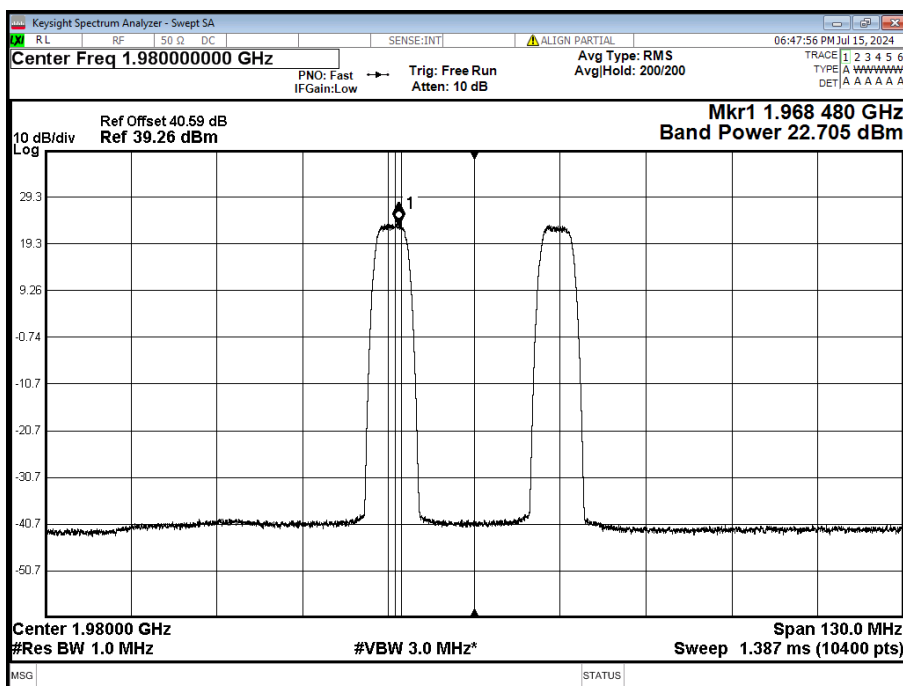


Configuration 18

Maximum Output Power 2 x 35.74 dBm

Antenna	NR Modulation	NR Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position T						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	QPSK	5.0 MHz 15 kHz SCS	-	31.97	22.71	37.76	23.70	61.46	0.69
28	QPSK	10.0 MHz 15 kHz SCS	-	34.98	22.55	37.60	23.70	61.30	0.85
28	QPSK	15.0 MHz 15 kHz SCS	-	36.72	22.38	37.43	23.70	61.13	1.02
28	QPSK	20.0 MHz 15 kHz SCS	-	37.95	22.41	37.46	23.70	61.16	0.99

Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 5.0 MHz - Channel Position T



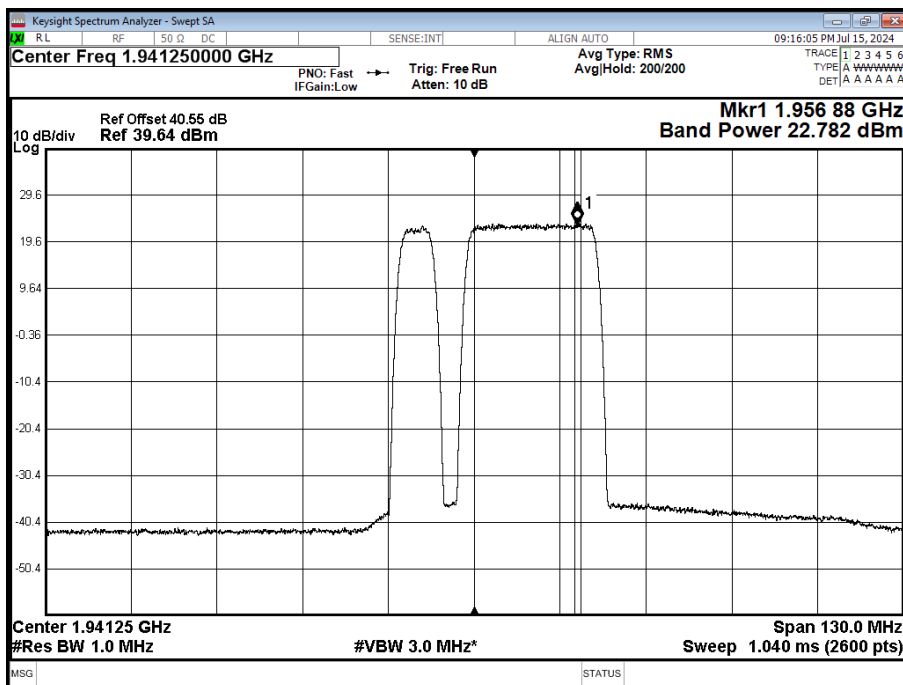


Configuration 19

Maximum Output Power 29.72(LTE)+35.74(NR) dBm

Antenna	LTE / NR Modulation	LTE / NR Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position B <sub>RFBW</sub>						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	64QAM / QPSK	5 MHz / 20.0 MHz 15 kHz SCS	-	36.21	22.78	37.83	23.70	61.53	0.62

Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz, LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position B



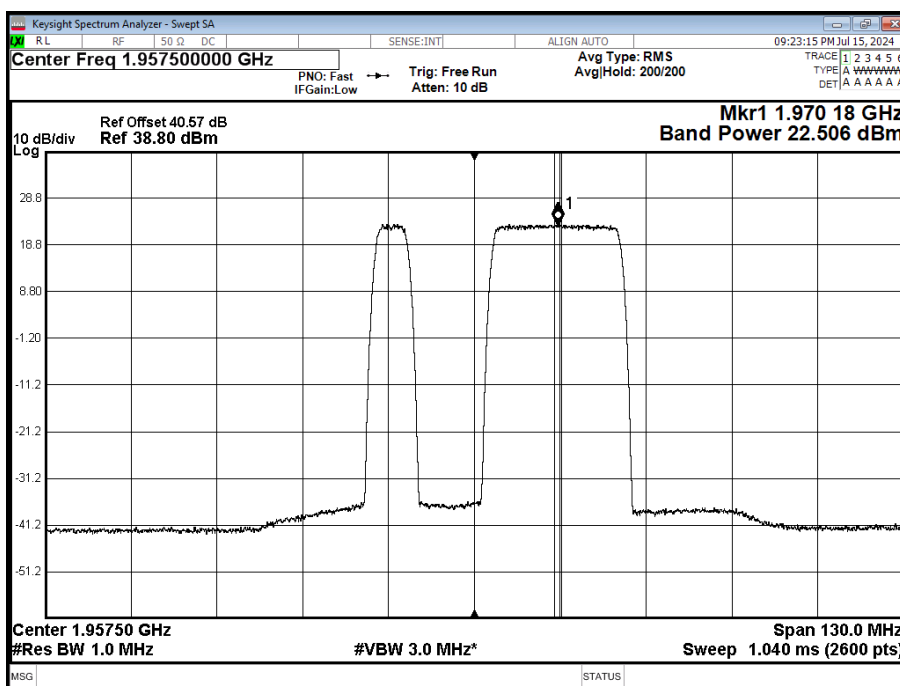


Configuration 19

Maximum Output Power 29.72(LTE)+35.74(NR) dBm

Antenna	LTE / NR Modulation	LTE / NR Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position M <sub>RFBW</sub>						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit
	dBm	dBm/MHz	dBm/MHz	dB	dBm/MHz	dB			
28	64QAM / QPSK	5 MHz / 20.0 MHz 15 kHz SCS	-	36.10	22.51	37.56	23.70	61.26	0.89

Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz, LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position M





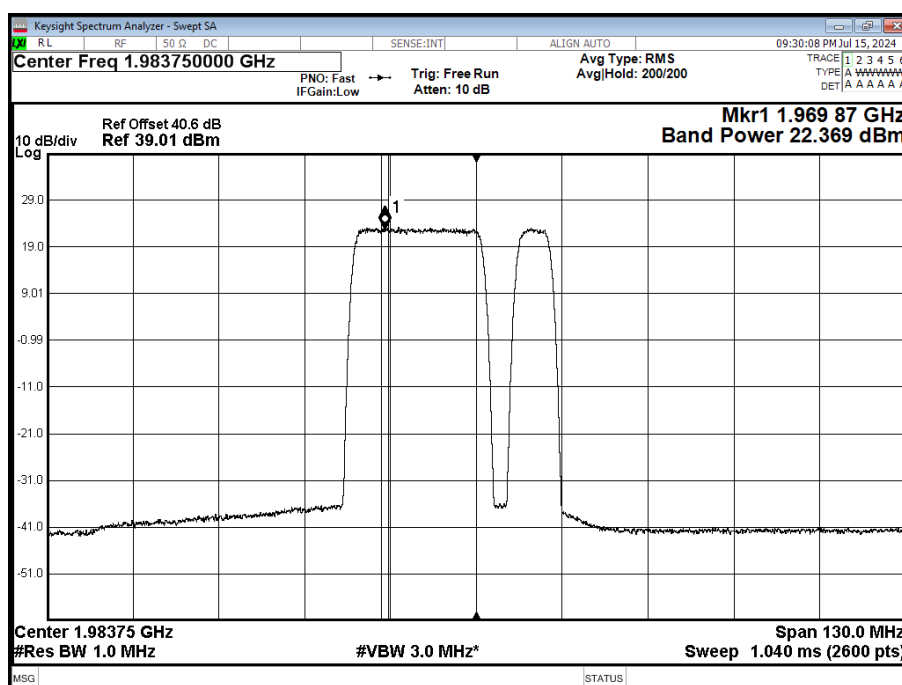


Configuration 19

Maximum Output Power 29.72(LTE)+35.74(NR) dBm

Antenna	LTE / NR Modulation	LTE / NR Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position T <sub>RFBW</sub>						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	64QAM / QPSK	5 MHz / 20.0 MHz 15 kHz SCS	-	36.05	22.37	37.42	23.70	61.12	1.03

Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz, LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position T



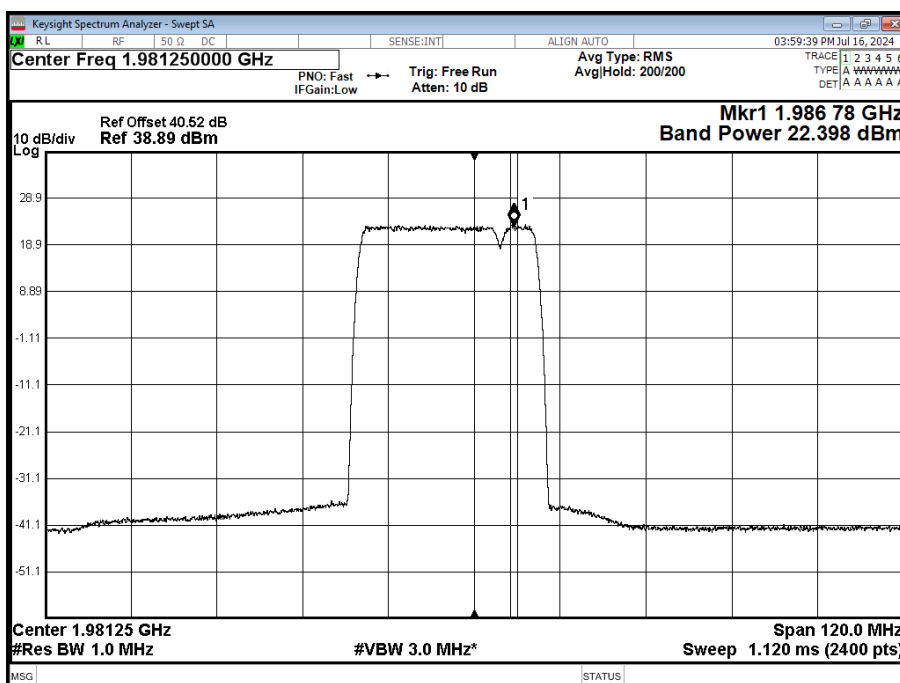


Configuration 20

Maximum Output Power 29.72(LTE)+35.74(NR) dBm

Antenna	LTE / NR Modulation	LTE / NR Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position T <sub>RFBW</sub>						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	64QAM / QPSK	5 MHz / 20.0 MHz 15 kHz SCS	-	35.94	22.40	37.45	23.70	61.15	1.00

Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz, LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position T



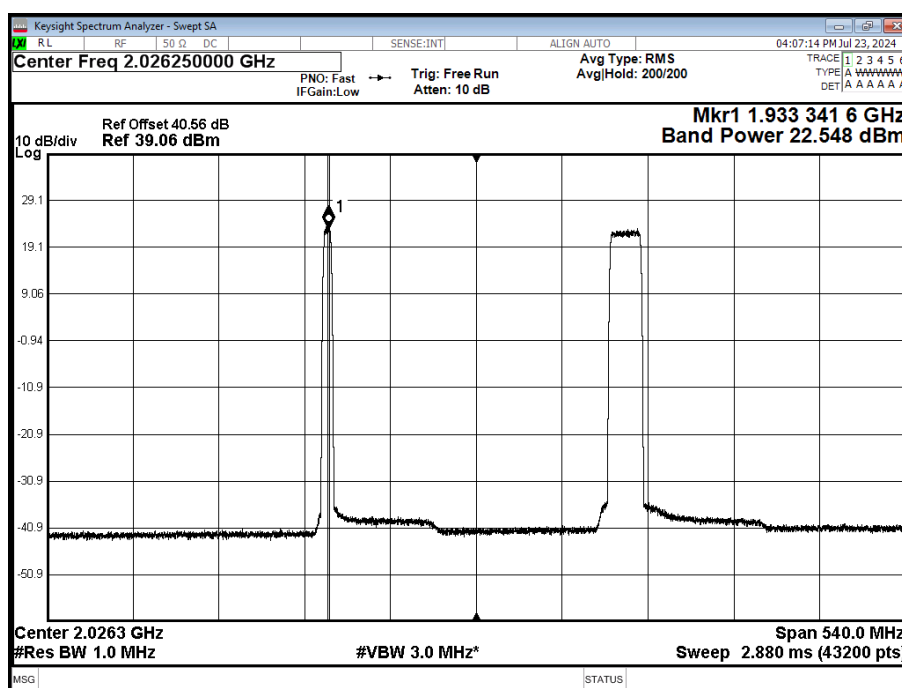


Configuration 21

Maximum Output Power 29.72(LTE)+35.55(NR) dBm

Antenna	LTE / NR Modulation	LTE / NR Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position B <sub>RFBW</sub>						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	64QAM / QPSK	5 MHz / 20.0 MHz 15 kHz SCS	-	35.64	22.55	37.60	23.70	61.30	0.85

Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz, LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position B



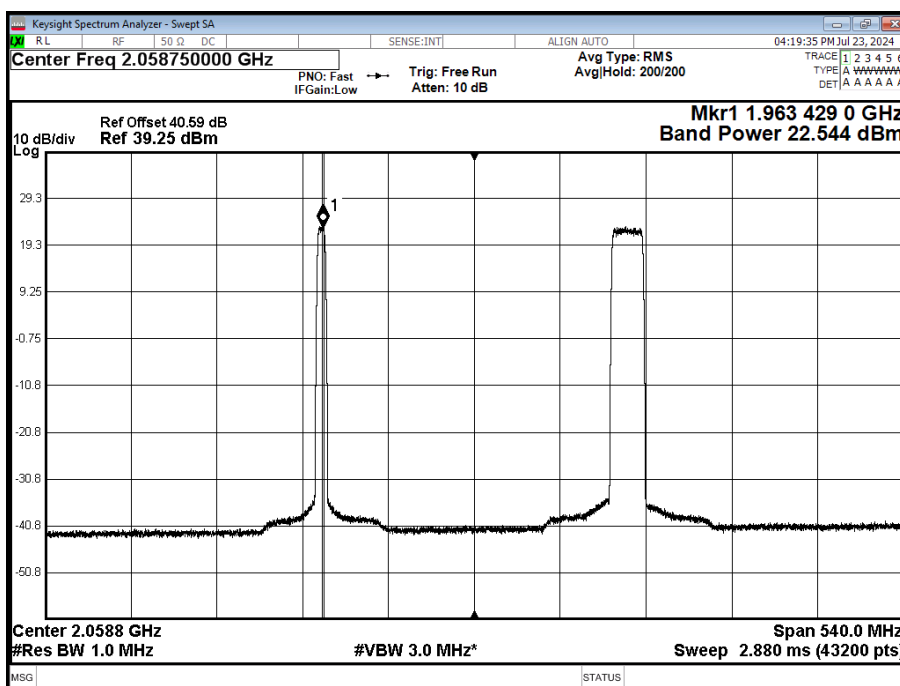


Configuration 21

Maximum Output Power 29.72(LTE)+35.55(NR) dBm

Antenna	LTE / NR Modulation	LTE / NR Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position M <sub>RFBW</sub>						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	64QAM / QPSK	5 MHz / 20.0 MHz 15 kHz SCS	-	35.77	22.54	37.59	23.70	61.29	0.86

Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz, LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position M



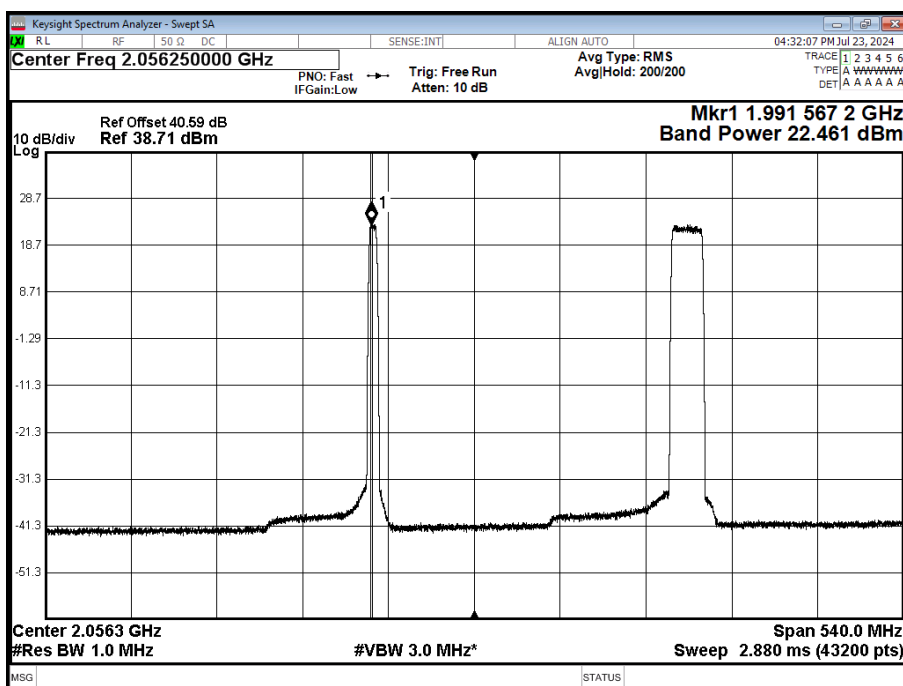


Configuration 21

Maximum Output Power 29.72(LTE)+35.55(NR) dBm

Antenna	LTE / NR Modulation	LTE / NR Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit
				dBm	dBm/MHz				
28	64QAM / QPSK	5 MHz / 20.0 MHz 15 kHz SCS	-	35.69	22.46	37.51	23.70	61.21	0.94

Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz, LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position T



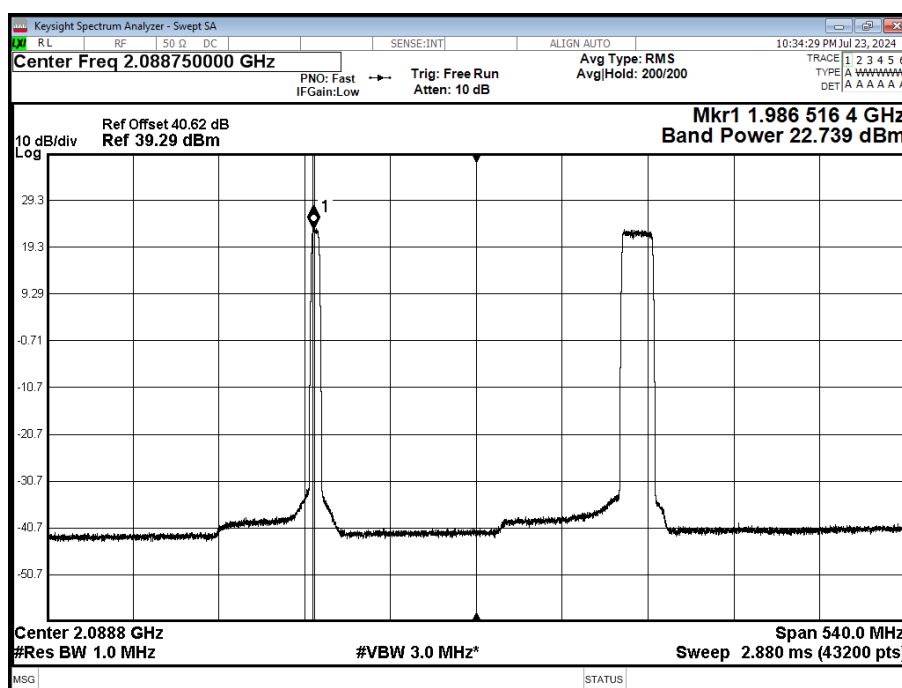


Configuration 22

Maximum Output Power 29.72(LTE)+35.55(NR) dBm

Antenna	LTE / NR Modulation	LTE / NR Carrier Bandwidth	Peak to Average Ratio (PAR) / Output Power / PSD						
			Channel Position T <sub>RFBW</sub>						
			PAR (dB)	Average Power/PSD		Total Power Ports 1-32	Declared Antenna Gain	Total EIRP	Total EIRP Limit
	dBm	dBm/MHz	dBm/MHz	dBi	dBm/MHz	dB			
28	64QAM / QPSK	5 MHz / 20.0 MHz 15 kHz SCS	-	35.82	22.74	37.79	23.70	61.49	0.66

Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz, LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position T





FCC Part 24.232 Clauses (a) & (b)

Limit	
Maximum ERP (Urban)	$\leq 1640 \text{ W}$ or $\leq +62.15 \text{ dBm}$ (antenna height $\leq 300\text{m}$ ) $\leq 1070 \text{ W}$ or $\leq +60.30 \text{ dBm}$ (antenna height $\leq 500\text{m}$ ) $\leq 490 \text{ W}$ or $\leq +56.90 \text{ dBm}$ (antenna height $\leq 1000\text{m}$ ) $\leq 270 \text{ W}$ or $\leq +54.31 \text{ dBm}$ (antenna height $\leq 1500\text{m}$ ) $\leq 160 \text{ W}$ or $\leq +52.04 \text{ dBm}$ (antenna height $\leq 2000\text{m}$ )
Maximum ERP (Non-Urban)	$\leq 3280 \text{ W}$ or $\leq +65.15 \text{ dBm}$ (antenna height $\leq 300\text{m}$ ) $\leq 2140 \text{ W}$ or $\leq +63.30 \text{ dBm}$ (antenna height $\leq 500\text{m}$ ) $\leq 980 \text{ W}$ or $\leq +59.91 \text{ dBm}$ (antenna height $\leq 1000\text{m}$ ) $\leq 540 \text{ W}$ or $\leq +57.32 \text{ dBm}$ (antenna height $\leq 1500\text{m}$ ) $\leq 320 \text{ W}$ or $\leq +55.05 \text{ dBm}$ (antenna height $\leq 2000\text{m}$ )



## 2.2 OCCUPIED BANDWIDTH

### 2.2.1 Specification Reference

FCC CFR 47 Part 24, Clause 24.238 (b)  
FCC CFR 47 Part 2, Clause 2.1049

### 2.2.2 Date of Test and Modification State

04, 05, 08 and 18-July-2024 - Modification State 0

### 2.2.3 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

### 2.2.4 Environmental Conditions

Ambient Temperature	21.1 - 23.9°C
Relative Humidity	40.3 - 50.2%

### 2.2.5 Test Method

All measurements were made in accordance with FCC KDB 971168 D01, Clause 4.2 and 4.3. The Spectrum Analyser RBW was configured to be at least 1% of the channel bandwidth of the carrier to be measured.

For 26 dB Bandwidth, in accordance with KDB 971168 D01, a peak detector and a trace setting of Max Hold were used. The trace was allowed to stabilise. Using the Spectrum Analyser function, the 26dB measurement result was obtained.

#### 4.2 Occupied bandwidth – relative measurement procedure

The reference value is the highest level of the spectral envelope of the modulated signal, unless otherwise specified in an applicable rule section.

Subclause 5.4.3 of ANSI C63.26-2015 is applicable.

#### 4.3 Occupied bandwidth – power bandwidth (99 %) measurement procedure

Subclause 5.4.4 of ANSI C63.26-2015 is applicable (wherein the recommendation is to use the 99 % power bandwidth function of a spectrum analyzer).

The worst case modulation and bandwidth plots are presented here, all other applicable plots are retained by TÜV SUD and available for presentation if required.





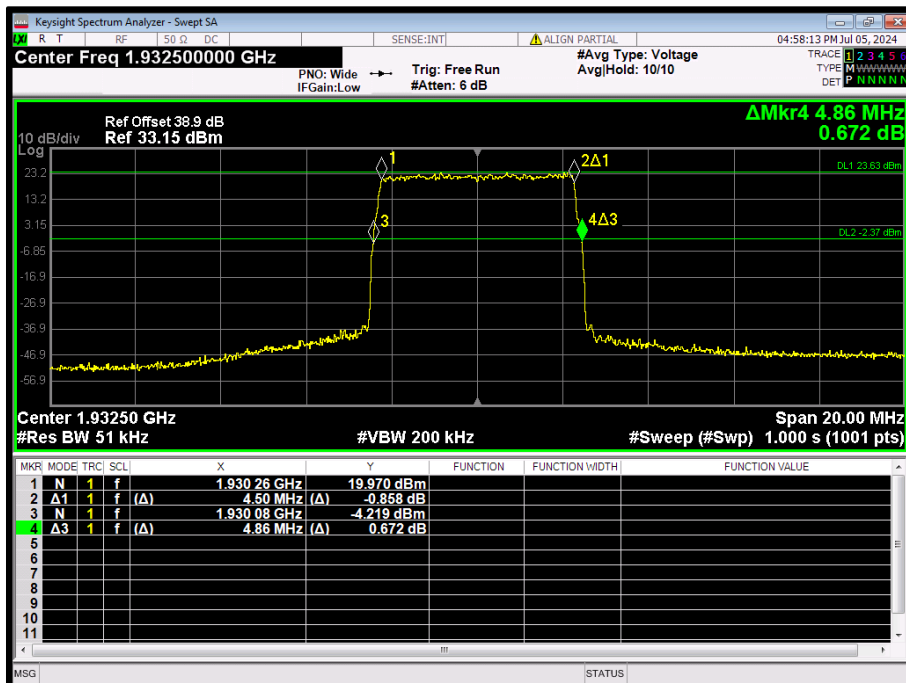
## 2.2.6 Test Results

Configuration 1

Maximum Output Power 38.75 dBm

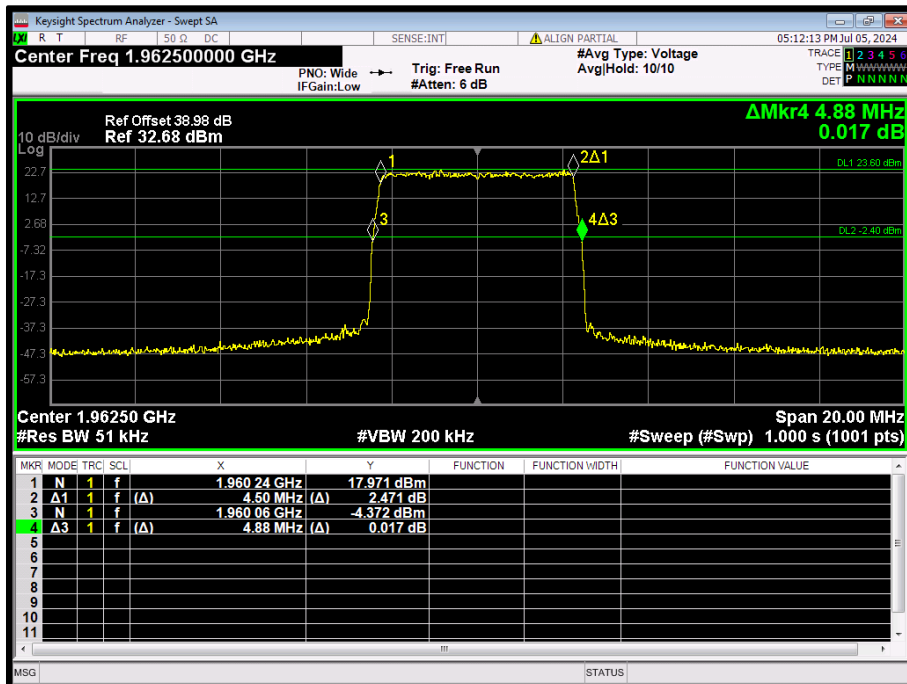
Antenna	LTE Modulation	LTE Carrier Bandwidth	Result (MHz)					
			Channel Position B		Channel Position M		Channel Position T	
			Occupied Bandwidth	-26 dB Bandwidth	Occupied Bandwidth	-26 dB Bandwidth	Occupied Bandwidth	-26 dB Bandwidth
28	64QAM	5.0 MHz	4.500	4.880	4.500	4.880	4.480	4.860
28	64QAM	10.0 MHz	8.960	9.680	8.960	9.680	8.960	9.680
28	64QAM	15.0 MHz	13.480	14.520	13.520	14.560	13.480	14.560
28	64QAM	20.0 MHz	17.880	19.020	17.880	19.020	17.880	19.020

Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position B

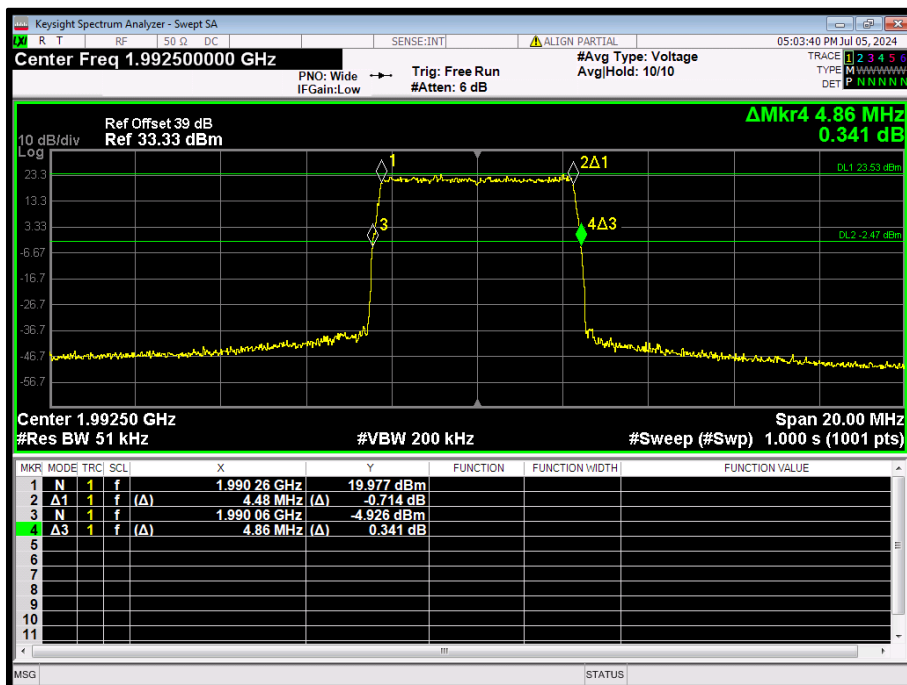




Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position M



Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position T



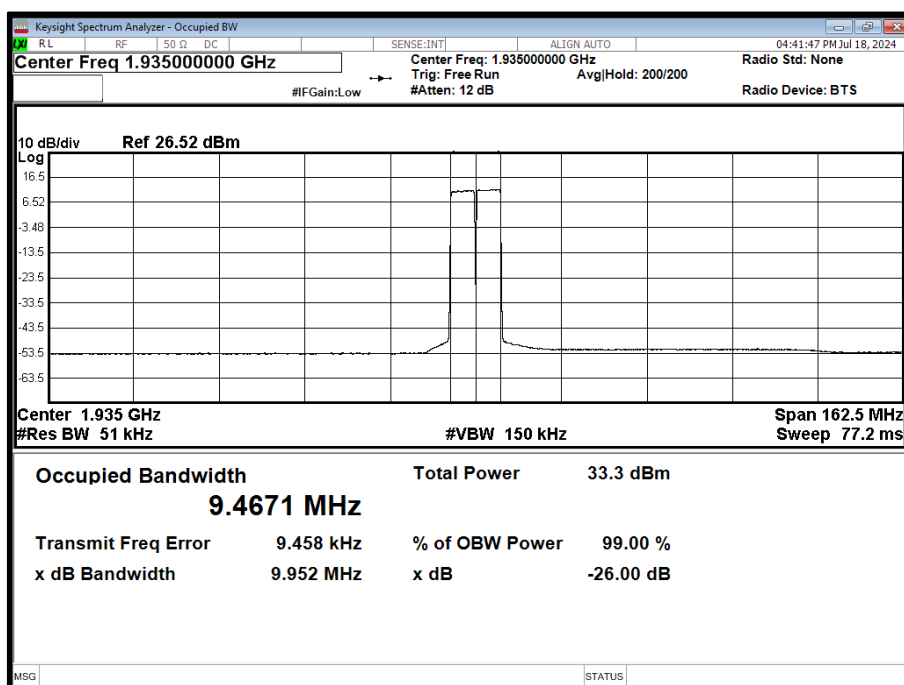


Configuration 2

Maximum Output Power 2 x 35.74 dBm

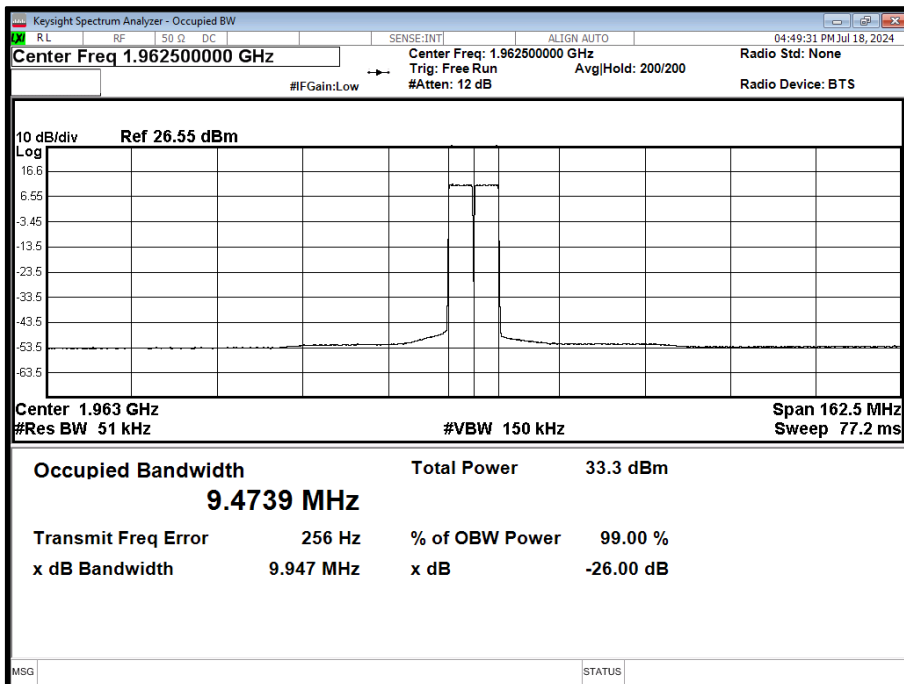
Antenna	LTE Modulation	LTE Carrier Bandwidth	Result (kHz)					
			Channel Position B		Channel Position M		Channel Position T	
			Occupied Bandwidth	-26 dB Bandwidth	Occupied Bandwidth	-26 dB Bandwidth	Occupied Bandwidth	-26 dB Bandwidth
28	64QAM	5.0 MHz	9,467.119	9,951.851	9,473.913	9,946.642	9,469.568	9,933.693
28	64QAM	10.0 MHz	18,832.950	19,494.931	18,851.219	19,496.246	18,848.696	19,495.842
28	64QAM	15.0 MHz	28,238.115	29,138.220	28,257.122	29,143.585	28,228.321	29,098.737
28	64QAM	20.0 MHz	37,605.928	38,682.387	37,648.737	38,668.274	37,643.080	38,656.408

Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position B

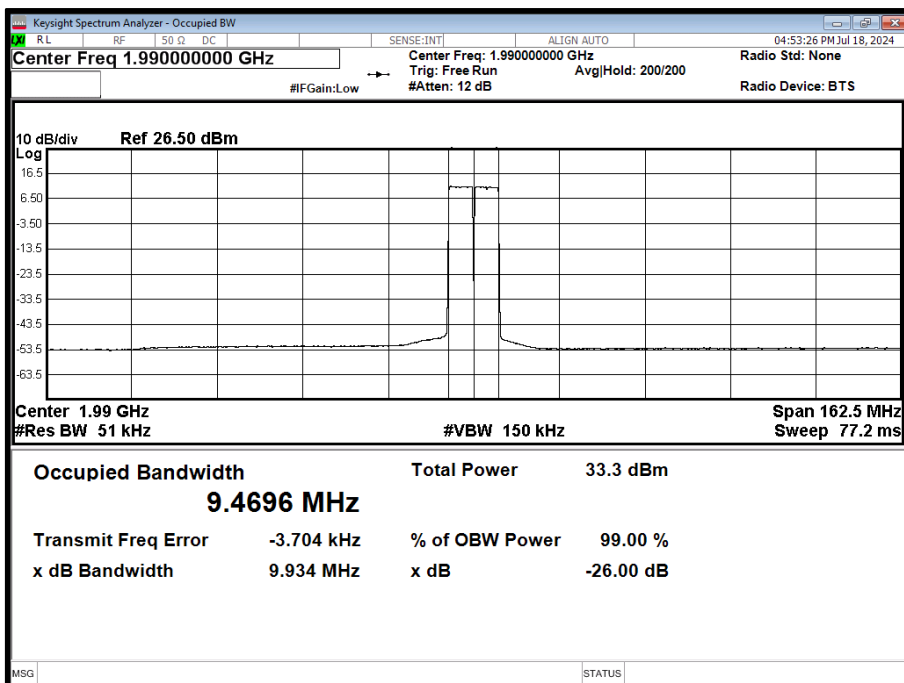




Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position M



Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position T



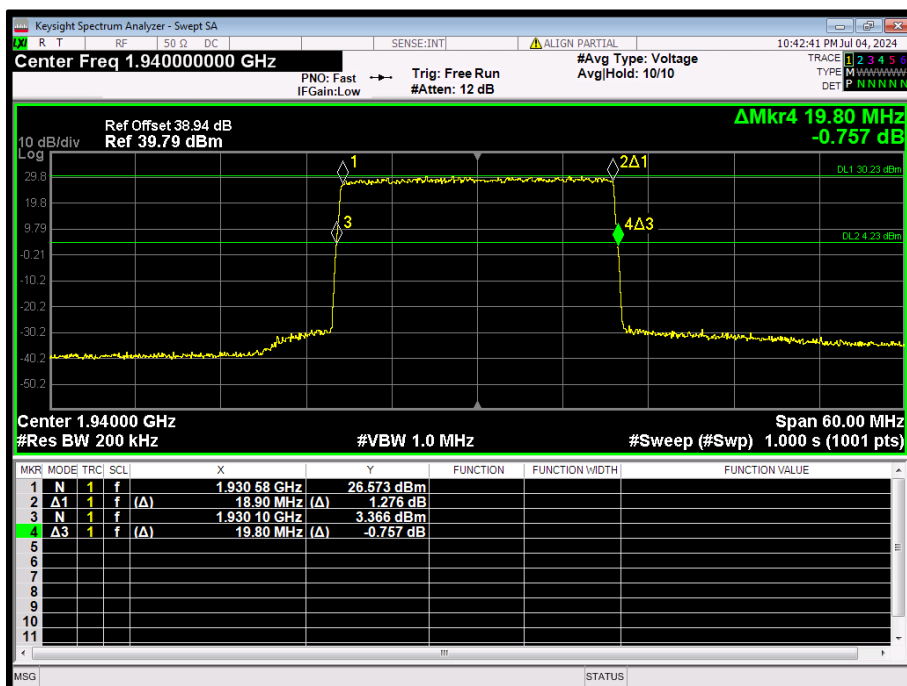


Configuration 3

Maximum Output Power 38.75 dBm

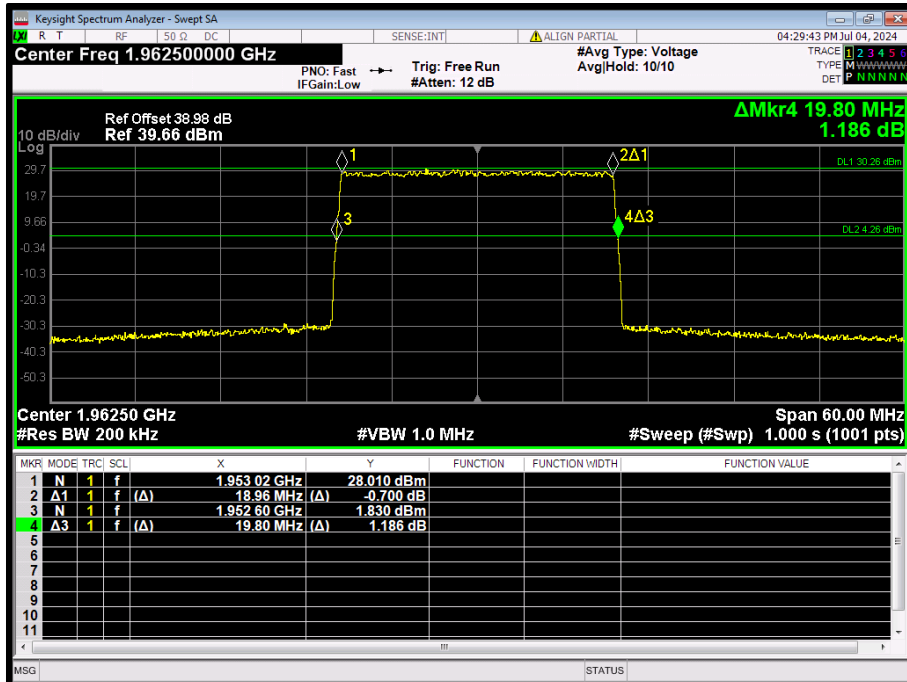
Antenna	NR Modulation	NR Carrier Bandwidth	Result (MHz)					
			Channel Position B		Channel Position M		Channel Position T	
			Occupied Bandwidth	-26 dB Bandwidth	Occupied Bandwidth	-26 dB Bandwidth	Occupied Bandwidth	-26 dB Bandwidth
28	QPSK	5.0 MHz 15 kHz SCS	4.480	4.820	4.480	4.840	4.480	4.840
28	QPSK	10.0 MHz 15 kHz SCS	9.280	9.800	9.280	9.840	9.280	9.800
28	QPSK	15.0 MHz 15 kHz SCS	14.120	14.920	14.160	14.960	14.080	14.880
28	QPSK	20.0 MHz 15 kHz SCS	18.900	19.800	18.960	19.800	18.900	19.860

Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 15 kHz SCS - Channel Position B

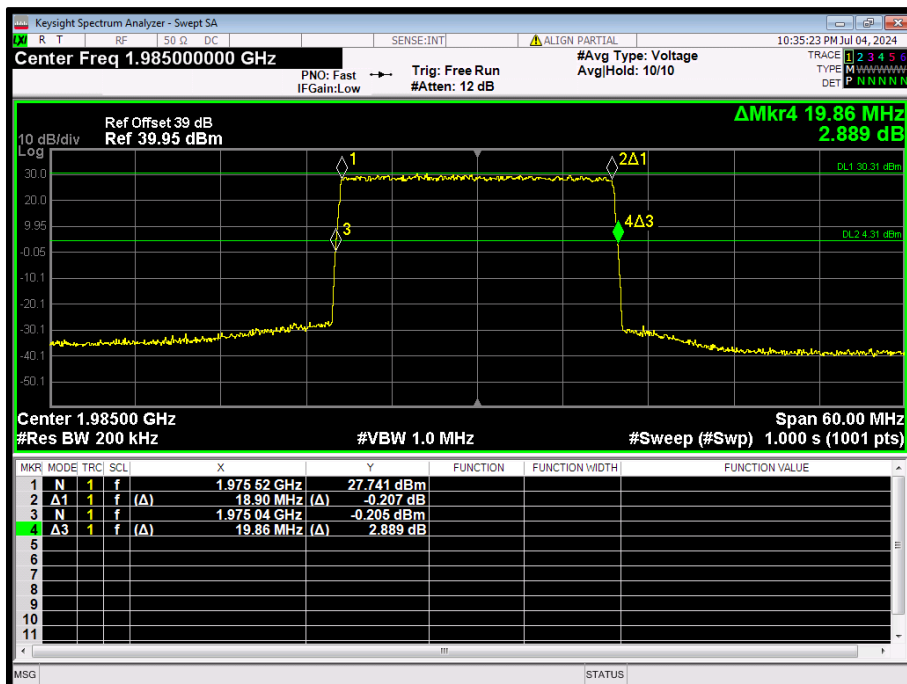




Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 15 kHz SCS - Channel Position M



Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 15 kHz SCS - Channel Position T



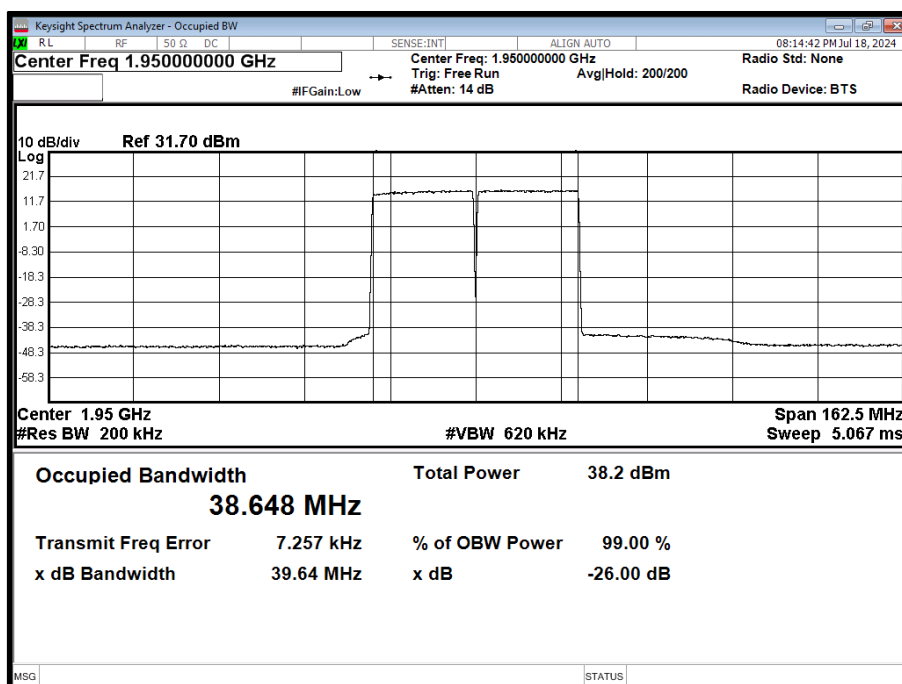


Configuration 4

Maximum Output Power 2 x 35.74 dBm

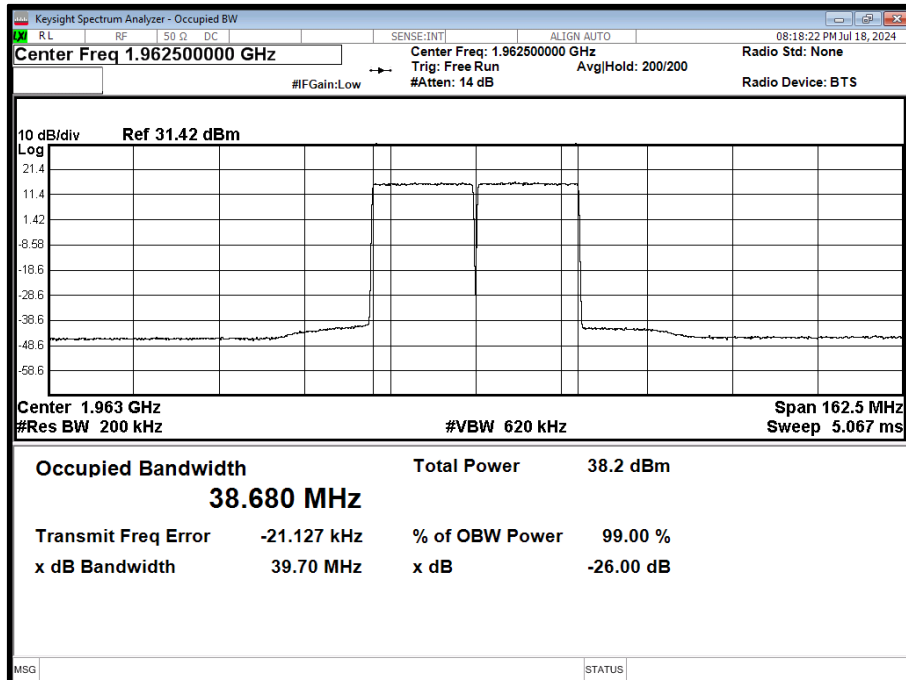
Antenna	NR Modulation	NR Carrier Bandwidth	Result (kHz)					
			Channel Position B		Channel Position M		Channel Position T	
			Occupied Bandwidth	-26 dB Bandwidth	Occupied Bandwidth	-26 dB Bandwidth	Occupied Bandwidth	-26 dB Bandwidth
28	QPSK	5.0 MHz 15 kHz SCS	9,463.600	9,892.412	9,467.959	9,930.648	9,463.478	9,859.124
28	QPSK	10.0 MHz 15 kHz SCS	19,165.386	19,817.828	19,183.338	19,818.144	19,171.480	19,817.871
28	QPSK	15.0 MHz 15 kHz SCS	28,917.327	29,804.828	28,936.609	29,803.804	28,922.157	29,798.653
28	QPSK	20.0 MHz 15 kHz SCS	38,648.119	39,643.560	38,680.462	39,700.782	38,676.586	39,711.342

Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 15 kHz SCS - Channel Position B

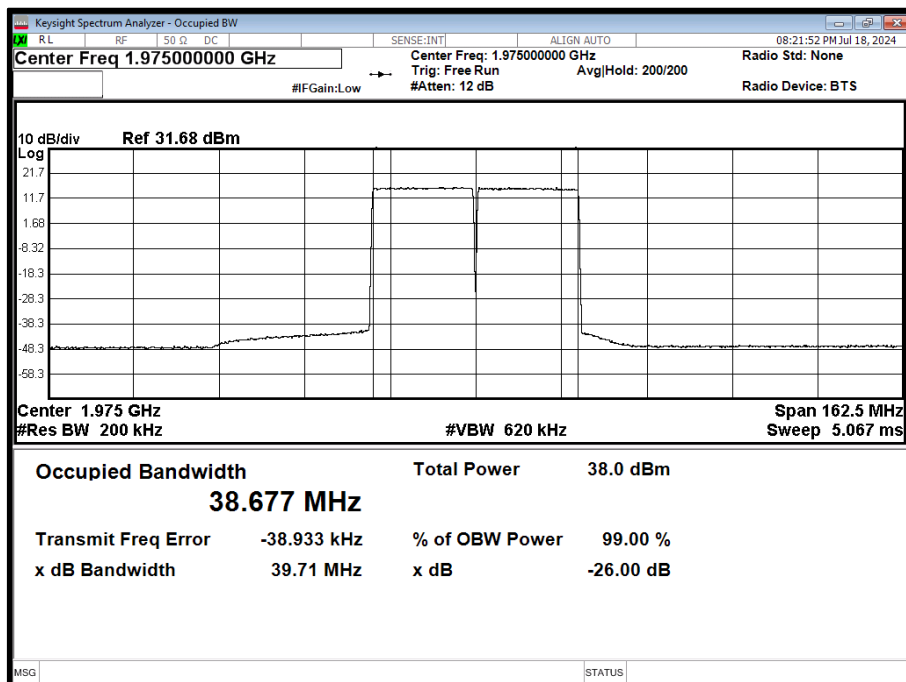




Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 15 kHz SCS - Channel Position M



Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 15 kHz SCS - Channel Position T





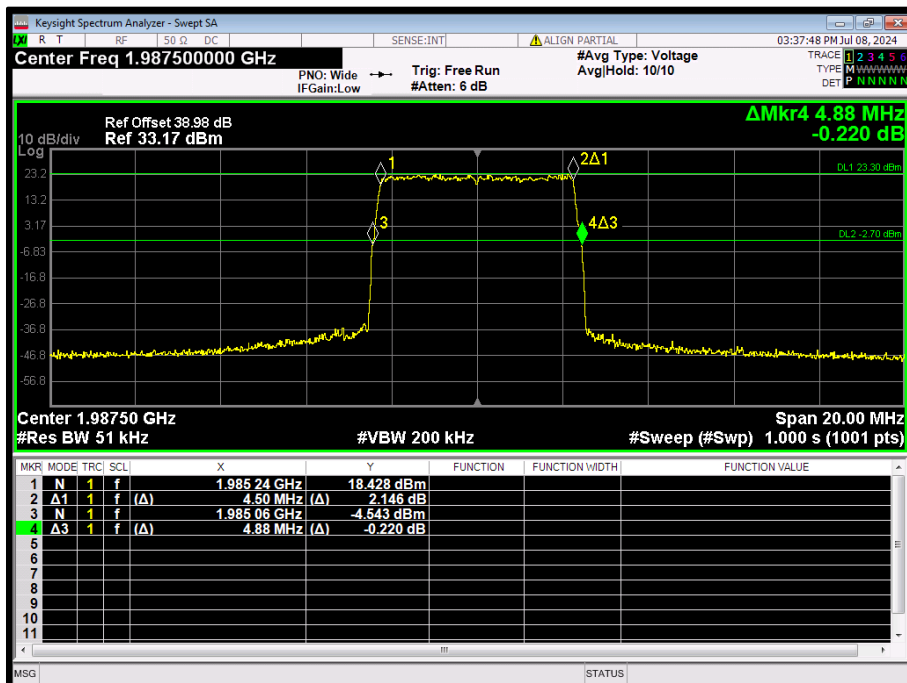


Configuration 6

Maximum Output Power 38.75 dBm

Antenna	LTE Modulation	LTE Carrier Bandwidth	Result (MHz)	
			Channel Position T	
			Occupied Bandwidth	-26 dB Bandwidth
28	64QAM	5.0 MHz	4.500	4.880
28	64QAM	10.0 MHz	8.960	9.680
28	64QAM	15.0 MHz	13.480	14.480
28	64QAM	20.0 MHz	17.880	18.960

Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position T



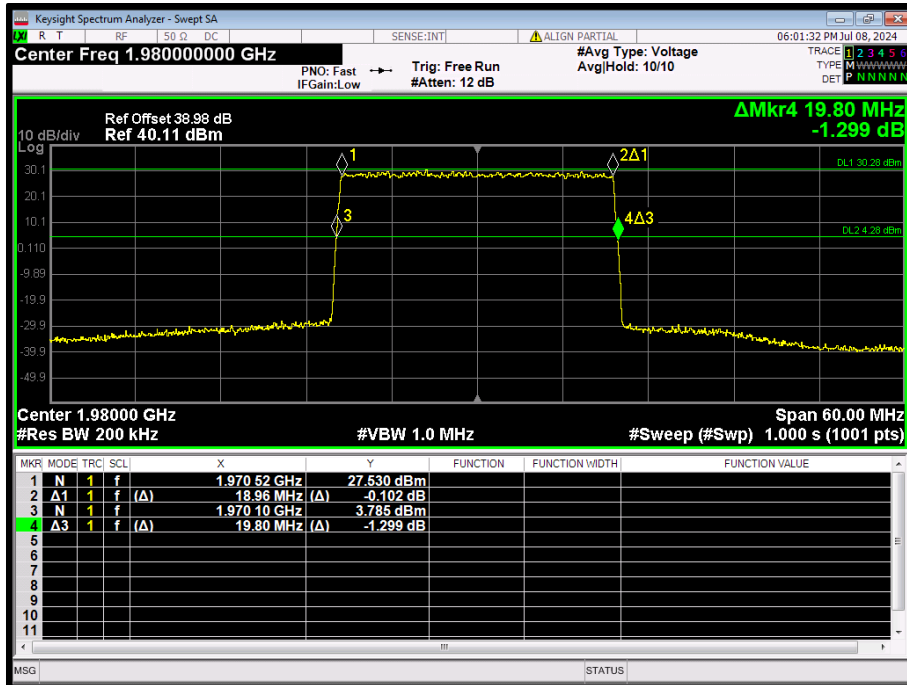
Configuration 7

Maximum Output Power 38.75 dBm

Antenna	NR Modulation	NR Carrier Bandwidth	Result (MHz)	
			Channel Position T	
			Occupied Bandwidth	-26 dB Bandwidth
28	QPSK	5.0 MHz 15 kHz SCS	4.480	4.860
28	QPSK	10.0 MHz 15 kHz SCS	9.280	9.840
28	QPSK	15.0 MHz 15 kHz SCS	14.120	14.960
28	QPSK	20.0 MHz 15 kHz SCS	18.960	19.800



Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 15 kHz SCS - Channel Position T





## 2.3 BAND EDGE

### 2.3.1 Specification Reference

FCC CFR 47 Part 24, Clause 24.238 (b)  
FCC CFR 47 Part 2, Clause 2.1051

### 2.3.2 Date of Test and Modification State

16, 17 and 22-July-2024 - Modification State 0

### 2.3.3 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

### 2.3.4 Environmental Conditions

Ambient Temperature 21.1 - 27.4°C  
Relative Humidity 43.3 - 50.2%

### 2.3.5 Test Method

All measurements were made in accordance with FCC KDB 971168 D01, Clause 6.0.

Band Edge measurements were used an Integration Bandwidth of at least 1% of the measured 26dB Bandwidth.

Each antenna port has been declared as being equivalent, therefore measurements were made on one antenna port only. To account for this, the limit was tightened by  $10 * \text{Log}(N)$ , where N is equal to the number of MIMO antenna ports.

For the number of antenna ports, the limit was calculated as being:  
 $-13 \text{ dBm} - 10 * \text{Log}(32) = -28.05 \text{ dBm}$ .

The worst case modulation and bandwidth plots are presented here, all other applicable plots are retained by TUV SUD and available for presentation if required.

### 2.3.6 Test Results

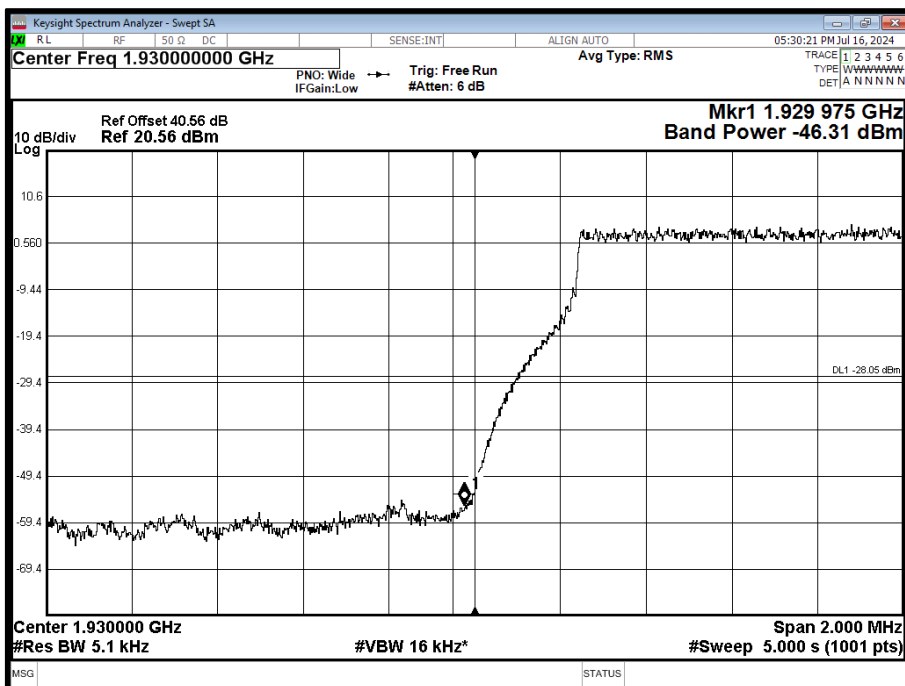
Configuration 1

Maximum Output Power 38.75 dBm

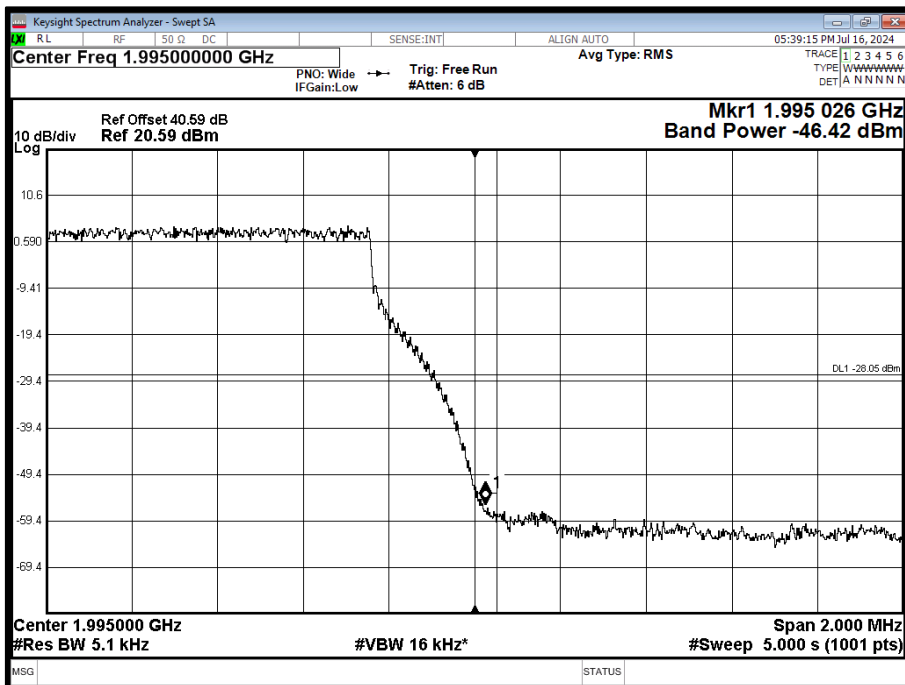
Antenna	LTE Modulation	LTE Carrier Bandwidth	Band Edge (MHz)	
			Channel Position B	Channel Position T
28	64QAM	5.0 MHz	1932.5	1992.5
28	64QAM	10.0 MHz	1935.0	1990.0
28	64QAM	15.0 MHz	1937.5	1987.5
28	64QAM	20.0 MHz	1940.0	1985.0



Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position B



Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position T



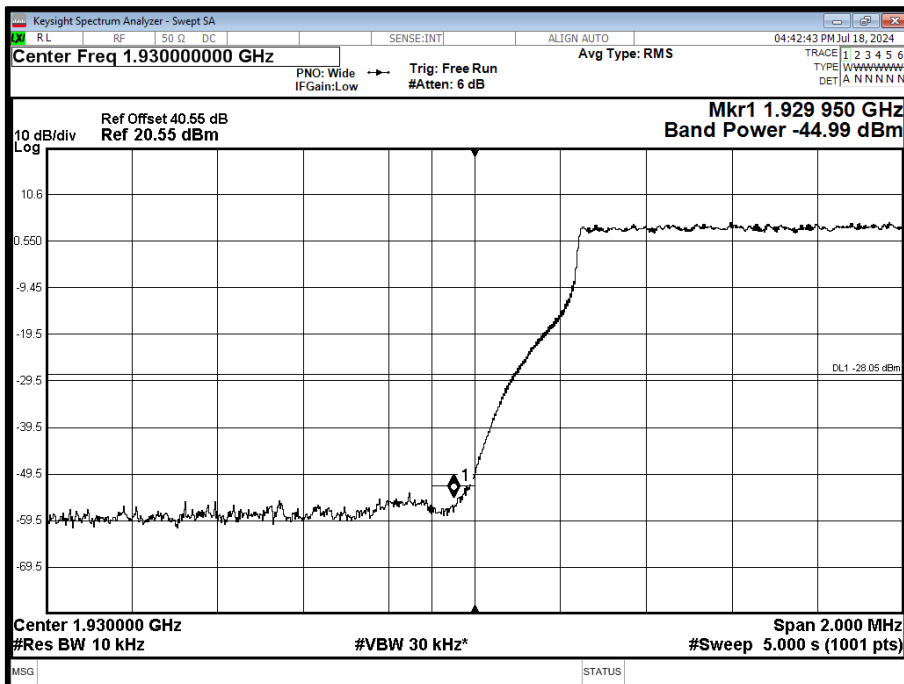


Configuration 2

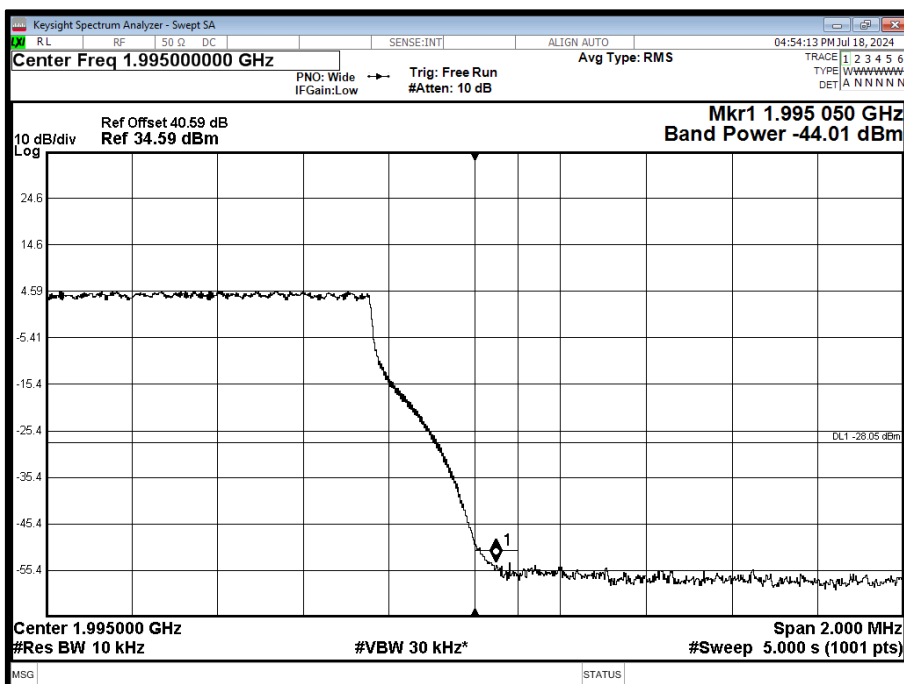
Maximum Output Power 2 x 35.74 dBm

Antenna	LTE Modulation	LTE Carrier Bandwidth	Band Edge (MHz)	
			Channel Position B	Channel Position T
28	64QAM	5 MHz	1932.5+1937.5	1992.5+1987.5

Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5 MHz - Channel Position B



Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5 MHz - Channel Position T



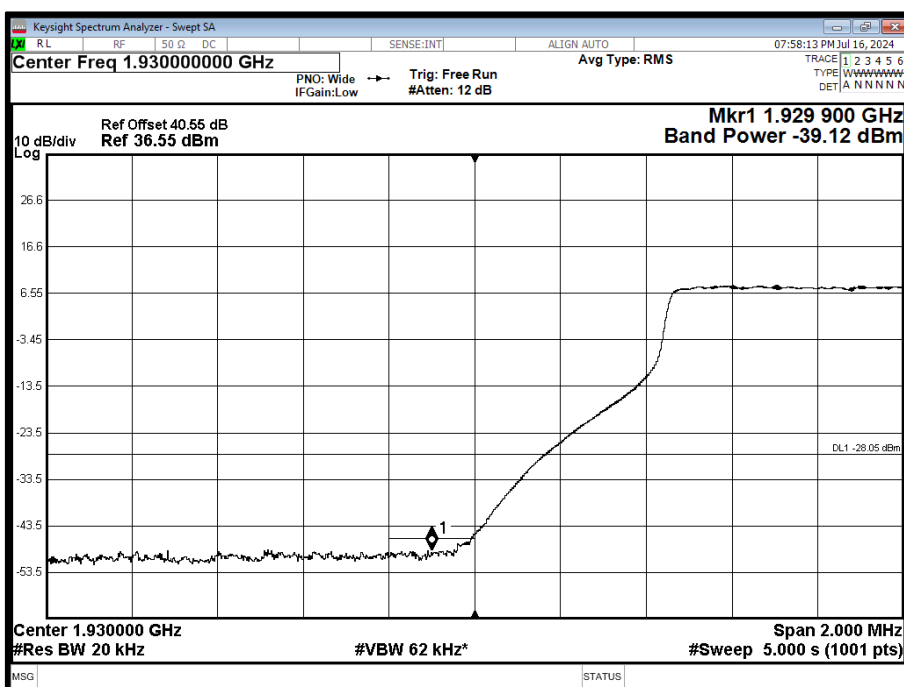


Configuration 3

Maximum Output Power 38.75 dBm

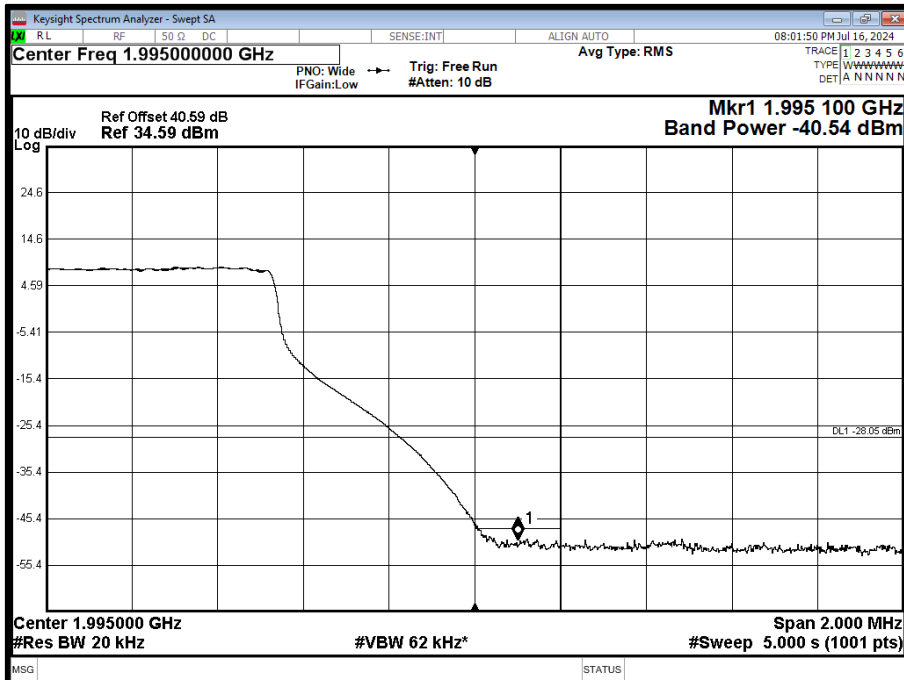
Antenna	NR Modulation	NR Carrier Bandwidth	Band Edge (MHz)	
			Channel Position B	Channel Position T
28	QPSK	5.0 MHz 15 kHz SCS	1932.5	1992.5
28	QPSK	10.0 MHz 15 kHz SCS	1935.0	1990.0
28	QPSK	15.0 MHz 15 kHz SCS	1937.5	1987.5
28	QPSK	20.0 MHz 15 kHz SCS	1940.0	1985.0

Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 15 kHz SCS - Channel Position B





Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 15 kHz SCS - Channel Position T



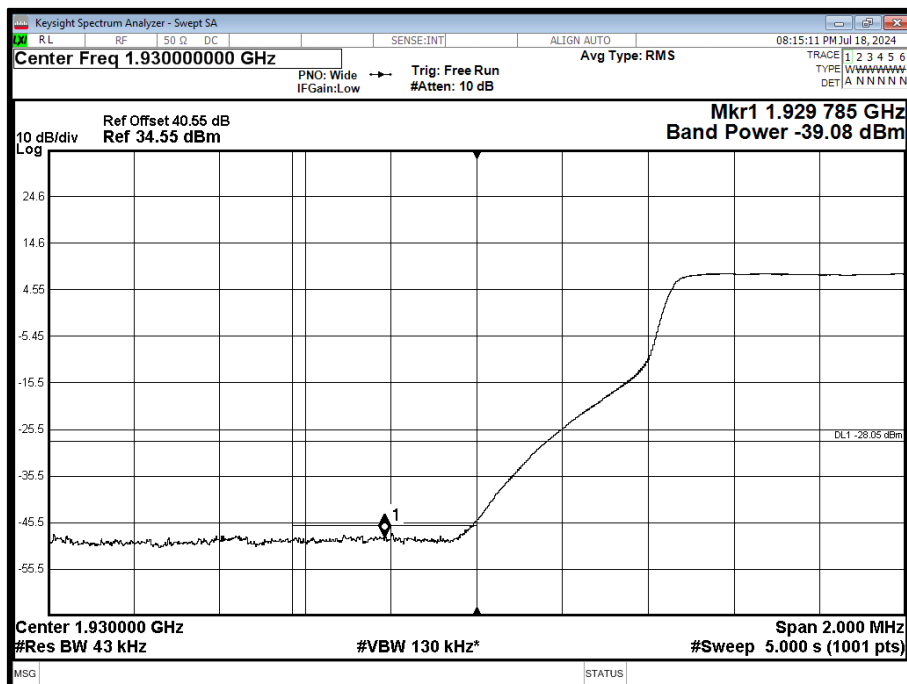


Configuration 4

Maximum Output Power 2 x 35.74 dBm

Antenna	NR Modulation	NR Carrier Bandwidth	Band Edge (MHz)	
			Channel Position B	Channel Position T
28	QPSK	20.0 MHz 15 kHz SCS	1940+1960	1985+1965

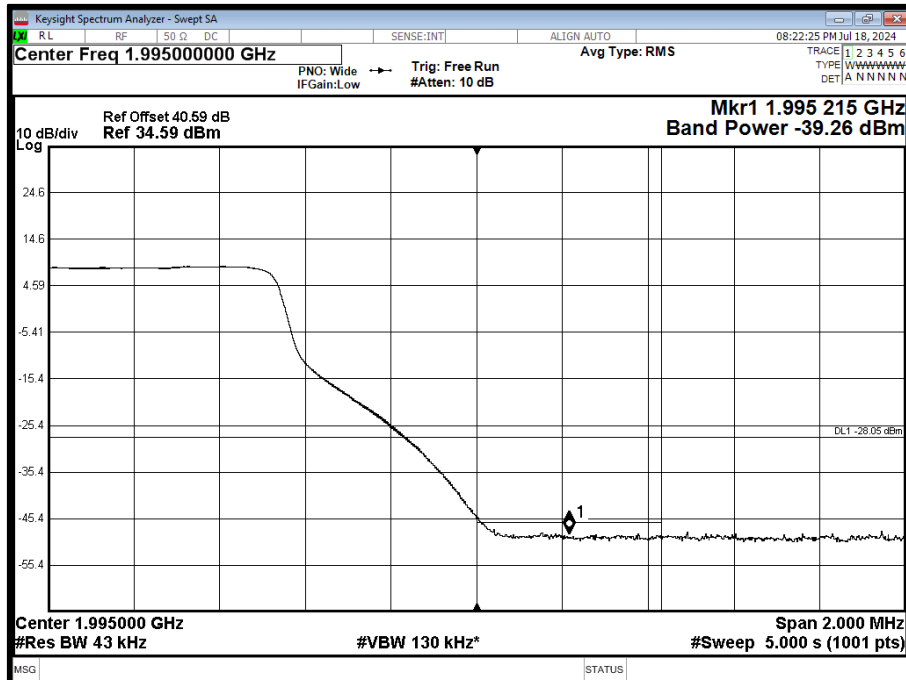
Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 15 kHz SCS - Channel Position B







Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 15 kHz SCS - Channel Position T



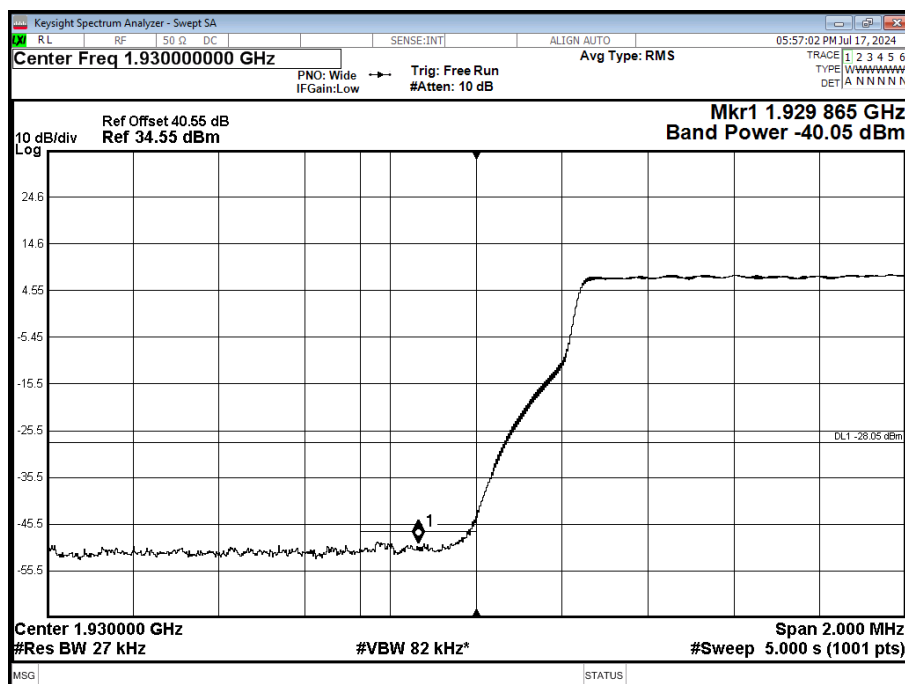


Configuration 5

Maximum Output Power 30.96(LTE)+ 36.98(NR) dBm

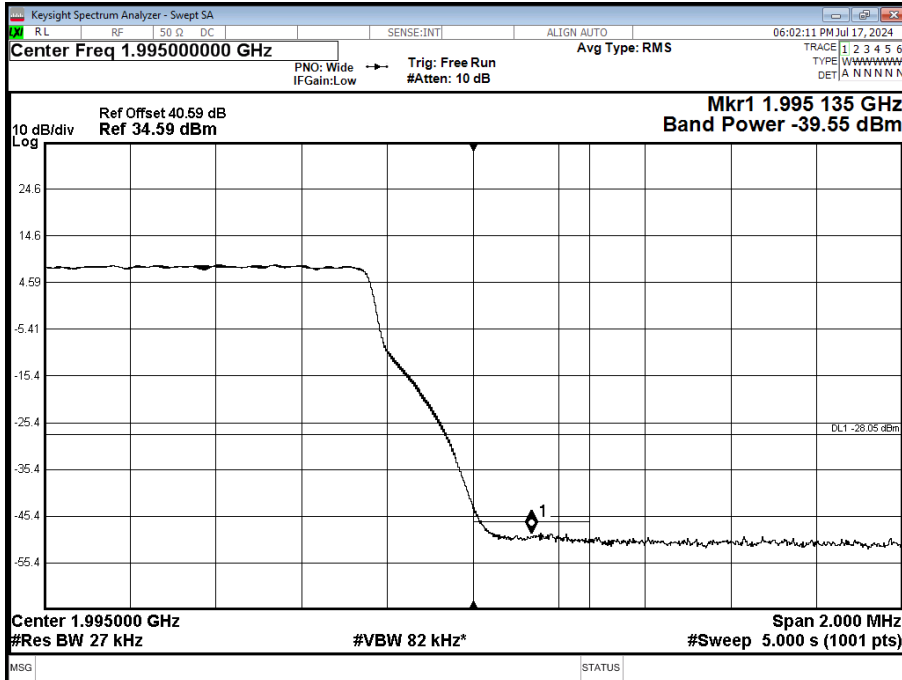
Antenna	LTE/NR Modulation	LTE/NR Carrier Bandwidth	Band Edge (MHz)	
			Channel Position B <sub>RFBW</sub>	Channel Position T <sub>RFBW</sub>
28	64QAM / QPSK	5 MHz / 20.0 MHz 15 kHz SCS	1932.5 +1945.0	1992.5 +1980.0

Antenna 28 – LTE / NR Modulation 64QAM / QPSK – LTE / NR Carrier Bandwidth 5 MHz / 20.0 MHz 15 kHz SCS - Channel Position B





Antenna 28 – LTE / NR Modulation 64QAM / QPSK – LTE / NR Carrier Bandwidth 5 MHz / 20.0 MHz 15 kHz SCS - Channel Position T



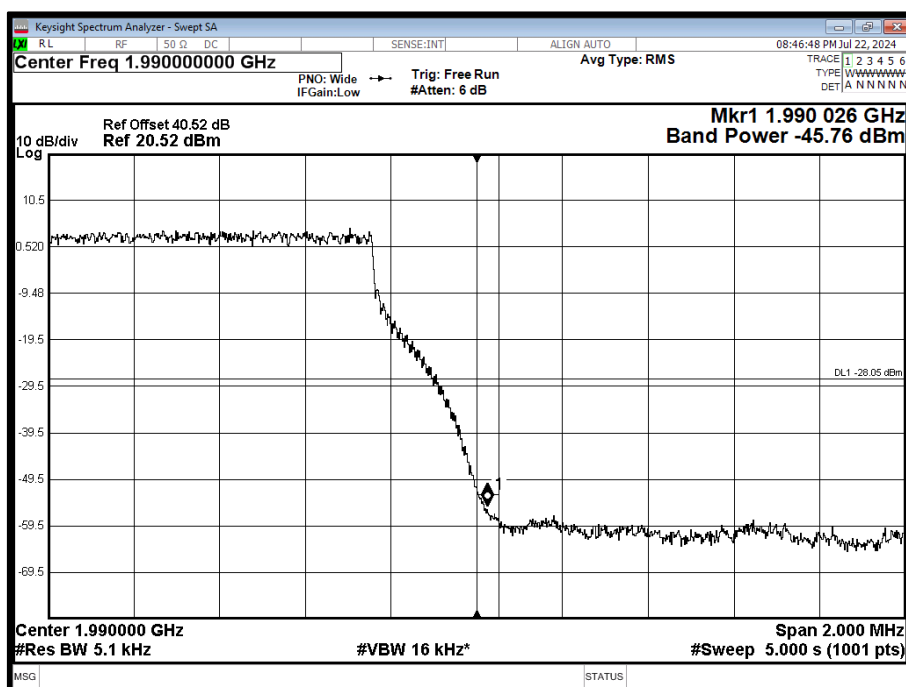


Configuration 6

Maximum Output Power 38.75 dBm

Antenna	LTE Modulation	LTE Carrier Bandwidth	Band Edge (MHz)
			Channel Position T
28	64QAM	5.0 MHz	1,987.5
28	64QAM	10.0 MHz	1,985.0
28	64QAM	15.0 MHz	1,982.5
28	64QAM	20.0 MHz	1,980.0

Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position T



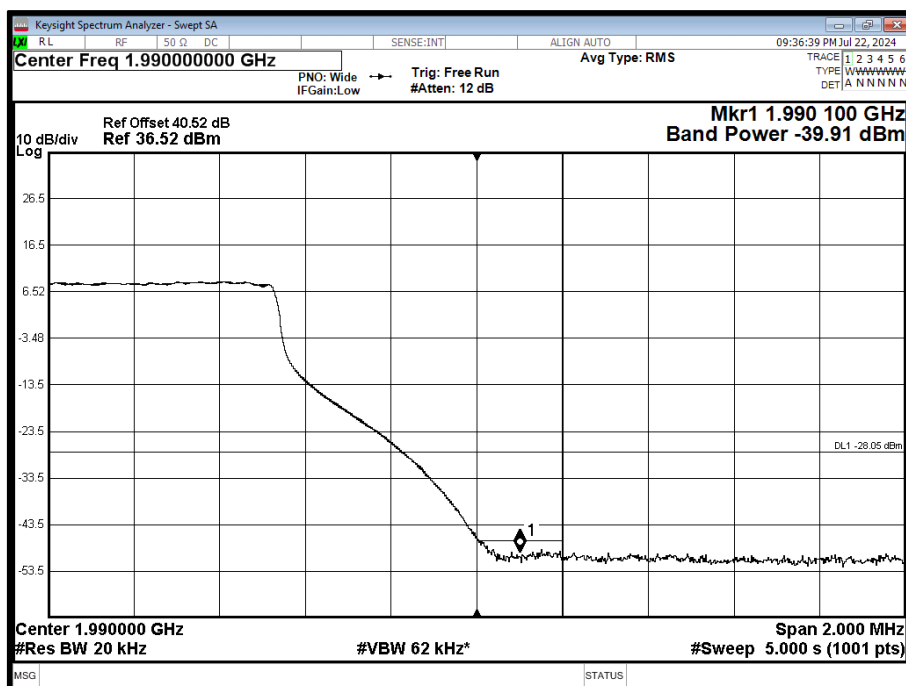


Configuration 7

Maximum Output Power 38.75 dBm

Antenna	NR Modulation	NR Carrier Bandwidth	Band Edge (MHz)
			Channel Position T
28	QPSK	5.0 MHz 15 kHz SCS	1,987.5
28	QPSK	10.0 MHz 15 kHz SCS	1,985.0
28	QPSK	15.0 MHz 15 kHz SCS	1,982.5
28	QPSK	20.0 MHz 15 kHz SCS	1,980.0

Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 15 kHz SCS - Channel Position T



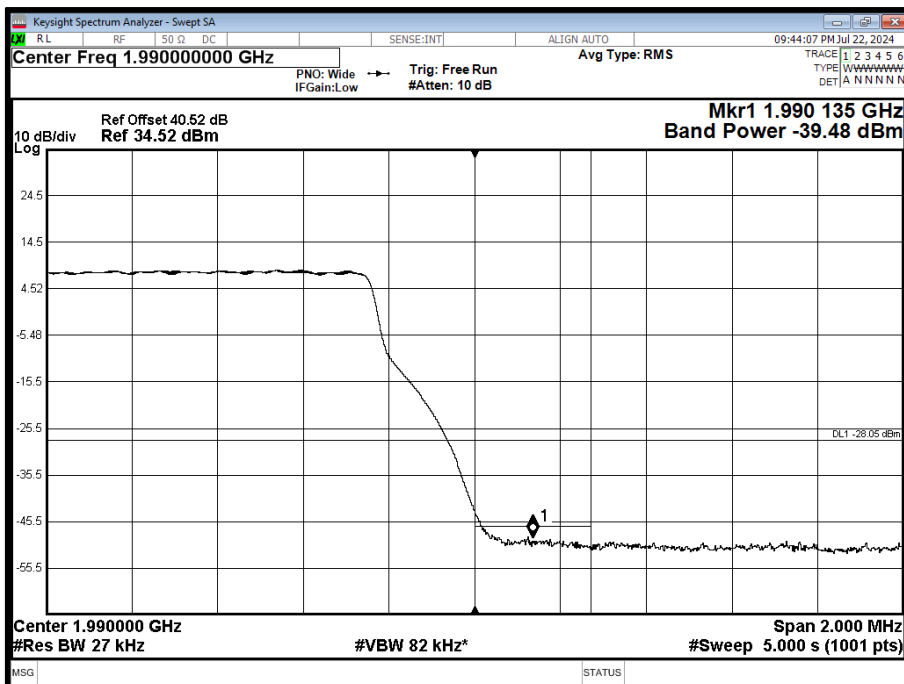


Configuration 8

Maximum Output Power 30.96(LTE)+ 36.98(NR) dBm

Antenna	LTE / NR Modulation	LTE / NR Carrier Bandwidth	Band Edge (MHz)
			Channel Position $T_{RFBW}$
28	64QAM / QPSK	5 MHz / 20.0 MHz 15 kHz SCS	1987.5+1975

Antenna 28 -LTE / NR Modulation 64QAM / QPSK – LTE / NR Carrier Bandwidth 5 MHz / 20.0 MHz 15 kHz SCS - Channel Position T



Limit	-28.05 dBm
-------	------------



## **2.4 TRANSMITTER SPURIOUS EMISSIONS**

### **2.4.1 Specification Reference**

FCC CFR 47 Part 24, Clause 24.238 (a)  
FCC CFR 47 Part 2, Clause 2.1051

### **2.4.2 Date of Test and Modification State**

### **2.4.3 26, 27 July and 01-August-2024 - Modification State 0 Test Equipment Used**

The major items of test equipment used for the above tests are identified in Section 3.1.

### **2.4.4 Environmental Conditions**

Ambient Temperature	21.1 - 21.5°C
Relative Humidity	43.3 - 43.8%

### **2.4.5 Test Method**

All measurements were made in accordance with FCC KDB 971168 D01, Clause 6.1.

Each antenna port has been declared as being equivalent, therefore measurements were made on one antenna port only. To account for this, the limit was tightened by  $10 * \text{Log}(N)$ , where N is equal to the number of MIMO antenna ports.

For the number of antenna ports, the limit was calculated as being:  
 $-13 \text{ dBm} - 10 * \text{Log}(32) = -28.05 \text{ dBm}$ .

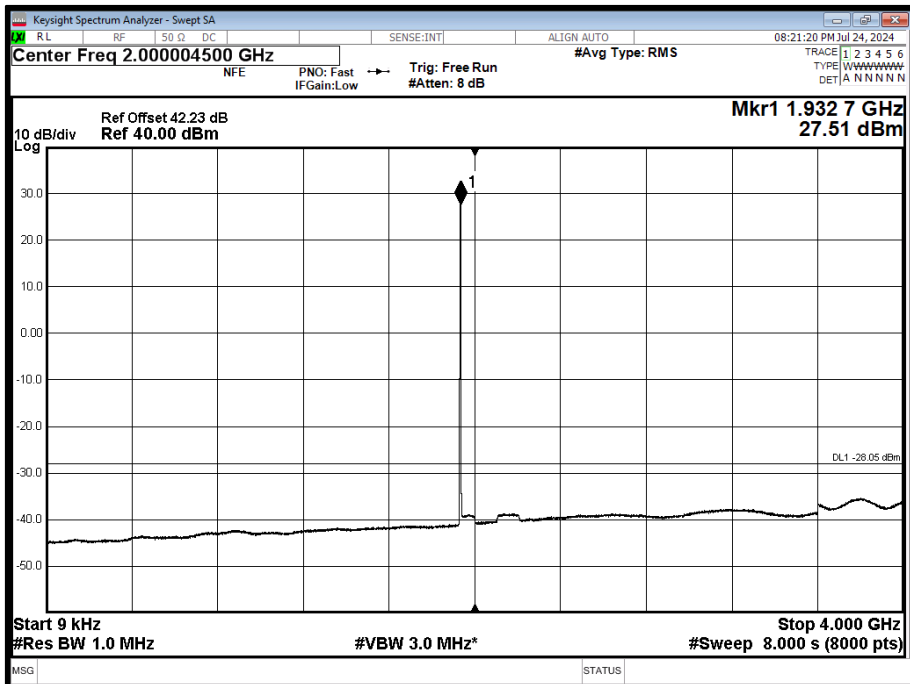
The worst case modulation and bandwidth plots are presented here, all other applicable plots are retained by TÜV SUD and available for presentation if required.

## 2.4.6 Test Results

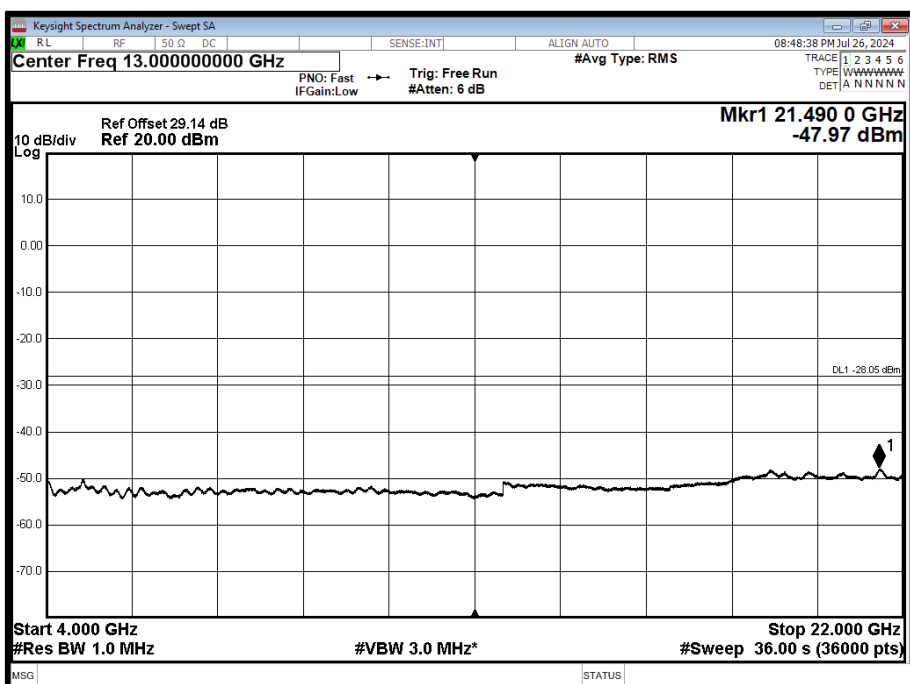
### Configuration 1

Maximum Output Power 38.75 dBm

Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position B - Band 1 - Range 0.009 to 4000 MHz



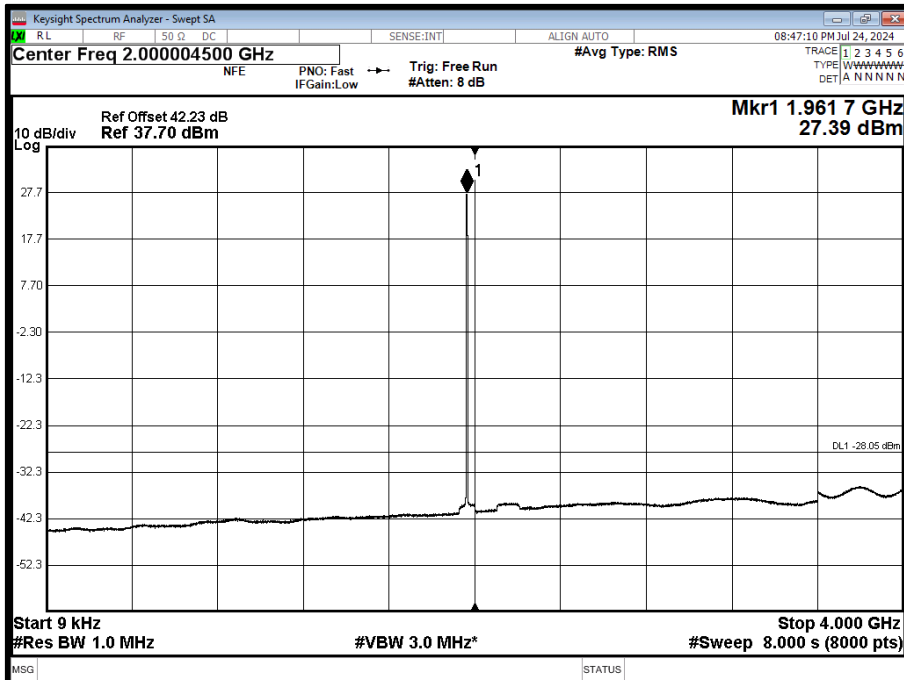
Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position B - Band 2 - Range 4000 to 22000 MHz



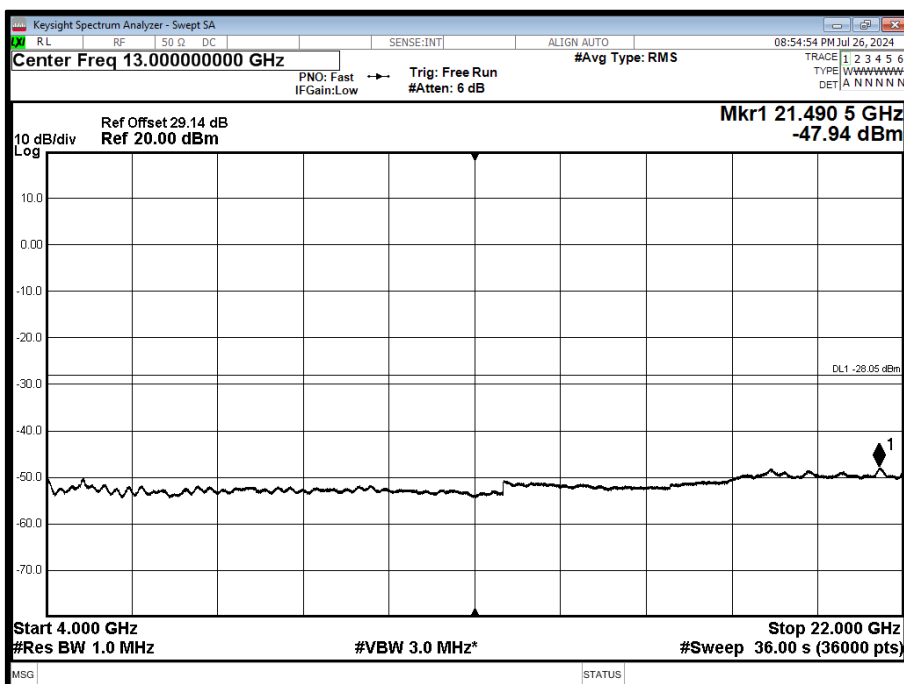




Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position M - Band 1 - Range 0.009 to 4000 MHz

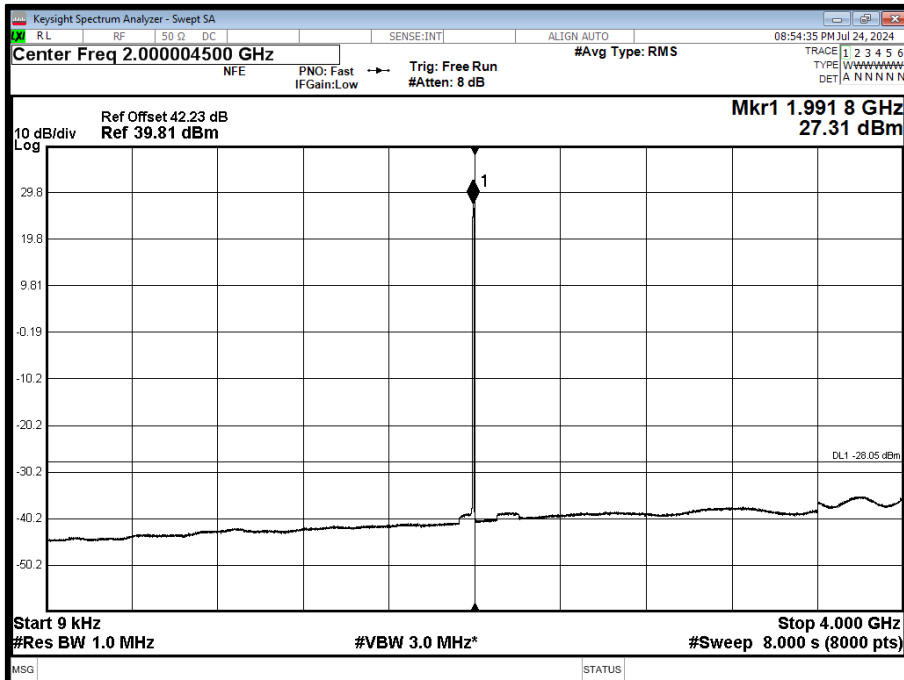


Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position M - Band 2 - Range 4000 to 22000 MHz

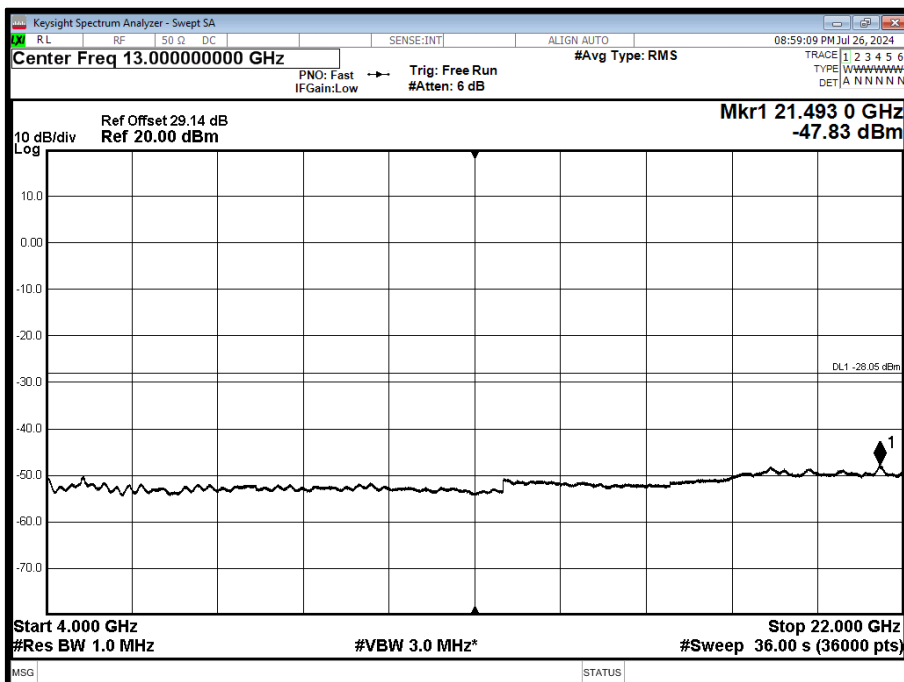




Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position T - Band 1 - Range 0.009 to 4000 MHz



Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position T - Band 2 - Range 4000 to 22000 MHz

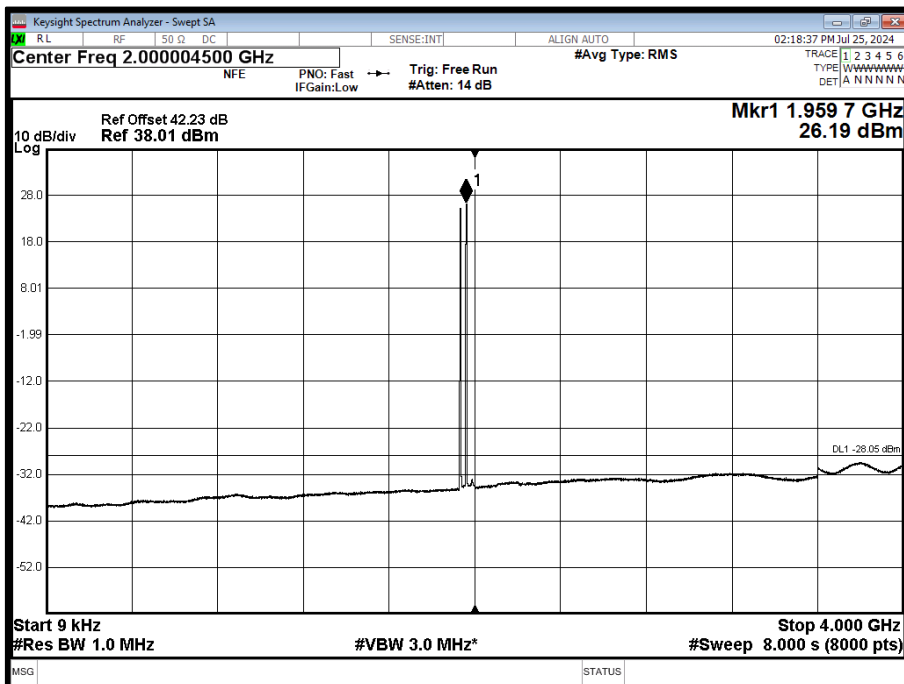




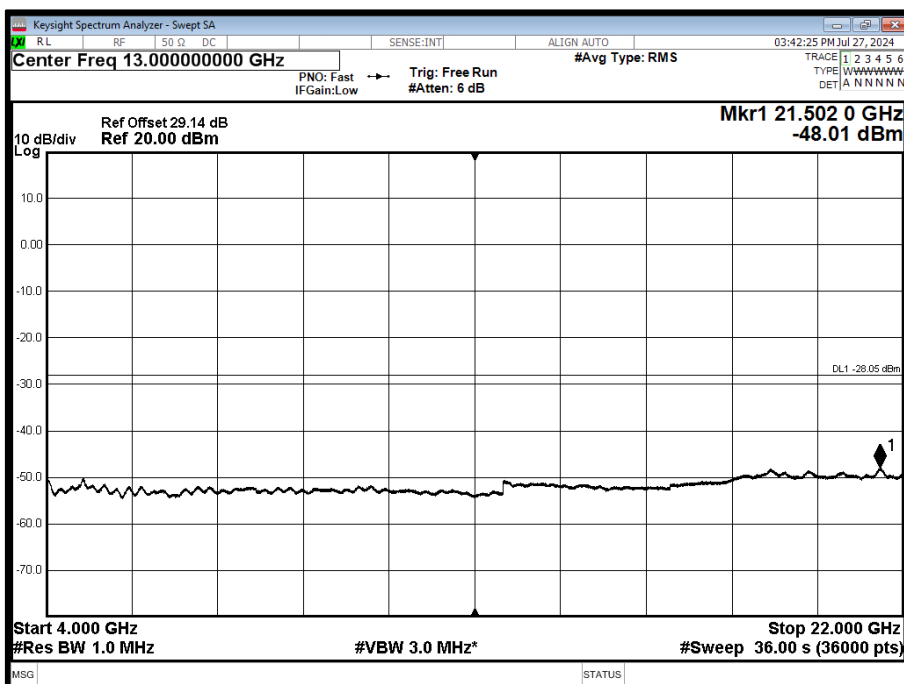
### Configuration 2

Maximum Output Power 2 x 35.74 dBm

Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5 MHz - Channel Position B - Band 1 - Range 0.009 to 4000 MHz

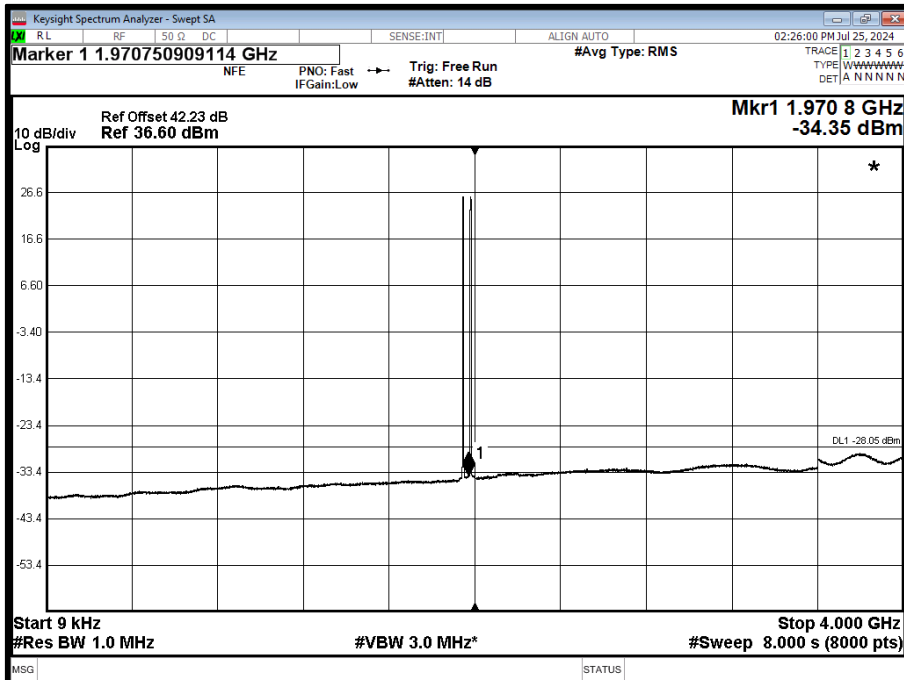


Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5 MHz - Channel Position B - Band 2 - Range 4000 to 26000 MHz

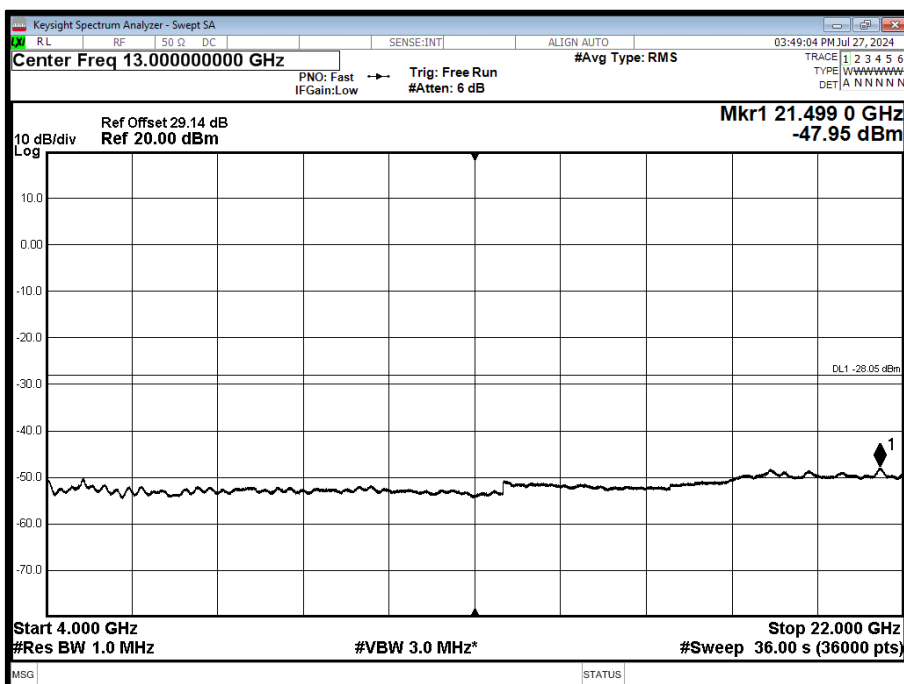




Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5 MHz - Channel Position M - Band 1 - Range 0.009 to 4000 MHz

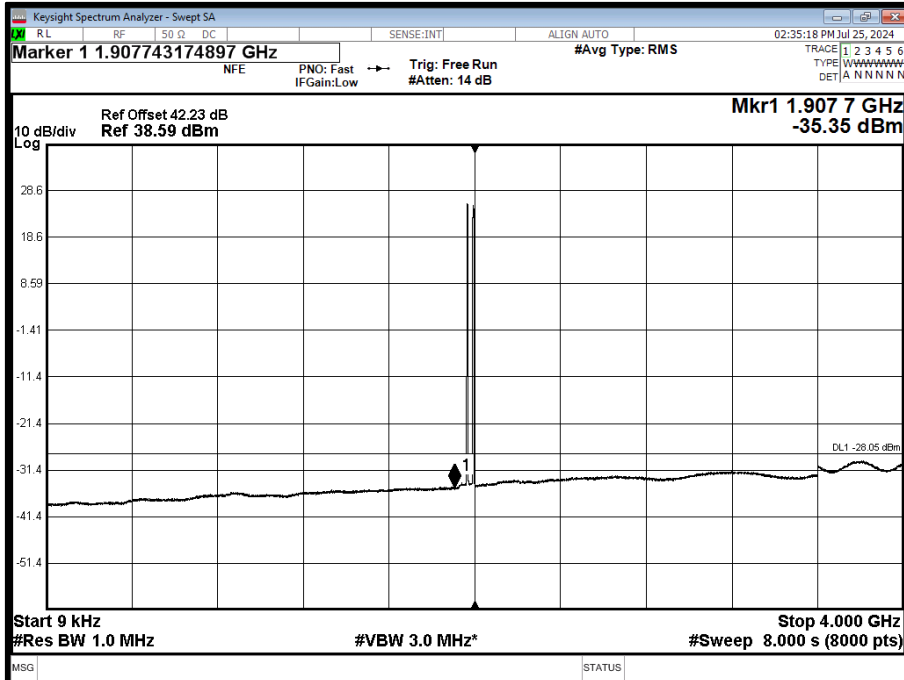


Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5 MHz - Channel Position M - Band 2 - Range 4000 to 26000 MHz

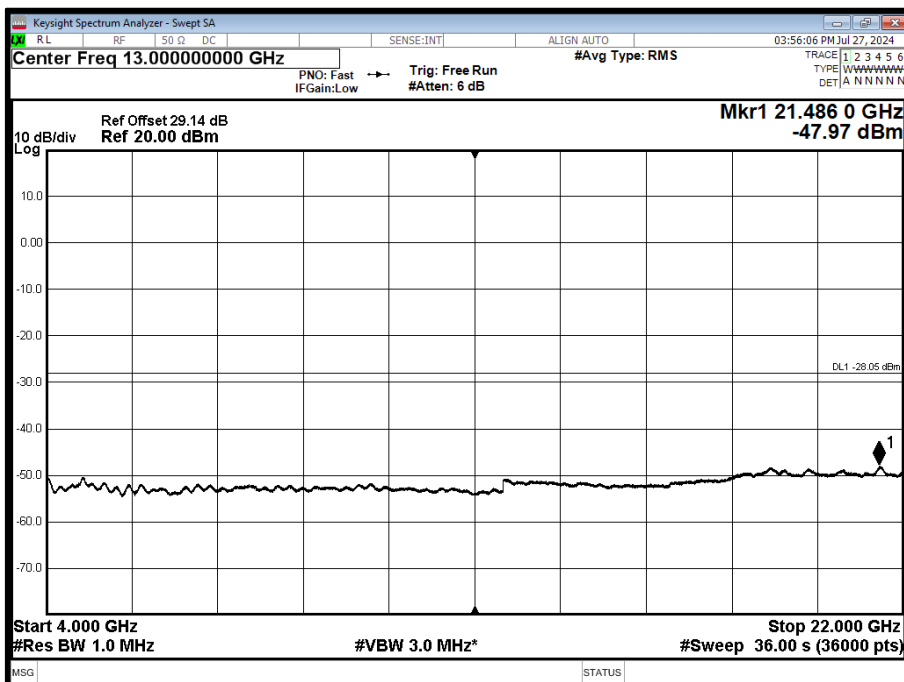




Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5 MHz - Channel Position T - Band 1 - Range 0.009 to 4000 MHz



Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5 MHz - Channel Position T - Band 2 - Range 4000 to 26000 MHz

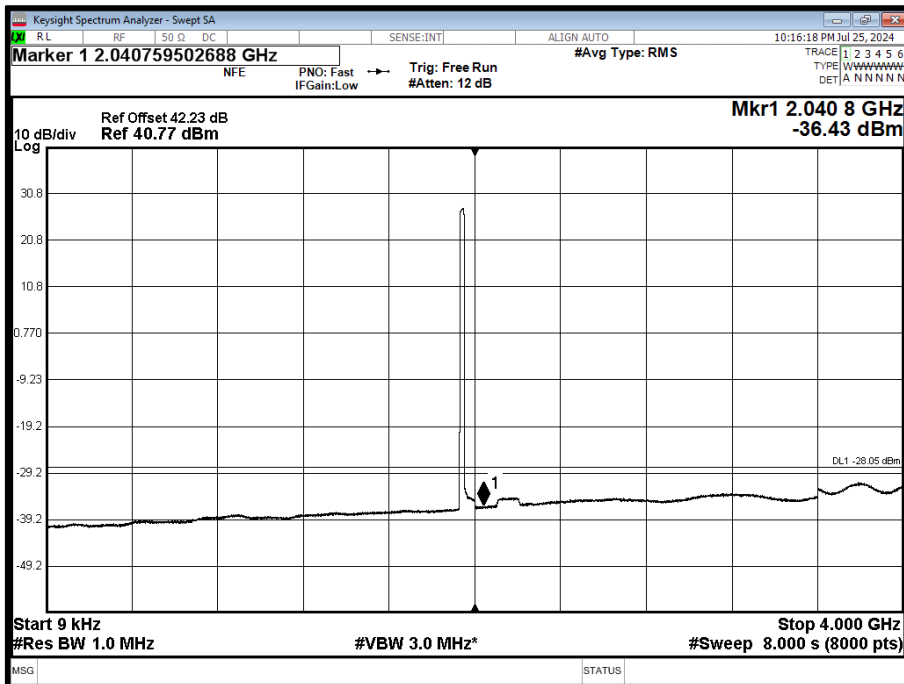




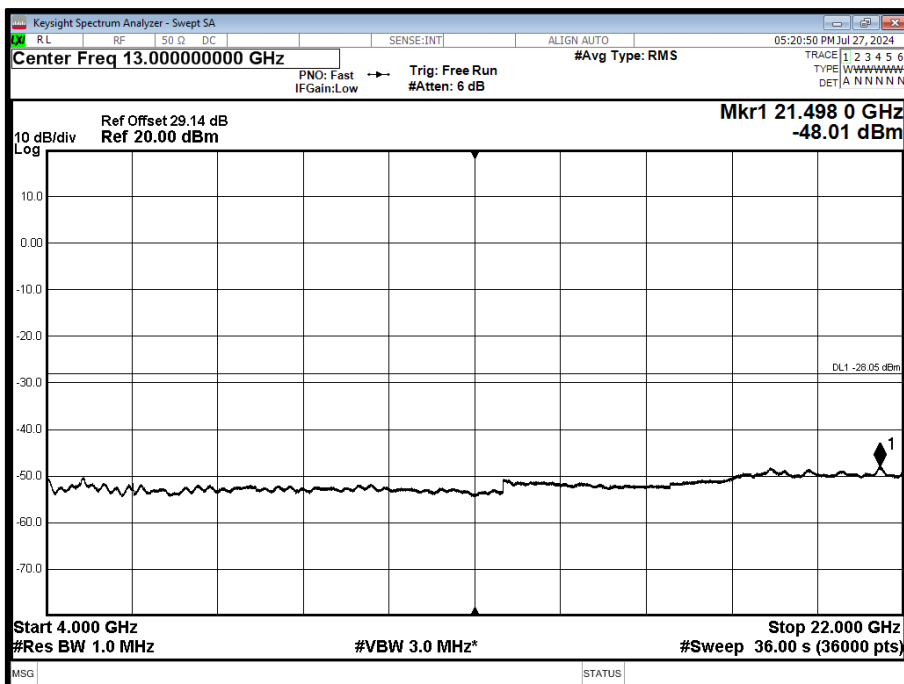
Configuration 3

Maximum Output Power 38.75 dBm

Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 15 kHz SCS - Channel Position B - Band 1 - Range 0.009 to 4000 MHz

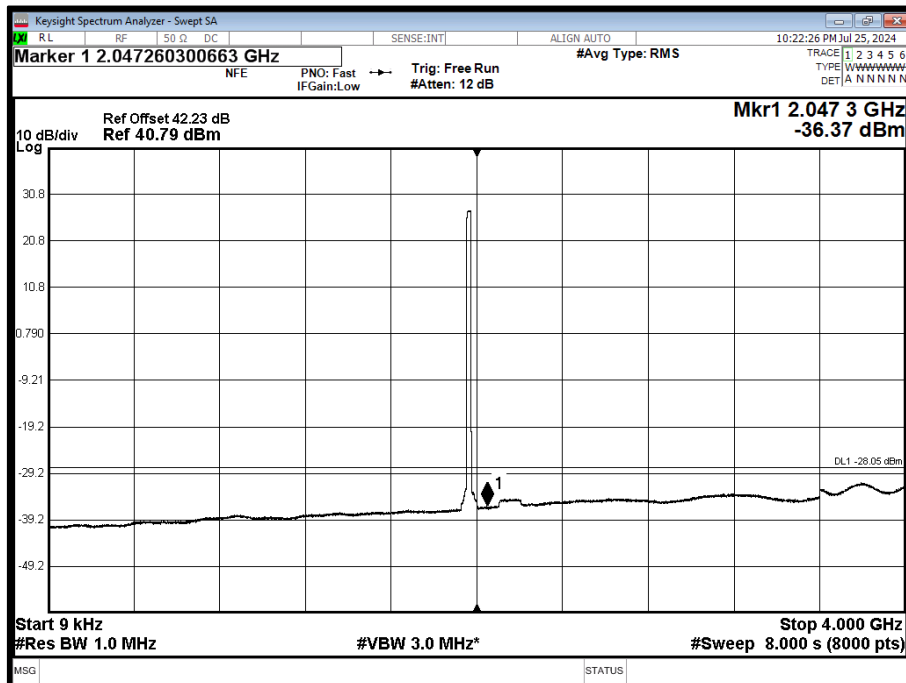


Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 15 kHz SCS - Channel Position B - Band 2 - Range 4000 to 22000 MHz

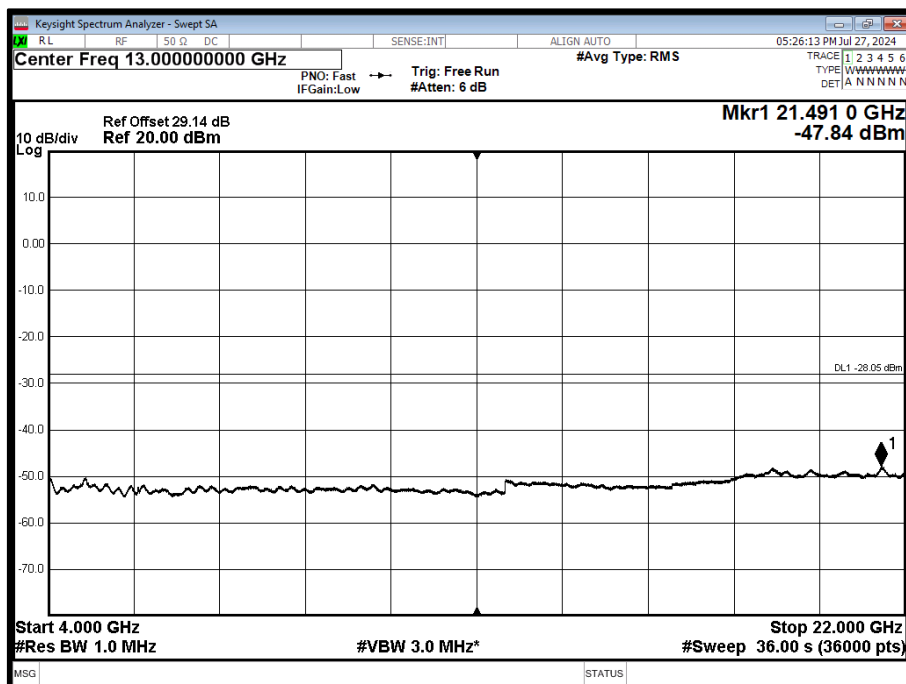




Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 15 kHz SCS - Channel Position M - Band 1 - Range 0.009 to 4000 MHz

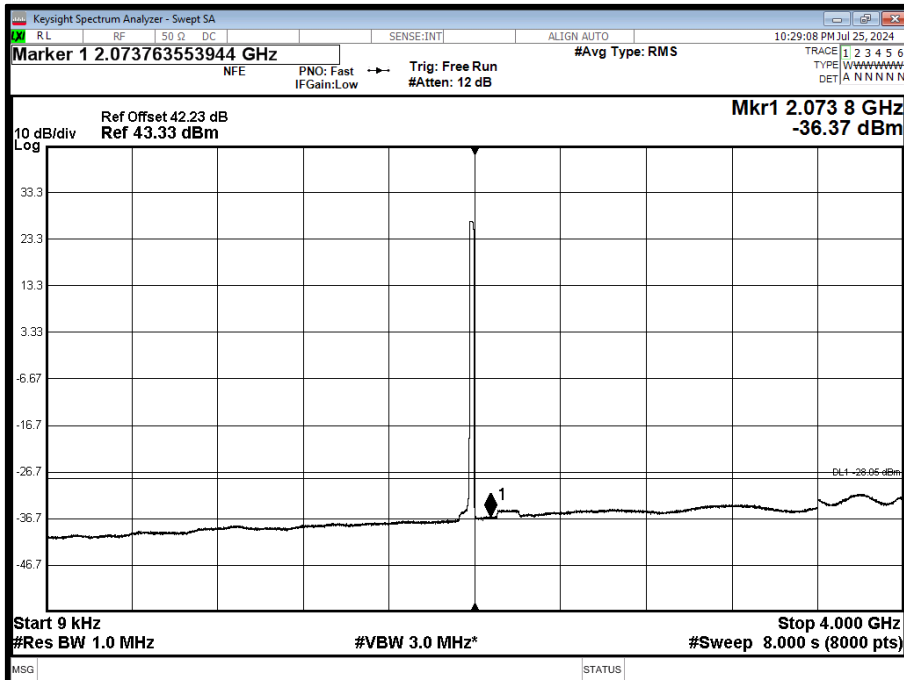


Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 15 kHz SCS - Channel Position M - Band 2 - Range 4000 to 22000 MHz

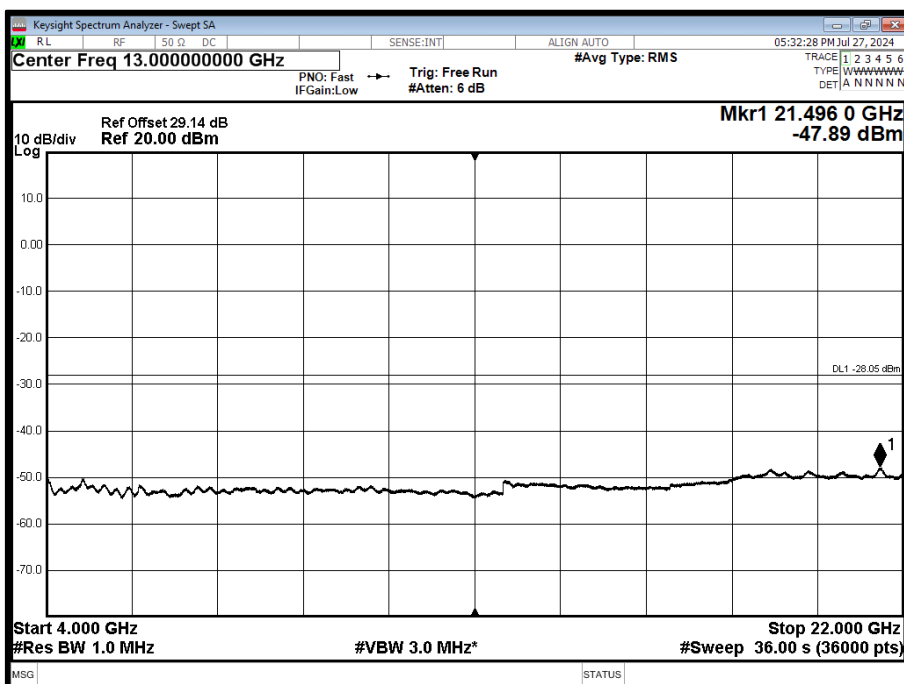




Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 15 kHz SCS - Channel Position T - Band 1 - Range 0.009 to 4000 MHz



Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 15 kHz SCS - Channel Position T - Band 2 - Range 4000 to 22000 MHz



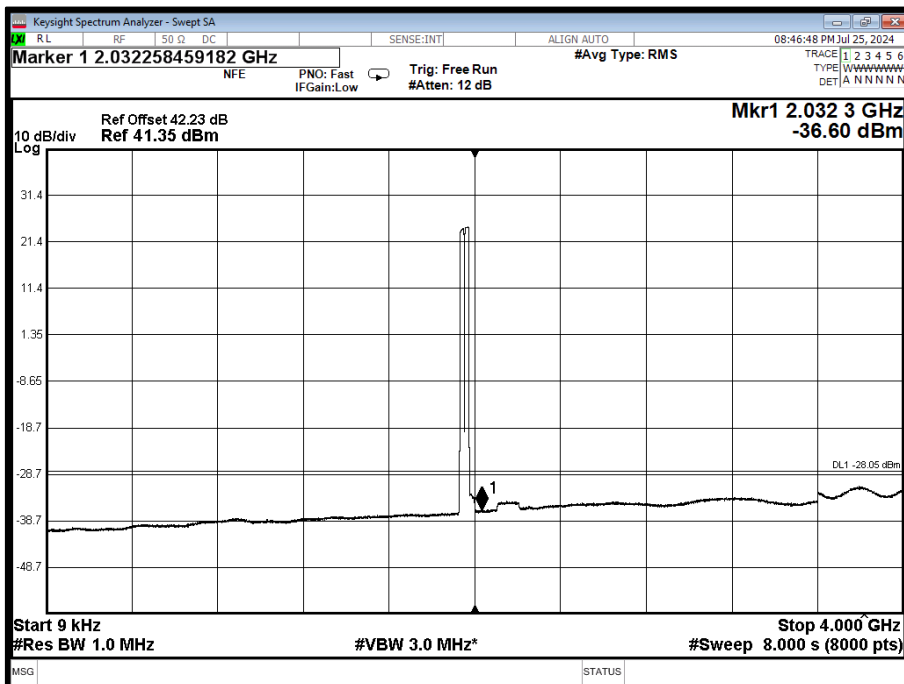




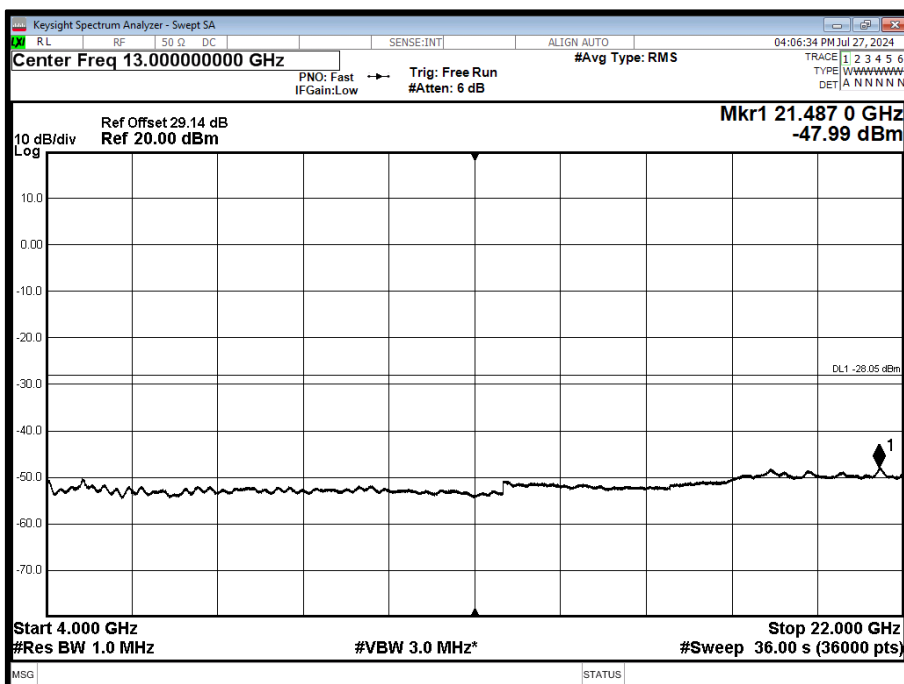
Configuration 4

Maximum Output Power 2 x 35.74 dBm

Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 15 kHz SCS - Channel Position B - Band 1 - Range 0.009 to 4000 MHz

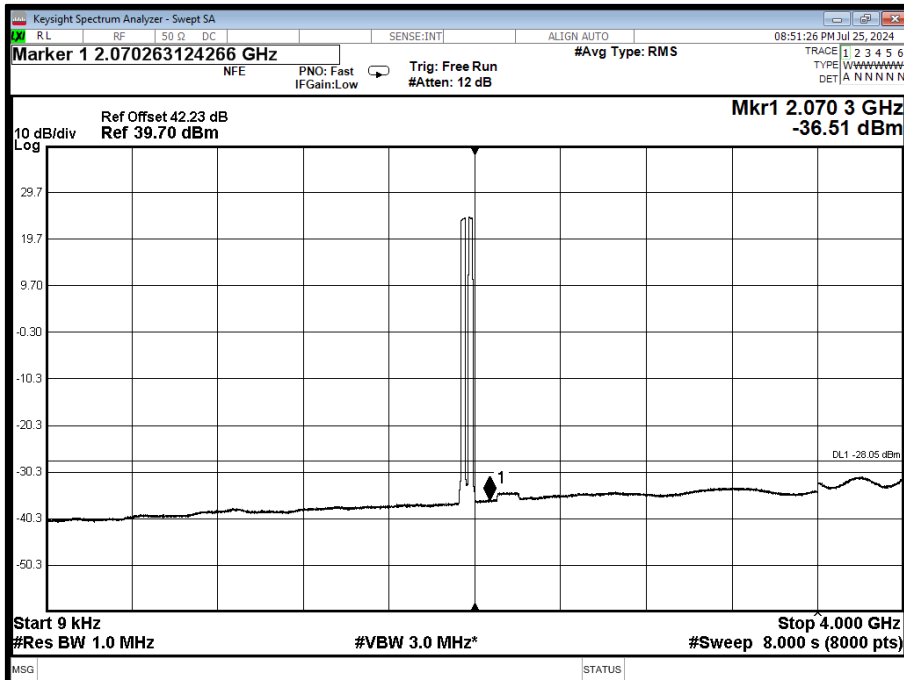


Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 15 kHz SCS - Channel Position B - Band 2 - Range 4000 to 26000 MHz

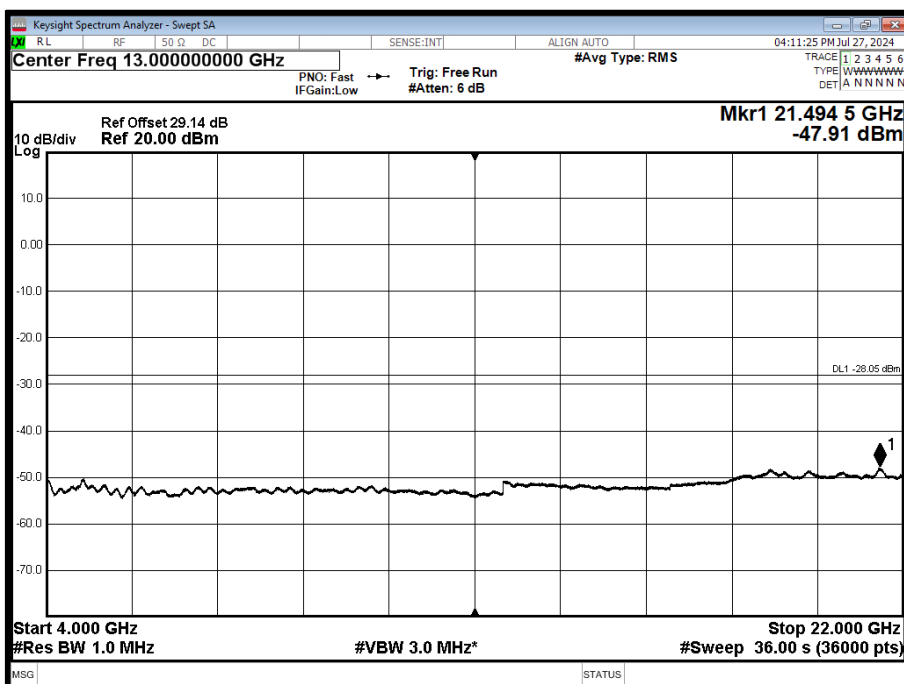




Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 15 kHz SCS - Channel Position M - Band 1 - Range 0.009 to 4000 MHz

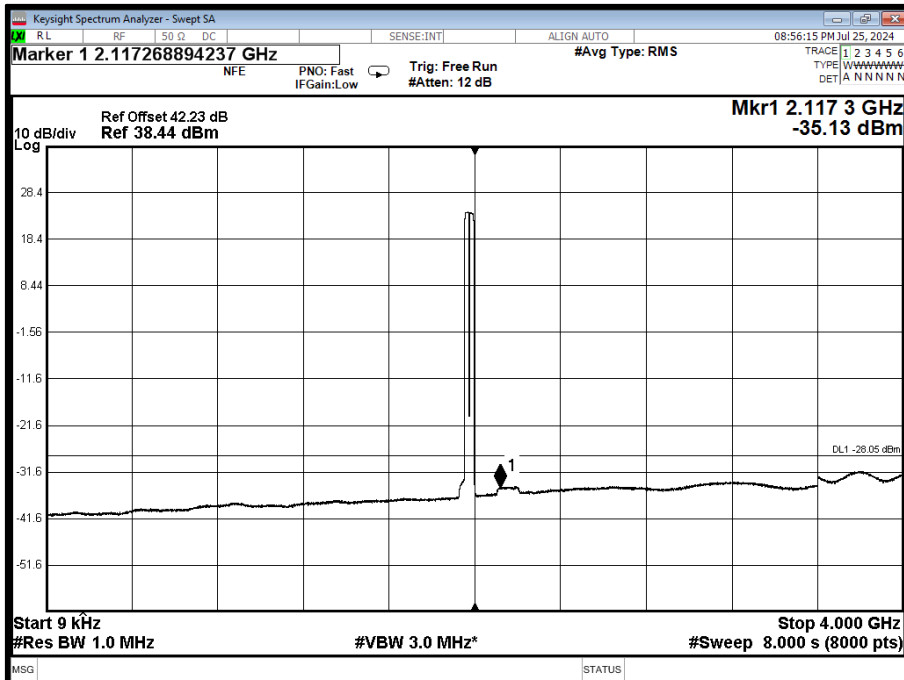


Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 15 kHz SCS - Channel Position M - Band 2 - Range 4000 to 26000 MHz

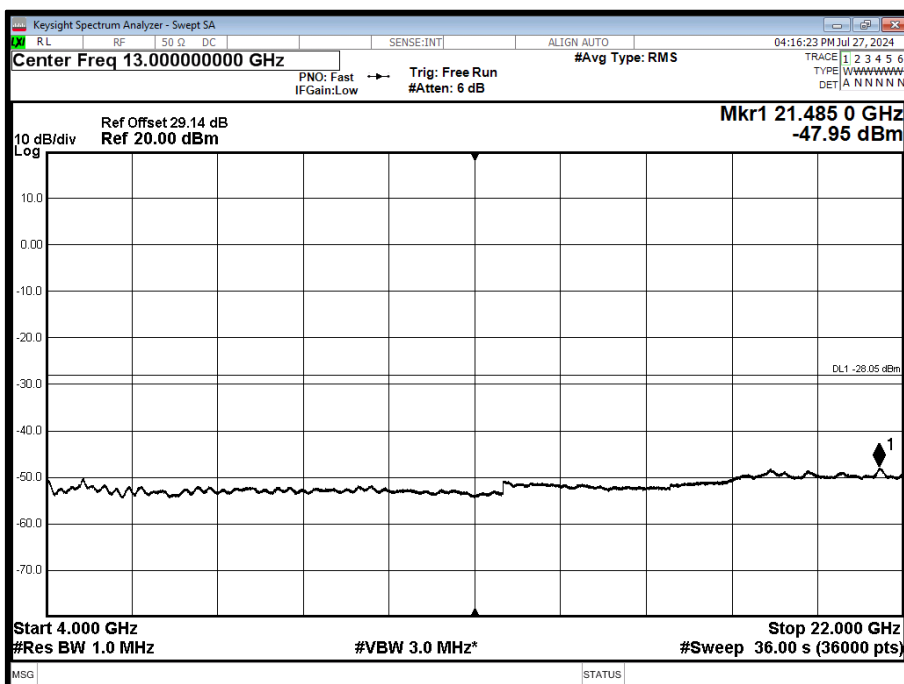




Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 15 kHz SCS - Channel Position T - Band 1 - Range 0.009 to 4000 MHz



Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 15 kHz SCS - Channel Position T - Band 2 - Range 4000 to 26000 MHz

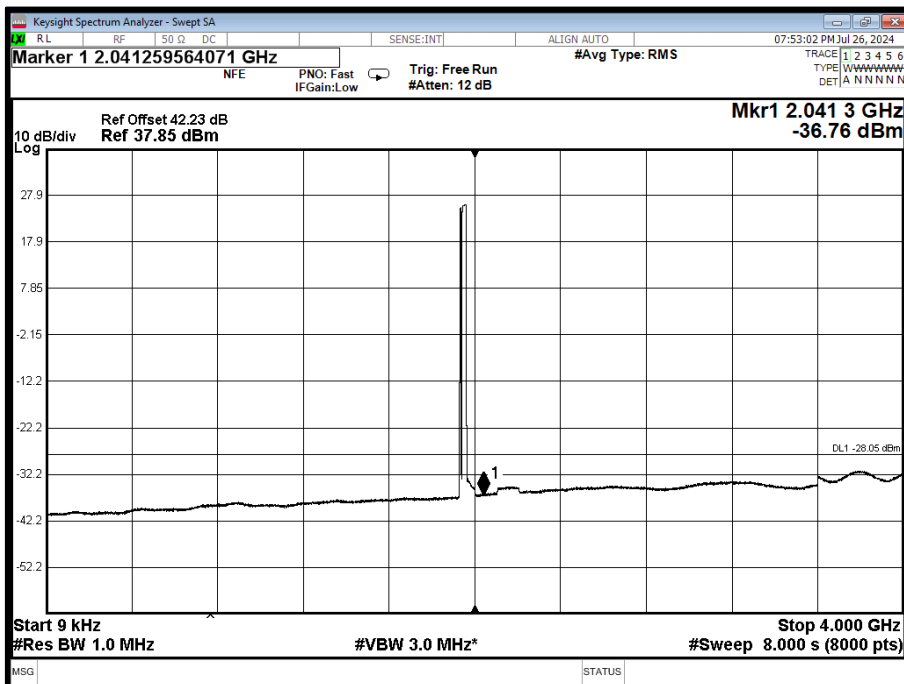




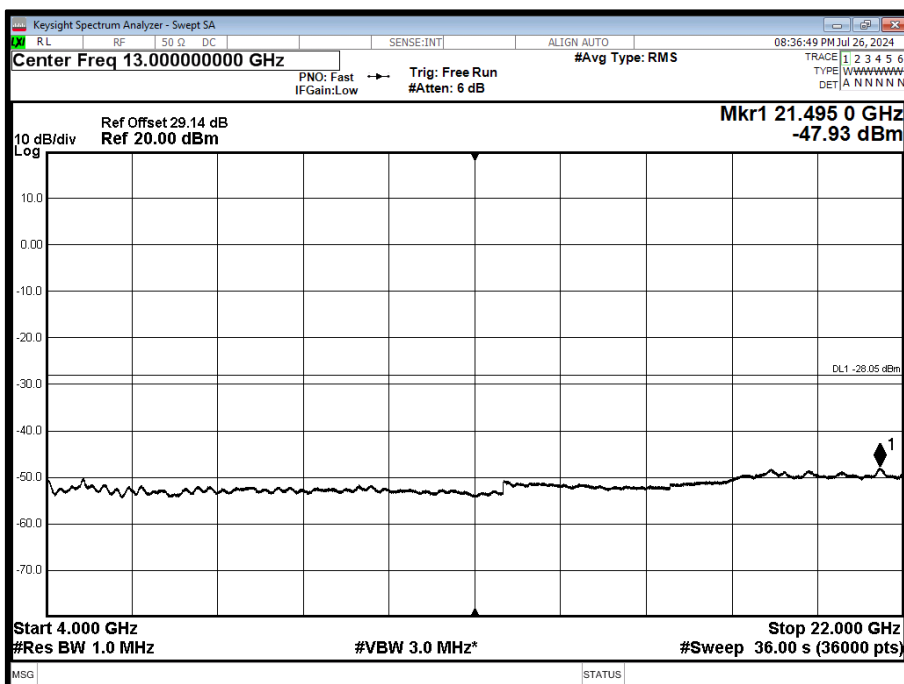
Configuration 5

Maximum Output Power 30.96(LTE)+ 36.98(NR) dBm

Antenna 28 - LTE / NR Modulation 64QAM / QPSK - LTE / NR Carrier Bandwidth 5 MHz / 20.0 MHz 15 kHz SCS - Channel Position B - Band 1 - Range 0.009 to 4000 MHz

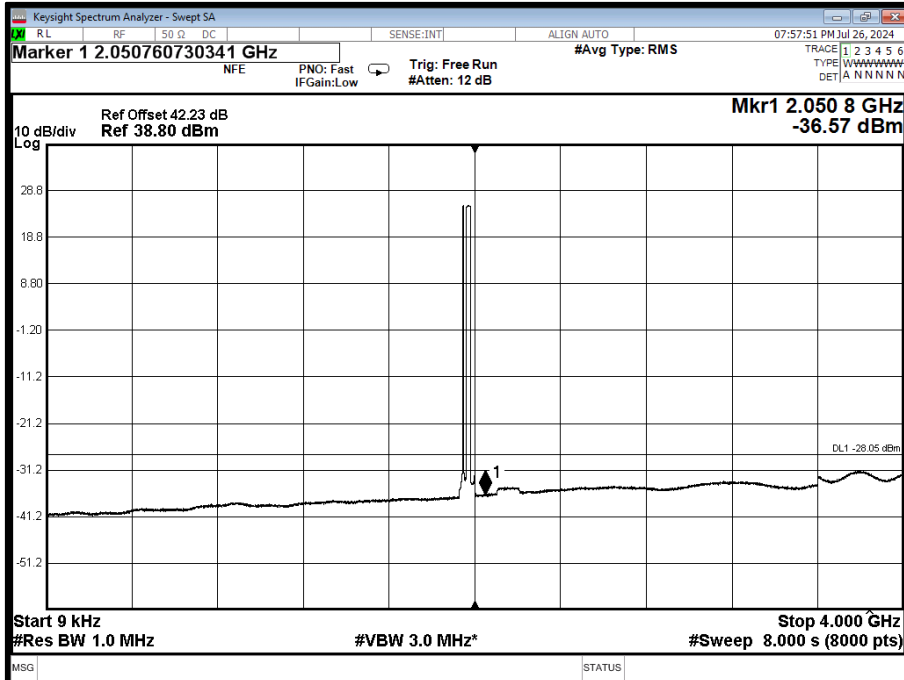


Antenna 28 - LTE / NR Modulation 64QAM / QPSK - LTE / NR Carrier Bandwidth 5 MHz / 20.0 MHz 15 kHz SCS - Channel Position B - Band 2 - Range 4000 to 26000 MHz

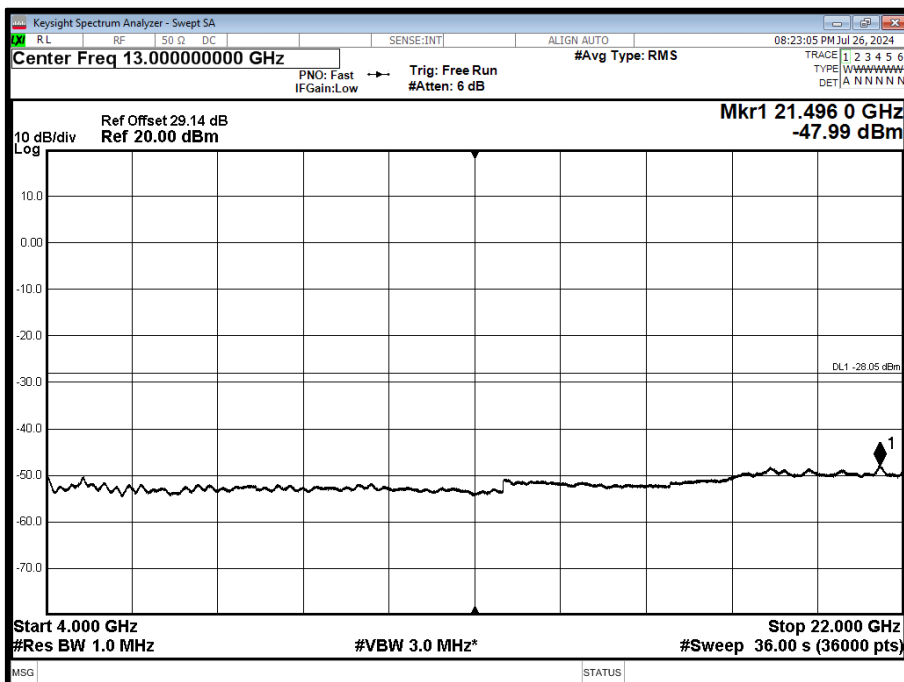




Antenna 28 - LTE / NR Modulation 64QAM / QPSK - LTE / NR Carrier Bandwidth 5 MHz / 20.0 MHz 15 kHz SCS - Channel Position M - Band 1 - Range 0.009 to 4000 MHz

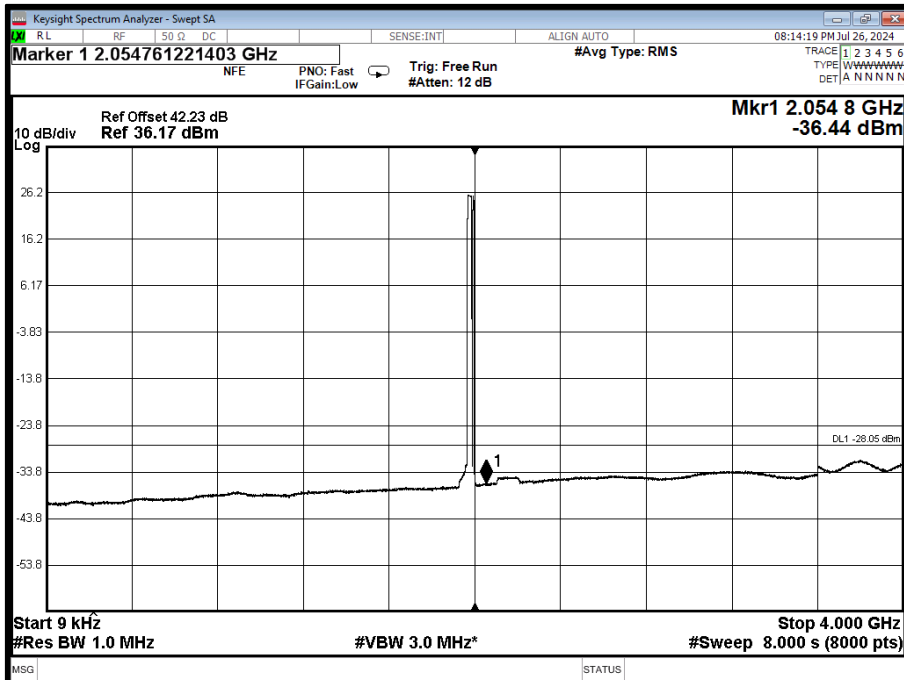


Antenna 28 - LTE / NR Modulation 64QAM / QPSK - LTE / NR Carrier Bandwidth 5 MHz / 20.0 MHz 15 kHz SCS - Channel Position M - Band 2 - Range 4000 to 26000 MHz

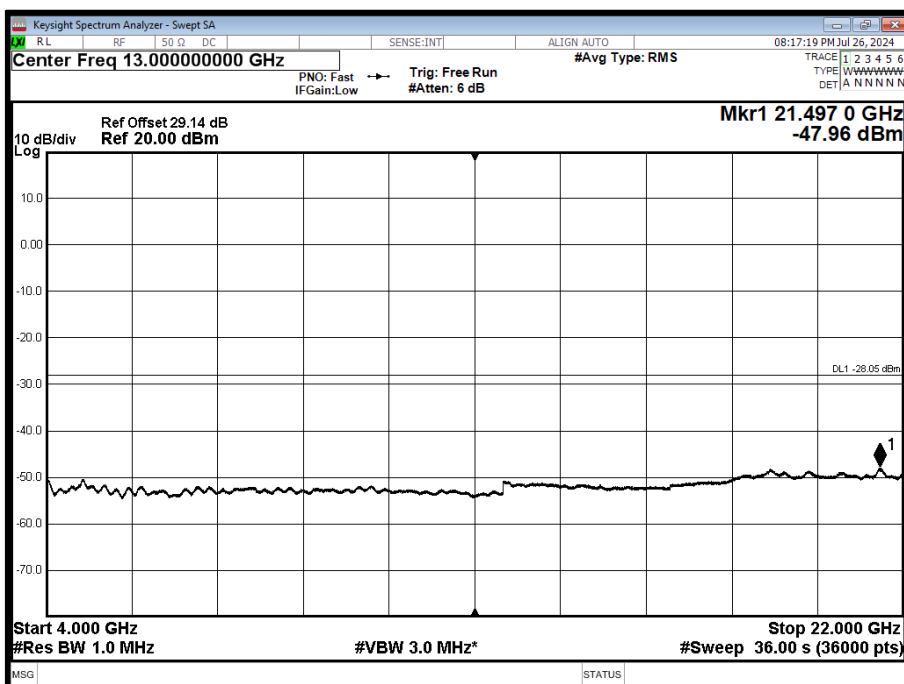




Antenna 28 - LTE / NR Modulation 64QAM / QPSK - LTE / NR Carrier Bandwidth 5 MHz / 20.0 MHz 15 kHz SCS - Channel Position T - Band 1 - Range 0.009 to 4000 MHz



Antenna 28 - LTE / NR Modulation 64QAM / QPSK - LTE / NR Carrier Bandwidth 5 MHz / 20.0 MHz 15 kHz SCS - Channel Position T - Band 2 - Range 4000 to 26000 MHz

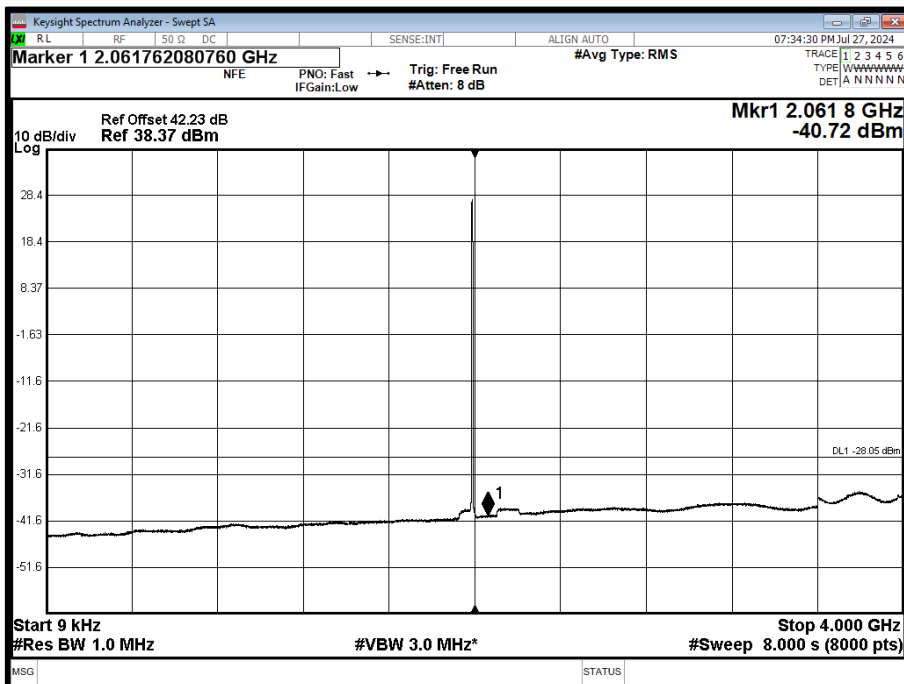




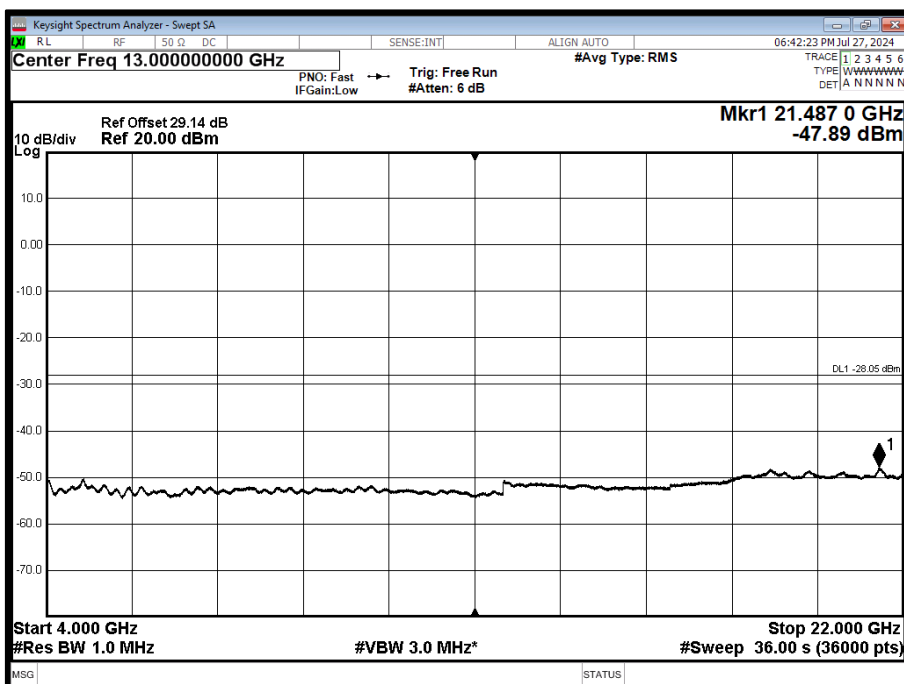
Configuration 6

Maximum Output Power 38.75 dBm

Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position T - Band 1 - Range 0.009 to 4000 MHz



Antenna 28 - LTE Modulation 64QAM - LTE Carrier Bandwidth 5.0 MHz - Channel Position T - Band 2 - Range 4000 to 22000 MHz

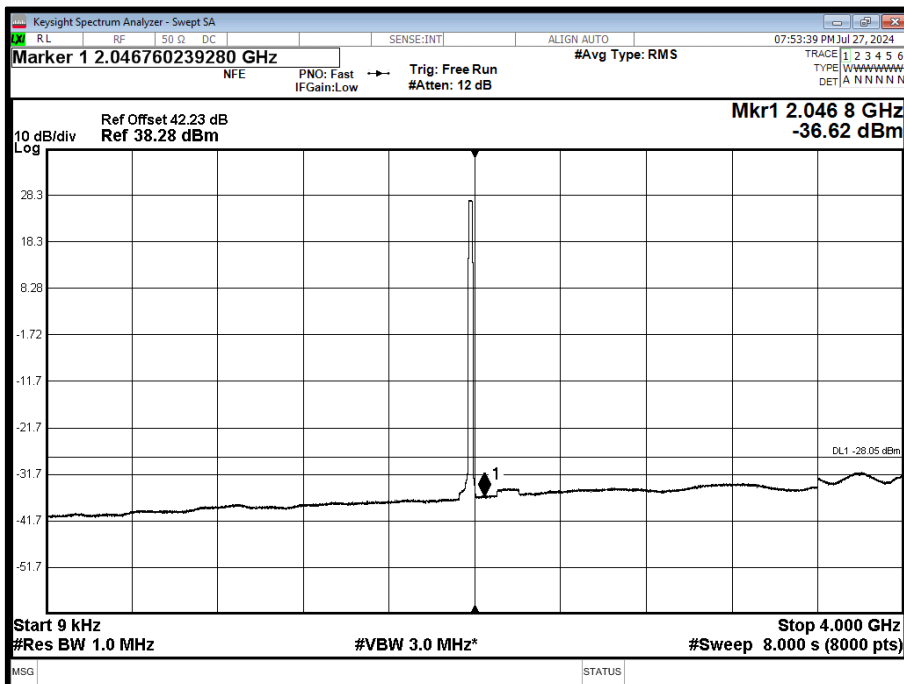




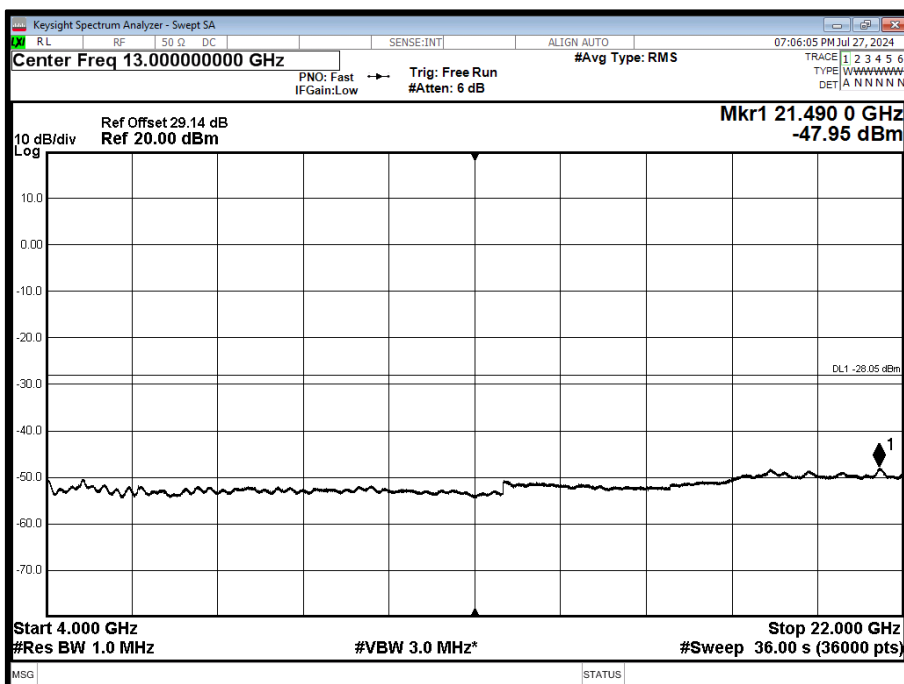
Configuration 7

Maximum Output Power 38.75 dBm

Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 15 kHz SCS - Channel Position T - Band 1 - Range 0.009 to 4000 MHz



Antenna 28 - NR Modulation QPSK - NR Carrier Bandwidth 20.0 MHz 15 kHz SCS - Channel Position T - Band 2 - Range 4000 to 22000 MHz



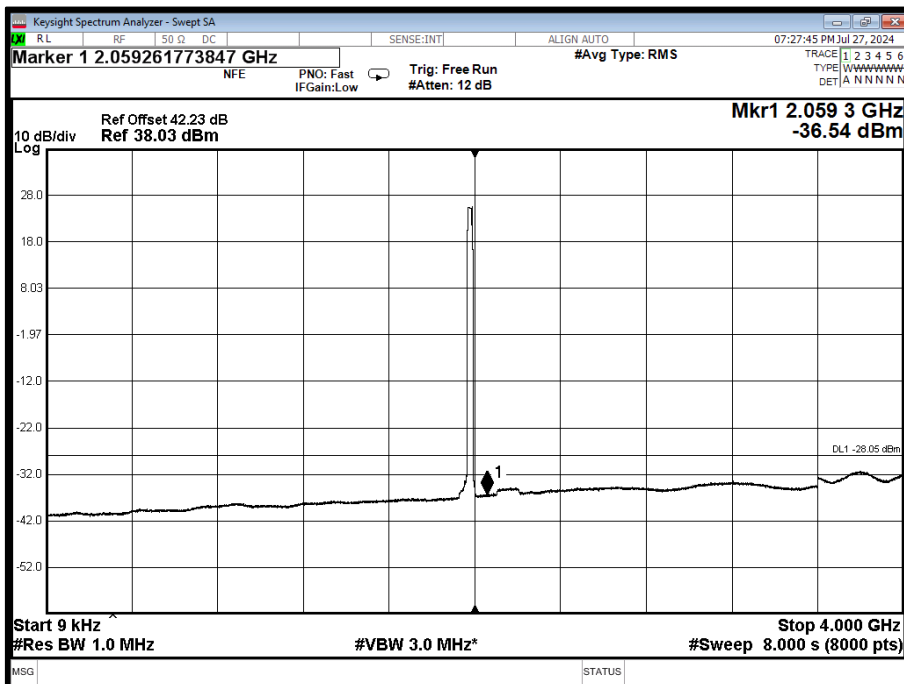




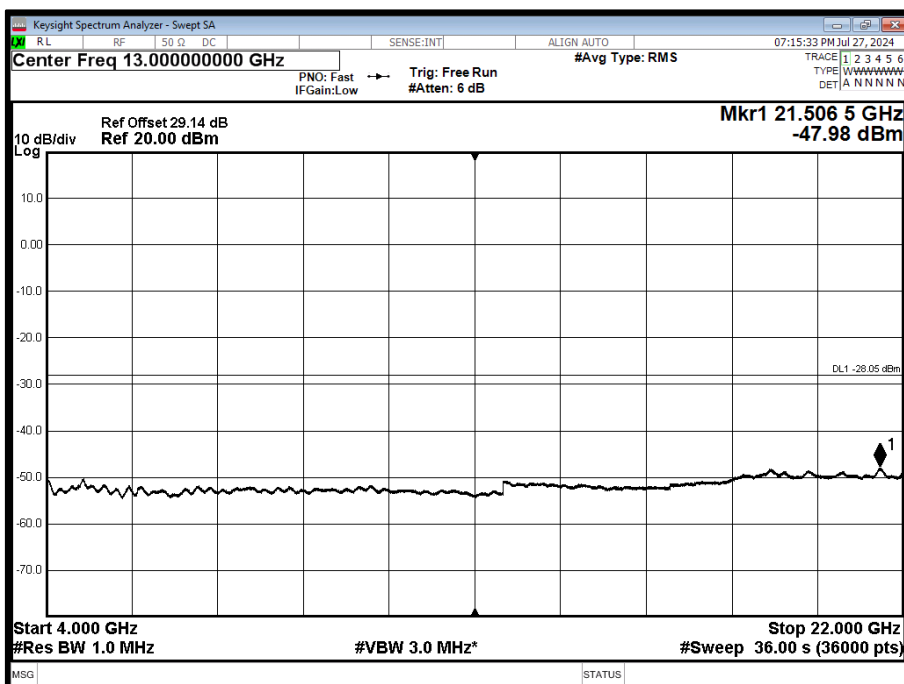
Configuration 8

Maximum Output Power 30.96(LTE)+ 36.98(NR) dBm

Antenna 28 - LTE / NR Modulation 64QAM / QPSK - LTE / NR Carrier Bandwidth 5 MHz / 20.0 MHz 15 kHz SCS - Channel Position T - Band 1 - Range 0.009 to 4000 MHz



Antenna 28 - LTE / NR Modulation 64QAM / QPSK - LTE / NR Carrier Bandwidth 5 MHz / 20.0 MHz 15 kHz SCS - Channel Position T - Band 2 - Range 4000 to 26000 MHz

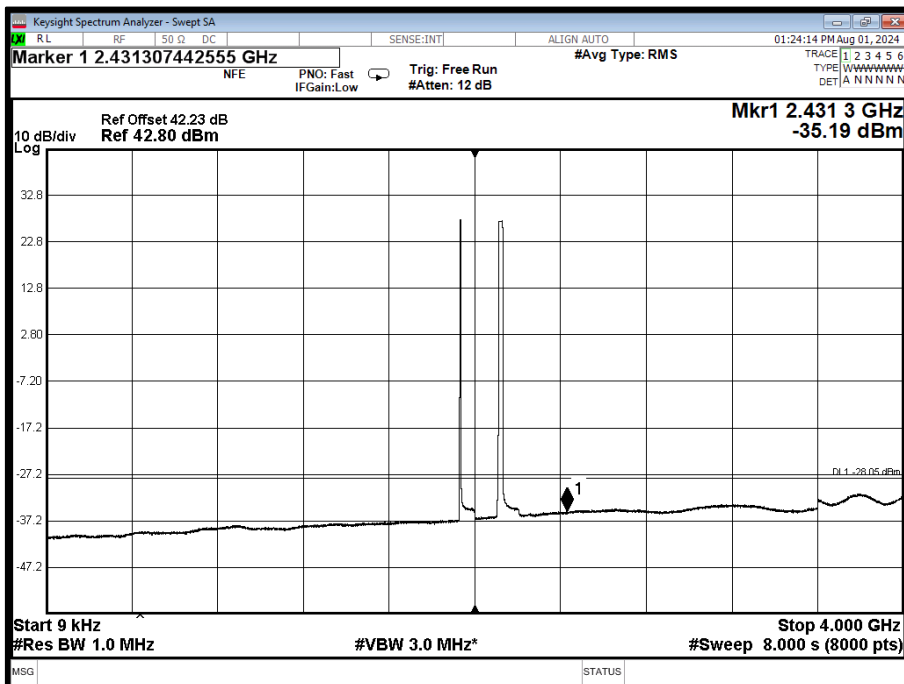




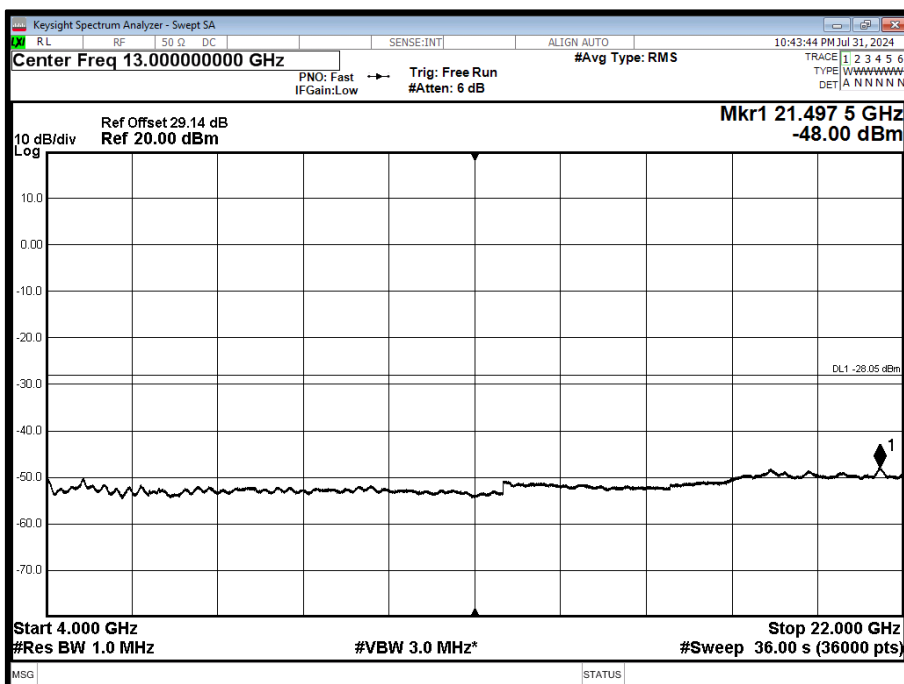
Configuration 9

Maximum Output Power 32.74(LTE)+ 38.75(NR) dBm

Antenna 28 - LTE / NR Modulation 64QAM / QPSK - LTE / NR Carrier Bandwidth 5 MHz / 20.0 MHz 15 kHz SCS - Channel Position B- Band 1 - Range 0.009 to 4000 MHz

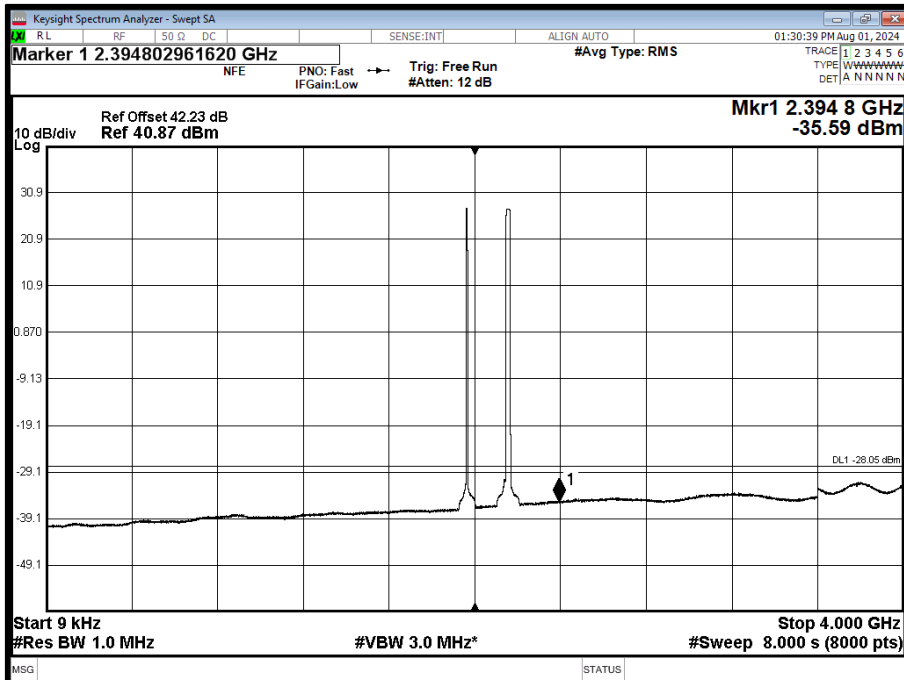


Antenna 28 - LTE / NR Modulation 64QAM / QPSK - LTE / NR Carrier Bandwidth 5 MHz / 20.0 MHz 15 kHz SCS - Channel Position B- Band 2 - Range 4000 to 26000 MHz

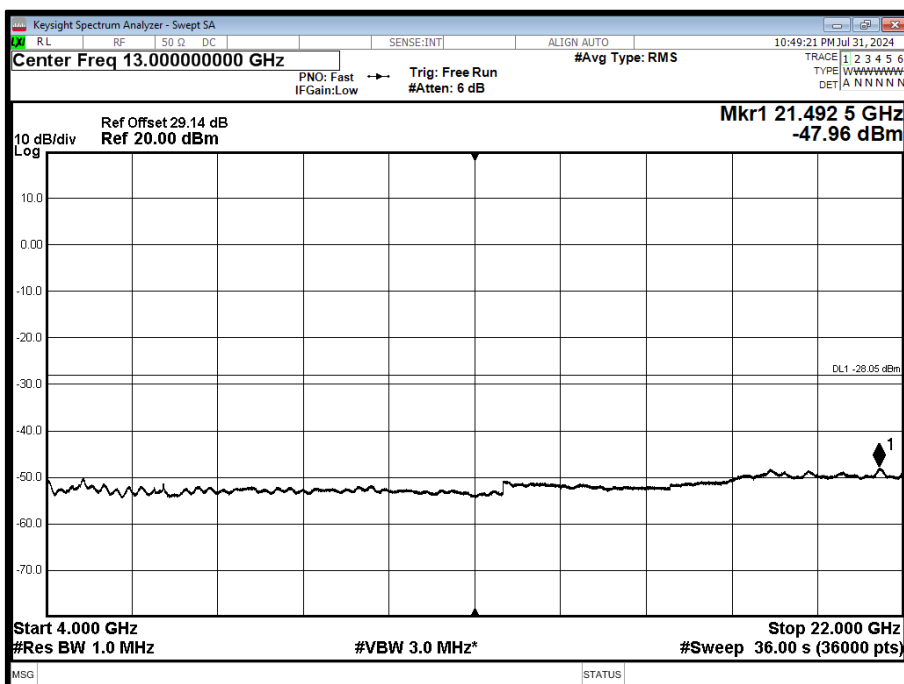




Antenna 28 - LTE / NR Modulation 64QAM / QPSK - LTE / NR Carrier Bandwidth 5 MHz / 20.0 MHz 15 kHz SCS - Channel Position M- Band 1 - Range 0.009 to 4000 MHz

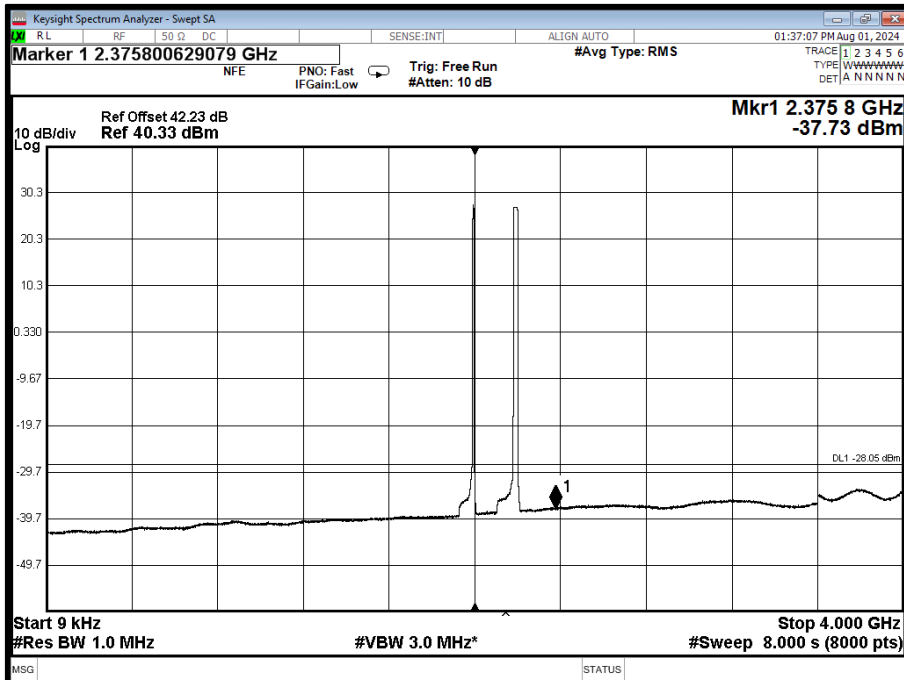


Antenna 28 - LTE / NR Modulation 64QAM / QPSK - LTE / NR Carrier Bandwidth 5 MHz / 20.0 MHz 15 kHz SCS - Channel Position M- Band 2 - Range 4000 to 26000 MHz

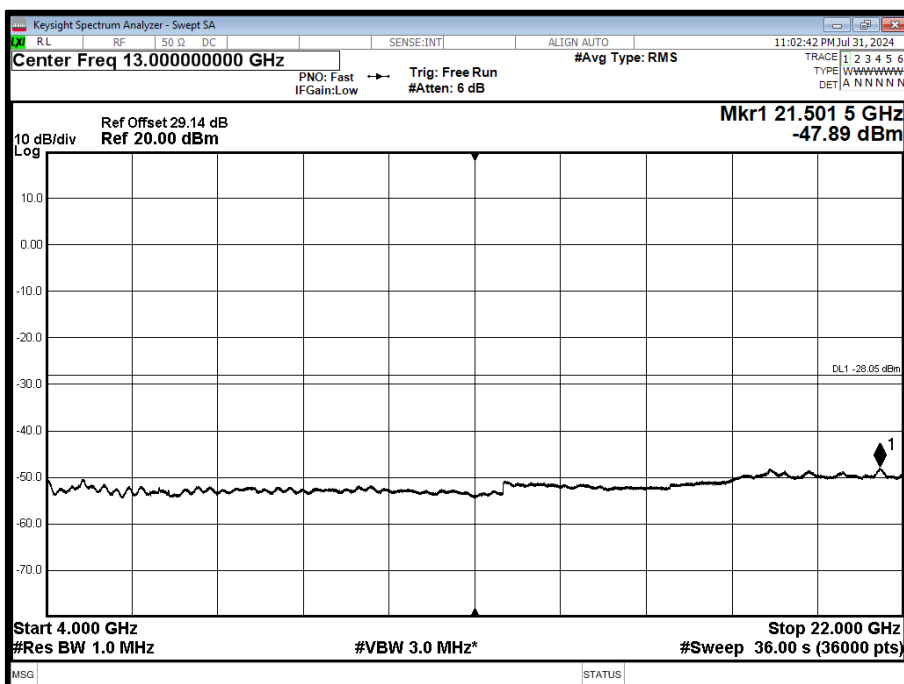




Antenna 28 - LTE / NR Modulation 64QAM / QPSK - LTE / NR Carrier Bandwidth 5 MHz / 20.0 MHz 15 kHz SCS - Channel Position T- Band 1 - Range 0.009 to 4000 MHz



Antenna 28 - LTE / NR Modulation 64QAM / QPSK - LTE / NR Carrier Bandwidth 5 MHz / 20.0 MHz 15 kHz SCS - Channel Position T- Band 2 - Range 4000 to 26000 MHz

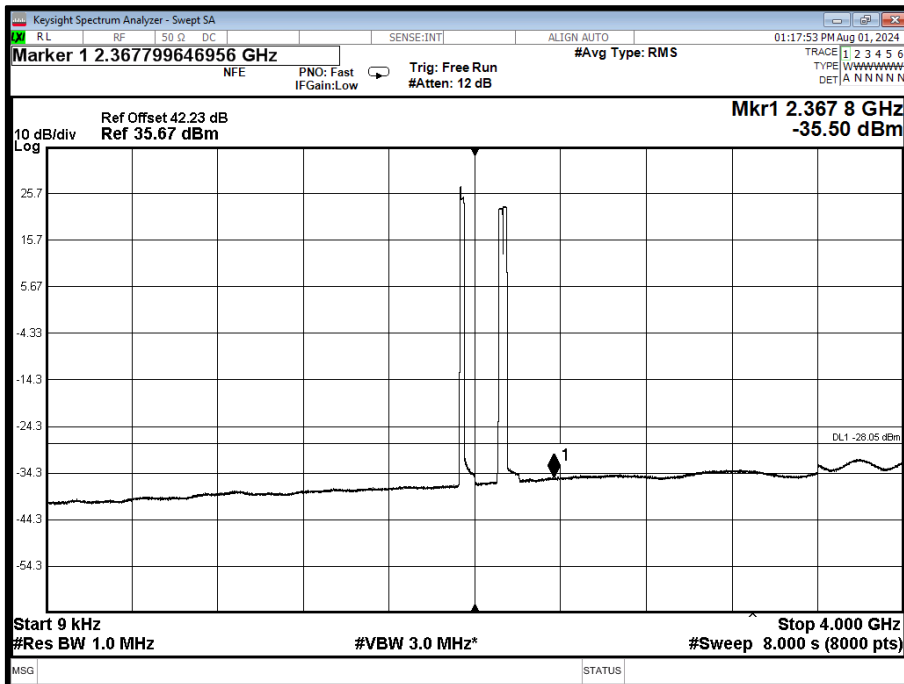




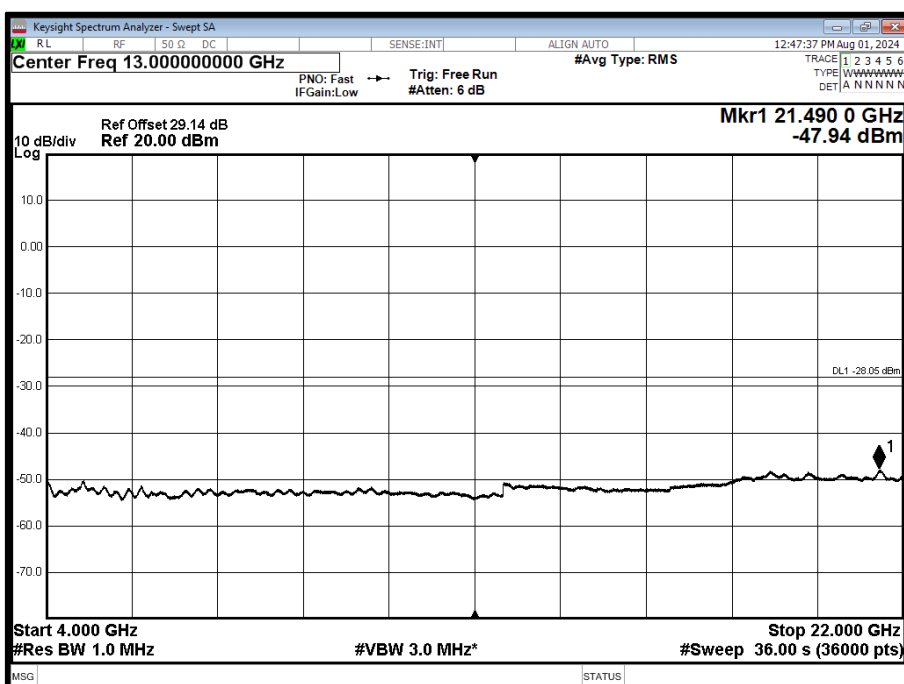
Configuration 10

Maximum Output Power 29.72(LTE)+35.74(NR)+ 33.97(LTE)+33.97(NR) dBm

Antenna 28 - LTE / NR Modulation LTE-64QAM Band25 +NR-QPSK Band25 +LTE-QPSK Band66+NR-QPSK Band66 - LTE / NR Carrier Bandwidth LTE-5M Band25 +NR-20M Band25 +LTE-20M Band66+NR-20M Band66 - Channel Position B- Band 1 - Range 0.009 to 4000 MHz

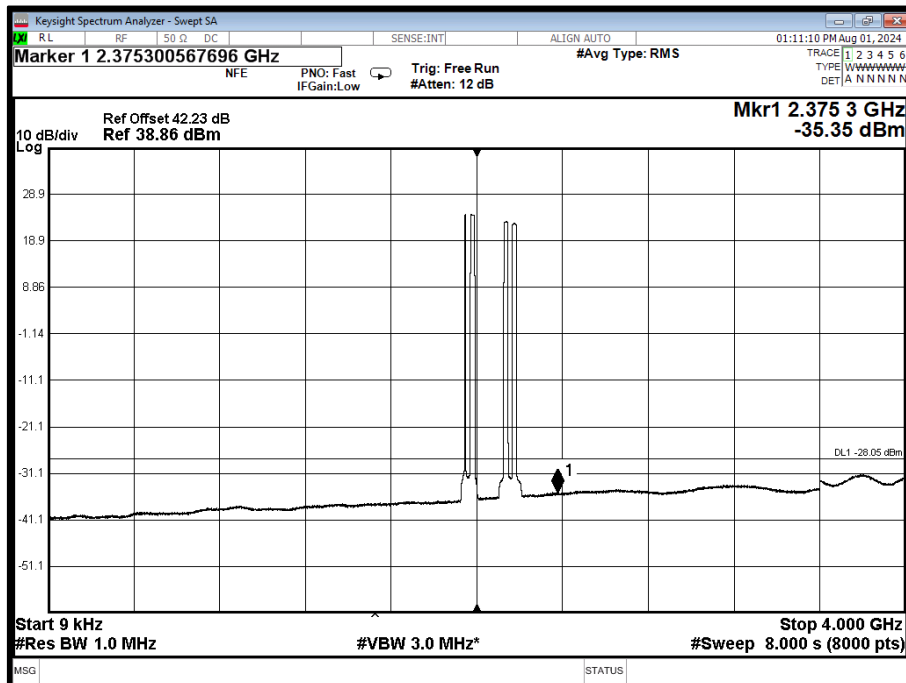


Antenna 28 - LTE / NR Modulation LTE-64QAM Band25 +NR-QPSK Band25 +LTE-QPSK Band66+NR-QPSK Band66 - LTE / NR Carrier Bandwidth LTE-5M Band25 +NR-20M Band25 +LTE-20M Band66+NR-20M Band66 - Channel Position B- Band 2 - Range 4000 to 26000 MHz

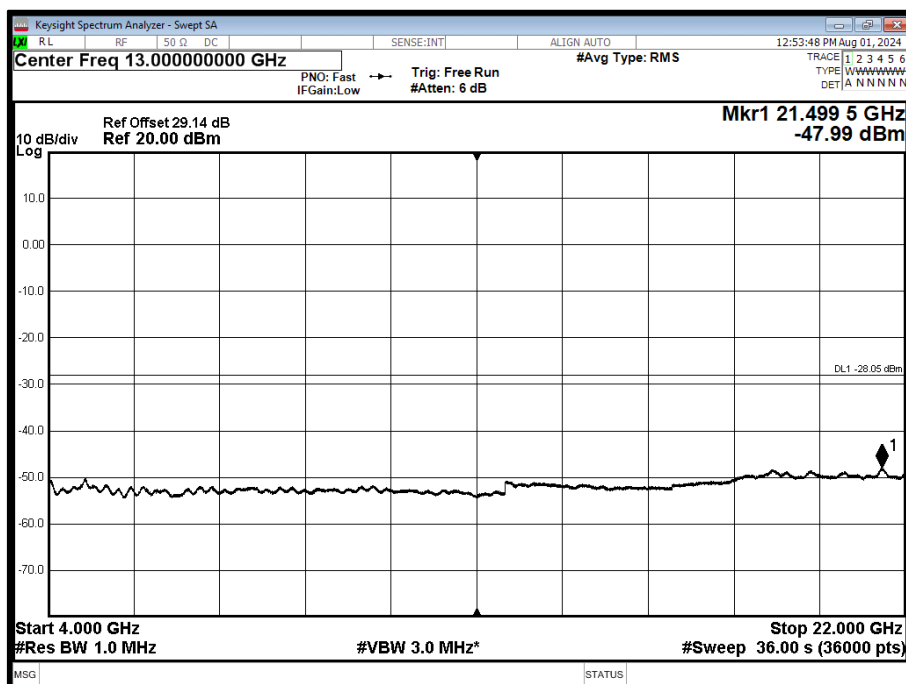




Antenna 28 - LTE / NR Modulation LTE-64QAM Band25 +NR-QPSK Band25 +LTE-QPSK Band66+NR-QPSK Band66 - LTE / NR Carrier Bandwidth LTE-5M Band25 +NR-20M Band25 +LTE-20M Band66+NR-20M Band66 - Channel Position M- Band 1 - Range 0.009 to 4000 MHz

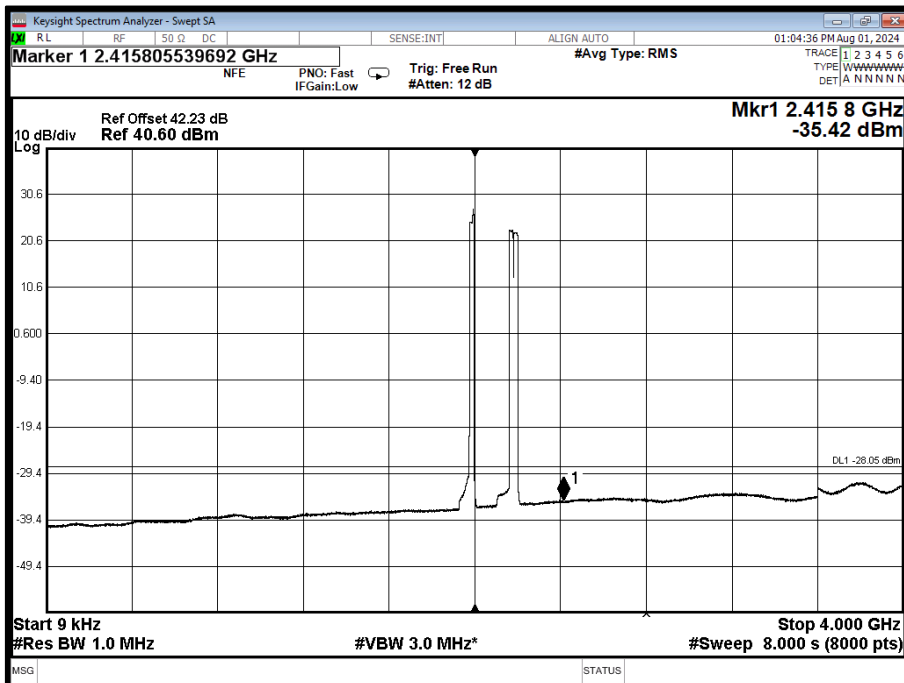


Antenna 28 - LTE / NR Modulation LTE-64QAM Band25 +NR-QPSK Band25 +LTE-QPSK Band66+NR-QPSK Band66 - LTE / NR Carrier Bandwidth LTE-5M Band25 +NR-20M Band25 +LTE-20M Band66+NR-20M Band66 - Channel Position M- Band 2 - Range 4000 to 26000 MHz

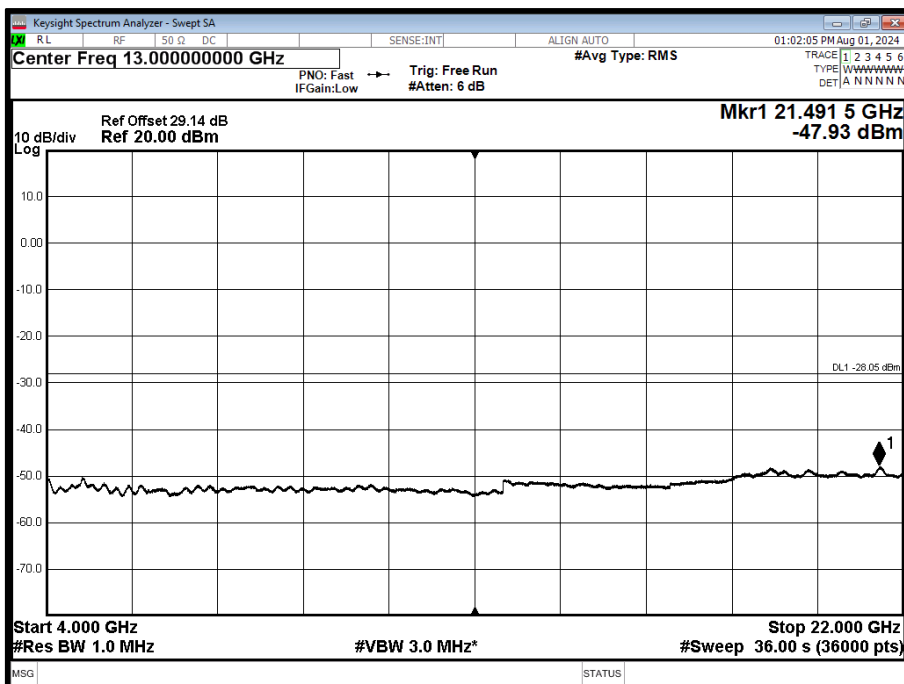




Antenna 28 - LTE / NR Modulation LTE-64QAM Band25 +NR-QPSK Band25 +LTE-QPSK Band66+NR-QPSK Band66 - LTE / NR Carrier Bandwidth LTE-5M Band25 +NR-20M Band25 +LTE-20M Band66+NR-20M Band66 - Channel Position T- Band 1 - Range 0.009 to 4000 MHz



Antenna 28 - LTE / NR Modulation LTE-64QAM Band25 +NR-QPSK Band25 +LTE-QPSK Band66+NR-QPSK Band66 - LTE / NR Carrier Bandwidth LTE-5M Band25 +NR-20M Band25 +LTE-20M Band66+NR-20M Band66 - Channel Position T- Band 2 - Range 4000 to 26000 MHz

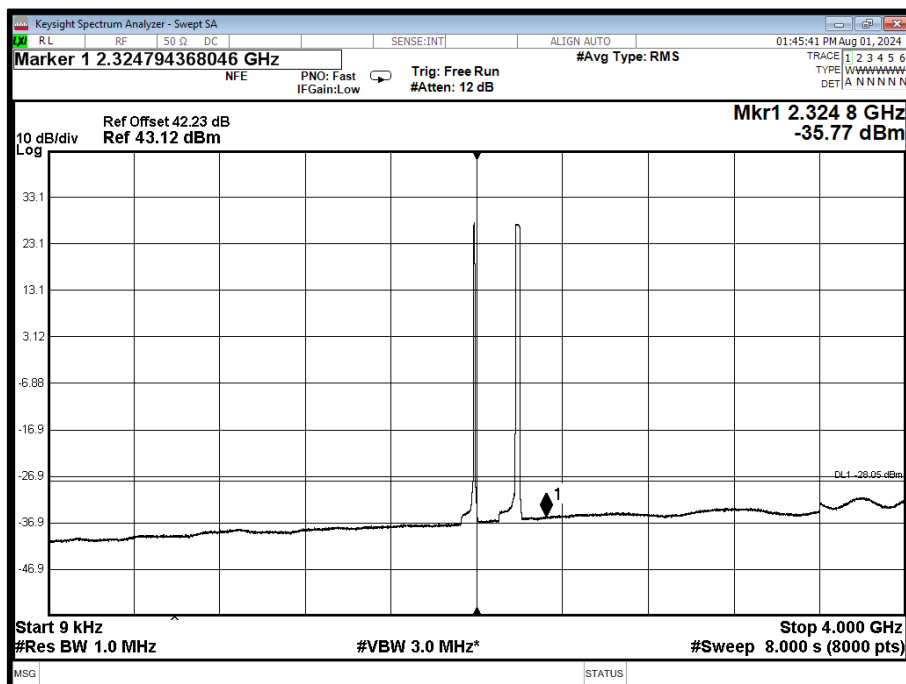




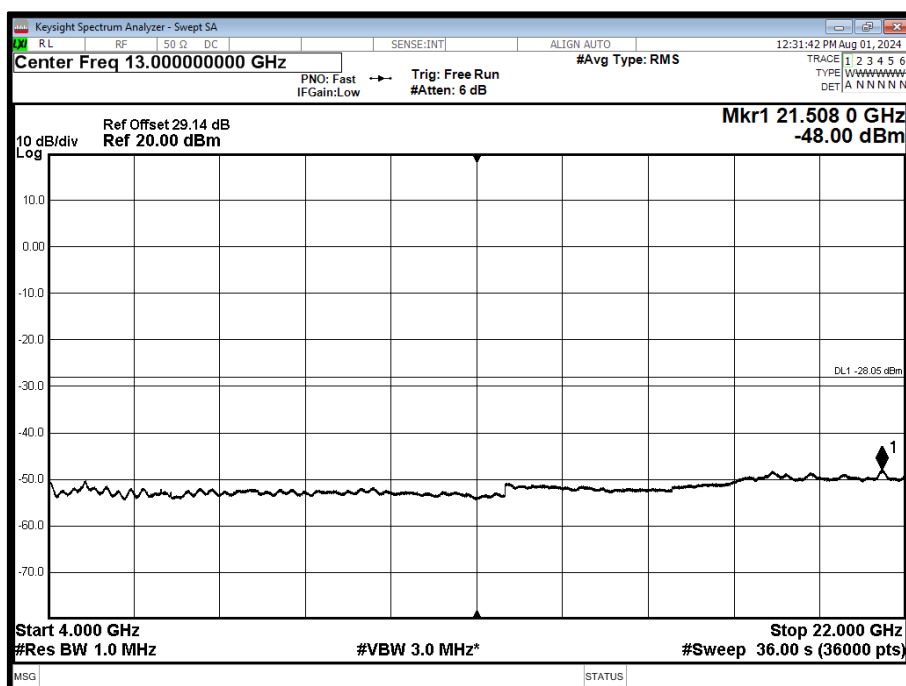
Configuration 11

Maximum Output Power 32.74(LTE)+ 38.75(NR) dBm

Antenna 28 - LTE / NR Modulation 64QAM / QPSK - LTE / NR Carrier Bandwidth 5 MHz / 20.0 MHz 15 kHz SCS - Channel Position T- Band 1 - Range 0.009 to 4000 MHz



Antenna 28 - LTE / NR Modulation 64QAM / QPSK - LTE / NR Carrier Bandwidth 5 MHz / 20.0 MHz 15 kHz SCS - Channel Position T- Band 2 - Range 4000 to 26000 MHz



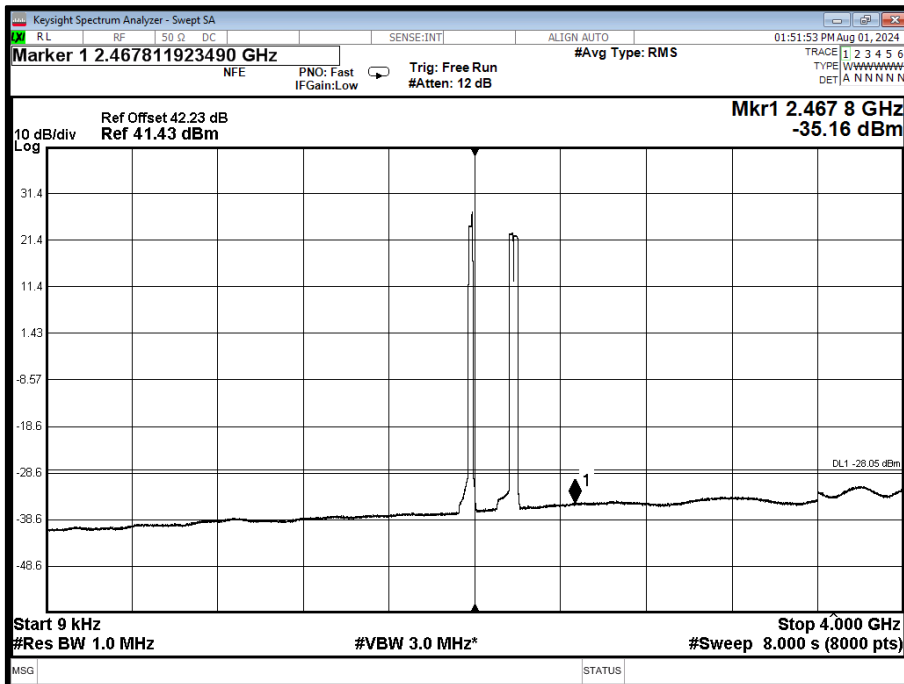




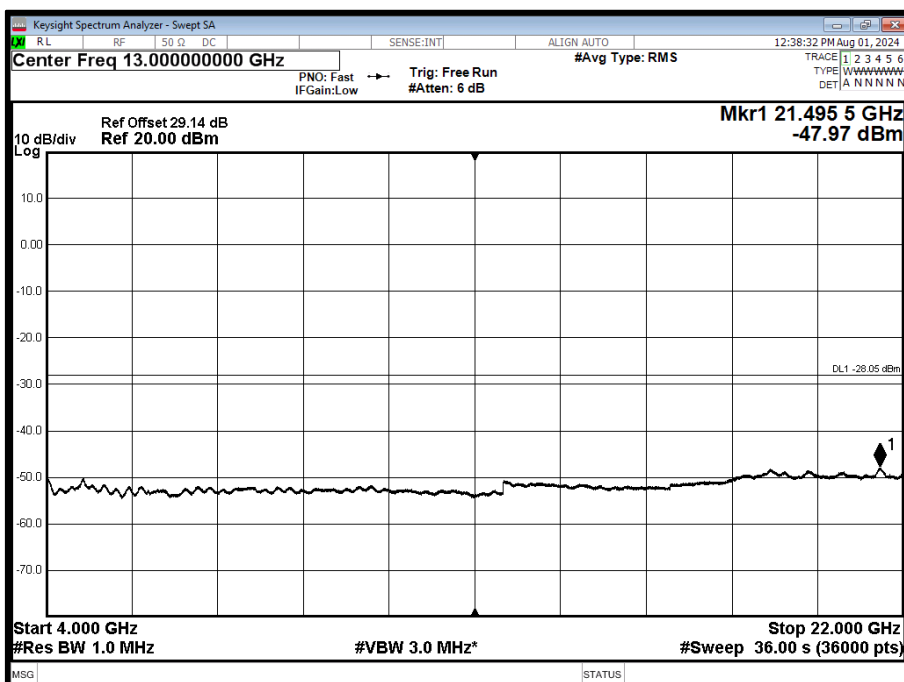
### Configuration 12

Maximum Output Power 29.72(LTE)+35.74(NR)+ 33.97(LTE)+33.97(NR) dBm

Antenna 28 - LTE / NR Modulation LTE- 64QAM Band2 +NR- QPSK Band2 +LTE- QPSK Band66+NR-QPSK Band66 - LTE / NR Carrier Bandwidth LTE-5M Band2 +NR-20M Band2 +LTE-20M Band66+NR-20M Band66 - Channel Position T- Band 1 - Range 0.009 to 4000 MHz



Antenna 28 - LTE / NR Modulation LTE- 64QAM Band2 +NR- QPSK Band2 +LTE- QPSK Band66+NR-QPSK Band66 - LTE / NR Carrier Bandwidth LTE-5M Band2 +NR-20M Band2 +LTE-20M Band66+NR-20M Band66 - Channel Position T- Band 2 - Range 4000 to 26000 MHz





Limit 24.238 (a)

Limit	$-13 \text{ dBm} - 10 * \text{Log} (32) = -28.05 \text{ dBm}$ .
-------	---



## 2.5 FREQUENCY STABILITY

### 2.5.1 Specification Reference

FCC CFR 47 Part 24, Clause 24.235  
FCC CFR 47 Part 2, Clause 2.1055

### 2.5.2 Date of Test and Modification State

01-August-2024 - Modification State 0

### 2.5.3 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

### 2.5.4 Environmental Conditions

Ambient Temperature 21.3°C  
Relative Humidity 48.8%

### 2.5.5 Test Method

All measurements were made in accordance with FCC KDB 971168 D01, Clause 9 and ANSI C63.26 Clause 5.6

### 2.5.6 Test Results

Configuration 1

Maximum Output Power 38.75 dBm

Temperature	Voltage	Frequency Error (Hz)
		Channel Position M
-30°C	-48.0 V DC	1.62
-20°C	-48.0 V DC	-2.28
-10°C	-48.0 V DC	1.48
0°C	-48.0 V DC	-0.08
+10°C	-48.0 V DC	0.23
+20°C	-40.8 V DC	2.17
+20°C	-48.0 V DC	0.64
+20°C	-55.2 V DC	1.11
+30°C	-48.0 V DC	1.74
+40°C	-48.0 V DC	-1.15
+50°C	-48.0 V DC	-0.23

#### Remarks

Port 28 64QAM 5 MHz BW



Configuration 3

Maximum Output Power 38.75 dBm

Temperature	Voltage	Frequency Error (Hz)
		Channel Position M
-30°C	-48.0 V DC	0.08
-20°C	-48.0 V DC	-1.68
-10°C	-48.0 V DC	1.11
0°C	-48.0 V DC	0.28
+10°C	-48.0 V DC	0.10
+20°C	-40.8 V DC	-0.82
+20°C	-48.0 V DC	0.91
+20°C	-55.2 V DC	0.05
+30°C	-48.0 V DC	0.08
+40°C	-48.0 V DC	0.12
+50°C	-48.0 V DC	-1.25

Remarks

Port 28 QPSK 20.0 MHz BW

Limit 24.235

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



### **SECTION 3**

#### **TEST EQUIPMENT USED**



### 3.1 TEST EQUIPMENT USED

List of absolute measuring and other principal items of test equipment.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Due
<b>Auxillary Equipment</b>					
Computer	MacBook Pro	Apple	BAMS-1002122808	N/A	O/P Mon
PSU	LP2 x 700W	Ericsson	BAMS-1017033678	N/A	O/P Mon
SFP module				N/A	O/P Mon
Power supply (for EUT)	Keysight	N8738A 80V/42A 3360W	BAMS-1001643633	N/A	O/P Mon
<b>Pre-test/ 32 ports</b>					
Hygro meter	Rotronic	HP21	TE-5264	12	08-Aug-2024
ENA Network Analyzer (2Hz-44GHz)	Keysight	E5080B	BAMS 1056688792	12	11-Jan-2025
PXA Signal Analyzer (2Hz-44GHz)	Keysight	N9030A	BAMS 1001562403	12	02-Jan-2025
Digital Multimeter	RS components	ISO-TECH IDM 101	TE-5601	12	23-Feb-2025
Spectrum Sysyem	TUV SUD	N/A	TE5991	N/A	O/P Mon
Milliohm meter	RS PRO	ILOM-508A	TE-006192	12	10-Aug-2024
<b>Maximum Peak Output Power and Peak to Average Ratio - Conducted</b>					
Atteunator 20dB	Aeroflex/Weinschel	Model: 6834-20-11	SERIAL NO: 004	N/A	O/P Mon
Atteunator 20dB	Aeroflex/Weinschel	Model: 6834-20-11	SERIAL NO: 002	N/A	O/P Mon
Hygro meter	Rotronic	HP21	TE-5264	12	08-Aug-2024
ENA Network Analyzer (2Hz-44GHz)	Keysight	E5080B	BAMS 1056688792	12	11-Jan-2025
PXA Signal Analyzer (2Hz-44GHz)	Keysight	N9030A	BAMS 1001562403	12	02-Jan-2025
Digital Multimeter	RS components	ISO-TECH IDM 101	TE-5601	12	23-Feb-2025
Spectrum Sysyem	TUV SUD	N/A	TE5991	N/A	O/P Mon
Milliohm meter	RS PRO	ILOM-508A	TE-006192	12	10-Aug-2024
<b>Occupied Bandwidth</b>					
Atteunator 20dB	Aeroflex/Weinschel	Model: 6834-20-11	SERIAL NO: 004	N/A	O/P Mon
Atteunator 20dB	Aeroflex/Weinschel	Model: 6834-20-11	SERIAL NO: 002	N/A	O/P Mon
Hygro meter	Rotronic	HP21	TE-5264	12	08-Aug-2024
ENA Network Analyzer (2Hz-44GHz)	Keysight	E5080B	BAMS 1056688792	12	11-Jan-2025
PXA Signal Analyzer (2Hz-44GHz)	Keysight	N9030A	BAMS 1001562403	12	02-Jan-2025
Digital Multimeter	RS components	ISO-TECH IDM 101	TE-5601	12	23-Feb-2025
Spectrum Sysyem	TUV SUD	N/A	TE5991	N/A	O/P Mon
Milliohm meter	RS PRO	ILOM-508A	TE-006192	12	10-Aug-2024
<b>Band Edge</b>					
Atteunator 20dB	Aeroflex/Weinschel	Model: 6834-20-11	SERIAL NO: 004	N/A	O/P Mon
Atteunator 20dB	Aeroflex/Weinschel	Model: 6834-20-11	SERIAL NO: 002	N/A	O/P Mon
Hygro meter	Rotronic	HP21	TE-5264	12	08-Aug-2024



Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Due
ENA Network Analyzer (2Hz-44GHz)	Keysight	E5080B	BAMS 1056688792	12	11-Jan-2025
PXA Signal Analyzer (2Hz-44GHz)	Keysight	N9030A	BAMS 1001562403	12	02-Jan-2025
Digital Multimeter	RS components	ISO-TECH IDM 101	TE-5601	12	23-Feb-2025
Spectrum System	TUV SUD	N/A	TE5991	N/A	O/P Mon
Milliohm meter	RS PRO	ILOM-508A	TE-006192	12	10-Aug-2024
Transmitter Spurious Emissions					
Attenuator 20dB	Aeroflex/Weinschel	Model: 6834-20-11	SERIAL NO: 004	N/A	O/P Mon
Attenuator 20dB	Aeroflex/Weinschel	Model: 6834-20-11	SERIAL NO: 002	N/A	O/P Mon
Hygro meter	Rotronic	HP21	TE-5264	12	08-Aug-2024
ENA Network Analyzer (2Hz-44GHz)	Keysight	E5080B	BAMS 1056688792	12	11-Jan-2025
PXA Signal Analyzer (2Hz-44GHz)	Keysight	N9030A	BAMS 1001562403	12	02-Jan-2025
Digital Multimeter	RS components	ISO-TECH IDM 101	TE-5601	12	23-Feb-2025
Milliohm meter	RS PRO	ILOM-508A	TE-006192	12	10-Aug-2024
High Pass Filter					
Frequency Stability					
Signal and Spectrum Analyzer	Rohde&Schwarz	FSW 2Hz-13.6GHz	BAMS-1001490625	12	22-Apr-2025
System DC Power Supply	Agilent Technologies	N8738A 80V/42A 3360W	BAMS-1001518021	-	-
Climatic Chamber 8	Vötsch Industrietechnik	-	BAMS-1001235891	-	-
Digital Multimeter	RS PRO	RS14	TE6485	12	31-May-2025
Thermo-Hygro-Barometer	RS Pro	N/A	TE 5931	12	12-Jun-2025

TU – Traceability Unschedule

N/A – Not Applicable

O/P Mon – Output Monitored with Calibrated Equipment



### 3.2 MEASUREMENT UNCERTAINTY

For a 95% confidence level, the measurement uncertainties for defined systems are:-

Test Discipline	Frequency / Parameter	MU	MU Unit	
Conducted Maximum Peak Output Power-Spectrum	Up to 8.4 GHz	±1.07	dB	
Conducted Emissions- HP-VEE Software	9K kHz to 22 GHz	±0.89	dB	
Frequency Stability - HP-VEE Software	1930 MHz to 1995 MHz	±67.9	Hz	
Occupied Bandwidth - HP-VEE Software or Spectrum	Up to 20.0 MHz Bandwidth	5 MHz Bandwidth	±62376.6	Hz
		10 MHz Bandwidth	±65818.6	Hz
		15 MHz Bandwidth	±344115.2	Hz
		20.0 MHz Bandwidth	±190404.5	Hz
Band Edge & PSD - Spectrum	Up to 8.4 GHz	±1.05	dB	

#### Measurement Uncertainty Decision Rule

Determination of conformity with the specification limits is based on the results of the compliance measurement and does not take into account measurement instrumentation uncertainty as defined in ANSI C63.26:2015 Clause 1.3.

Risk: The uncertainty of measurement about the measured result is negligible with regard to the final pass/fail decision. The measurement result can be directly compared with the test limit to determine conformance with the requirement (compare IEC Guide 115). The level of risk to falsely accept and falsely reject items is further described in ILAC-G8





### 3.3 MEASUREMENT SOFTWARE USED

List of measurement software versions used for testing.

Instrument	Manufacturer	Type No.	TE No.	Software Version
Spectrum Software Version	TÜV SÜD	SCU004	TE5991	1.11.8
PXA Signal Analyser	Keysight	N9030A	BAMS1001562403	A.19.05
HP-VEE Software	TÜV SÜD	HP_VEE	N/A	V3.35



## **SECTION 5**

### **ACCREDITATION, DISCLAIMERS AND COPYRIGHT**



#### 4.1 ACCREDITATION, DISCLAIMERS AND COPYRIGHT



Accred. no. 10363  
Testing  
ISO/IEC 17025

This report relates only to the actual item/items tested.

Our Swedac Accreditation does not cover opinions and interpretations and any expressed are outside the scope of our Swedac Accreditation.

Results of tests not covered by our Swedac Accreditation Schedule are marked NSA  
(Not Swedac Accredited).

This report must not be reproduced, except in its entirety, without the written permission of TÜV SÜD Sverige.

© 2024 TÜV SÜD Sverige

Postal Address: Adelgatan 2, 211 22 Malmö, Sweden



## **ANNEX A**

### **MODULE LIST**



Configurations 1-22 (all tests except Frequency Stability)			
Product	Product No	R-State	Serial No
AIR 3283 B25 B66	KRD 901 892/2	R1C	E23F527361
CT-DU25	LPC102500/1	R3B	T01G522534
Software Version:	CXP2021151/1	Revision:	R21A984
Configurations 1 and 3 (Frequency Stability only)			
Product	Product No	R-State	Serial No
AIR 3283 B25 B66	KRD 901 892/2	R1C	E23F529480
CT-DU25	LPC102500/1	R3B	T01G522088
Software Version:	CXP2021151/1	Revision:	R21A984
External Cables Connected to the EUT			
Port	Type	Length (m)	Specifications
DC in	DC power	2*10 m2	Copper cable
Earth	Ground	50 mm2	300/500V, -40/90 °C
Data_1 & Data_2	Optical fibre cable	20m	Single Mode Duplex