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Report On

FCC Testing of the
Ericsson Dot 2256 / 2266 B48B41B25B66, KRY 901 537/1 / KRY 901
537/2, LTE, NR, LTE and NR (3550-3700 MHz) Base Station in
accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 96

COMMERCIAL-IN-CONFIDENCE

FCC: TA8BKRY901537-1 & TA8BKRY901537-2,

PREPARED BY

A handwritten signature in black ink, appearing to read 'J. A. ...'.

APPROVED BY

A handwritten signature in black ink, appearing to read 'S. A. Drysdale'.

DATED

06 June -2023

Authorised Signatory

Document 75957009 Report 05, Issue 2

28-March-2023



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SECTION 1

REPORT INFORMATION



1.1 REPORT DETAILS

Manufacturer	Ericsson
Address	Torshamnsgatan 23 Kista SE-16480 Stockholm Sweden
Product Name & Product Number	Dot 2266 B48B41B25B66 - KRY 901 537/2
Serial Number(s)	TD3W388627
Software Version	CXP 203 0045/26 Revision R15AX85
Hardware Version	R1B
Non-Tested Variant (See Section 1.10 Additional Information)	Dot 2256 B48B41B25B66 - KRY 901 537/1
Test Specification/Issue/Date	FCC CFR 47 Part 2: 2021 FCC CFR 47 Part 96: 2021
Test Plan	RA FCC Test Plan Dot 2266 B48B41B25B66
Start of Test	13-December-2022
Finish of Test	16-December-2022
Name of Engineer(s)	Glen Westwell
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: 2021, FCC CFR 47 Part 96: 2021. The sample tested was found to comply with the requirements defined in the applied rules.

Test Engineer(s);

Glen Westwell



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 96 and is shown below.

Section	Specification Clause		Test Description	Result
	FCC CFR 47 Part 2	FCC CFR 47 Part 96		
2.1	2.1046	96.41 (b)(c)(g)	Maximum Peak Output Power, Peak to Average Ratio, PSD - Conducted	Pass
2.2	2.1049	96.41 (e)(3)	Occupied Bandwidth	Pass
2.3	2.1051	96.41 (e)(3)	Band Edge	Pass
2.4	2.1051	96.41 (e)(1)	Transmitter Spurious Emissions	Pass
2.5	2.1055	-	Frequency Stability	Pass

Testing in this Report covers only B48 (3550-3700 MHz)



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.

The TA8BKRY901537-1 and TA8BKRY901537-2 models represent the same hardware, with the exception that the TA8BKRY901537-1 has internal antenna(s) and the TA8BKRY901537-2 provides for antenna's to be remoted externally. Antenna port conducted testing was performed on the external antenna version and these same test results are also used to demonstrate compliance for the internal antenna version.



1.4 CONFIGURATION DESCRIPTION

Configuration A					
RAT	No. of Carriers	Carrier Bandwidth	Carrier Frequency Configuration (MHz)		
			Bottom	Middle	Top
NR	1	10 MHz	3555.0	3625.0	3695.0
		20 MHz	3560.0	3625.0	3690.0
		10 MHz	3555.0	3625.0	3695.0
		20 MHz	3560.0	3625.0	3690.0
		30 MHz	3565.0	3625.0	3685.0
		40 MHz	3570.0	3625.0	3680.0
		50 MHz	3575.0	3625.0	3675.0
		60 MHz	3580.0	3625.0	3670.0
		70 MHz	3585.0	3625.0	3665.0
		80 MHz	3590.0	3625.0	3660.0
		90 MHz	3595.0	3625.0	3655.0
100 MHz	3600.0	3625.0	3650.0		

Configuration B					
RAT	No. of Carriers	Carrier Bandwidth	Carrier Frequency Configuration (MHz)		
			Bottom	Middle	Top
LTE	2	10+10 MHz	3555.0+3565.0	3620.0+3630.0	3685.0+3695.0
		20+20 MHz	3560.0+3580.0	3615.0+3635.0	3670.0+3690.0
NR	2	10+10 MHz	3555.0+3565.0	3620.0+3630.0	3685.0+3695.0
		70+70 MHz	3585.0+3655.0	3590.0+3660.0	3595.0+3665.0
NR+LTE	2	10+10 MHz	3555.0+3565.0	3620.0+3630.0	3685.0+3695.0
*NR+LTE	2	10+10 MHz	3555.0+3695.0	3555.0+3695.0	3555.0+3695.0

* = Non-Contiguous configuration.



Configuration C					
RAT	No. of Carriers	Carrier BW	Carrier Frequency Configuration (MHz)		
			Bottom	Middle	Top
LTE	6	10 MHz	3555+3565+3575+3585+3595+3605	3600+3610+3620+3630+3640+3650	3645+3655+3665+3675+3685+3695
		20 MHz	3560+3580+3600+3620+3640+3660	3560+3580+3600+3620+3640+3660	3590+3610+3630+3650+3670+3690
NR	6	10 MHz	3555+3565+3575+3585+3595+3605	3600+3610+3620+3630+3640+3650	3645+3655+3665+3675+3685+3695
		20 MHz	3560+3580+3600+3620+3640+3660	3560+3580+3600+3620+3640+3660	3590+3610+3630+3650+3670+3690
NR10+LTE10	6	10 MHz	3555+3565+3575+3585+3595+3605	3600+3610+3620+3630+3640+3650	3645+3655+3665+3675+3685+3695
*NR10+LTE10	6	10 MHz	3555+3565+3575+3675+3685+3695	-	3555+3565+3575+3675+3685+3695

* = Non-Contiguous configuration.



1.5 DECLARATION OF BUILD STATUS

MAIN EUT	
MANUFACTURING DESCRIPTION	Radio Dot
MANUFACTURER	Ericsson
TYPE	Remote Radio Base Station
PART NUMBER	KRY 901 537/1 and KRY 901 537/2
SERIAL NUMBER	TD3W388627 for Dot 2266 B48B41B25B66 TD3W340089 for Dot 4465 B77DB25B66
HARDWARE VERSION	R1B for Dot 2266 B48B41B25B66 (used for B48 & B41 tests) R1A modified as R1B for Dot 4465 B77DB25B66 (used for B25 & B66 tests)
SOFTWARE VERSION	CXP 203 0045/26 - R15A701 for Dot 2266 B48B41B25B66 CXP 203 0045/26 - R14BX12 for Dot 4465 B77DB25B66
TRANSMITTER OPERATING RANGE	B48: 3550-3700MHz B41: 2496-2690MHz B25: 1930-1995MHz B66: 2110-2200MHz
RECEIVER OPERATING RANGE	B48: 3550-3700MHz B41: 2496-2690MHz B25: 1850-1915MHz B66: 1710-1780MHz
COUNTRY OF ORIGIN	China
INTERMEDIATE FREQUENCIES	None
EMISSION DESIGNATOR(S): (i.e. G1D, GXW)	<p>B48 NR: 10M0F9W, 20M0F9W, 30M0F9W, 40M0F9W, 50M0F9W, 60M0F9W, 70M0F9W, 80M0F9W, 90M0F9W, 100MF9W</p> <p>B48 LTE: 10M0W7D, 20M0W7D</p> <p>B41 NR: 10M0F9W, 20M0F9W, 30M0F9W, 40M0F9W, 50M0F9W, 60M0F9W, 70M0F9W 80M0F9W, 90M0F9W, 100MF9W</p> <p>B41 LTE: 5M00W7D, 10M0W7D, 15M0W7D, 20M0W7D</p> <p>B25 NR: 10M0F9W, 15M0F9W, 20M0F9W +NBloT</p> <p>B25 NR: 5M00F9W, 25M0F9W, 30M0F9W, 40M0F9W</p> <p>B25 LTE: 5M00W7D, 10M0W7D, 15M0W7D, 20M0W7D +NBloT</p> <p>B66 NR: 10M0F9W, 15M0F9W, 20M0F9W +NBloT</p> <p>B66 NR: 5M00F9W, 25M0F9W, 30M0F9W, 40M0F9W</p> <p>B66 LTE: 5M00W7D, 10M0W7D, 15M0W7D, 20M0W7D +NBloT</p>



MODULATION TYPES: (i.e. GMSK, QPSK)	NR: QPSK, 16QAM, 64QAM, 256QAM LTE: QPSK, 16QAM, 64QAM, 256QAM
HIGHEST INTERNALLY GENERATED FREQUENCY	3.70 GHz
OUTPUT POWER (W or dBm)	B48: 2 x 0.4W (26dBm) (1 carrier limited to 24dBm) B41: 2 x 0.4W (26dBm) (1 carrier limited to 24dBm) B25: 2 x 0.2W (23dBm) B66: 2 x 0.2W (23dBm)
Antenna gain (dBi)	B48: 4.9 dBi B41: 4.4 dBi B25: 4.2 dBi B66: 4.7 dBi
FCC ID	TA8AKRY901537-1 TA8BKRY901537-1 TA8AKRY901537-2 TA8BKRY901537-2
INDUSTRY CANADA ID	NA
TECHNICAL DESCRIPTION (a brief description of the intended use and operation)	Dot 2256 B48B41B25B66 (KRY 901 537/1) and Dot 2266 B48B41B25B66 (KRY 901 537/2) are Remote Radio Units forming part of the Ericsson Radio Base Station (RBS) equipment. The Dot provides radio access for mobile and fixed devices and is intended for the indoor environment. The radio operates over 8 Transmit ports in MRO (NR+LTE); Single, Multi-Carrier, and MIMO transmission with a maximum rated RF Output up to 0.4W per port over an operational temperature of 5°C to +40°C. The unit is designed to be ceiling or wall mounted. The 2256 and 2266 radios are identical except that Dot 2256 has internal antennas and Dot 2266 has external RF ports.

Signature:

.....

Denis Lalonde

Date: 6 June 2023

Declaration of Build Status Serial Number: TD3W388627

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) Dot 2266 B48 B41 B25 B66 - KRY 901 537/2 is an Ericsson AB Radio Unit working in the Citizens Broadband Radio Service which provides communication connections to Band 48 network. The EUT operates from a -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.



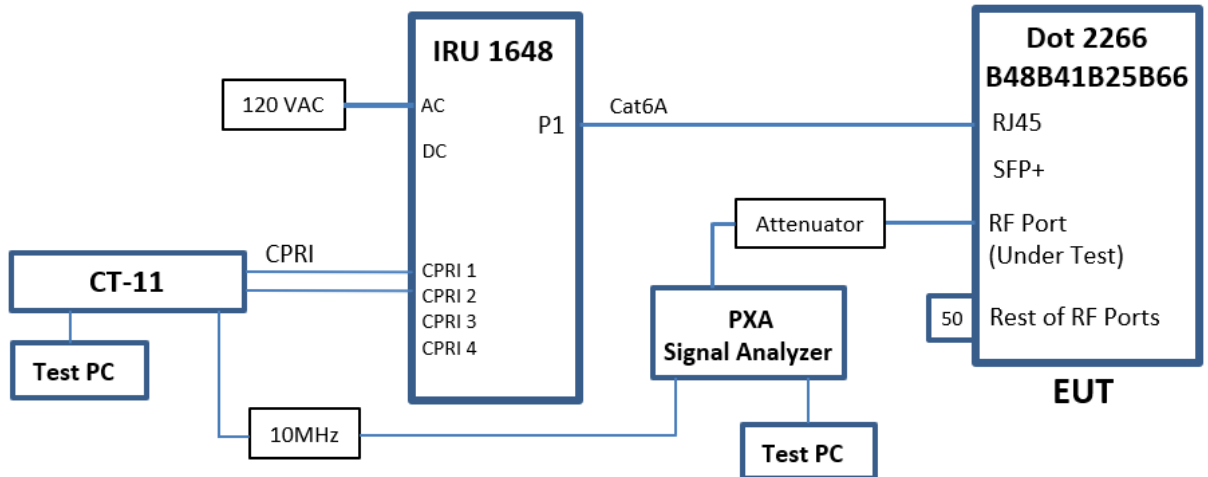
Equipment Under Test



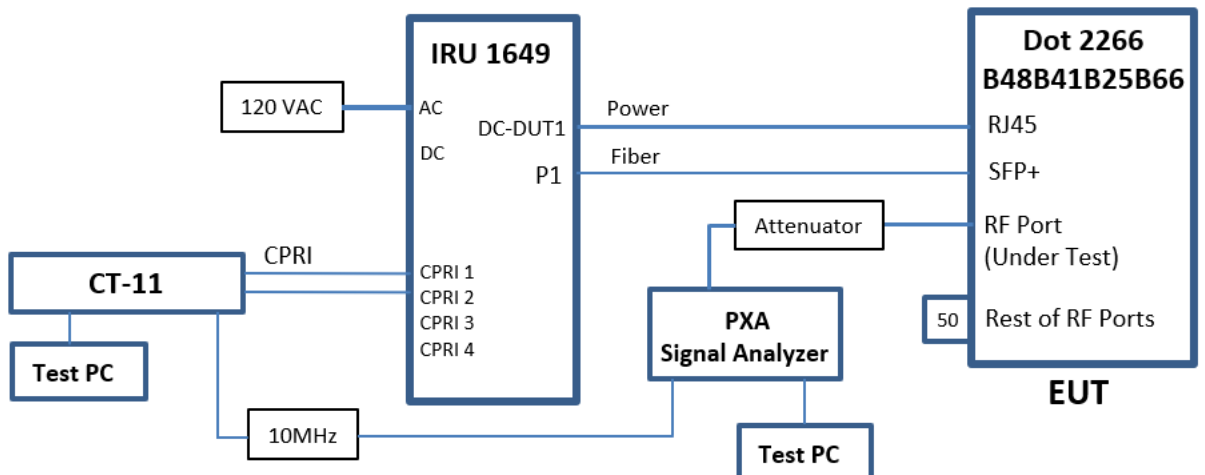
1.7 TEST SETUP

Conducted Test Set Up

Contiguous Configuration

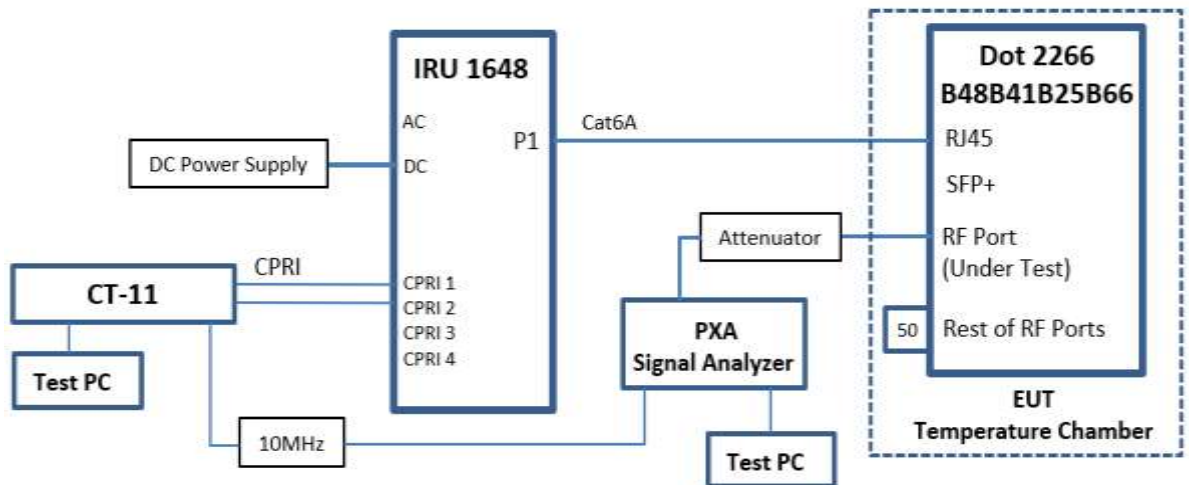


Non-Contiguous Configuration





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 -54V DC supply unless otherwise stated.

FCC Measurement Facility Registration Number
CA4810 TUV SUD Canada, 1280 Teron Rd., Kanata On.

Under our A2LA Accreditation, TÜV SÜD Canada conducted the following tests Ericsson, Ottawa Laboratory: 349 Terry Fox Dr, Kanata, ON.

Test Name	Name of Engineer(s)
Maximum Peak Output Power, Peak to Average Ratio, PSD - Conducted	Glen Westwell
Occupied Bandwidth	Glen Westwell
Band Edge	Glen Westwell
Transceiver Spurious Emissions	Glen Westwell
Freq. Stab.	Glen Westwell

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

1. This filing is for a Radio Certification for use in the USA under the following ID's:

FCC ID: TA8BKRY901537-1 & TA8BKRY901537-2

2. Transmitter performance was measured for top, mid & bottom channels for contiguous and non-contiguous (NC) operation, where applicable, across all antenna ports as presented in the power measurement tables. Typical performance is presented. All configuration data is on file and available upon request.

3. Initial pre-testing was carried out to determine the worst case modulation scheme by measuring the output power from QPSK, 16QAM, 64QAM and 256QAM on the middle channel of one antenna port. From these tests, it was determined that QPSK was equivalent or the worst case modulation scheme and was used for all final testing.



SECTION 2

TEST DETAILS



2.1 OUTPUT POWER, PEAK TO AVERAGE RATIO & PSD - CONDUCTED

2.1.1 Specification Reference

FCC CFR 47 Part 96, Clause 96.41 (b)(c)(g)
FCC CFR 47 Part 2, Clause 2.1046

2.1.2 Date of Test and Modification State

13 and 14-December-2022 - 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	24.6°C
Relative Humidity	30.8%

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, KDB 940660 D01.

2.1.6 Test Results

Configuration A

Maximum Output Power (EIRP):

30 dBm/10 MHz
20 dBm/MHz



Antenna Gain (dBi)	Modulation	Carrier Bandwidth	Peak to Average Ratio (PAR) / PSD / Output Power				
			Channel Position B				
			CCDF	PSD	Average Power		
Antenna Port			PAR (dB)	dBm/MHz (EIRP)	dBm	dBm / 10 MHz	EIRP dBm/10 MHz
4.90							
A	LTE: QPSK	10.0 MHz	10.14	11.63	20.32	20.32	25.22
B	LTE: QPSK	10.0 MHz	-	11.63	20.33	20.33	25.23
Total			-	19.54	23.34	23.34	28.24
A	LTE: QPSK	20.0 MHz	10.30	11.96	23.74	20.73	25.63
B	LTE: QPSK	20.0 MHz	-	11.96	23.62	20.61	25.51
Total			-	19.87	26.69	23.68	28.58
A	NR: QPSK	10.0 MHz	9.63	11.74	20.21	20.21	25.11
B	NR: QPSK	10.0 MHz	-	11.74	20.33	20.33	25.23
Total			-	19.65	23.28	23.28	28.18
A	NR: QPSK	20.0 MHz	9.55	11.97	23.81	20.80	25.70
B	NR: QPSK	20.0 MHz	-	11.97	23.74	20.73	25.63
Total			-	19.88	26.79	23.78	28.68
A	NR: QPSK	30.0 MHz	9.38	10.32	23.81	19.04	23.94
B	NR: QPSK	30.0 MHz	-	10.32	23.57	18.80	23.70
Total			-	18.23	26.70	21.93	26.83
A	NR: QPSK	40.0 MHz	9.57	7.43	23.27	17.25	22.15
B	NR: QPSK	40.0 MHz	-	7.43	23.20	17.18	22.08
Total			-	15.34	26.25	20.22	25.12
A	NR: QPSK	50.0 MHz	9.42	7.59	23.58	16.59	21.49
B	NR: QPSK	50.0 MHz	-	7.59	23.22	16.23	21.13
Total			-	15.50	26.41	19.42	24.32
A	NR: QPSK	60.0 MHz	9.44	6.49	23.39	15.61	20.51
B	NR: QPSK	60.0 MHz	-	6.49	23.25	15.47	20.37
Total			-	14.40	26.33	18.55	23.45
A	NR: QPSK	70.0 MHz	9.47	5.51	23.87	15.42	20.32
B	NR: QPSK	70.0 MHz	-	5.51	23.27	14.82	19.72
Total			-	13.42	26.59	18.14	23.04
A	NR: QPSK	80.0 MHz	9.28	4.59	23.27	14.24	19.14
B	NR: QPSK	80.0 MHz	-	4.59	23.24	14.21	19.11
Total			-	12.50	26.27	17.23	22.13
A	NR: QPSK	90.0 MHz	9.66	4.01	23.34	13.80	18.70
B	NR: QPSK	90.0 MHz	-	4.01	23.29	13.75	18.65
Total			-	11.92	26.33	16.78	21.68
A	NR: QPSK	100.0 MHz	9.48	3.48	23.25	13.25	18.15
B	NR: QPSK	100.0 MHz	-	3.48	23.10	13.10	18.00
Total			-	11.39	26.19	16.19	21.09



Antenna Gain (dBi)	Modulation	Carrier Bandwidth	Peak to Average Ratio (PAR) / PSD / Output Power				
			Channel Position M				
			CCDF	PSD	Average Power		
Antenna Port			PAR (dB)	dBm/MHz (EIRP)	dBm	dBm / 10 MHz	EIRP dBm/10 MHz
4.90							
A	LTE: QPSK	10.0 MHz	9.69	11.70	20.67	20.67	25.57
B	LTE: QPSK	10.0 MHz	-	11.70	20.48	20.48	25.38
Total			-	19.61	23.59	23.59	28.49
A	LTE: QPSK	20.0 MHz	10.01	11.35	23.22	20.21	25.11
B	LTE: QPSK	20.0 MHz	-	11.35	22.84	19.83	24.73
Total			-	19.26	26.04	23.03	27.93
A	NR: QPSK	10.0 MHz	9.52	11.75	20.68	20.68	25.58
B	NR: QPSK	10.0 MHz	-	11.75	20.26	20.26	25.16
Total			-	19.66	23.49	23.49	28.39
A	NR: QPSK	20.0 MHz	9.52	11.50	23.62	20.61	25.51
B	NR: QPSK	20.0 MHz	-	11.50	23.21	20.20	25.10
Total			-	19.41	26.43	23.42	28.32
A	NR: QPSK	30.0 MHz	9.44	9.84	23.72	18.95	23.85
B	NR: QPSK	30.0 MHz	-	9.84	23.59	18.82	23.72
Total			-	17.75	26.67	21.89	26.79
A	NR: QPSK	40.0 MHz	9.23	8.90	23.99	17.97	22.87
B	NR: QPSK	40.0 MHz	-	8.90	23.72	17.70	22.60
Total			-	16.81	26.87	20.85	25.75
A	NR: QPSK	50.0 MHz	9.62	7.95	23.90	16.91	21.81
B	NR: QPSK	50.0 MHz	-	7.95	23.68	16.69	21.59
Total			-	15.86	26.80	19.81	24.71
A	NR: QPSK	60.0 MHz	9.42	6.84	23.83	16.05	20.95
B	NR: QPSK	60.0 MHz	-	6.84	23.60	15.82	20.72
Total			-	14.75	26.73	18.95	23.85
A	NR: QPSK	70.0 MHz	9.47	5.92	23.49	15.04	19.94
B	NR: QPSK	70.0 MHz	-	5.92	23.35	14.90	19.80
Total			-	13.83	26.43	17.98	22.88
A	NR: QPSK	80.0 MHz	9.14	5.69	23.58	14.55	19.45
B	NR: QPSK	80.0 MHz	-	5.69	23.45	14.42	19.32
Total			-	13.60	26.53	17.49	22.39
A	NR: QPSK	90.0 MHz	9.46	4.87	23.39	13.85	18.75
B	NR: QPSK	90.0 MHz	-	4.87	23.49	13.95	18.85
Total			-	12.78	26.45	16.91	21.81
A	NR: QPSK	100.0 MHz	9.57	4.32	23.55	13.55	18.45
B	NR: QPSK	100.0 MHz	-	4.32	23.47	13.47	18.37
Total			-	12.23	26.52	16.52	21.42



Antenna Gain (dBi)	Modulation	Carrier Bandwidth	Peak to Average Ratio (PAR) / PSD / Output Power				
			Channel Position T				
			CCDF	PSD	Average Power		
Antenna Port			PAR (dB)	dBm/MHz (EIRP)	dBm	dBm / 10 MHz	EIRP dBm/10 MHz
4.90							
A	LTE: QPSK	10.0 MHz	9.79	11.56	20.36	20.36	25.26
B	LTE: QPSK	10.0 MHz	-	11.56	20.17	20.17	25.07
Total			-	19.47	23.28	23.28	28.18
A	LTE: QPSK	20.0 MHz	9.11	11.50	23.30	20.29	25.19
B	LTE: QPSK	20.0 MHz	-	11.50	22.96	19.95	24.85
Total			-	19.41	26.14	23.13	28.03
A	NR: QPSK	10.0 MHz	9.75	11.67	20.20	20.20	25.10
B	NR: QPSK	10.0 MHz	-	11.67	20.06	20.06	24.96
Total			-	19.58	23.14	23.14	28.04
A	NR: QPSK	20.0 MHz	9.44	11.81	23.73	20.72	25.62
B	NR: QPSK	20.0 MHz	-	11.81	23.56	20.55	25.45
Total			-	19.72	26.66	23.65	28.55
A	NR: QPSK	30.0 MHz	9.66	10.34	23.89	19.12	24.02
B	NR: QPSK	30.0 MHz	-	10.34	23.83	19.06	23.96
Total			-	18.25	26.87	22.10	27.00
A	NR: QPSK	40.0 MHz	9.40	9.30	23.96	17.94	22.84
B	NR: QPSK	40.0 MHz	-	9.30	23.99	17.97	22.87
Total			-	17.21	26.99	20.96	25.86
A	NR: QPSK	50.0 MHz	9.39	8.31	23.87	16.88	21.78
B	NR: QPSK	50.0 MHz	-	8.31	23.79	16.80	21.70
Total			-	16.22	26.84	19.85	24.75
A	NR: QPSK	60.0 MHz	9.44	7.02	23.70	15.92	20.82
B	NR: QPSK	60.0 MHz	-	7.02	23.71	15.93	20.83
Total			-	14.93	26.72	18.93	23.83
A	NR: QPSK	70.0 MHz	9.37	6.18	23.57	15.12	20.02
B	NR: QPSK	70.0 MHz	-	6.18	23.49	15.04	19.94
Total			-	14.09	26.54	18.09	22.99
A	NR: QPSK	80.0 MHz	9.42	5.66	23.48	14.45	19.35
B	NR: QPSK	80.0 MHz	-	5.66	23.24	14.21	19.11
Total			-	13.57	26.37	17.34	22.24
A	NR: QPSK	90.0 MHz	9.27	5.11	23.53	13.99	18.89
B	NR: QPSK	90.0 MHz	-	5.11	23.43	13.89	18.79
Total			-	13.02	26.49	16.95	21.85
A	NR: QPSK	100.0 MHz	9.46	4.43	23.44	13.44	18.34
B	NR: QPSK	100.0 MHz	-	4.43	23.45	13.45	18.35
Total			-	12.34	26.46	16.46	21.36



Conducted Transmit Power & EIRP Results

Antenna Gain (dBi)	Modulation	Carrier Bandwidth	Average Output Power					
			Channel Position					
			Bottom		Mid		Top	
Antenna Port			dBm	dBm (EIRP)	dBm	dBm (EIRP)	dBm	dBm (EIRP)
4.90								
A	LTE: QPSK	10.0 MHz	20.32	25.22	20.67	25.57	20.36	25.26
B	LTE: QPSK	10.0 MHz	20.33	25.23	20.48	25.38	20.17	25.07
Total			23.34	28.24	23.59	28.49	23.28	28.18
A	LTE: QPSK	20.0 MHz	23.74	28.64	23.22	28.12	23.30	28.20
B	LTE: QPSK	20.0 MHz	23.62	28.52	22.84	27.74	22.96	27.86
Total			26.69	31.59	26.04	30.94	26.14	31.04
A	NR: QPSK	10.0 MHz	20.21	25.11	20.68	25.58	20.20	25.10
B	NR: QPSK	10.0 MHz	20.33	25.23	20.26	25.16	20.06	24.96
Total			23.28	28.18	23.49	28.39	23.14	28.04
A	NR: QPSK	20.0 MHz	23.81	28.71	23.62	28.52	23.73	28.63
B	NR: QPSK	20.0 MHz	23.74	28.64	23.21	28.11	23.56	28.46
Total			26.79	31.69	26.43	31.33	26.66	31.56
A	NR: QPSK	30.0 MHz	23.81	28.71	23.72	28.62	23.89	28.79
B	NR: QPSK	30.0 MHz	23.57	28.47	23.59	28.49	23.83	28.73
Total			26.70	31.60	26.67	31.57	26.87	31.77
A	NR: QPSK	40.0 MHz	23.27	28.17	23.99	28.89	23.96	28.86
B	NR: QPSK	40.0 MHz	23.20	28.10	23.72	28.62	23.99	28.89
Total			26.25	31.15	26.87	31.77	26.99	31.89
A	NR: QPSK	50.0 MHz	23.58	28.48	23.90	28.80	23.87	28.77
B	NR: QPSK	50.0 MHz	23.22	28.12	23.68	28.58	23.79	28.69
Total			26.41	31.31	26.80	31.70	26.84	31.74
A	NR: QPSK	60.0 MHz	23.39	28.29	23.83	28.73	23.70	28.60
B	NR: QPSK	60.0 MHz	23.25	28.15	23.60	28.50	23.71	28.61
Total			26.33	31.23	26.73	31.63	26.72	31.62
A	NR: QPSK	70.0 MHz	23.87	28.77	23.49	28.39	23.57	28.47
B	NR: QPSK	70.0 MHz	23.27	28.17	23.35	28.25	23.49	28.39
Total			26.59	31.49	26.43	31.33	26.54	31.44
A	NR: QPSK	80.0 MHz	23.27	28.17	23.58	28.48	23.48	28.38
B	NR: QPSK	80.0 MHz	23.24	28.14	23.45	28.35	23.24	28.14
Total			26.27	31.17	26.53	31.43	26.37	31.27
A	NR: QPSK	90.0 MHz	23.34	28.24	23.39	28.29	23.53	28.43
B	NR: QPSK	90.0 MHz	23.29	28.19	23.49	28.39	23.43	28.33
Total			26.33	31.23	26.45	31.35	26.49	31.39
A	NR: QPSK	100.0 MHz	23.25	28.15	23.55	28.45	23.44	28.34
B	NR: QPSK	100.0 MHz	23.10	28.00	23.47	28.37	23.45	28.35
Total			26.19	31.09	26.52	31.42	26.46	31.36



Remarks

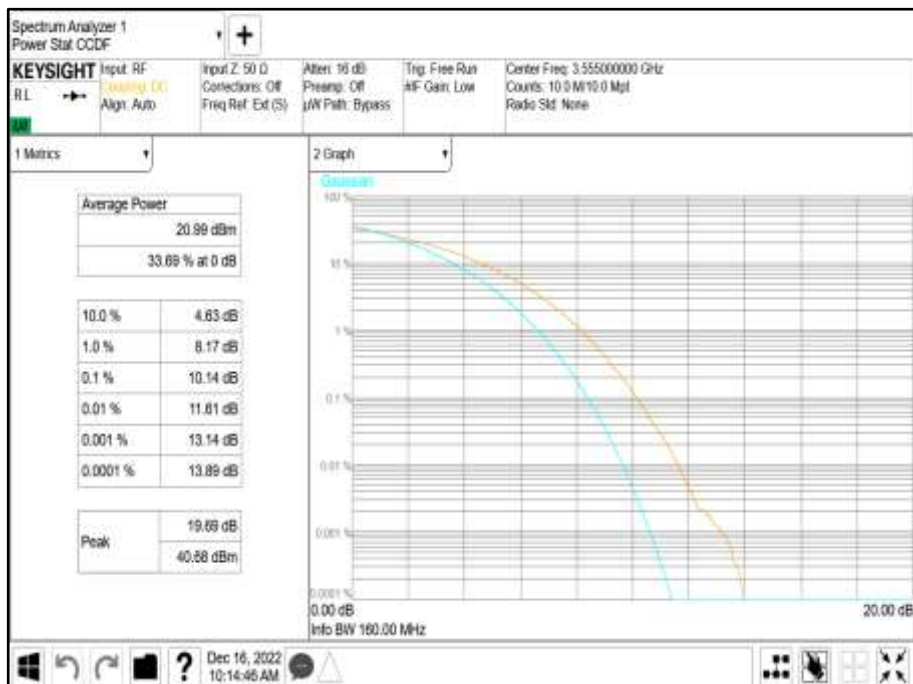
1. Transmitter performance has been presented for top, mid, bottom channels across all antenna ports as represented in the following tables.
2. Typical performance and measurement plot data has been presented for reference.
3. All contiguous and non-contiguous (NC) plot data is on file and available upon request.
4. The worst-case result for the peak-to-average ratio (CCDF) & the power spectral density (PSD) has been presented for comparison to the limits. The Total PSD (dBm/MHz) result incorporates 2 x the worst case PSD results plus the antenna gain representing a final EIRP result.
5. The last column of the first three tables provides the dBm/10 MHz EIRP result.



Antenna Port A Carrier Power - Modulation LTE: QPSK - Carrier Bandwidth 10.0 MHz - Channel Position B



Antenna Port A Pk-Av Ratio - Modulation LTE: QPSK - Carrier Bandwidth 10.0 MHz - Channel Position B





Antenna Port A PSD - Modulation LTE: QPSK - Carrier Bandwidth 10.0 MHz - Channel Position B

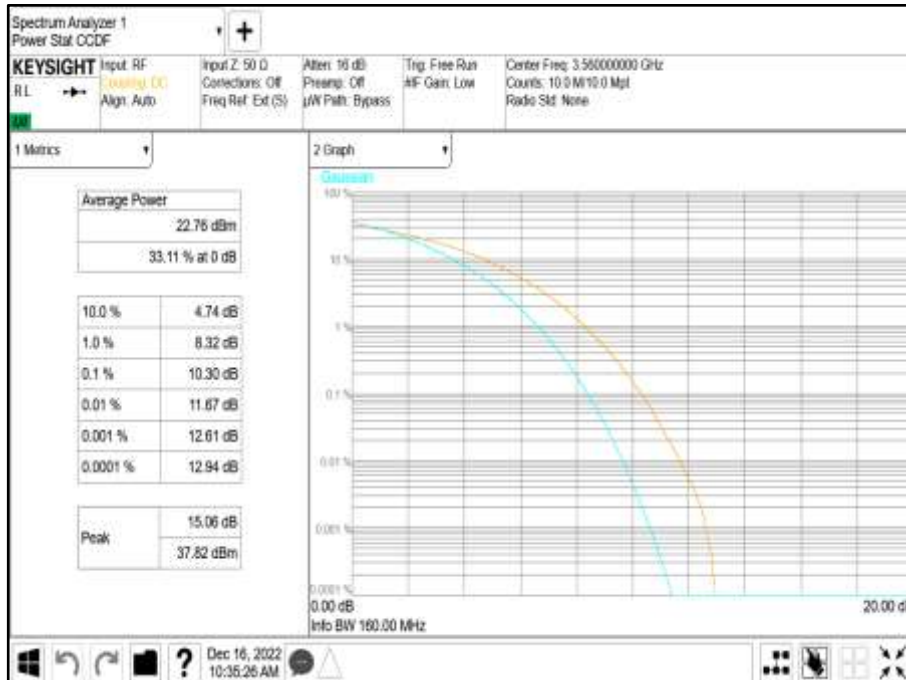


Antenna Port A Carrier Power - Modulation LTE: QPSK - Carrier Bandwidth 20.0 MHz - Channel Position B





Antenna Port A Pk-Av Ratio - Modulation LTE: QPSK - Carrier Bandwidth 20.0 MHz - Channel Position B



Antenna Port A PSD - Modulation LTE: QPSK - Carrier Bandwidth 20.0 MHz - Channel Position B

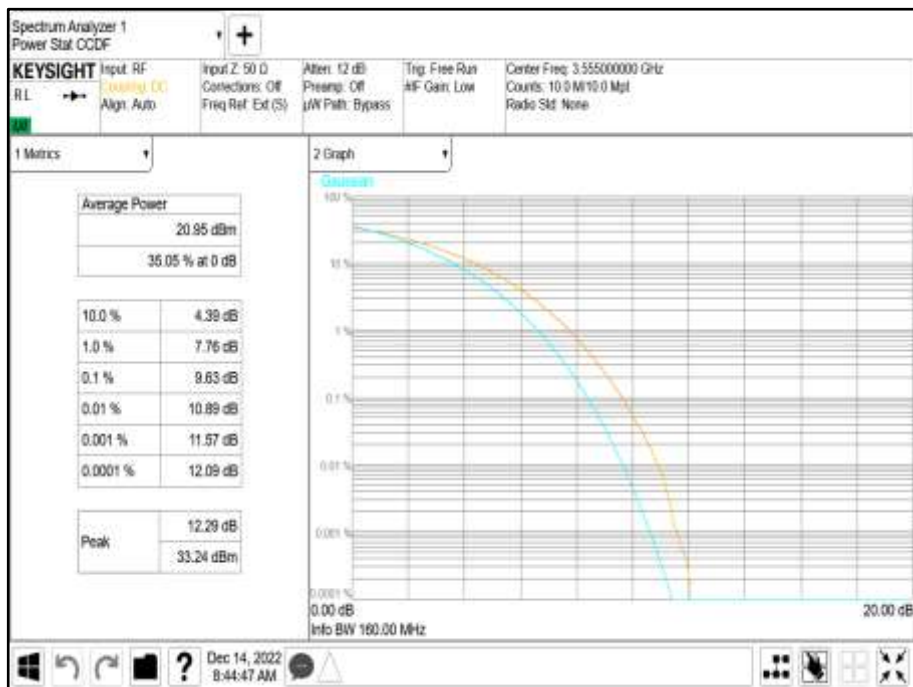




Antenna Port A Carrier Power - Modulation NR: QPSK - Carrier Bandwidth 10.0 MHz - Channel Position B



Antenna Port A Pk-Av Ratio - Modulation NR: QPSK - Carrier Bandwidth 10.0 MHz - Channel Position B





Antenna Port A PSD - Modulation NR: QPSK - Carrier Bandwidth 10.0 MHz - Channel Position B

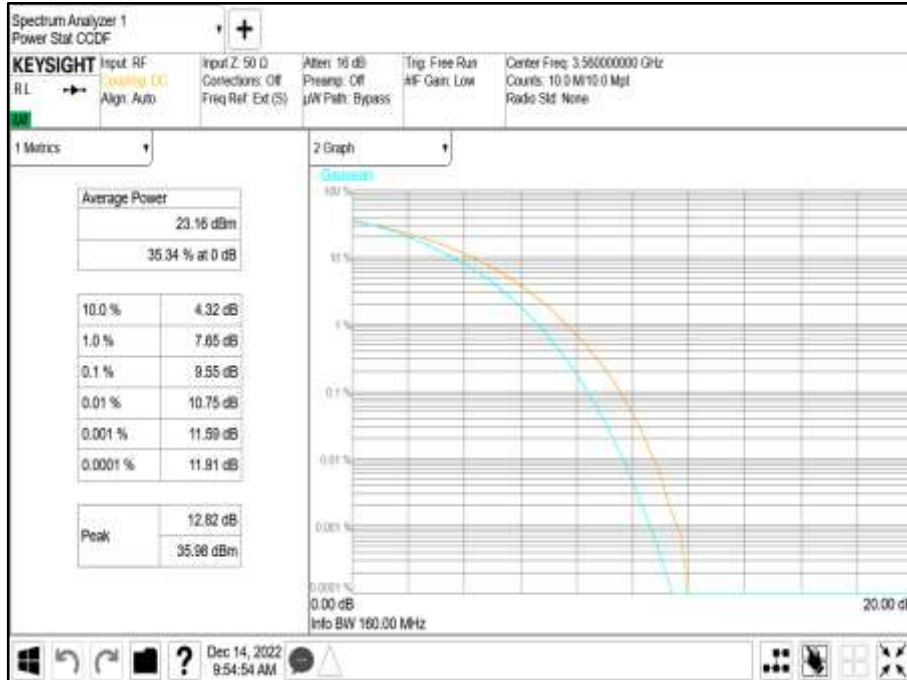


Antenna Port A Carrier Power - Modulation NR: QPSK - Carrier Bandwidth 20.0 MHz - Channel Position B





Antenna Port A Pk-Av Ratio - Modulation NR: QPSK - Carrier Bandwidth 20.0 MHz - Channel Position B



Antenna Port A PSD - Modulation NR: QPSK - Carrier Bandwidth 20.0 MHz - Channel Position B

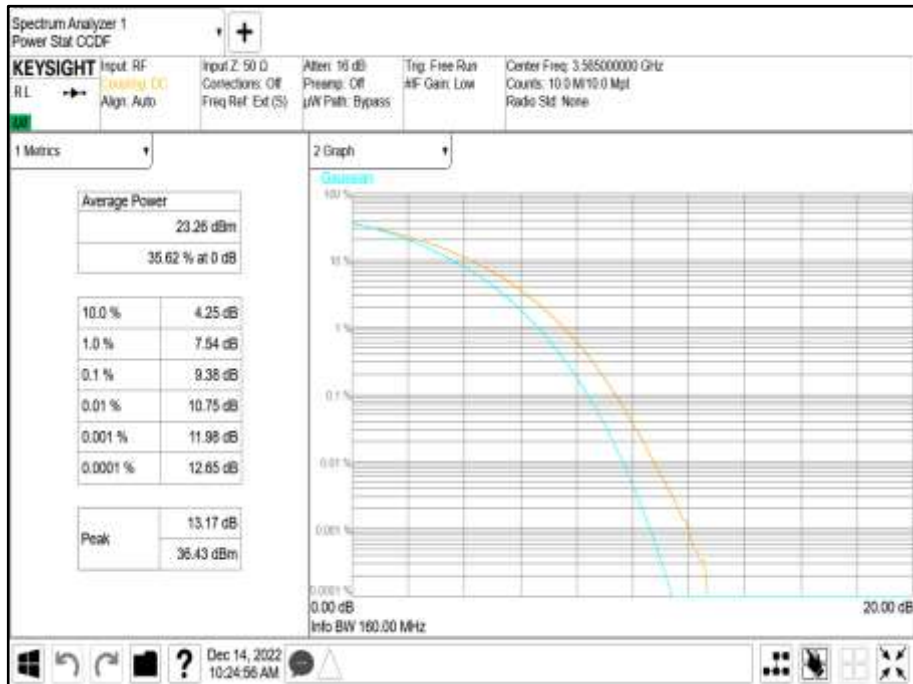




Antenna Port A Carrier Power - Modulation NR: QPSK - Carrier Bandwidth 30.0 MHz - Channel Position B



Antenna Port A Pk-Av Ratio - Modulation NR: QPSK - Carrier Bandwidth 30.0 MHz - Channel Position B

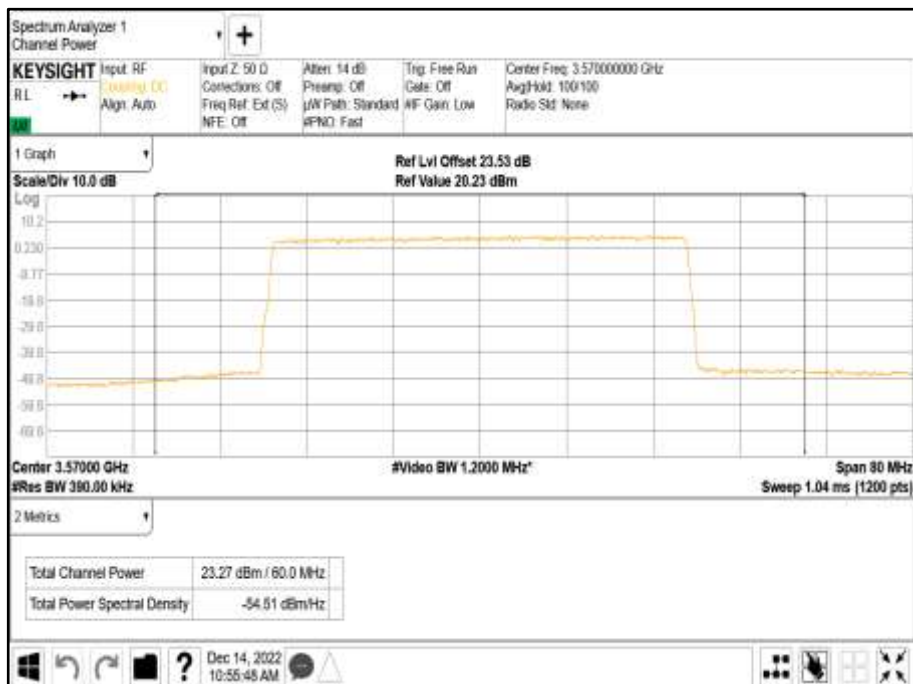




Antenna Port A PSD - Modulation NR: QPSK - Carrier Bandwidth 30.0 MHz - Channel Position B

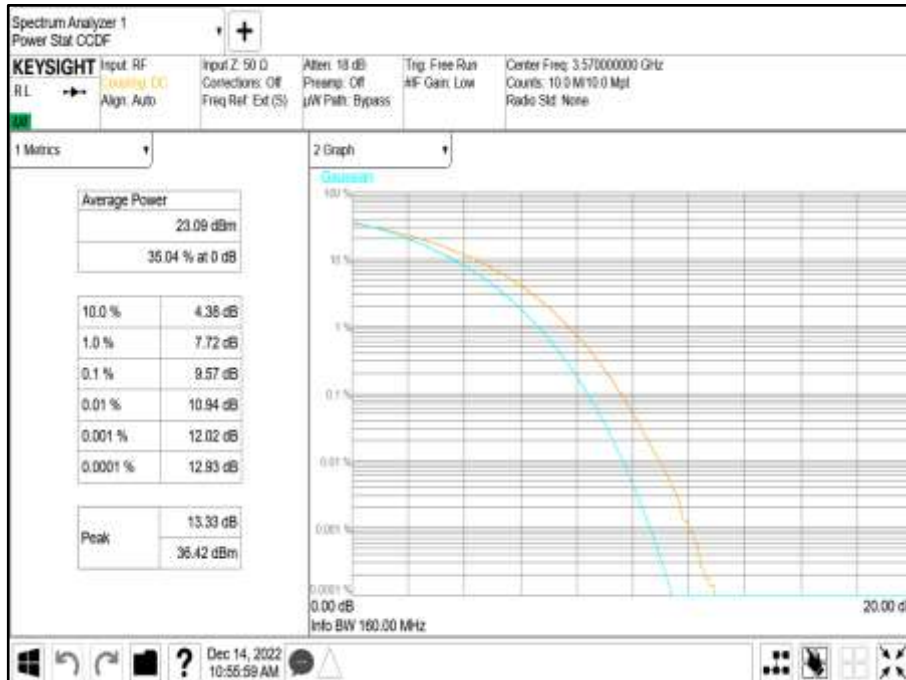


Antenna Port A Carrier Power - Modulation NR: QPSK - Carrier Bandwidth 40.0 MHz - Channel Position B





Antenna Port A Pk-Av Ratio - Modulation NR: QPSK - Carrier Bandwidth 40.0 MHz - Channel Position B



Antenna Port A PSD - Modulation NR: QPSK - Carrier Bandwidth 40.0 MHz - Channel Position B

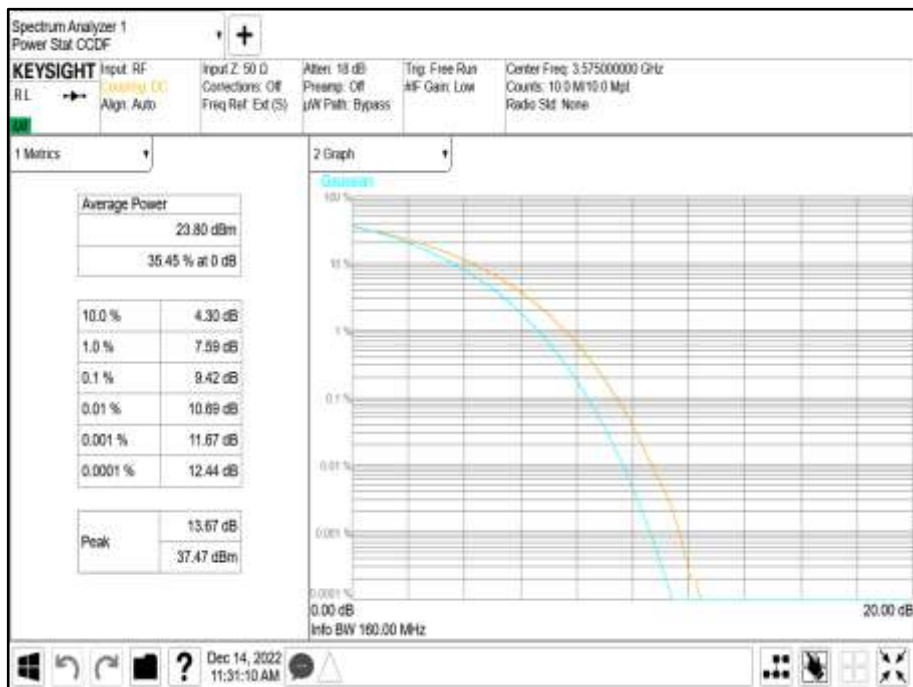




Antenna Port A Carrier Power - Modulation NR: QPSK - Carrier Bandwidth 50.0 MHz - Channel Position B



Antenna Port A Pk-Av Ratio - Modulation NR: QPSK - Carrier Bandwidth 50.0 MHz - Channel Position B

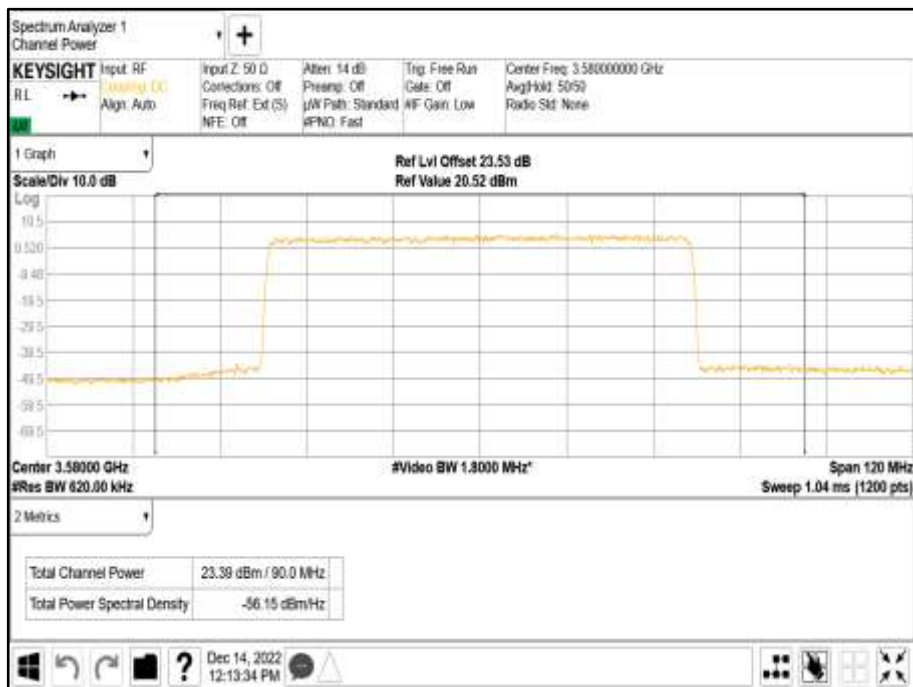




Antenna Port A PSD - Modulation NR: QPSK - Carrier Bandwidth 50.0 MHz - Channel Position B

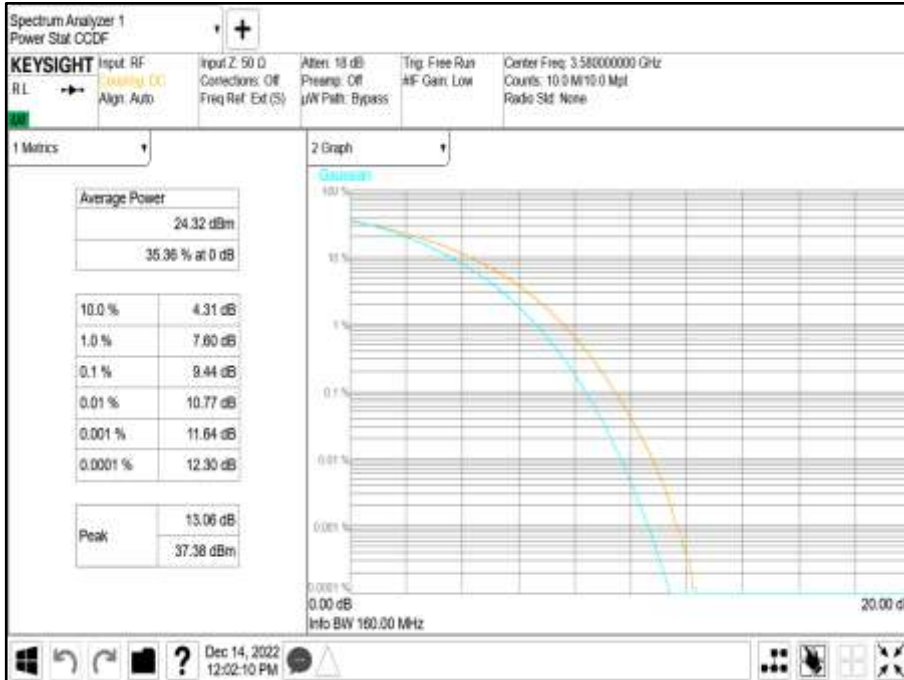


Antenna Port A Carrier Power - Modulation NR: QPSK - Carrier Bandwidth 60.0 MHz - Channel Position B





Antenna Port A Pk-Av Ratio - Modulation NR: QPSK - Carrier Bandwidth 60.0 MHz - Channel Position B



Antenna Port A PSD - Modulation NR: QPSK - Carrier Bandwidth 60.0 MHz - Channel Position B

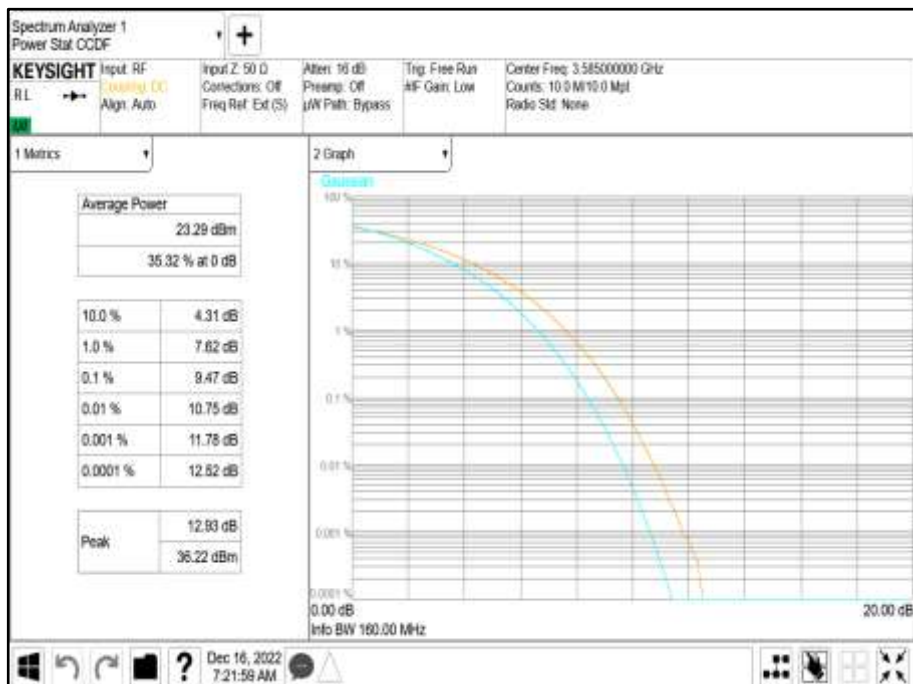




Antenna Port A Carrier Power - Modulation NR: QPSK - Carrier Bandwidth 70.0 MHz - Channel Position B



Antenna Port A Pk-Av Ratio - Modulation NR: QPSK - Carrier Bandwidth 70.0 MHz - Channel Position B

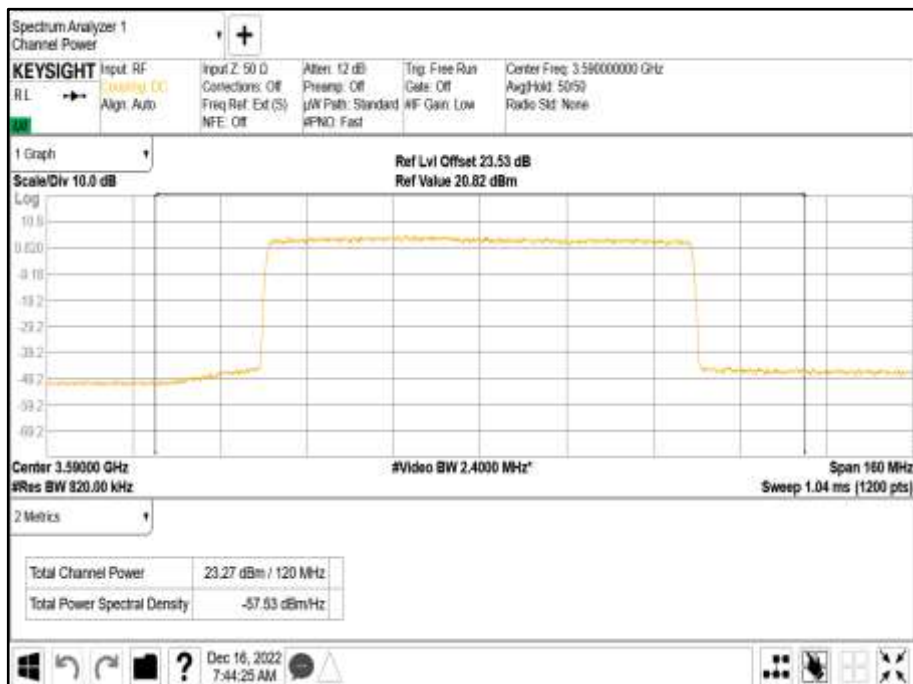




Antenna Port A PSD - Modulation NR: QPSK - Carrier Bandwidth 70.0 MHz - Channel Position B

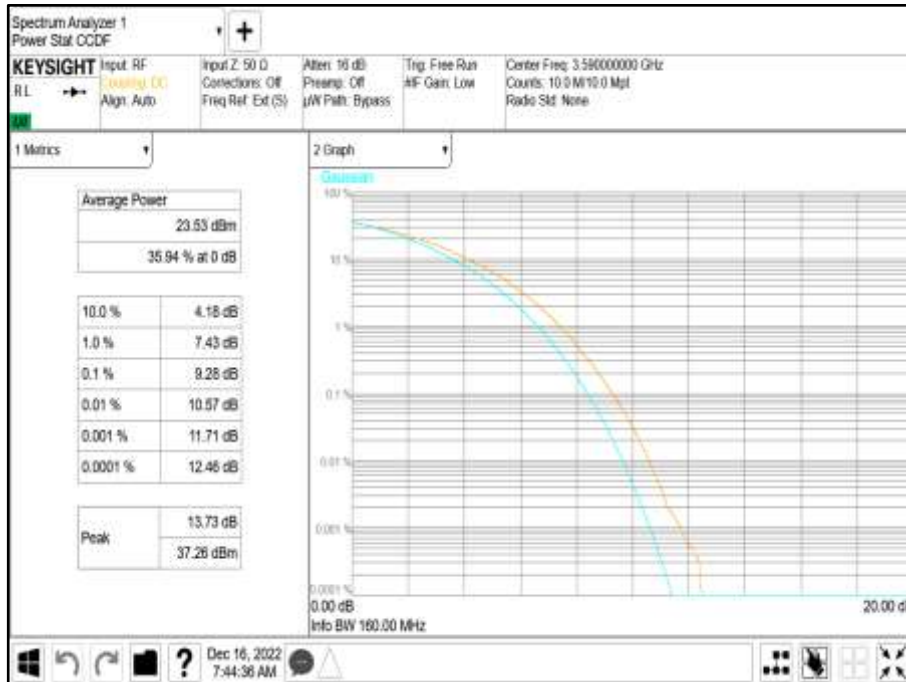


Antenna Port A Carrier Power - Modulation NR: QPSK - Carrier Bandwidth 80.0 MHz - Channel Position B





Antenna Port A Pk-Av Ratio - Modulation NR: QPSK - Carrier Bandwidth 80.0 MHz - Channel Position B



Antenna Port A PSD - Modulation NR: QPSK - Carrier Bandwidth 80.0 MHz - Channel Position B

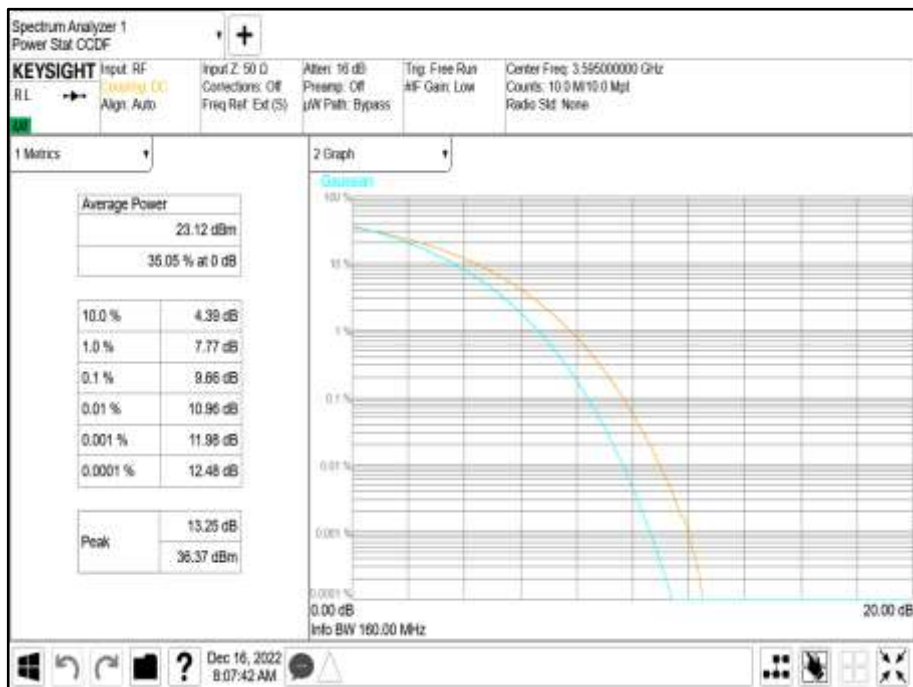




Antenna Port A Carrier Power - Modulation NR: QPSK - Carrier Bandwidth 90.0 MHz - Channel Position B



Antenna Port A Pk-Av Ratio - Modulation NR: QPSK - Carrier Bandwidth 90.0 MHz - Channel Position B

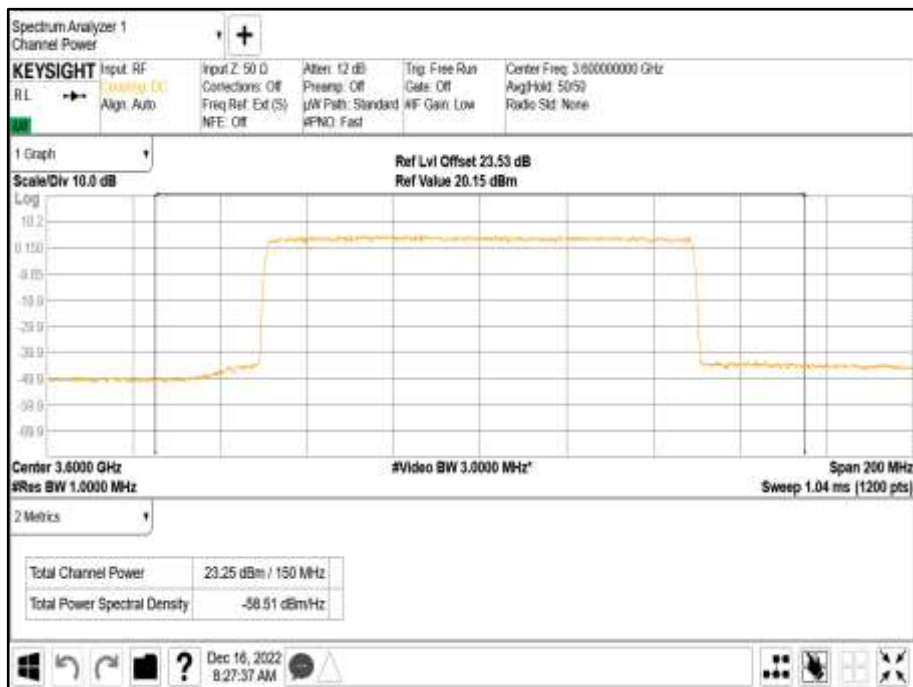




Antenna Port A PSD - Modulation NR: QPSK - Carrier Bandwidth 90.0 MHz - Channel Position B

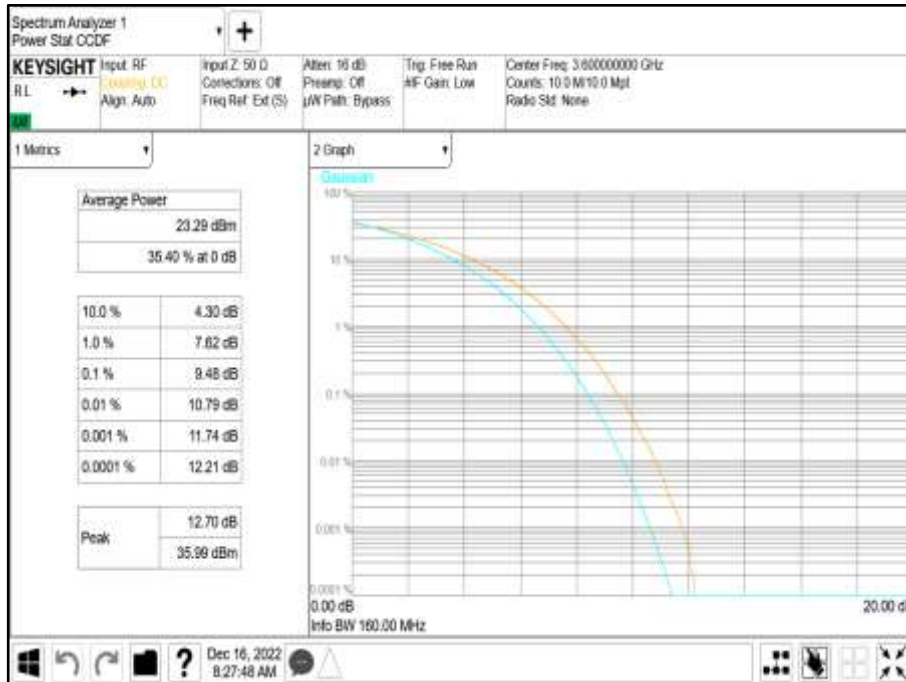


Antenna Port A Carrier Power - Modulation NR: QPSK - Carrier Bandwidth 100.0 MHz - Channel Position B





Antenna Port A Pk-Av Ratio - Modulation NR: QPSK - Carrier Bandwidth 100.0 MHz - Channel Position B



Antenna Port A PSD - Modulation NR: QPSK - Carrier Bandwidth 100.0 MHz - Channel Position B





Configuration B

Maximum Output Power (EIRP): 30dBm/10 MHz

Antenna Gain (dBi)	Modulation	Carrier Bandwidth	PSD / Output Power		
			Channel Position B		
4.90			M		
Antenna Port			dBm	dBm / 10 MHz	EIRP dBm/10 MHz
A	LTE: QPSK	10.0+10.0 MHz	24.51	21.50	26.40
B	LTE: QPSK	10.0+10.0 MHz	24.41	21.40	26.30
Total			27.47	24.46	29.36
A	LTE: QPSK	20.0+20.0 MHz	24.87	18.85	23.75
B	LTE: QPSK	20.0+20.0 MHz	24.76	18.74	23.64
Total			27.83	21.81	26.71
A	NR: QPSK	10.0+10.0 MHz	24.59	21.58	26.48
B	NR: QPSK	10.0+10.0 MHz	24.50	21.49	26.39
Total			27.56	24.55	29.45
A	NR: QPSK	70.0+70.0 MHz	25.76	14.30	19.20
B	NR: QPSK	70.0+70.0 MHz	25.68	14.22	19.12
Total			28.73	17.27	22.17
A	NR+LTE: QPSK	10.0+10.0 MHz	24.30	21.29	26.19
B	NR+LTE: QPSK	10.0+10.0 MHz	24.27	21.26	26.16
Total			27.30	24.29	29.19
A	*NR+LTE: QPSK	10.0+10.0 MHz	23.96	20.95	25.85
B	*NR+LTE: QPSK	10.0+10.0 MHz	24.01	21.00	25.90
Total			27.00	23.99	28.89

Antenna Gain (dBi)	Modulation	Carrier Bandwidth	PSD / Output Power		
			Channel Position M		
4.90			M		
Antenna Port			dBm	dBm / 10 MHz	EIRP dBm/10 MHz
A	LTE: QPSK	10.0+10.0 MHz	24.07	21.06	25.96
B	LTE: QPSK	10.0+10.0 MHz	23.91	20.90	25.80
Total			27.00	23.99	28.89
A	LTE: QPSK	20.0+20.0 MHz	25.06	19.04	23.94
B	LTE: QPSK	20.0+20.0 MHz	24.86	18.84	23.74
Total			27.97	21.95	26.85
A	NR: QPSK	10.0+10.0 MHz	24.63	21.62	26.52
B	NR: QPSK	10.0+10.0 MHz	24.42	21.41	26.31
Total			27.54	24.53	29.43
A	NR: QPSK	70.0+70.0 MHz	25.76	14.30	19.20
B	NR: QPSK	70.0+70.0 MHz	25.56	14.10	19.00
Total			28.67	17.21	22.11
A	NR+LTE: QPSK	10.0+10.0 MHz	23.83	20.82	25.72
B	NR+LTE: QPSK	10.0+10.0 MHz	23.62	20.61	25.51
Total			26.74	23.73	28.63
A	*NR+LTE: QPSK	10.0+10.0 MHz	23.96	20.95	25.85
B	*NR+LTE: QPSK	10.0+10.0 MHz	24.01	21.00	25.90
Total			27.00	23.99	28.89



Antenna Gain (dBi)	Modulation	Carrier Bandwidth	PSD / Output Power		
4.90			Channel Position T		
Antenna Port			M		
			dBm	dBm / 10 MHz	EIRP dBm/10 MHz
A	LTE: QPSK	10.0+10.0 MHz	24.19	21.18	26.08
B	LTE: QPSK	10.0+10.0 MHz	23.97	20.96	25.86
Total			27.09	24.08	28.98
A	LTE: QPSK	20.0+20.0 MHz	25.05	19.03	23.93
B	LTE: QPSK	20.0+20.0 MHz	24.93	18.91	23.81
Total			28.00	21.98	26.88
A	NR: QPSK	10.0+10.0 MHz	24.69	21.68	26.58
B	NR: QPSK	10.0+10.0 MHz	24.50	21.49	26.39
Total			27.61	24.60	29.50
A	NR: QPSK	70.0+70.0 MHz	25.69	14.23	19.13
B	NR: QPSK	70.0+70.0 MHz	25.63	14.17	19.07
Total			28.67	17.21	22.11
A	NR+LTE: QPSK	10.0+10.0 MHz	23.98	20.97	25.87
B	NR+LTE: QPSK	10.0+10.0 MHz	23.87	20.86	25.76
Total			26.94	23.93	28.83
A	*NR+LTE: QPSK	10.0+10.0 MHz	23.96	20.95	25.85
B	*NR+LTE: QPSK	10.0+10.0 MHz	24.01	21.00	25.90
Total			27.00	23.99	28.89

Remarks

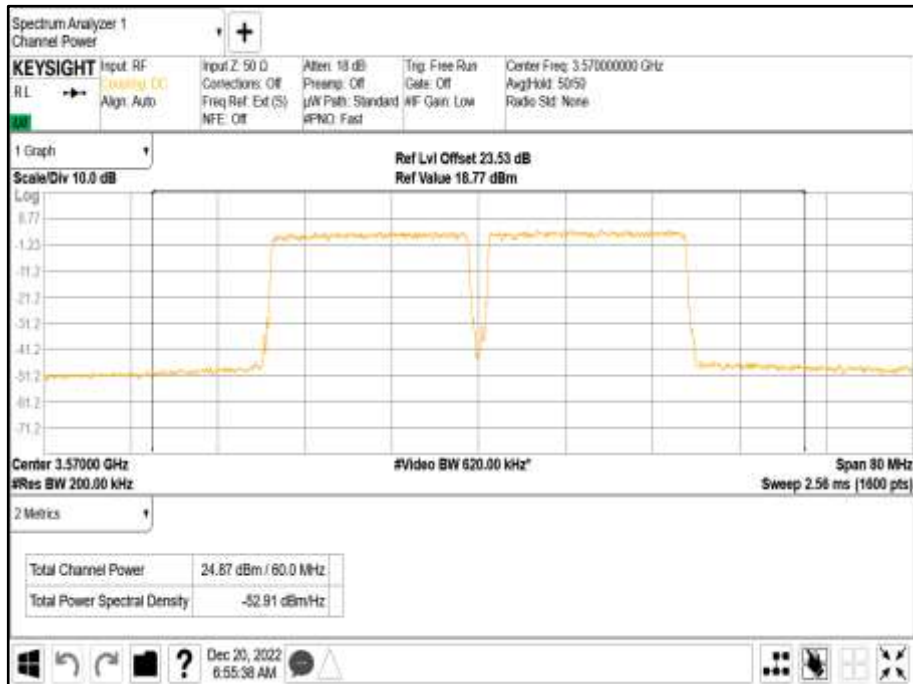
1. The table results are measured at all antenna ports.
2. The plot results represent typical radio performance across all channels.
3. Plot data performance for all transmitter ports and channels for both contiguous and non-contiguous (NC) operation are available on request.
4. * = non-contiguous configuration.



Antenna Port A Carrier Power - Modulation LTE: QPSK - Carrier Bandwidth 10.0+10.0 MHz - Channel Position B

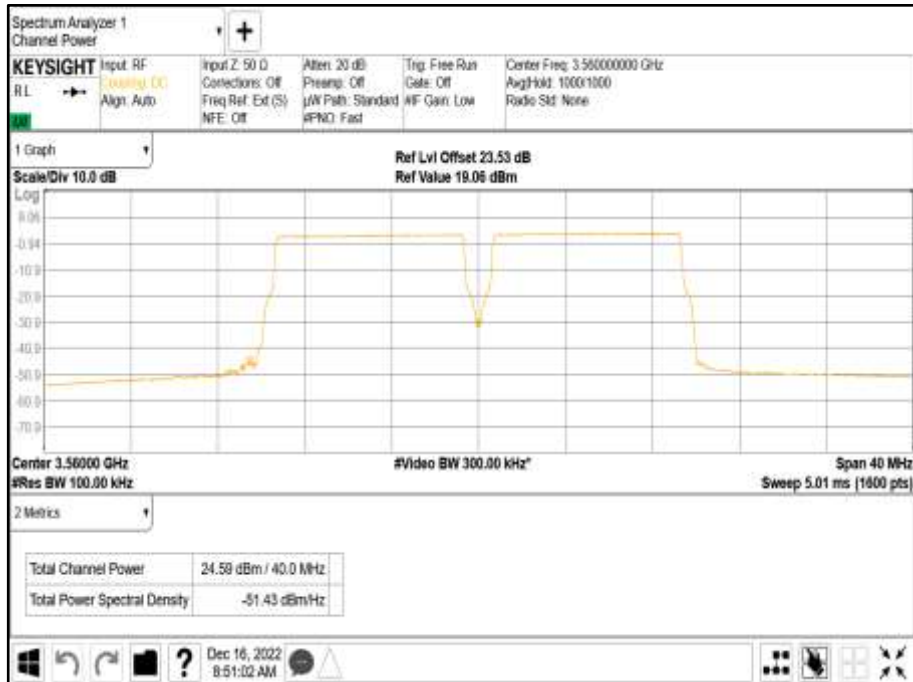


Antenna Port A Carrier Power - Modulation LTE: QPSK - Carrier Bandwidth 20.0+20.0 MHz - Channel Position B

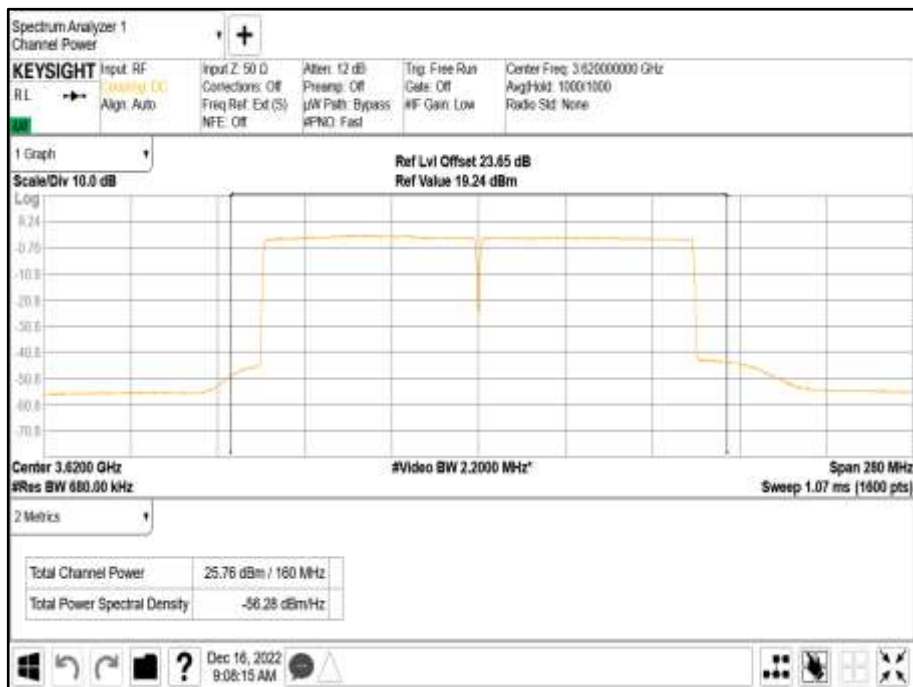




Antenna Port A Carrier Power - Modulation NR: QPSK - Carrier Bandwidth 10.0+10.0 MHz - Channel Position B

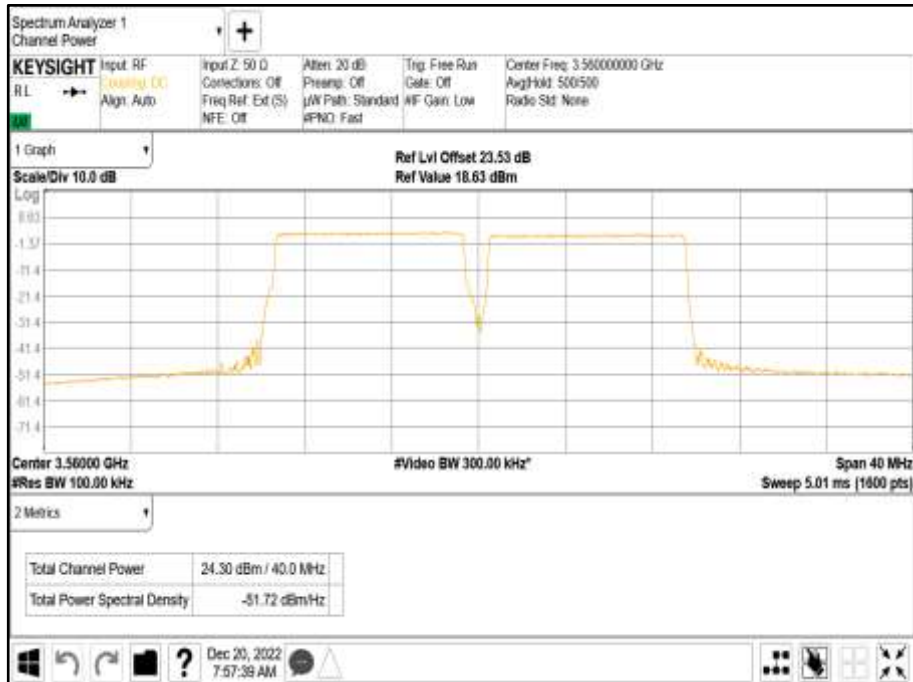


Antenna Port A Carrier Power - Modulation NR: QPSK - Carrier Bandwidth 70.0+70.0 MHz - Channel Position B

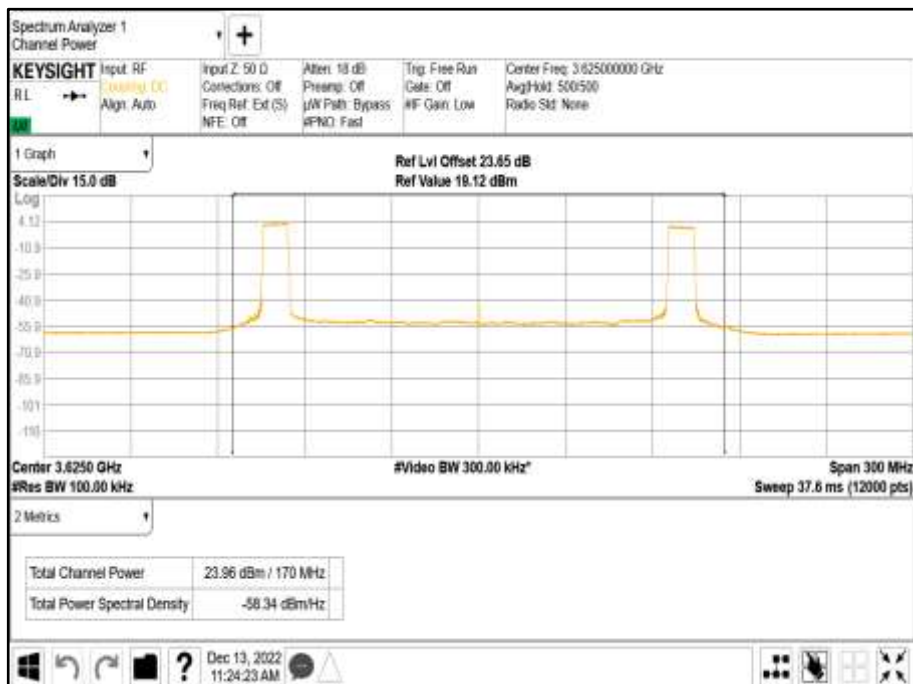




Antenna Port A Carrier Power - Modulation NR+LTE: QPSK - Carrier Bandwidth 10.0+10.0 MHz - Channel Position B



Antenna Port A Carrier Power - Modulation *NR+LTE: QPSK - Carrier Bandwidth 10.0+10.0 MHz - Channel Position B





Configuration C

Maximum Output Power (EIRP): 30dBm/10 MHz

Antenna Gain (dBi) 4.90	Modulation	Carrier Bandwidth	PSD / Output Power		
			Channel Position B		
			Average Power		
Antenna Port			dBm	dBm / 10 MHz	EIRP dBm/10 MHz
A	LTE: QPSK	10+10+10+10+10+10 MHz	25.00	17.22	22.12
B	LTE: QPSK	10+10+10+10+10+10 MHz	24.96	17.18	22.08
Total			27.99	20.21	25.11
A	LTE: QPSK	20+20+20+20+20+20 MHz	25.34	14.55	19.45
B	LTE: QPSK	20+20+20+20+20+20 MHz	25.30	14.51	19.41
Total			28.33	17.54	22.44
A	NR: QPSK	10+10+10+10+10+10 MHz	25.25	17.47	22.37
B	NR: QPSK	10+10+10+10+10+10 MHz	25.17	17.39	22.29
Total			28.22	20.44	25.34
A	NR: QPSK	20+20+20+20+20+20 MHz	25.78	14.99	19.89
B	NR: QPSK	20+20+20+20+20+20 MHz	25.72	14.93	19.83
Total			28.76	17.97	22.87
A	NR+LTE: QPSK	10+10+10+10+10+10 MHz	24.59	16.81	21.71
B	NR+LTE: QPSK	10+10+10+10+10+10 MHz	24.53	16.75	21.65
Total			27.57	19.79	24.69
A	*NR+LTE: QPSK	10+10+10+10+10+10 MHz	24.94	17.16	22.06
B	*NR+LTE: QPSK	10+10+10+10+10+10 MHz	24.92	17.14	22.04
Total			27.94	20.16	25.06

Antenna Gain (dBi) 4.90	Modulation	Carrier Bandwidth	PSD / Output Power		
			Channel Position M		
			Average Power		
Antenna Port			dBm	dBm / 10 MHz	EIRP dBm/10 MHz
A	LTE: QPSK	10+10+10+10+10+10 MHz	24.98	17.20	22.10
B	LTE: QPSK	10+10+10+10+10+10 MHz	24.91	17.13	22.03
Total			27.96	20.17	25.07
A	LTE: QPSK	20+20+20+20+20+20 MHz	25.04	14.25	19.15
B	LTE: QPSK	20+20+20+20+20+20 MHz	24.86	14.07	18.97
Total			27.96	17.17	22.07
A	NR: QPSK	10+10+10+10+10+10 MHz	25.53	17.75	22.65
B	NR: QPSK	10+10+10+10+10+10 MHz	25.34	17.56	22.46
Total			28.45	20.66	25.56
A	NR: QPSK	20+20+20+20+20+20 MHz	25.48	14.69	19.59
B	NR: QPSK	20+20+20+20+20+20 MHz	25.44	14.65	19.55
Total			28.47	17.68	22.58
A	NR+LTE: QPSK	10+10+10+10+10+10 MHz	24.83	17.05	21.95
B	NR+LTE: QPSK	10+10+10+10+10+10 MHz	24.45	16.67	21.57
Total			27.65	19.87	24.77
A	*NR+LTE: QPSK	10+10+10+10+10+10 MHz	24.94	17.16	22.06
B	*NR+LTE: QPSK	10+10+10+10+10+10 MHz	24.92	17.14	22.04
Total			27.94	20.16	25.06

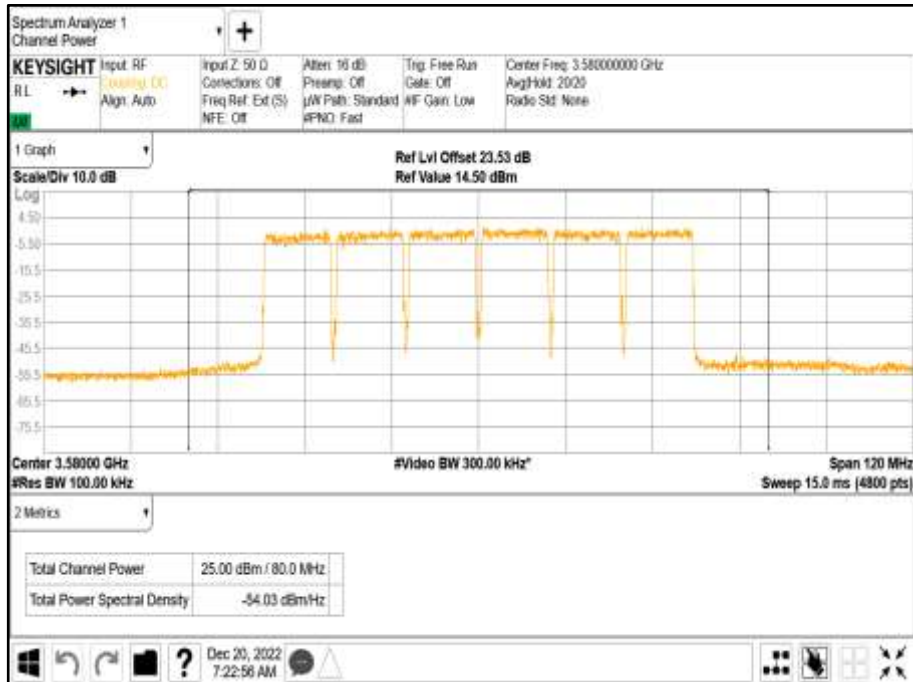


Antenna Gain (dBi)	Modulation	Carrier Bandwidth	PSD / Output Power		
			Channel Position T		
Antenna Port			Average Power		
			dBm	dBm / 10 MHz	EIRP dBm/10 MHz
4.90					
A	LTE: QPSK	10+10+10+10+10+10 MHz	25.04	17.26	22.16
B	LTE: QPSK	10+10+10+10+10+10 MHz	24.96	17.18	22.08
Total			28.01	20.23	25.13
A	LTE: QPSK	20+20+20+20+20+20 MHz	24.97	14.18	19.08
B	LTE: QPSK	20+20+20+20+20+20 MHz	24.81	14.02	18.92
Total			27.90	17.11	22.01
A	NR: QPSK	10+10+10+10+10+10 MHz	25.49	17.71	22.61
B	NR: QPSK	10+10+10+10+10+10 MHz	25.41	17.63	22.53
Total			28.46	20.68	25.58
A	NR: QPSK	20+20+20+20+20+20 MHz	25.53	14.74	19.64
B	NR: QPSK	20+20+20+20+20+20 MHz	25.44	14.65	19.55
Total			28.50	17.70	22.60
A	NR+LTE: QPSK	10+10+10+10+10+10 MHz	24.83	17.05	21.95
B	NR+LTE: QPSK	10+10+10+10+10+10 MHz	24.83	17.05	21.95
Total			27.84	20.06	24.96
A	*NR+LTE: QPSK	10+10+10+10+10+10 MHz	24.94	17.16	22.06
B	*NR+LTE: QPSK	10+10+10+10+10+10 MHz	24.92	17.14	22.04
Total			27.94	20.16	25.06

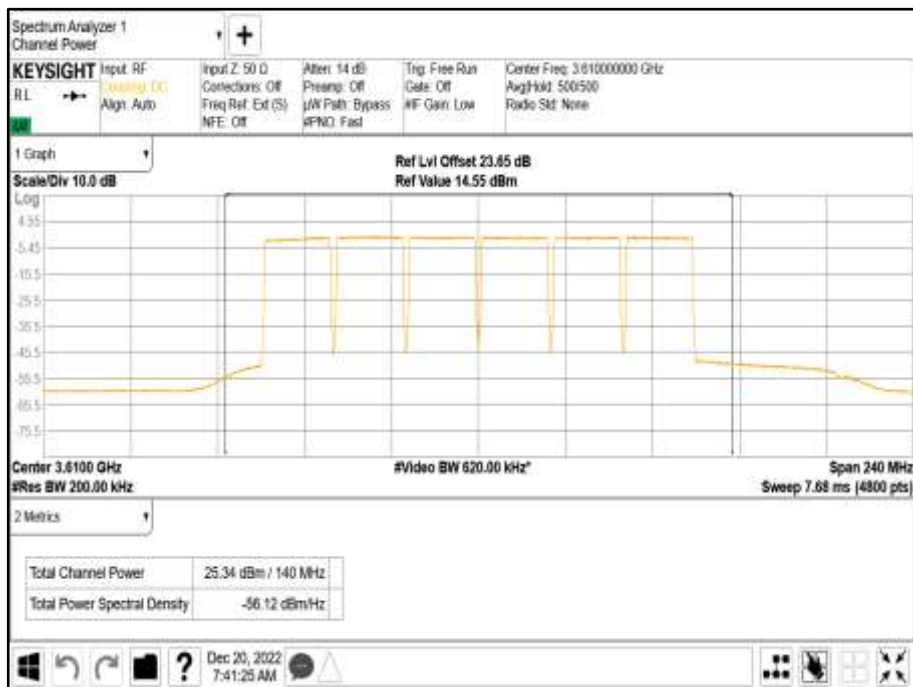
Remarks

1. The table results are measured at all antenna ports.
2. The plot results represent typical radio performance across all channels.
3. Plot data performance for all transmitter ports and channels for both contiguous and non-contiguous (NC) operation are available on request.
4. * = non-contiguous configuration.

Antenna Port D Carrier Power - Modulation LTE: QPSK - Carrier Bandwidth 10+10+10+10+10+10 MHz - Channel Position B

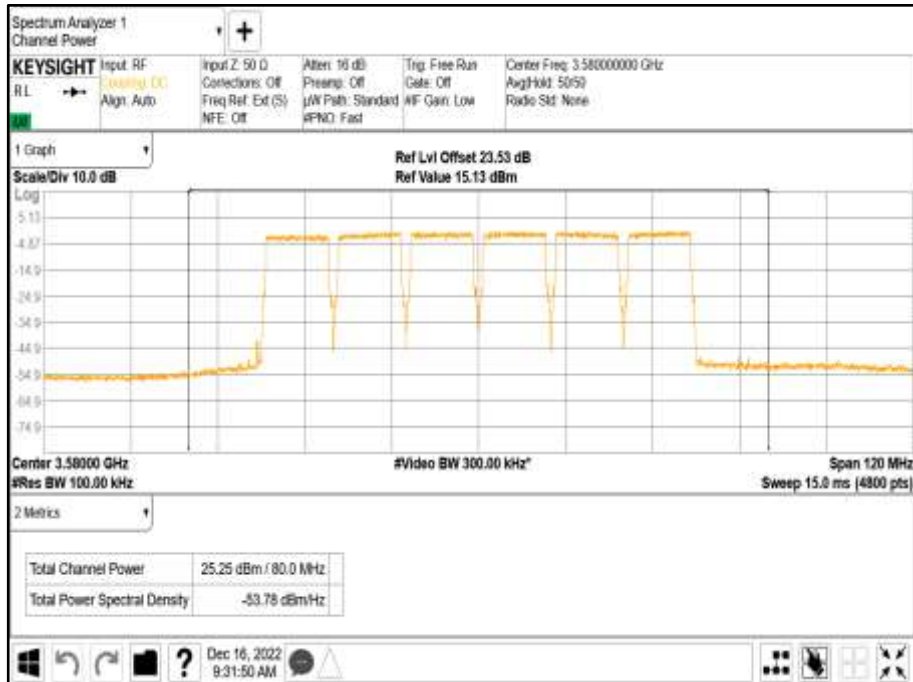


Antenna Port D Carrier Power - Modulation LTE: QPSK - Carrier Bandwidth 20+20+20+20+20+20 MHz - Channel Position B

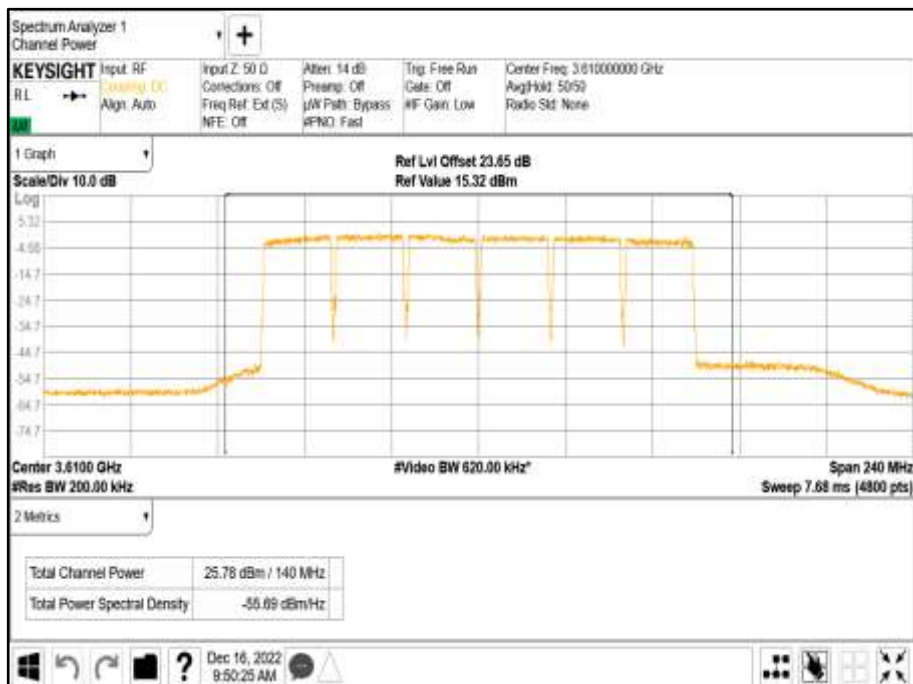




Antenna Port D Carrier Power - Modulation NR: QPSK - Carrier Bandwidth 10+10+10+10+10+10 MHz - Channel Position B

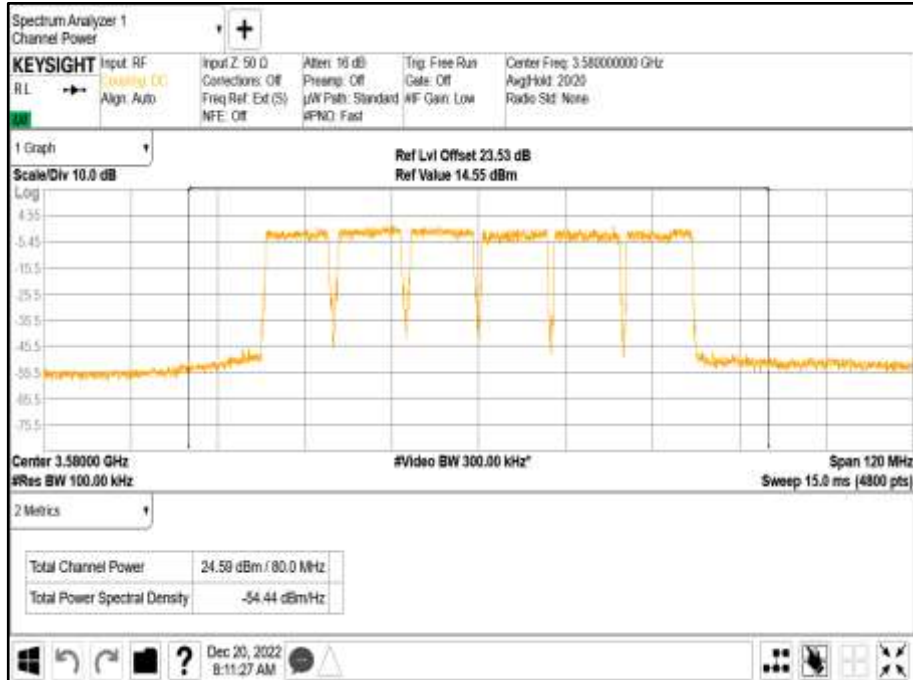


Antenna Port D Carrier Power - Modulation NR: QPSK - Carrier Bandwidth 20+20+20+20+20+20 MHz - Channel Position B

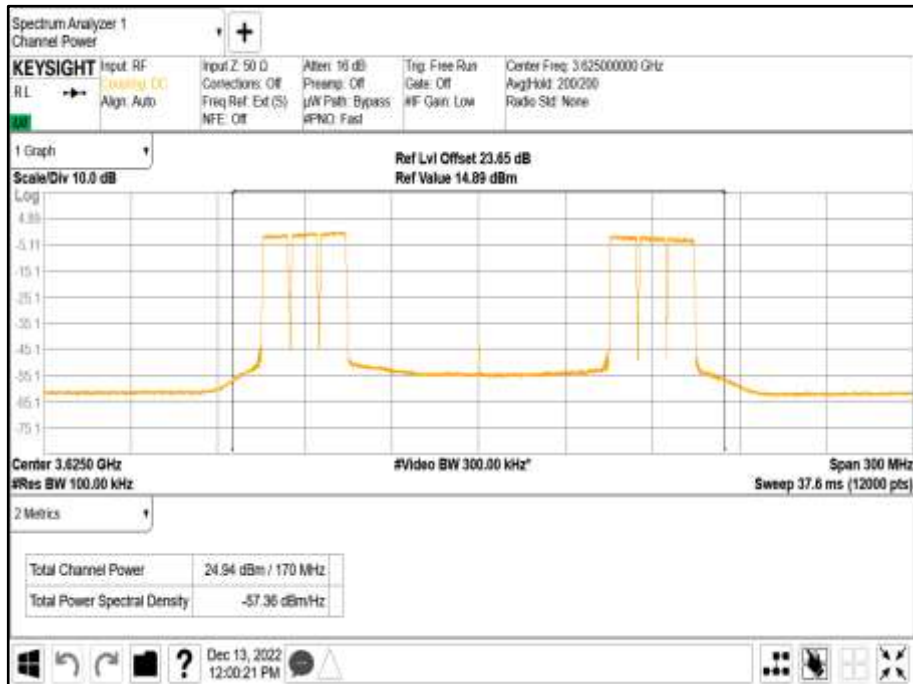




Antenna Port D Carrier Power - Modulation NR+LTE: QPSK - Carrier Bandwidth 10+10+10+10+10+10 MHz - Channel Position B



Antenna Port D Carrier Power - Modulation *NR+LTE: QPSK - Carrier Bandwidth 10+10+10+10+10+10 MHz - Channel Position B





FCC CFR 47 Part 96, Clause 96.41 (b)(c)(g)

Limit	
Maximum EIRP	Category A CBSD Maximum EIRP: 30 dBm/10 MHz Maximum PSD: 20 dBm/MHz
Peak to Average Ratio	13 dB



2.2 OCCUPIED BANDWIDTH

2.2.1 Specification Reference

FCC CFR 47 Part 96, Clause 96.41 (e)(3)
 FCC CFR 47 Part 2, Clause 2.1049

2.2.2 Date of Test and Modification State

13-December-2022 - 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 24.6°C
 Relative Humidity 30.8%

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.

2.2.6 Test Results

Configuration A

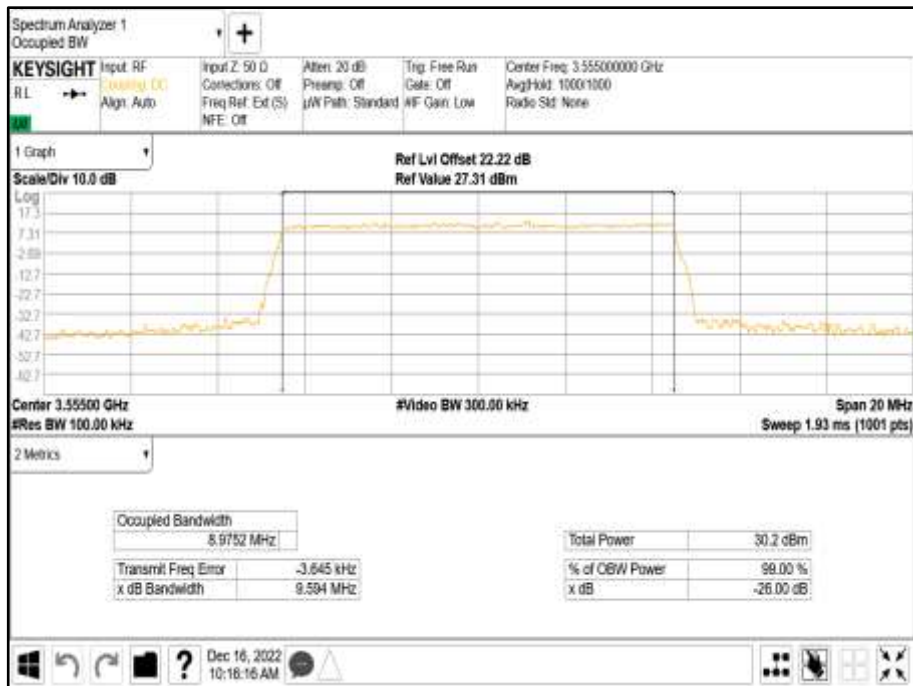
Modulation	Carrier Bandwidth	Result (MHz)
		Channel Bandwidth Occupied Bandwidth
LTE: QPSK	LTE: 10.0 MHz	8.975
LTE: QPSK	LTE: 20.0 MHz	17.907
NR: QPSK	NR: 10.0 MHz	8.615
NR: QPSK	NR: 20.0 MHz	18.240
NR: QPSK	NR: 30.0 MHz	27.889
NR: QPSK	NR: 40.0 MHz	37.926
NR: QPSK	NR: 50.0 MHz	47.361
NR: QPSK	NR: 60.0 MHz	57.619
NR: QPSK	NR: 70.0 MHz	67.233
NR: QPSK	NR: 80.0 MHz	77.311
NR: QPSK	NR: 90.0 MHz	87.059
NR: QPSK	NR: 100.0 MHz	97.065

Remarks

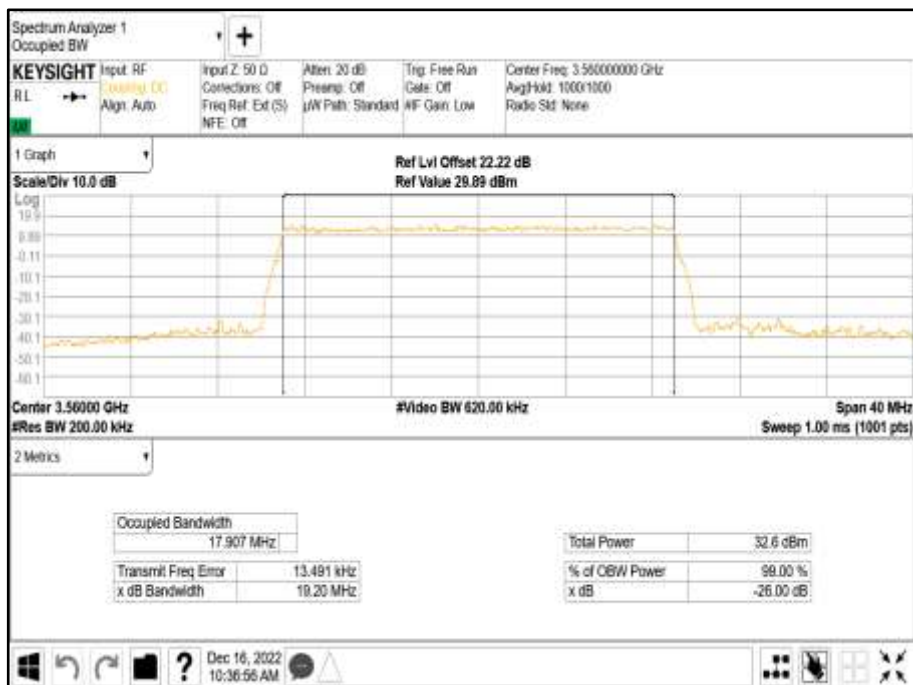
Representative occupied bandwidth performance results presented. Plot data performance for all transmitter ports and channel positions are on file and available on request.



Antenna A - Modulation LTE: QPSK - Carrier Bandwidth LTE: 10.0 MHz - Channel Position B

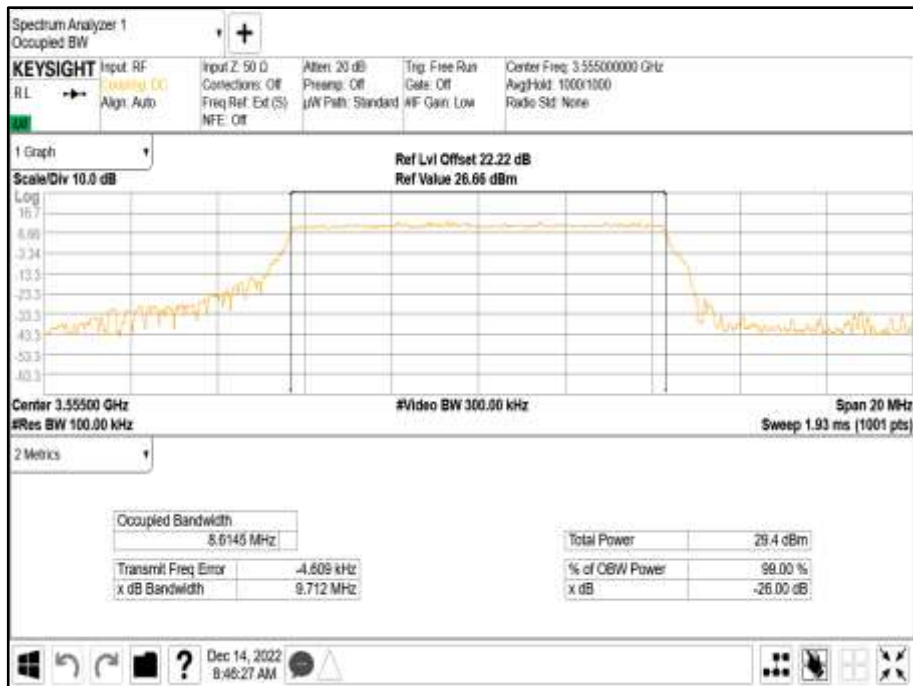


Antenna A - Modulation LTE: QPSK - Carrier Bandwidth LTE: 20.0 MHz - Channel Position B

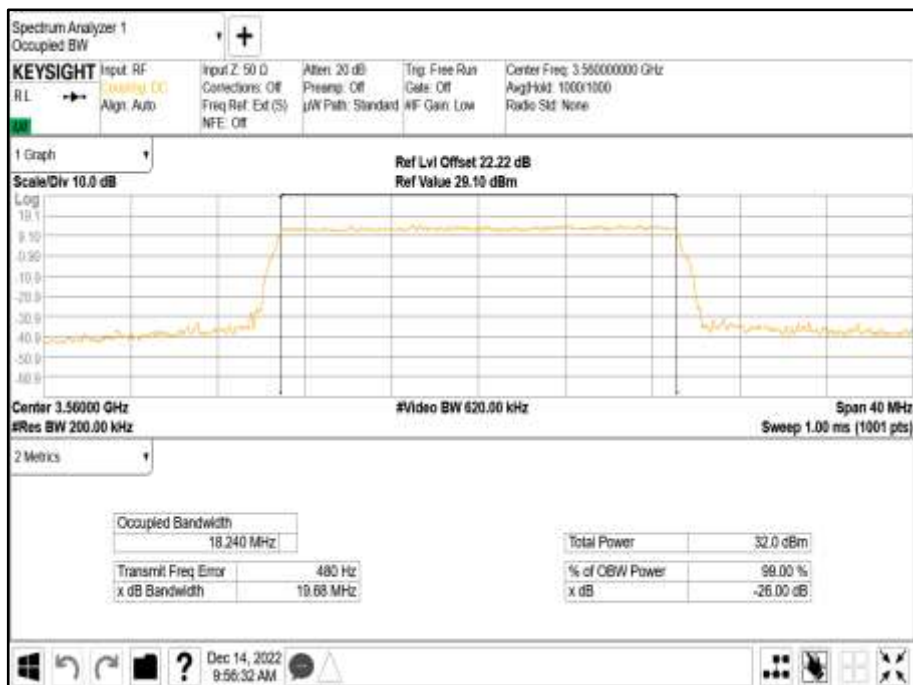




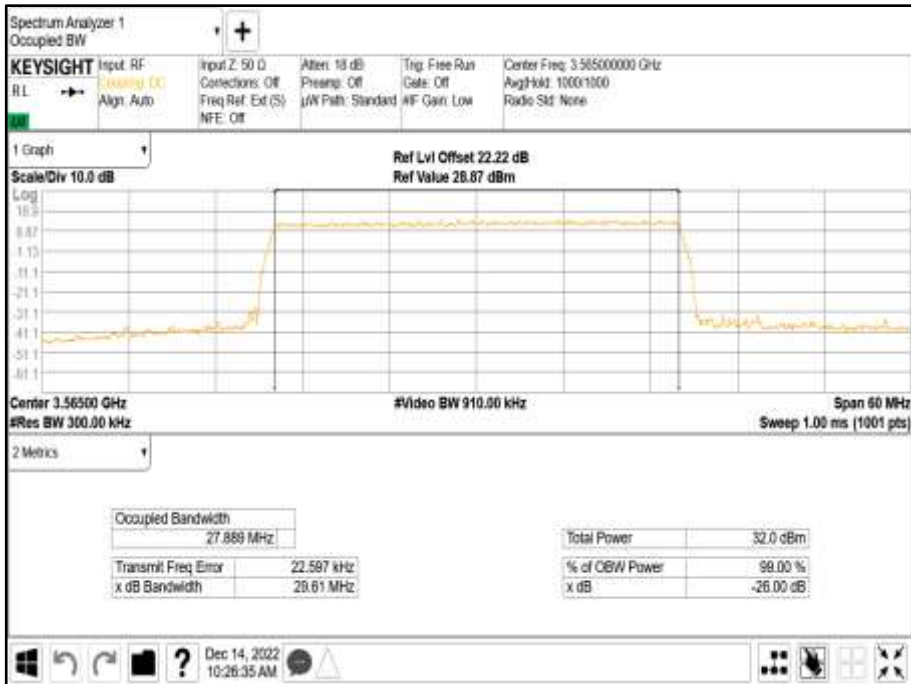
Antenna A - Modulation NR: QPSK - Carrier Bandwidth NR: 10.0 MHz - Channel Position B



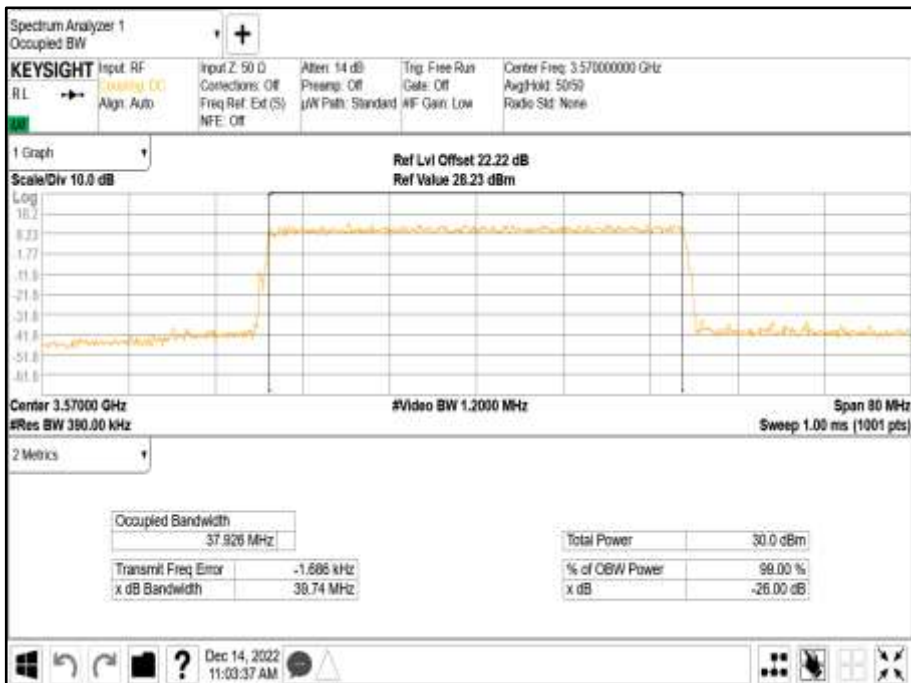
Antenna A - Modulation NR: QPSK - Carrier Bandwidth NR: 20.0 MHz - Channel Position B



Antenna A - Modulation NR: QPSK - Carrier Bandwidth NR: 30.0 MHz - Channel Position B

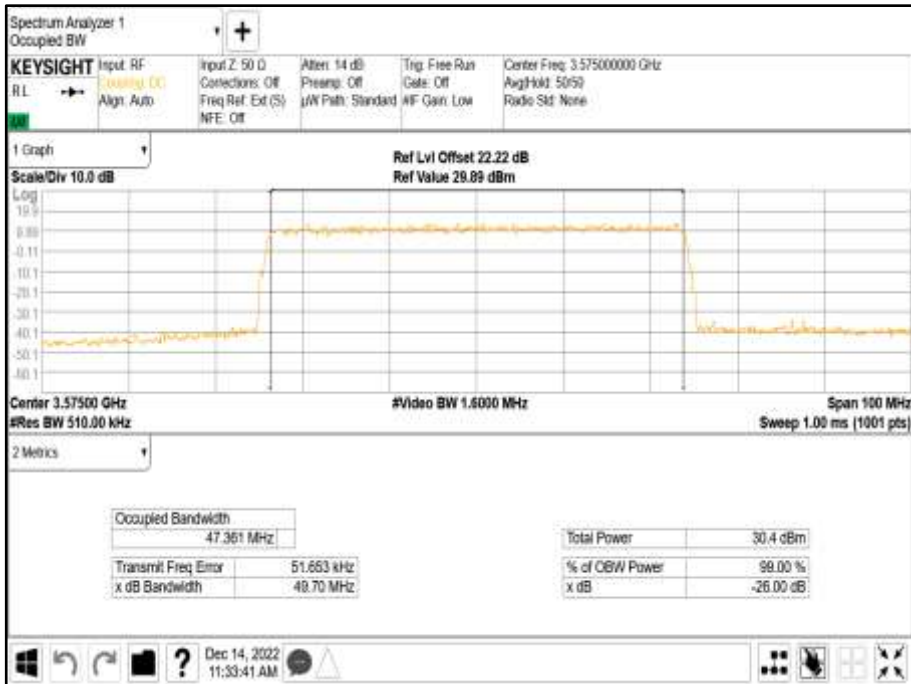


Antenna A - Modulation NR: QPSK - Carrier Bandwidth NR: 40.0 MHz - Channel Position B

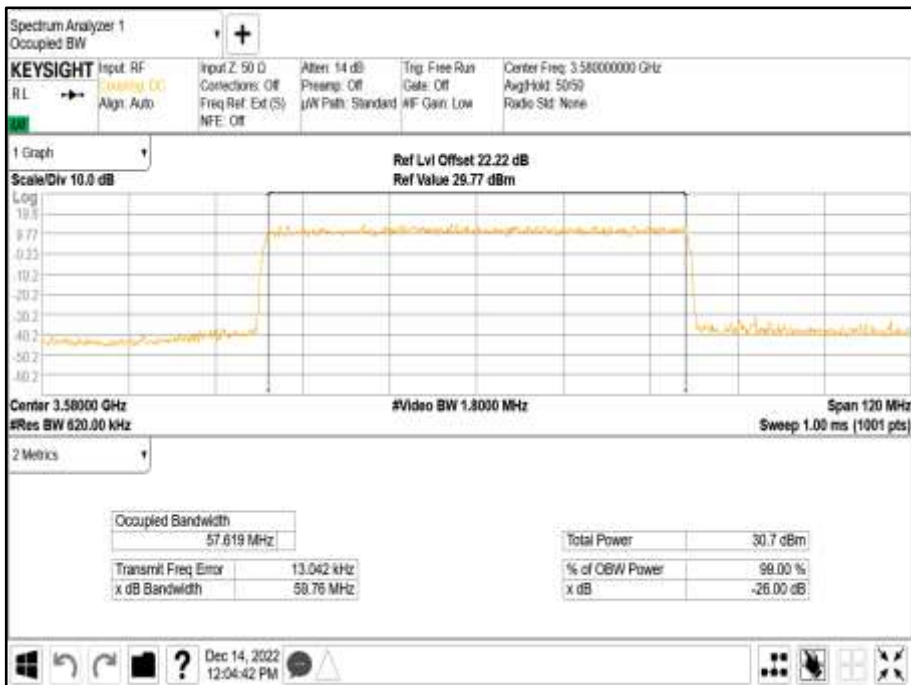




Antenna A - Modulation NR: QPSK - Carrier Bandwidth NR: 50.0 MHz - Channel Position B

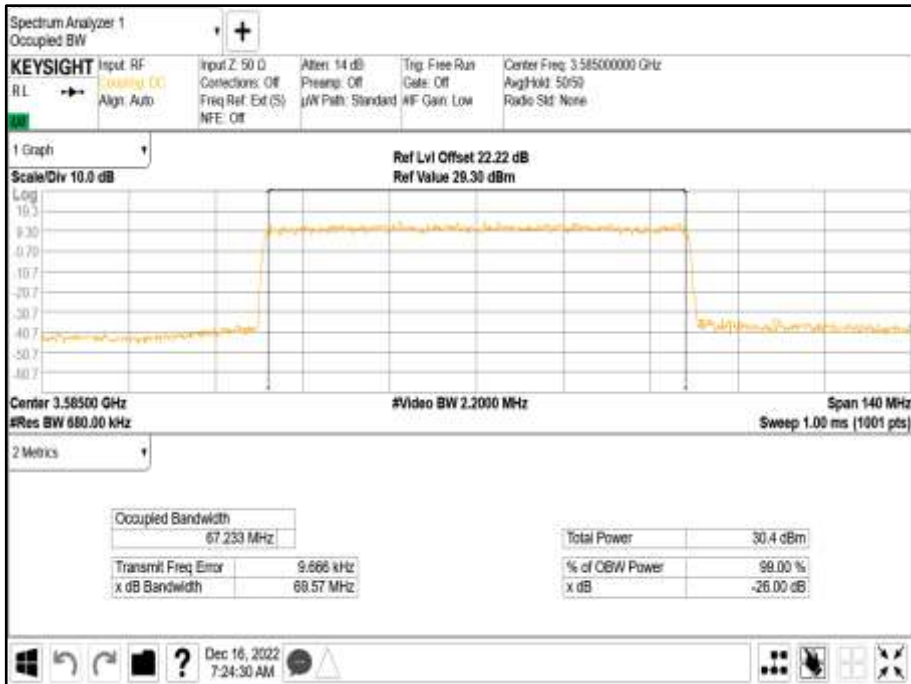


Antenna A - Modulation NR: QPSK - Carrier Bandwidth NR: 60.0 MHz - Channel Position B

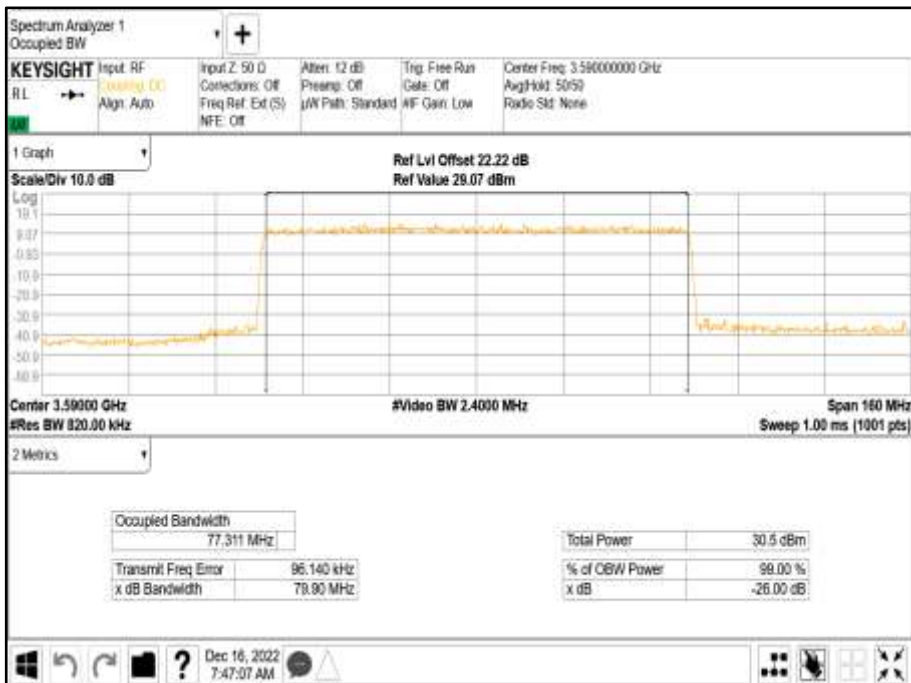




Antenna A - Modulation NR: QPSK - Carrier Bandwidth NR: 70.0 MHz - Channel Position B

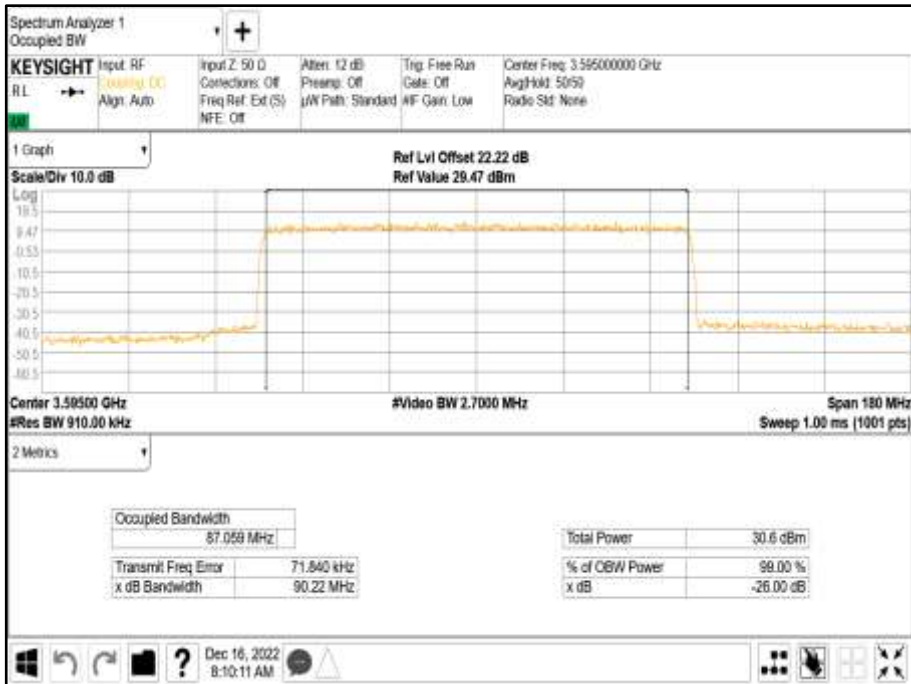


Antenna A - Modulation NR: QPSK - Carrier Bandwidth NR: 80.0 MHz - Channel Position B

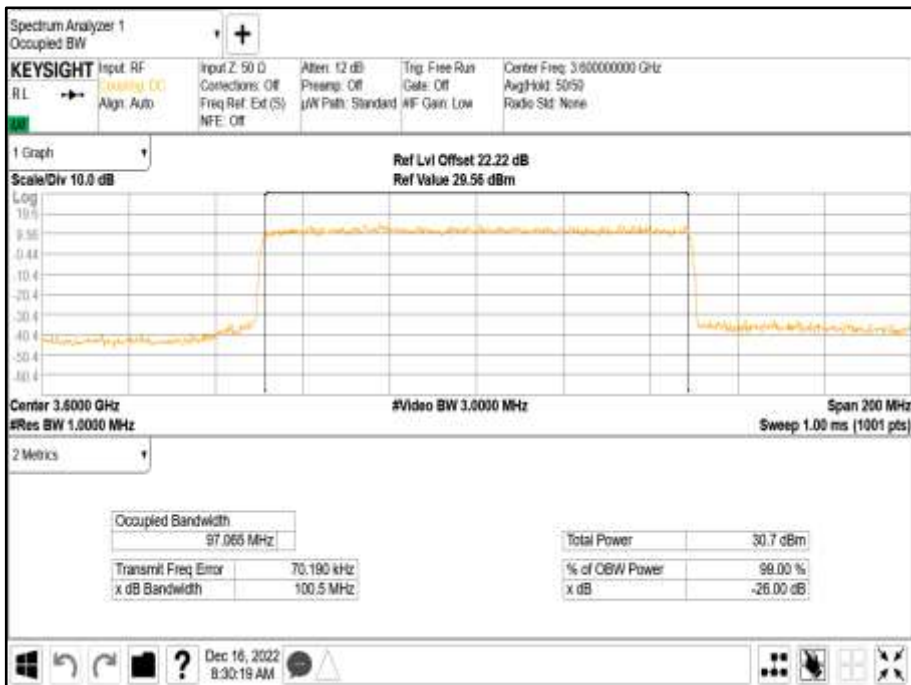




Antenna A - Modulation NR: QPSK - Carrier Bandwidth NR: 90.0 MHz - Channel Position B



Antenna A - Modulation NR: QPSK - Carrier Bandwidth NR: 100.0 MHz - Channel Position B





2.3 BAND EDGE & ADDITIONAL PROTECTION LEVELS

2.3.1 Specification Reference

FCC CFR 47 Part 96, Clause 96.41 (e)(3)
FCC CFR 47 Part 2, Clause 2.1051

2.3.2 Date of Test and Modification State

13, 14 and 15-December-2022 - 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	24.6°C
Relative Humidity	30.8%

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 dual port at the band edge, the limit was calculated as being $-13 \text{ dBm} - 10 * \text{Log}(2) = -16 \text{ dBm}$.

Remarks

1. Bandedge data was captured from the transmit port with maximum measured power.
2. Worst case bandedge data presented.
3. The limit lines and frequency lines are adjusted / integrated to allow for verification of the unwanted emission requirement of -13 dBm/MHz from 0-10 MHz of the Band edge and -25 dBm/MHz from 10-20 MHz of the Band Edge as per the requirement of CFR Part 96, Subpart E, 96.41(e) considering a 2-port transmitter.



2.3.6 Test Results

Configuration A

Antenna Port	Modulation	Carrier Bandwidth	Band Edge (MHz)	
			Channel Position B	Channel Position T
A	LTE: QPSK	LTE: 10.0 MHz	3,555.0	3,695.0
A	LTE: QPSK	LTE: 20.0 MHz	3,560.0	3,690.0
A	NR: QPSK	NR: 10.0 MHz	3,560.0	3,690.0
A	NR: QPSK	NR: 20.0 MHz	3,560.0	3,690.0
A	NR: QPSK	NR: 30.0 MHz	3,565.0	3,685.0
A	NR: QPSK	NR: 40.0 MHz	3,570.0	3,680.0
A	NR: QPSK	NR: 50.0 MHz	3,575.0	3,675.0
A	NR: QPSK	NR: 60.0 MHz	3,580.0	3,670.0
A	NR: QPSK	NR: 70.0 MHz	3,585.0	3,665.0
A	NR: QPSK	NR: 80.0 MHz	3,590.0	3,660.0
A	NR: QPSK	NR: 90.0 MHz	3,595.0	3,655.0
A	NR: QPSK	NR: 100.0 MHz	3,600.0	3,650.0



Antenna Port A - Modulation LTE: QPSK - Carrier Bandwidth LTE: 10.0 MHz - Channel Position B

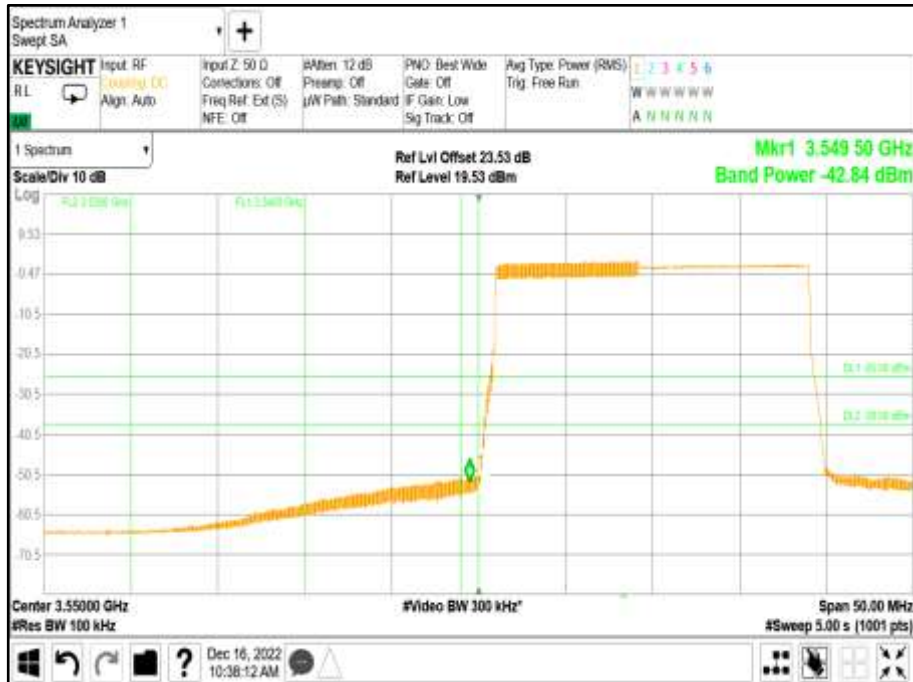


Antenna Port A - Modulation LTE: QPSK - Carrier Bandwidth LTE: 10.0 MHz - Channel Position T





Antenna Port A - Modulation LTE: QPSK - Carrier Bandwidth LTE: 20.0 MHz - Channel Position B



Antenna Port A - Modulation LTE: QPSK - Carrier Bandwidth LTE: 20.0 MHz - Channel Position T





Antenna Port A - Modulation NR: QPSK - Carrier Bandwidth NR: 10.0 MHz - Channel Position B



Antenna Port A - Modulation NR: QPSK - Carrier Bandwidth NR: 10.0 MHz - Channel Position I





Antenna Port A - Modulation NR: QPSK - Carrier Bandwidth NR: 20.0 MHz - Channel Position B



Antenna Port A - Modulation NR: QPSK - Carrier Bandwidth NR: 20.0 MHz - Channel Position I

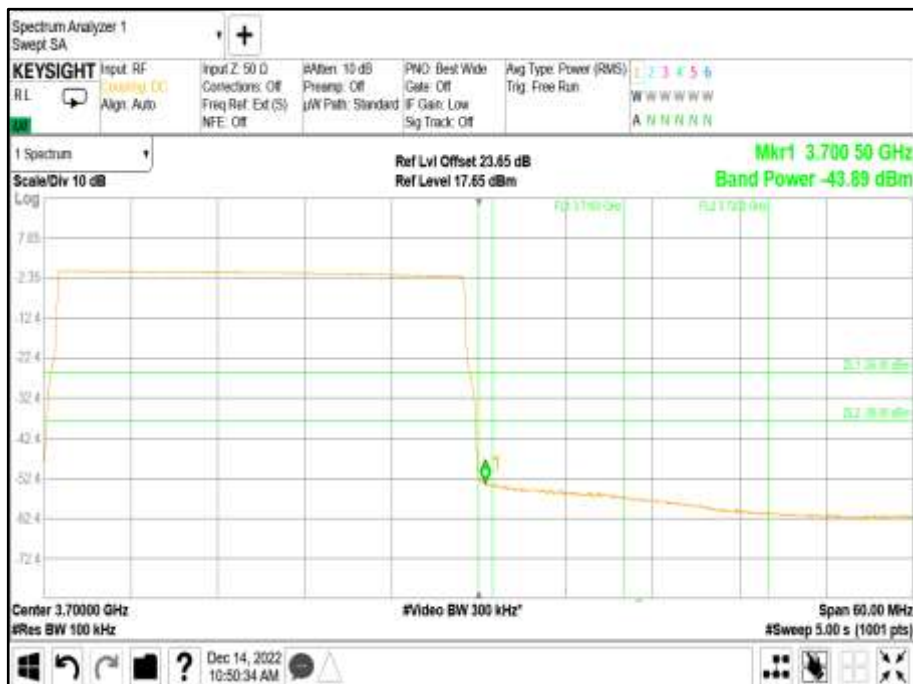




Antenna Port A - Modulation NR: QPSK - Carrier Bandwidth NR: 30.0 MHz - Channel Position B

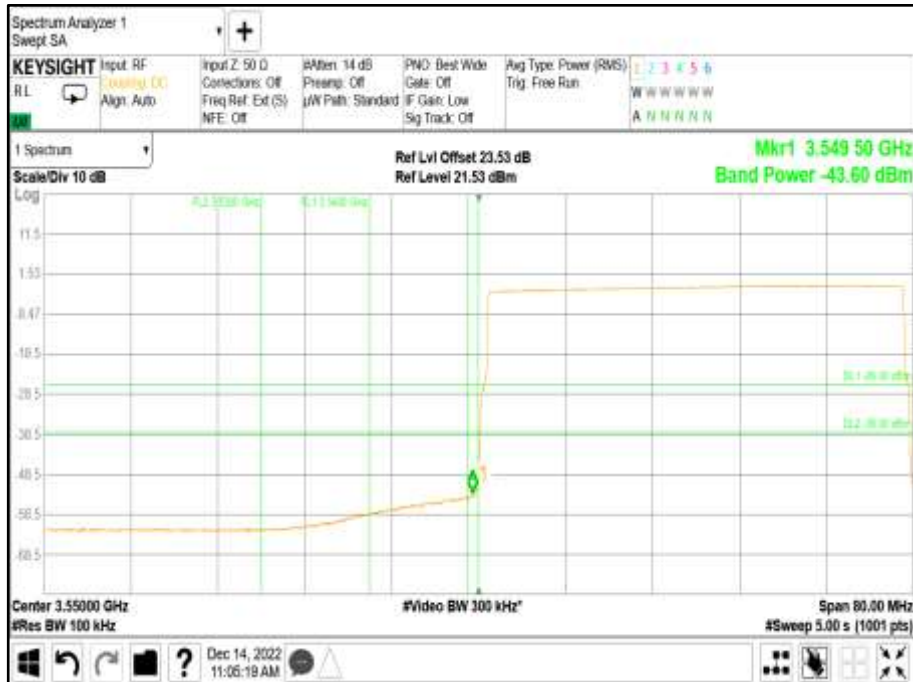


Antenna Port A - Modulation NR: QPSK - Carrier Bandwidth NR: 30.0 MHz - Channel Position I

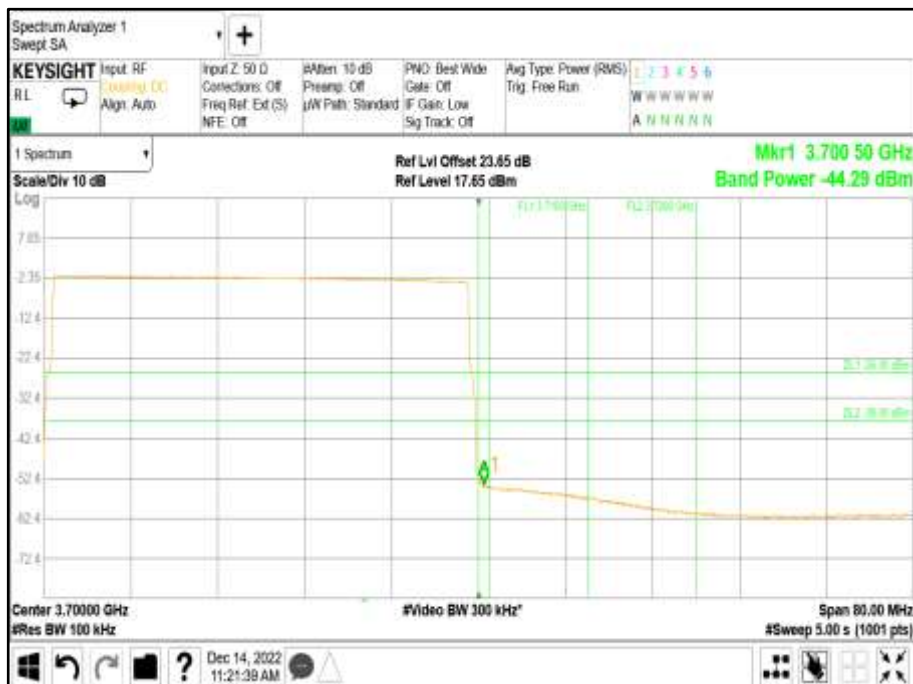




Antenna Port A - Modulation NR: QPSK - Carrier Bandwidth NR: 40.0 MHz - Channel Position B



Antenna Port A - Modulation NR: QPSK - Carrier Bandwidth NR: 40.0 MHz - Channel Position I





Antenna Port A - Modulation NR: QPSK - Carrier Bandwidth NR: 50.0 MHz - Channel Position B



Antenna Port A - Modulation NR: QPSK - Carrier Bandwidth NR: 50.0 MHz - Channel Position I

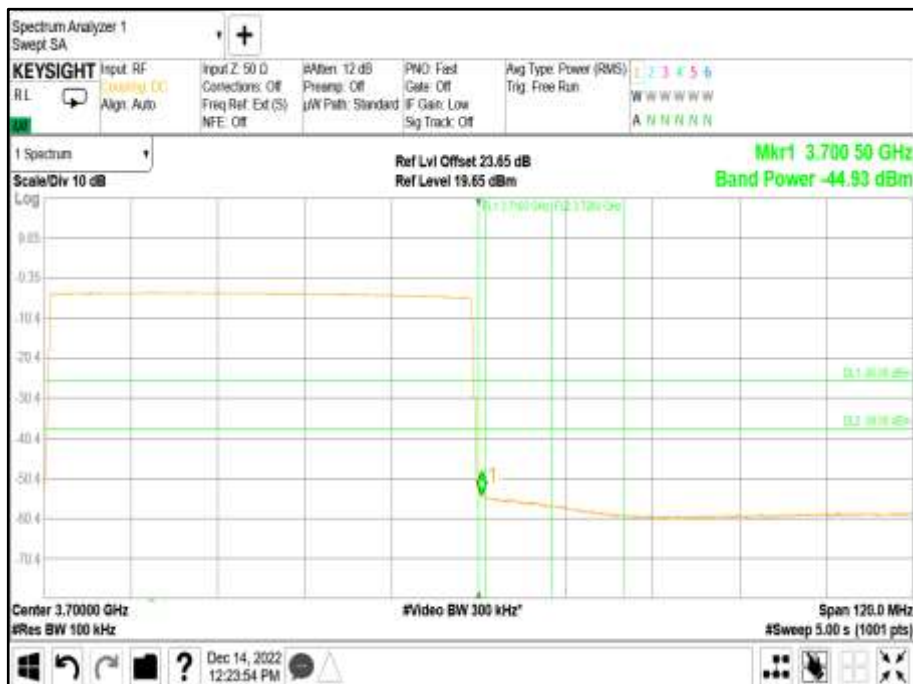




Antenna Port A - Modulation NR: QPSK - Carrier Bandwidth NR: 60.0 MHz - Channel Position B



Antenna Port A - Modulation NR: QPSK - Carrier Bandwidth NR: 60.0 MHz - Channel Position I





Antenna Port A - Modulation NR: QPSK - Carrier Bandwidth NR: 70.0 MHz - Channel Position B

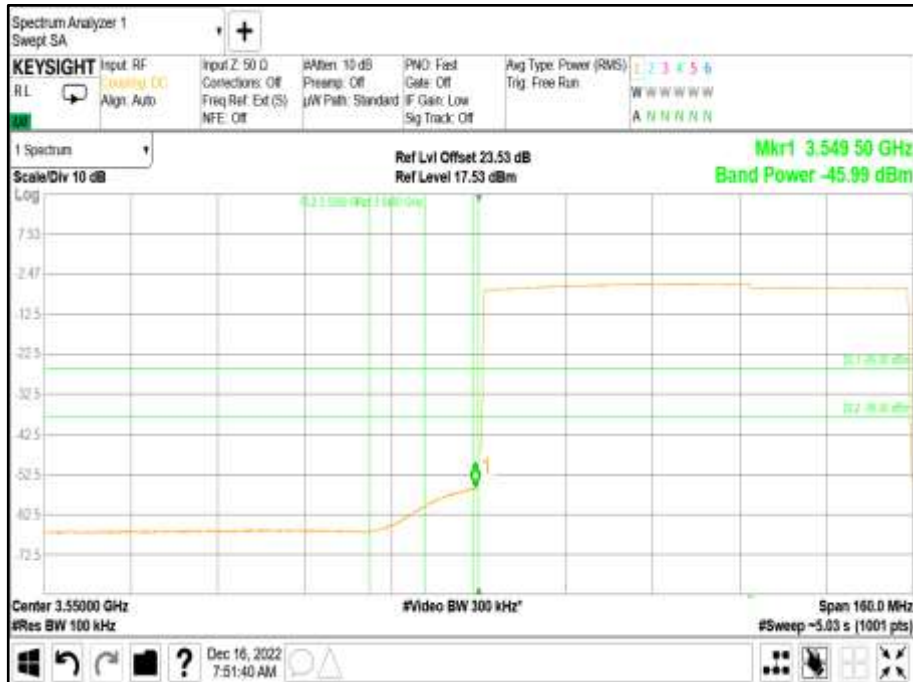


Antenna Port A - Modulation NR: QPSK - Carrier Bandwidth NR: 70.0 MHz - Channel Position I





Antenna Port A - Modulation NR: QPSK - Carrier Bandwidth NR: 80.0 MHz - Channel Position B



Antenna Port A - Modulation NR: QPSK - Carrier Bandwidth NR: 80.0 MHz - Channel Position I

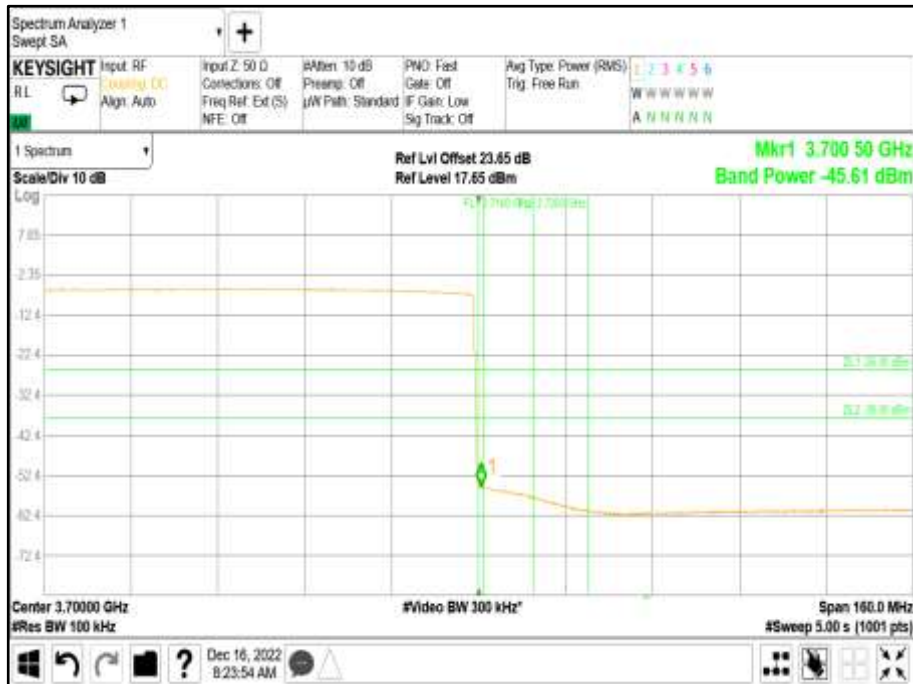




Antenna Port A - Modulation NR: QPSK - Carrier Bandwidth NR: 90.0 MHz - Channel Position B

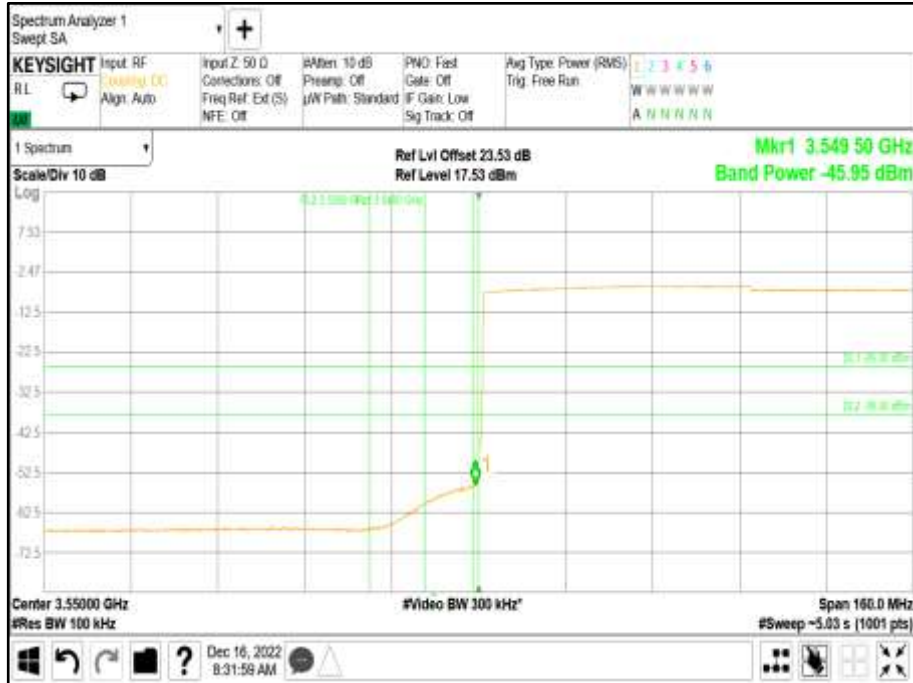


Antenna Port A - Modulation NR: QPSK - Carrier Bandwidth NR: 90.0 MHz - Channel Position I

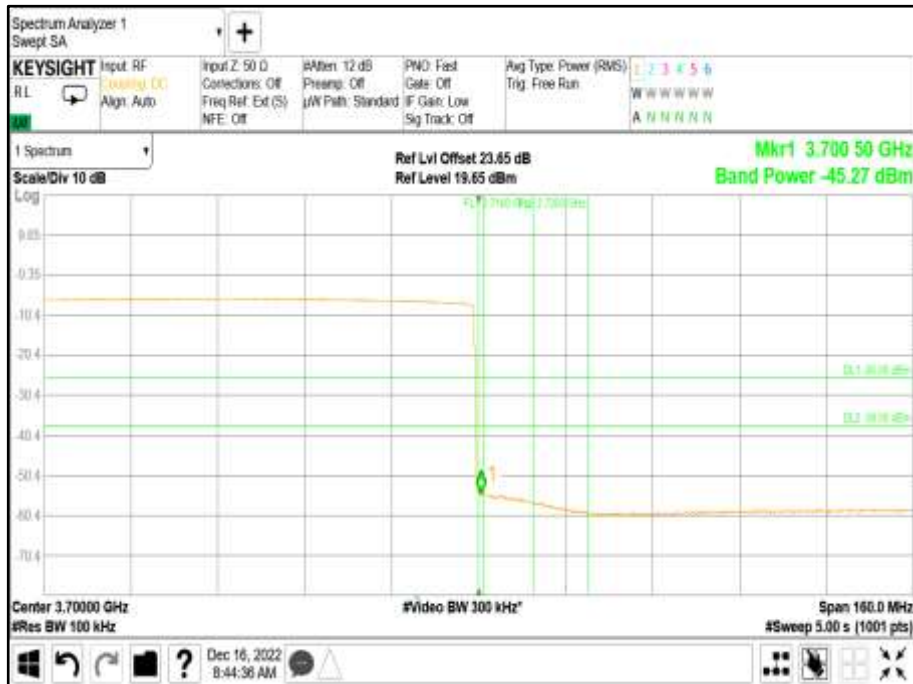




Antenna Port A - Modulation NR: QPSK - Carrier Bandwidth NR: 100.0 MHz - Channel Position B



Antenna Port A - Modulation NR: QPSK - Carrier Bandwidth NR: 100.0 MHz - Channel Position I





Configuration B

Antenna	Modulation	Carrier Bandwidth	Band Edge (MHz)	
			Channel Position B	Channel Position T
A	LTE: QPSK	10.0+10.0 MHz	3555.0+3565.0	3685.0+3695.0
A	LTE: QPSK	20.0+20.0 MHz	3560.0+3580.0	3670.0+3690.0
A	NR: QPSK	10.0+10.0 MHz	3555.0+3565.0	3685.0+3695.0
A	NR: QPSK	70.0+70.0 MHz	3585.0+3655.0	3595.0+3665.0
A	NR+LTE: QPSK	10.0+10.0 MHz	3555.0+3565.0	3685.0+3695.0
A	* NR+LTE: QPSK	10.0+10.0 MHz	3555.0+3695.0	3555.0+3695.0

Remarks

The plots results represent typical radio performance.



Antenna Port A A - Modulation LTE: QPSK - Carrier Bandwidth 10.0+10.0 MHz - Channel Position B



Antenna Port A A - Modulation LTE: QPSK - Carrier Bandwidth 10.0+10.0 MHz - Channel Position T





Antenna Port A A - Modulation LTE: QPSK - Carrier Bandwidth 20.0+20.0 MHz - Channel Position B



Antenna Port A A - Modulation LTE: QPSK - Carrier Bandwidth 20.0+20.0 MHz - Channel Position T

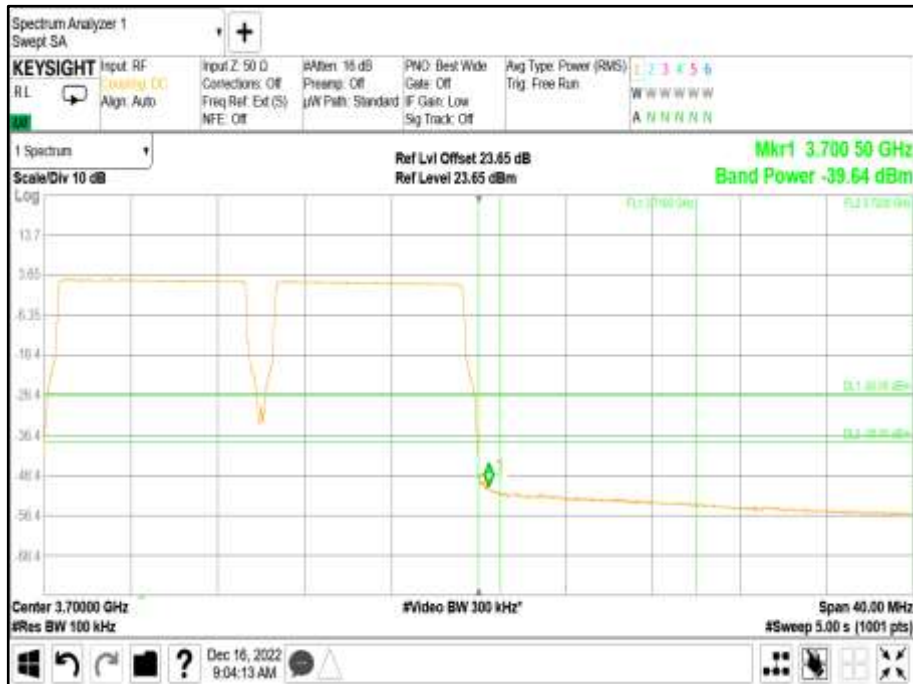




Antenna Port A A - Modulation NR: QPSK - Carrier Bandwidth 10.0+10.0 MHz - Channel Position B

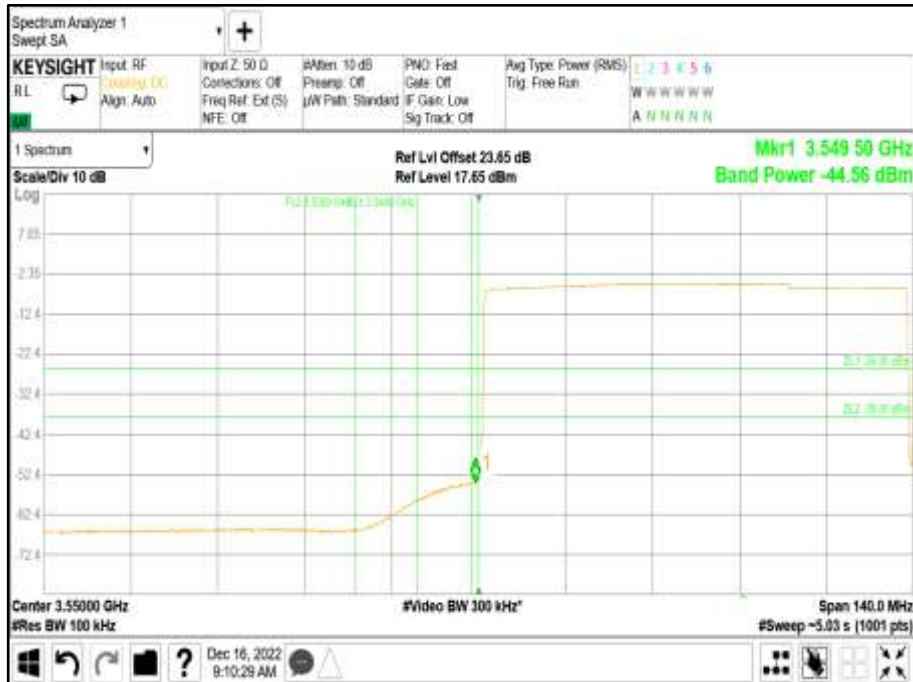


Antenna Port A A - Modulation NR: QPSK - Carrier Bandwidth 10.0+10.0 MHz - Channel Position T





Antenna Port A A - Modulation NR: QPSK - Carrier Bandwidth 70.0+70.0 MHz - Channel Position B



Antenna Port A A - Modulation NR: QPSK - Carrier Bandwidth 70.0+70.0 MHz - Channel Position T





Antenna Port A A - Modulation NR+LTE: QPSK - Carrier Bandwidth 10.0+10.0 MHz - Channel Position B



Antenna Port A A - Modulation NR+LTE: QPSK - Carrier Bandwidth 10.0+10.0 MHz - Channel Position T





Antenna Port A A - Modulation * NR+LTE: QPSK - Carrier Bandwidth 10.0+10.0 MHz - Channel Position B



Antenna Port A A - Modulation * NR+LTE: QPSK - Carrier Bandwidth 10.0+10.0 MHz - Channel Position T





Configuration C

Antenna	Modulation	Carrier Bandwidth	Band Edge (MHz)	
			Channel Position B	Channel Position T
A	LTE 10: QPSK	10+10+10+10+10+10 MHz	3555.0+3565.0+3575.0+3585.0+3595.0+3605.0	3645.0+3655.0+3665.0+3675.0+3685.0+3695.0
A	LTE 20: QPSK	20+20+20+20+20+20 MHz	3560.0+3580.0+3600.0+3620.0+3640.0+3660.0	3590.0+3610.0+3630.0+3650.0+3670.0+3690.0
A	NR10: QPSK	10+10+10+10+10+10 MHz	3555.0+3565.0+3575.0+3585.0+3595.0+3605.0	3645.0+3655.0+3665.0+3675.0+3685.0+3695.0
A	NR 20: QPSK	20+20+20+20+20+20 MHz	3560.0+3580.0+3600.0+3620.0+3640.0+3660.0	3590.0+3610.0+3630.0+3650.0+3670.0+3690.0
A	NR10 + LTE 10: QPSK	10+10+10+10+10+10 MHz	3555.0+3565.0+3575.0+3585.0+3595.0+3605.0	3645.0+3655.0+3665.0+3675.0+3685.0+3695.0
A	* NR10 + LTE 10: QPSK	10+10+10+10+10+10 MHz	3555.0+3565.0+3575.0+3675.0+3685.0+3695.0	3645.0+3655.0+3665.0+3675.0+3685.0+3695.0

Remarks

The plots results represent typical radio performace.



Antenna Port A A - Modulation LTE 10: QPSK - Carrier Bandwidth 10+10+10+10+10+10 MHz - Channel Position B



Antenna Port A A - Modulation LTE 10: QPSK - Carrier Bandwidth 10+10+10+10+10+10 MHz - Channel Position T





Antenna Port A A - Modulation LTE 20: QPSK - Carrier Bandwidth 20+20+20+20+20+20 MHz - Channel Position B



Antenna Port A A - Modulation LTE 20: QPSK - Carrier Bandwidth 20+20+20+20+20+20 MHz - Channel Position T





Antenna Port A A - Modulation NR10: QPSK - Carrier Bandwidth 10+10+10+10+10+10 MHz - Channel Position B



Antenna Port A A - Modulation NR10: QPSK - Carrier Bandwidth 10+10+10+10+10+10 MHz - Channel Position T





Antenna Port A A - Modulation NR20: QPSK - Carrier Bandwidth 20+20+20+20+20+20 MHz - Channel Position B



Antenna Port A A - Modulation NR20: QPSK - Carrier Bandwidth 20+20+20+20+20+20 MHz - Channel Position T





Antenna Port A A - Modulation NR10 + LTE 10: QPSK - Carrier Bandwidth 10+10+10+10+10+10 MHz - Channel Position B



Antenna Port A A - Modulation NR10 + LTE 10: QPSK - Carrier Bandwidth 10+10+10+10+10+10 MHz - Channel Position T





Antenna Port A A - Modulation * NR10 + LTE 10: QPSK - Carrier Bandwidth 10+10+10+10+10+10 MHz - Channel Position B



Antenna Port A A - Modulation * NR10 + LTE 10: QPSK - Carrier Bandwidth 10+10+10+10+10+10 MHz - Channel Position T





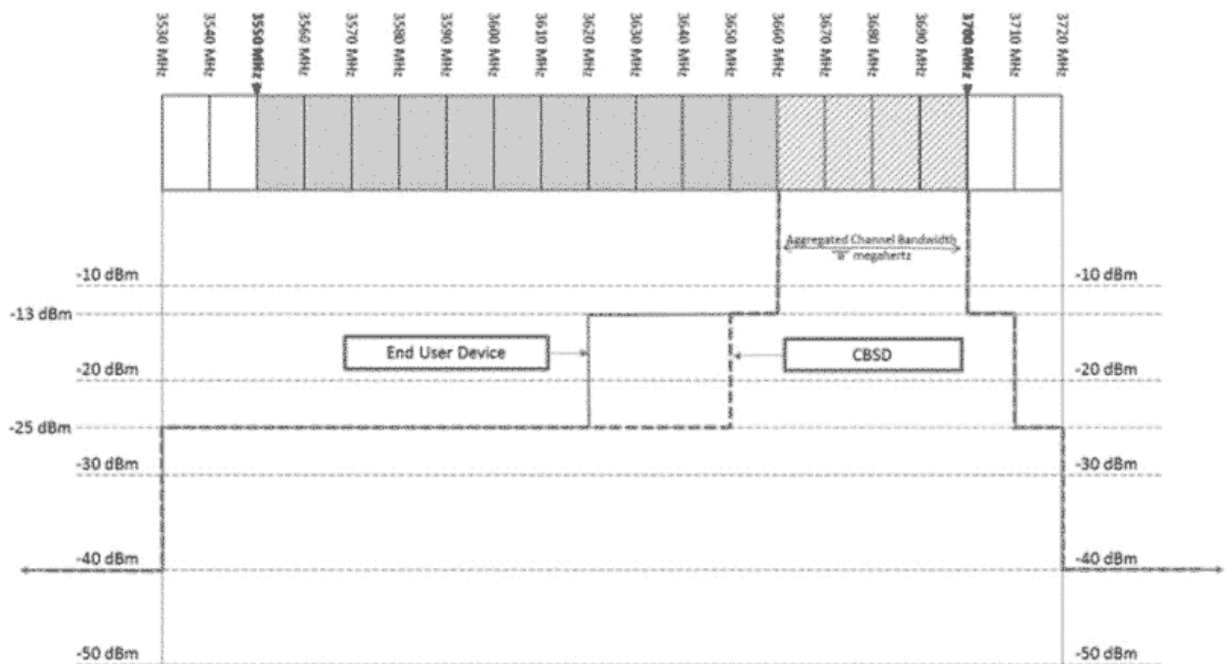
FCC CFR 47 Part 96, Clause 96.41 (e)(1)

Limit	-13 dBm/MHz $-10\log(2) = -16$ dBm/MHz (2 port MIMO) for 0 to 10MHz from the band edge -25 dBm/MHz $-10\log(2) = -28$ dBm/MHz (2 port MIMO) for 10 to 20MHz from the band edge
-------	---

FCC 96.41 (e) 3.5 GHz Emissions and Interference Limits -

(1) General protection levels.

Figure 1 to paragraph (e) – Protection levels



(i) Except as otherwise specified in paragraph (e)(2) of this section, for channel and frequency assignments made by the SAS to CBSDs, the conducted power of any CBSD emission outside the fundamental emission bandwidth as specified in paragraph (e)(3) of this section (whether the emission is inside or outside of the authorized band) shall not exceed -13 dBm/MHz within 0-10 megahertz above the upper SAS-assigned channel edge and within 0-10 megahertz below the lower SAS-assigned channel edge. At all frequencies greater than 10 megahertz above the upper SAS assigned channel edge and less than 10 MHz below the lower SAS assigned channel edge, the conducted power of any CBSD emission shall not exceed -25 dBm/MHz. The upper and lower SAS assigned channel edges are the upper and lower limits of any channel assigned to a CBSD by an SAS, or in the case of multiple contiguous channels, the upper and lower limits of the combined contiguous channels. (ii) Except as otherwise specified in paragraph (e)(2) of this section, for channel and frequency assignments made by a CBSD to End User Devices, the conducted power of any End User Device emission outside the fundamental emission (whether in or outside of the authorized band) shall not exceed -13 dBm/MHz within 0 to B megahertz (where B is the bandwidth in megahertz of the assigned channel or multiple contiguous channels of the End User Device) above the upper CBSD-assigned channel edge and within 0 to B megahertz below the lower CBSD-assigned channel edge. At all frequencies greater than B megahertz above the upper CBSD assigned channel edge and less than B megahertz below the lower CBSD-assigned channel edge, the conducted power of any End User Device emission shall not exceed -25 dBm/MHz. Notwithstanding the



emission limits in this paragraph, the Adjacent Channel Leakage Ratio for End User Devices shall be at least 30 dB.

(2) *Additional protection levels.* Notwithstanding paragraph (e)(1) of this section, for CBSDs and End User Devices, the conducted power of emissions below 3540 MHz or above 3710 MHz shall not exceed -25 dBm/MHz, and the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed -40 dBm/MHz.



2.4 TRANSMITTER SPURIOUS EMISSIONS

2.4.1 Specification Reference

FCC CFR 47 Part 96, Clause 96.41 (e)(1)
FCC CFR 47 Part 2, Clause 2.1051

2.4.2 Date of Test and Modification State

13, 14 and 15-December-2022 - Modification State 0

2.4.3 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	24.6°C
Relative Humidity	30.8%

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 of -40 dBm/MHz was adjusted by $10 * \text{Log}(N)$, where N is equal to the number of MIMO antenna ports.
Therefore $-40 - 10 * \text{Log}(2) = -43 \text{ dBm} / \text{MHz}$.

2.4.6 Test Results

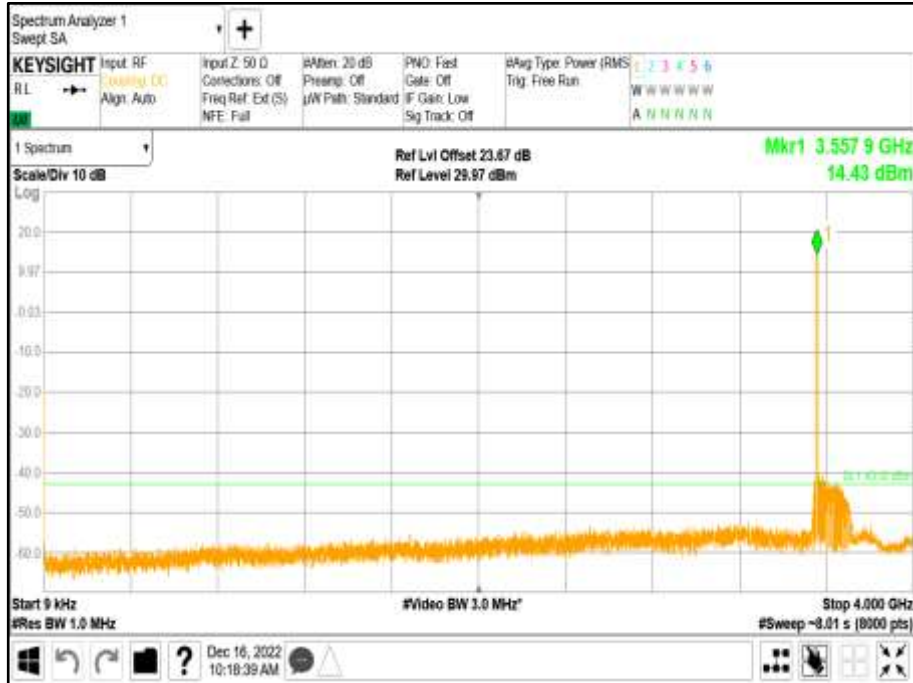
Configuration A

Remarks

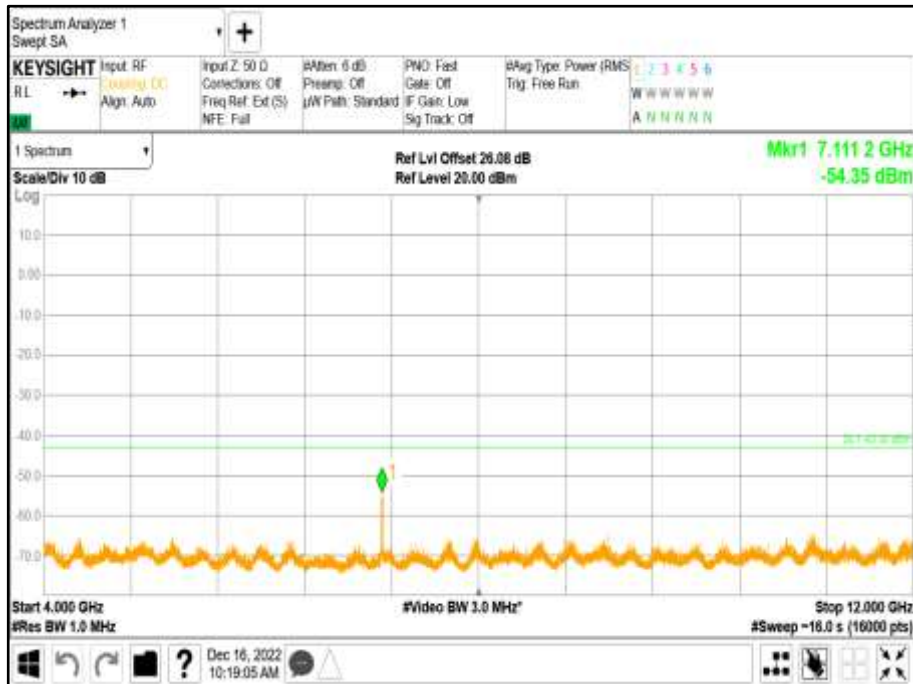
1. Transceiver spurious emissions have been searched for all channel bandwidths and antenna ports.
2. Worst-case spurious emissions performance has been presented for all modulations & bandwidths.
3. Plot data performance for all channel bandwidths, and channel positions for both contiguous and non-contiguous (NC) operation are on file and available on request.
4. Where applicable, the plot limit lines have been adjusted to reflect the integrated spurious level requirement of the defined rule part to the receiver measurement band width used.



Antenna A - Modulation LTE: QPSK - Carrier Bandwidth LTE: 10 MHz - Channel Position B - Band 1 - Range 0.009 to 4000 MHz

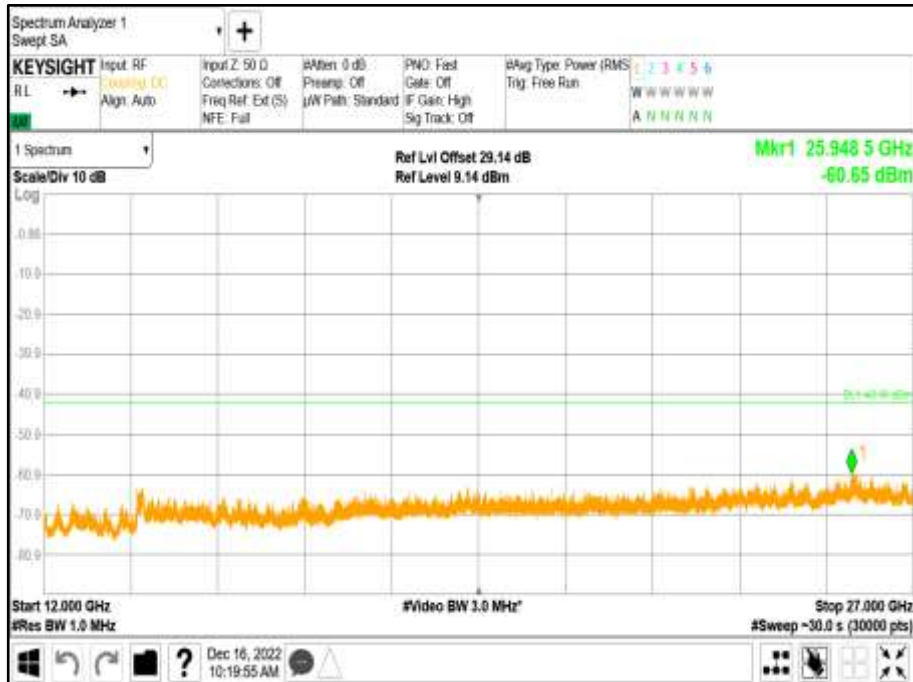


Antenna A - Modulation LTE: QPSK - Carrier Bandwidth LTE: 10 MHz - Channel Position B - Band 2 - Range 4000 to 12000 MHz

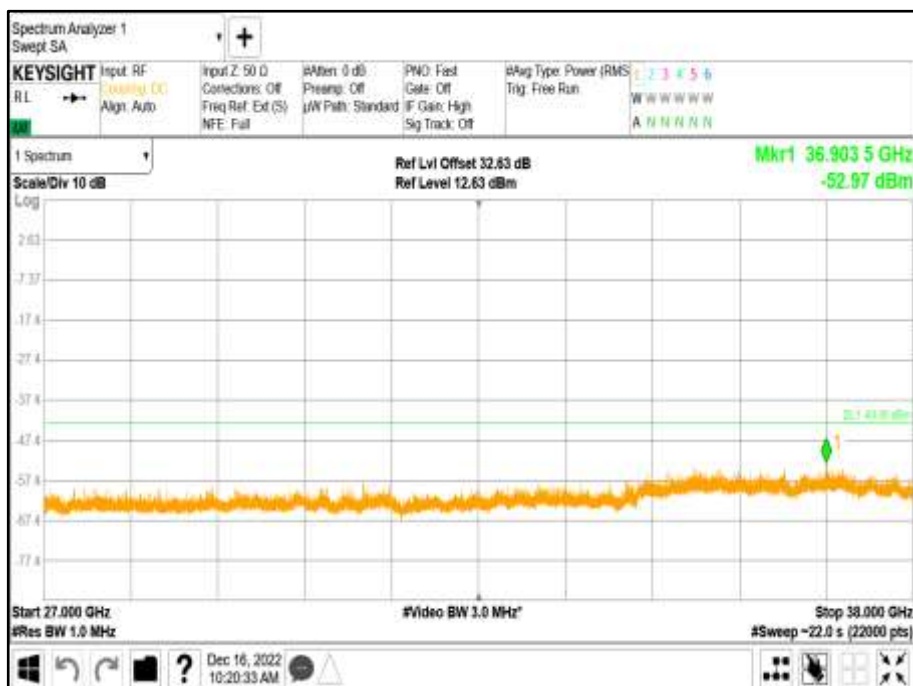




Antenna A - Modulation LTE: QPSK - Carrier Bandwidth LTE: 10 MHz - Channel Position B - Band 3 - Range 12000 to 27000 MHz



Antenna A - Modulation LTE: QPSK - Carrier Bandwidth LTE: 10 MHz - Channel Position B - Band 4 - Range 27000 to 38000 MHz

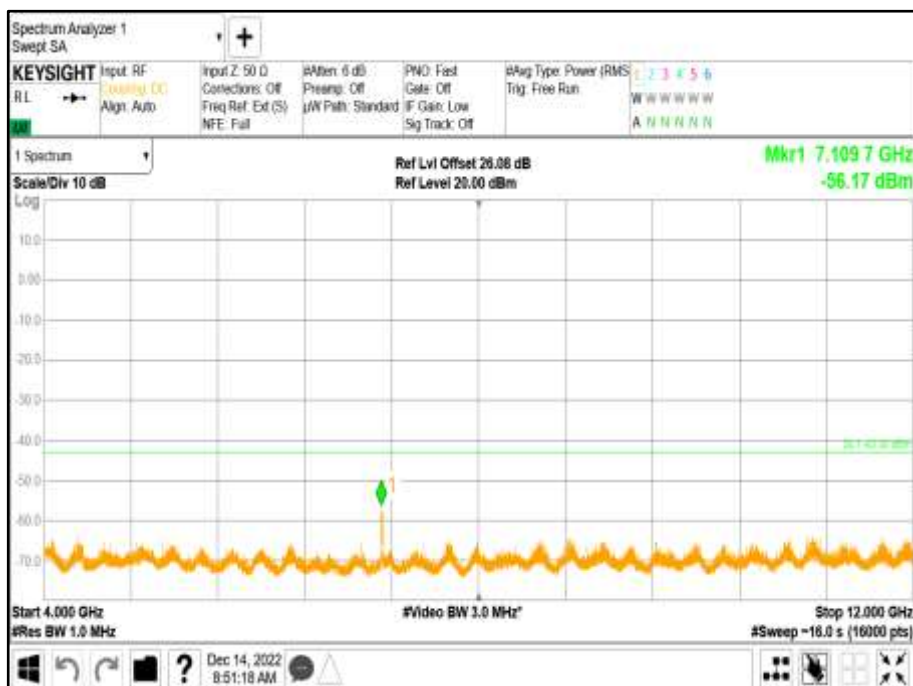




Antenna A - Modulation NR: QPSK - Carrier Bandwidth NR: 10 MHz - Channel Position B - Band 1 - Range 0.009 to 4000 MHz

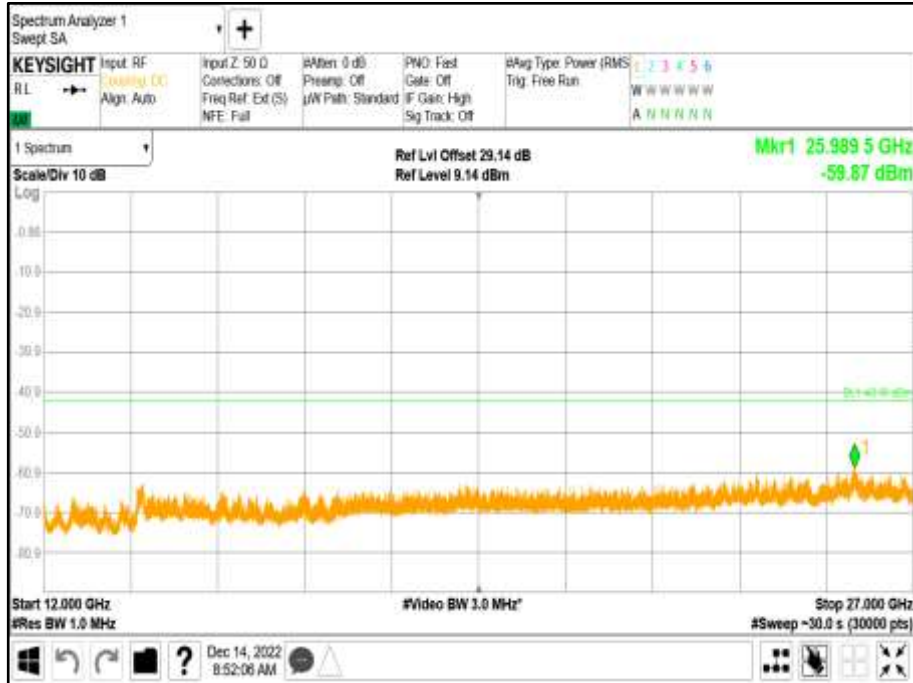


Antenna A - Modulation NR: QPSK - Carrier Bandwidth NR: 10 MHz - Channel Position B - Band 2 - Range 4000 to 12000 MHz

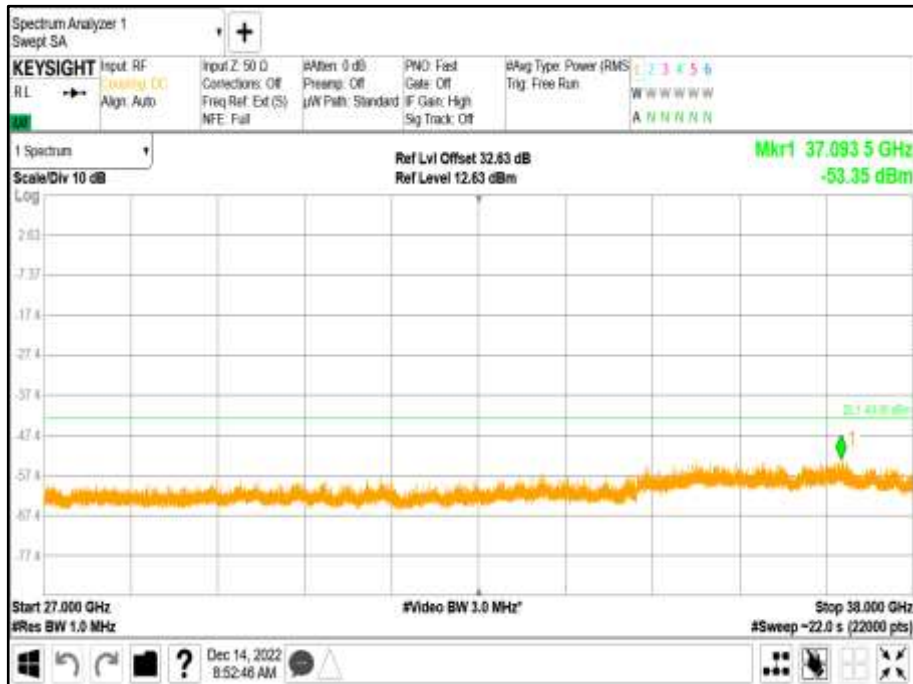




Antenna A - Modulation NR: QPSK - Carrier Bandwidth NR: 10 MHz - Channel Position B - Band 3 - Range 12000 to 27000 MHz



Antenna A - Modulation NR: QPSK - Carrier Bandwidth NR: 10 MHz - Channel Position B - Band 4 - Range 27000 to 38000 MHz





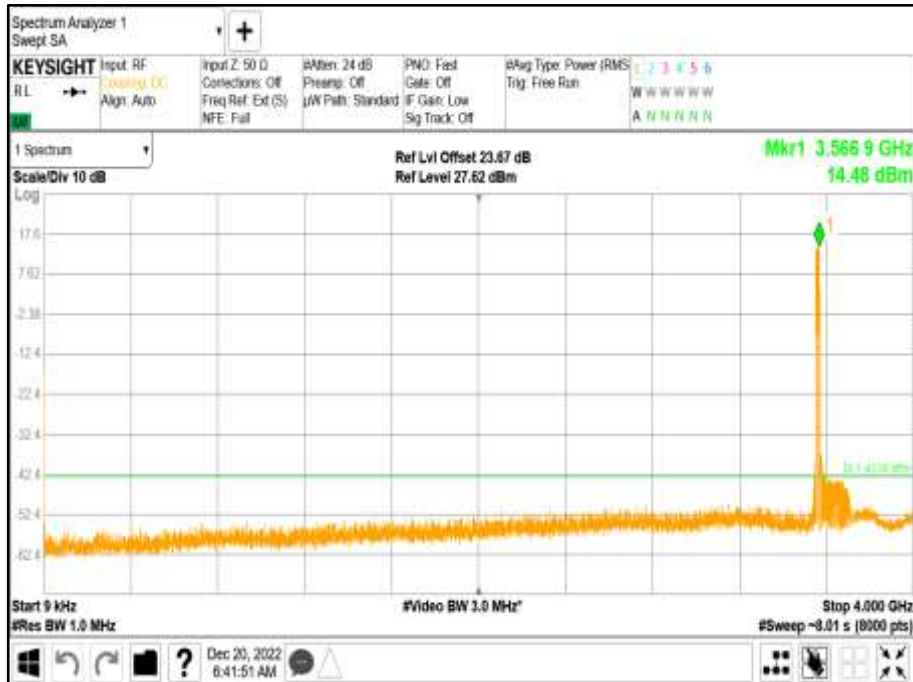
Configuration B

Remarks

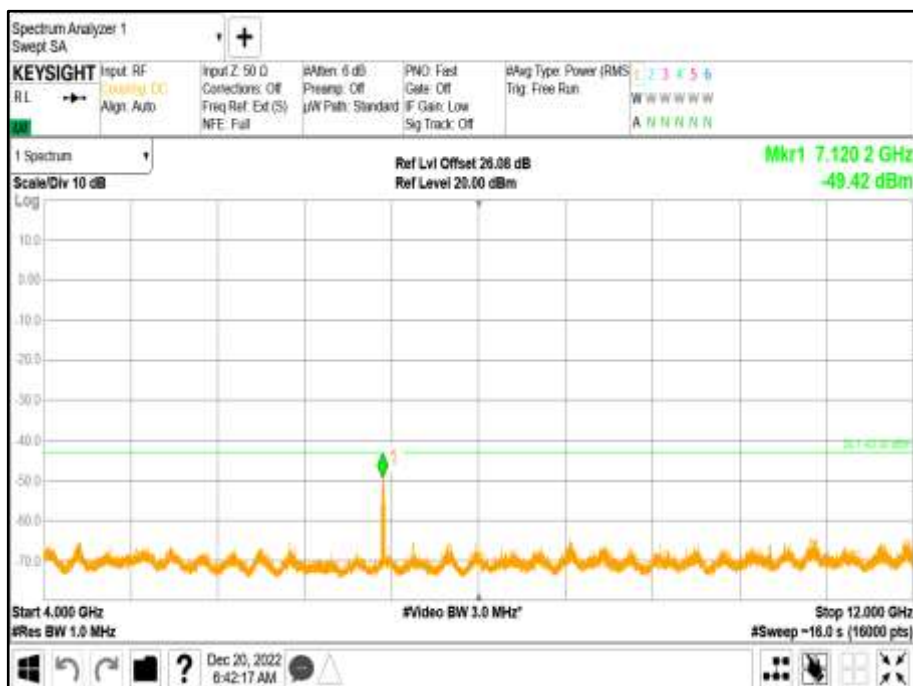
1. Transceiver spurious emissions have been searched for all channel bandwidths and antenna ports.
2. Worst-case spurious emissions performance has been presented for all modulations.
3. Plot data performance for all channel bandwidths, and channel positions for both contiguous and non-contiguous (NC) operation are on file and available on request.



Antenna A - Modulation LTE: QPSK - Carrier Bandwidth 10.0+10.0 MHz - Channel Position B - Band 1 - Range 0.009 to 4000 MHz

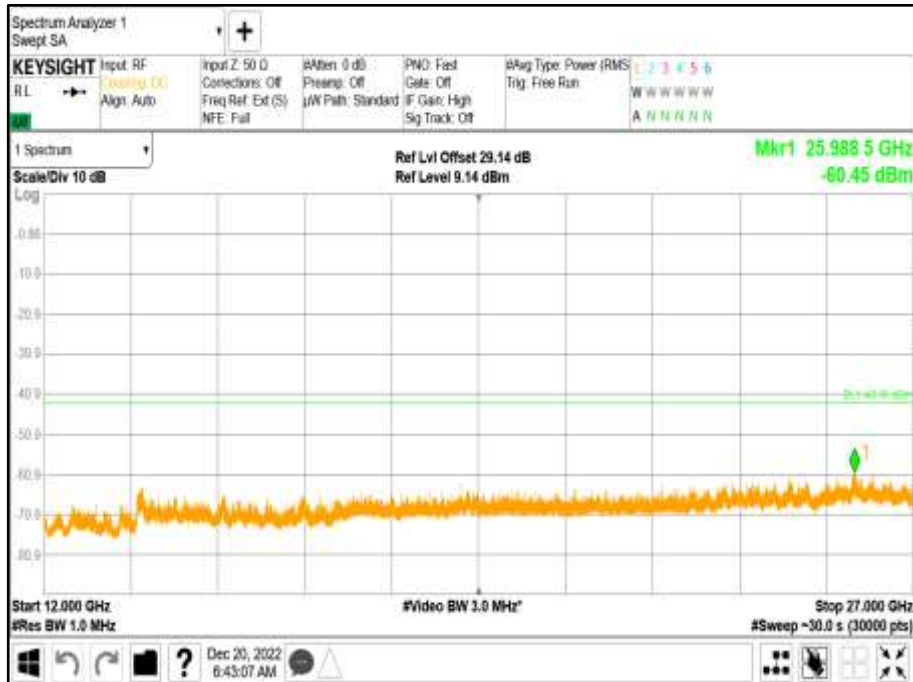


Antenna A - Modulation LTE: QPSK - Carrier Bandwidth 10.0+10.0 MHz - Channel Position B - Band 2 - Range 4000 to 12000 MHz

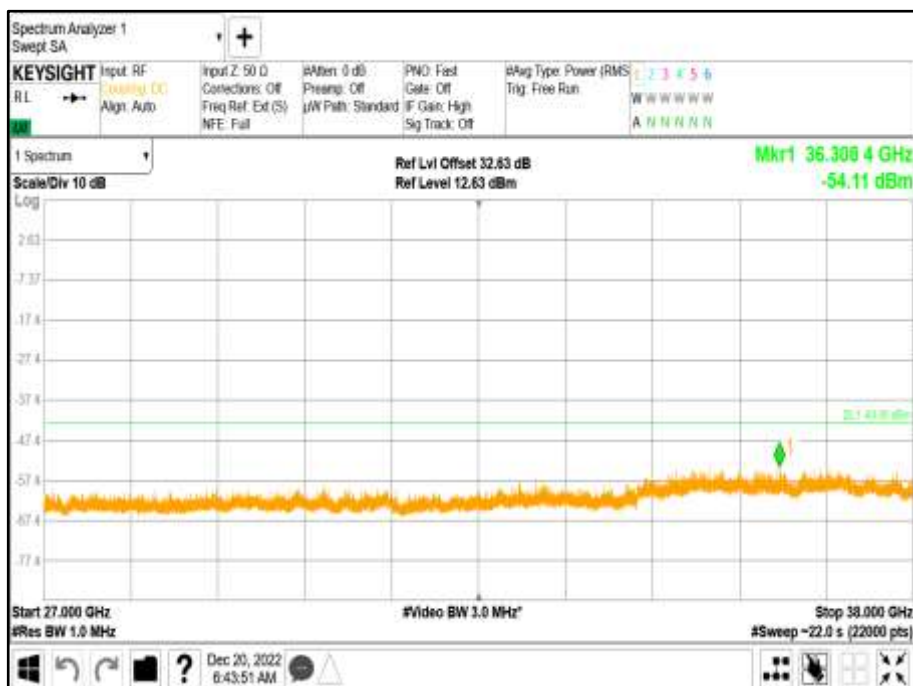




Antenna A - Modulation LTE: QPSK - Carrier Bandwidth 10.0+10.0 MHz - Channel Position B - Band 3 - Range 12000 to 27000 MHz

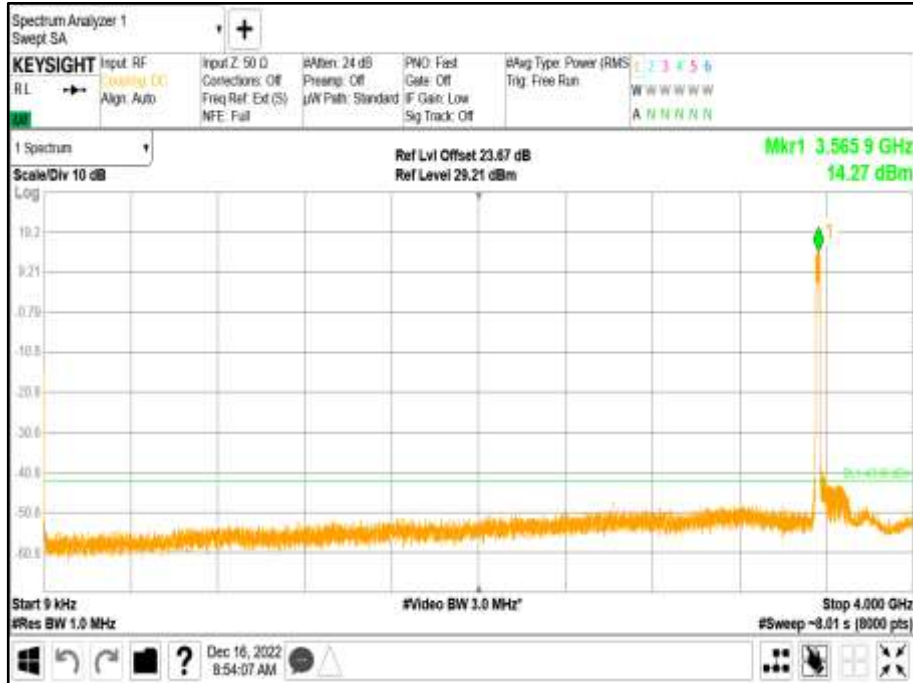


Antenna A - Modulation LTE: QPSK - Carrier Bandwidth 10.0+10.0 MHz - Channel Position B - Band 4 - Range 27000 to 38000 MHz

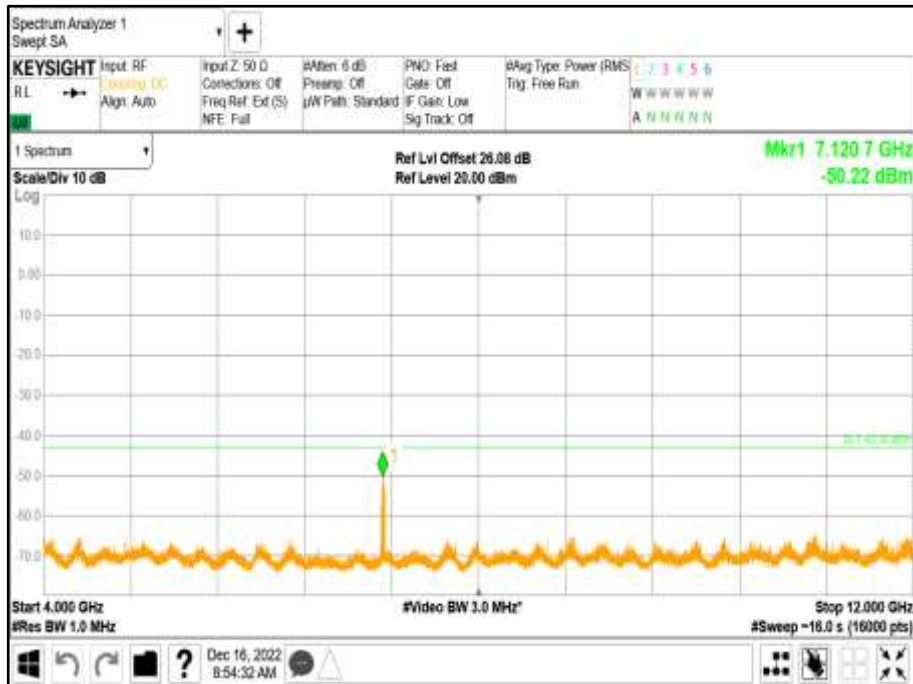




Antenna A - Modulation NR: QPSK - Carrier Bandwidth 10.0+10.0 MHz - Channel Position B - Band 1 - Range 0.009 to 4000 MHz

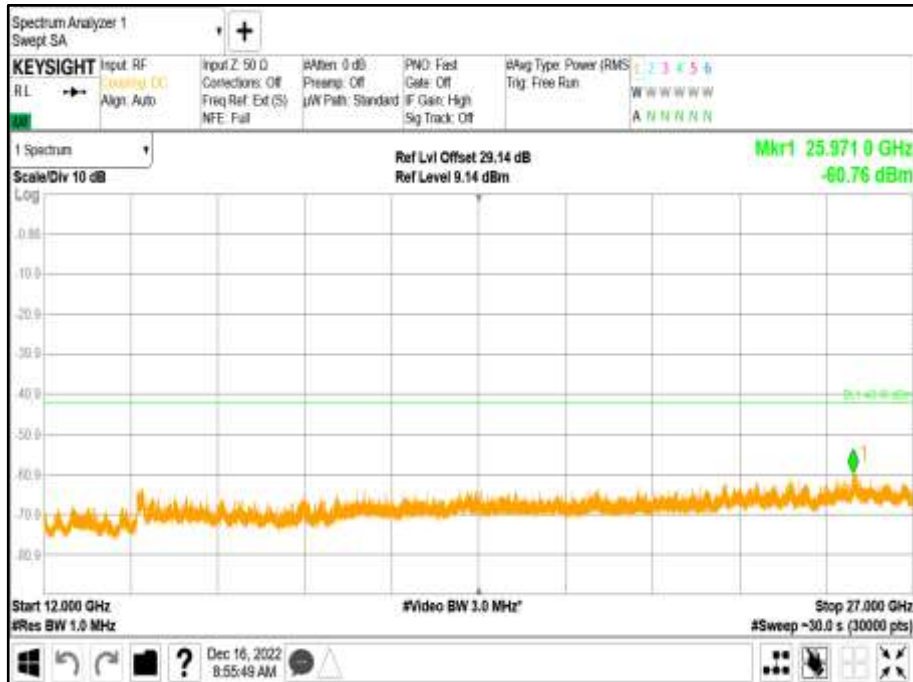


Antenna A - Modulation NR: QPSK - Carrier Bandwidth 10.0+10.0 MHz - Channel Position B - Band 2 - Range 4000 to 12000 MHz

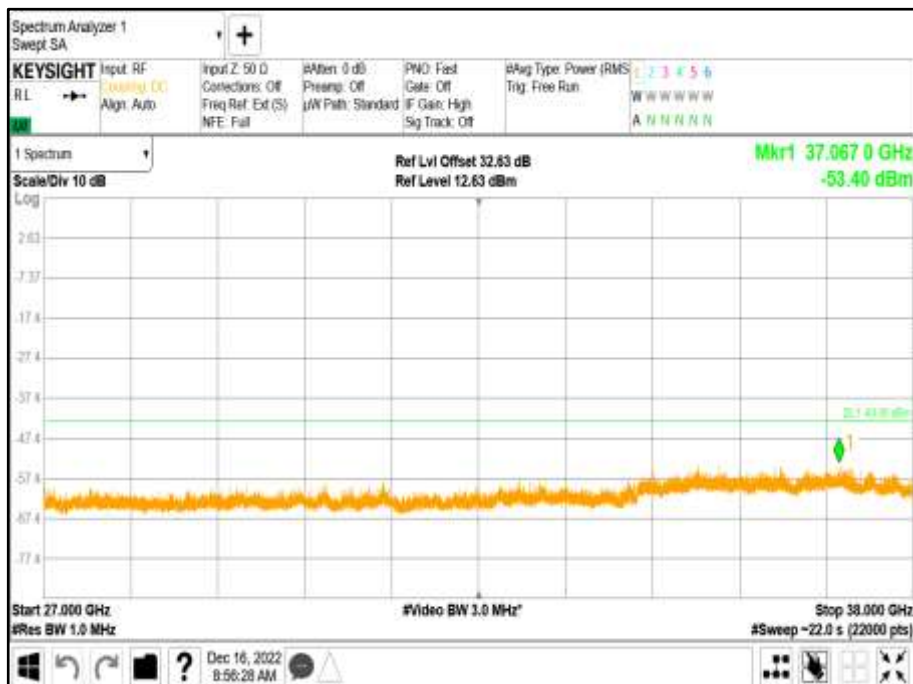




Antenna A - Modulation NR: QPSK - Carrier Bandwidth 10.0+10.0 MHz - Channel Position B - Band 3 - Range 12000 to 27000 MHz

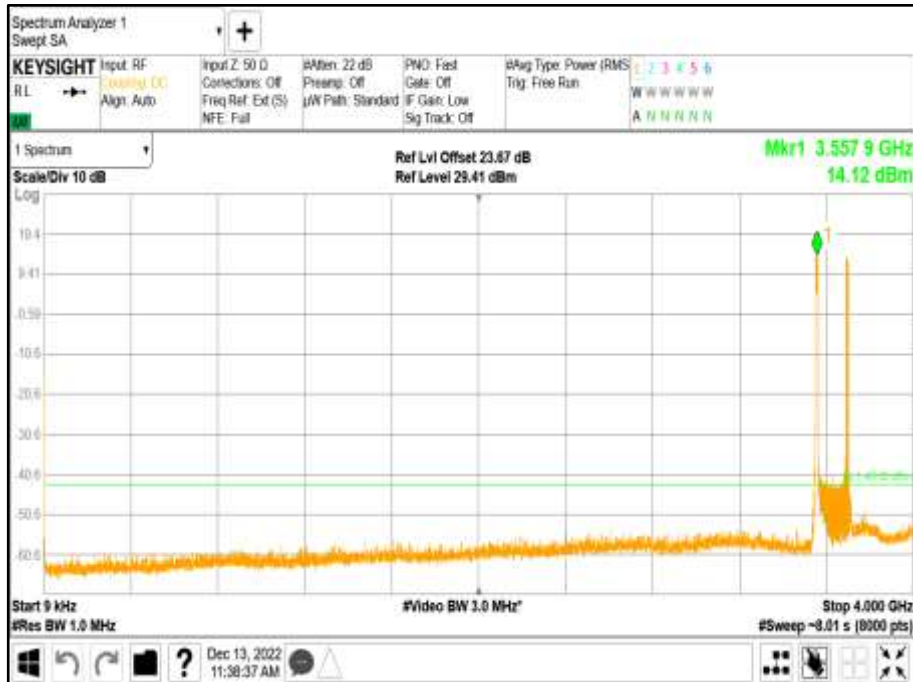


Antenna A - Modulation NR: QPSK - Carrier Bandwidth 10.0+10.0 MHz - Channel Position B - Band 4 - Range 27000 to 38000 MHz

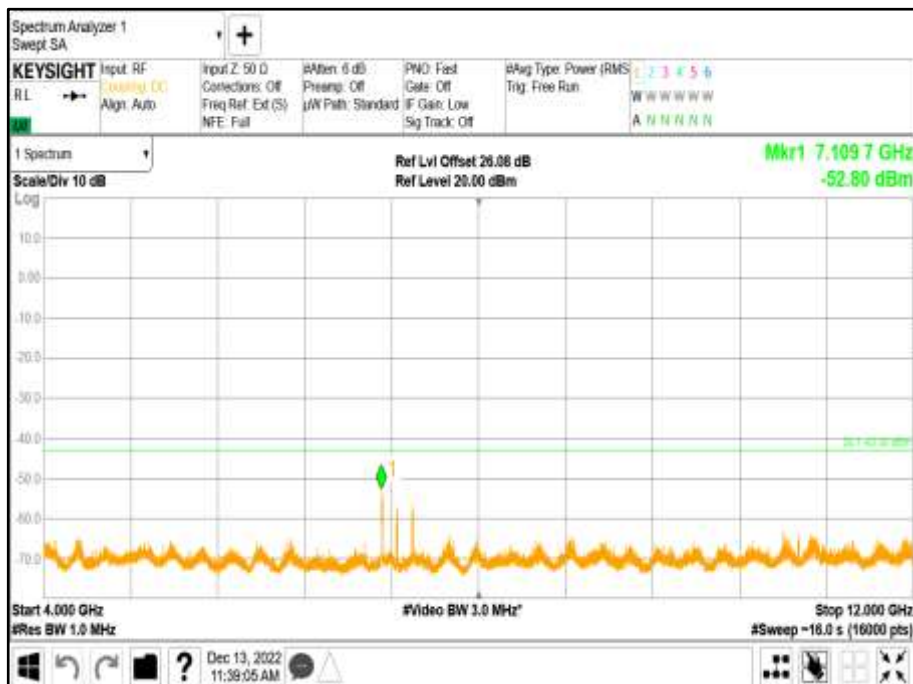




Antenna A - Modulation *NR+LTE: QPSK - Carrier Bandwidth 10.0+10.0 MHz - Channel Position B - Band 1 - Range 0.009 to 4000 MHz

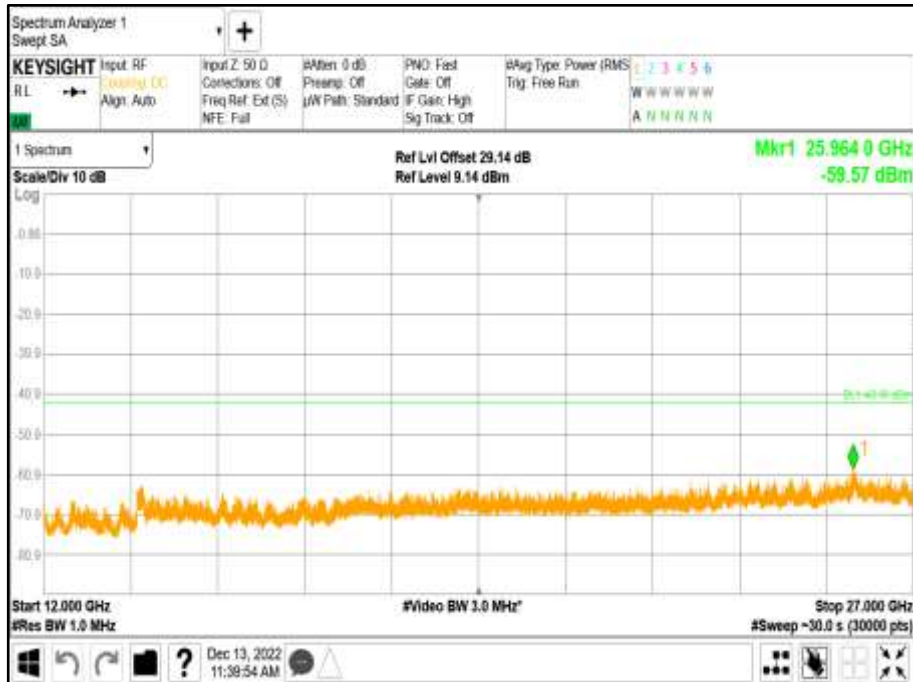


Antenna A - Modulation *NR+LTE: QPSK - Carrier Bandwidth 10.0+10.0 MHz - Channel Position B - Band 2 - Range 4000 to 12000 MHz

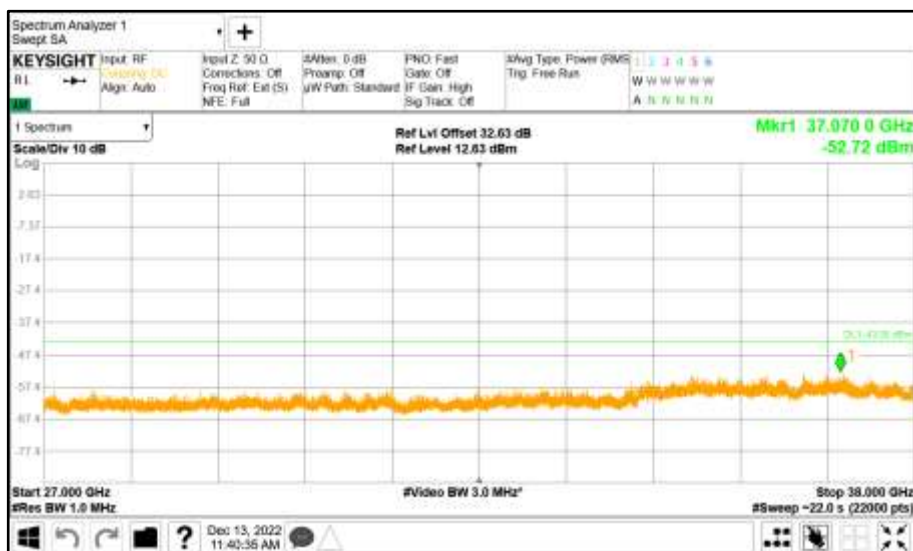




Antenna A - Modulation *NR+LTE: QPSK - Carrier Bandwidth 10.0+10.0 MHz - Channel Position B - Band 3 - Range 12000 to 27000 MHz



Antenna A - Modulation *NR+LTE: QPSK - Carrier Bandwidth 10.0+10.0 MHz - Channel Position B - Band 4 - Range 27000 to 38000 MHz





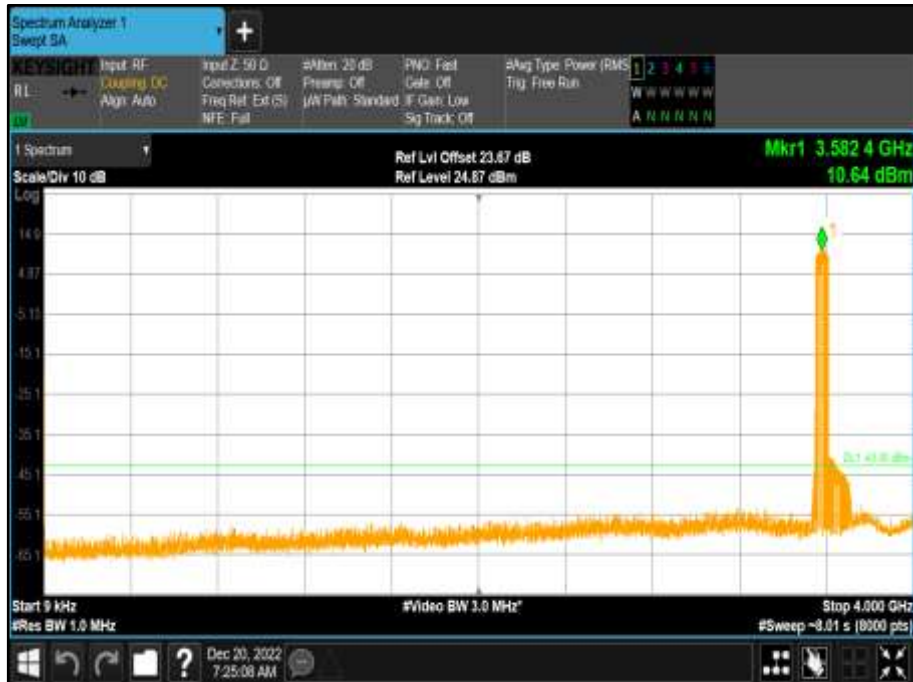
Configuration C

Remarks

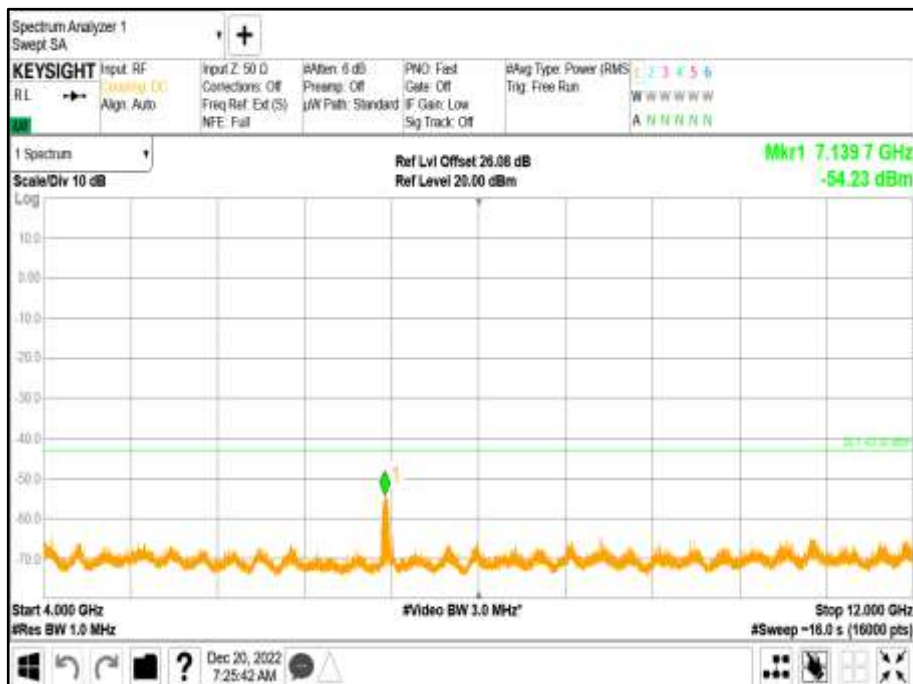
1. Transceiver spurious emissions have been searched for all channel bandwidths and antenna ports.
2. Worst-case spurious emissions performance has been presented for all modulations.
3. Plot data performance for all channel bandwidths, and channel positions for both contiguous and non-contiguous (NC) operation are on file and available on request.



Antenna A - Modulation LTE10: QPSK - Carrier Bandwidth 10+10+10+10+10+10 MHz -
Channel Position B - Band 1 - Range 0.009 to 4000 MHz

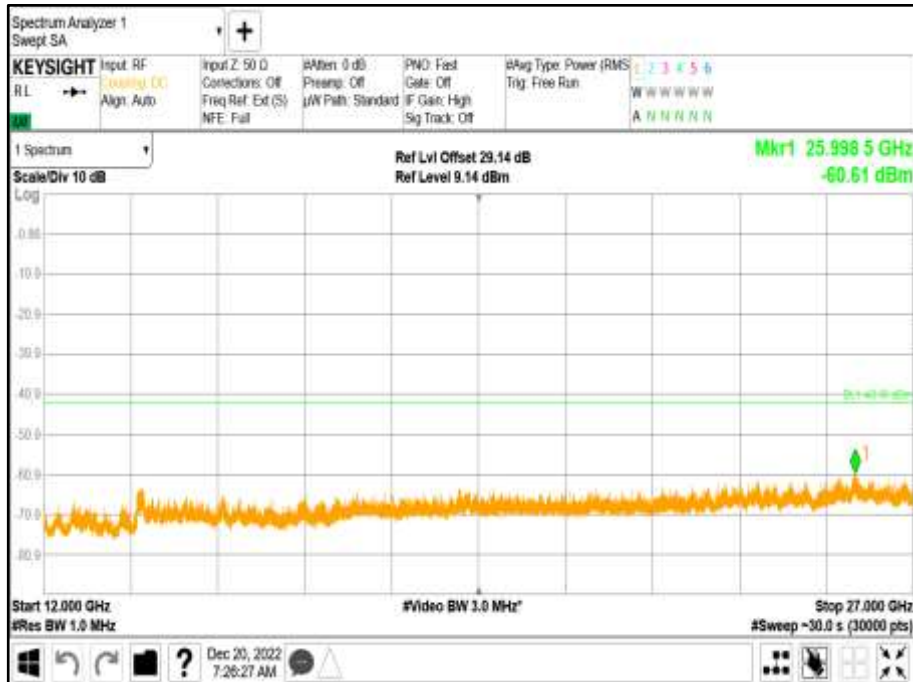


Antenna A - Modulation LTE10: QPSK - Carrier Bandwidth 10+10+10+10+10+10 MHz -
Channel Position B - Band 2 - Range 4000 to 12000 MHz

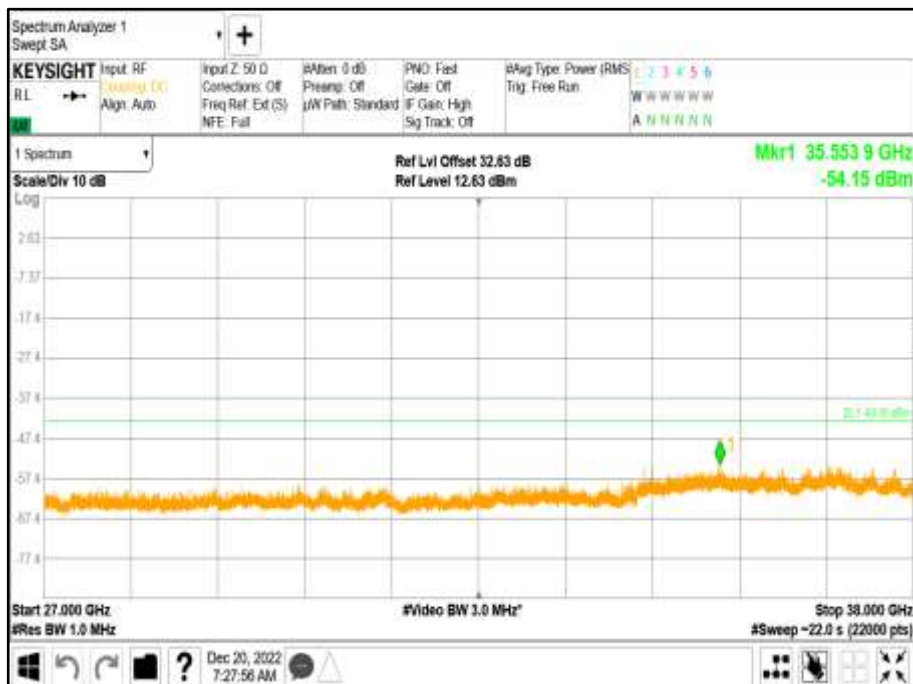




Antenna A - Modulation LTE10: QPSK - Carrier Bandwidth 10+10+10+10+10+10 MHz - Channel Position B - Band 3 - Range 12000 to 27000 MHz

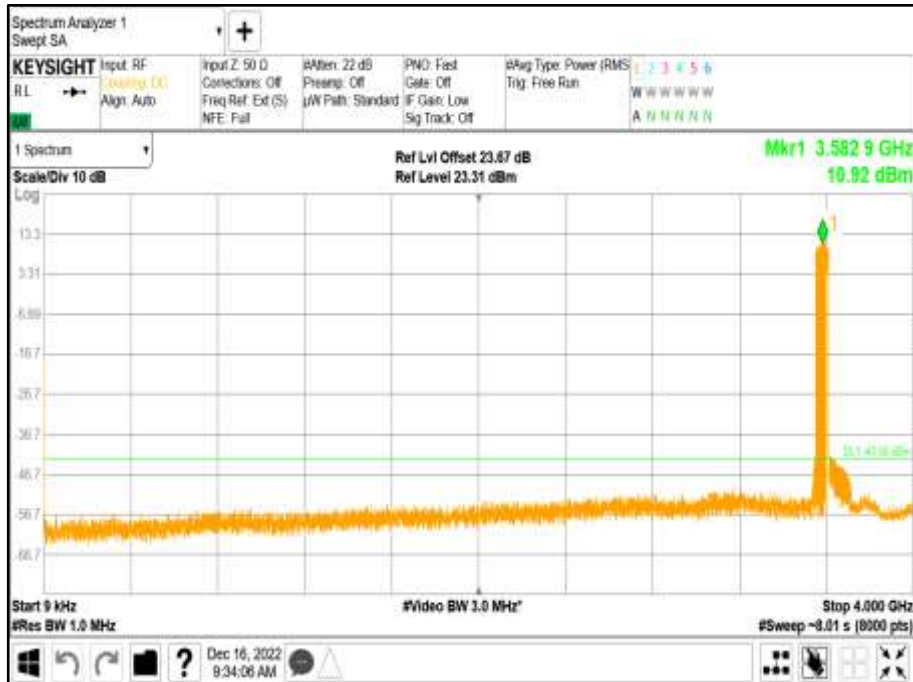


Antenna A - Modulation LTE10: QPSK - Carrier Bandwidth 10+10+10+10+10+10 MHz - Channel Position B - Band 4 - Range 27000 to 38000 MHz

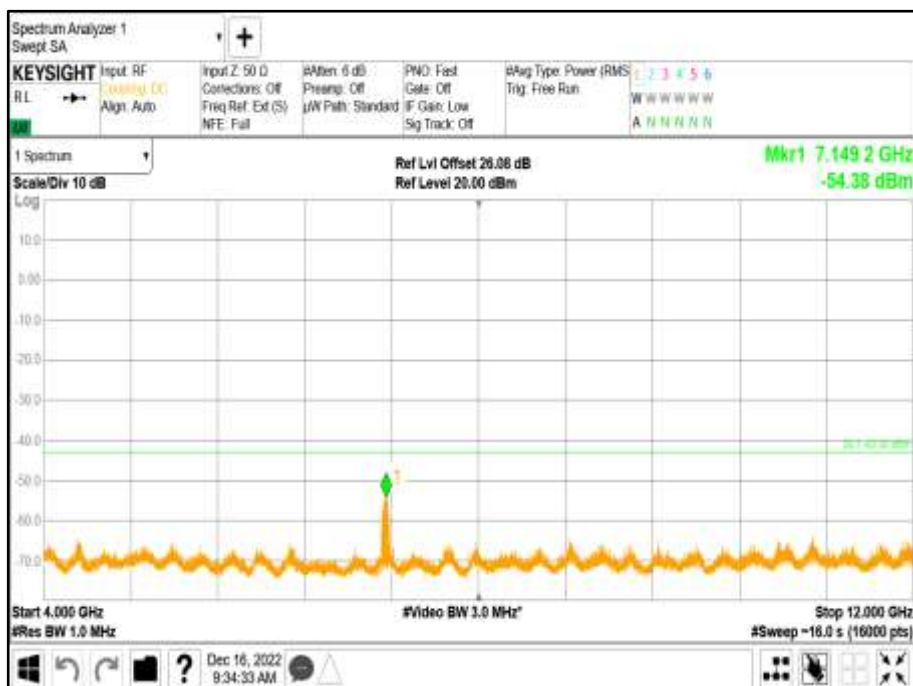




Antenna A - Modulation NR10: QPSK - Carrier Bandwidth 10+10+10+10+10+10 MHz - Channel Position B - Band 1 - Range 0.009 to 4000 MHz

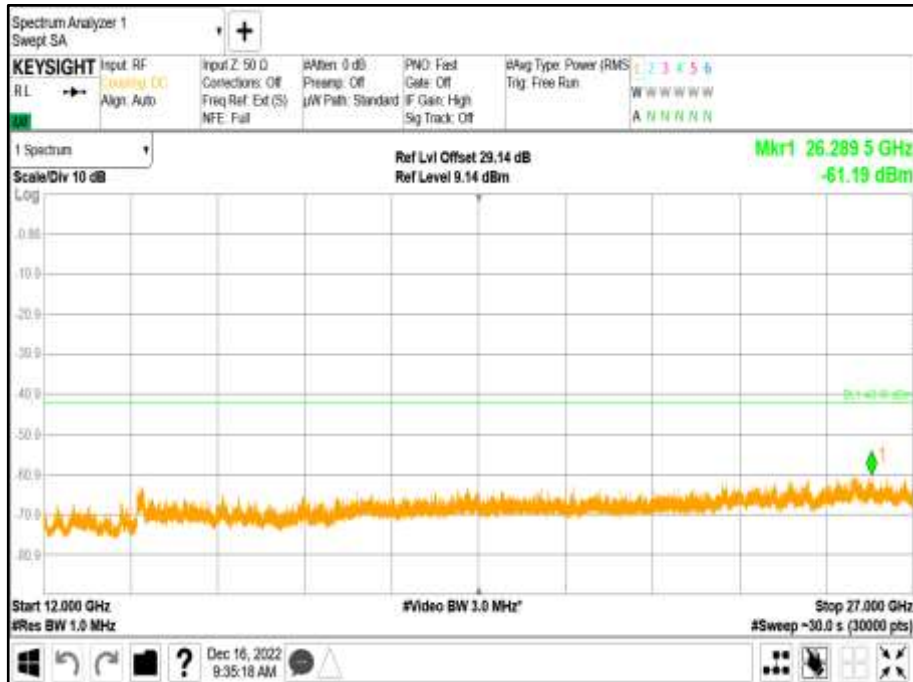


Antenna A - Modulation NR10: QPSK - Carrier Bandwidth 10+10+10+10+10+10 MHz - Channel Position B - Band 2 - Range 4000 to 12000 MHz

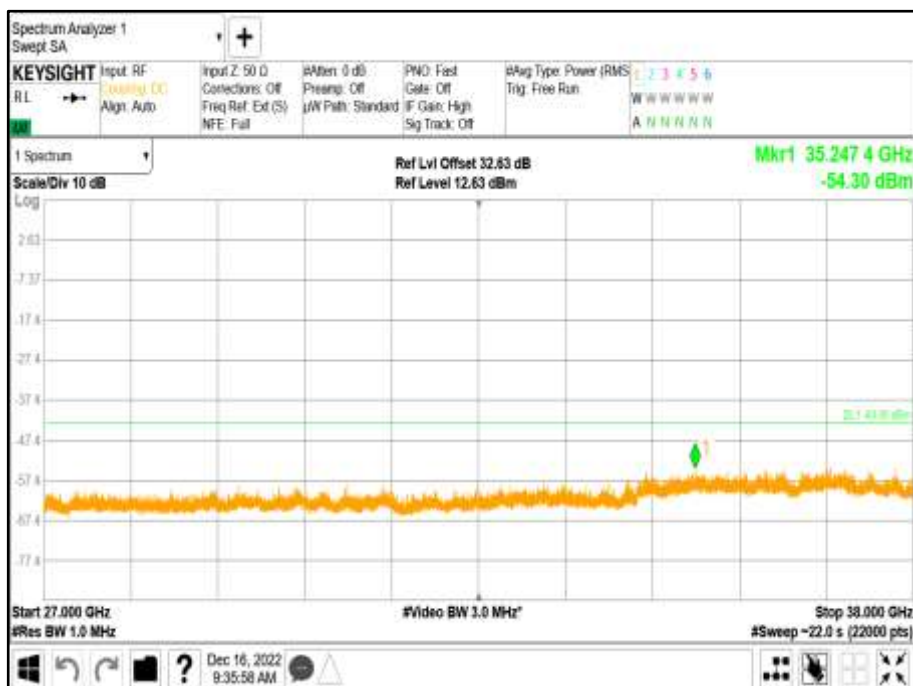




Antenna A - Modulation NR10: QPSK - Carrier Bandwidth 10+10+10+10+10+10 MHz - Channel Position B - Band 3 - Range 12000 to 27000 MHz

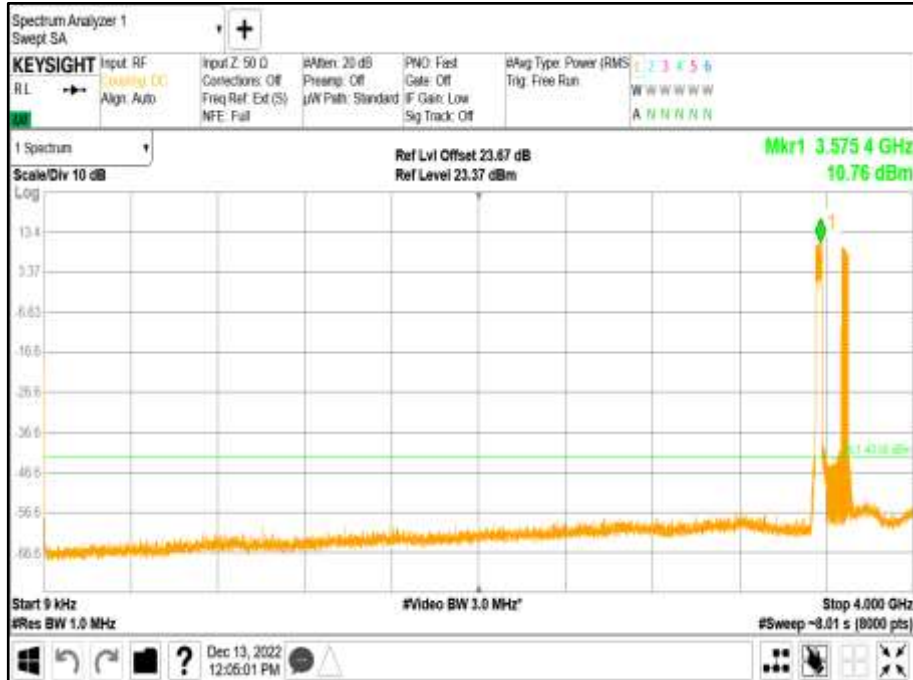


Antenna A - Modulation NR10: QPSK - Carrier Bandwidth 10+10+10+10+10+10 MHz - Channel Position B - Band 4 - Range 27000 to 38000 MHz

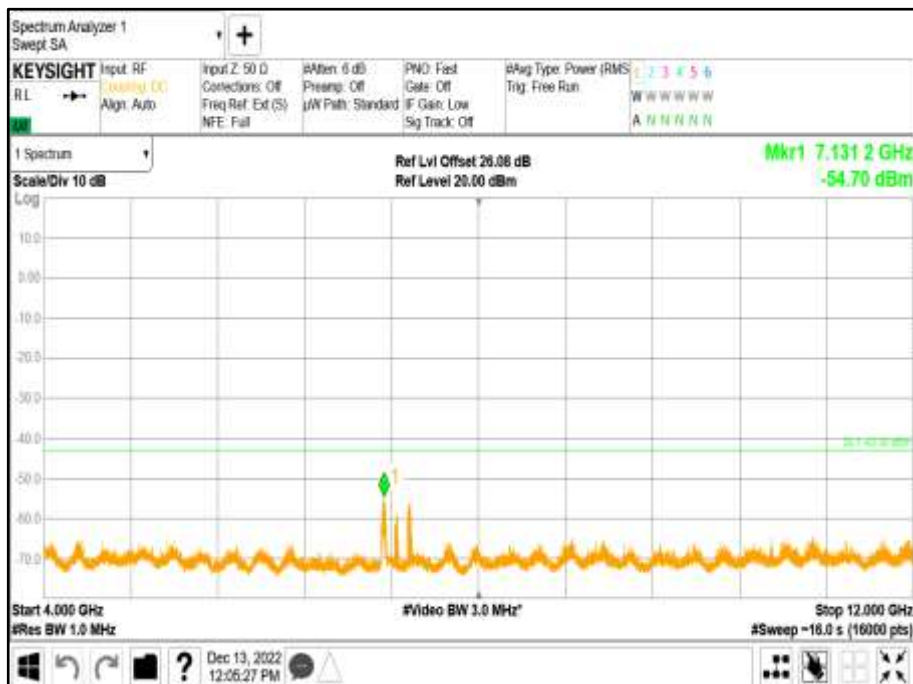




Antenna A - Modulation * NR10 + LTE 10: QPSK - Carrier Bandwidth 10+10+10+10+10+10 MHz - Channel Position B - Band 1 - Range 0.009 to 4000 MHz

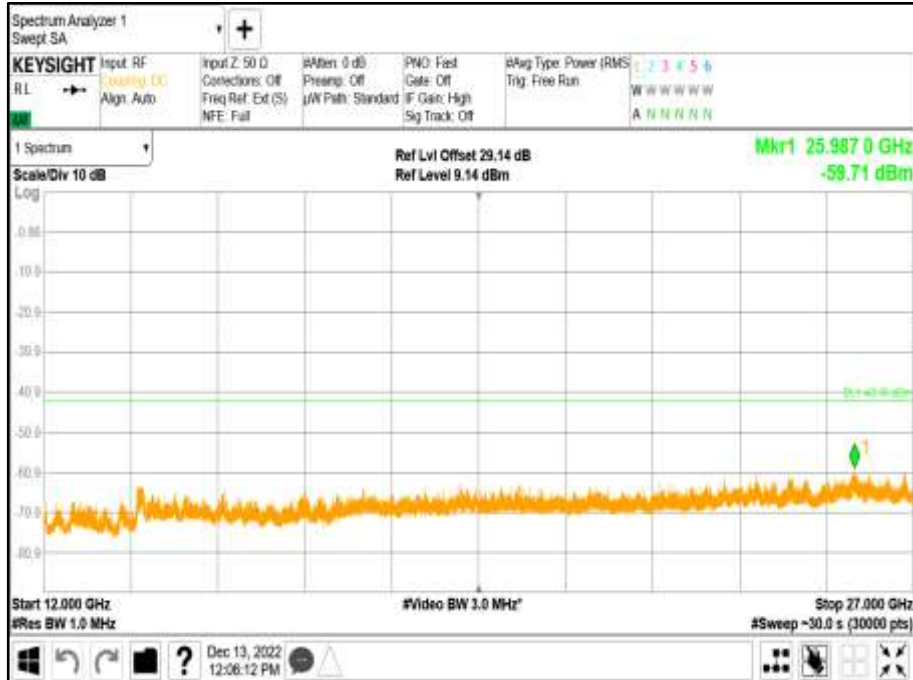


Antenna A - Modulation * NR10 + LTE 10: QPSK - Carrier Bandwidth 10+10+10+10+10+10 MHz - Channel Position B - Band 2 - Range 4000 to 12000 MHz

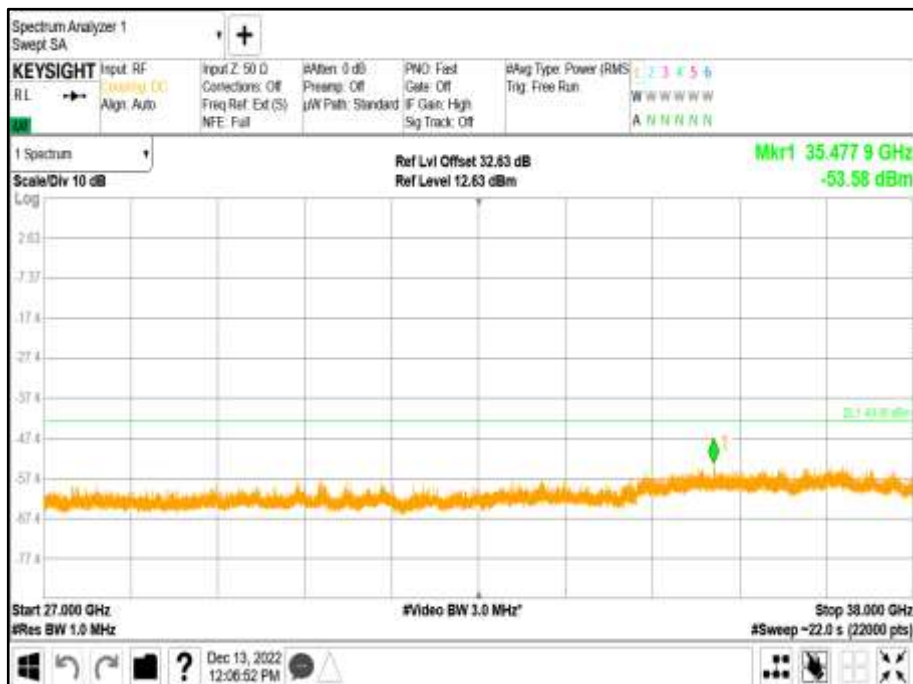




Antenna A - Modulation * NR10 + LTE 10: QPSK - Carrier Bandwidth 10+10+10+10+10+10 MHz - Channel Position B - Band 3 - Range 12000 to 27000 MHz



Antenna A - Modulation * NR10 + LTE 10: QPSK - Carrier Bandwidth 10+10+10+10+10+10 MHz - Channel Position B - Band 4 - Range 27000 to 38000 MHz

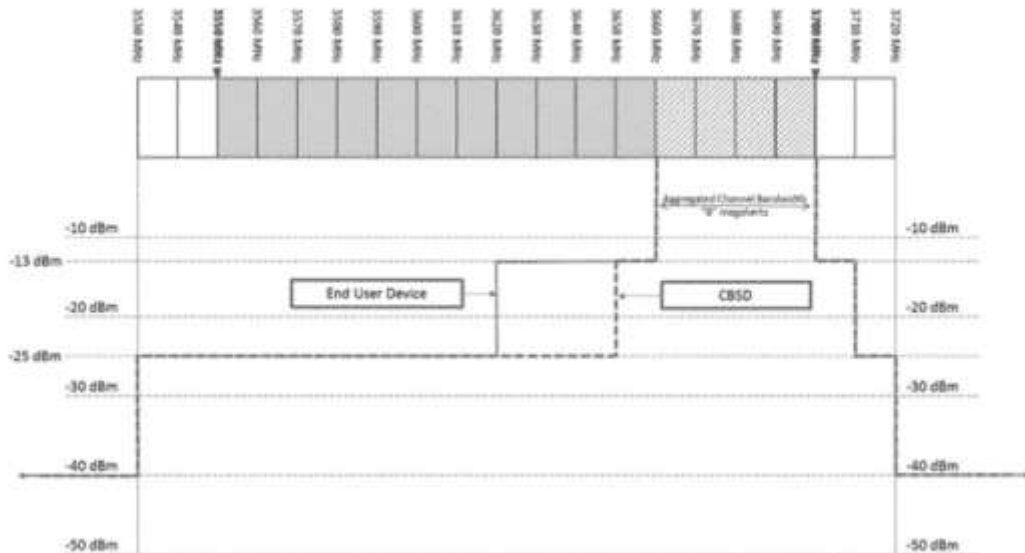




FCC 96.41 (e) 3.5 GHz Emissions and Interference Limits -

(1) General protection levels.

Figure 1 to paragraph (e) – Protection levels



(i) Except as otherwise specified in paragraph (e)(2) of this section, for channel and frequency assignments made by the SAS to CBSDs, the conducted power of any CBSD emission outside the fundamental emission bandwidth as specified in paragraph (e)(3) of this section (whether the emission is inside or outside of the authorized band) shall not exceed -13 dBm/MHz within 0-10 megahertz above the upper SAS-assigned channel edge and within 0-10 megahertz below the lower SAS-assigned channel edge. At all frequencies greater than 10 megahertz above the upper SAS assigned channel edge and less than 10 MHz below the lower SAS assigned channel edge, the conducted power of any CBSD emission shall not exceed -25 dBm/MHz. The upper and lower SAS assigned channel edges are the upper and lower limits of any channel assigned to a CBSD by an SAS, or in the case of multiple contiguous channels, the upper and lower limits of the combined contiguous channels.

(ii) Except as otherwise specified in paragraph (e)(2) of this section, for channel and frequency assignments made by a CBSD to End User Devices, the conducted power of any End User Device emission outside the fundamental emission (whether in or outside of the authorized band) shall not exceed -13 dBm/MHz within 0 to B megahertz (where B is the bandwidth in megahertz of the assigned channel or multiple contiguous channels of the End User Device) above the upper CBSD-assigned channel edge and within 0 to B megahertz below the lower CBSD-assigned channel edge. At all frequencies greater than B megahertz above the upper CBSD assigned channel edge and less than B megahertz below the lower CBSD-assigned channel edge, the conducted power of any End User Device emission shall not exceed -25 dBm/MHz. Notwithstanding the emission limits in this paragraph, the Adjacent Channel Leakage Ratio for End User Devices shall be at least 30 dB.

(2) Additional protection levels. Notwithstanding paragraph (e)(1) of this section, for CBSDs and End User Devices, the conducted power of emissions below 3540 MHz or above 3710 MHz shall not exceed -25 dBm/MHz, and the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed -40 dBm/MHz.



2.5 FREQUENCY STABILITY

2.5.1 Specification Reference

FCC CFR 47 Part 2, Clause 2.1055

2.5.2 Date of Test and Modification State

16-December-2022 - 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 24.6°C
 Relative Humidity 30.8%

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 A

Temperature	Voltage	B48 Frequency Error (Hz)
		Channel Position M (3 625 000 000 Hz)
-30°C	-48.0 V DC	Turns Off
-20°C	-48.0 V DC	Turns Off
-10°C	-48.0 V DC	2.2269
0°C	-48.0 V DC	-1.0185
+10°C	-48.0 V DC	2.1486
+20°C	-40.5 V DC	-1.9875
+20°C	-48.0 V DC	1.9432
+20°C	-57.5 V DC	1.6874
+30°C	-48.0 V DC	2.1067
+40°C	-48.0 V DC	-2.6521
+50°C	-48.0 V DC	2.8694

Worst-Case deviation = 0.0007916 ppm.

FCC CFR 47 Part 2, Clause 2.1055

Limit	The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.
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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
Spectrum Analyzer	Keysight	PXA N9030B	MY57144347	24	25-Mar-2023
Thermometer / Refrigeration	VWR	89094-746	210697579	24	13-Aug-2023
PSU	Xantrex	XKW60-50	E00109862	-	O/P Mon
Digital Multimeter	Fluke	23	SSG012027	12	19-Oct-2024
Attenuator (20dB)	Mini-Circuits	BW-K10-2W44+	-	-	O/P Mon
Climate Chamber	Burnsco	RTC-37P-3-3	-07-07	-	O/P Mon

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	
Conducted Maximum Peak Output Power	30 MHz to 20 GHz Amplitude	± 0.7 dB	
Conducted Emissions	30 MHz to 20 GHz Amplitude	± 2.1 dB	
Frequency Stability	30 MHz to 2 GHz	± 5.0 Hz	
Occupied Bandwidth	Up to 20 MHz Bandwidth	5 MHz Bandwidth	± 11547 Hz
		10 MHz Bandwidth	± 23094 Hz
		15 MHz Bandwidth	± 34641 Hz
		20 MHz Bandwidth	± 46188 Hz
Band Edge	30 MHz to 20 GHz Amplitude	±0.8 dB	
Radiated Spurious Emissions	30 MHz to 1 GHz	± 5.2 dB	
	1 GHz to 40GHz	± 6.3 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



SECTION 4

ACCREDITATION, DISCLAIMERS AND COPYRIGHT



4.1 ACCREDITATION, DISCLAIMERS AND COPYRIGHT



Certificate # 2955.19

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

Our A2LA Accreditation does not cover opinions and interpretations and any expressed are outside the scope of our A2LA Accreditation.

Results of tests not covered by our A2LA Accreditation Schedule are marked NUA (Not A2LA Accredited).

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TUV SUD Canada, 1280 Teron Rd., Kanata On. K2K 2C1

ANNEX A

MODULE LIST

Configuration A/B/C			
Product	Product No	R-State	Serial No
Dot 2266 B48B41B25B66 (EUT)	KRY 901 537/2	R1B	TD3W388627
CT11	LPC 102 494/1	R2A	T01G495060
IRU 1648	KRC 161 842/1	R1E	TD3F117342
*IRU 1649	KRC 161 842/2	R1E	TD3F109016
Software:	CXP 203 0045/26	Revision:	R15AX85

Note: * IRU used for Non-Contiguous Configuration.