AVERAGE POWER - MULTIBAND

XMit 2022.02.07.0

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Block - DC	Fairview Microwave	SD3239	ANC	2022-03-02	2023-03-02
Attenuator	Fairview Microwave	SA3N10W-20	RKY	2022-11-15	2023-11-15
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFO	2022-09-08	2023-09-08
Generator - Signal	Agilent	N5173B	TIW	2020-07-17	2023-07-17

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The fundamental emission output power (maximum average conducted output power) was measured using the channels and modes as called out on the following data sheets. The transmit power was set to its default maximum.

The method in section 5.2.4.4 of ANSI C63.26 was used to make the measurements. This method uses trace averaging across the ON and OFF times of the EUT transmissions in the spectrum analyzer channel power function using an RMS detector. Following the measurement a duty cycle correction was applied by adding [10 log (1/D)], where D is the duty cycle in decimal, to the measured power to compute the average power during the actual transmission times.

Dual band with 3.45GHz carriers at maximum (200W) and 3.7GHz carriers at 280W test cases.
The port power (7.5W) and radio power (480W) are at maximum rated levels. Testing was performed on TAB 57; the highest power port (worst case port) for the 3.45GHz Band. 256QAM modulation was used for all testing.
(a) 3.45G Band NR40 carrier at maximum power (3.125W/TRX) at bot channel and the 3.7G Band NR40 carrier (4.375W/TRX) at top ch operating simultaneously. Maximum spacing between carriers.
(b) 3.45G Band NR40 carrier at maximum power (3.125W/TRX) at top channel and the 3.7G Band NR40 carrier (4.375W /TRX) at bot ch operating simultaneously. Minimum spacing between carriers.
(c) 3.45G Band NR40 carrier at maximum power (3.125W/TRX) at bot channel and the 3.7G Band NR100 carrier (4.375W /TRX) at top ch operating simultaneously. Maximum spacing between carriers.
(d) 3.45G Band NR40 carrier at maximum power (3.125W/TRX) at top ch and the 3.7G Band NR100 carrier (4.375W /TRX) at bottom ch operating simultaneously. Minimum spacing between carriers.

Dual band with 3.7G carriers at maximum (320W) and 3.45G carriers at 160W test cases.
The port power (7.5W) and radio power (480W) are at maximum rated levels. Testing was performed on TAB 22; the highest power port (worst case port) for the 3.7GHz Band. 256QAM modulation was used for all testing.
(a) 3.7G Band NR100 carrier at max power (5.00W/TRX) & max OBW at bot channel and the 3.45G Band NR20 carrier (2.50W/TRX) at max PSD (8W/MHz) at min OBW at top ch operating simultaneously. Min spacing
(b) 3.7G Band NR100 carrier at max power (5.00W/TRX) & max OBW at top channel and the 3.45G Band NR20 carrier (2.50W /TRX) at max PSD (8W/MHz) and min OBW at bot ch operating simultaneously. Max spacing
(c) 3.7G Band NR40 carrier at max power (5.00W/TRX) & max PSD (8W/MHz) at bot channel and the 3.45G Band NR20 carrier (2.50W /TRX) at max PSD (8W/MHz) and min OBW at top ch operating simultaneously. Min spacing
(d) 3.7G Band NR40 carrier at max power (5.00W/TRX) & max PSD (8W/MHz) at top channel and the 3.45G Band NR20 carrier (2.50W /TRX) at max PSD (8W/MHz) and min OBW at bot ch operating simultaneously. Max spacing

AVERAGE POWER - MULTIBAND

element

TbtTx 2022.06.03.0 XMit 2022.02.07.0

EUT:	AQQQA			Work Order:	NOKI0052
Serial Number:	YK224300010			Date:	24-Jan-23
Customer:	Nokia of America Corporation			Temperature:	23 °C
Attendees:	John Rattanavong, Michell Hill			Humidity:	28% RH
Project:	None			Barometric Pres.:	1018 mbar
Tested by:	Brandon Hobbs	Power:	54 VDC	Job Site:	TX07

TEST SPECIFICATIONS	Test Method
FCC 27:2023	ANSI C63.26:2015

COMMENTS

All losses in the measurement path were accounted for: attenuators, cables, DC block and filter when in use. Band n77 carriers were enabled at maximmum power levels for the 3.45GHz band at 3.125watts/carrier and for the 3.7GHz band at 5watts/carrier in uniquely separate dual mode operating configurations. The following is the output power measurements at the worst case by band radio output ports. The output power was measured for a single carrier over the carrier channel bandwidth on the worst case port. The total output power for multiport (64x64 MIMO) operation was determined based upon ANSI 63.26 clauses 6.4.3.1 and 6.4.3.2.4 (10 log Nout). The total output power for a Sixty-Four port operation is single port power +18.1 dB [i.e. 10log(64)].

DEVIATIONS FROM TEST STANDARD

None

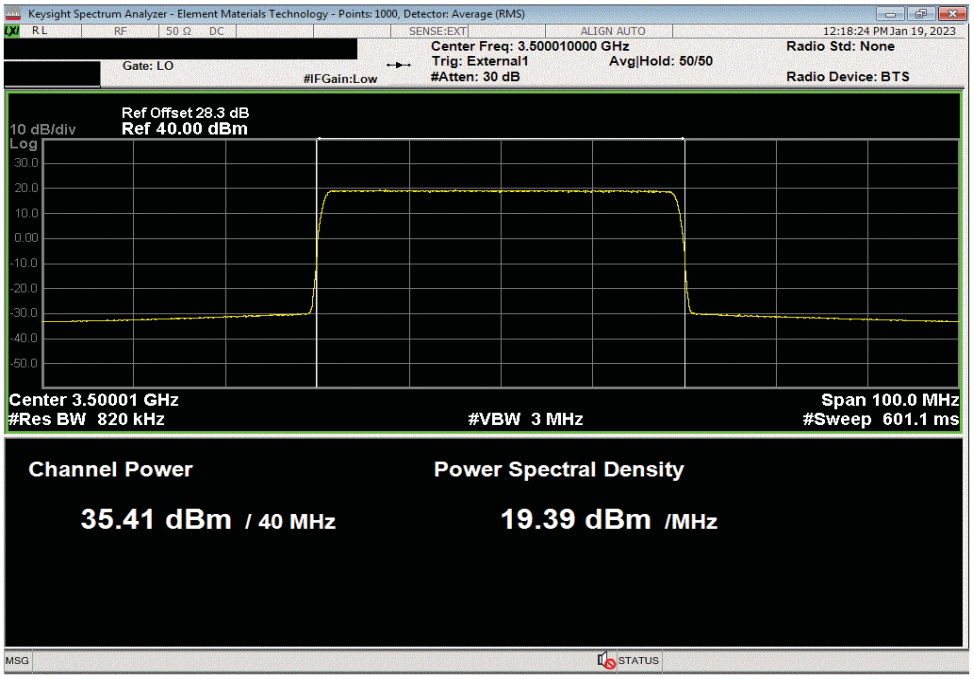
Configuration #	4	Signature

	Avg Cond Initial Pwr (dBm)	Avg Cond Carrier Pwr (dBm)	64x64 MIMO 3.45G Band Pwr (dBm)	64x64 MIMO 3.7G Band Pwr (dBm)	64x64 MIMO Both Bands Pwr (dBm)	Sys Rated Pwr Limit (dBm)	Results
Worst Case Port							
Dual Band Mode, 3.45G (Max Power) and 3.7G Bands, 5G NR							
Configuration Mid							
256-QAM Modulation							
3.45G NR 40 Mid Ch. 3500.01 MHz	35.415	35.4	53.5	N/A	N/A	53.8	Pass
3.7G NR 40 Mid Ch. 3840 MHz	36.568	36.6	N/A	54.7	N/A	55.8	Pass
Configuration a							
256-QAM Modulation							
3.45G NR 40 Low Ch. 3470.01 MHz	35.675	35.7	53.8	N/A	N/A	53.8	Pass
3.7G NR 40 High Ch. 3960 MHz	36.212	36.2	N/A	54.3	N/A	55.8	Pass
Configuration b							
256-QAM Modulation							
3.45G NR 40 High Ch. 3529.98 MHz	35.474	35.5	53.6	N/A	N/A	53.8	Pass
3.7G NR 40 Low Ch. 3720 MHz	36.556	36.6	N/A	54.7	N/A	55.8	Pass
Configuration c							
256-QAM Modulation							
3.45G NR 40 Low Ch. 3470.01 MHz	35.133	35.1	53.2	N/A	N/A	53.8	Pass
3.7G NR 100 High Ch. 3930 MHz	36.150	36.2	N/A	54.3	N/A	55.8	Pass
Configuration d							
256-QAM Modulation							
3.45G NR 40 High Ch. 3529.98 MHz	35.264	35.3	53.4	N/A	N/A	53.8	Pass
3.7G NR 100 Low Ch. 3750 MHz	36.166	36.2	N/A	54.3	N/A	55.8	Pass
Dual Band Mode, 3.45G and 3.7G (Max Power) Bands, 5G NR							
Configuration Mid							
256-QAM Modulation							
3.7G NR 100 Mid Ch. 3840 MHz	36.942	36.9	55	N/A	N/A	55.8	Pass
3.45G NR 20 Mid Ch. 3500.01 MHz	33.591	33.6	N/A	51.7	N/A	53.8	Pass
Configuration a							
256-QAM Modulation							
3.7G NR 100 Low Ch. 3750 MHz	36.719	36.7	54.8	N/A	N/A	55.8	Pass
3.45G NR 20 High Ch. 3540 MHz	33.311	33.3	N/A	51.4	N/A	53.8	Pass
Configuration b							
256-QAM Modulation							
3.7G NR 100 High Ch. 3930 MHz	36.424	36.4	54.5	N/A	N/A	55.8	Pass
3.45G NR 20 Low Ch. 3460.02 MHz	33.41	33.4	N/A	51.5	N/A	53.8	Pass
Configuration c							
256-QAM Modulation							
3.7G NR 40 Low Ch. 3720 MHz	36.423	36.4	54.5	N/A	N/A	55.8	Pass
3.45G NR 20 High Ch. 3540 MHz	33.274	33.3	N/A	51.4	N/A	53.8	Pass
Configuration d							
256-QAM Modulation							
3.7G NR 40 High Ch. 3960 MHz	36.538	36.5	54.6	N/A	N/A	55.8	Pass
3.45G NR 20 Low Ch. 3460.02 MHz	33.223	33.2	N/A	51.3	N/A	53.8	Pass
Worst Case Port							
Dual Band Mode, 3.45G (Max Power) and 3.7G Bands, 5G NR							
Configuration Mid							
256-QAM Modulation							
Both Bands Total Power	Reference Table	Reference Table	Reference Table	Reference Table	57.2	57.6	Pass
Configuration a							
256-QAM Modulation							
Both Bands Total Power	Reference Table	Reference Table	Reference Table	Reference Table	57.1	57.6	Pass
Configuration b							
256-QAM Modulation							
Both Bands Total Power	Reference Table	Reference Table	Reference Table	Reference Table	57.2	57.6	Pass
Configuration c							
256-QAM Modulation							
Both Bands Total Power	Reference Table	Reference Table	Reference Table	Reference Table	56.8	57.6	Pass
Configuration d							
256-QAM Modulation							
Both Bands Total Power	Reference Table	Reference Table	Reference Table	Reference Table	56.9	57.6	Pass
Dual Band Mode, 3.45G and 3.7G (Max Power) Bands, 5G NR							
Configuration Mid							
256-QAM Modulation							
Both Bands Total Power	Reference Table	Reference Table	Reference Table	Reference Table	56.7	57.6	Pass
Configuration a							
256-QAM Modulation							
Both Bands Total Power	Reference Table	Reference Table	Reference Table	Reference Table	56.4	57.6	Pass
Configuration b							
256-QAM Modulation							
Both Bands Total Power	Reference Table	Reference Table	Reference Table	Reference Table	56.3	57.6	Pass
Configuration c							
256-QAM Modulation							
Both Bands Total Power	Reference Table	Reference Table	Reference Table	Reference Table	56.2	57.6	Pass
Configuration d							
256-QAM Modulation							
Both Bands Total Power	Reference Table	Reference Table	Reference Table	Reference Table	56.3	57.6	Pass

AVERAGE POWER - MULTIBAND

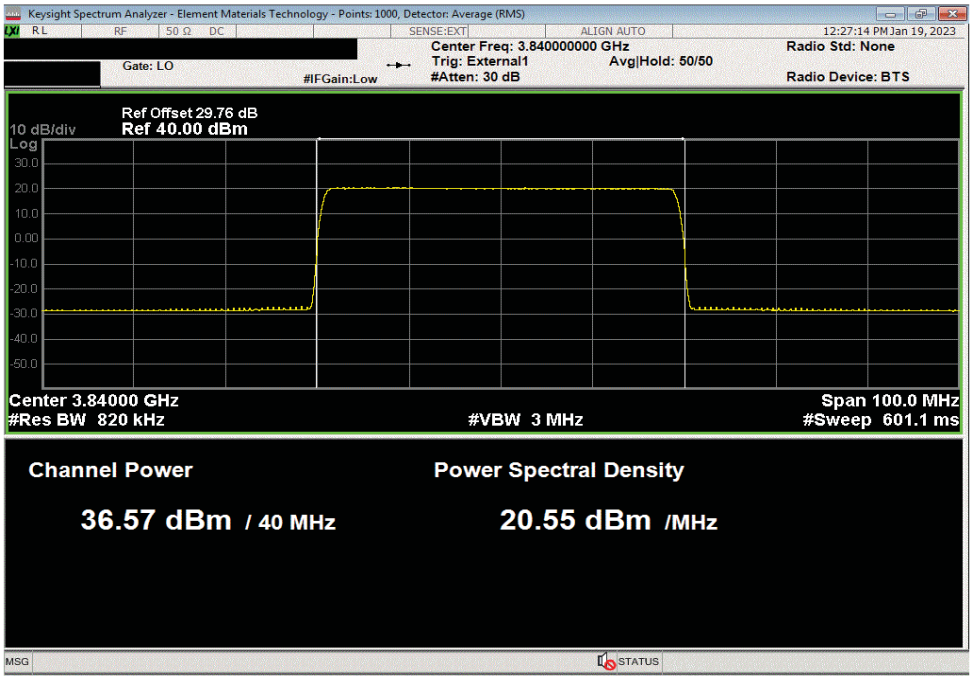
Worst Case Port, Dual Band Mode, 3.45G (Max Power) and 3.7G Bands, 5G NR, Configuration Mid, 256-QAM Modulation, 3.45G NR 40 Mid Ch. 3500.01 MHz

Avg Cond Initial Pwr (dBm)	Avg Cond Carrier Pwr (dBm)	64x64 MIMO 3.45G Band Pwr (dBm)	64x64 MIMO 3.7G Band Pwr (dBm)	64x64 MIMO Both Bands Pwr (dBm)	Sys Rated Pwr Limit (dBm)	Results
35.415	35.4	53.5	N/A	N/A	53.8	Pass



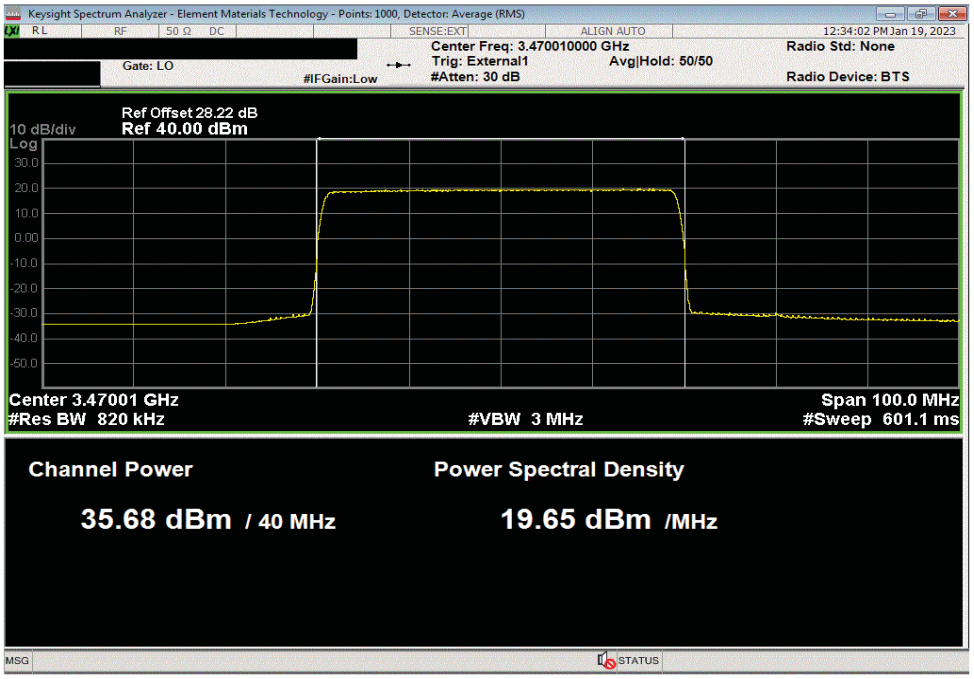
Worst Case Port, Dual Band Mode, 3.45G (Max Power) and 3.7G Bands, 5G NR, Configuration Mid, 256-QAM Modulation, 3.7G NR 40 Mid Ch. 3840 MHz

Avg Cond Initial Pwr (dBm)	Avg Cond Carrier Pwr (dBm)	64x64 MIMO 3.45G Band Pwr (dBm)	64x64 MIMO 3.7G Band Pwr (dBm)	64x64 MIMO Both Bands Pwr (dBm)	Sys Rated Pwr Limit (dBm)	Results
36.568	36.6	N/A	54.7	N/A	55.8	Pass

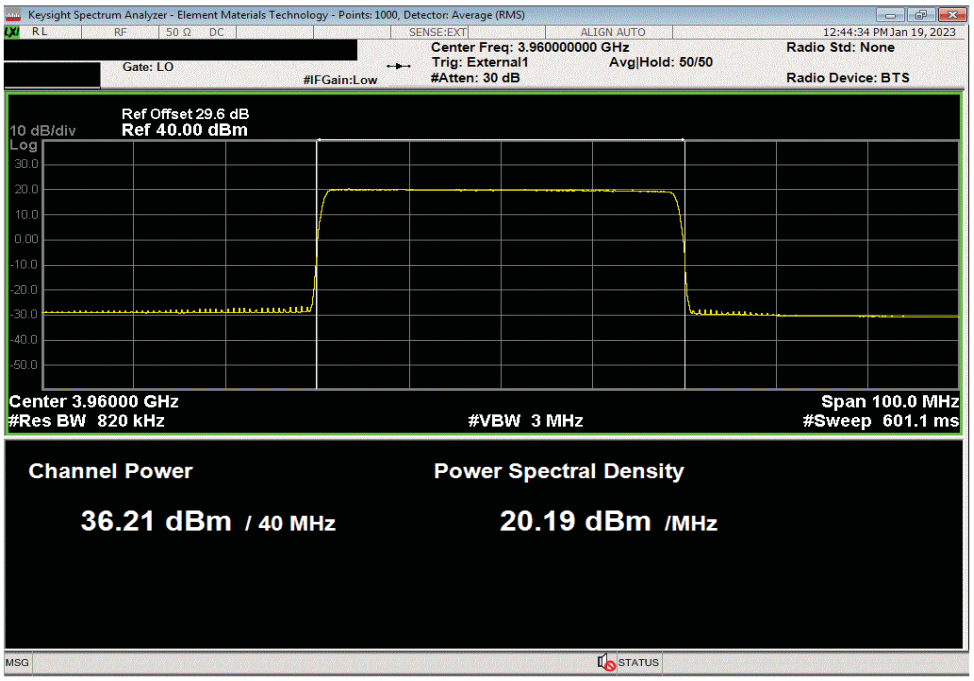


AVERAGE POWER - MULTIBAND

Worst Case Port, Dual Band Mode, 3.45G (Max Power) and 3.7G Bands, 5G NR, Configuration a, 256-QAM Modulation, 3.45G NR 40 Low Ch. 3470.01 MHz						
Avg Cond Initial Pwr (dBm)	Avg Cond Carrier Pwr (dBm)	64x64 MIMO 3.45G Band Pwr (dBm)	64x64 MIMO 3.7G Band Pwr (dBm)	64x64 MIMO Both Bands Pwr (dBm)	Sys Rated Pwr Limit (dBm)	Results
35.675	35.7	53.8	N/A	N/A	53.8	Pass



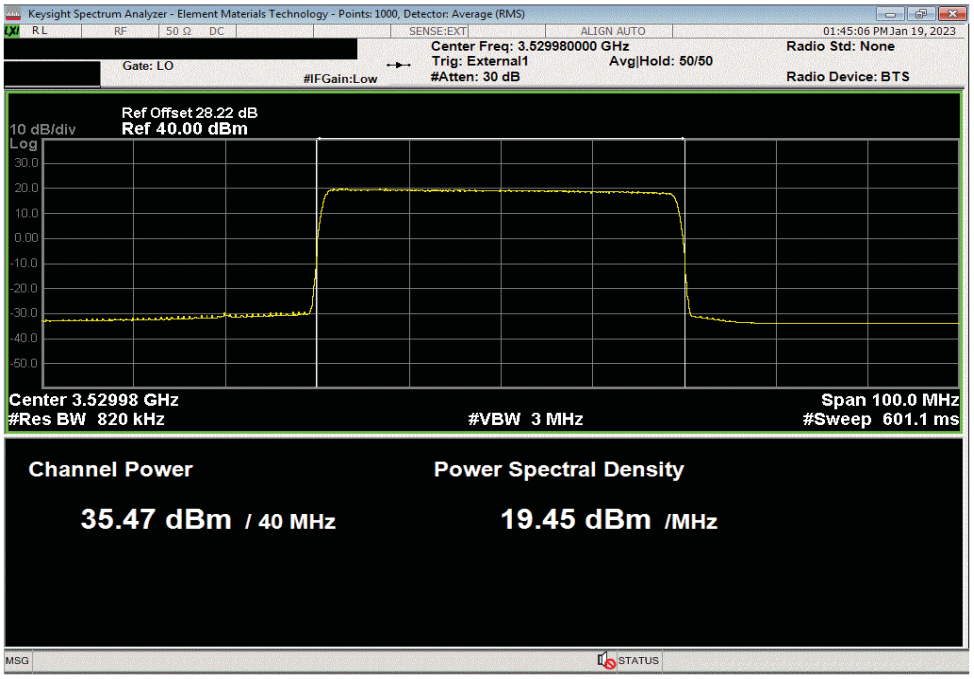
Worst Case Port, Dual Band Mode, 3.45G (Max Power) and 3.7G Bands, 5G NR, Configuration a, 256-QAM Modulation, 3.7G NR 40 High Ch. 3960 MHz						
Avg Cond Initial Pwr (dBm)	Avg Cond Carrier Pwr (dBm)	64x64 MIMO 3.45G Band Pwr (dBm)	64x64 MIMO 3.7G Band Pwr (dBm)	64x64 MIMO Both Bands Pwr (dBm)	Sys Rated Pwr Limit (dBm)	Results
36.212	36.2	N/A	54.3	N/A	55.8	Pass



AVERAGE POWER - MULTIBAND

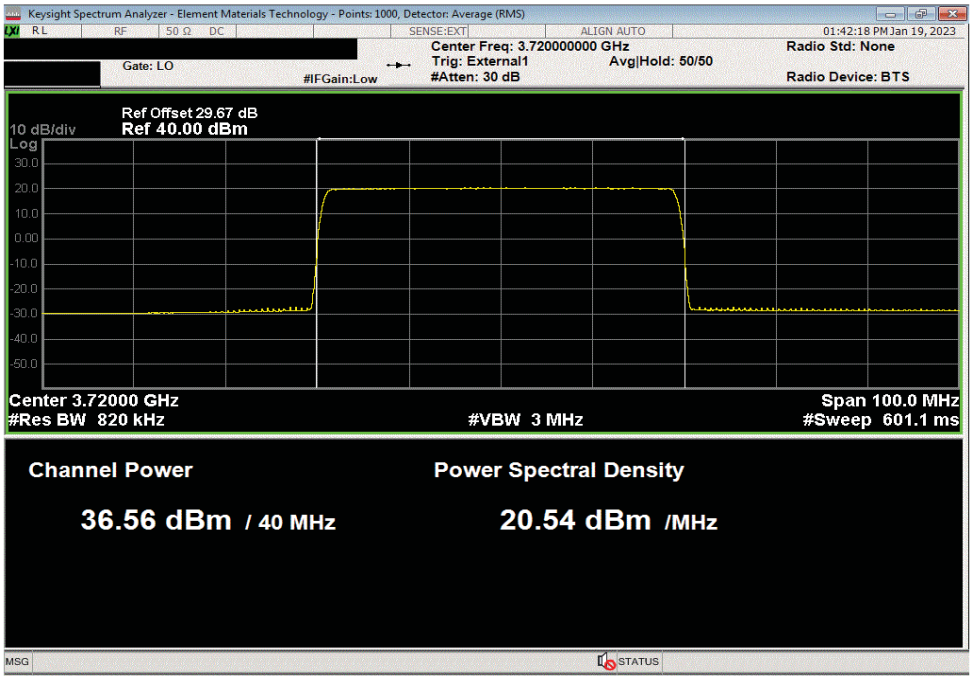
Worst Case Port, Dual Band Mode, 3.45G (Max Power) and 3.7G Bands, 5G NR, Configuration b, 256-QAM Modulation, 3.45G NR 40 High Ch. 3529.98 MHz

Avg Cond Initial Pwr (dBm)	Avg Cond Carrier Pwr (dBm)	64x64 MIMO 3.45G Band Pwr (dBm)	64x64 MIMO 3.7G Band Pwr (dBm)	64x64 MIMO Both Bands Pwr (dBm)	Sys Rated Pwr Limit (dBm)	Results
35.474	35.5	53.6	N/A	N/A	53.8	Pass



Worst Case Port, Dual Band Mode, 3.45G (Max Power) and 3.7G Bands, 5G NR, Configuration b, 256-QAM Modulation, 3.7G NR 40 Low Ch. 3720 MHz

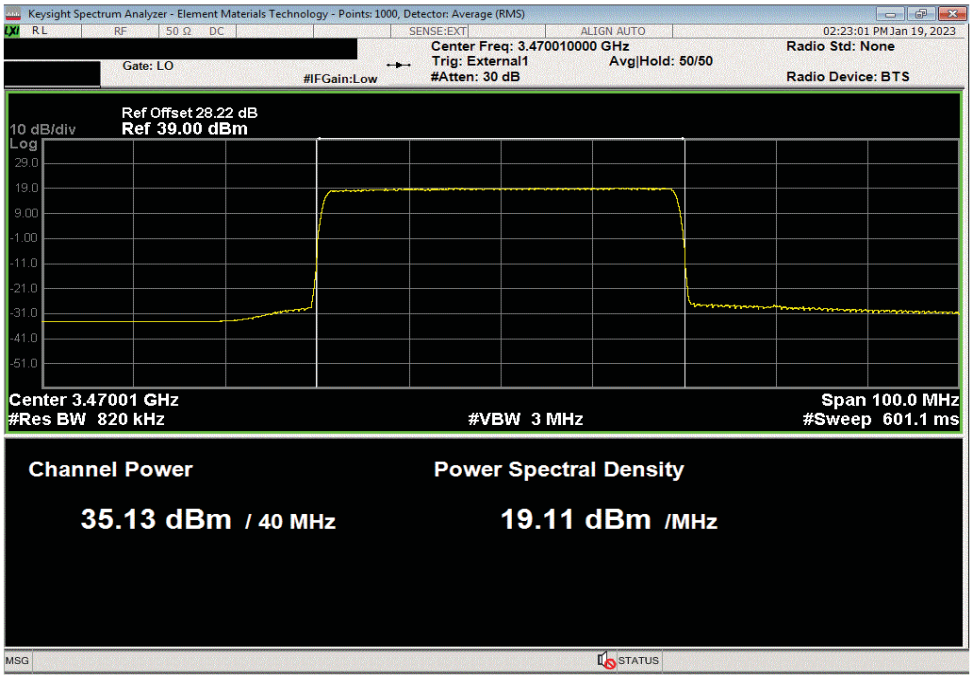
Avg Cond Initial Pwr (dBm)	Avg Cond Carrier Pwr (dBm)	64x64 MIMO 3.45G Band Pwr (dBm)	64x64 MIMO 3.7G Band Pwr (dBm)	64x64 MIMO Both Bands Pwr (dBm)	Sys Rated Pwr Limit (dBm)	Results
36.556	36.6	N/A	54.7	N/A	55.8	Pass



AVERAGE POWER - MULTIBAND

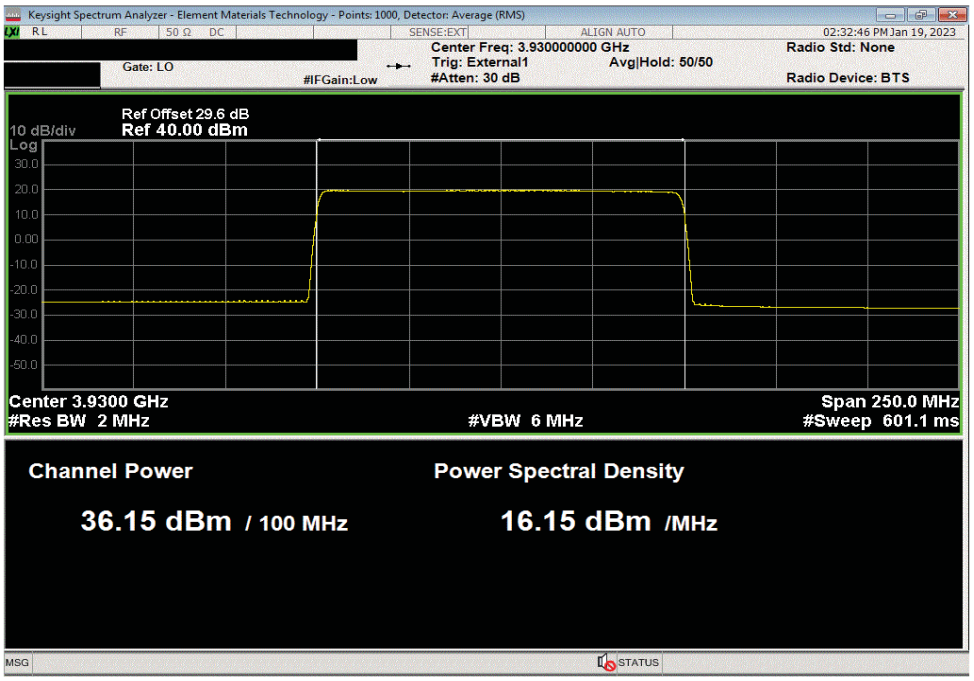
Worst Case Port, Dual Band Mode, 3.45G (Max Power) and 3.7G Bands, 5G NR, Configuration c, 256-QAM Modulation, 3.45G NR 40 Low Ch. 3470.01 MHz

Avg Cond Initial Pwr (dBm)	Avg Cond Carrier Pwr (dBm)	64x64 MIMO 3.45G Band Pwr (dBm)	64x64 MIMO 3.7G Band Pwr (dBm)	64x64 MIMO Both Bands Pwr (dBm)	Sys Rated Pwr Limit (dBm)	Results
35.133	35.1	53.2	N/A	N/A	53.8	Pass



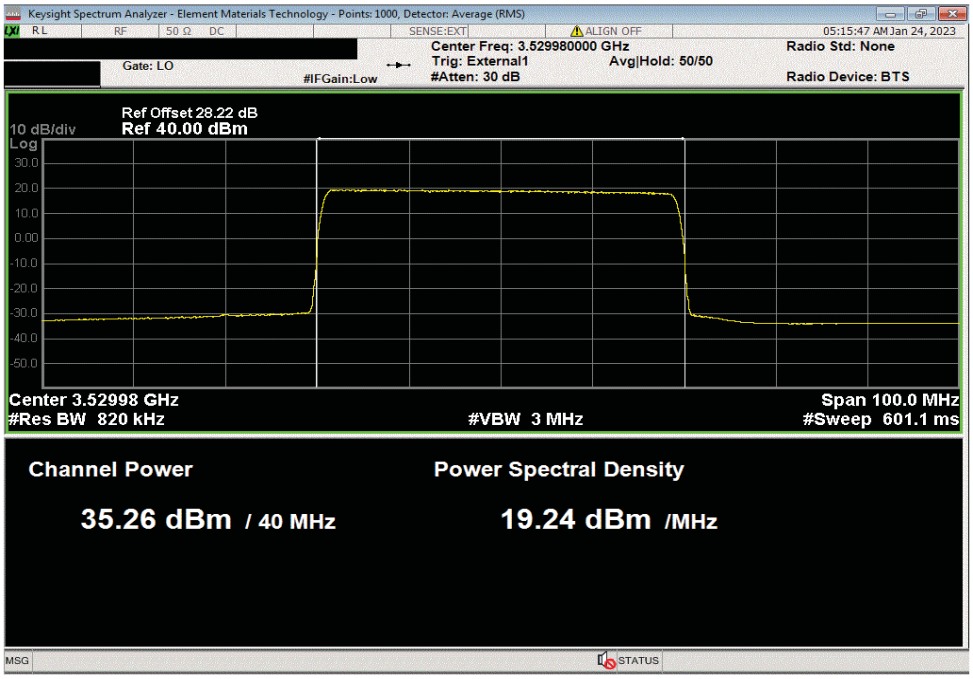
Worst Case Port, Dual Band Mode, 3.45G (Max Power) and 3.7G Bands, 5G NR, Configuration c, 256-QAM Modulation, 3.7G NR 100 High Ch. 3930 MHz

Avg Cond Initial Pwr (dBm)	Avg Cond Carrier Pwr (dBm)	64x64 MIMO 3.45G Band Pwr (dBm)	64x64 MIMO 3.7G Band Pwr (dBm)	64x64 MIMO Both Bands Pwr (dBm)	Sys Rated Pwr Limit (dBm)	Results
36.15	36.2	N/A	54.3	N/A	55.8	Pass

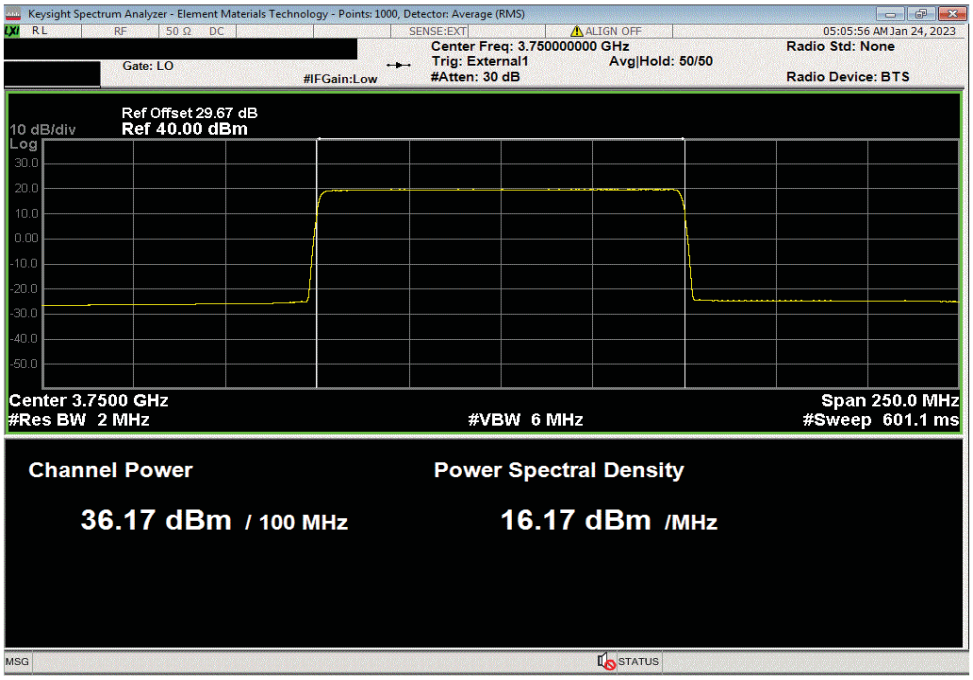


AVERAGE POWER - MULTIBAND

Worst Case Port, Dual Band Mode, 3.45G (Max Power) and 3.7G Bands, 5G NR, Configuration d, 256-QAM Modulation, 3.45G NR 40 High Ch. 3529.98 MHz						
Avg Cond Initial Pwr (dBm)	Avg Cond Carrier Pwr (dBm)	64x64 MIMO 3.45G Band Pwr (dBm)	64x64 MIMO 3.7G Band Pwr (dBm)	64x64 MIMO Both Bands Pwr (dBm)	Sys Rated Pwr Limit (dBm)	Results
35.264	35.3	53.4	N/A	N/A	53.8	Pass

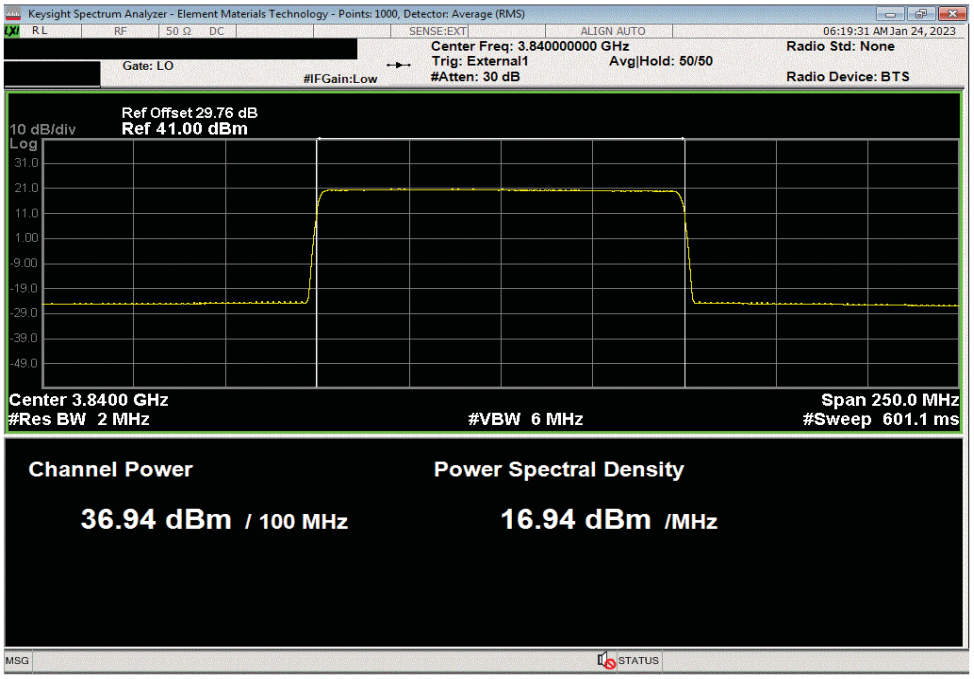


Worst Case Port, Dual Band Mode, 3.45G (Max Power) and 3.7G Bands, 5G NR, Configuration d, 256-QAM Modulation, 3.7G NR 100 Low Ch. 3750 MHz						
Avg Cond Initial Pwr (dBm)	Avg Cond Carrier Pwr (dBm)	64x64 MIMO 3.45G Band Pwr (dBm)	64x64 MIMO 3.7G Band Pwr (dBm)	64x64 MIMO Both Bands Pwr (dBm)	Sys Rated Pwr Limit (dBm)	Results
36.166	36.2	N/A	54.3	N/A	55.8	Pass

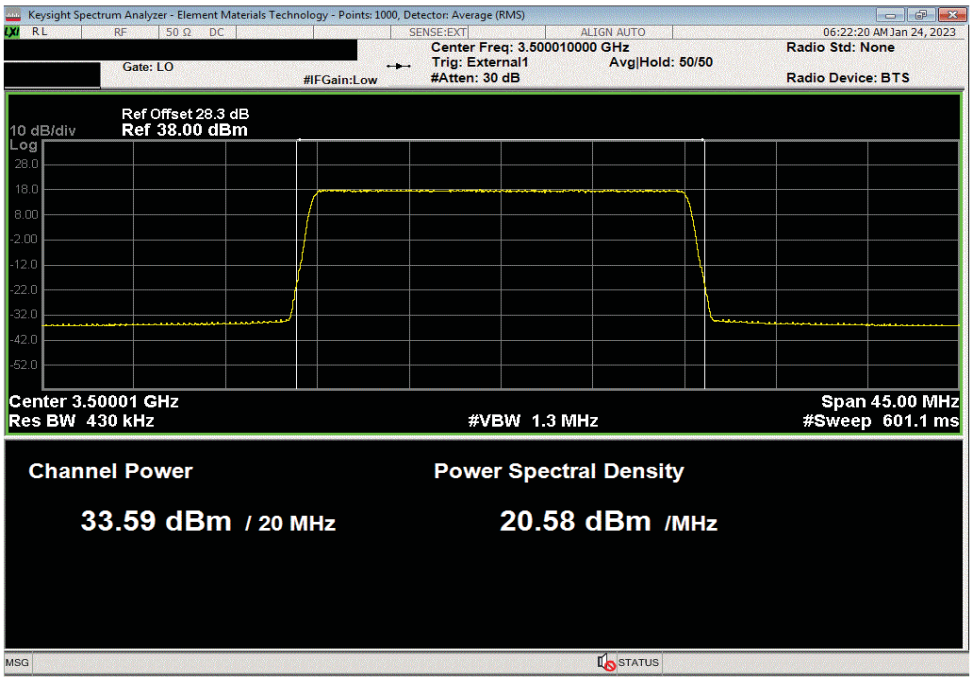


AVERAGE POWER - MULTIBAND

Worst Case Port, Dual Band Mode, 3.45G and 3.7G (Max Power) Bands, 5G NR, Configuration Mid, 256-QAM Modulation, 3.7G NR 100 Mid Ch. 3840 MHz						
Avg Cond Initial Pwr (dBm)	Avg Cond Carrier Pwr (dBm)	64x64 MIMO 3.45G Band Pwr (dBm)	64x64 MIMO 3.7G Band Pwr (dBm)	64x64 MIMO Both Bands Pwr (dBm)	Sys Rated Pwr Limit (dBm)	Results
36.942	36.9	55	N/A	N/A	53.8	Pass

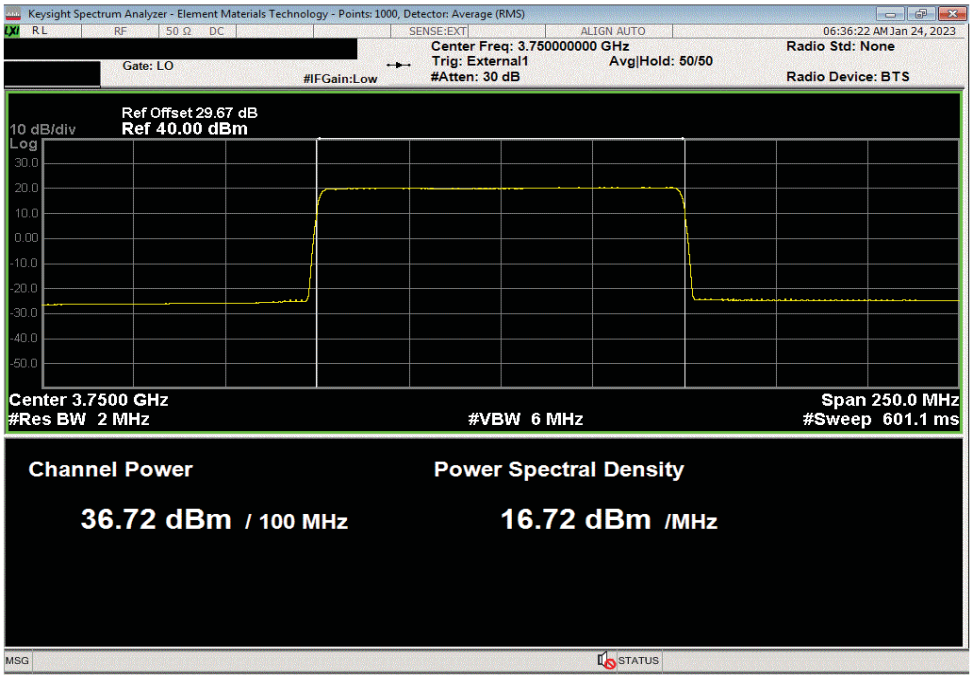


Worst Case Port, Dual Band Mode, 3.45G and 3.7G (Max Power) Bands, 5G NR, Configuration Mid, 256-QAM Modulation, 3.45G NR 20 Mid Ch. 3500.01 MHz						
Avg Cond Initial Pwr (dBm)	Avg Cond Carrier Pwr (dBm)	64x64 MIMO 3.45G Band Pwr (dBm)	64x64 MIMO 3.7G Band Pwr (dBm)	64x64 MIMO Both Bands Pwr (dBm)	Sys Rated Pwr Limit (dBm)	Results
33.591	33.6	N/A	51.7	N/A	55.8	Pass

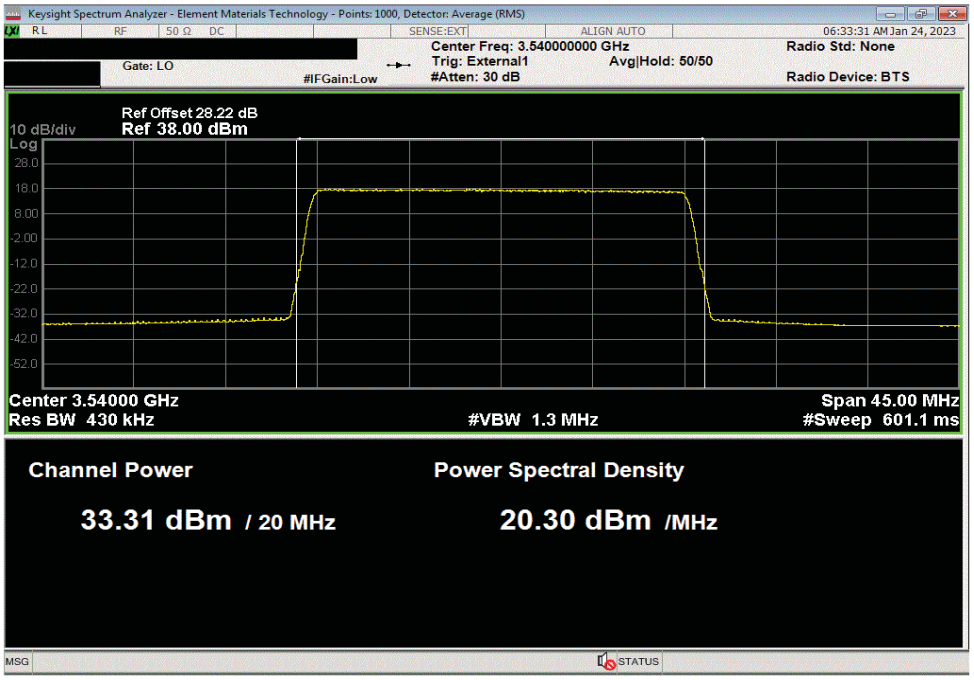


AVERAGE POWER - MULTIBAND

Worst Case Port, Dual Band Mode, 3.45G and 3.7G (Max Power) Bands, 5G NR, Configuration a, 256-QAM Modulation, 3.7G NR 100 Low Ch. 3750 MHz						
Avg Cond Initial Pwr (dBm)	Avg Cond Carrier Pwr (dBm)	64x64 MIMO 3.45G Band Pwr (dBm)	64x64 MIMO 3.7G Band Pwr (dBm)	64x64 MIMO Both Bands Pwr (dBm)	Sys Rated Pwr Limit (dBm)	Results
36.719	36.7	54.8	N/A	N/A	53.8	Pass

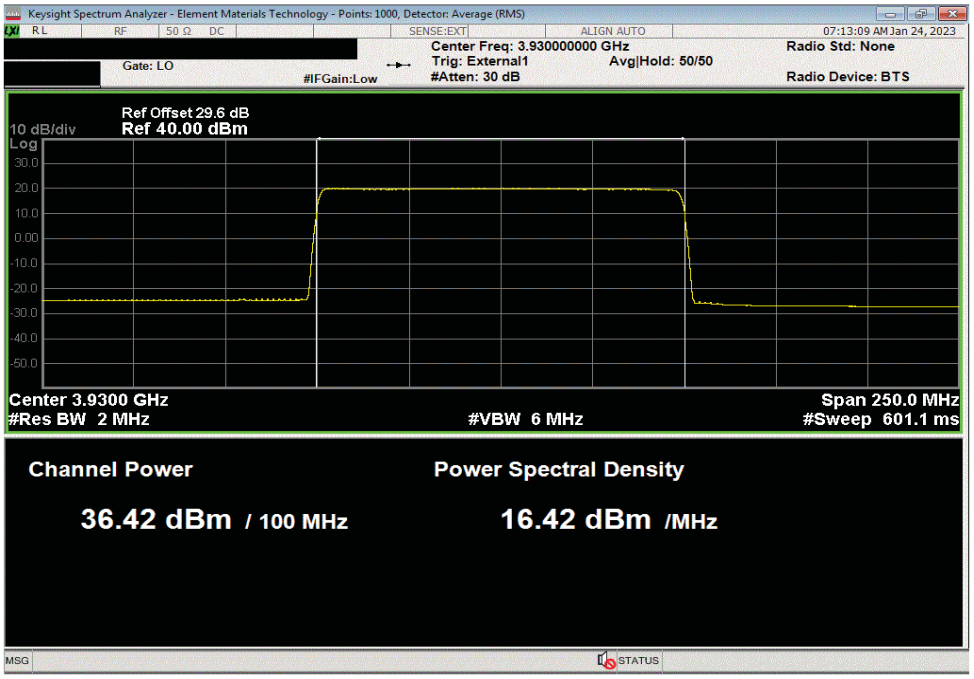


Worst Case Port, Dual Band Mode, 3.45G and 3.7G (Max Power) Bands, 5G NR, Configuration a, 256-QAM Modulation, 3.45G NR 20 High Ch. 3540 MHz						
Avg Cond Initial Pwr (dBm)	Avg Cond Carrier Pwr (dBm)	64x64 MIMO 3.45G Band Pwr (dBm)	64x64 MIMO 3.7G Band Pwr (dBm)	64x64 MIMO Both Bands Pwr (dBm)	Sys Rated Pwr Limit (dBm)	Results
33.311	33.3	N/A	51.4	N/A	55.8	Pass

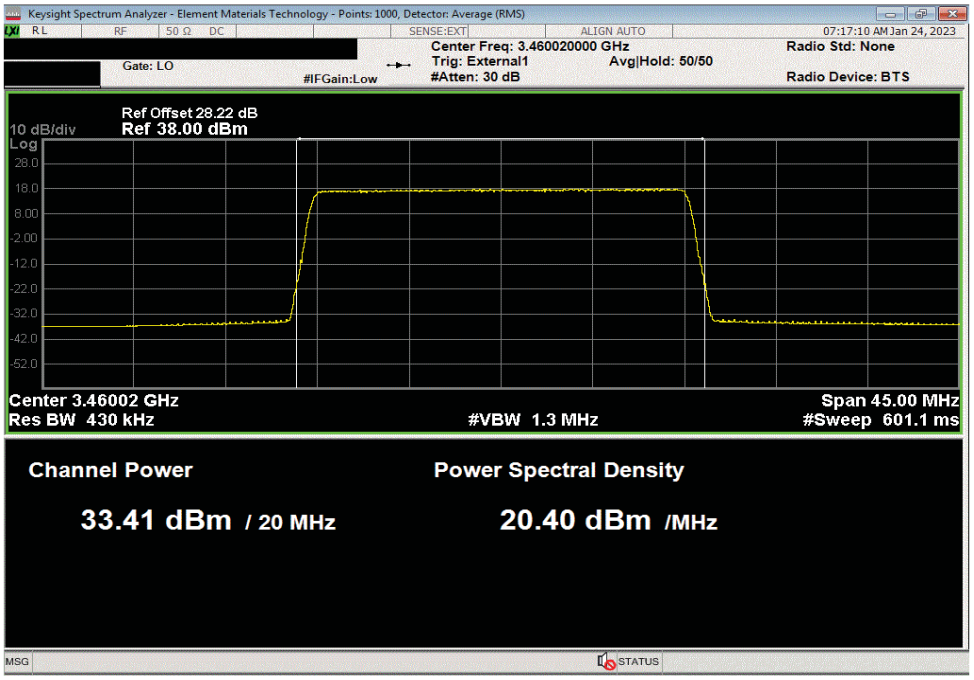


AVERAGE POWER - MULTIBAND

Worst Case Port, Dual Band Mode, 3.45G and 3.7G (Max Power) Bands, 5G NR, Configuration b, 256-QAM Modulation, 3.7G NR 100 High Ch. 3930 MHz						
Avg Cond Initial Pwr (dBm)	Avg Cond Carrier Pwr (dBm)	64x64 MIMO 3.45G Band Pwr (dBm)	64x64 MIMO 3.7G Band Pwr (dBm)	64x64 MIMO Both Bands Pwr (dBm)	Sys Rated Pwr Limit (dBm)	Results
36.424	36.4	54.5	N/A	N/A	53.8	Pass

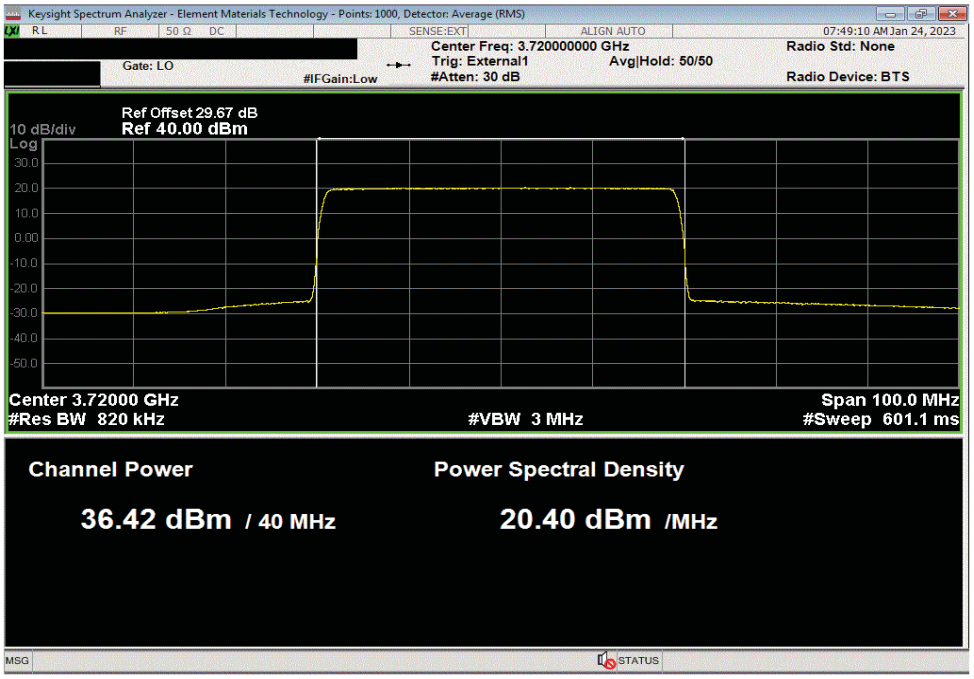


Worst Case Port, Dual Band Mode, 3.45G and 3.7G (Max Power) Bands, 5G NR, Configuration b, 256-QAM Modulation, 3.45G NR 20 Low Ch. 3460.02 MHz						
Avg Cond Initial Pwr (dBm)	Avg Cond Carrier Pwr (dBm)	64x64 MIMO 3.45G Band Pwr (dBm)	64x64 MIMO 3.7G Band Pwr (dBm)	64x64 MIMO Both Bands Pwr (dBm)	Sys Rated Pwr Limit (dBm)	Results
33.41	33.4	N/A	51.5	N/A	55.8	Pass

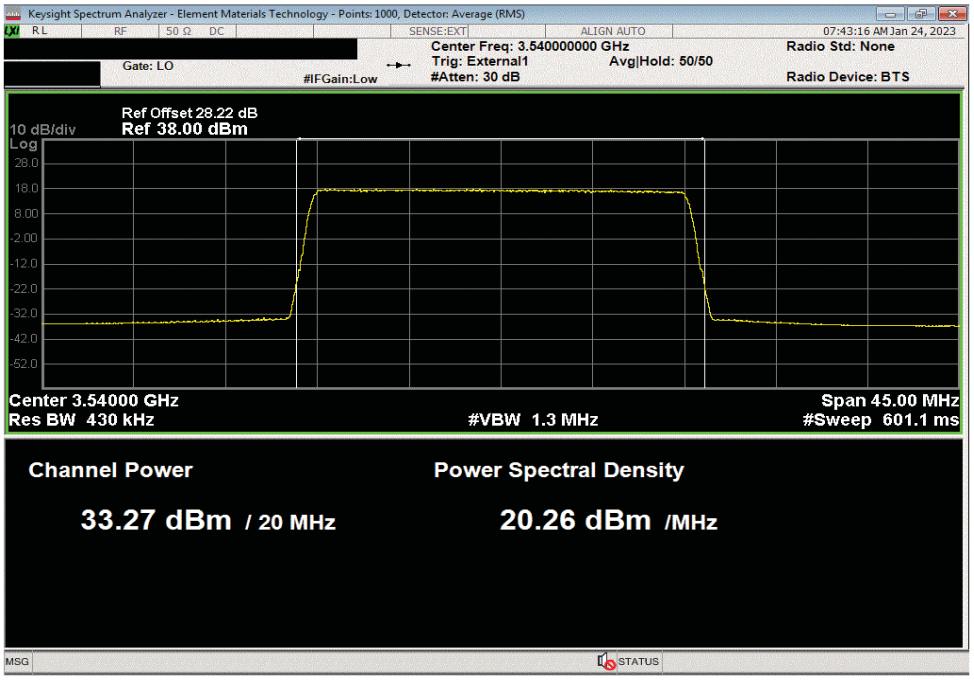


AVERAGE POWER - MULTIBAND

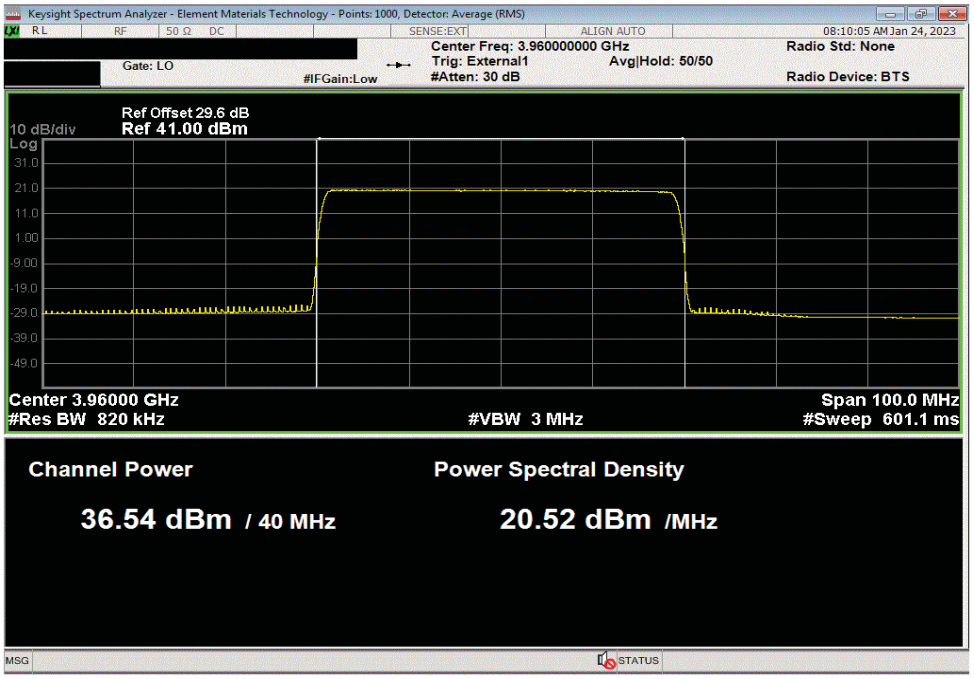
Worst Case Port, Dual Band Mode, 3.45G and 3.7G (Max Power) Bands, 5G NR, Configuration c, 256-QAM Modulation, 3.7G NR 40 Low Ch. 3720 MHz						
Avg Cond Initial Pwr (dBm)	Avg Cond Carrier Pwr (dBm)	64x64 MIMO 3.45G Band Pwr (dBm)	64x64 MIMO 3.7G Band Pwr (dBm)	64x64 MIMO Both Bands Pwr (dBm)	Sys Rated Pwr Limit (dBm)	Results
36.423	36.4	54.5	N/A	N/A	53.8	Pass



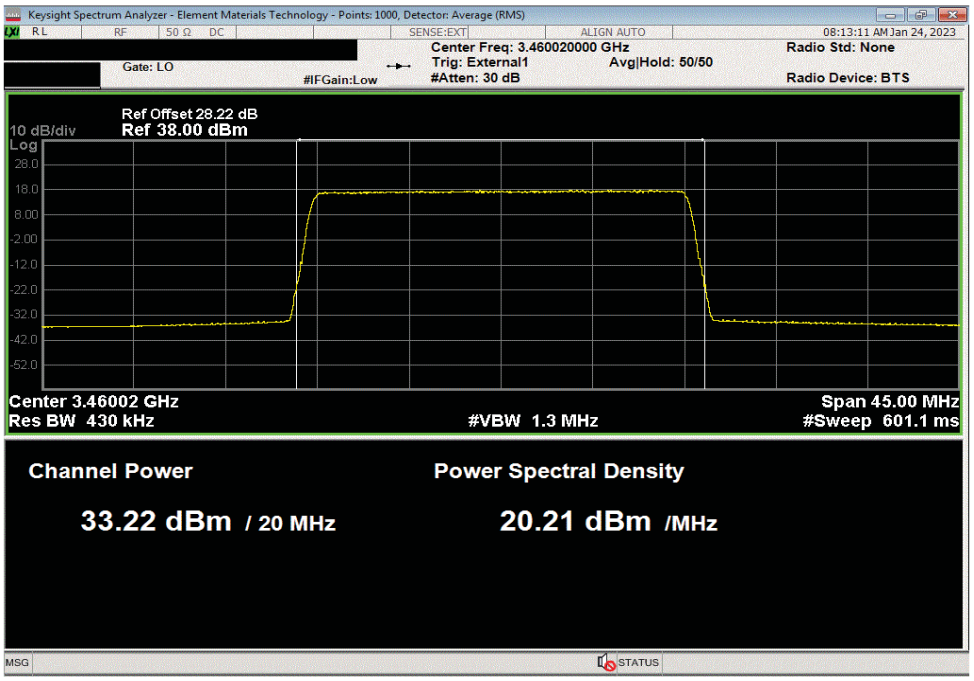
Worst Case Port, Dual Band Mode, 3.45G and 3.7G (Max Power) Bands, 5G NR, Configuration c, 256-QAM Modulation, 3.45G NR 20 High Ch. 3540 MHz						
Avg Cond Initial Pwr (dBm)	Avg Cond Carrier Pwr (dBm)	64x64 MIMO 3.45G Band Pwr (dBm)	64x64 MIMO 3.7G Band Pwr (dBm)	64x64 MIMO Both Bands Pwr (dBm)	Sys Rated Pwr Limit (dBm)	Results
33.274	33.3	N/A	51.4	N/A	55.8	Pass



Worst Case Port, Dual Band Mode, 3.45G and 3.7G (Max Power) Bands, 5G NR, Configuration d, 256-QAM Modulation, 3.7G NR 40 High Ch. 3960 MHz						
Avg Cond Initial Pwr (dBm)	Avg Cond Carrier Pwr (dBm)	64x64 MIMO 3.45G Band Pwr (dBm)	64x64 MIMO 3.7G Band Pwr (dBm)	64x64 MIMO Both Bands Pwr (dBm)	Sys Rated Pwr Limit (dBm)	Results
36.538	36.5	54.6	N/A	N/A	53.8	Pass



Worst Case Port, Dual Band Mode, 3.45G and 3.7G (Max Power) Bands, 5G NR, Configuration d, 256-QAM Modulation, 3.45G NR 20 Low Ch. 3460.02 MHz						
Avg Cond Initial Pwr (dBm)	Avg Cond Carrier Pwr (dBm)	64x64 MIMO 3.45G Band Pwr (dBm)	64x64 MIMO 3.7G Band Pwr (dBm)	64x64 MIMO Both Bands Pwr (dBm)	Sys Rated Pwr Limit (dBm)	Results
33.223	33.2	N/A	51.3	N/A	55.8	Pass



AVERAGE POWER - MULTIBAND

Worst Case Port, Dual Band Mode, 3.45G (Max Power) and 3.7G Bands, 5G NR, All Configurations						
Avg Cond Initial Pwr (dBm)	Avg Cond Carrier Pwr (dBm)	64x64 MIMO 3.45G Band Pwr (dBm)	64x64 MIMO 3.7G Band Pwr (dBm)	64x64 MIMO Both Bands Pwr (dBm)	Sys Rated Pwr Limit (dBm)	Results
Reference Table	Reference Table	Reference Table	Reference Table	Reference Table	57.6	Pass

Configuration	3.45G Band Power (dBm)	3.7G Band Power (dBm)	3.45G Band Power (Watts)	3.7G Band Power (Watts)	Both Bands Total Pwr (Watts)	Both Bands Total Pwr (dBm)	System Rated Limit
Configuration M	53.5	54.7	223.9	295.1	519.0	57.2	57.6
Configuration a	53.8	54.3	239.9	269.2	509.0	57.1	57.6
Configuration b	53.6	54.7	229.1	295.1	524.2	57.2	57.6
Configuration c	53.2	54.3	208.9	269.2	478.1	56.8	57.6
Configuration d	53.4	54.3	218.8	269.2	487.9	56.9	57.6

Worst Case Port, Dual Band Mode, 3.45G and 3.7G (Max Power) Bands, 5G NR, All Configurations						
Avg Cond Initial Pwr (dBm)	Avg Cond Carrier Pwr (dBm)	64x64 MIMO 3.45G Band Pwr (dBm)	64x64 MIMO 3.7G Band Pwr (dBm)	64x64 MIMO Both Bands Pwr (dBm)	Sys Rated Pwr Limit (dBm)	Results
Reference Table	Reference Table	Reference Table	Reference Table	Reference Table	57.6	Pass

Configuration	3.7G Band Power (dBm)	3.45G Band Power (dBm)	3.7G Band Power (Watts)	3.45G Band Power (Watts)	Both Bands Total Pwr (Watts)	Both Bands Total Pwr (dBm)	System Rated Limit
Configuration M	55	51.7	316.2	147.9	464.1	56.7	57.6
Configuration a	54.8	51.4	302.0	138.0	440.0	56.4	57.6
Configuration b	54.5	51.5	281.8	141.3	423.1	56.3	57.6
Configuration c	54.5	51.4	281.8	138.0	419.9	56.2	57.6
Configuration d	54.6	51.3	288.4	134.9	423.3	56.3	57.6

AVERAGE POWER SINGLE 3.45G

XMit 2022.02.07.0

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Block - DC	Fairview Microwave	SD3239	ANC	2022-03-02	2023-03-02
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFO	2022-09-08	2023-09-08
Generator - Signal	Agilent	N5173B	TIW	2020-07-17	2023-07-17

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The fundamental emission output power (maximum average conducted output power) was measured using the channels and modes as called out on the following data sheets. The transmit power was set to its default maximum.

The method in section 5.2.4.4 of ANSI C63.26 was used to make the measurements. This method uses trace averaging across the ON and OFF times of the EUT transmissions in the spectrum analyzer channel power function using an RMS detector. Following the measurement a duty cycle correction was applied by adding [10 log (1/D)], where D is the duty cycle in decimal, to the measured power to compute the average power during the actual transmission times

RF conducted emissions testing was performed on the worst case (highest average power) port by band. The AQQQA antenna ports are all within the manufacturer's rated output power tolerances (the RF power variation between antenna ports is small as shown in this certification testing) and the antenna port 57 for the 3.45GHz band was selected to perform the testing for this effort.

The total average transmit power of all antenna ports was determined per ANSI C63.26-2105 paragraph 6.4.3.1

AVERAGE POWER SINGLE 3.45G

element

TbtTx 2022.06.03.0 XMit 2022.02.07.0

EUT:	AQQQA			Work Order:	NOKI0052
Serial Number:	YK224300010			Date:	16-Jan-23
Customer:	Nokia of America Corporation			Temperature:	21.2 °C
Attendees:	John Rattanavong, Michell Hill			Humidity:	47.1% RH
Project:	None			Barometric Pres.:	1011 mbar
Tested by:	Brandon Hobbs	Power:	54 VDC	Job Site:	TX07

TEST SPECIFICATIONS	Test Method
FCC 27:2023	ANSI C63.26:2015

COMMENTS

All losses in the measurement path were accounted for: attenuators, cables, DC block and filter when in use. Band n77 carriers were enabled at maximmum power levels for the 3.45GHz band (at 3.125 watts/carrier for NR40 and at 2.5 watts/carrier for NR20 & NR30). The following is the output power measurement at the worst case radio output port. The output power was measured for a single carrier over the carrier channel bandwidth on the worst case port. The total output power for multiport (64x64 MIMO) operation was determined based upon ANSI 63.26 clauses 6.4.3.1 and 6.4.3.2.4 (10 log Nout). The total output power for a Sixty-Four port operation is single port power +18.1 dB [i.e. 10log(64)].

DEVIATIONS FROM TEST STANDARD

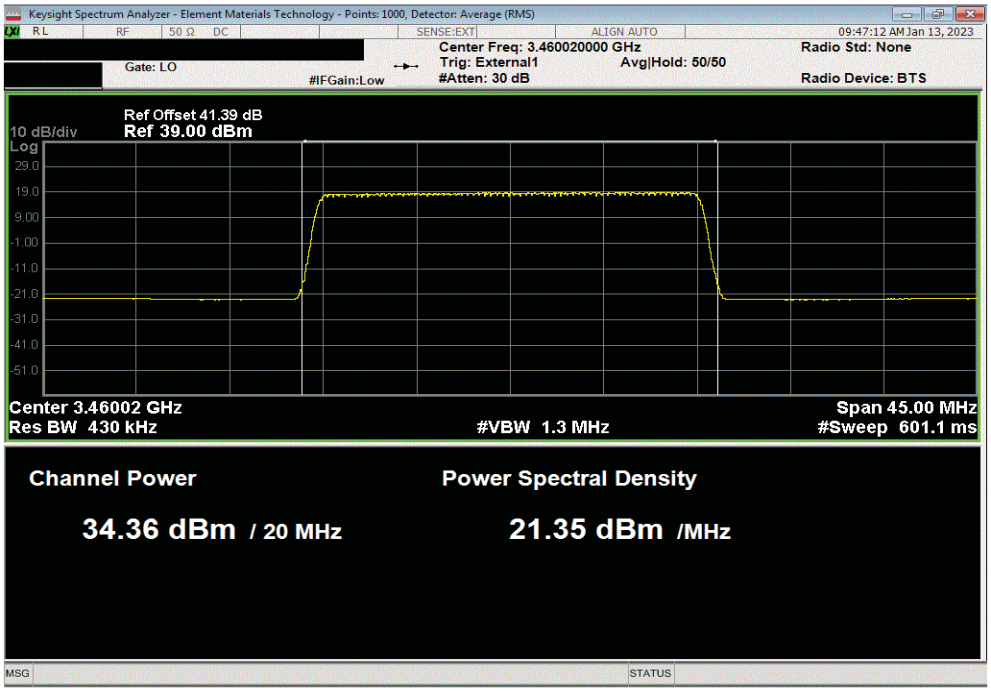
None

Configuration #	5	Signature

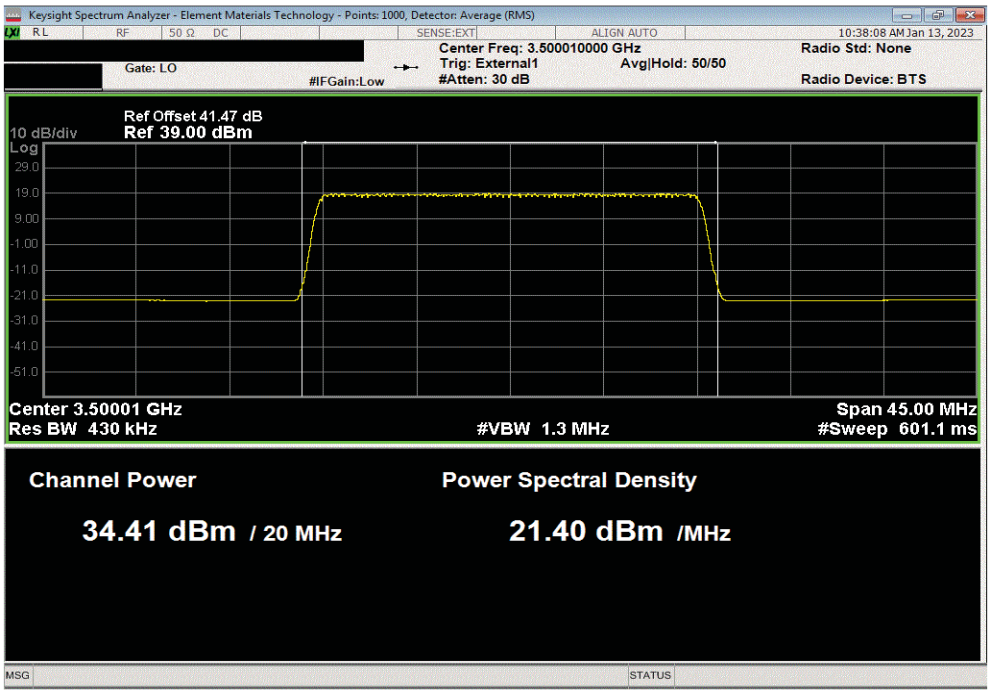
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW
Port 57				
Band n77, 3450 - 3550 MHz				
20 MHz Bandwidth				
256QAM Modulation				
Low Channel, 3460.02 MHz	34.360	0	34.4	52.5
Mid Channel, 3500.01 MHz	34.414	0	34.4	52.5
High Channel, 3540.00 MHz	34.235	0	34.2	52.3
30 MHz Bandwidth				
256QAM Modulation				
Low Channel, 3465.00 MHz	34.569	0	34.6	52.7
Mid Channel, 3500.01 MHz	34.243	0	34.2	52.3
High Channel, 3534.99 MHz	34.076	0	34.1	52.2
40 MHz Bandwidth				
QPSK Modulation				
Mid Channel, 3500.01 MHz	35.167	0	35.2	53.3
16QAM Modulation				
Mid Channel, 3500.01 MHz	35.042	0	35.0	53.1
64QAM Modulation				
Mid Channel, 3500.01 MHz	35.186	0	35.2	53.3
256QAM Modulation				
Low Channel, 3470.01 MHz	35.307	0	35.3	53.4
Mid Channel, 3500.01 MHz	35.248	0	35.2	53.3
High Channel, 3529.98 MHz	35.183	0	35.2	53.3

AVERAGE POWER SINGLE 3.45G

Port 57, Band n77, 3450 - 3550 MHz, 20 MHz Bandwidth, 256QAM Modulation, Low Channel, 3460.02 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	34.36	0	34.4	52.5		

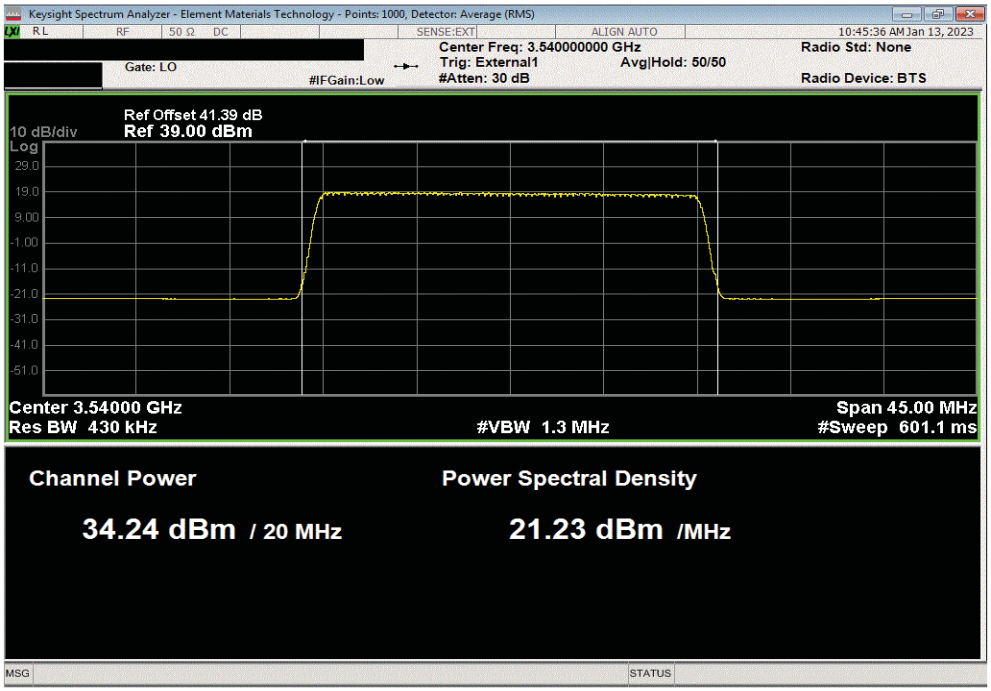


Port 57, Band n77, 3450 - 3550 MHz, 20 MHz Bandwidth, 256QAM Modulation, Mid Channel, 3500.01 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	34.414	0	34.4	52.5		

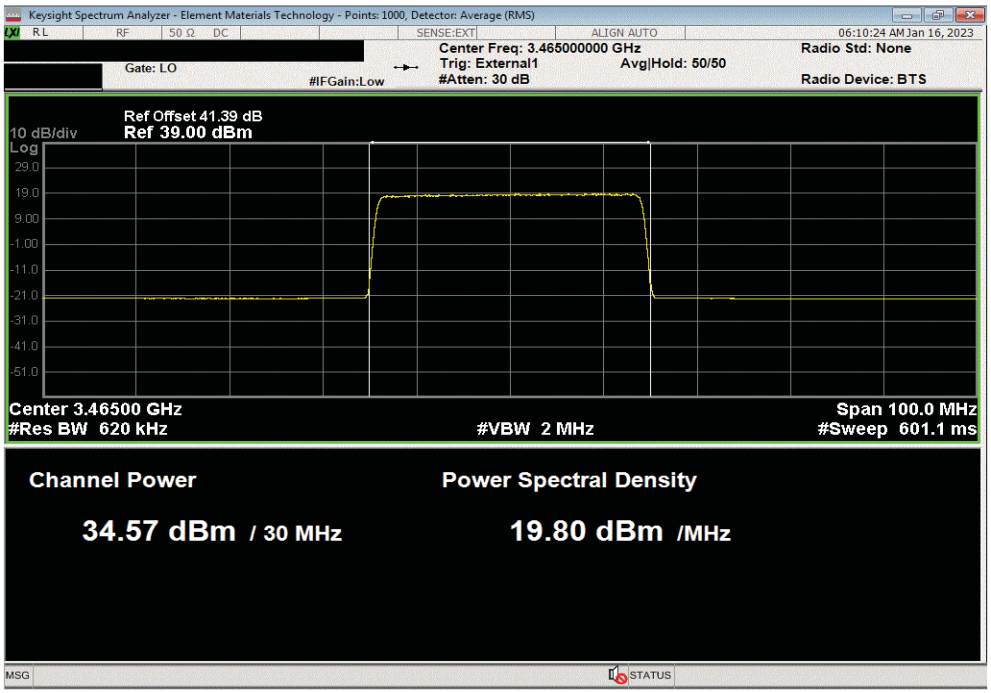


AVERAGE POWER SINGLE 3.45G

Port 57, Band n77, 3450 - 3550 MHz, 20 MHz Bandwidth, 256QAM Modulation, High Channel, 3540.00 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	34.235	0	34.2	52.3		



Port 57, Band n77, 3450 - 3550 MHz, 30 MHz Bandwidth, 256QAM Modulation, Low Channel, 3465.00 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	34.569	0	34.6	52.7		

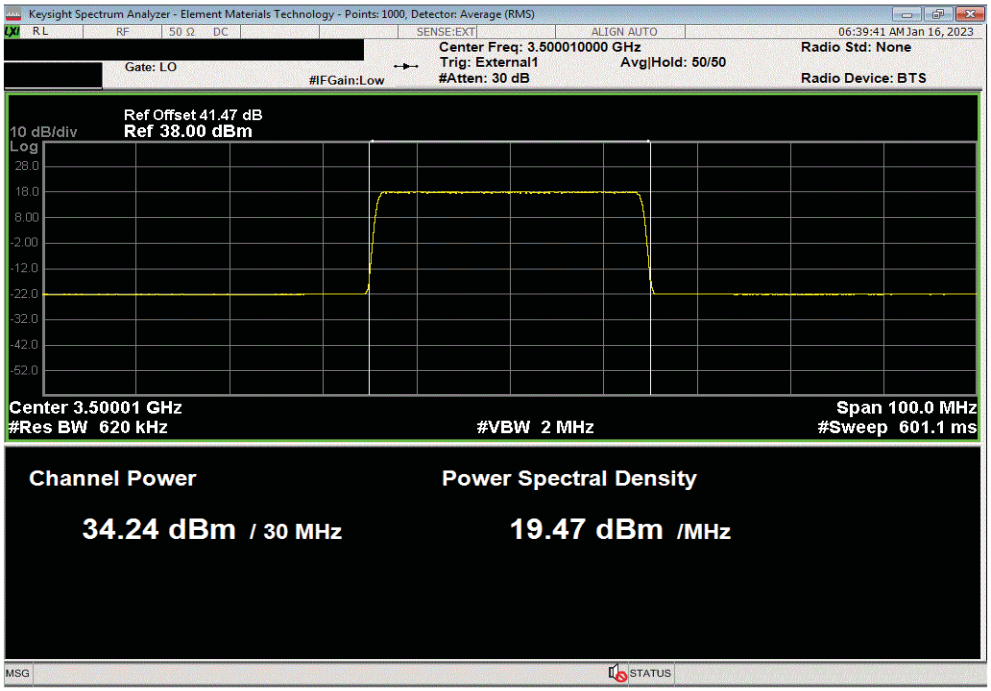


AVERAGE POWER SINGLE 3.45G

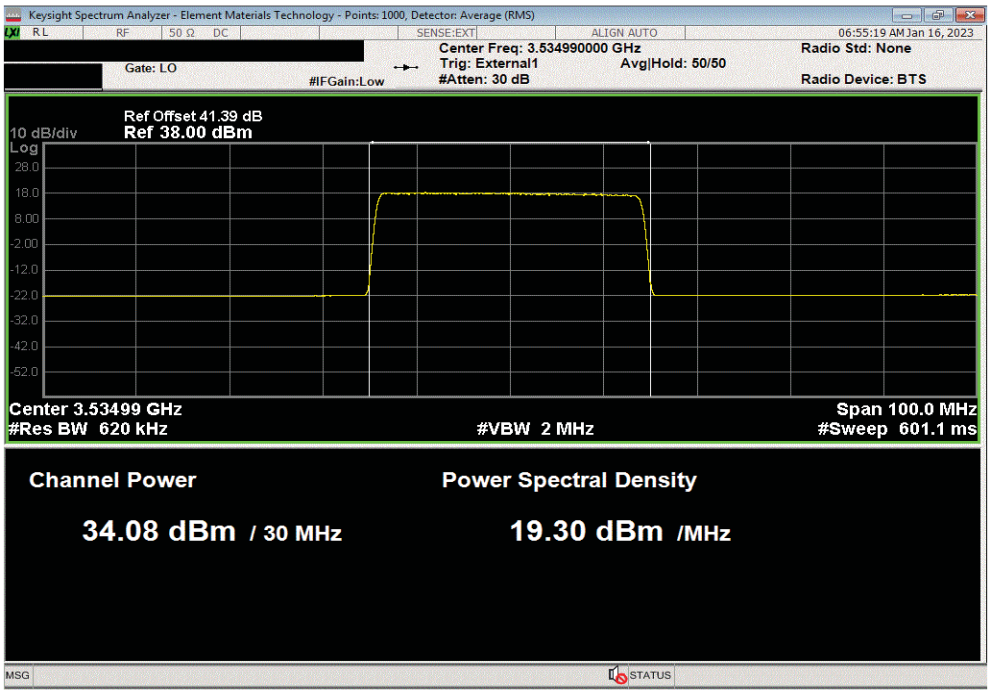
element

TbtTx 2022.06.03.0 XMit 2022.02.07.0

Port 57, Band n77, 3450 - 3550 MHz, 30 MHz Bandwidth, 256QAM Modulation, Mid Channel, 3500.01 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	34.243	0	34.2	52.3		

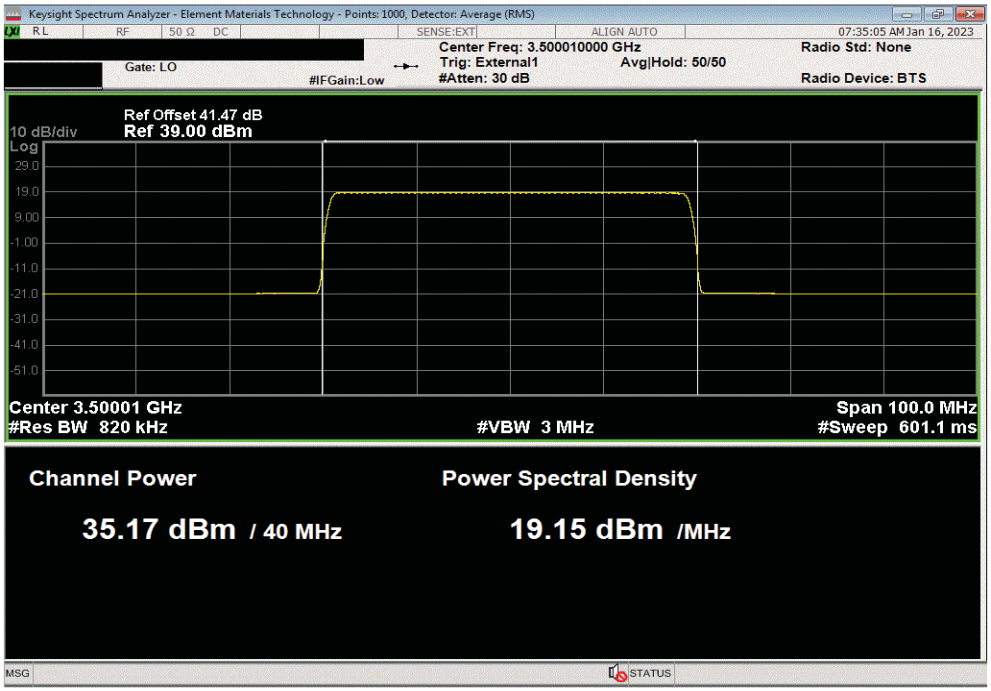


Port 57, Band n77, 3450 - 3550 MHz, 30 MHz Bandwidth, 256QAM Modulation, High Channel, 3534.99 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	34.076	0	34.1	52.2		

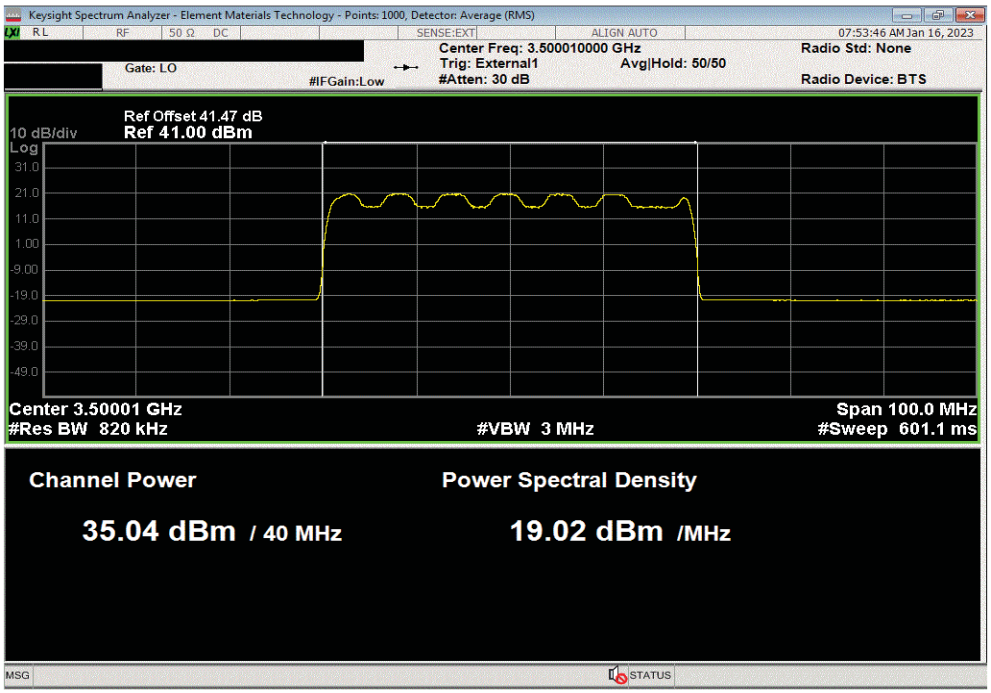


AVERAGE POWER SINGLE 3.45G

Port 57, Band n77, 3450 - 3550 MHz, 40 MHz Bandwidth, QPSK Modulation, Mid Channel, 3500.01 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	35.167	0	35.2	53.3		

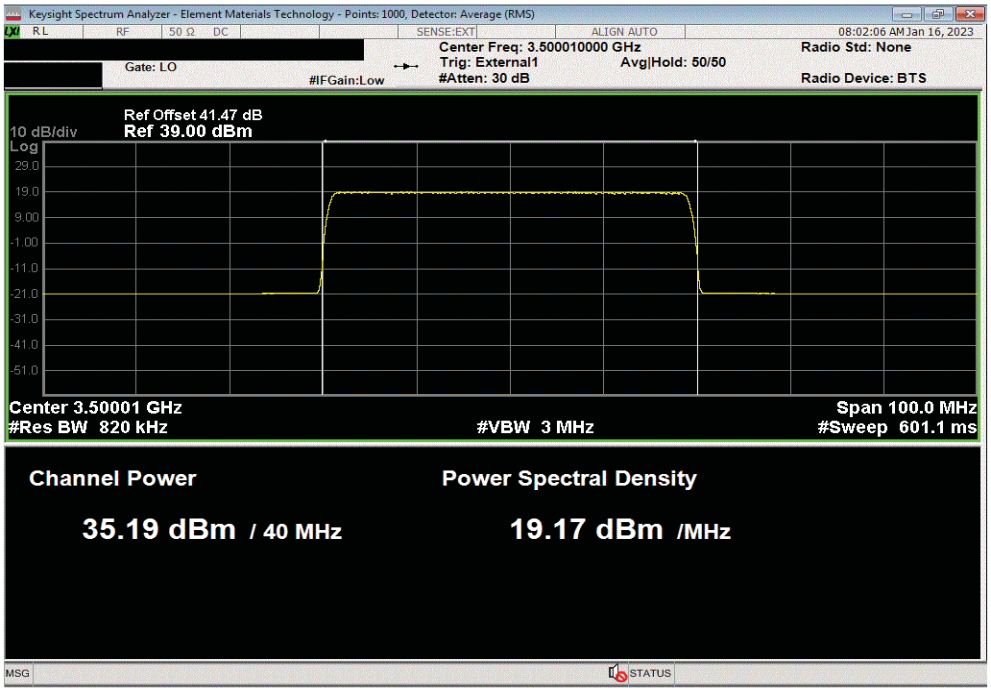


Port 57, Band n77, 3450 - 3550 MHz, 40 MHz Bandwidth, 16QAM Modulation, Mid Channel, 3500.01 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	35.042	0	35	53.1		

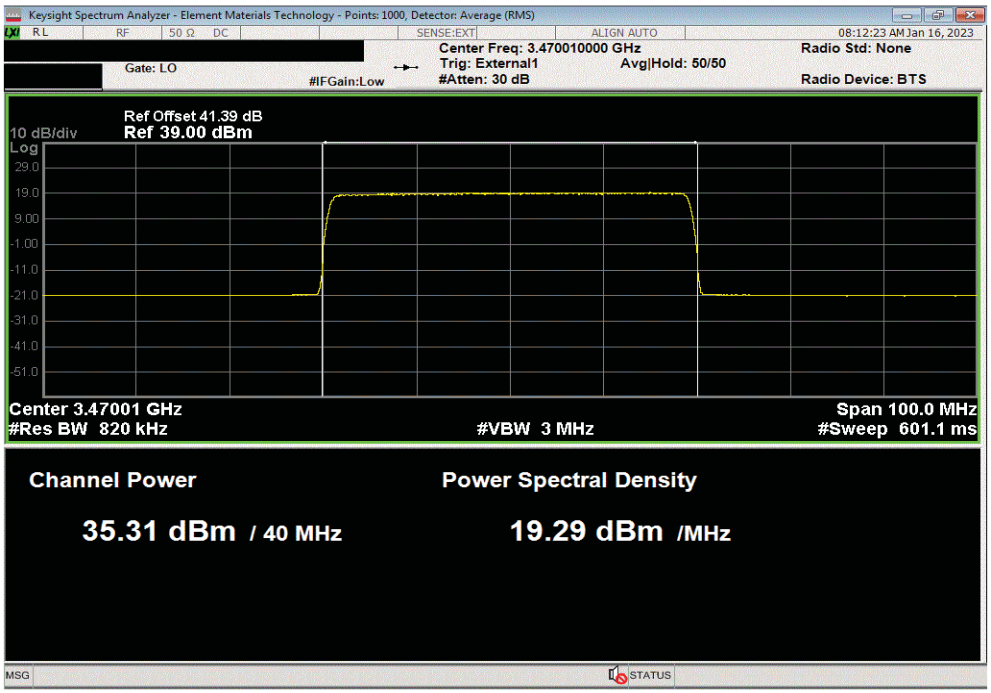


AVERAGE POWER SINGLE 3.45G

Port 57, Band n77, 3450 - 3550 MHz, 40 MHz Bandwidth, 64QAM Modulation, Mid Channel, 3500.01 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	35.186	0	35.2	53.3		

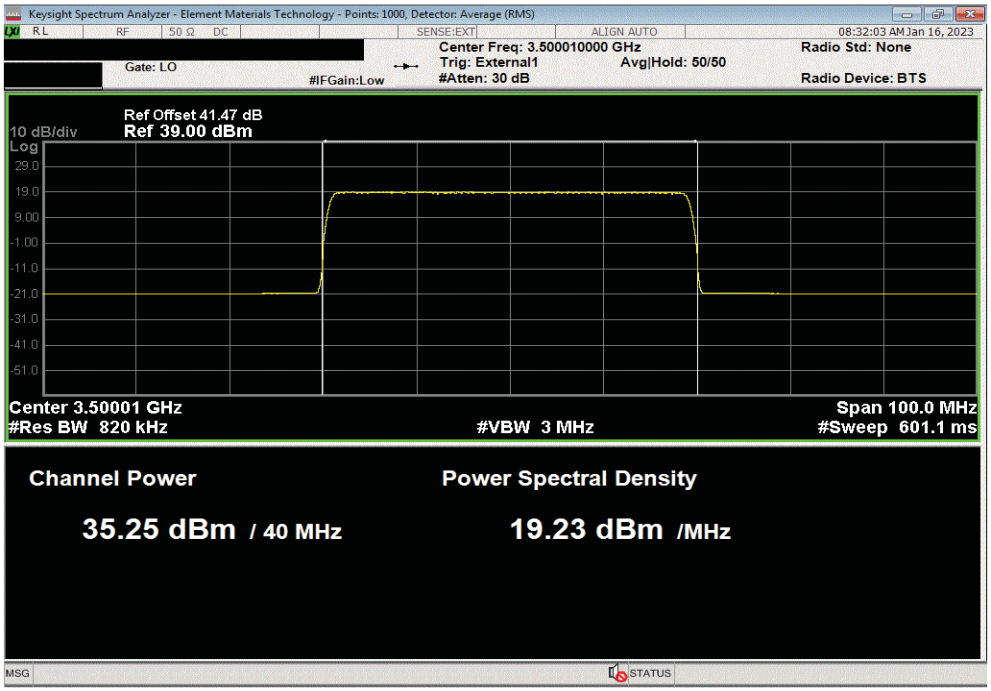


Port 57, Band n77, 3450 - 3550 MHz, 40 MHz Bandwidth, 256QAM Modulation, Low Channel, 3470.01 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	35.307	0	35.3	53.4		

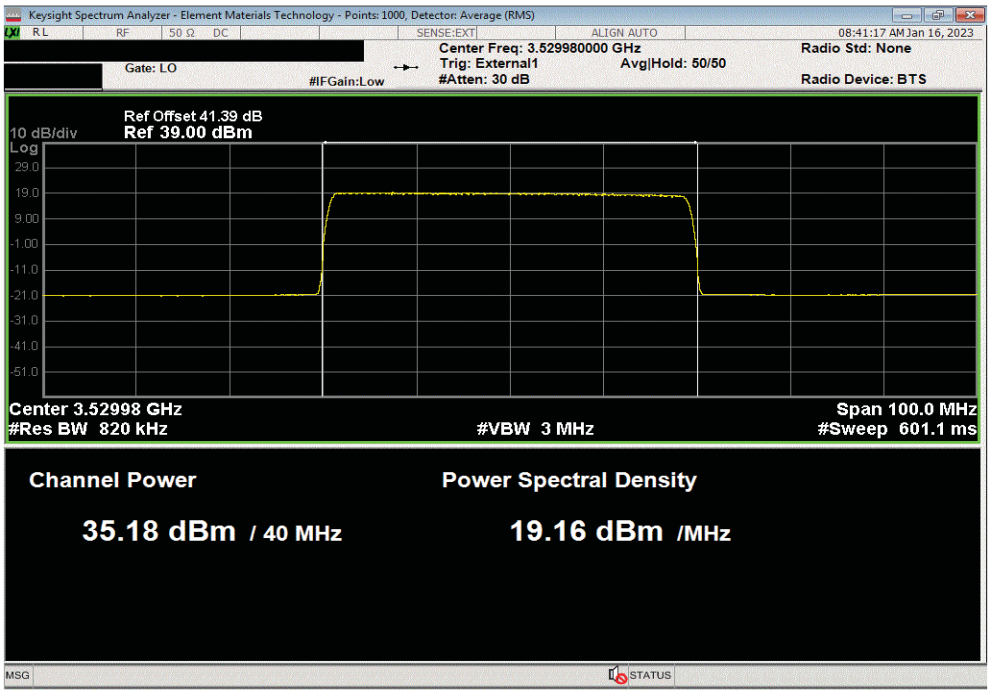


AVERAGE POWER SINGLE 3.45G

Port 57, Band n77, 3450 - 3550 MHz, 40 MHz Bandwidth, 256QAM Modulation, Mid Channel, 3500.01 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	35.248	0	35.2	53.3		



Port 57, Band n77, 3450 - 3550 MHz, 40 MHz Bandwidth, 256QAM Modulation, High Channel, 3529.98 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	35.183	0	35.2	53.3		



AVERAGE POWER SINGLE 3.7G

XMit 2022.02.07.0

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Block - DC	Fairview Microwave	SD3239	ANC	2022-03-02	2023-03-02
Attenuator	Fairview Microwave	SA3N10W-20	RKY	2022-11-15	2023-11-15
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFO	2022-09-08	2023-09-08
Generator - Signal	Agilent	N5173B	TIW	2020-07-17	2023-07-17

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The fundamental emission output power (maximum average conducted output power) was measured using the channels and modes as called out on the following data sheets. The transmit power was set to its default maximum.

The method in section 5.2.4.4 of ANSI C63.26 was used to make the measurements. This method uses trace averaging across the ON and OFF times of the EUT transmissions in the spectrum analyzer channel power function using an RMS detector. Following the measurement a duty cycle correction was applied by adding [10 log (1/D)], where D is the duty cycle in decimal, to the measured power to compute the average power during the actual transmission times

RF conducted emissions testing was performed on the worst case (highest average power) port by band. The AQQQA antenna ports are all within the manufacturer's rated output power tolerances (the RF power variation between antenna ports is small as shown in this certification testing) and the antenna port 22 for the 3.7GHz band was selected to perform the testing for this effort.

The total average transmit power of all antenna ports was determined per ANSI C63.26-2105 paragraph 6.4.3.1

AVERAGE POWER SINGLE 3.7G

element

TbtTx 2022.06.03.0 XMit 2022.02.07.0

EUT:	AQQQA			Work Order:	NOKI0052
Serial Number:	YK224300010			Date:	19-Jan-23
Customer:	Nokia of America Corporation			Temperature:	20.5 °C
Attendees:	John Rattanavong, Michell Hill			Humidity:	31.9% RH
Project:	None			Barometric Pres.:	1023 mbar
Tested by:	Brandon Hobbs	Power:	54 VDC	Job Site:	TX07

TEST SPECIFICATIONS	Test Method
FCC 27:2023	ANSI C63.26:2015

COMMENTS

All losses in the measurement path were accounted for: attenuators, cables, DC block and filter when in use. Band n77 carriers were enabled at maximmum power levels for the 3.7GHz band (at 2.5 watts/carrier for NR20 and at 5 watts/carrier for NR40, NR60, NR80 & NR100). The following is the output power measurement at the worst case radio output port. The output power was measured for a single carrier over the carrier channel bandwidth on the worst case port. The total output power for multiport (64x64 MIMO) operation was determined based upon ANSI 63.26 clauses 6.4.3.1 and 6.4.3.2.4 (10 log Nout). The total output power for a Sixty-Four port operation is single port power +18.1 dB [i.e. 10log(64)].

DEVIATIONS FROM TEST STANDARD

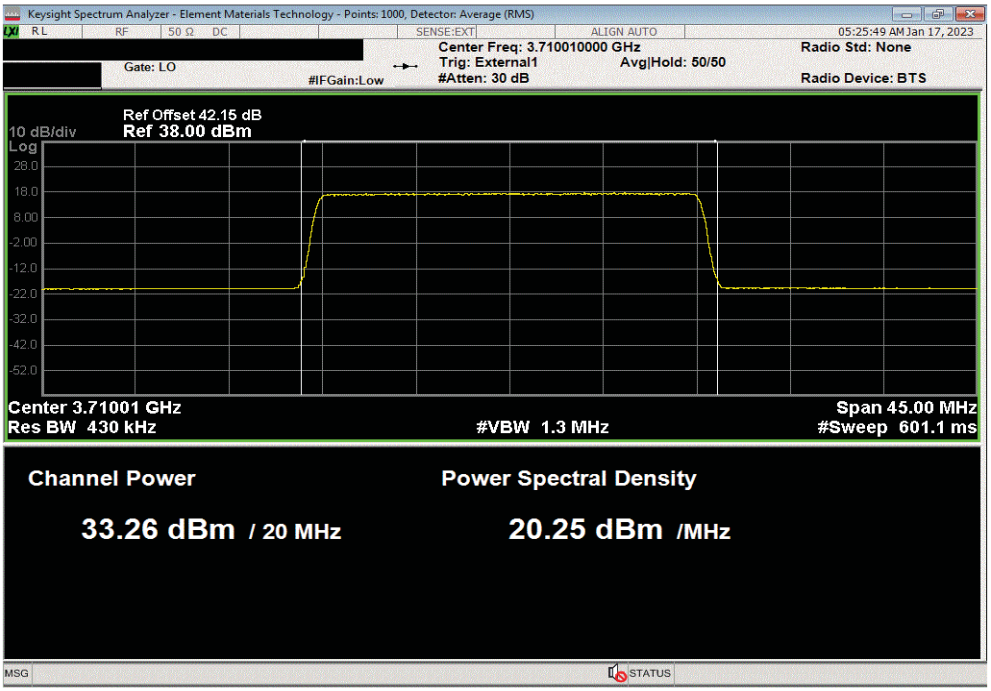
None

Configuration #	4,5	Signature

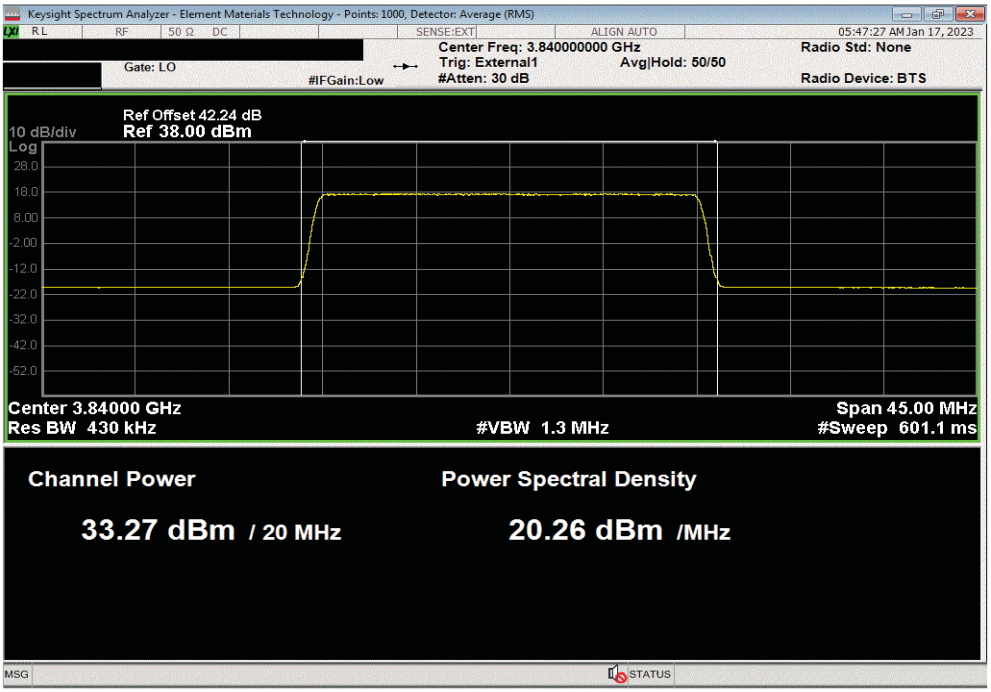
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW
Port 22				
Band n77, 3700 - 3980 MHz				
20 MHz Bandwidth				
256QAM Modulation				
Low Channel, 3710.01 MHz	33.260	0	33.3	51.4
Mid Channel, 3840.00 MHz	33.274	0	33.3	51.4
High Channel, 3969.99 MHz	33.893	0	33.9	52.0
40 MHz Bandwidth				
256QAM Modulation				
Low Channel, 3720.00 MHz	36.396	0	36.4	54.5
Mid Channel, 3840.00 MHz	36.464	0	36.5	54.6
High Channel, 3960.00 MHz	36.387	0	36.4	54.5
60 MHz Bandwidth				
256QAM Modulation				
Low Channel, 3730.02 MHz	36.232	0	36.2	54.3
Mid Channel, 3840.00 MHz	36.472	0	36.5	54.6
High Channel, 3949.98 MHz	36.348	0	36.3	54.4
80 MHz Bandwidth				
256QAM Modulation				
Low Channel, 3740.01 MHz	37.229	0	37.2	55.3
Mid Channel, 3840.00 MHz	37.174	0	37.2	55.3
High Channel, 3939.99 MHz	36.960	0	37.0	55.1
100 MHz Bandwidth				
QPSK Modulation				
Mid Channel, 3840.00 MHz	37.448	0	37.4	55.5
16QAM Modulation				
Mid Channel, 3840.00 MHz	37.204	0	37.2	55.3
64QAM Modulation				
Mid Channel, 3840.00 MHz	37.320	0	37.3	55.4
256QAM Modulation				
Low Channel, 3750.00 MHz	37.210	0	37.2	55.3
Mid Channel, 3840.00 MHz	37.235	0	37.2	55.3
High Channel, 3930.00 MHz	37.197	0	37.2	55.3

AVERAGE POWER SINGLE 3.7G

Port 22, Band n77, 3700 - 3980 MHz, 20 MHz Bandwidth, 256QAM Modulation, Low Channel, 3710.01 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	33.26	0	33.3	51.4		

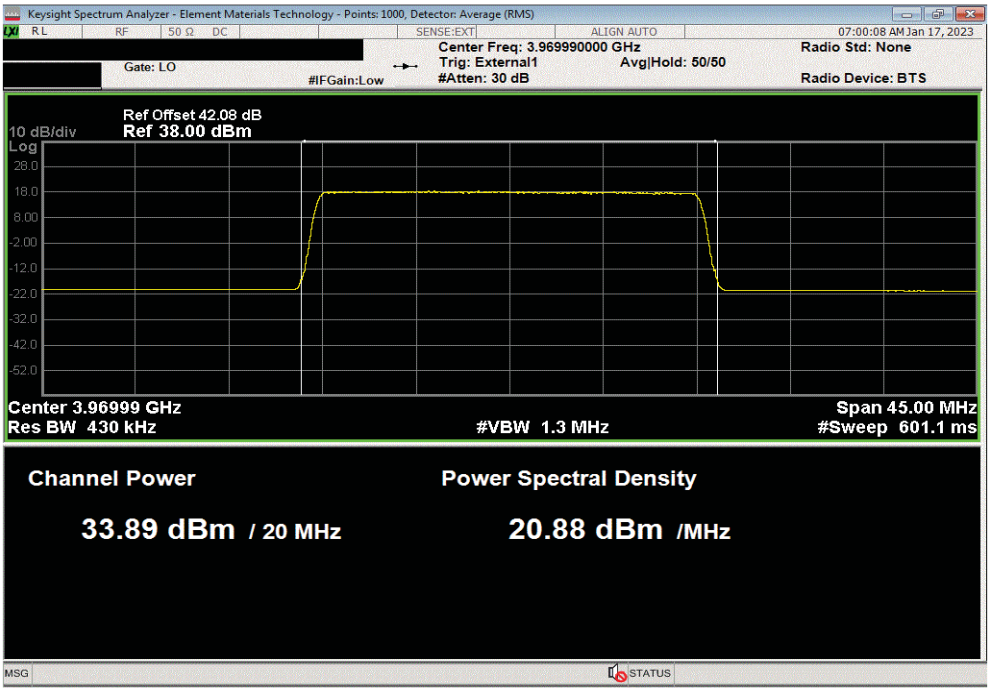


Port 22, Band n77, 3700 - 3980 MHz, 20 MHz Bandwidth, 256QAM Modulation, Mid Channel, 3840.00 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	33.274	0	33.3	51.4		

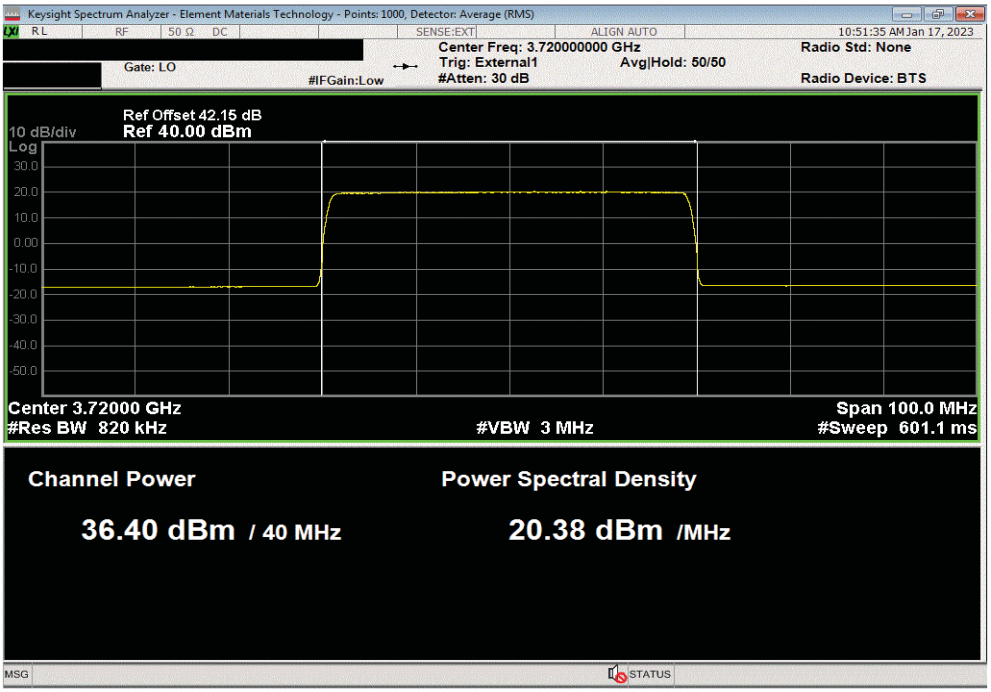


AVERAGE POWER SINGLE 3.7G

Port 22, Band n77, 3700 - 3980 MHz, 20 MHz Bandwidth, 256QAM Modulation, High Channel, 3969.99 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	33.893	0	33.9	52		

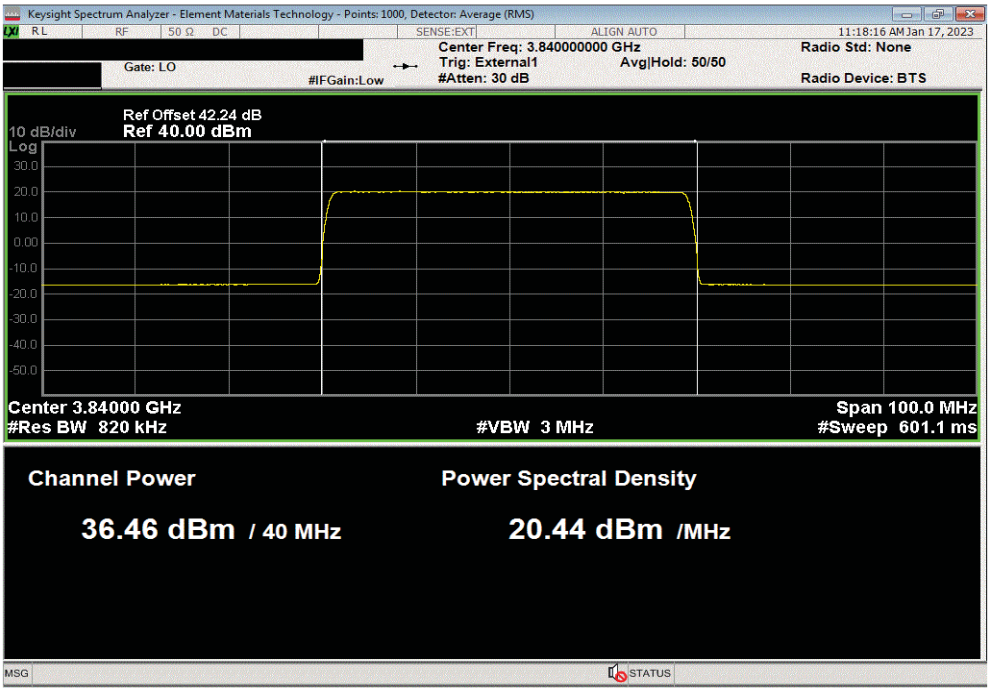


Port 22, Band n77, 3700 - 3980 MHz, 40 MHz Bandwidth, 256QAM Modulation, Low Channel, 3720.00 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	36.396	0	36.4	54.5		

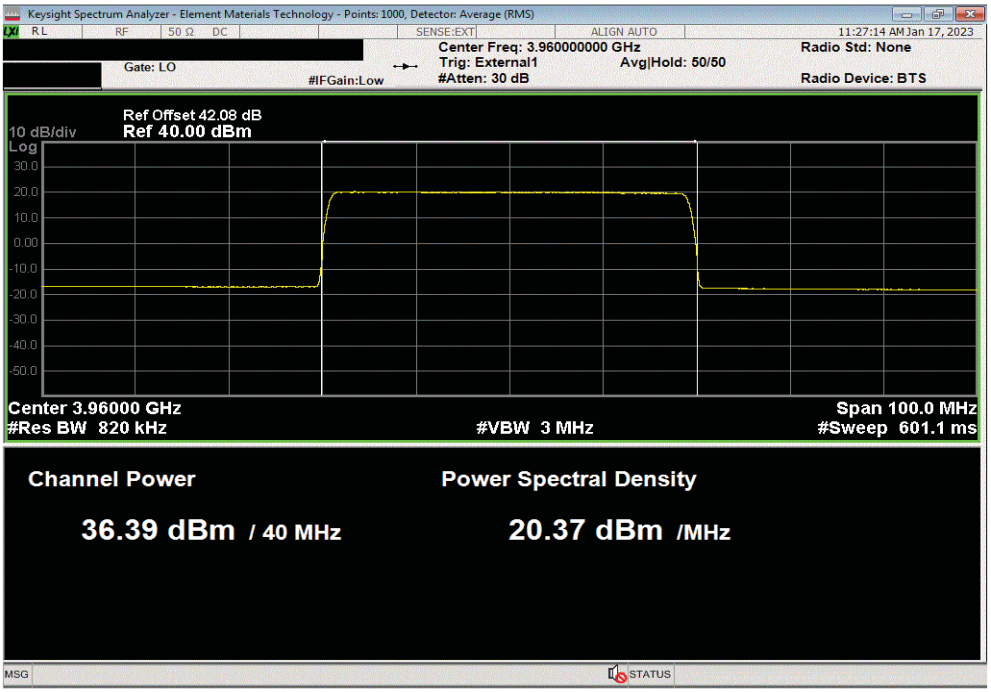


AVERAGE POWER SINGLE 3.7G

Port 22, Band n77, 3700 - 3980 MHz, 40 MHz Bandwidth, 256QAM Modulation, Mid Channel, 3840.00 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	36.464	0	36.5	54.6		

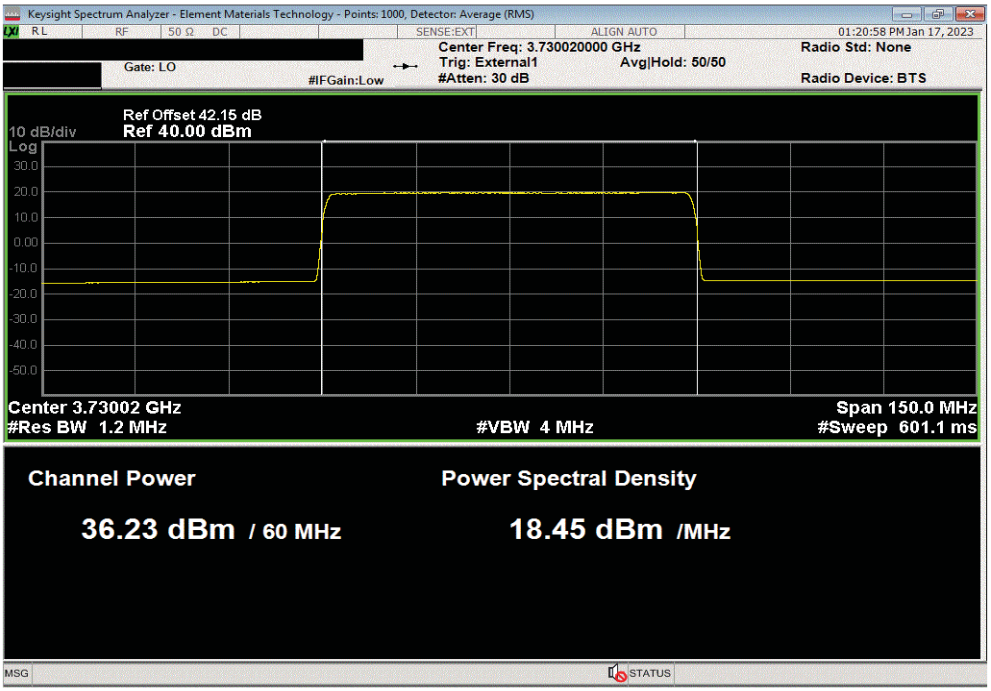


Port 22, Band n77, 3700 - 3980 MHz, 40 MHz Bandwidth, 256QAM Modulation, High Channel, 3960.00 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	36.387	0	36.4	54.5		

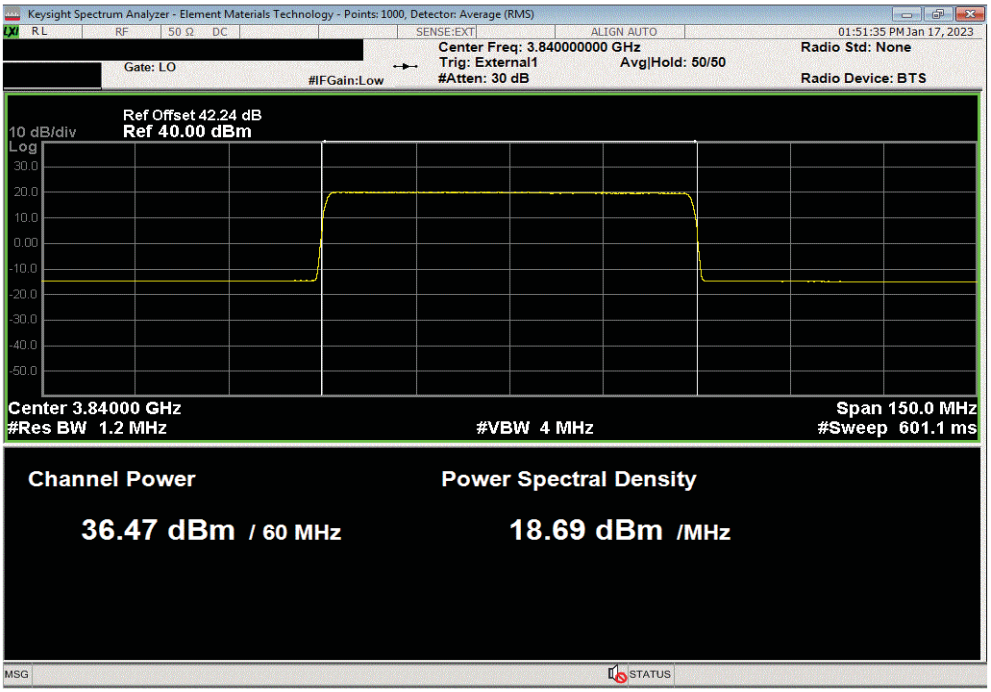


AVERAGE POWER SINGLE 3.7G

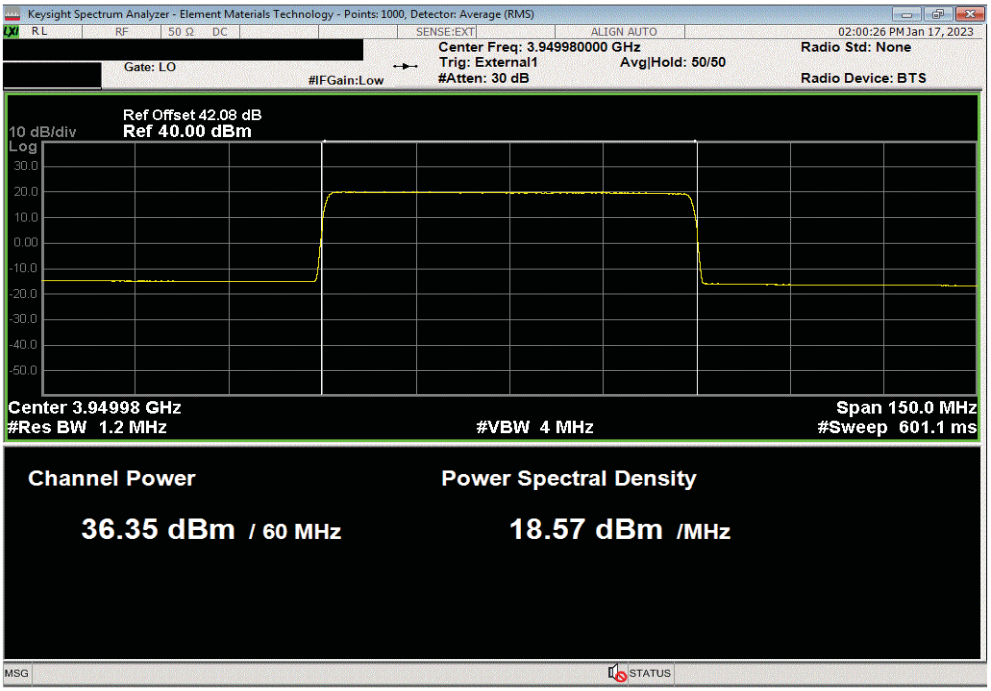
Port 22, Band n77, 3700 - 3980 MHz, 60 MHz Bandwidth, 256QAM Modulation, Low Channel, 3730.02 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	36.232	0	36.2	54.3		



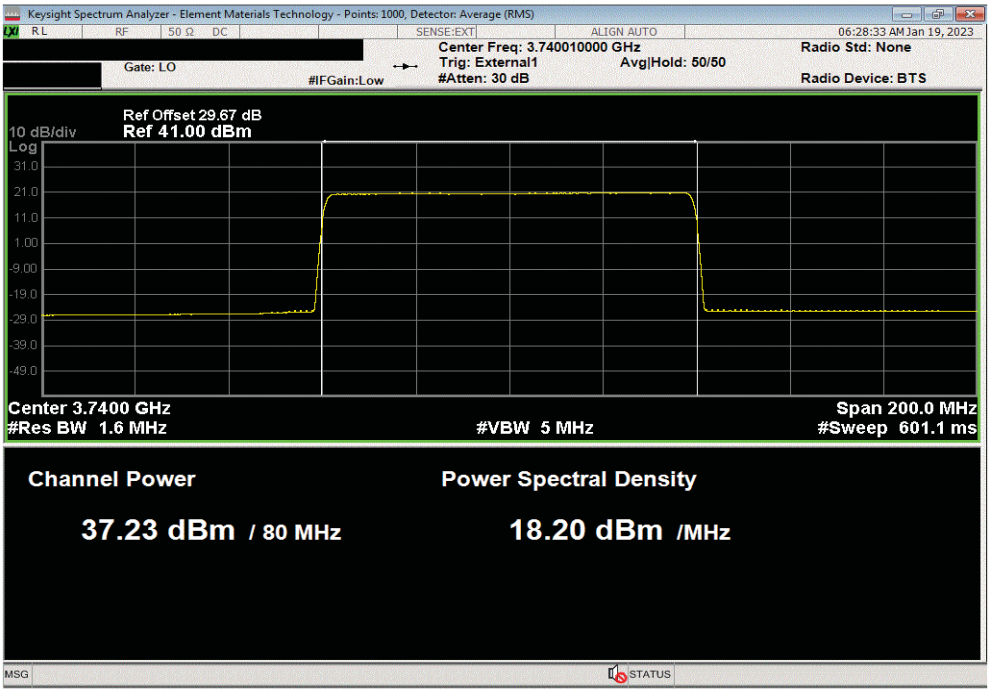
Port 22, Band n77, 3700 - 3980 MHz, 60 MHz Bandwidth, 256QAM Modulation, Mid Channel, 3840.00 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	36.472	0	36.5	54.6		



Port 22, Band n77, 3700 - 3980 MHz, 60 MHz Bandwidth, 256QAM Modulation, High Channel, 3949.98 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	36.348	0	36.3	54.4		

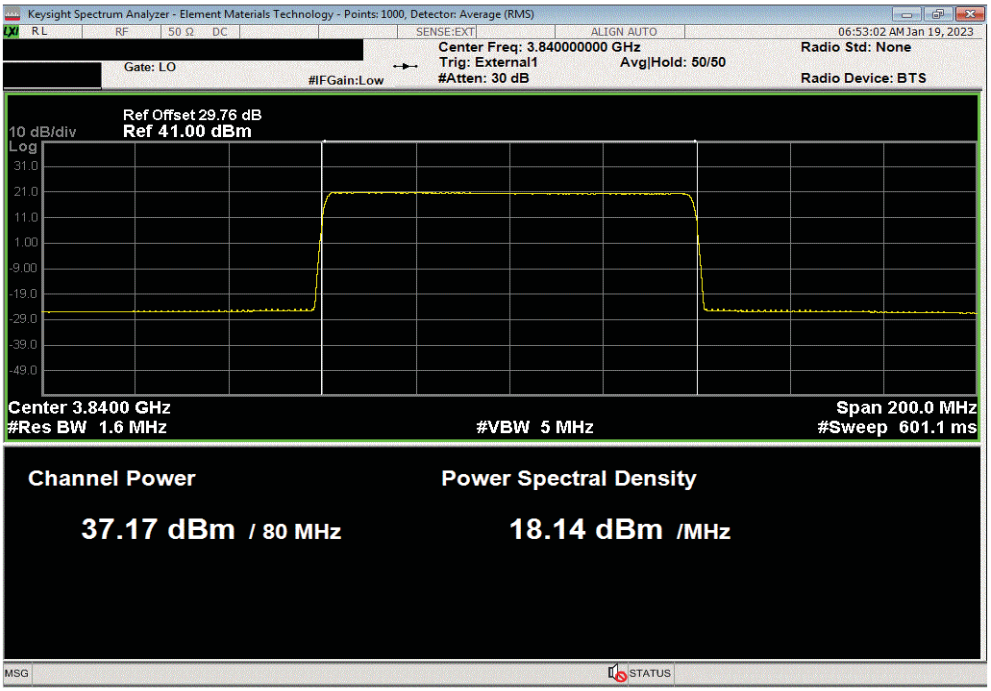


Port 22, Band n77, 3700 - 3980 MHz, 80 MHz Bandwidth, 256QAM Modulation, Low Channel, 3740.01 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	37.229	0	37.2	55.3		

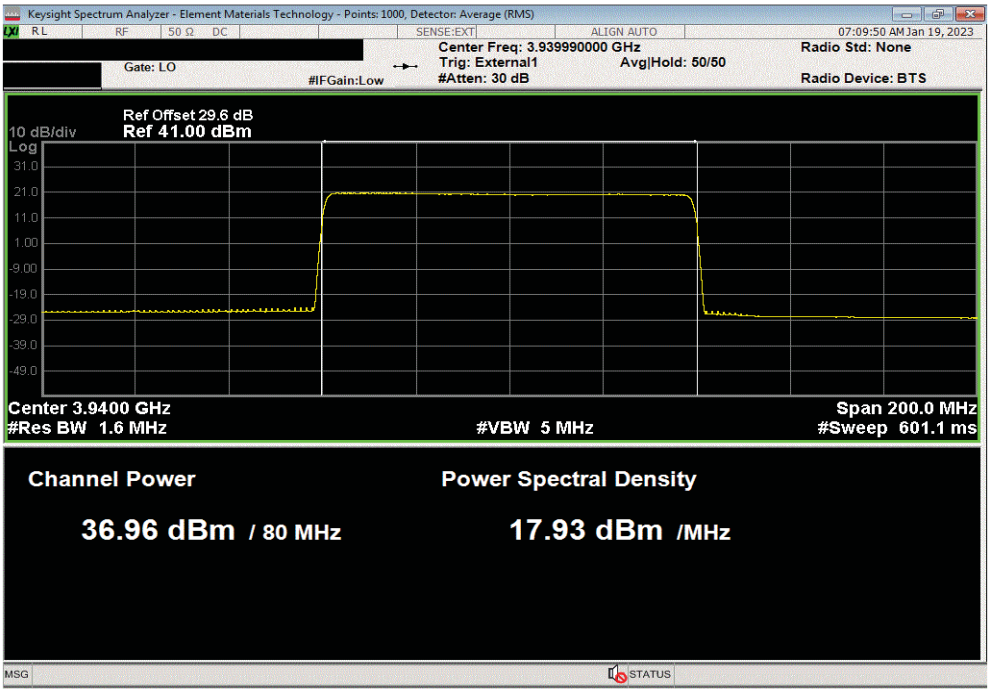


AVERAGE POWER SINGLE 3.7G

Port 22, Band n77, 3700 - 3980 MHz, 80 MHz Bandwidth, 256QAM Modulation, Mid Channel, 3840.00 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	37.174	0	37.2	55.3		

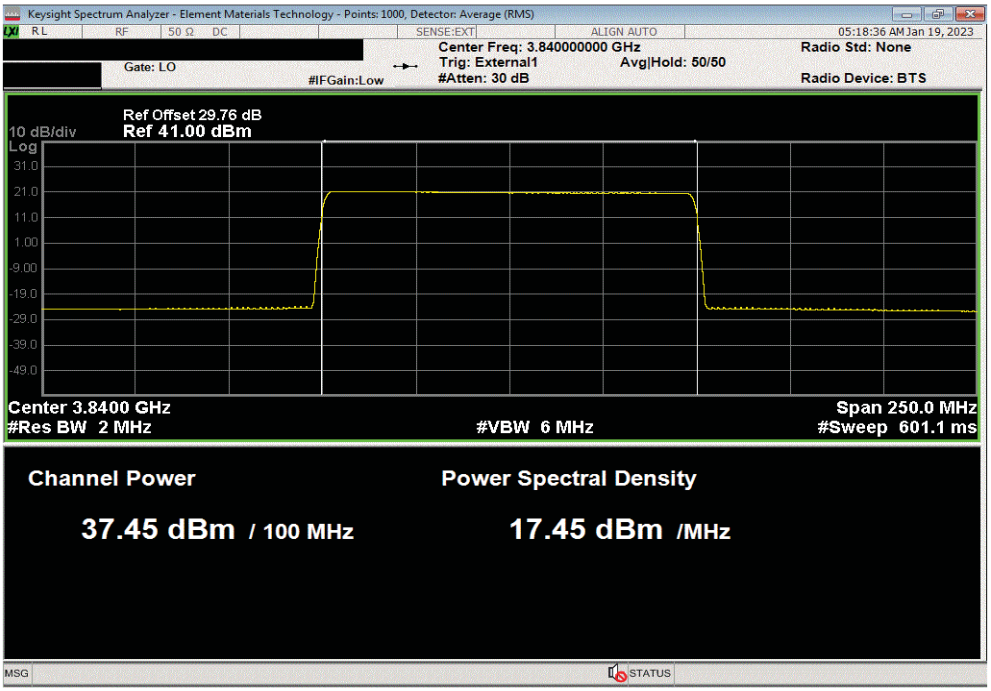


Port 22, Band n77, 3700 - 3980 MHz, 80 MHz Bandwidth, 256QAM Modulation, High Channel, 3939.99 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	36.96	0	37	55.1		

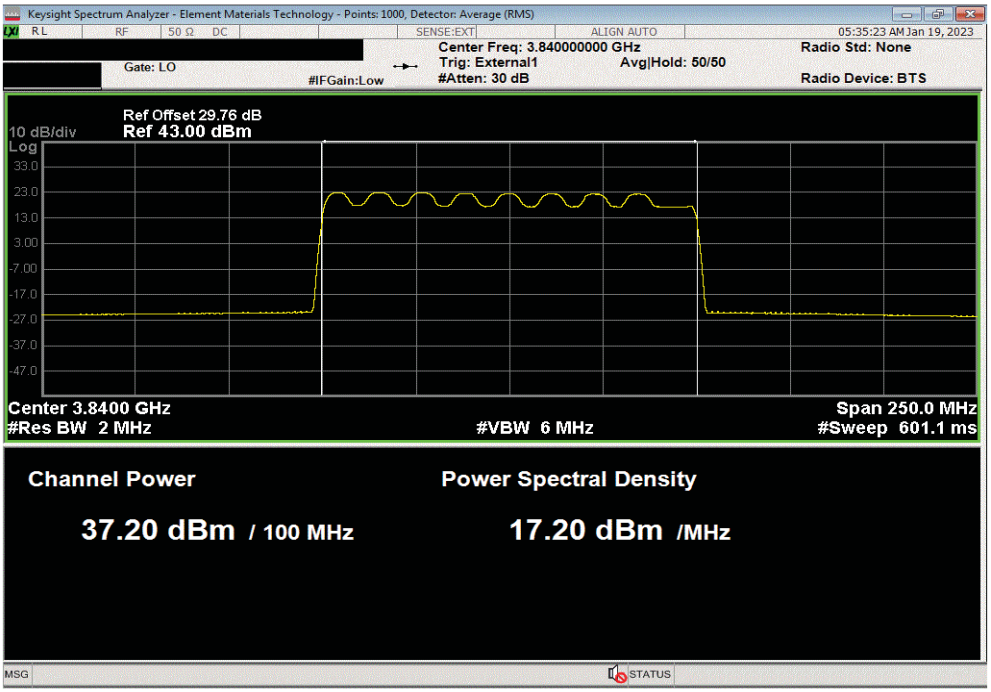


AVERAGE POWER SINGLE 3.7G

Port 22, Band n77, 3700 - 3980 MHz, 100 MHz Bandwidth, QPSK Modulation, Mid Channel, 3840.00 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	37.448	0	37.4	55.5		

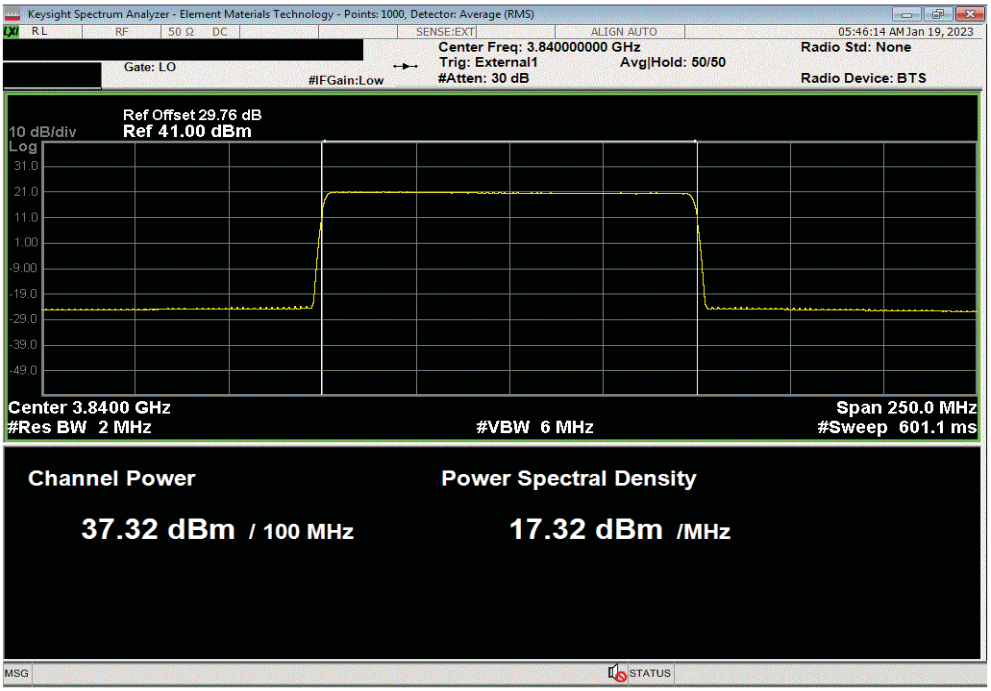


Port 22, Band n77, 3700 - 3980 MHz, 100 MHz Bandwidth, 16QAM Modulation, Mid Channel, 3840.00 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	37.204	0	37.2	55.3		

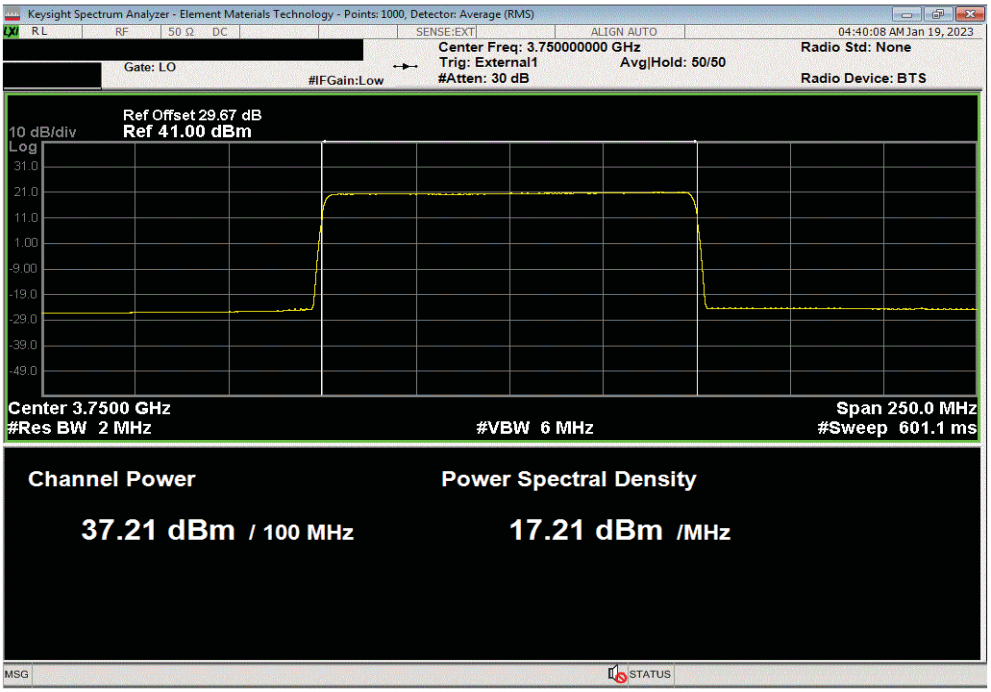


AVERAGE POWER SINGLE 3.7G

Port 22, Band n77, 3700 - 3980 MHz, 100 MHz Bandwidth, 64QAM Modulation, Mid Channel, 3840.00 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	37.32	0	37.3	55.4		

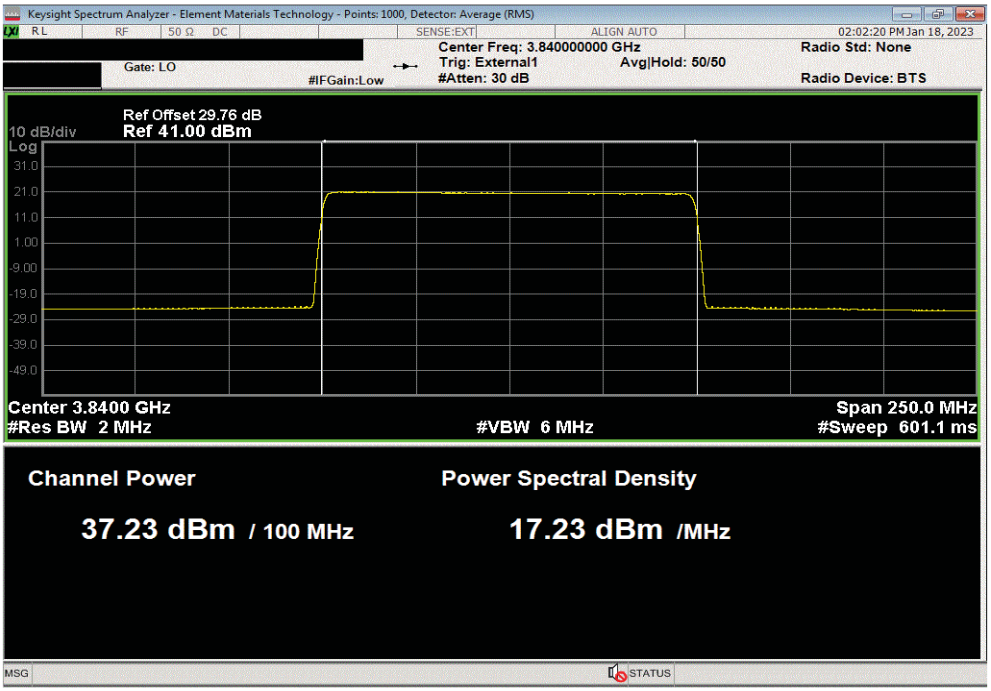


Port 22, Band n77, 3700 - 3980 MHz, 100 MHz Bandwidth, 256QAM Modulation, Low Channel, 3750.00 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	37.21	0	37.2	55.3		

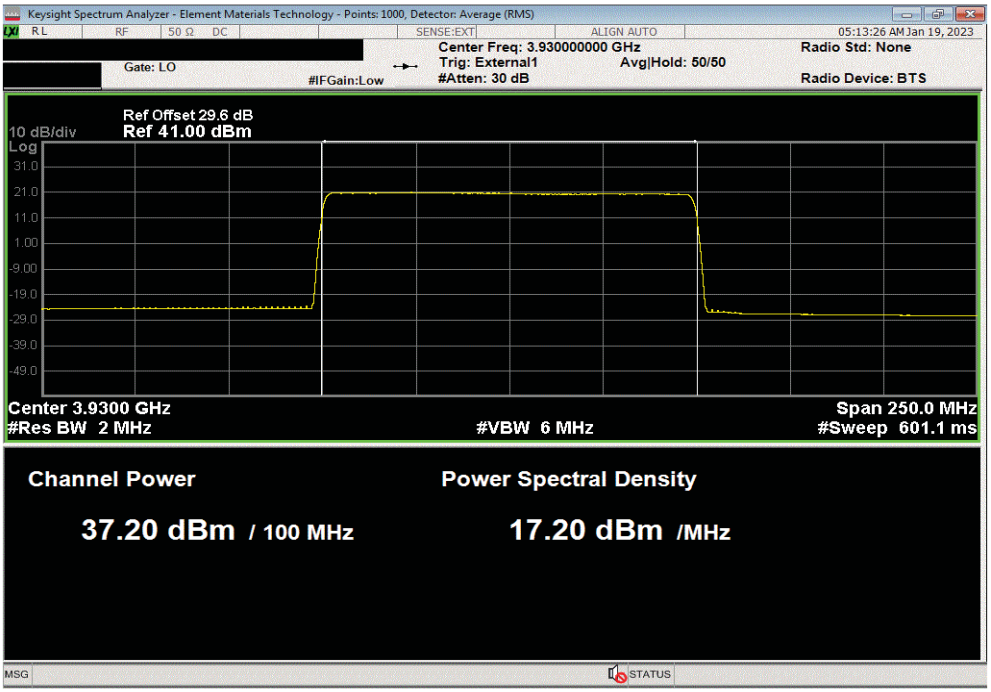


AVERAGE POWER SINGLE 3.7G

Port 22, Band n77, 3700 - 3980 MHz, 100 MHz Bandwidth, 256QAM Modulation, Mid Channel, 3840.00 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	37.235	0	37.2	55.3		



Port 22, Band n77, 3700 - 3980 MHz, 100 MHz Bandwidth, 256QAM Modulation, High Channel, 3930.00 MHz						
	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Sixty Four (64x64 MIMO) dBm/Carrier BW		
	37.197	0	37.2	55.3		



PEAK AND AVERAGE (PAPR) CCDF MULTIBAND

XMit 2022.02.07.0

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Block - DC	Fairview Microwave	SD3239	ANC	2022-03-02	2023-03-02
Attenuator	Fairview Microwave	SA3N10W-20	RKY	2022-11-15	2023-11-15
Signal Analyzer	Keysight	N9030B	R332	2022-07-28	2023-07-28
Generator - Signal	Agilent	N5173B	TIW	2020-07-17	2023-07-17

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

Because the conducted Output Power was measured using a RMS Average detector, the Peak to Average Power Ratio (PAPR) was measured to show that the maximum peak-max-hold spectrum to the maximum of the average spectrum does not exceed the rule part defined limit.

The PAPR measurement method is described in ANSI C63.26 section 5.2.3.4.
The PAPR was measured using the CCDF function of the spectrum analyzer.

Per FCC part 27.50(j)(4) the PAPR limit shall not exceed 13 dB for more than the ANSI described 0.1% of the time.

RF conducted emissions testing was performed on the worst case port by band. The AQQQA antenna ports are all within the manufacturer's rated output power tolerances (the RF power variation between antenna ports is small as shown in this certification testing) and the antenna port 22 for the 3.7GHz band and port 57 for the 3.45GHz band were selected to perform the testing for this effort.

Dual band with 3.45GHz carriers at maximum (200W) and 3.7GHz carriers at 280W test cases.
The port power (7.5W) and radio power (480W) are at maximum rated levels. Testing was performed on TAB 57; the highest power port (worst case port) for the 3.45GHz Band. 256QAM modulation was used for all testing.
(a) 3.45G Band NR40 carrier at maximum power (3.125W/TRX) at bot channel and the 3.7G Band NR40 carrier (4.375W/TRX) at top ch operating simultaneously. Maximum spacing between carriers.
(b) 3.45G Band NR40 carrier at maximum power (3.125W/TRX) at top channel and the 3.7G Band NR40 carrier (4.375W /TRX) at bot ch operating simultaneously. Minimum spacing between carriers.
(c) 3.45G Band NR40 carrier at maximum power (3.125W/TRX) at bot channel and the 3.7G Band NR100 carrier (4.375W /TRX) at top ch operating simultaneously. Maximum spacing between carriers.
(d) 3.45G Band NR40 carrier at maximum power (3.125W/TRX) at top ch and the 3.7G Band NR100 carrier (4.375W /TRX) at bottom ch operating simultaneously. Minimum spacing between carriers.

Dual band with 3.7G carriers at maximum (320W) and 3.45G carriers at 160W test cases.
The port power (7.5W) and radio power (480W) are at maximum rated levels. Testing was performed on TAB 22; the highest power port (worst case port) for the 3.7GHz Band. 256QAM modulation was used for all testing.
(a) 3.7G Band NR100 carrier at max power (5.00W/TRX) & max OBW at bot channel and the 3.45G Band NR20 carrier (2.50W/TRX) at max PSD (8W/MHz) at min OBW at top ch operating simultaneously. Min spacing
(b) 3.7G Band NR100 carrier at max power (5.00W/TRX) & max OBW at top channel and the 3.45G Band NR20 carrier (2.50W /TRX) at max PSD (8W/MHz) and min OBW at bot ch operating simultaneously. Max spacing
(c) 3.7G Band NR40 carrier at max power (5.00W/TRX) & max PSD (8W/MHz) at bot channel and the 3.45G Band NR20 carrier (2.50W /TRX) at max PSD (8W/MHz) and min OBW at top ch operating simultaneously. Min spacing
(d) 3.7G Band NR40 carrier at max power (5.00W/TRX) & max PSD (8W/MHz) at top channel and the 3.45G Band NR20 carrier (2.50W /TRX) at max PSD (8W/MHz) and min OBW at bot ch operating simultaneously. Max spacing

PEAK AND AVERAGE (PAPR) CCDF MULTIBAND

element

TbtTx 2022.06.03.0 XMit 2022.02.07.0

EUT:	AQQQA			Work Order:	NOKI0052
Serial Number:	YK224300010			Date:	24-Jan-23
Customer:	Nokia of America Corporation			Temperature:	20.9 °C
Attendees:	John Rattanavong, Michell Hill			Humidity:	31.8% RH
Project:	None			Barometric Pres.:	1018 mbar
Tested by:	Brandon Hobbs	Power:	54 VDC	Job Site:	TX07

TEST SPECIFICATIONS	Test Method
FCC 27:2023	ANSI C63.26:2015

COMMENTS

All measurement path losses were accounted for in the reference level offest including any attenuators, filters and DC blocks. Band n77 carriers were enabled at maximmum power levels for the 3.45GHz band at 3.125watts/carrier and for the 3.7GHz band at 5watts/carrier in uniquely separate dual mode operating configurations.

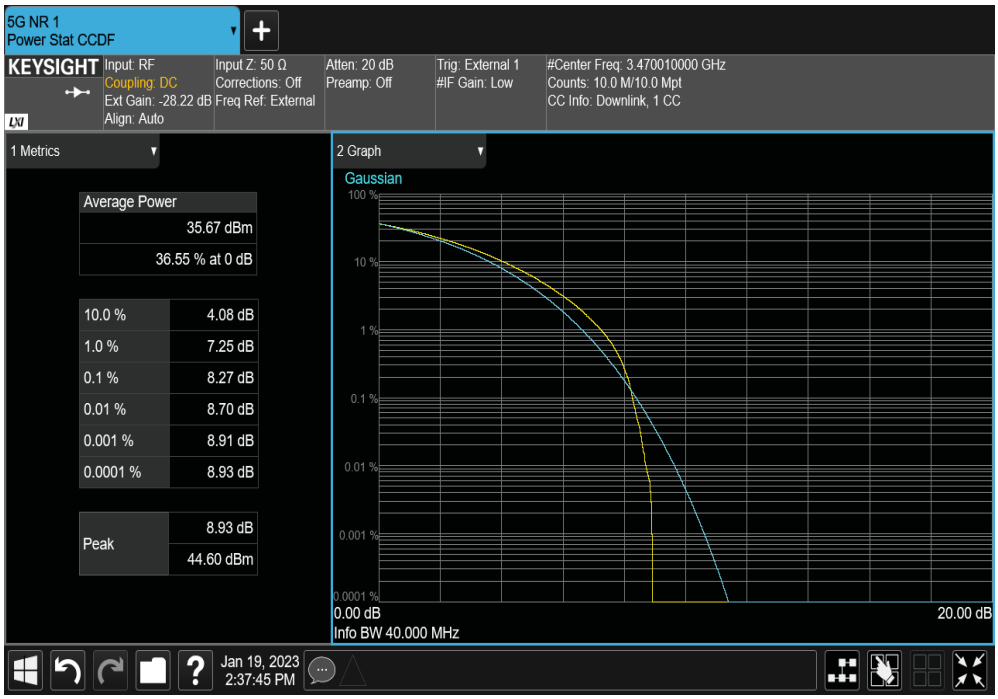
DEVIATIONS FROM TEST STANDARD

None

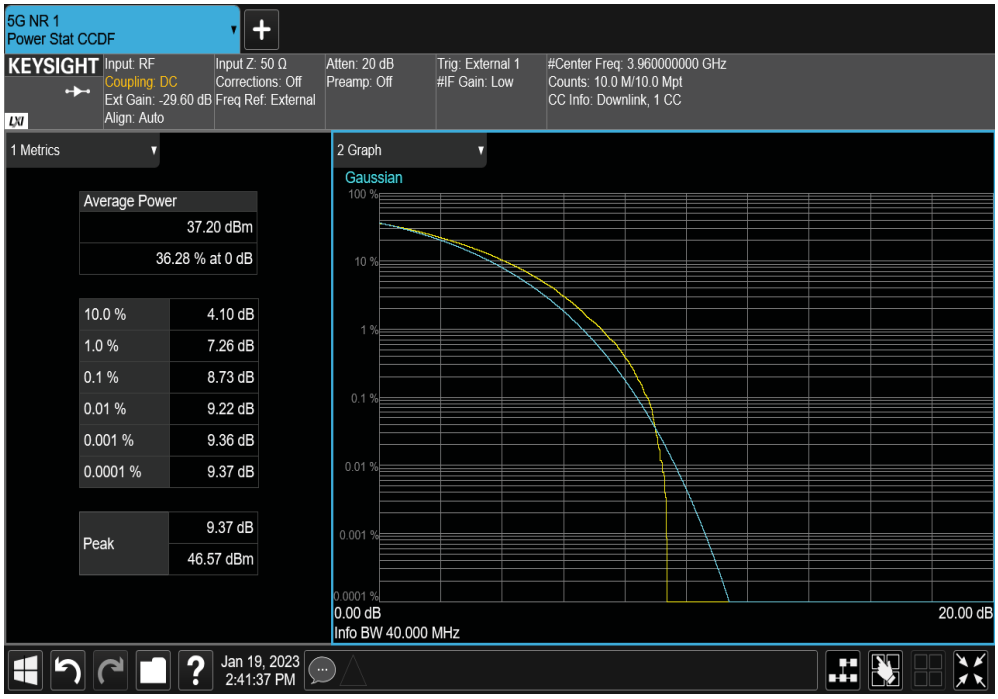
Configuration #	4	Signature

	0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Results
Worst Case Port			
Dual Band Mode, 3.45G (Max Power) and 3.7G Bands, 5G NR			
Configuration a			
256-QAM Modulation			
3.45G NR 40 Low Ch. 3470.01 MHz	8.27	13	Pass
3.7G NR 40 High Ch. 3960 MHz	8.73	13	Pass
Configuration b			
256-QAM Modulation			
3.45G NR 40 High Ch. 3529.98 MHz	8.27	13	Pass
3.7G NR 40 Low Ch. 3720 MHz	8.61	13	Pass
Configuration c			
256-QAM Modulation			
3.45G NR 40 Low Ch. 3470.01 MHz	8.39	13	Pass
3.7G NR 100 High Ch. 3930 MHz	8.83	13	Pass
Configuration d			
256-QAM Modulation			
3.45G NR 40 High Ch. 3529.98 MHz	8.32	13	Pass
3.7G NR 100 Low Ch. 3750 MHz	8.78	13	Pass
Dual Band Mode, 3.45G and 3.7G (Max Power) Bands, 5G NR			
Configuration a			
256-QAM Modulation			
3.7G NR 100 Low Ch. 3750 MHz	8.53	13	Pass
3.45G NR 20 High Ch. 3540 MHz	8.91	13	Pass
Configuration b			
256-QAM Modulation			
3.7G NR 100 High Ch. 3930 MHz	8.59	13	Pass
3.45G NR 20 Low Ch. 3460.02 MHz	8.95	13	Pass
Configuration c			
256-QAM Modulation			
3.7G NR 40 Low Ch. 3720 MHz	8.16	13	Pass
3.45G NR 20 High Ch. 3540 MHz	8.88	13	Pass
Configuration d			
256-QAM Modulation			
3.7G NR 40 High Ch. 3960 MHz	8.24	13	Pass
3.45G NR 20 Low Ch. 3460.02 MHz	8.98	13	Pass

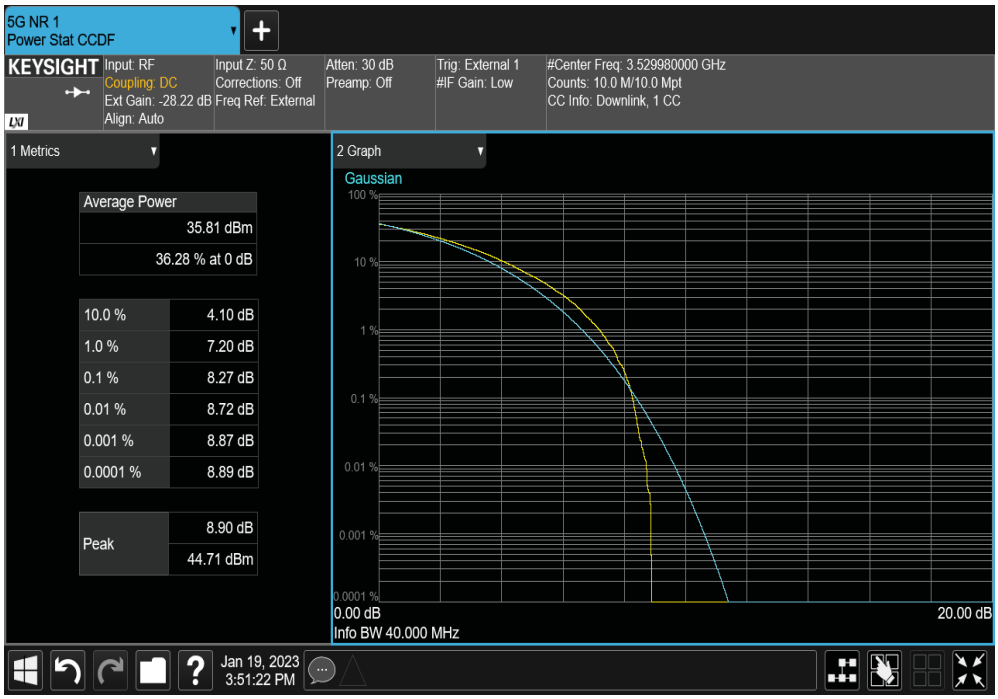
Worst Case Port, Dual Band Mode, 3.45G (Max Power) and 3.7G Bands, 5G NR, Configuration a, 256-QAM Modulation, 3.45G NR 40 Low Ch. 3470.01 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Results
				8.27	13	Pass



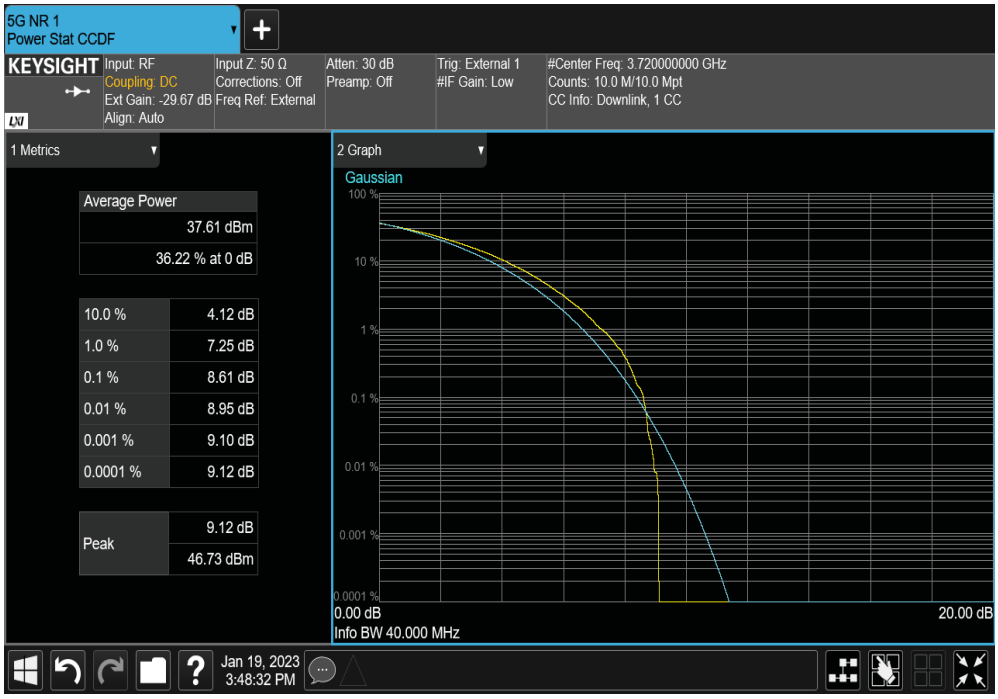
Worst Case Port, Dual Band Mode, 3.45G (Max Power) and 3.7G Bands, 5G NR, Configuration a, 256-QAM Modulation, 3.7G NR 40 High Ch. 3960 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Results
				8.73	13	Pass



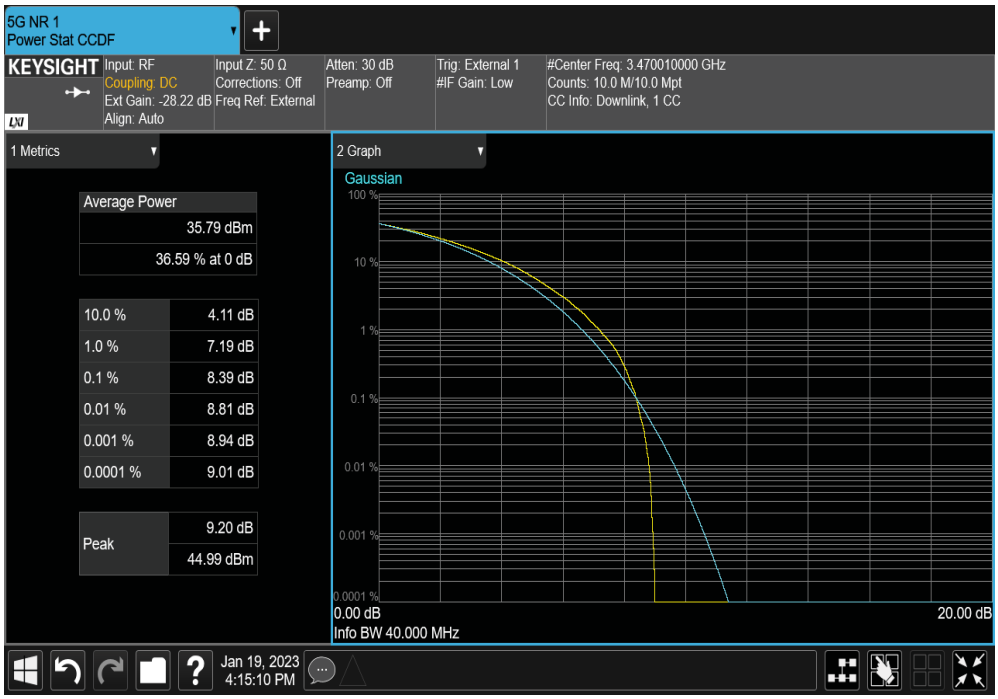
Worst Case Port, Dual Band Mode, 3.45G (Max Power) and 3.7G Bands, 5G NR, Configuration b, 256-QAM Modulation, 3.45G NR 40 High Ch. 3529.98 MHz						
				0.1% PAPR Value (dB)	**0.1% PAPR Limit (dB)**	**Results**
				8.27	13	Pass



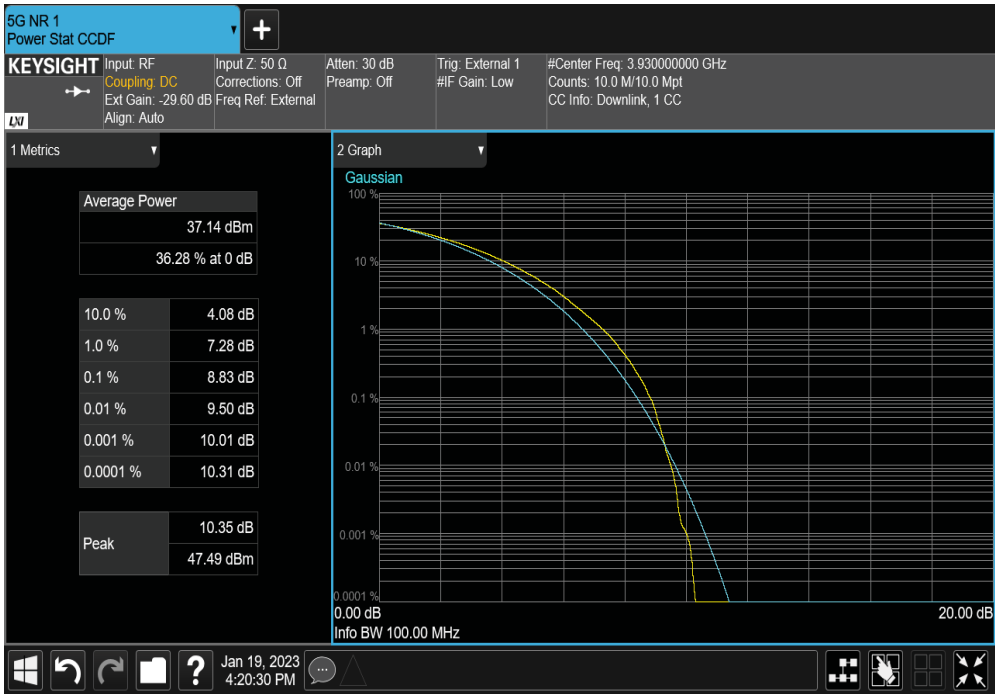
Worst Case Port, Dual Band Mode, 3.45G (Max Power) and 3.7G Bands, 5G NR, Configuration b, 256-QAM Modulation, 3.7G NR 40 Low Ch. 3720 MHz						
				0.1% PAPR Value (dB)	**0.1% PAPR Limit (dB)**	**Results**
				8.61	13	Pass



Worst Case Port, Dual Band Mode, 3.45G (Max Power) and 3.7G Bands, 5G NR, Configuration c, 256-QAM Modulation, 3.45G NR 40 Low Ch. 3470.01 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Results
				8.39	13	Pass

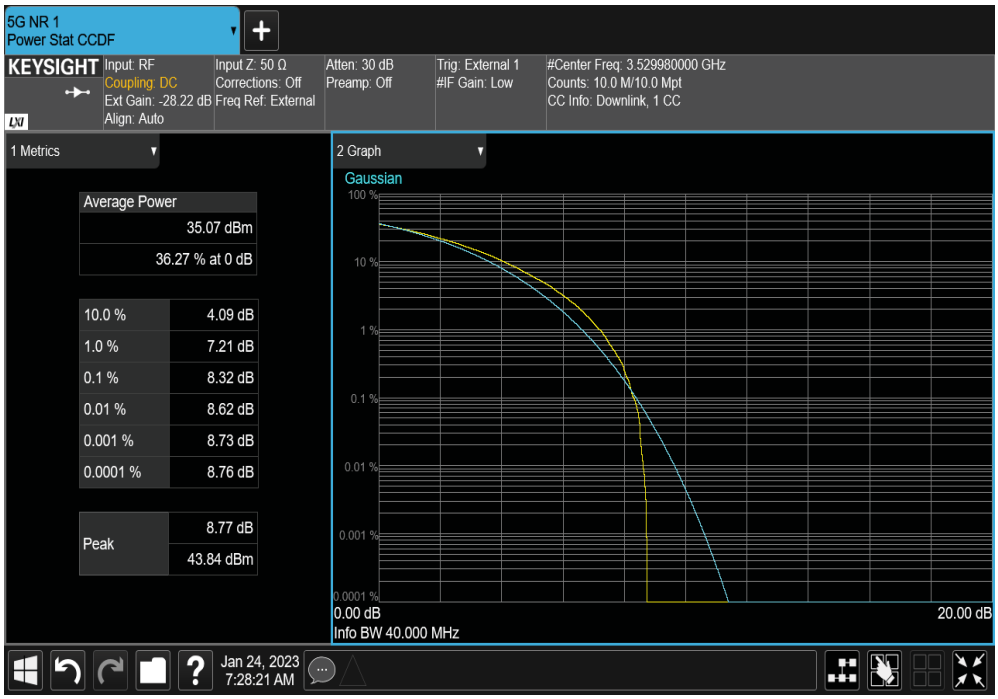


Worst Case Port, Dual Band Mode, 3.45G (Max Power) and 3.7G Bands, 5G NR, Configuration c, 256-QAM Modulation, 3.7G NR 100 High Ch. 3930 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Results
				8.83	13	Pass

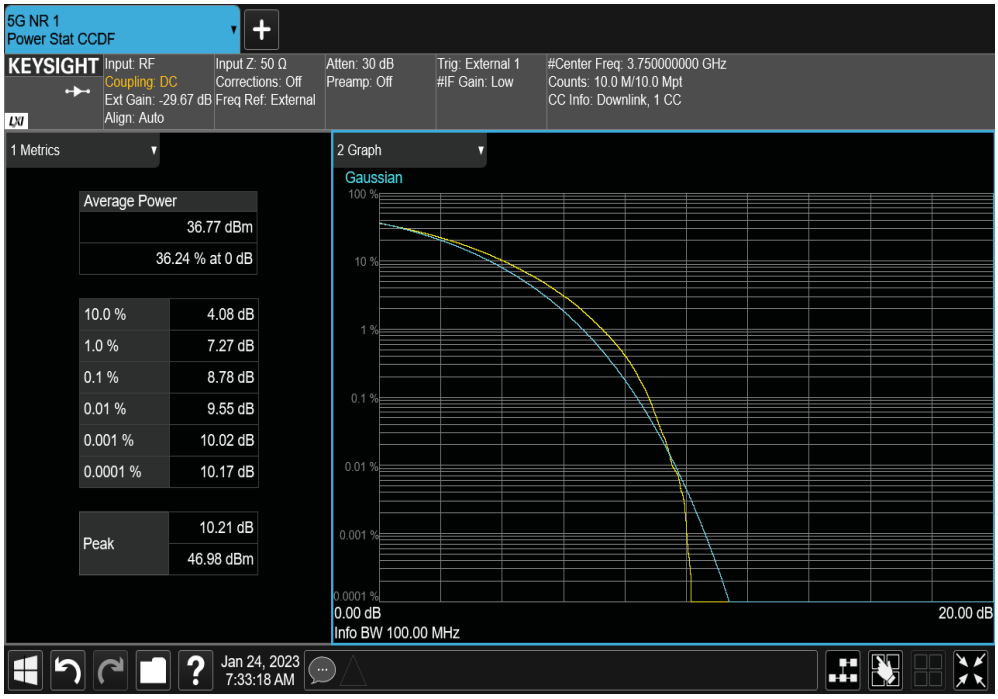


PEAK AND AVERAGE (PAPR) CCDF MULTIBAND

Worst Case Port, Dual Band Mode, 3.45G (Max Power) and 3.7G Bands, 5G NR, Configuration d, 256-QAM Modulation, 3.45G NR 40 High Ch. 3529.98 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Results
				8.32	13	Pass

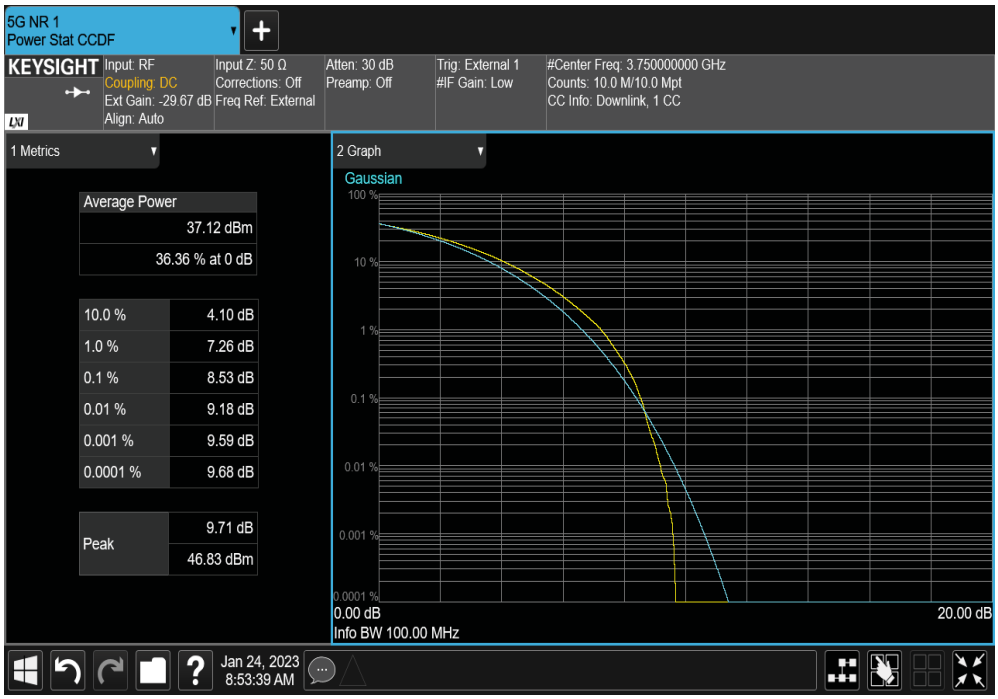


Worst Case Port, Dual Band Mode, 3.45G (Max Power) and 3.7G Bands, 5G NR, Configuration d, 256-QAM Modulation, 3.7G NR 100 Low Ch. 3750 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Results
				8.78	13	Pass

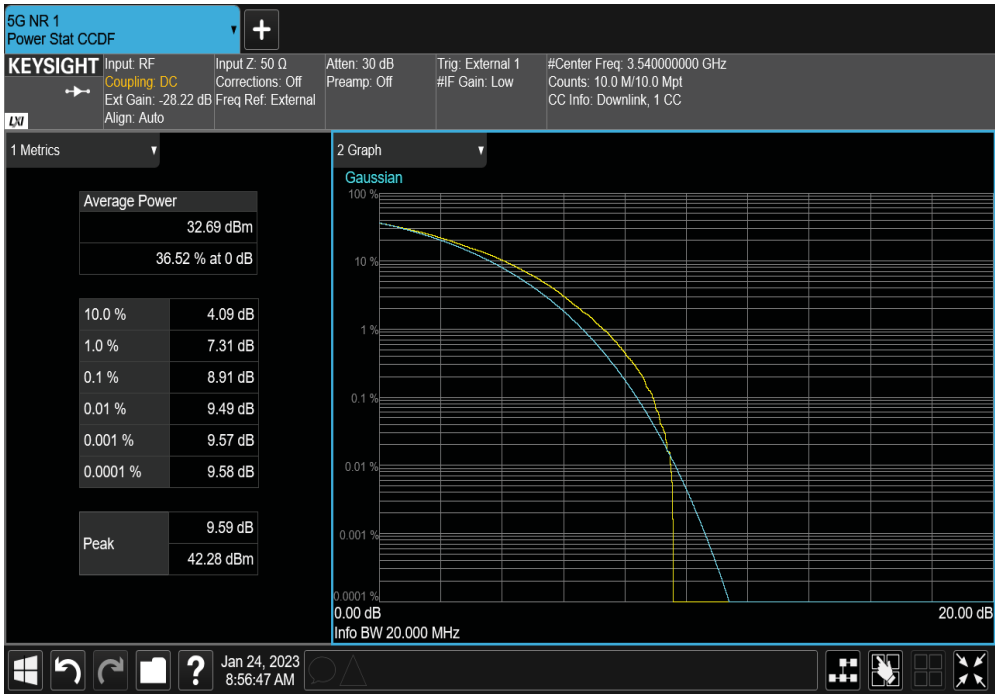


PEAK AND AVERAGE (PAPR) CCDF MULTIBAND

Worst Case Port, Dual Band Mode, 3.45G and 3.7G (Max Power) Bands, 5G NR, Configuration a, 256-QAM Modulation, 3.7G NR 100 Low Ch. 3750 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Results
				8.53	13	Pass

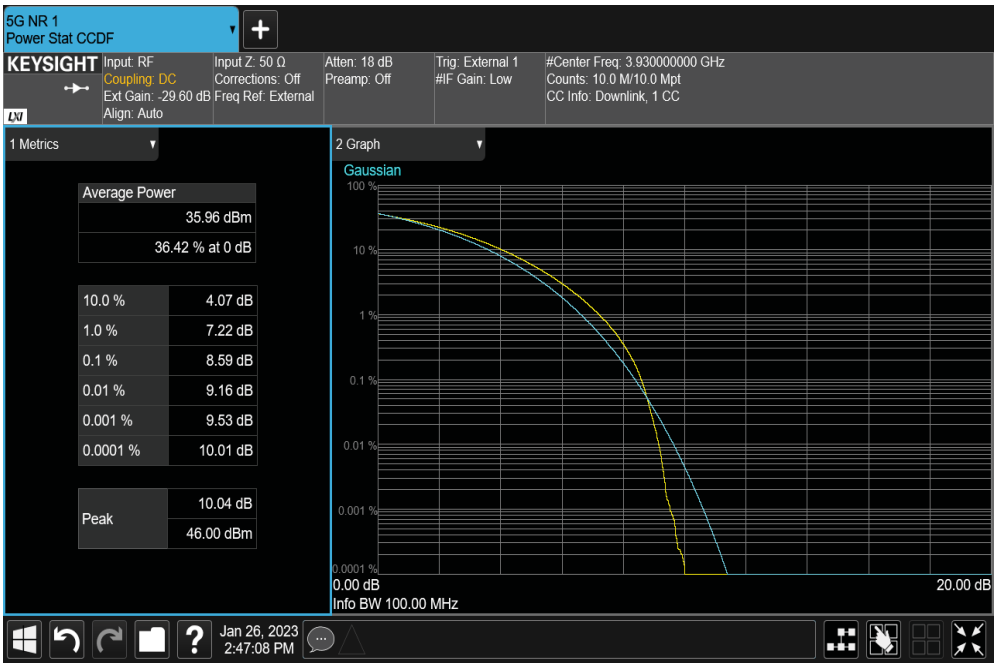


Worst Case Port, Dual Band Mode, 3.45G and 3.7G (Max Power) Bands, 5G NR, Configuration a, 256-QAM Modulation, 3.45G NR 20 High Ch. 3540 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Results
				8.91	13	Pass

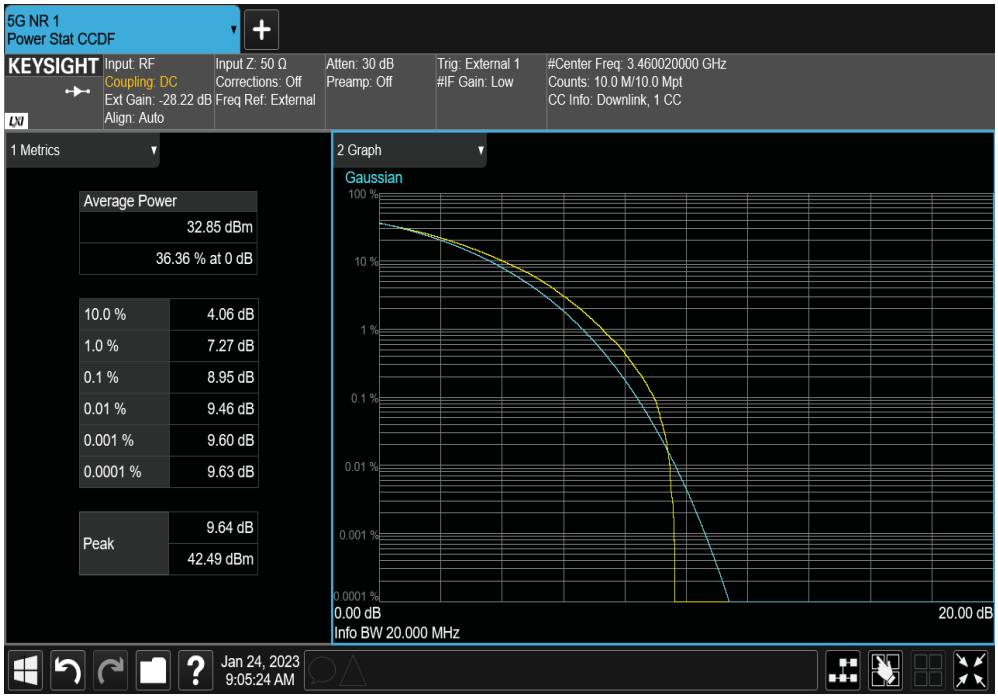


PEAK AND AVERAGE (PAPR) CCDF MULTIBAND

Worst Case Port, Dual Band Mode, 3.45G and 3.7G (Max Power) Bands, 5G NR, Configuration b, 256-QAM Modulation, 3.7G NR 100 High Ch. 3930 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Results
				8.59	13	Pass

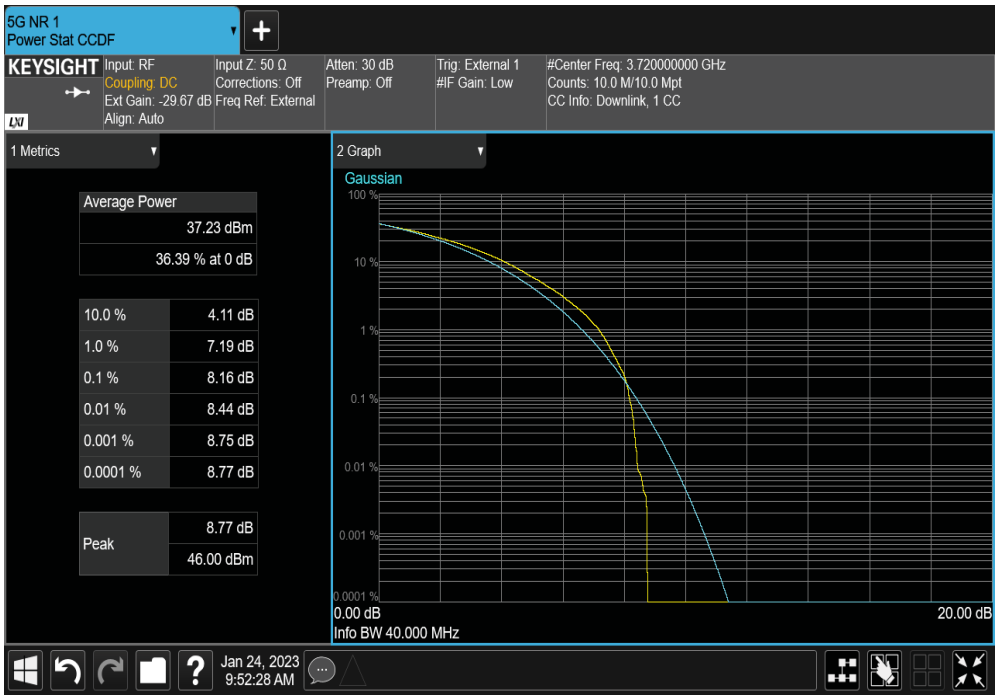


Worst Case Port, Dual Band Mode, 3.45G and 3.7G (Max Power) Bands, 5G NR, Configuration b, 256-QAM Modulation, 3.45G NR 20 Low Ch. 3460.02 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Results
				8.95	13	Pass



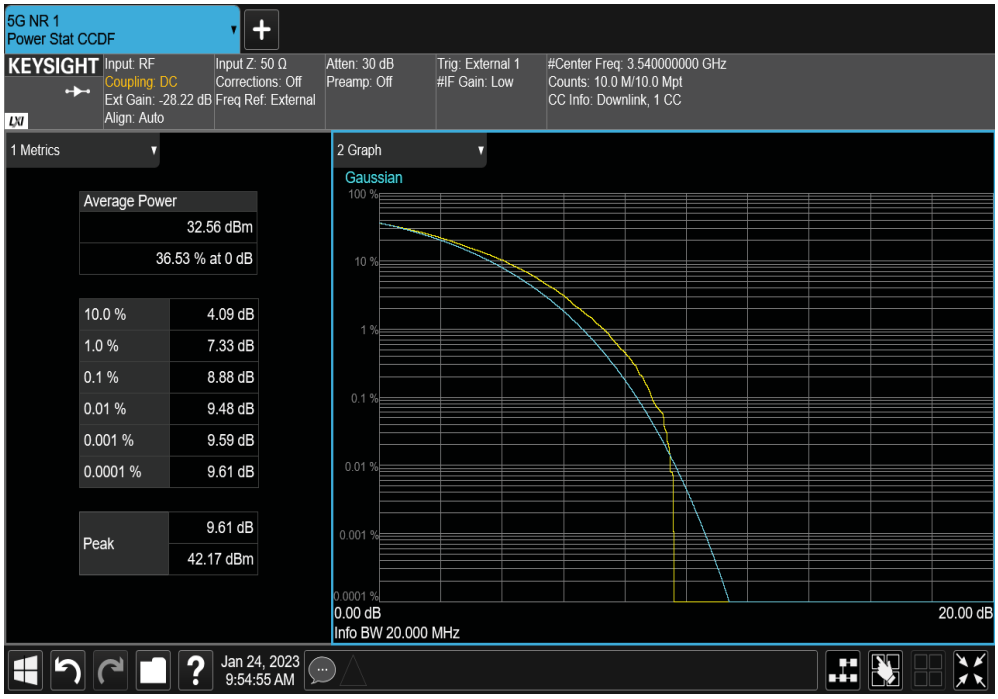
Worst Case Port, Dual Band Mode, 3.45G and 3.7G (Max Power) Bands, 5G NR, Configuration c, 256-QAM Modulation, 3.7G NR 40 Low Ch. 3720 MHz

				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Results
				8.16	13	Pass



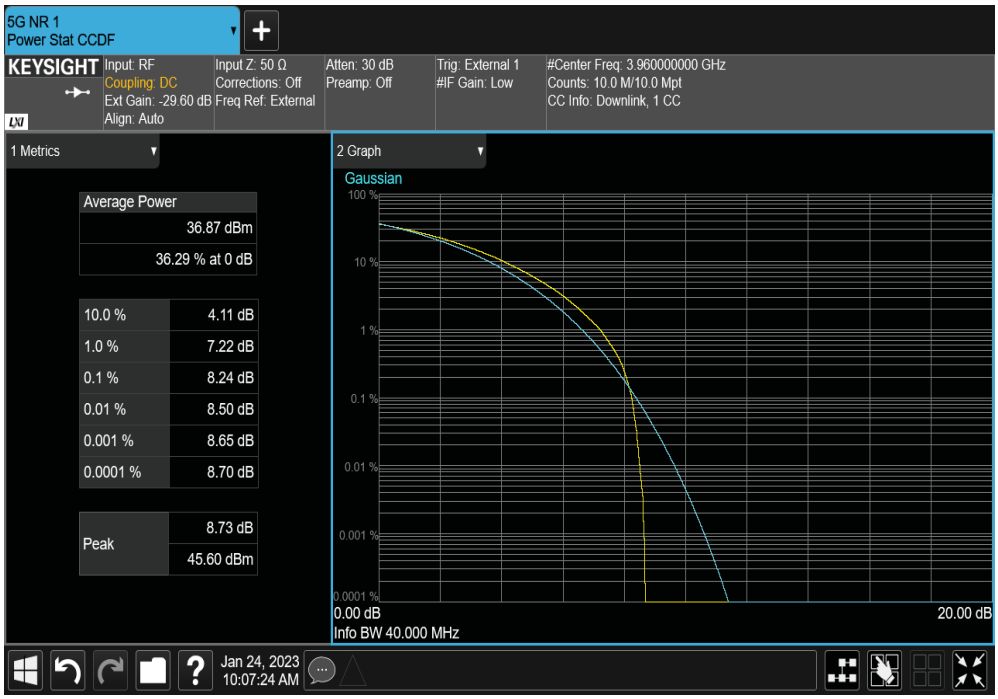
Worst Case Port, Dual Band Mode, 3.45G and 3.7G (Max Power) Bands, 5G NR, Configuration c, 256-QAM Modulation, 3.45G NR 20 High Ch. 3540 MHz

				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Results
				8.88	13	Pass



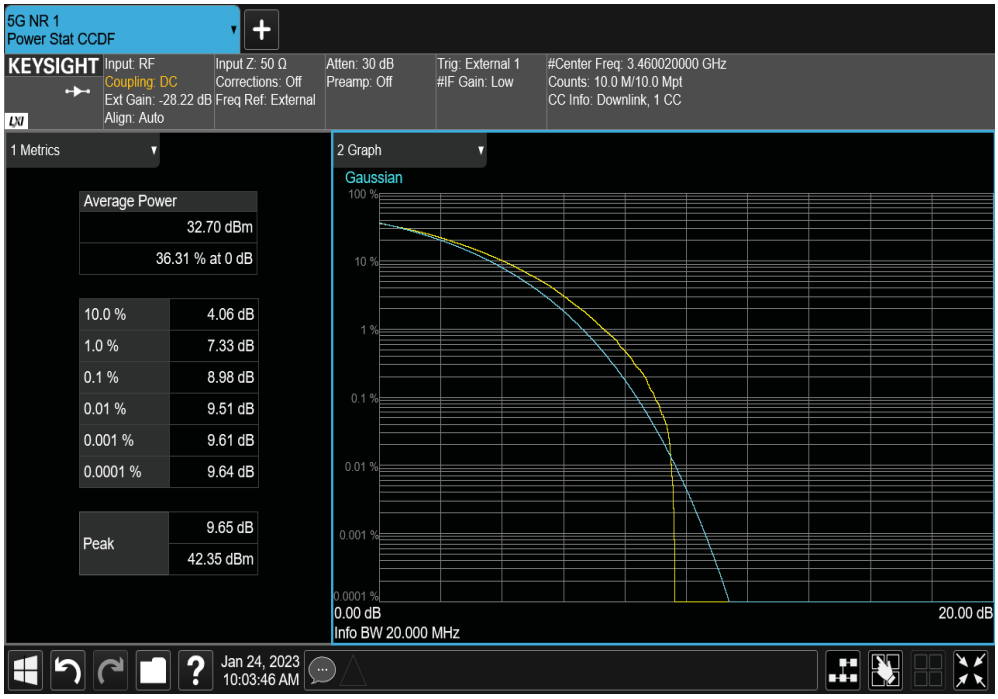
Worst Case Port, Dual Band Mode, 3.45G and 3.7G (Max Power) Bands, 5G NR, Configuration d, 256-QAM Modulation, 3.7G NR 40 High Ch. 3960 MHz

				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Results
				8.24	13	Pass



Worst Case Port, Dual Band Mode, 3.45G and 3.7G (Max Power) Bands, 5G NR, Configuration d, 256-QAM Modulation, 3.45G NR 20 Low Ch. 3460.02 MHz

				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Results
				8.98	13	Pass



PEAK AND AVERAGE (PAPR) CCDF
SINGLE 3.45G

XMit 2022.02.07.0

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Agilent	N5173B	TIW	2020-07-17	2023-07-17
Block - DC	Fairview Microwave	SD3239	ANC	2022-03-02	2023-03-02
Signal Analyzer	Keysight	N9030B	R332	2022-07-28	2023-07-28

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

Because the conducted Output Power was measured using a RMS Average detector, the Peak to Average Power Ratio (PAPR) was measured to show that the maximum peak-max-hold spectrum to the maximum of the average spectrum does not exceed the rule part defined limit.

The PAPR measurement method is described in ANSI C63.26 section 5.2.3.4.
The PAPR was measured using the CCDF function of the spectrum analyzer.

Per FCC part 27.50(k)(4), the PAPR limit shall not exceed 13 dB for more than the ANSI described 0.1% of the time.

RF conducted emissions testing was performed on the worst case (highest average power) port by band. The AQQQA antenna ports are all within the manufacturer's rated output power tolerances (the RF power variation between antenna ports is small as shown in this certification testing) and the antenna port 57 for the 3.45GHz band was selected to perform the testing for this effort.

PEAK AND AVERAGE (PAPR) CCDF SINGLE 3.45G

element

XMit 2022.02.07.0

EUT:	AQQQA			Work Order:	NOKI0052
Serial Number:	YK224300010			Date:	16-Jan-23
Customer:	Nokia of America Corporation			Temperature:	21.4 °C
Attendees:	John Rattanavong, Michell Hill			Humidity:	46% RH
Project:	None			Barometric Pres.:	1011 mbar
Tested by:	Brandon Hobbs	Power:	54 VDC	Job Site:	TX07

TEST SPECIFICATIONS	Test Method
FCC 27:2023	ANSI C63.26:2015

COMMENTS

All losses in the measurement path were accounted for: attenuators, cables, DC block and filter when in use. Band n77 carriers were enabled at maximum power levels for the 3.45GHz band (at 3.125 watts/carrier for NR40 and at 2.5 watts/carrier for NR20 & NR30) in the single carrier operating mode configuration.

DEVIATIONS FROM TEST STANDARD

None

Configuration #	5	Signature

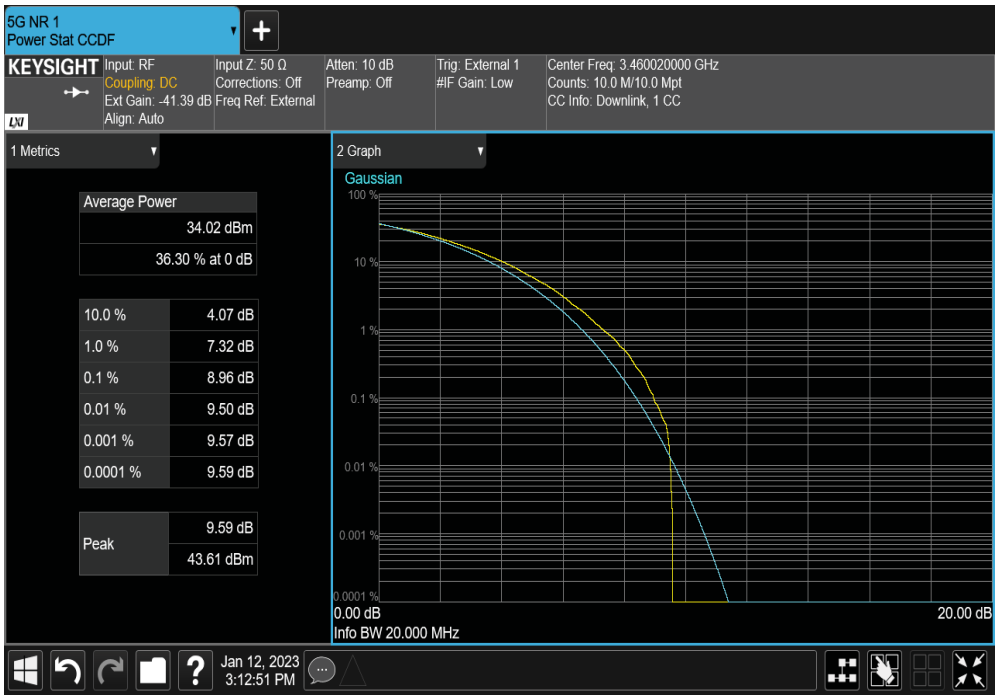
	0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
Port 57			
Single Carrier Band n77 3.45G, 3450MHz - 3550MHz			
NR20 Bandwidth			
256-QAM			
Low Ch. 3460.02 MHz	8.96	13	Pass
Mid Ch. 3500.01 MHz	8.92	13	Pass
High Ch. 3540 MHz	8.85	13	Pass
NR30 Bandwidth			
256-QAM			
Low Ch. 3465 MHz	8.70	13	Pass
Mid Ch. 3500.01 MHz	8.84	13	Pass
High Ch. 3534.99 MHz	8.84	13	Pass
NR40 Bandwidth			
QPSK Modulation			
Mid Ch. 3500.01 MHz	8.32	13	Pass
16-QAM			
Mid Ch. 3500.01 MHz	8.35	13	Pass
64-QAM			
Mid Ch. 3500.01 MHz	8.30	13	Pass
256-QAM			
Low Ch. 3470.01 MHz	8.25	13	Pass
Mid Ch. 3500.01 MHz	8.25	13	Pass
High Ch. 3529.98 MHz	8.31	13	Pass

PEAK AND AVERAGE (PAPR) CCDF SINGLE 3.45G

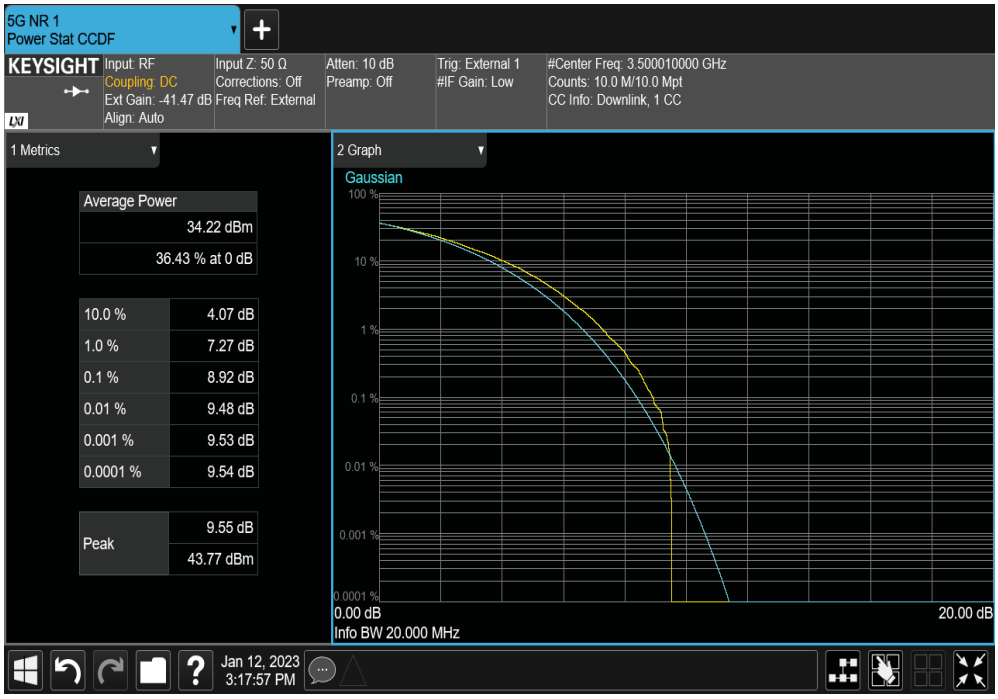
element

XMit 2022.02.07.0

Port 57, Single Carrier Band n77 3.45G, 3450MHz - 3550MHz, NR20 Bandwidth, 256-QAM, Low Ch. 3460.02 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				8.96	13	Pass



Port 57, Single Carrier Band n77 3.45G, 3450MHz - 3550MHz, NR20 Bandwidth, 256-QAM, Mid Ch. 3500.01 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				8.92	13	Pass

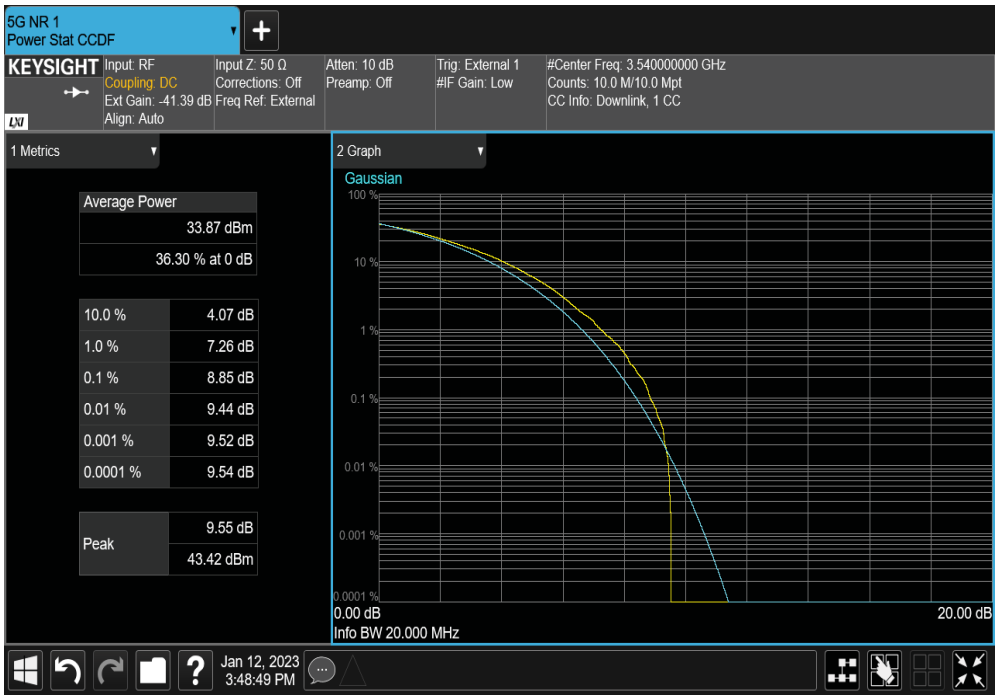


PEAK AND AVERAGE (PAPR) CCDF SINGLE 3.45G

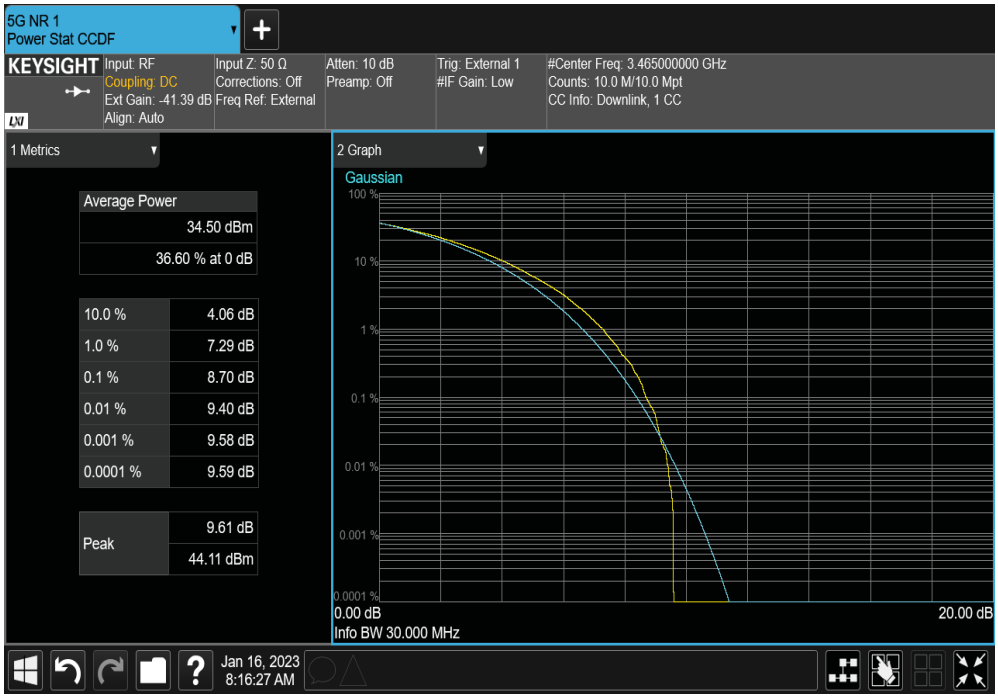
element

XMit 2022.02.07.0

Port 57, Single Carrier Band n77 3.45G, 3450MHz - 3550MHz, NR20 Bandwidth, 256-QAM, High Ch. 3540 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				8.85	13	Pass



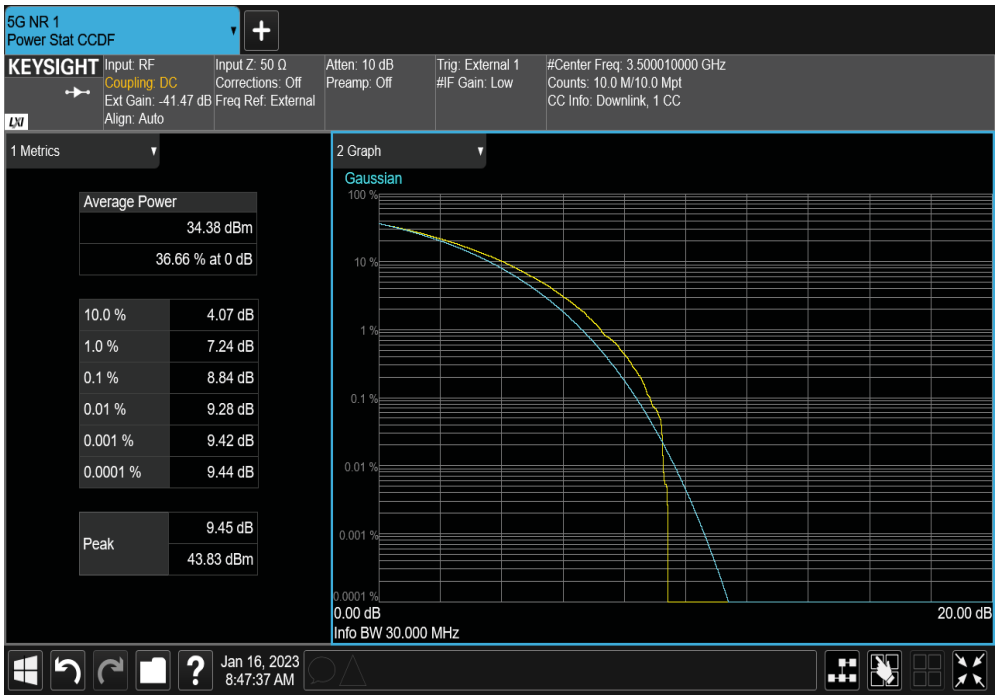
Port 57, Single Carrier Band n77 3.45G, 3450MHz - 3550MHz, NR30 Bandwidth, 256-QAM, Low Ch. 3465 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				8.7	13	Pass



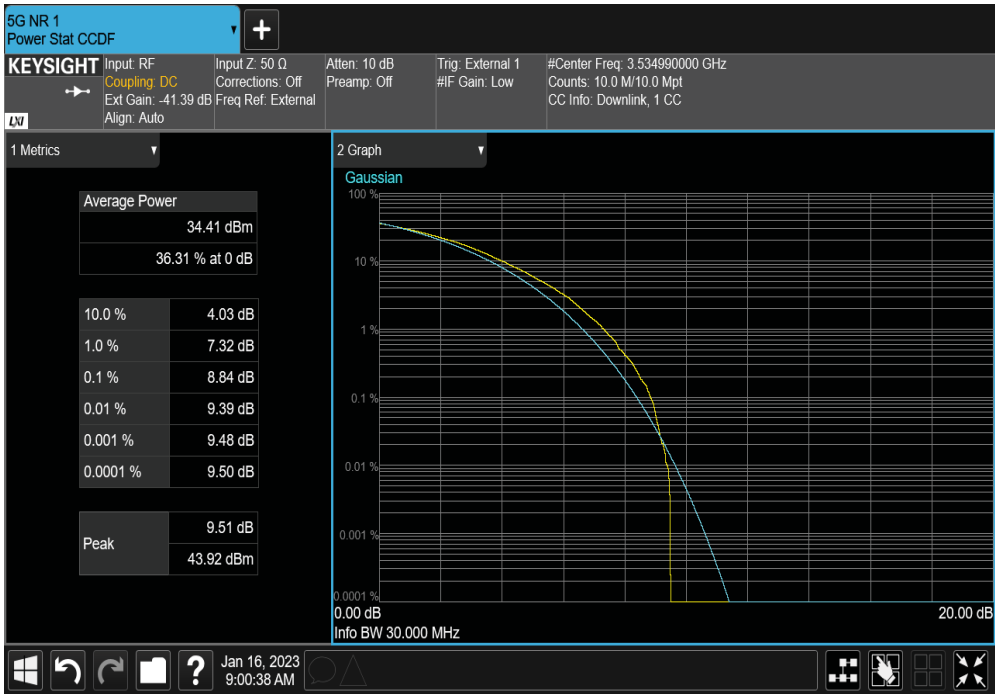
PEAK AND AVERAGE (PAPR) CCDF SINGLE 3.45G

XMit 2022.02.07.0

Port 57, Single Carrier Band n77 3.45G, 3450MHz - 3550MHz, NR30 Bandwidth, 256-QAM, Mid Ch. 3500.01 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				8.84	13	Pass

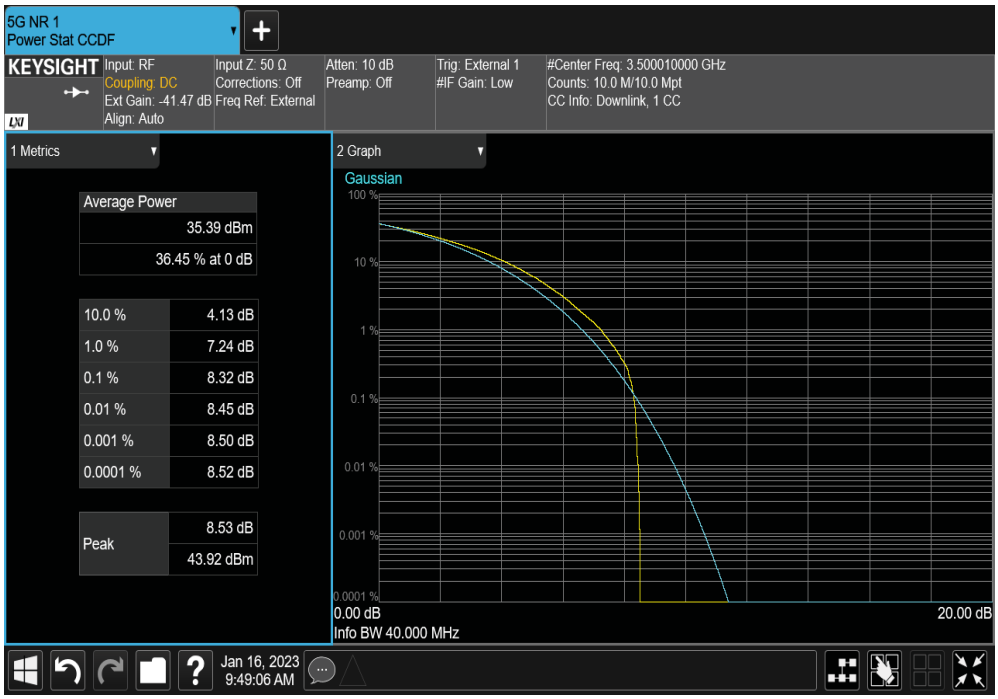


Port 57, Single Carrier Band n77 3.45G, 3450MHz - 3550MHz, NR30 Bandwidth, 256-QAM, High Ch. 3534.99 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				8.84	13	Pass

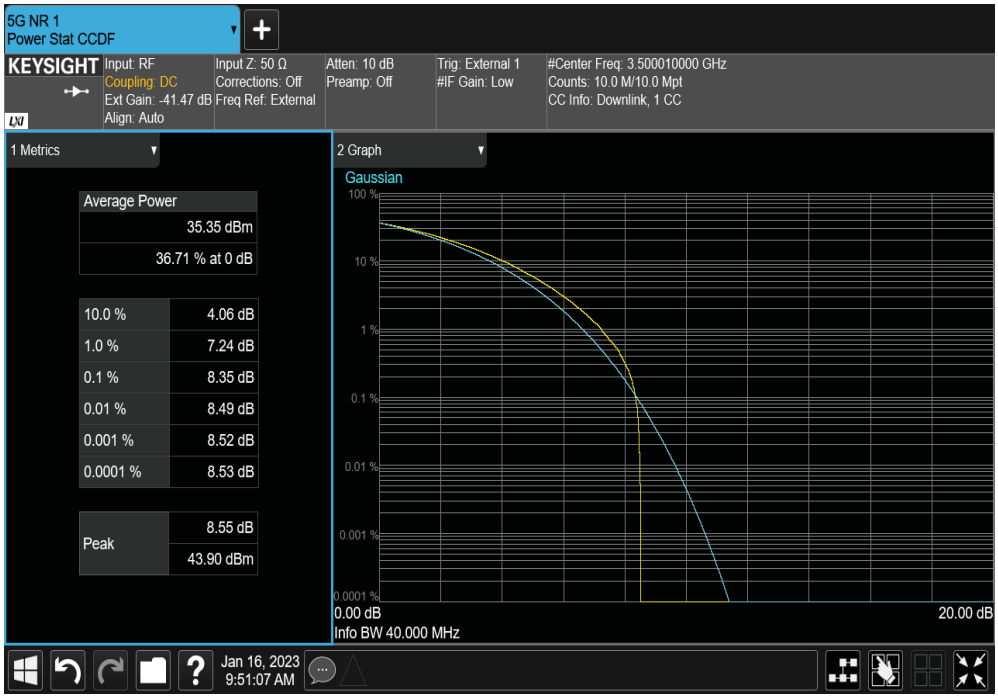


PEAK AND AVERAGE (PAPR) CCDF SINGLE 3.45G

Port 57, Single Carrier Band n77 3.45G, 3450MHz - 3550MHz, NR40 Bandwidth, QPSK Modulation, Mid Ch. 3500.01 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				8.32	13	Pass



Port 57, Single Carrier Band n77 3.45G, 3450MHz - 3550MHz, NR40 Bandwidth, 16-QAM, Mid Ch. 3500.01 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				8.35	13	Pass

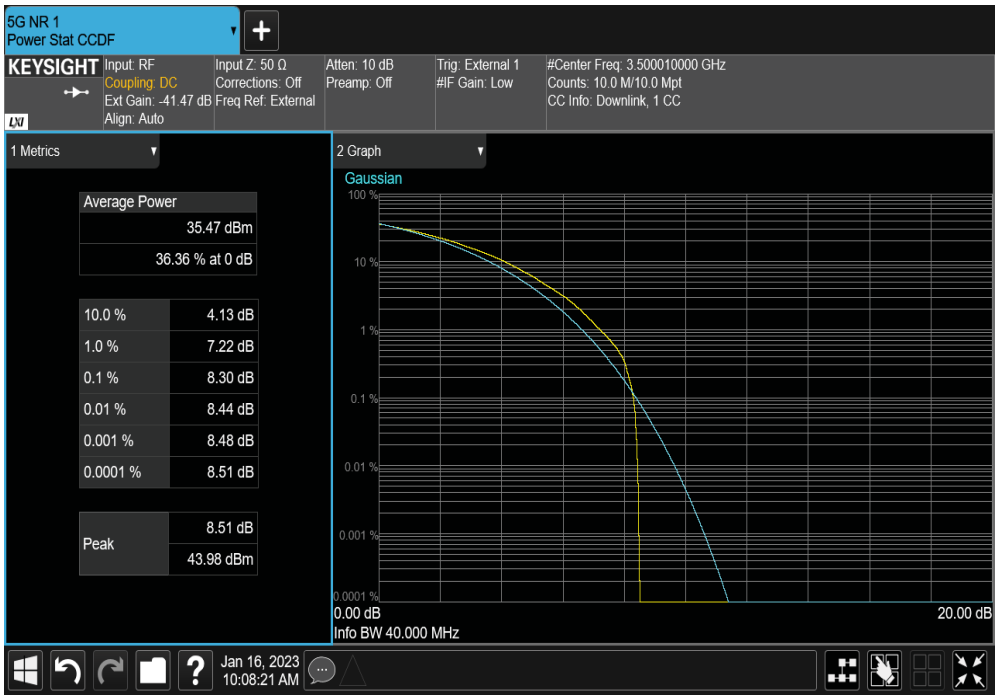


PEAK AND AVERAGE (PAPR) CCDF SINGLE 3.45G

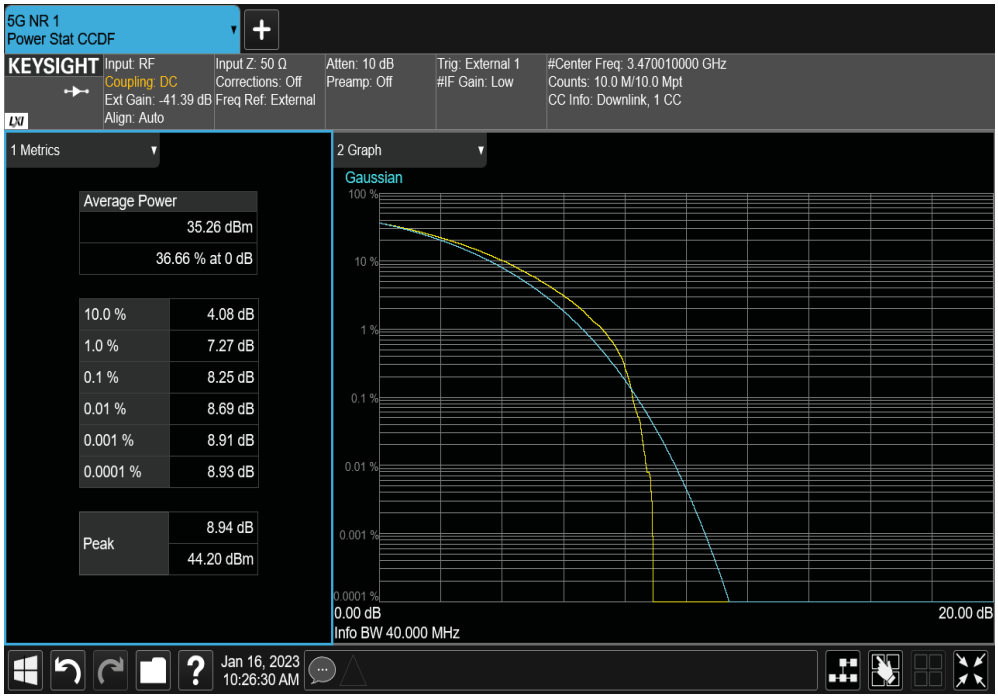
element

XMit 2022.02.07.0

Port 57, Single Carrier Band n77 3.45G, 3450MHz - 3550MHz, NR40 Bandwidth, 64-QAM, Mid Ch. 3500.01 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				8.3	13	Pass



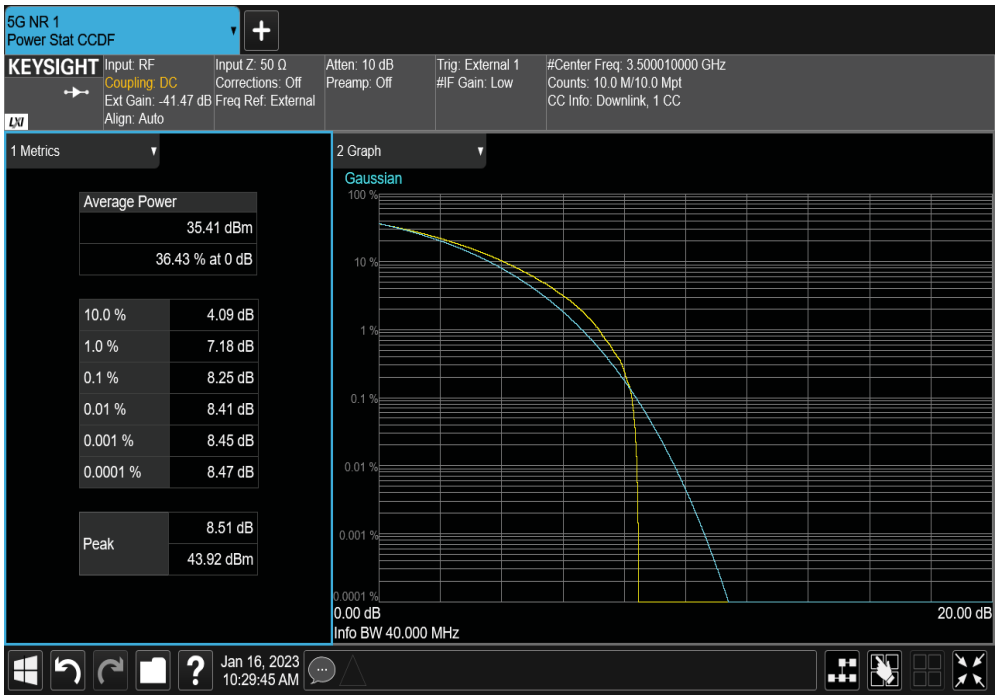
Port 57, Single Carrier Band n77 3.45G, 3450MHz - 3550MHz, NR40 Bandwidth, 256-QAM, Low Ch. 3470.01 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				8.25	13	Pass



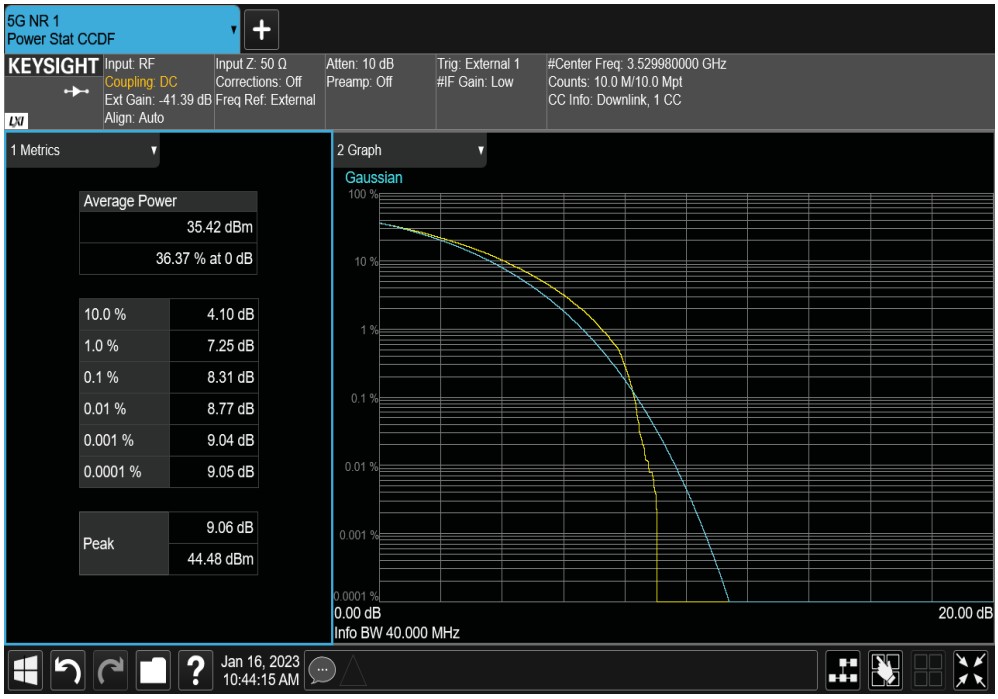
PEAK AND AVERAGE (PAPR) CCDF SINGLE 3.45G

XMit 2022.02.07.0

Port 57, Single Carrier Band n77 3.45G, 3450MHz - 3550MHz, NR40 Bandwidth, 256-QAM, Mid Ch. 3500.01 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				8.25	13	Pass



Port 57, Single Carrier Band n77 3.45G, 3450MHz - 3550MHz, NR40 Bandwidth, 256-QAM, High Ch. 3529.98 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				8.31	13	Pass



PEAK AND AVERAGE (PAPR) CCDF
SINGLE 3.7G

XMit 2022.02.07.0

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Agilent	N5173B	TIW	2020-07-17	2023-07-17
Attenuator	Fairview Microwave	SA3N10W-20	RKY	2022-11-15	2023-11-15
Block - DC	Fairview Microwave	SD3239	ANC	2022-03-02	2023-03-02
Signal Analyzer	Keysight	N9030B	R332	2022-07-28	2023-07-28

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

Because the conducted Output Power was measured using a RMS Average detector, the Peak to Average Power Ratio (PAPR) was measured to show that the maximum peak-max-hold spectrum to the maximum of the average spectrum does not exceed the rule part defined limit.

The PAPR measurement method is described in ANSI C63.26 section 5.2.3.4.
The PAPR was measured using the CCDF function of the spectrum analyzer.

Per FCC part 27.50(j)(4), the PAPR limit shall not exceed 13 dB for more than the ANSI described 0.1% of the time.

RF conducted emissions testing was performed on the worst case (highest average power) port by band. The AQQQA antenna ports are all within the manufacturer's rated output power tolerances (the RF power variation between antenna ports is small as shown in this certification testing) and the antenna port 22 for the 3.7GHz band was selected to perform the testing for this effort.

PEAK AND AVERAGE (PAPR) CCDF SINGLE 3.7G

element

XMit 2022.02.07.0

EUT:	AQQQA			Work Order:	NOKI0052
Serial Number:	YK224300010			Date:	19-Jan-23
Customer:	Nokia of America Corporation			Temperature:	20 °C
Attendees:	John Rattanavong, Michell Hill			Humidity:	32.6% RH
Project:	None			Barometric Pres.:	1024 mbar
Tested by:	Brandon Hobbs	Power:	54 VDC	Job Site:	TX07

TEST SPECIFICATIONS	Test Method
FCC 27:2023	ANSI C63.26:2015

COMMENTS

All losses in the measurement path were accounted for: attenuators, cables, DC block and filter when in use. Band n77 carriers were enabled at maximum power levels for the 3.7GHz band (at 2.5 watts/carrier for NR20 and at 5 watts/carrier for NR40, NR60, NR80 & NR100) in the single carrier operating mode configuration.

DEVIATIONS FROM TEST STANDARD

None

Configuration #	4,5	Signature

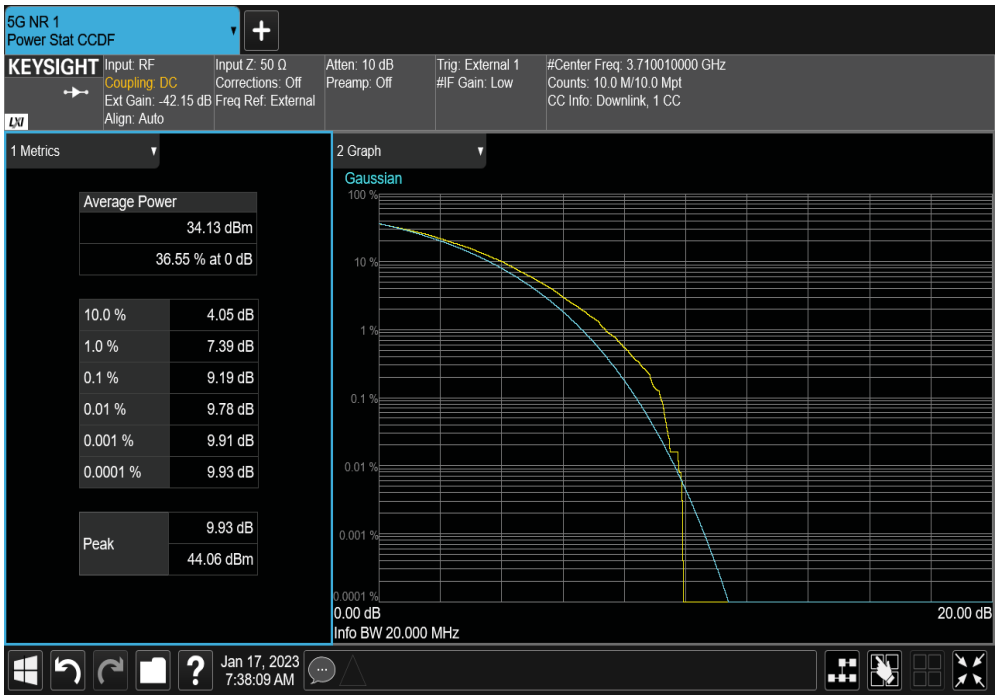
	0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
Port 22			
Single Carrier Band n77 3.7G, 3700MHz - 3980MHz			
20 MHz Bandwidth			
256-QAM Modulation			
Low Ch. 3710.01 MHz	9.19	13	Pass
Mid Ch. 3840.00 MHz	9.24	13	Pass
High Ch. 3969.99 MHz	9.15	13	Pass
40 MHz Bandwidth			
256-QAM Modulation			
Low Ch. 3720 MHz	8.23	13	Pass
Mid Ch. 3840.00 MHz	8.42	13	Pass
High Ch. 3960 MHz	8.19	13	Pass
60 MHz Bandwidth			
256-QAM Modulation			
Low Ch. 3730.02 MHz	8.41	13	Pass
Mid Ch. 3840.00 MHz	8.39	13	Pass
High Ch. 3949.98 MHz	8.42	13	Pass
80 MHz Bandwidth			
256-QAM Modulation			
Low Ch. 3740.01 MHz	8.44	13	Pass
Mid Ch. 3840.00 MHz	8.37	13	Pass
High Ch. 3939.99 MHz	8.45	13	Pass
100 MHz Bandwidth			
QPSK Modulation			
Mid Ch. 3840.00 MHz	8.39	13	Pass
16-QAM Modulation			
Mid Ch. 3840.00 MHz	8.36	13	Pass
64-QAM Modulation			
Mid Ch. 3840.00 MHz	8.42	13	Pass
256-QAM Modulation			
Low Ch. 3750 MHz	8.49	13	Pass
Mid Ch. 3840.00 MHz	8.45	13	Pass
High Ch.3930 MHz	8.51	13	Pass

PEAK AND AVERAGE (PAPR) CCDF SINGLE 3.7G

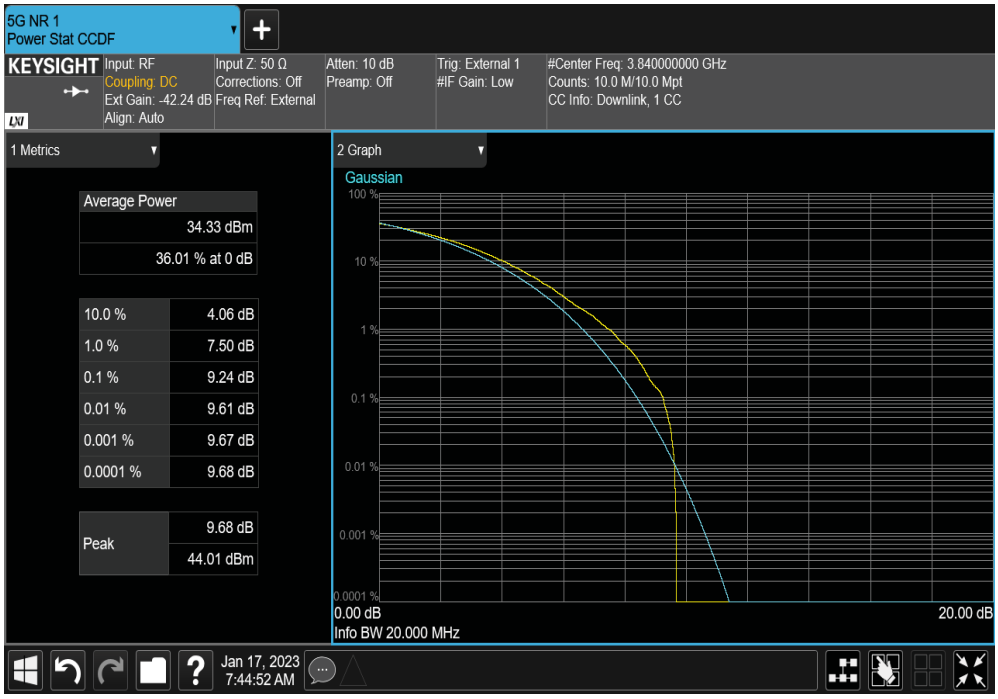
element

XMit 2022.02.07.0

Port 22, Single Carrier Band n77 3.7G, 3700MHz - 3980MHz, 20 MHz Bandwidth, 256-QAM Modulation, Low Ch. 3710.01 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				9.19	13	Pass



Port 22, Single Carrier Band n77 3.7G, 3700MHz - 3980MHz, 20 MHz Bandwidth, 256-QAM Modulation, Mid Ch. 3840.00 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				9.24	13	Pass



PEAK AND AVERAGE (PAPR) CCDF SINGLE 3.7G

element

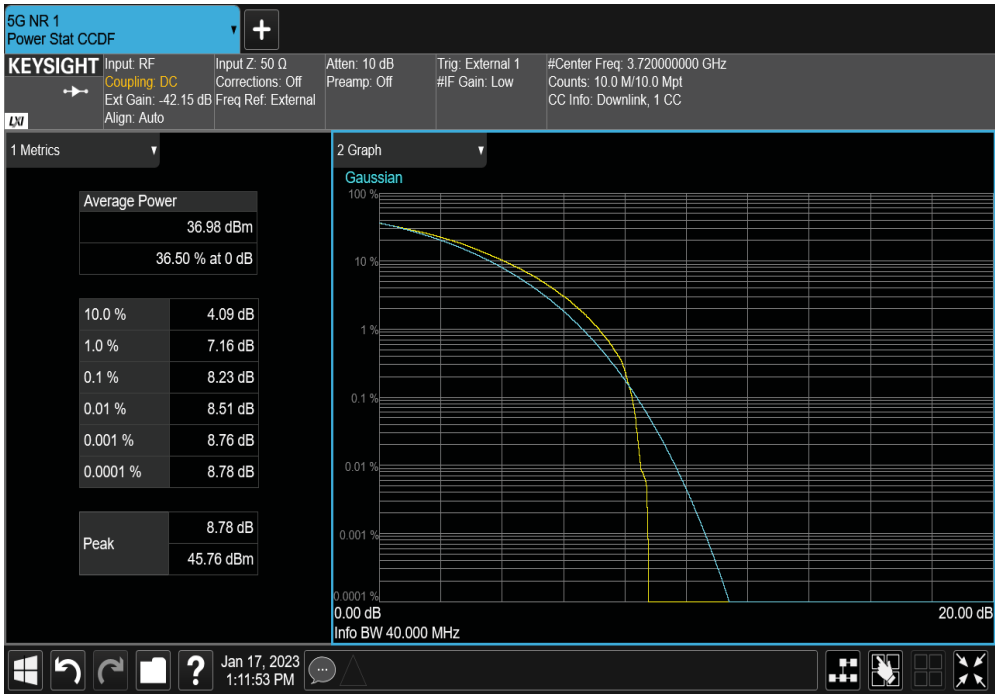
XMit 2022.02.07.0

Port 22, Single Carrier Band n77 3.7G, 3700MHz - 3980MHz, 20 MHz Bandwidth, 256-QAM Modulation, High Ch. 3969.99 MHz

				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				9.15	13	Pass

Port 22, Single Carrier Band n77 3.7G, 3700MHz - 3980MHz, 40 MHz Bandwidth, 256-QAM Modulation, Low Ch. 3720 MHz

				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				8.23	13	Pass



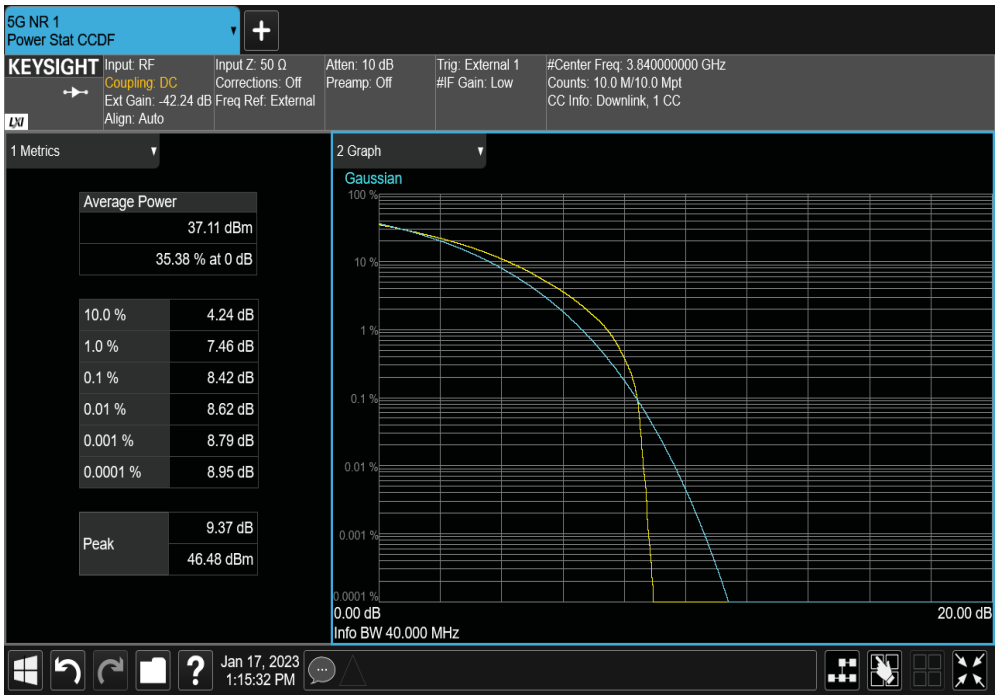
PEAK AND AVERAGE (PAPR) CCDF SINGLE 3.7G

element

XMit 2022.02.07.0

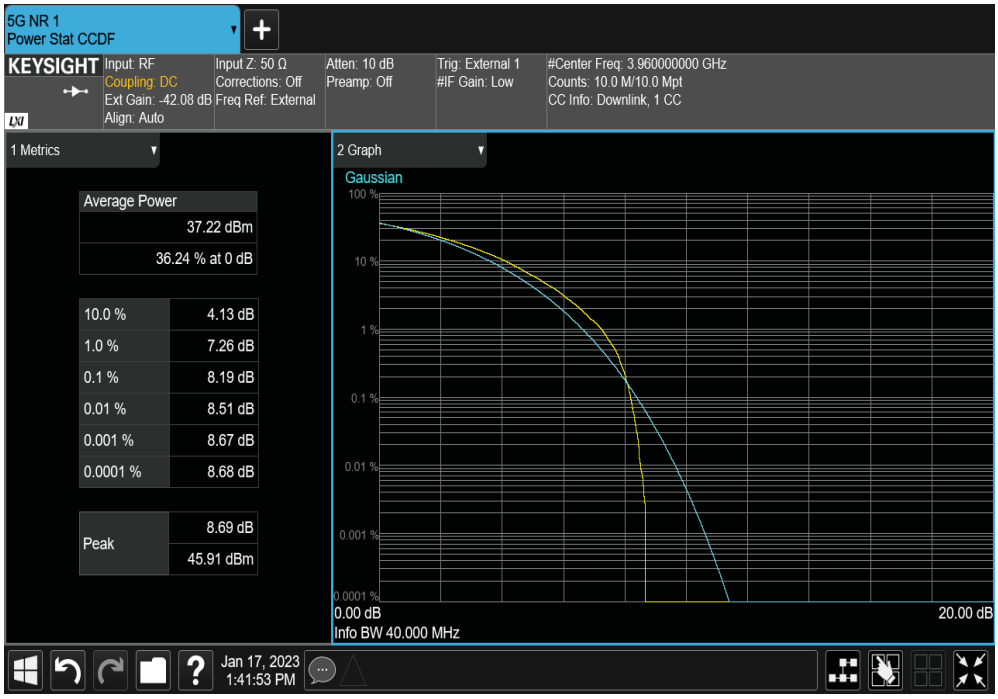
Port 22, Single Carrier Band n77 3.7G, 3700MHz - 3980MHz, 40 MHz Bandwidth, 256-QAM Modulation, Mid Ch. 3840.00 MHz

				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				8.42	13	Pass



Port 22, Single Carrier Band n77 3.7G, 3700MHz - 3980MHz, 40 MHz Bandwidth, 256-QAM Modulation, High Ch. 3960 MHz

				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				8.19	13	Pass

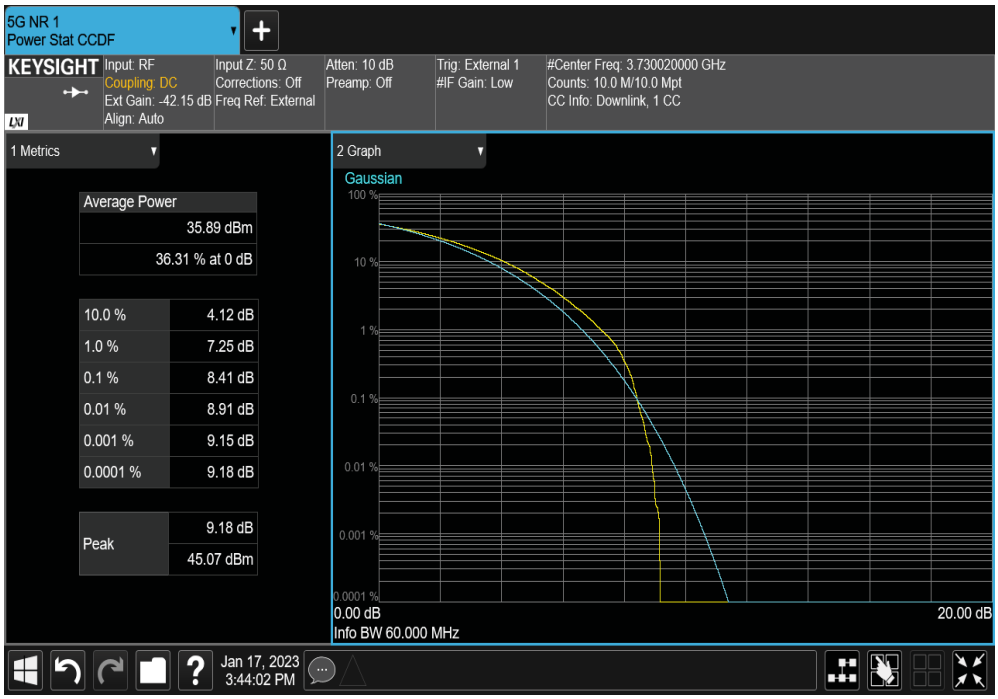


PEAK AND AVERAGE (PAPR) CCDF SINGLE 3.7G

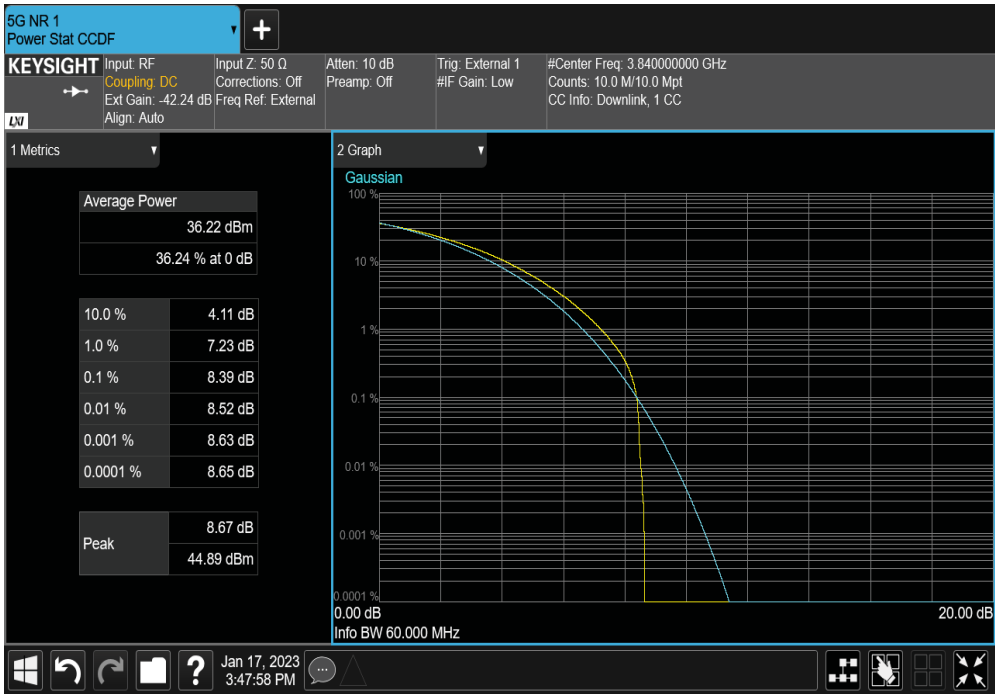
element

XMit 2022.02.07.0

Port 22, Single Carrier Band n77 3.7G, 3700MHz - 3980MHz, 60 MHz Bandwidth, 256-QAM Modulation, Low Ch. 3730.02 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				8.41	13	Pass



Port 22, Single Carrier Band n77 3.7G, 3700MHz - 3980MHz, 60 MHz Bandwidth, 256-QAM Modulation, Mid Ch. 3840.00 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				8.39	13	Pass

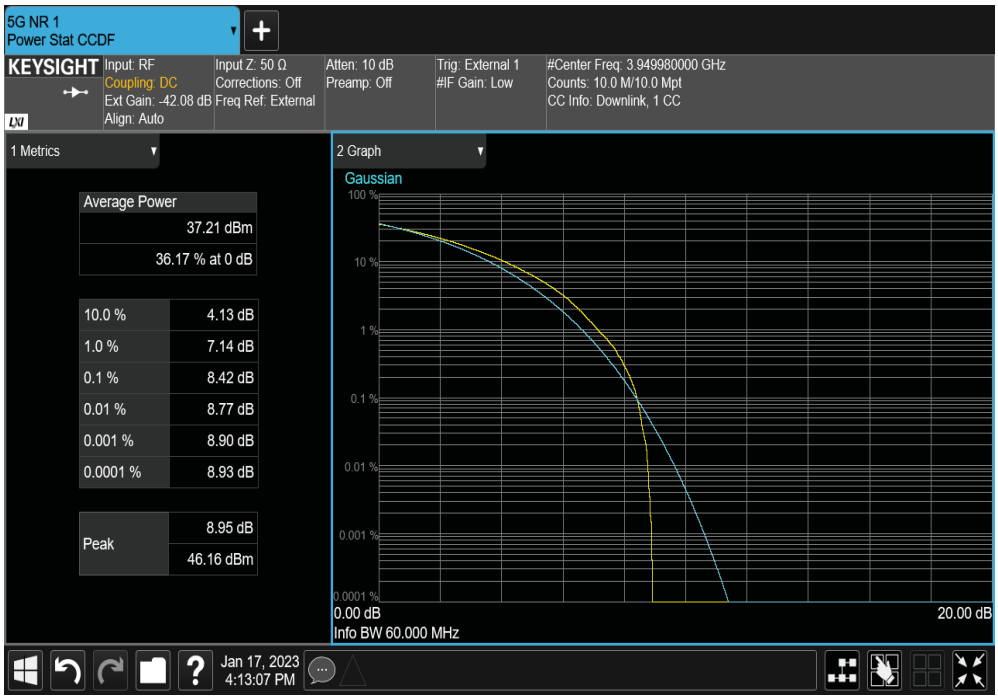


PEAK AND AVERAGE (PAPR) CCDF SINGLE 3.7G

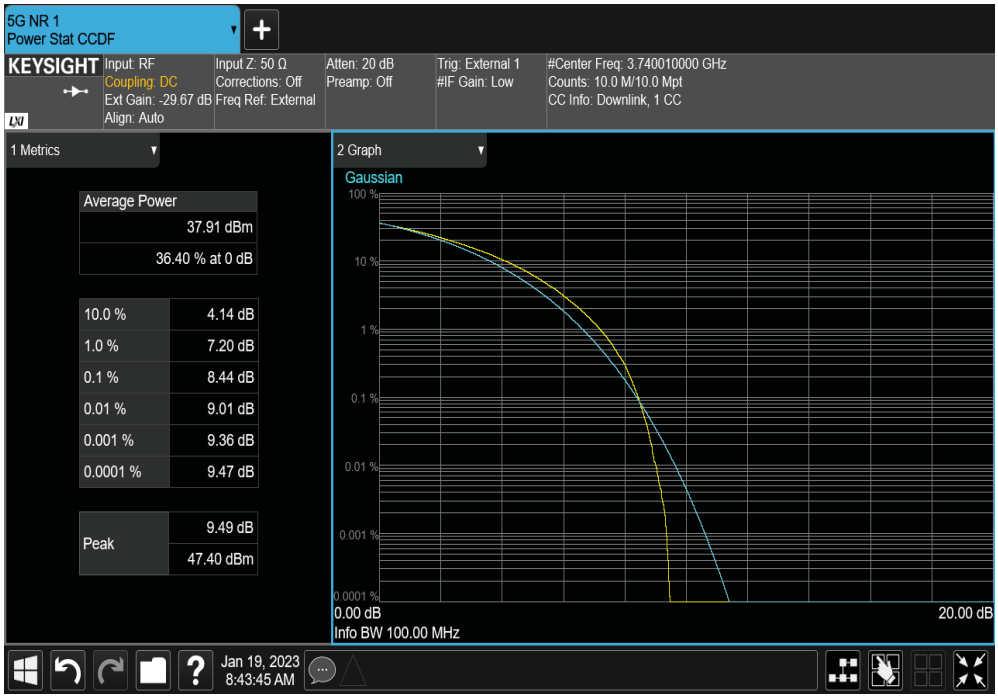
element

XMit 2022.02.07.0

Port 22, Single Carrier Band n77 3.7G, 3700MHz - 3980MHz, 60 MHz Bandwidth, 256-QAM Modulation, High Ch. 3949.98 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				8.42	13	Pass



Port 22, Single Carrier Band n77 3.7G, 3700MHz - 3980MHz, 80 MHz Bandwidth, 256-QAM Modulation, Low Ch. 3740.01 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				8.44	13	Pass

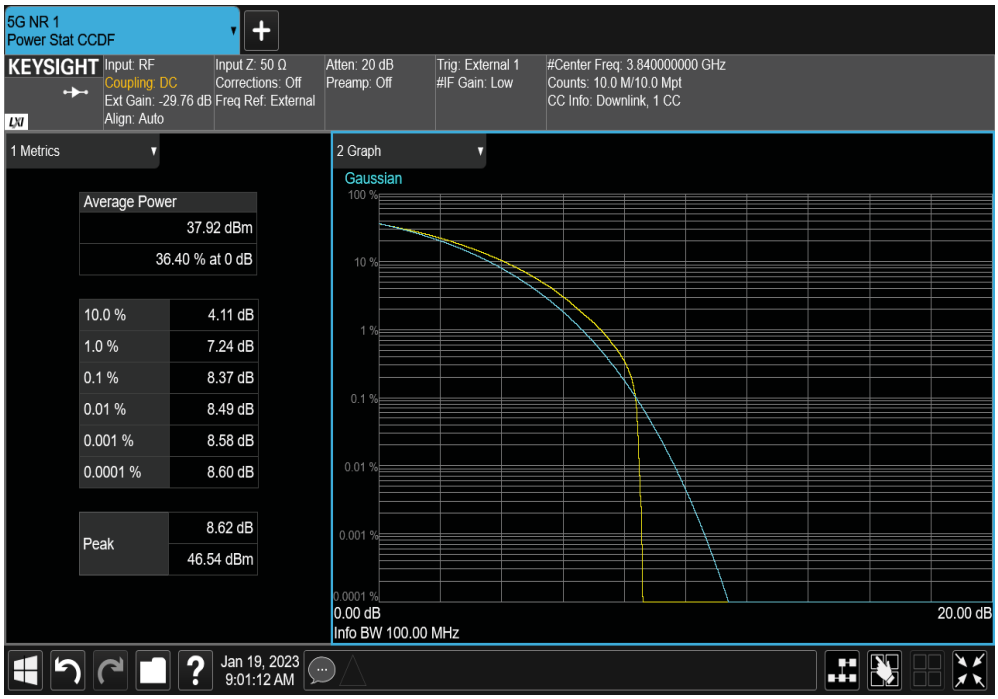


PEAK AND AVERAGE (PAPR) CCDF SINGLE 3.7G

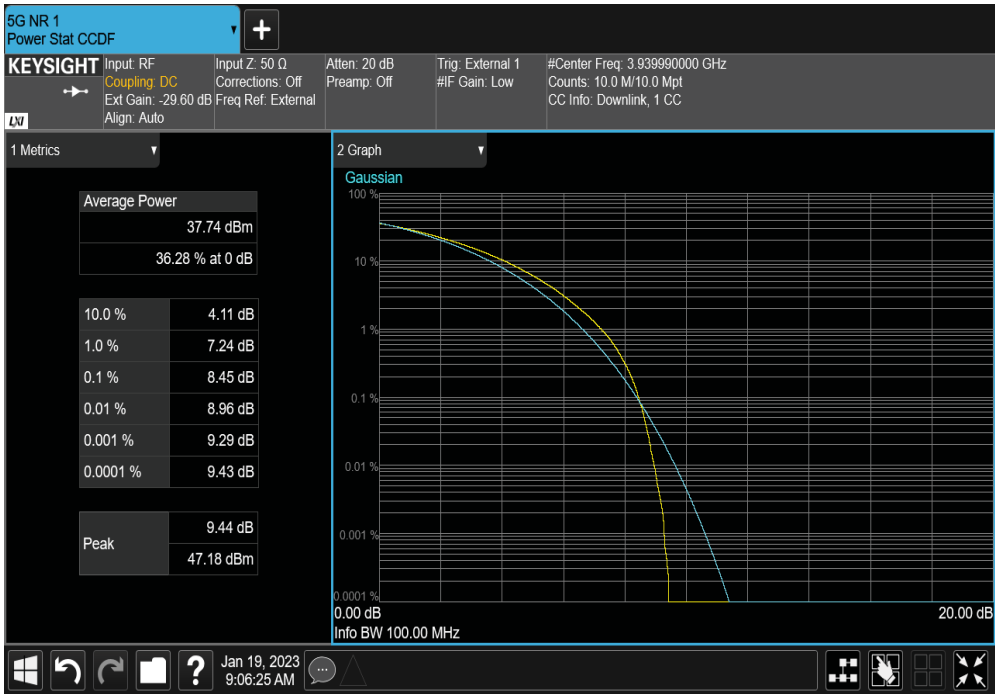
element

XMit 2022.02.07.0

Port 22, Single Carrier Band n77 3.7G, 3700MHz - 3980MHz, 80 MHz Bandwidth, 256-QAM Modulation, Mid Ch. 3840.00 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				8.37	13	Pass



Port 22, Single Carrier Band n77 3.7G, 3700MHz - 3980MHz, 80 MHz Bandwidth, 256-QAM Modulation, High Ch. 3939.99 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				8.45	13	Pass

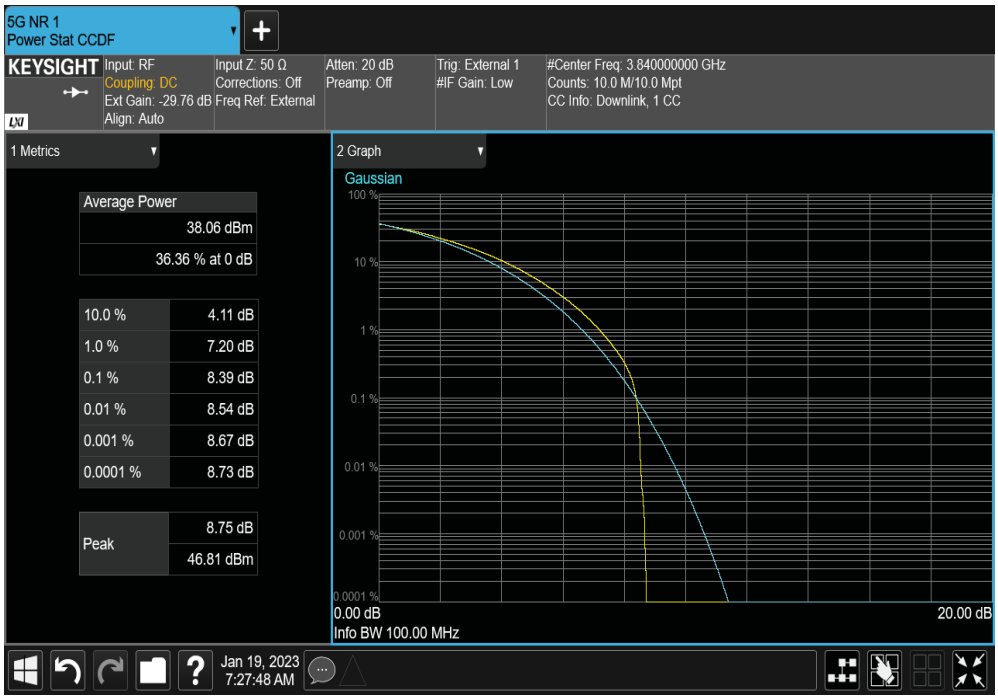


PEAK AND AVERAGE (PAPR) CCDF SINGLE 3.7G

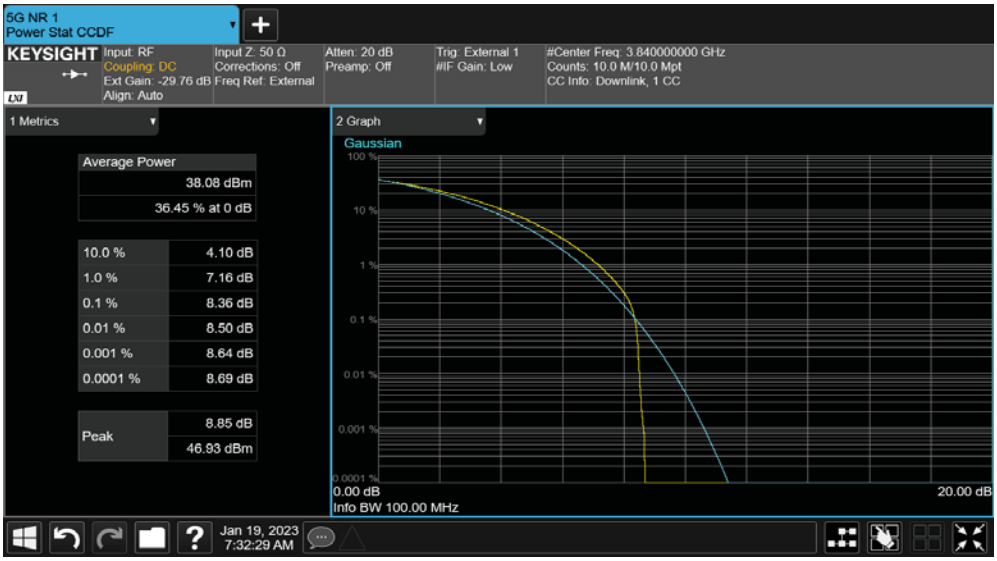
element

XMit 2022.02.07.0

Port 22, Single Carrier Band n77 3.7G, 3700MHz - 3980MHz, 100 MHz Bandwidth, QPSK Modulation, Mid Ch. 3840.00 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				8.39	13	Pass



Port 22, Single Carrier Band n77 3.7G, 3700MHz - 3980MHz, 100 MHz Bandwidth, 16-QAM Modulation, Mid Ch. 3840.00 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				8.36	13	Pass



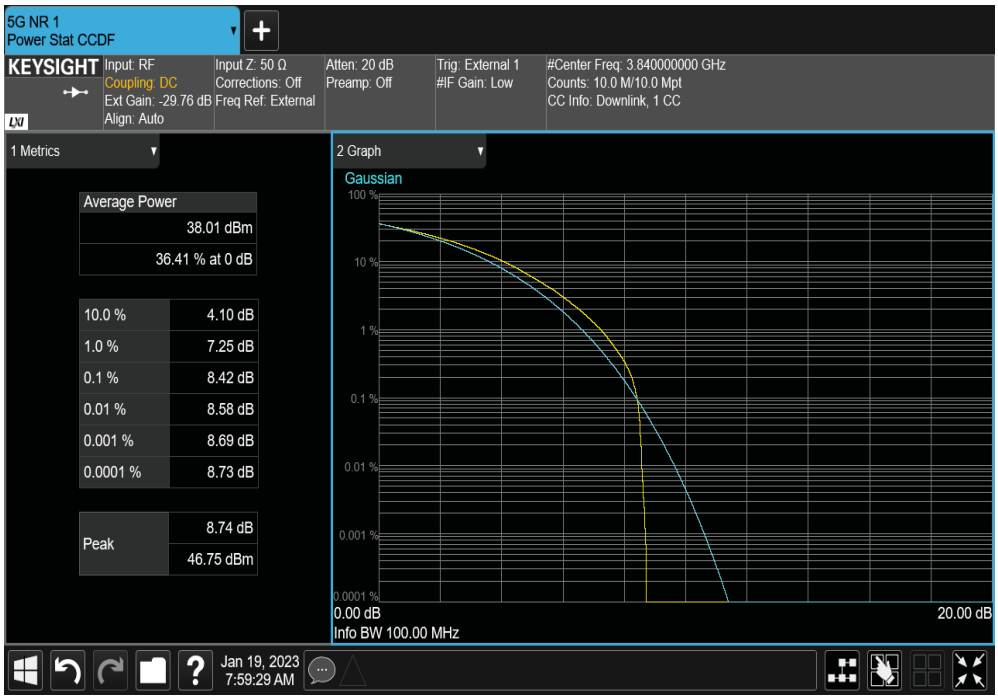
PEAK AND AVERAGE (PAPR) CCDF SINGLE 3.7G

element

XMit 2022.02.07.0

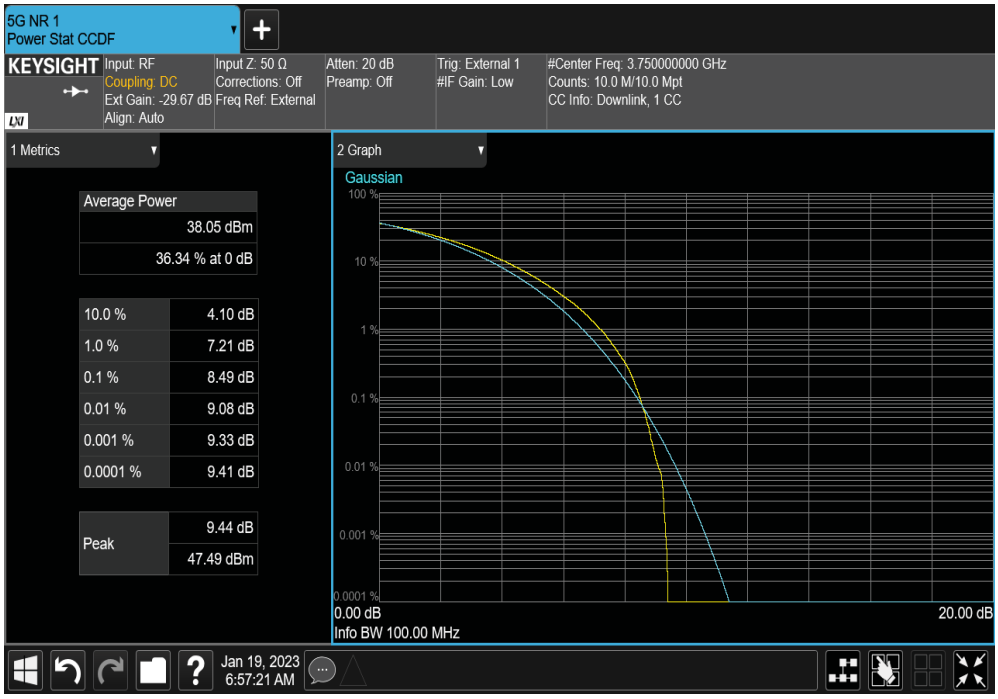
Port 22, Single Carrier Band n77 3.7G, 3700MHz - 3980MHz, 100 MHz Bandwidth, 64-QAM Modulation, Mid Ch. 3840.00 MHz

				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				8.42	13	Pass



Port 22, Single Carrier Band n77 3.7G, 3700MHz - 3980MHz, 100 MHz Bandwidth, 256-QAM Modulation, Low Ch. 3750 MHz

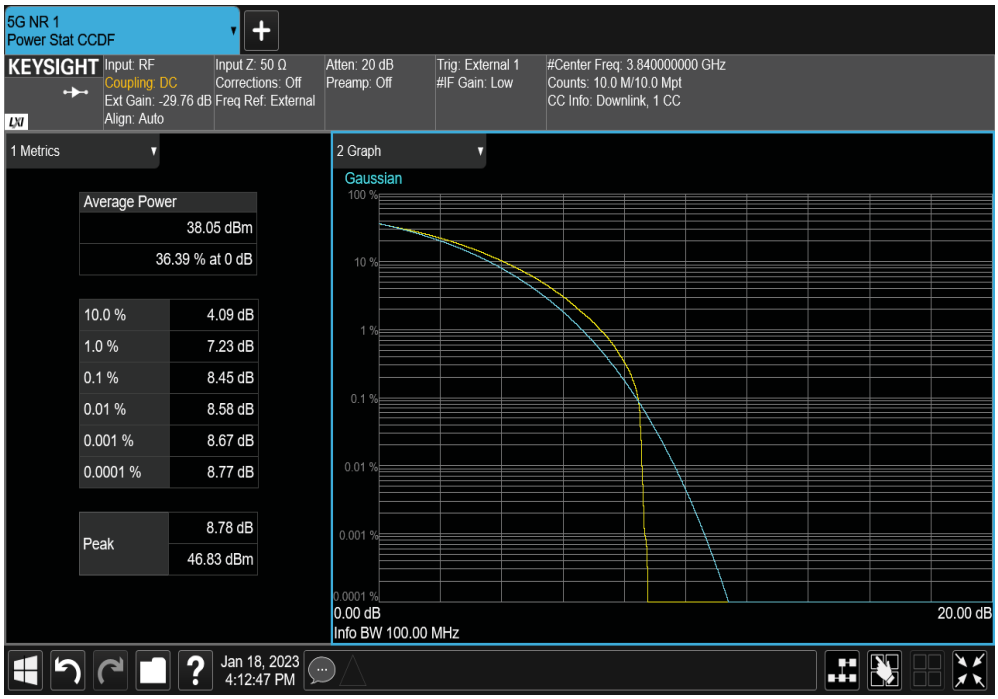
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				8.49	13	Pass



PEAK AND AVERAGE (PAPR) CCDF SINGLE 3.7G

XMit 2022.02.07.0

Port 22, Single Carrier Band n77 3.7G, 3700MHz - 3980MHz, 100 MHz Bandwidth, 256-QAM Modulation, Mid Ch. 3840.00 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				8.45	13	Pass



Port 22, Single Carrier Band n77 3.7G, 3700MHz - 3980MHz, 100 MHz Bandwidth, 256-QAM Modulation, High Ch.3930 MHz						
				0.1% PAPR Value (dB)	0.1% PAPR Limit (dB)	Result
				8.51	13	Pass