

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	Keysight	N5182B	TEV	2021-04-27	2024-04-27
Block - DC	Fairview Microwave	SD3379	AMM	2021-09-14	2022-09-14
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFQ	2022-01-17	2023-01-17

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The fundamental emission power spectral density was measured using the channels and modes as called out on the following data sheets. The transmit power was set to levels seen in the datasheet.

The method of section 5.2.4.5 of ANSI C63.26 was used to make the measurement. The method uses trace averaging across ON and OFF times of EUT transmissions using the spectrum analyzer's RMS detector. Following the measurement a duty cycle correction was applied by adding [10log(1/D)], where D is the duty cycle, to the measured power to compute the PSD during the transmit times.

RF conducted emissions testing was performed on one port. The AHFII antenna ports are essentially electrically identical (the RF power variation between antenna ports is small) and port 1 was selected to perform the testing under this effort as allowed by ANSI C63.26-2015 paragraphs 5.2.5.3, 5.7.2i and 6.4.

The total PSD of all antenna ports (at the radio output) was determined per ANSI C63.26-2015 paragraph 6.4.3.2.4.

The EIRP calculations were based upon ANSI C63.26-2015 sections 6.4.3.2.4, section 6.4.6.3, section 6.4.5.3 and section 6.4.5.2

Compliance check for EIRP Limit of 3280W/MHz or 65.16dBm/MHz:

As shown in the EIRP calculation tables in the "PSD and EIRP Calculations" report sections, the highest AHFII antenna port 1 PSD level that will not cause the calculated EIRP to exceed the EIRP limit is 41.2dBm/MHz for Band n25 and 40.9dBm/MHz for Band n66. The maximum carrier power levels were reduced by changing the carrier power parameters in the configuration file for the base station to comply with the EIRP limit.

Compliance check for EIRP Limit of 1640W/MHz or 62.15dBm/MHz:

As shown in the EIRP calculation tables in the "PSD and EIRP Calculations" report sections, the highest AHFII antenna port 1 PSD level that will not cause the calculated EIRP to exceed the EIRP limit is 38.2dBm/MHz for Band n25 and 37.9dBm/MHz for Band n66. The maximum carrier power levels were reduced by changing the carrier power parameters in the configuration file for the base station to comply with the EIRP limit.

Report No. NOKI0038 148/448



	AHFII Remote Radio Hea	ad					r: NOKI0038	
Serial Number:							e: 22-Mar-22	
	Nokia of America Corpo	ration				Temperatur		
	Mitchell Hill						/: 24.4% RH	
Project:	None					Barometric Pres	.: 1023 mbar	
	Brandon Hobbs		Power: 54			Job Sit	e: TX06	
EST SPECIFICATI	TONS		T	est Method				
CC 24E:2022			Α	NSI C63.26:2015				
SS-133 Issue 6:20	013+A1:2018		R	RSS-133 Issue 6:2013	+A1:2018			
OMMENTS								
emonstrate comp	liance with EIRP limits.	ed for in the reference level offest inc The maximum port 1 PSD Lower limit the base station calculated EIRP level	level is 38.2 dBm/MHz	for the base station	calculated EIRP			
	M TEST STANDARD							
lone								
Configuration #	2	Signature	Z-Z	Jan				
Configuration #	2	Signature	J-4	Initial Value dBm/MHz == PSD	Duty Cycle Factor (dB)	Single Port dBm/MHz == PS	Limit D (dBm/MHz)	Results
Port 1, Band n25, 19	930 MHz - 1995 MHz, 5G I		J					Results
Port 1, Band n25, 19	930 MHz - 1995 MHz, 5G I 256-QAM Modulation	NR	J. J.					Results
Port 1, Band n25, 19	930 MHz - 1995 MHz, 5G I	NR er	J.A.					Results
Port 1, Band n25, 19	930 MHz - 1995 MHz, 5G I 256-QAM Modulation	NR er 5 MHz Bandwidth, Low Limit		dBm/MHz == PSD	Factor (dB)	dBm/MHz == PS	D (dBm/MHz)	
Port 1, Band n25, 19	930 MHz - 1995 MHz, 5G I 256-QAM Modulation	NR er 5 MHz Bandwidth, Low Limit Low Channel, 1932.5 MHz						Results Pass
Port 1, Band n25, 19	930 MHz - 1995 MHz, 5G I 256-QAM Modulation	NR er 5 MHz Bandwidth, Low Limit Low Channel, 1932.5 MHz 5 MHz Bandwidth, High Limit	z	dBm/MHz == PSD 37.725	Factor (dB)	dBm/MHz == PS 37.7	D (dBm/MHz) 38.2	Pass
Port 1, Band n25, 19	930 MHz - 1995 MHz, 5G I 256-QAM Modulation Single Carrie	NR er 5 MHz Bandwidth, Low Limit Low Channel, 1932.5 MHz	z	dBm/MHz == PSD	Factor (dB)	dBm/MHz == PS	D (dBm/MHz)	
Port 1, Band n25, 19	930 MHz - 1995 MHz, 5G I 256-QAM Modulation	NR 5 MHz Bandwidth, Low Limit Low Channel, 1932.5 MHz 5 MHz Bandwidth, High Limit Low Channel, 1932.5 MHz	z	dBm/MHz == PSD 37.725	Factor (dB)	dBm/MHz == PS 37.7	D (dBm/MHz) 38.2	Pass
Port 1, Band n25, 19	930 MHz - 1995 MHz, 5G I 256-QAM Modulation Single Carrie 16-QAM Modulation	NR 97 5 MHz Bandwidth, Low Limit	z z	37.725 40.664	Factor (dB) 0 0	dBm/MHz == PS 37.7 40.7	38.2 41.2	Pass Pass
Port 1, Band n25, 19	930 MHz - 1995 MHz, 5G I 256-QAM Modulation Single Carrie 16-QAM Modulation	NR 5 MHz Bandwidth, Low Limit	z z	dBm/MHz == PSD 37.725	Factor (dB)	dBm/MHz == PS 37.7	D (dBm/MHz) 38.2	Pass
Port 1, Band n25, 19	930 MHz - 1995 MHz, 5G I 256-QAM Modulation Single Carrie 16-QAM Modulation	NR 5 MHz Bandwidth, Low Limit	z z	37.725 40.664 37.772	0 0	dBm/MHz == PS 37.7 40.7 37.8	38.2 38.2 38.2	Pass Pass Pass
Port 1, Band n25, 19	930 MHz - 1995 MHz, 5G I 256-QAM Modulation Single Carrie 16-QAM Modulation	NR 91 5 MHz Bandwidth, Low Limit Low Channel, 1932.5 MHz 5 MHz Bandwidth, High Limit Low Channel, 1932.5 MHz 91 10 MHz Bandwidth, Low Limit Mid Channel, 1962.5 MHz Mid Channel, 1962.5 MHz Mid Channel, 1962.5 MHz	z z	37.725 40.664	Factor (dB) 0 0	dBm/MHz == PS 37.7 40.7	38.2 41.2	Pass Pass
Port 1, Band n25, 19	930 MHz - 1995 MHz, 5G I 256-QAM Modulation Single Carrie 16-QAM Modulation	NR 5 MHz Bandwidth, Low Limit	z z z	37.725 40.664 37.772	0 0	dBm/MHz == PS 37.7 40.7 37.8	38.2 38.2 38.2	Pass Pass Pass

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Port 1, Band n25, 1930 MHz - 1995 MHz, 5G NR, 256-QAM Modulation, Single Carrier, 5 MHz Bandwidth, Low Limit , Low Channel, 1932.5 MHz

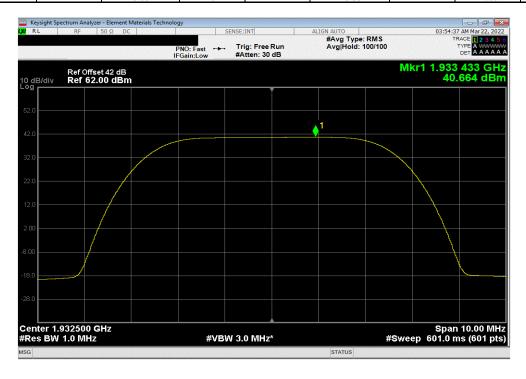
Initial Value Duty Cycle Single Port Limit

dBm/MHz == PSD Factor (dB) dBm/MHz == PSD (dBm/MHz) Results

37.725 0 37.73 38.2 Pass



Port 1, Band	n25, 1930 MHz - 1995 MHz, 5G N	NR, 256-QAM Mo	dulation, Single Carrier, 5 MHz Bandv	vidth, High Limit,	Low Channel, 193	32.5 MHz
	Initial Value	Duty Cycle	Single Port	Limit		
	dBm/MHz == PSD	Factor (dB)	dBm/MHz == PSD	(dBm/MHz)	Results	
	40.664	0	40.66	41.2	Pass	



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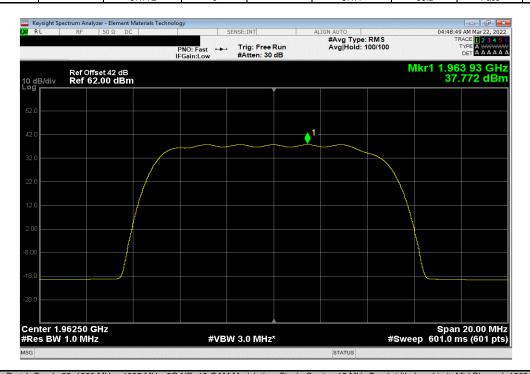


Port 1, Band n25, 1930 MHz - 1995 MHz, 5G NR, 16-QAM Modulation, Single Carrier, 10 MHz Bandwidth, Low Limit, Mid Channel, 1962.5 MHz

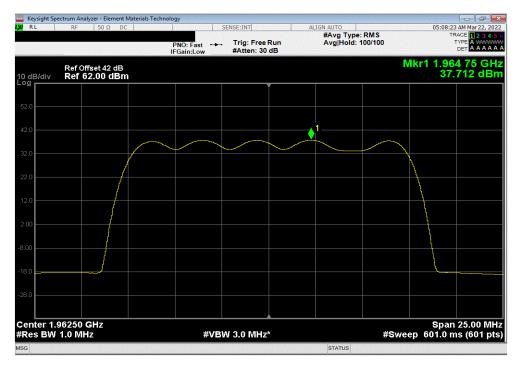
Initial Value Duty Cycle Single Port Limit

dBm/MHz == PSD Factor (dB) dBm/MHz == PSD (dBm/MHz) Results

37.772 0 37.77 38.2 Pass



Port 1, Band	n25, 1930 MHZ - 1995 MHZ, 5G N	IR, 16-QAM MOC	dulation, Single Carrier, 15 MHz Bandw	idth, Low Limit,	iviid Channei, 196	2.5 IVIHZ
	Initial Value	Duty Cycle	Single Port	Limit		
	dBm/MHz == PSD	Factor (dB)	dBm/MHz == PSD	(dBm/MHz)	Results	
	37.712	0	37.71	38.2	Pass	



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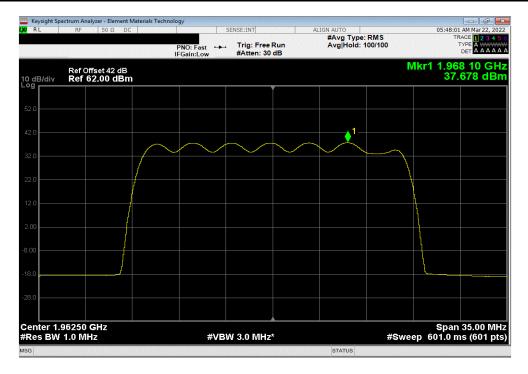


Port 1, Band n25, 1930 MHz - 1995 MHz, 5G NR, 16-QAM Modulation, Single Carrier, 20 MHz Bandwidth, Low Limit, Mid Channel, 1962.5 MHz

Initial Value Duty Cycle Single Port Limit

dBm/MHz == PSD Factor (dB) dBm/MHz == PSD (dBm/MHz) Results

37.678 0 37.68 38.2 Pass



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## BUT AMFIR Remote Radio Head Work Order: NOK10038 NOK10038 NOK10038 Notice 2x4m-2z									
Customer: Notik of America Corporation			ıd						
## Attendess: Mitchell Hill ## Dever St VDC Barometric Press; 1026 mbar Tested by; Mark Baytan Power; St VDC Job Sites TX09 Test Method									
Project None			ration						
Tested by: Mark Baytan									
TEST SPECIFICATIONS ANSI-CS 27:202 ANSI-CS 32:2015 RSS-139 Issue 3:2015 RSS-170 Issue 3:2015 RSS-170 Issue 3:2015 RSS-170 Issue 3:2015 RSS-170 Issue 3:2015 All measurement path losses were accounted for in the reference level offest including any attenuators, filters and DC blocks. The Band n66 NR5, NR10, NR15 and NR20 carrier power levels were reduced to demonstrate compliance with EIRP limits. The maximum port 1 PSD Lower limit level is 37.9 dBm/MHz is 40.9 dBm/MHz for the base station calculated EIRP level not to exceed the EIRP limit (1640Watts/MHz). The maximum port 1 PSD bigher limit level is 40.9 dBm/MHz for the base station calculated EIRP level not to exceed the EIRP limit (1640Watts/MHz). The maximum port 1 PSD bigher limit level is 40.9 dBm/MHz for the base station calculated EIRP level not to exceed the EIRP limit (1640Watts/MHz). The maximum port 1 PSD bigher limit level is 40.9 dBm/MHz for the base station calculated EIRP level not to exceed the EIRP limit (1640Watts/MHz). The maximum port 1 PSD bigher limit level is 40.9 dBm/MHz for the base station calculated EIRP level not to exceed the EIRP limit (1640Watts/MHz). The maximum port 1 PSD bigher limit level is 40.9 dBm/MHz for the base station calculated EIRP level not to exceed the EIRP limit (1640Watts/MHz). The maximum port 1 PSD bigher limit (1640Watts/MHz).									
ANSI C63_26-2015 RSS-139 Issue 3:2015 R				Po			Job Sit	: TX09	
RSS-139 Issue 3:2015 RSS-170 I		TONS							
RSS-170 Issue 3:2015 COMMENTS All measurement path losses were accounted for in the reference level offest including any attenuators, filters and DC blocks. The Band n66 NR5, NR10, NR15 and NR20 carrier power levels were reduced to demonstrate compliance with EIRP limits. The maximum port 1 PSD Lower limit level is 37.9 dBm/MHz for the base station calculated EIRP level not to exceed the EIRP limit (1640Watts/MHz). The maximum port 1 PSD higher limit level is 40.9 dBm/MHz for the base station calculated EIRP level not to exceed the EIRP limit (1640Watts/MHz). The maximum port 1 PSD higher limit level is 40.9 dBm/MHz are PSD by dBm									
All measurement path losses were accounted for in the reference level offest including any attenuators, filters and DC blocks. The Band n66 NR5, NR10, NR15 and NR20 carrier power levels were reduced to demonstrate compliance with EIRP limit. The maximum port 1 PSD Lower limit level is 37.9 dBm/MHz for the base station calculated EIRP level not to exceed the EIRP limit (1640Watts/MHz). The maximum port 1 PSD higher limit level is 40.9 dBm/MHz for the base station calculated EIRP level not to exceed the EIRP limit (1640Watts/MHz). The maximum port 1 PSD higher limit level is 40.9 dBm/MHz for the base station calculated EIRP level not to exceed the EIRP limit (1640Watts/MHz). The maximum port 1 PSD higher limit level is 40.9 dBm/MHz for the base station calculated EIRP level not to exceed the EIRP limit (1640Watts/MHz). The maximum port 1 PSD higher limit (1640Watts/MHz) and the EIRP limit (1640Watts/MHz). The maximum port 1 PSD higher limit (1640Watts/MHz) and the EIRP limit (1640Watts/MHz). The maximum port 1 PSD higher limit (1640Watts/MHz) and the EIRP limit (1640Watts/MHz). The maximum port 1 PSD higher limit (1640Watts/MHz).									
All measurement path losses were accounted for in the reference level offest including any attenuators, filters and DC blocks. The Band n66 NR5, NR10, NR15 and NR20 carrier power levels were reduced to demonstrate compliance with EIRP limits. The maximum port 1 PSD Lower limit level is 37.9 dBm/MHz for the base station calculated EIRP level not to exceed the EIRP limit (1640Watts/MHz). The maximum port 1 PSD higher limit level is 40.9 dBm/MHz for the base station calculated EIRP level not to exceed the EIRP limit (3280 Watts/MHz). DEVIATIONS FROM TEST STANDARD None Configuration # 2 Signature Initial Value dBm/MHz == PSD Factor (dB) Duty Cycle Single Port dBm/MHz == PSD Each (dBm/MHz == PSD Each (dBm/MHz) Each (dBm/MH		015			RSS-170 Issue 3:201	15			
demonstrate compliance with EIRP limits. The maximum port 1 PSD Lower limit level is 37.9 dBm/MHz for the base station calculated EIRP level not to exceed the EIRP limit (1640Watts/MHz). The maximum port 1 PSD higher limit level is 40.9 dBm/MHz for the base station calculated EIRP level not to exceed the EIRP limit (3280 Watts/MHz). DEVIATIONS FROM TEST STANDARD None Configuration # 2 Signature Initial Value dBm/MHz == PSD Factor (dB) Duty Cycle Single Port dBm/MHz == PSD Factor (dB) Single Carrier Single Carrier 5 MHz Bandwidth, Low Limit Low Channel, 2112.5 MHz Low Channel, 2112.5 MHz Low Channel, 2112.5 MHz Low Channel, 2112.5 MHz Single Carrier 100 MHz Bandwidth, Low Limit Low Channel, 2155.0 MHz Mid Channel, 2155.0 MHz Mid Channel, 2155.0 MHz Mid Channel, 2155.0 MHz Single Carrier 10 MHz Bandwidth, Low Limit Mid Channel, 2155.0 MHz Mid	COMMENTS								
PSD higher limit level is 40.9 dBm/MHz for the base station calculated EIRP level not to exceed the EIRP limit (3280 Watts/MHz). DEVIATIONS FROM TEST STANDARD	All measurement p	oath losses were accounted	d for in the reference level offes	t including any attenu	ators, filters and DC block	s. The Band n66	NR5, NR10, NR15 and NR20 carrier	power levels were re	educed to
PSD higher limit level is 40.9 dBm/MHz for the base station calculated EIRP level not to exceed the EIRP limit (3280 Watts/MHz). DEVIATIONS FROM TEST STANDARD	demonstrate comp	oliance with EIRP limits. T	he maximum port 1 PSD Lower I	imit level is 37.9 dBm/	/MHz for the base station of	calculated EIRP I	evel not to exceed the EIRP limit (16	40Watts/MHz). The n	naximum port 1
DEVIATIONS FROM TEST STANDARD None Configuration # 2 Signature Duty Cycle Single Port Limit dBm/MHz == PSD Factor (dB) dBm/MHz == PSD ddBm/MHz == PSD ddBm/MHz == PSD ddBm/MHz Results								,	
Signature Sign									
Configuration # 2 Signature Signatur									
Initial Value Bun/MHz == PSD	None								
Initial Value Bun/MHz == PSD	None	I		11	_				
Results		2		MA	34				
Port 1, Band n66, 2110 MHz - 2200 MHz, 5G NR QPSK Modulation Single Carrier 5 MHz Bandwidth, Low Limit Low Channel, 2112.5 MHz Low Channel, 2112.5 MHz Low Channel, 2112.5 MHz 16-QAM Modulation Single Carrier 10 MHz Bandwidth, Low Limit Mid Channel, 2155.0 MHz 37.601 37.405		2	Signature	MA	S,+				
QPSK Modulation Single Carrier 5 MHz Bandwidth, Low Limit Low Channel, 2112.5 MHz 5 MHz Bandwidth, High Limit Low Channel, 2112.5 MHz 40.491 0 40.5 40.5 40.9 Pass 16-QAM Modulation Single Carrier 10 MHz Bandwidth, Low Limit Mid Channel, 2155.0 MHz 37.601 0 37.6 37.9 Pass 15 MHz Bandwidth, Low Limit Mid Channel, 2155.0 MHz 37.405 0 37.4 37.9 Pass		2	Signature	MA		Duty Cycle	Single Port	Limit	
Single Carrier S MHz Bandwidth, Low Limit Low Channel, 2112.5 MHz 37.505 0 37.5 37.9 Pass 5 MHz Bandwidth, High Limit Uow Channel, 2112.5 MHz 40.491 0 40.5 40.9 Pass 16-QAM Modulation Single Carrier 10 MHz Bandwidth, Low Limit Mid Channel, 2155.0 MHz 37.601 0 37.6 37.9 Pass 15 MHz Bandwidth, Low Limit Mid Channel, 2155.0 MHz 37.405 0 37.4 37.9 Pass 40.5 40.9 Pass 40.5 Pass 4		2	Signature	MA	Initial Value				Results
5 MHz Bandwidth, Low Limit Low Channel, 2112.5 MHz 37.505 0 37.5 37.9 Pass 5 MHz Bandwidth, High Limit Low Channel, 2112.5 MHz 40.491 0 40.5 40.9 Pass 16-QAM Modulation Single Carrier 10 MHz Bandwidth, Low Limit Mid Channel, 2155.0 MHz 37.601 0 37.6 37.9 Pass 15 MHz Bandwidth, Low Limit Mid Channel, 2155.0 MHz 37.405 0 37.4 37.9 Pass 20 MHz Bandwidth, Low Limit	Configuration #		Signature	Mk	Initial Value				Results
Low Channel, 2112.5 MHz 37.505 0 37.5 37.9 Pass 5 MHz Bandwidth, High Limit	Configuration # Port 1, Band n66, 21	110 MHz - 2200 MHz, 5G N	Signature	MA	Initial Value				Results
5 MHz Bandwidth, High Limit Low Channel, 2112.5 MHz 40.491 0 40.5 40.9 Pass 16-QAM Modulation Single Carrier 10 MHz Bandwidth, Low Limit Mid Channel, 2155.0 MHz 37.601 0 37.6 37.9 Pass 15 MHz Bandwidth, Low Limit Mid Channel, 2155.0 MHz 37.405 0 37.4 37.9 Pass 20 MHz Bandwidth, Low Limit	Configuration # Port 1, Band n66, 21	110 MHz - 2200 MHz, 5G N QPSK Modulation	Signature R	MA	Initial Value				Results
Low Channel, 2112.5 MHz 40.491 0 40.5 40.9 Pass 16-QAM Modulation Single Carrier 10 MHz Bandwidth, Low Limit Mid Channel, 2155.0 MHz 37.601 0 37.6 37.9 Pass 15 MHz Bandwidth, Low Limit Mid Channel, 2155.0 MHz 37.405 0 37.4 37.9 Pass 20 MHz Bandwidth, Low Limit	Configuration # Port 1, Band n66, 21	110 MHz - 2200 MHz, 5G N QPSK Modulation	Signature R	MA	Initial Value				Results
16-QAM Modulation Single Carrier 10 MHz Bandwidth, Low Limit Mid Channel, 2155.0 MHz 37.601 0 37.6 37.9 Pass 15 MHz Bandwidth, Low Limit	Configuration # Port 1, Band n66, 21	110 MHz - 2200 MHz, 5G N QPSK Modulation	Signature R er 5 MHz Bandwidth, Low Limit		Initial Value dBm/MHz == PSD	Factor (dB)	dBm/MHz == PS	D (dBm/MHz)	
Single Carrier 10 MHz Bandwidth, Low Limit 10 MHz Bandwidth, Low Limit 37.601 0 37.6 37.9 Pass 15 MHz Bandwidth, Low Limit Mid Channel, 2155.0 MHz 37.405 0 37.4 37.9 Pass 20 MHz Bandwidth, Low Limit 4 37.405 0 37.4 37.9 Pass	Configuration # Port 1, Band n66, 21	110 MHz - 2200 MHz, 5G N QPSK Modulation Single Carrie	Signature R or 5 MHz Bandwidth, Low Limit Low Channel, 2112.		Initial Value dBm/MHz == PSD	Factor (dB)	dBm/MHz == PS	D (dBm/MHz)	
10 MHz Bandwidth, Low Limit Mid Channel, 2155.0 MHz 15 MHz Bandwidth, Low Limit Mid Channel, 2155.0 MHz 37.601 0 37.6 37.9 Pass 15 MHz Bandwidth, Low Limit 0 37.4 37.9 Pass 20 MHz Bandwidth, Low Limit	Configuration # Port 1, Band n66, 21	110 MHz - 2200 MHz, 5G N QPSK Modulation Single Carrie	Signature R 5 MHz Bandwidth, Low Limit Low Channel, 2112. 5 MHz Bandwidth, High Limit	5 MHz	Initial Value dBm/MHz == PSD 37.505	Factor (dB)	dBm/MHz == PS 37.5	37.9	Pass
Mid Channel, 2155.0 MHz 37.601 0 37.6 37.9 Pass 15 MHz Bandwidth, Low Limit Mid Channel, 2155.0 MHz 37.405 0 37.4 37.9 Pass 20 MHz Bandwidth, Low Limit	Configuration #	110 MHz - 2200 MHz, 5G N QPSK Modulation Single Carrie	Signature R 5 MHz Bandwidth, Low Limit Low Channel, 2112. 5 MHz Bandwidth, High Limit	5 MHz	Initial Value dBm/MHz == PSD 37.505	Factor (dB)	dBm/MHz == PS 37.5	37.9	Pass
15 MHz Bandwidth, Low Limit Mid Channel, 2155.0 MHz 37.405 0 37.4 37.9 Pass 20 MHz Bandwidth, Low Limit	Configuration #	110 MHz - 2200 MHz, 5G N QPSK Modulation Single Carrie	Signature R 6 MHz Bandwidth, Low Limit Low Channel, 2112. 5 MHz Bandwidth, High Limit Low Channel, 2112.	5 MHz	Initial Value dBm/MHz == PSD 37.505	Factor (dB)	dBm/MHz == PS 37.5	37.9	Pass
Mid Channel, 2155.0 MHz 37.405 0 37.4 37.9 Pass 20 MHz Bandwidth, Low Limit	Configuration #	110 MHz - 2200 MHz, 5G N QPSK Modulation Single Carrie	Signature R er 5 MHz Bandwidth, Low Limit Low Channel, 2112. 5 MHz Bandwidth, High Limit Low Channel, 2112. er 10 MHz Bandwidth, Low Limit	5 MHz 5 MHz	Initial Value dBm/MHz == PSD 37.505	Factor (dB)	dBm/MHz == PS 37.5	D (dBm/MHz) 37.9 40.9	Pass Pass
20 MHz Bandwidth, Low Limit	Configuration #	110 MHz - 2200 MHz, 5G N QPSK Modulation Single Carrie	Signature R f 5 MHz Bandwidth, Low Limit	5 MHz 5 MHz	Initial Value dBm/MHz == PSD 37.505 40.491	O 0	dBm/MHz == PS 37.5 40.5	D (dBm/MHz) 37.9 40.9	Pass Pass
	Configuration #	110 MHz - 2200 MHz, 5G N QPSK Modulation Single Carrie	Signature R 5 MHz Bandwidth, Low Limit Low Channel, 2112. 5 MHz Bandwidth, High Limit Low Channel, 2112. er 10 MHz Bandwidth, Low Limit Mid Channel, 2155.0 15 MHz Bandwidth, Low Limit	5 MHz 5 MHz 0 MHz	Initial Value dBm/MHz == PSD 37.505 40.491	O 0	dBm/MHz == PS 37.5 40.5 37.6	37.9 40.9	Pass Pass
Mid Channel, 2155.0 MHz 37.31 0 37.3 37.9 Pass	Configuration #	110 MHz - 2200 MHz, 5G N QPSK Modulation Single Carrie 16-QAM Modulation Single Carrie	Signature R If S MHz Bandwidth, Low Limit Low Channel, 2112. If MHz Bandwidth, High Limit Low Channel, 2112. If MHz Bandwidth, Low Limit Mid Channel, 2155. If MHz Bandwidth, Low Limit Mid Channel, 2155.0	5 MHz 5 MHz 0 MHz	Initial Value dBm/MHz == PSD 37.505 40.491	0 0	dBm/MHz == PS 37.5 40.5 37.6	37.9 40.9	Pass Pass Pass
	Configuration #	110 MHz - 2200 MHz, 5G N QPSK Modulation Single Carrie 16-QAM Modulation Single Carrie	Signature R If S MHz Bandwidth, Low Limit Low Channel, 2112. If MHz Bandwidth, High Limit Low Channel, 2112. If MHz Bandwidth, Low Limit Mid Channel, 2155. If MHz Bandwidth, Low Limit Mid Channel, 2155.0	5 MHz 5 MHz 0 MHz	Initial Value dBm/MHz == PSD 37.505 40.491 37.601 37.405	0 0	dBm/MHz == PS 37.5 40.5 37.6	37.9 40.9 37.9 37.9	Pass Pass Pass

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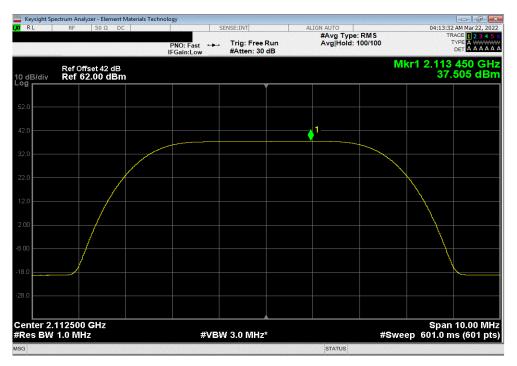


Port 1, Band n66, 2110 MHz - 2200 MHz, 5G NR, QPSK Modulation, Single Carrier, 5 MHz Bandwidth, Low Limit , Low Channel, 2112.5 MHz

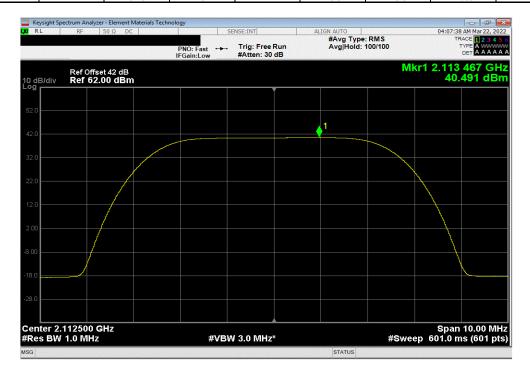
Initial Value Duty Cycle Single Port Limit

dBm/MHz == PSD Factor (dB) dBm/MHz == PSD (dBm/MHz) Results

37.505 0 37.5 37.9 Pass

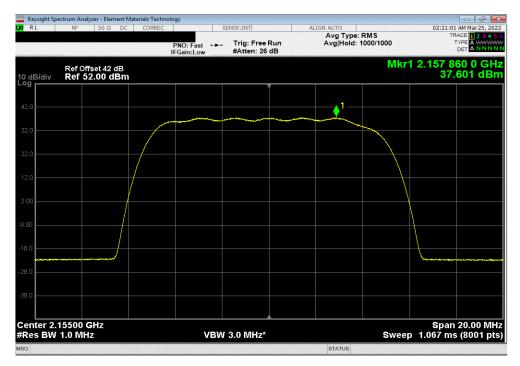


Port 1, Band n66, 2110 MHz	- 2200 MHz, 5G	NR, QPSK Modu	ulation, Single Ca	rrier, 5 MHz Band	width, High Limit	t, Low Channel, 2	112.5 MHz
	Initial Value	Duty Cycle		Single Port	Limit		
	dBm/MHz == PSD	Factor (dB)		dBm/MHz == PSD	(dBm/MHz)	Results	
	40.491	0		40.5	40.9	Pass	



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Port 1, Band n66, 2110 MHz -	· 2200 MHz, 5G N	IR, 16-QAM Mod	lulation, Single Carri	er, 15 MHz Baı	ndwidth, Low Lin	nit, Mid Channel,	2155.0 MHz
	Initial Value	Duty Cycle		Single Port	Limit		
	dBm/MHz == PSD	Factor (dB)	dE	Bm/MHz == PSD	(dBm/MHz)	Results	
	37.405	0		37.4	37.9	Pass	



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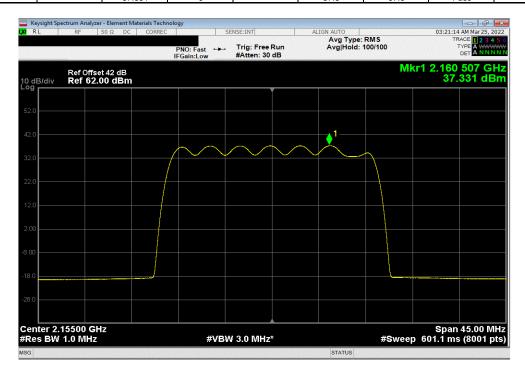


Port 1, Band n66, 2110 MHz - 2200 MHz, 5G NR, 16-QAM Modulation, Single Carrier, 20 MHz Bandwidth, Low Limit, Mid Channel, 2155.0 MHz

Initial Value Duty Cycle Single Port Limit

dBm/MHz == PSD Factor (dB) dBm/MHz == PSD (dBm/MHz) Results

37.331 0 37.9 Pass



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XMit 2020.12.30.0

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
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFQ	2022-01-17	2023-01-17
Block - DC	Fairview Microwave	SD3379	AMM	2021-09-14	2022-09-14
Spectrum Analyzer	Agilent Technologies, Inc.	N9020A	R316	2021-08-19	2023-08-19

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 24.232(d) and RSS 133 6.4, the PAPR limit shall not exceed 13 dB for more than the ANSI described 0.1% of the time.

Per FCC part 27.50(d)(5), RSS-139 6.5, and RSS-170 5.3.1, the maximum peak-to-average power ratio (PAPR) is 13dB.

RF conducted emissions testing was performed only on one port. The testing was performed on the same version of hardware (AHFII) as the original certification test. The AHFII antenna ports are essentially electrically identical (the RF power variation between antenna ports is small as shown in this certification testing) and antenna port 1 was selected to perform the testing under this effort as allowed by ANSI C63.26-2015 paragraphs 5.2.5.3, 5.7.2i, and 6.4.

Report No. NOKI0038 157/448

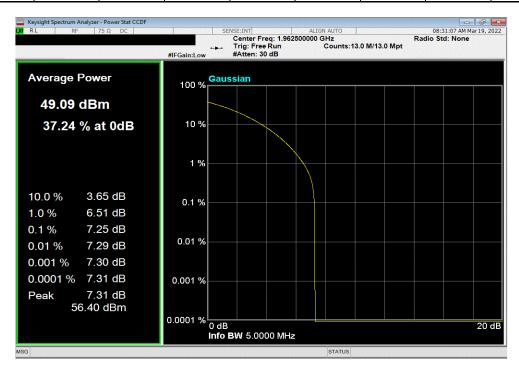


				eleme
			TbtTx 2022.03.14.0	XMit 2022
EUT: AHFII Remote Radio H	ead	Work Order:		
Serial Number: YK214000035			18-Mar-22	
Customer: Nokia of America Corp	oration	Temperature:		
Attendees: Mitchell Hill		Humidity:		
Project: None	a laura	Barometric Pres.:		
Tested by: Brandon Hobbs EST SPECIFICATIONS	Power: 54 VDC Test Method	Job Site:	1 X 0 6	
CC 24E:2022	ANSI C63.26:2015	0		
SS-133 Issue 6:2013+A1:2018 OMMENTS	RSS-133 Issue 6:2013+A1:201	8		
	nted for in the reference level offest including any attenuators, filters and DC blocks.Band n	25 carriers are enabled at maximum newer (5	O watta/aarriar)	
ui measurement patri losses were accour	ned for in the reference level offest including any attenuators, filters and DC blocks.band in	25 carriers are enabled at maximum power (c	o watts/carrier).	
EVIATIONS FROM TEST STANDARD				
one				
	2 6			
onfiguration # 2	Cimentum January 1			
	Signature			
		PAPR	PAPR	
		Value (dB)	Limit (dB)	Results
and n25, 1930 MHz - 1995 MHz, 5G NR				
Port 1				
5 MHz Bar				
	QPSK Modulation			
	Mid Channel, 1962.5 MHz	7.25	13	Pass
	16-QAM Modulation Mid Channel, 1962.5 MHz	7.43	13	Pass
	64-QAM Modulation	7.43	13	Pass
	Mid Channel, 1962.5 MHz	7.24	13	Pass
	256-QAM Modulation	7.24	13	1 833
	Low Channel, 1932.5 MHz	7.27	13	Pass
	Mid Channel, 1962.5 MHz	7.26	13	Pass
	High Channel, 1992.5 MHz	7.24	13	Pass
10 MHz Ba				
	256-QAM Modulation			
	Low Channel, 1935 MHz	7.32	13	Pass
	Mid Channel, 1962.5 MHz	7.25	13	Pass
	High Channel, 1990 MHz	7.26	13	Pass
15 MHz Ba				
	256-QAM Modulation			
	Low Channel, 1937.5 MHz	7.40	13	Pass
	Mid Channel, 1962.5 MHz	7.22	13	Pass
00.1811 B	High Channel, 1987.5 MHz	7.28	13	Pass
20 MHz Ba				
	256-QAM Modulation	7.00	40	D
	Low Channel, 1940 MHz	7.39	13	Pass
	Mid Channel, 1962.5 MHz High Channel, 1985 MHz	7.12 7.23	13 13	Pass Pass
30 MHz Ba		1.23	13	rass
30 MHZ Ba	256-QAM Modulation			
	Low Channel, 1945 MHz	7.55	13	Pass
	Mid Channel, 1962.5 MHz	7.33	13	Pass
	High Channel, 1980 MHz	7.13	13	Pass
	riigii Cridiilici, 1500 ivii iz	7.30	15	1 000

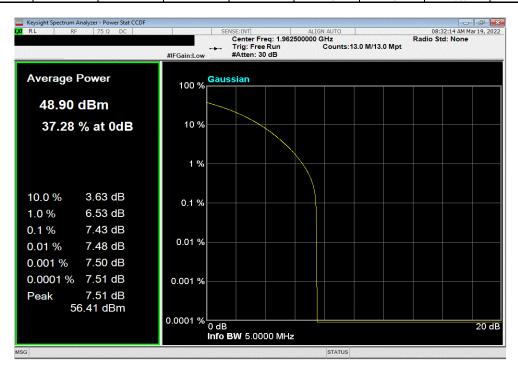
Report No. NOKI0038 158/448



Band n25, 1930 MHz - 1995 MHz, 5G NR, Port 1, 5 MHz Bandwidth, QPSK Modulation, Mid Channel, 1962.5 MHz
PAPR PAPR
Value (dB) Limit (dB) Results
7.25 13 Pass



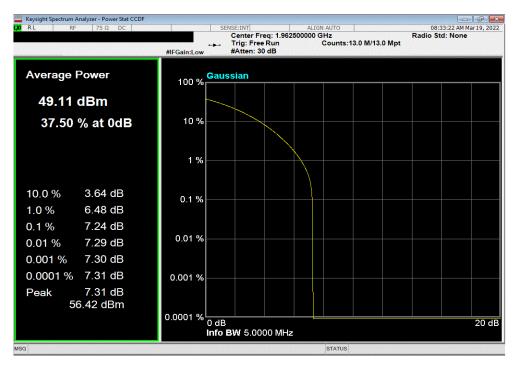
	Band n25, 1930 MHz - 1995 MHz, 5G NR, Port 1, 5 MHz Bandwidth, 16-QAM Modulation, Mid Channel, 1962.5 MHz							
					PAPR	PAPR		
					Value (dB)	Limit (dB)	Results	
i					7.43	13	Pass	



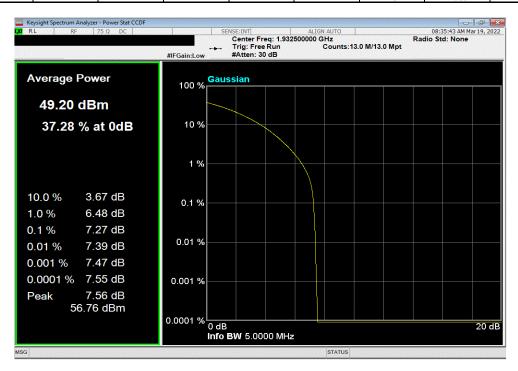
Report No. NOKI0038 159/448



Band n25, 1930 MHz - 1995 MHz, 5G NR, Port 1, 5 MHz Bandwidth, 64-QAM Modulation, Mid Channel, 1962.5 MHz
PAPR PAPR
Value (dB) Limit (dB) Results
7.24 13 Pass



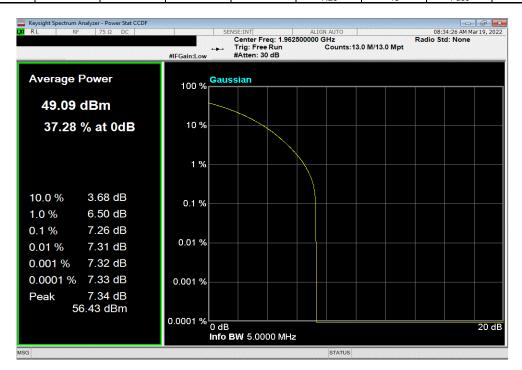
Band n25, 1930 MHz - 1995 MHz, 5G NR, Port 1, 5 MHz Bandwidth, 256-QAM Modulation, Low Channel, 1932.5 MHz							
				PAPR	PAPR		
				Value (dB)	Limit (dB)	Results	
				7.27	13	Pass	

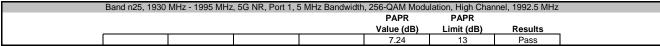


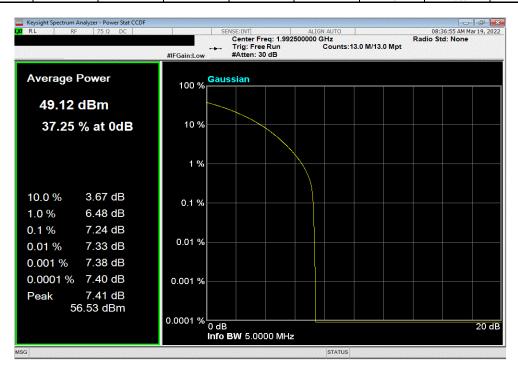
Report No. NOKI0038 160/448



Band n25, 1930 MHz - 1995 MHz, 5G NR, Port 1, 5 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 1962.5 MHz
PAPR PAPR
Value (dB) Limit (dB) Results
7.26 13 Pass



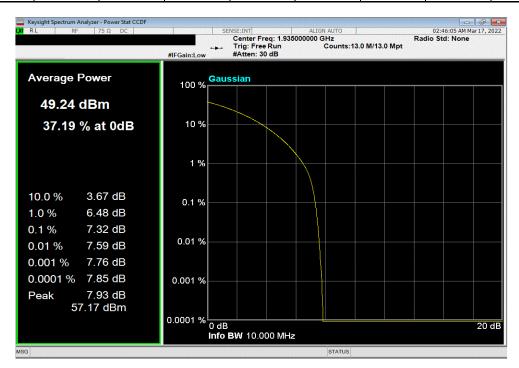




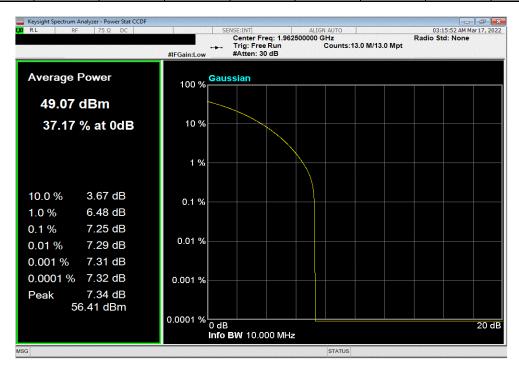
Report No. NOKI0038 161/448



Band n25, 1930 MHz - 1995 MHz, 5G NR, Port 1, 10 MHz Bandwidth, 256-QAM Modulation, Low Channel, 1935 MHz
PAPR
PAPR
Value (dB) Limit (dB) Results
7.32 13 Pass



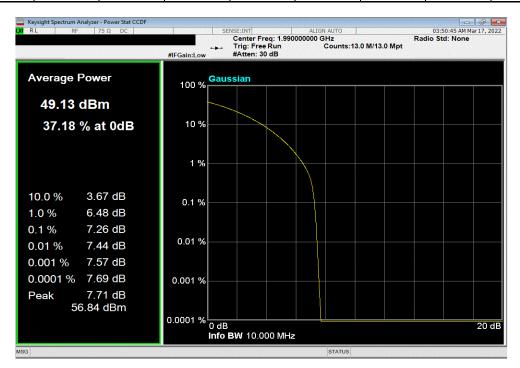
Band n25, 1930 MHz - 1995 MHz, 5G NR, Port 1, 10 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 1962.5 MHz							
				PAPR	PAPR		
				Value (dB)	Limit (dB)	Results	
	_			7.25	13	Pass	

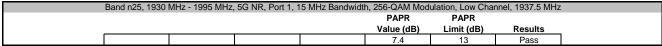


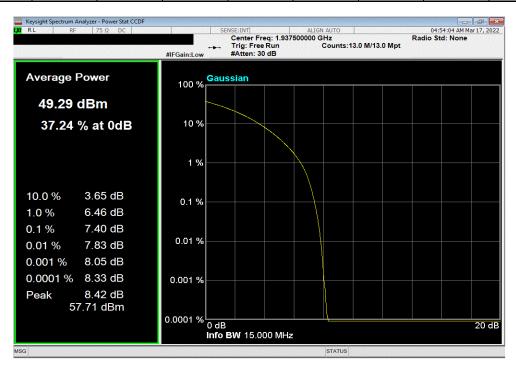
Report No. NOKI0038 162/448



Band n25, 1930 MHz - 1995 MHz, 5G NR, Port 1, 10 MHz Bandwidth, 256-QAM Modulation, High Channel, 1990 MHz
PAPR PAPR
Value (dB) Limit (dB) Results
7.26 13 Pass



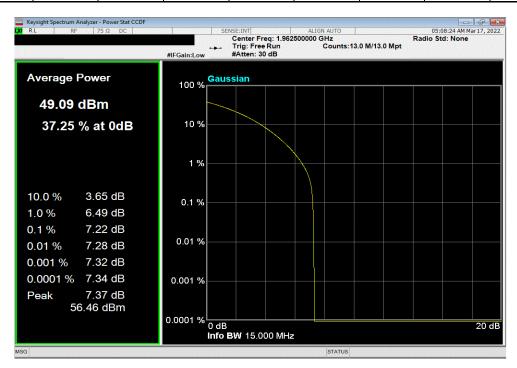


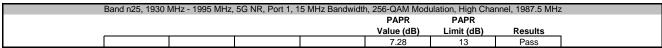


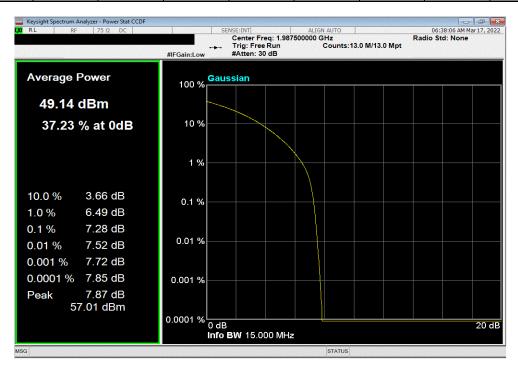
Report No. NOKI0038 163/448



Band n25, 1930 MHz - 1995 MHz, 5G NR, Port 1, 15 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 1962.5 MHz
PAPR PAPR
Value (dB) Limit (dB) Results
7.22 13 Pass



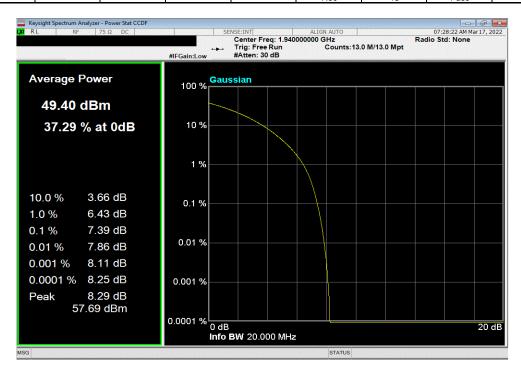


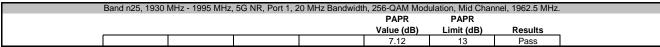


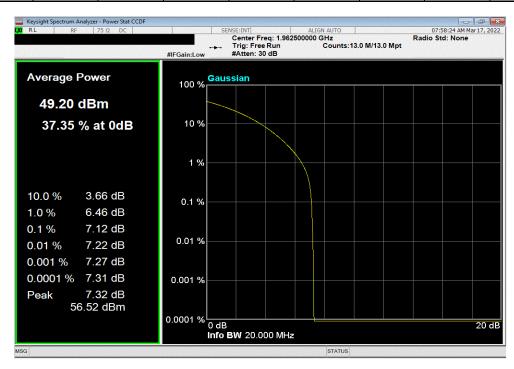
Report No. NOKI0038 164/448



Band n25, 1930 MHz - 1995 MHz, 5G NR, Port 1, 20 MHz Bandwidth, 256-QAM Modulation, Low Channel, 1940 MHz
PAPR PAPR
Value (dB) Limit (dB) Results
7.39 13 Pass



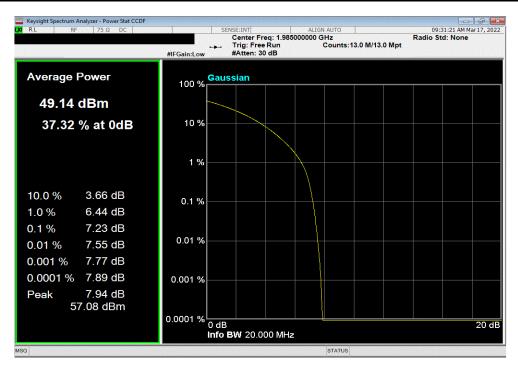




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Band n25, 1930 MHz - 1995 MHz, 5G NR, Port 1, 20 MHz Bandwidth, 256-QAM Modulation, High Channel, 1985 MHz
PAPR PAPR
Value (dB) Limit (dB) Results
7.23 13 Pass



Band n25, 1930 MHz - 1995 MHz, 5G NR, Port 1, 30 MHz Bandwidth, 256-QAM Modulation, Low Channel, 1945 MHz								
PAPR PAPR								
				Value (dB)	Limit (dB)	Results		
	_			7.55	13	Pass		

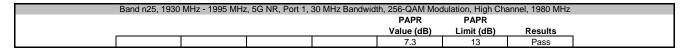


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Band n25, 1930 MHz - 1995 MHz, 5G NR, Port 1, 30 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 1962.5 MHz
PAPR PAPR
Value (dB) Limit (dB) Results
7.13 13 Pass







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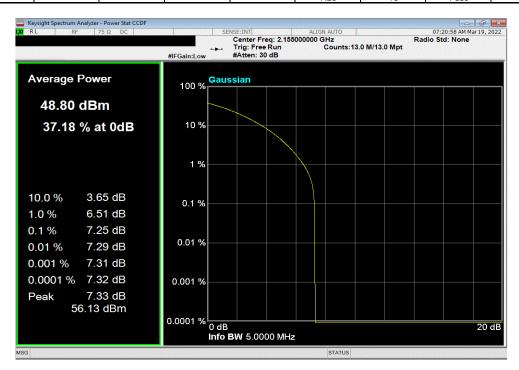


EUT: AHFI	I Remote Radio Head		Work Order:	TbtTx 2022.03.14.0 NOKI0038	XMit 202
Serial Number: YK21				19-Mar-22	
	a of America Corporation		Temperature:		
Attendees: Mitch			Humidity:		
Project: None			Barometric Pres.:	40.2 /0 IVII	
Tested by: Bran		Power: 54 VDC	Job Site:	TYN9	
ST SPECIFICATIONS	aon nobbs	Test Method	DOD ONC.	17.00	
C 27:2022		ANSI C63.26:2015			
S-139 Issue 3:2015, R	SS 170 Jacua 2:201E	RSS-139 Issue 3:2015, RSS-170	Icoup 3:201E		
MMENTS	33-170 ISSUE 3.2013	K33-139 Issue 3.2013, K33-170	ISSUE 3.2013		
·		evel offest including any attenuators, filters and DC blocks.Band n60	6 carriers are enabled at maximum power (80 watts/carrier).	
VIATIONS FROM TES	T STANDARD				
ne					
nfiguration #	2 Signature	e			
			PAPR	PAPR	
			Value (dB)	Limit (dB)	Result
nd n66, 2110 MHz - 220					
Port '					
	5 MHz Bandwidth				
	QPSK Modulation	LOUERANI	705	40	
		nel, 2155 MHz	7.25	13	Pass
	16-QAM Modulation	LOUERANI	7.10	40	
		nel, 2155 MHz	7.43	13	Pass
	64-QAM Modulation	LOUERANI	7.05	40	
		nel, 2155 MHz	7.25	13	Pass
	256-QAM Modulation		7.00	40	D
		nel, 2112.5 MHz	7.26	13	Pass
		nel, 2155 MHz	7.26	13	Pass
		nnel, 2197.5 MHz	7.26	13	Pass
	10 MHz Bandwidth				
	256-QAM Modulation	LOWERNIA	700	40	
		nel, 2115 MHz	7.26	13	Pass
		nel, 2155 MHz	7.26	13	Pass
		nnel, 2195 MHz	7.26	13	Pass
	15 MHz Bandwidth				
	256-QAM Modulation		7.07	40	
		nel, 2117.5 MHz	7.27	13	Pass
		nel, 2155 MHz	7.23	13	Pass
		nnel, 2192.5 MHz	7.26	13	Pass
	20 MHz Bandwidth				
	256-QAM Modulation			40	
		nel, 2120 MHz	7.21	13	Pass
	Mid Chann	nel, 2155 MHz	7.13	13	Pass
			7.19	13	Pass
	High Chan	ITIEI, 2190 IVITZ			
	30 MHz Bandwidth	illet, 2190 Min2			
	30 MHz Bandwidth 256-QAM Modulation	nel, 2125 MHz	7.27	13	Pass
	30 MHz Bandwidth 256-QAM Modulation Low Chan		7.27 7.11	13 13	Pass Pass

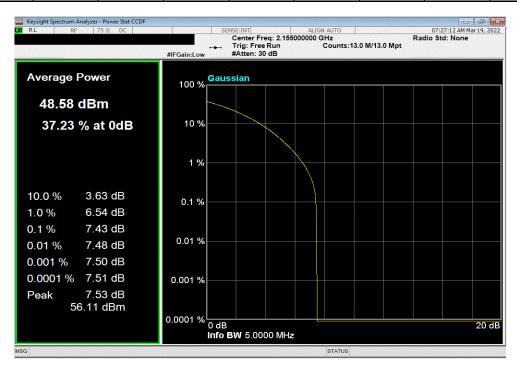
Report No. NOKI0038 168/448



Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, QPSK Modulation, Mid Channel, 2155 MHz
PAPR PAPR
Value (dB) Limit (dB) Results
7.25 13 Pass



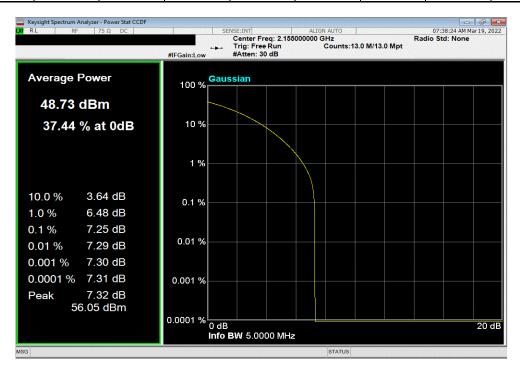
Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, 16-QAM Modulation, Mid Channel, 2155 MHz								
PAPR PAPR								
				Value (dB)	Limit (dB)	Results		
				7.43	13	Pass		



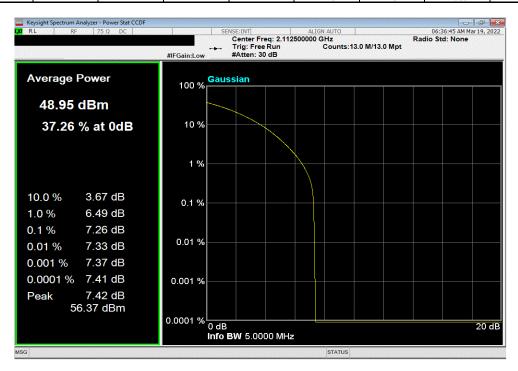
Report No. NOKI0038 169/448



Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, 64-QAM Modulation, Mid Channel, 2155 MHz
PAPR PAPR
Value (dB) Limit (dB) Results
7.25 13 Pass



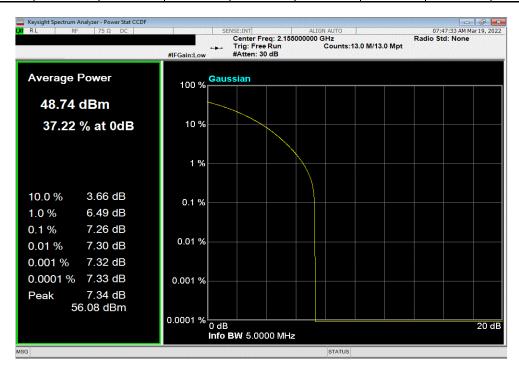
	Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, 256-QAM Modulation, Low Channel, 2112.5 MHz								
					PAPR	PAPR			
					Value (dB)	Limit (dB)	Results		
1					7.26	13	Pass		



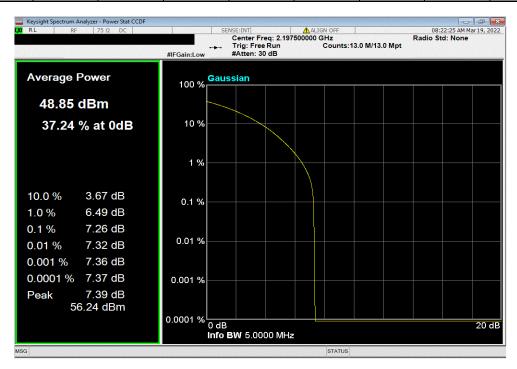
Report No. NOKI0038 170/448



Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz
PAPR PAPR
Value (dB) Limit (dB) Results
7.26 13 Pass



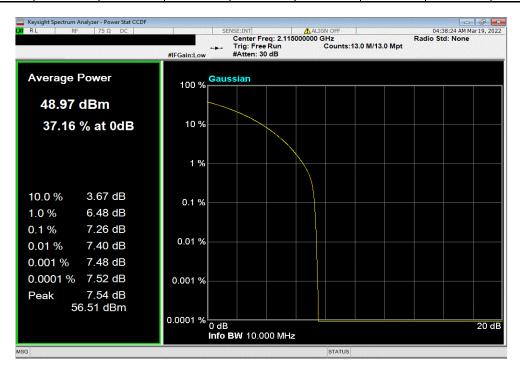
Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 5 MHz Bandwidth, 256-QAM Modulation, High Channel, 2197.5 MHz								
PAPR PAPR								
				Value (dB)	Limit (dB)	Results		
				7.26	13	Pass		



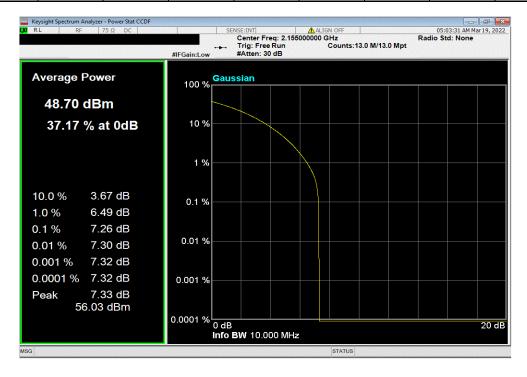
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Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 10 MHz Bandwidth, 256-QAM Modulation, Low Channel, 2115 MHz
PAPR PAPR
Value (dB) Limit (dB) Results
7.26 13 Pass



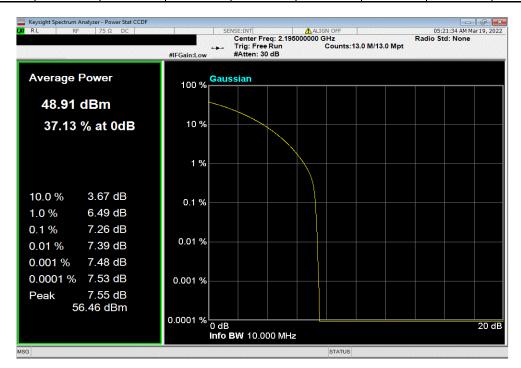
Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 10 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz								
PAPR PAPR								
				Value (dB)	Limit (dB)	Results		
				7.26	13	Pass		



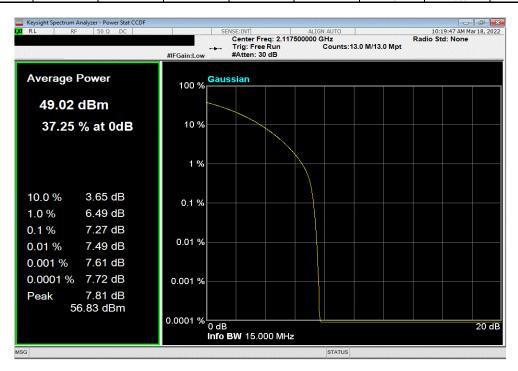
Report No. NOKI0038 172/448



Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 10 MHz Bandwidth, 256-QAM Modulation, High Channel, 2195 MHz
PAPR PAPR
Value (dB) Limit (dB) Results
7.26 13 Pass



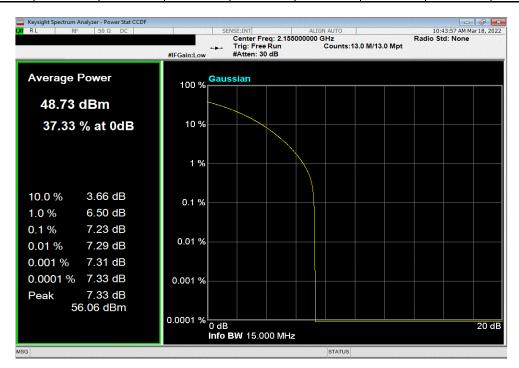
	Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 15 MHz Bandwidth, 256-QAM Modulation, Low Channel, 2117.5 MHz								
					PAPR	PAPR			
_					Value (dB)	Limit (dB)	Results		
1 [7.27	13	Pass		



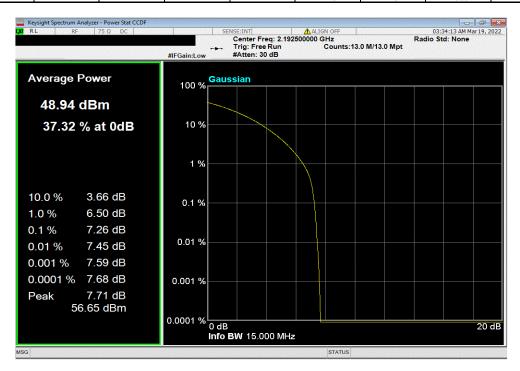
Report No. NOKI0038 173/448



Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 15 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz
PAPR
PAPR
Value (dB) Limit (dB) Results
7.23 13 Pass



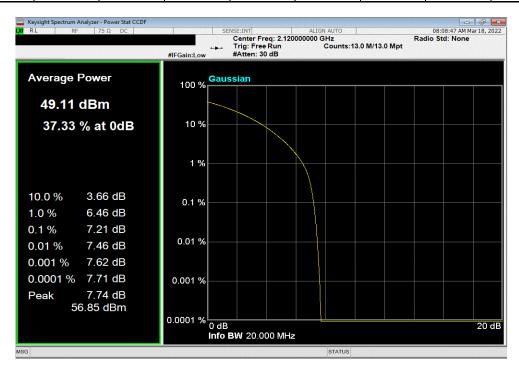
Band n66, 2110 I	MHz - 2200 MHz,	5G NR, Port 1, 1	5 MHz Bandwidth	n, 256-QAM Modi	ulation, High Cha	nnel, 2192.5 MHz	
				PAPR	PAPR		
				Value (dB)	Limit (dB)	Results	
				7.26	13	Pass	



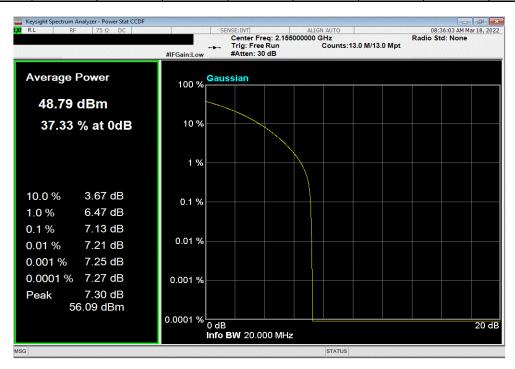
Report No. NOKI0038 174/448



Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 20 MHz Bandwidth, 256-QAM Modulation, Low Channel, 2120 MHz
PAPR PAPR
Value (dB) Limit (dB) Results
7.21 13 Pass



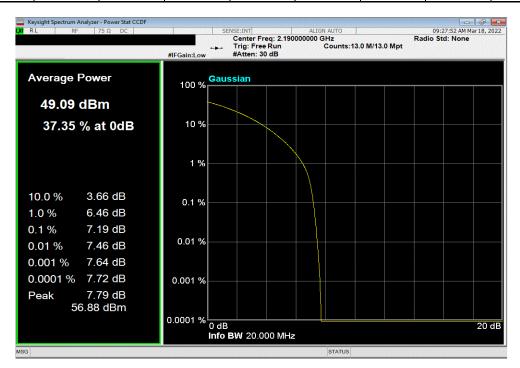
Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 20 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz								
PAPR PAPR								
				Value (dB)	Limit (dB)	Results		
	_			7.13	13	Pass		



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Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 20 MHz Bandwidth, 256-QAM Modulation, High Channel, 2190 MHz
PAPR PAPR
Value (dB) Limit (dB) Results
7.19 13 Pass



Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 30 MHz Bandwidth, 256-QAM Modulation, Low Channel, 2125 MHz								
PAPR PAPR								
				Value (dB)	Limit (dB)	Results		
	_			7.27	13	Pass		



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Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 30 MHz Bandwidth, 256-QAM Modulation, Mid Channel, 2155 MHz
PAPR PAPR
Value (dB) Limit (dB) Results
7.11 13 Pass



Band n66, 2110 MHz - 2200 MHz, 5G NR, Port 1, 30 MHz Bandwidth, 256-QAM Modulation, High Channel, 2185 MHz								
	PAPR PAPR							
				Value (dB)	Limit (dB)	Results		
				7.24	13	Pass		



Report No. NOKI0038 177/448