Radio Test Report
Application for Grant of Equipment Authorization
FCC Part 24 and IC RSS-133
[1930MHz – 1995MHz]

FCC Part 27, IC RSS-139 and IC RSS-170
[2110MHz – 2200MHz]

FCC ID: VBNAHFII-01
IC ID: 661W-AHFII

Nokia Solutions and Networks
Airscale Base Transceiver Station Remote Radio Head
Model: AHFII

Report: NOKI0037.1 Rev. 1, Issue Date: May 19, 2022

ACCREDITED
CERT #3310.03

CERTIFICATE OF TEST

Last Date of Test: March 18, 2021
Nokia Solutions and Networks
EUT: AirScale Base Transceiver Station Remote Radio Head Model AHFII

Radio Equipment Testing

Standards

Specification	Method
Code of Federal Regulations (CFR) Title 47 Part 2 (Radio Standards Specification) RSS-Gen Issue 5 CFR Title 47 Part 24 Subpart E – Broadband PCS RSS-133 Issue 6 - January 18, 2018 – 2GHz Personal Communications Services CFR Title 47 Part 27 RSS-139 Issue 3 - July 16, 2015 – Advanced Wireless Services (AWS) RSS-170 Issue 3 – July 9, 2015	ANSI C63.26-2015 with FCC KDB 971168 D01 v03r01 FCC KDB 971168 D03 v01 FCC KDB 662911D01 v02r01 FCC KDB 662911D02 v01

Results

Test Description	Applied	Results	Comments
Conducted Output Power	Yes	Pass	
Frequency Stability	Yes	Pass	
Occupied Bandwidth	Yes	Pass	
Peak to Average Power (PAPR)CCDF	Yes	Pass	
Spurious Conducted Emissions	Yes	Pass	
Band Edge Compliance	Yes	Pass	
Spurious Radiated Emissions	Yes	Pass	
Power Spectral Density	Yes	Pass	

Deviations From Test Standards

None

Approved By:

Adam Bruno, Operations Manager

Product compliance is the responsibility of the client; therefore, the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. The results of this test pertain only to the sample(s) tested. The specific description is noted in each of the individual sections of the test report supporting this certificate of test. This report reflects only those tests from the referenced standards shown in the certificate of test. It does not include inspection or verification of labels, identification, marking or user information. As indicated in the Statement of Work sent with the quotation, Element's standard process is to always use the latest published version of the test methods even when earlier versions are cited in the test specification. Issuance of a purchase order was de facto acceptance of this approach. Otherwise, the client would have advised Element in writing of the specific version of the test methods they wanted applied to the subject testing.

REVISION HISTORY

Revision Number	Description	Date (yyyy-mm-dd)	Page Number
01	Updated test description	2022-05-18	712, 749, 758, 767, 776
	Updated EIRP Calculations for Four Port MIMO Operations for Band 25 Single LTE comments, table and Calculation Summary	2022-05-18	730
	Updated EIRP Calculations for Four Port MIMO Operations for Band 66 Single LTE Carriers comments, table, and Calculation Summary	2022-05-18	748
	Updated EIRP Calculations for Four Port MIMO Operations for Band 25 NB IoT Guard Band Carriers comments, table, and Calculations Summary	2022-05-18	753
	Updated EIRP Calculations for Four Port MIMO Operations for Band 66 NB IoT Guard Band Carriers comments, table, and Calculation Summary	2022-05-18	757
	Updated EIRP Calculations for Four Port MIMO Operations for Band 25 NB IoT In-Band Carriers comments, table, and Calculation Summary	2022-05-18	762
	Updated EIRP Calculations for Four Port MIMO Operations for Band 66 NB IoT In-Band Carriers comments, table, and Calculation Summary	2022-05-18	766
	Updated EIRP Calculations for Four Port MIMO Operations for Band 25 NB IoT Standalone Carriers comments, table, and Calculation Summary	2022-05-18	771
	Updated EIRP Calculations for Four Port MIMO Operations for Band 66 NB IoT Standalone Carriers comments, table, and Calculation Summary	2022-05-18	775

ACCREDITATIONS AND AUTHORIZATIONS

United States

FCC - Designated by the FCC as a Telecommunications Certification Body (TCB). Certification chambers, Open Area Test Sites, and conducted measurement facilities are listed with the FCC.

A2LA - Each laboratory is accredited by A2LA to ISO / IEC 17025, and as a product certifier to ISO / IEC 17065 which allows Element to certify transmitters to FCC and IC specifications.

Canada

ISED - Recognized by Innovation, Science and Economic Development Canada as a Certification Body (CB) and as a CAB for the acceptance of test data.

European Union

European Commission – Recognized as an EU Notified Body validated for the EMCD and RED Directives.

United Kingdom

BEIS – Recognized by the UK as an Approved Body under the UK Radio Equipment and UK EMC Regulations.

Australia/New Zealand

ACMA - Recognized by ACMA as a CAB for the acceptance of test data.

Korea

MSIT / RRA - Recognized by KCC's RRA as a CAB for the acceptance of test data.

Japan

VCCI - Associate Member of the VCCI. Conducted and radiated measurement facilities are registered.

Taiwan

BSMI – Recognized by BSMI as a CAB for the acceptance of test data.

NCC - Recognized by NCC as a CAB for the acceptance of test data.

Singapore

IDA – Recognized by IDA as a CAB for the acceptance of test data.

Israel

MOC – Recognized by MOC as a CAB for the acceptance of test data.

Hong Kong

OFCA – Recognized by OFCA as a CAB for the acceptance of test data.

Vietnam

MIC – Recognized by MIC as a CAB for the acceptance of test data.

SCOPE

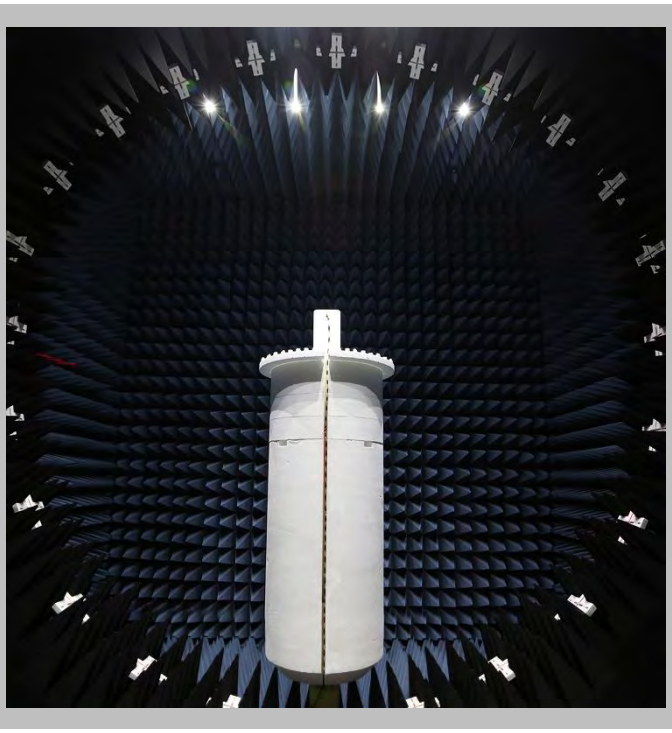
For details on the Scopes of our Accreditations, please visit:

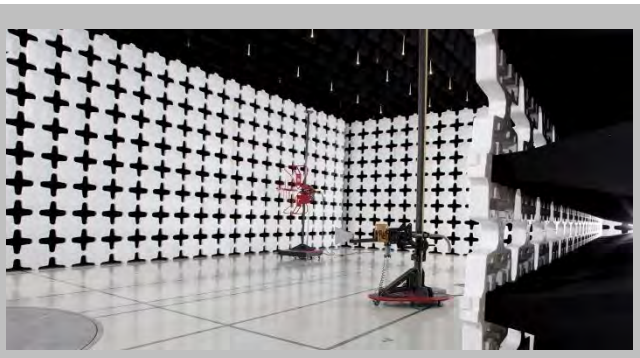
California Minnesota Oregon Texas Washington

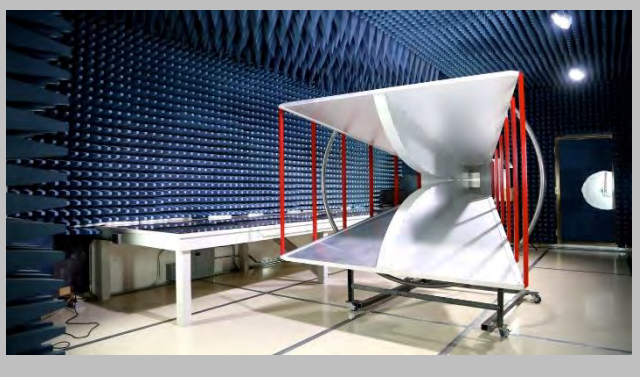
FACILITIES

element
2020.12.15

California	Minnesota	Oregon	Texas	Washington
Labs OC01-17 41 Tesla Irvine, CA 92618 (949) 861-8918	Labs MN01-11 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612)-638-5136	Labs EV01-12 6775 NE Evergreen Pkwy #400 Hillsboro, OR 97124 (503) 844-4066	Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	Labs NC01-05 19201 120th Ave NE Bothell, WA 98011 (425)984-6600
A2LA				
Lab Code: 3310.04	Lab Code: 3310.05	Lab Code: 3310.02	Lab Code: 3310.03	Lab Code: 3310.06
Innovation, Science and Economic Development Canada				
2834B-1, 2834B-3	2834E-1, 2834E-3	2834D-1	2834G-1	2834F-1
BSMI				
SL2-IN-E-1154R	SL2-IN-E-1152R	SL2-IN-E-1017	SL2-IN-E-1158R	SL2-IN-E-1153R
VCCI				
A-0029	A-0109	A-0108	A-0201	A-0110
Recognized Phase I CAB for ISED, ACMA, BSMI, IDA, KCC/RRA, MIC, MOC, NCC, OFCA				
US0158	US0175	US0017	US0191	US0157







MEASUREMENT UNCERTAINTY

element
TMU.2015.07.10

Measurement Uncertainty

When a measurement is made, the result will be different from the true or theoretically correct value. The difference is the result of tolerances in the measurement system that cannot be completely eliminated. To the extent that technology allows us, it has been our aim to minimize this error. Measurement uncertainty is a statistical expression of measurement error qualified by a probability distribution.

A measurement uncertainty estimation has been performed for each test per our internal quality document QM205.4.6. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) can be found in the table below. A lab specific value may also be found in the applicable test description section. Our measurement data meets or exceeds the measurement uncertainty requirements of the applicable specification; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for estimating measurement uncertainty are based upon ETSI TR 100 028 (or CISPR 16-4-2 as applicable), and are available upon request.

The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

Test	+ MU	- MU
Frequency Accuracy	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	1.2 dB	-1.2 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (DC)	0.7%	-0.7%
Field Strength (dB)	5.1 dB	-5.1 dB
AC Powerline Conducted Emissions (dB)	3.1 dB	-3.1 dB

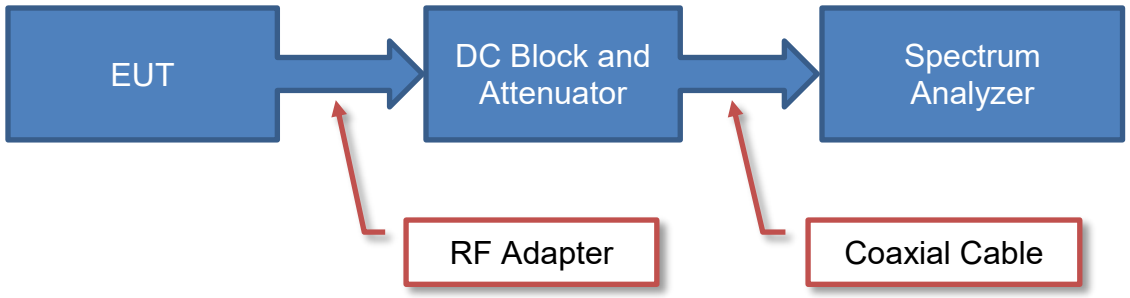
TEST SETUP BLOCK DIAGRAMS

Measurement Bandwidths

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (kHz)
0.01 - 0.15	1.0	0.2	0.2
0.15 - 30.0	10.0	9.0	9.0
30.0 - 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

Unless otherwise stated, measurements were made using the bandwidths and detectors specified. No video filter was used.

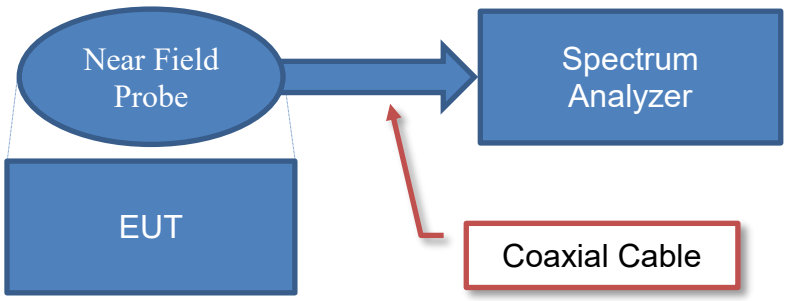
Antenna Port Conducted Measurements



Sample Calculation (logarithmic units)

Measured Value		Measured Level		Reference Level Offset
71.2	=	42.6	+	28.6

Near Field Test Fixture Measurements

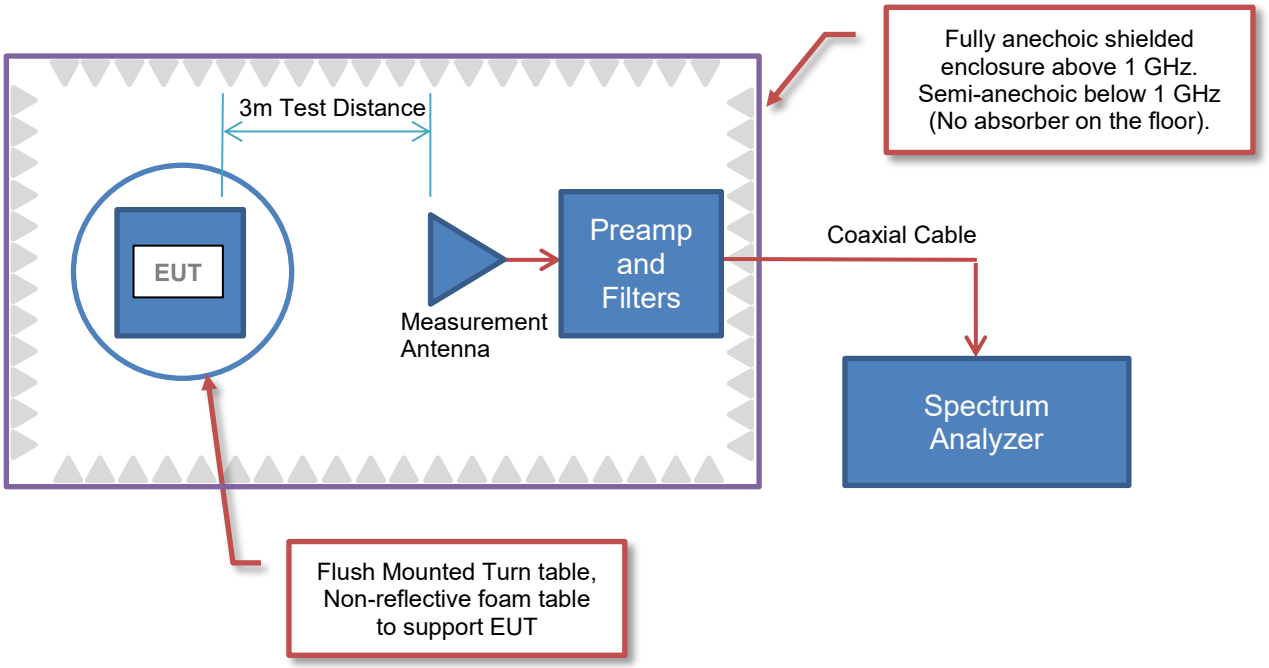


Sample Calculation (logarithmic units)

Measured Value		Measured Level		Reference Level Offset
71.2	=	42.6	+	28.6

TEST SETUP BLOCK DIAGRAMS

Emissions Measurements



Sample Calculation (logarithmic units)

Radiated Emissions:

Measured Level (Amplitude)		Factor: Antenna Factor		Factor: Cable Factor		Factor: Amplifier Gain		Distance Adjustment Factor		External Attenuation		Field Strength
42.6	+	28.6	+	3.1	-	40.8	+	0.0	+	0.0	=	**33.5**

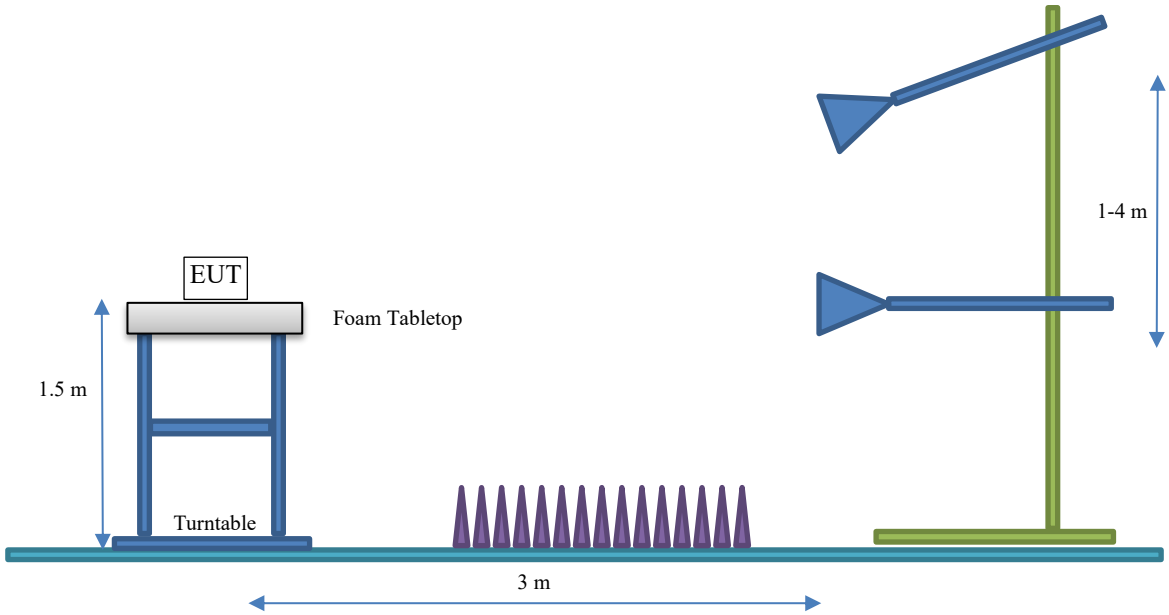
Conducted Emissions:

Measured Level (Amplitude)		Factor: Transducer Factor		Factor: Cable Factor		External Attenuation		Adjusted Level
26.7	+	0.3	+	0.1	+	20.0	=	**47.1**

TEST SETUP BLOCK DIAGRAMS

Bore Sighting (>1GHz)

The diameter of the illumination area is the dimension of the line tangent to the EUT formed by 3 dB beamwidth of the measurement antenna at the measurement distance. At a 3 meter test distance, the diameter of the illumination area was 3.8 meters at 1 GHz and greater than 2.1 meters up to 6 GHz. Above 1 GHz, when required by the measurement standard, the antenna is pointed for both azimuth and elevation to maintain the receive antenna within the cone of radiation from the EUT. The specified measurement detectors were used for comparison of the emissions to the peak and average specification limits.



PRODUCT DESCRIPTION

Client and Equipment Under Test (EUT) Information

Company Name:	Nokia Solutions and Networks
Address:	3201 Olympus Blvd
City, State, Zip:	Dallas, TX 75019
Test Requested By:	Steve Mitchell
EUT:	Airscale Base Transceiver Station Remote Radio Head Model AHFII
First Date of Test:	February 28, 2022
Last Date of Test:	March 18, 2022
Receipt Date of Samples:	March 9, 2022
Equipment Design Stage:	Production
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:

Nokia Solutions and Networks AirScale Base Transceiver Station (BTS) Remote Radio Head (RRH) module, model AHFII is being developed under this effort. The AHFII remote radio head is a multi-standard multi-carrier radio module designed to support GSM/EDGE, WCDMA, LTE, LTE Narrow Band Internet of Things (NB IoT) operations (in-band, guard band, standalone) and 5G NR and DSS (Dynamic Spectrum Sharing). The scope of testing in this effort is for LTE and LTE NB IoT operations.

The AHFII RRH has four transmit/four receive antenna ports (4TX/4RX for Band 25 and 4TX/4RX for Band 66). Each antenna port supports 3GPP frequency band 25 (BTS Rx: 1850 to 1915 MHz/BTS TX: 1930 to 1995 MHz) and 3GPP frequency band 66 (BTS Rx: 1710 to 1780 MHz/BTS TX: 2110 to 2200 MHz). The maximum RF output power of the RRH is 480 Watts (120 watts per port x 4 ports). The maximum power per band (Band 25 or Band 66) is 80 watts. The maximum single carrier power level is 80 watts. The TX and RX instantaneous bandwidth cover the full operational RRH bandwidth. Multi-carrier operation is supported.

The RRH can be operated as a 4x4 MIMO, 2x2 MIMO or as non-MIMO for 4G LTE FDD. The RRH supports 1.4, 3, 5, 10, 15, and 20MHz LTE bandwidths. The RRH supports four LTE downlink modulation types (QPSK, 16QAM, 64QAM and 256QAM). The Narrow band IoT Standalone (NB IoT SA) carrier operations supports a 200kHz bandwidth. The NB IoT SA carrier maximum power is 20W/carrier. The Narrow Band Internet of Things Guard Band (NB IoT GB) carrier operations supports 10, 15, and 20MHz LTE bandwidths. The Narrow Band Internet of Things In-Band (NB IoT IB) carrier operations supports 5, 10, 15, and 20MHz LTE bandwidths.

The RRH has external interfaces including DC power (DC In), ground, transmit/receive (ANT), external alarm (EAC), optical (OPT) and remote electrical tilt (RET). The RRH with applicable installation kit may be pole or wall mounted.

Tests performed include RF power, peak to average power ratio, power spectral density (power/1MHz), emission bandwidth (99% and 26 dB down), band edge spurious emissions, spurious emissions (conducted and radiated), and frequency stability (over required voltage/temperature ranges). The 4G LTE modulation types are setup according to 3GPP TS 36.141 E-UTRA Test Models (E-TM) as follows E-TM 1.1: QPSK, E-TM 3.1: 64QAM, E-TM3.1a: 256QAM and E-TM 3.2: 16QAM. The LTE modulation type for IoT testing is setup according to 3GPP TS 36.141 E-UTRA Test Models and is “E-TM 1.1 (QPSK modulation type) with N-TM (narrow band IoT)”.

The AHFII downlink channel numbers and frequencies for LTE and NB IoT operations are as follows:

The PCS Band LTE channel bandwidths are 1.4, 3, 5, 10, 15, and 20MHz. The NB IoT SA carrier channel bandwidth is 200kHz. The LTE1.4 and LTE3 bandwidths are limited to the 1930 to 1990MHz frequency range. The downlink channel numbers are provided below.

	Downlink 4G LTE EARFCN	Downlink Frequency (MHz)	4G LTE Channel Bandwidth						
			IoT SA 200kHz	1.4MHz	3MHz	5MHz	10MHz	15MHz	20MHz
AHFII 4G LTE Band 25 (Ant 1, 2, 3, 4)	8040	1930.0	Band Edge	Band Edge	Band Edge	Band Edge	Band Edge	Band Edge	Band Edge
	……								
	8042	1930.2	Bot Ch						
	……								
	8047	1930.7		Bot Ch					
	……								
	8055	1931.5			Bot Ch				
	……								
	8065	1932.5				Bot Ch			
	……								
	8090	1935.0					Bot Ch		
	……								
	8115	1937.5						Bot Ch	
	……								
	8140	1940.0							Bot Ch
	……								
	8365	1962.5	Middle Ch	Middle Ch	Middle Ch	Middle Ch	Middle Ch	Middle Ch	Middle Ch
	……								
	8590	1985.0							Top Ch
	……								
	8615	1987.5						Top Ch	
	……								
	8625	1988.5			Top Ch				
	……								
	8633	1989.3		Top Ch					
	……								
	8640	1990.0		Band Edge	Band Edge		Top Ch		
	……								
	8665	1992.5				Top Ch			
	……								
	8688	1994.8	Top Ch						
	……								
	8690	1995.0	Band Edge			Band Edge	Band Edge	Band Edge	Band Edge

AHFII Downlink Band Edge 4G LTE Band 25 Frequency Channels

The AWS Band 4G LTE channel bandwidths are 1.4, 3, 5, 10, 15 and 20MHz. The NB IoT SA carrier channel bandwidth is 200kHz. The downlink channel numbers are provided below.

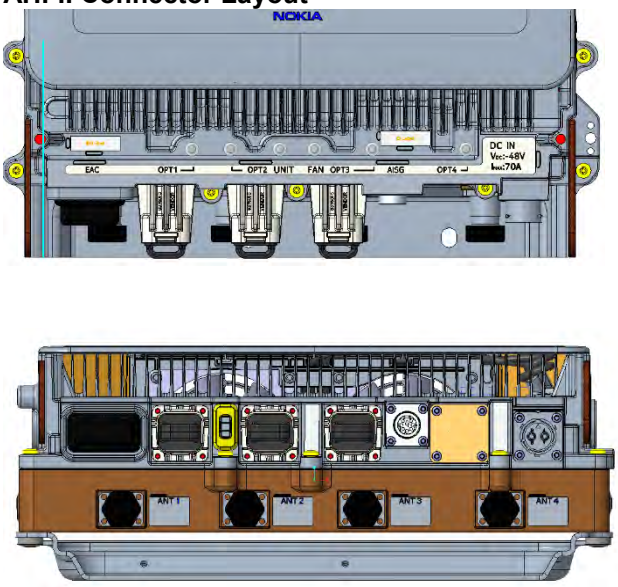
	Downlink 4G LTE EARFCN	Downlink Frequency (MHz)	4G LTE Channel Bandwidth						
			IoT SA 200kHz	1.4MHz	3.0MHz	5MHz	10MHz	15MHz	20MHz
AHFII 4G LTE Band 66 (Ant 1, 2, 3, 4)	66436	2110.0	Band Edge	Band Edge	Band Edge	Band Edge	Band Edge	Band Edge	Band Edge
	……								
	66438	2110.2	Bot Ch						
	……								
	66443	2110.7		Bot Ch					
	……								
	66451	2111.5			Bot Ch				
	……								
	66461	2112.5				Bot Ch			
	……								
	66486	2115.0					Bot Ch		
	……								
	66511	2117.5						Bot Ch	
	……								
	66536	2120.0							Bot Ch
	……								
	66886	2155.0	Middle Ch	Middle Ch	Middle Ch	Middle Ch	Middle Ch	Middle Ch	Middle Ch
	……								
	67236	2190.0							Top Ch
	……								
	67261	2192.5						Top Ch	
	……								
	67286	2195.0					Top Ch		
	……								
	67311	2197.5				Top Ch			
	……								
	67321	2198.5			Top Ch				
	……								
	67329	2199.3		Top Ch					
	……								
	67334	2199.8	Top Ch						
	……								
	67336	2200.0	Band Edge	Band Edge	Band Edge	Band Edge	Band Edge	Band Edge	Band Edge

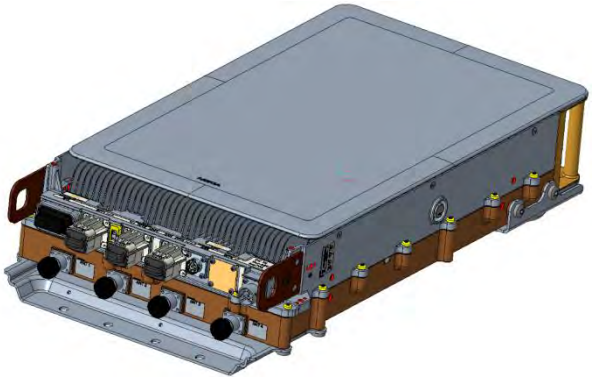
AHFII Downlink Band Edge 4G LTE Band 66 Frequency Channels

PRODUCT DESCRIPTION

element
2018-07-17

AHFII Connector Layout





Name	Qty	Connector Type	Purpose (and Description)
DC In	1	APPG Amphenol	2-pole Power Input Terminal
GND	1	Screw lug (2xM5/1xM8)	Ground
ANT	4	4.3-10	RF signal for Transmitter/Receiver (50 Ohm)
Unit	1	LED	Unit Status LED
EAC	1	MDR26	External Alarm Interface
OPT	3	SFP	Optical Interfaces
RET	1	8-pin circular connector	AISG 3.0 to external devices_ RET RS-485

EUT External Interfaces

Testing Objective:

FCC and ISED radio certifications of the Nokia Solutions and Networks AirScale Base Transceiver Station (BTS) Remote Radio Head (RRH) module, model AHFII for 4G LTE and NB IoT operations.

CONFIGURATIONS

Test Configuration 1 RF Conducted Emissions

Software/Firmware Running during test	
Description	**Version**
4G BTS Software Version (22R3)	SBTS22R3_ENB_9999_220219_000014
4G RF_SW	RF. FRM6.TRUNK.20220218.019

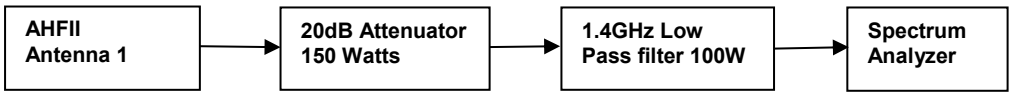
Equipment being tested (include Peripherals)			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
AMIA (BTS System Module)	Nokia Solutions and Networks	473098A.203	RK182307104
ASIA (4G BTS System Module)	Nokia Solutions and Networks	473095A.101	L1164309322
ABIA (4G BTS Baseband Module)	Nokia Solutions and Networks	473096A.103	AH173006372
ABIA (4G BTS Baseband Module)	Nokia Solutions and Networks	473096A.103	L1164121378
AHFII (Radio Remote Head)	Nokia Solutions and Networks	475656A.101	YK214000036
Low Pass Filter 1.4GHz/100W	Microwave Circuits,Inc.	L13502G1	SN2454-01
Attenuator 150W/20dB	Weinschel Corp	66-20-33	BZ1165
SFP+ 9.8G,300M,850NM	Nokia	474900A.101	VF2023004CF
SFP+ 9.8G,300M,850NM	Nokia	474900A.101	VF2023000RM
SFP+ 9.8G,300M,850NM	Nokia	474900A.101	VF2020001BQ
SFP+ 9.8G,300M,850NM	Nokia	474900A.101	VF20180015S
Lenovo T490	HP	T490	PF26RVZ0
Keysight N8757- DC System power supply	Keysight	N8757A	US21D4054S
FPAC (DC-pwr supply)	Nokia	472805A.X21	A9124600282
2 Meter RF cable (Load Cable)	Huber + Suhner, Inc.	HS-SUCOFLEX_106	SN297388
2 Meter RF cable (Load Cable)	Huber + Suhner, Inc.	HS-SUCOFLEX_106	SN297387
2 Meter RF cable (Load Cable)	Huber + Suhner, Inc.	HS-SUCOFLEX_106	SN297384
250W -50ohm -Terminating Load	API Weinschel	1433-3-LIM	TC864
250W -50ohm -Terminating Load	API Weinschel	1433-3-LIM	TC869
250W -50ohm -Terminating Load	API Weinschel	1433-3-LIM	TC870
Cat-5e cable	CSA	LL73189	E151955
6 Meters RF cable	Huber + Suhner, Inc.	HS-SUCOFLEX_106	SN297389 SN297373 SN297372
1 Meter RF cable	Huber + Suhner, Inc.	HS-SUCOFLEX_104	SN551432/4
(2) Fiber Optic cable 2m	Amphenol Fiber Optic	VZ1701	995741A

CONFIGURATIONS

Cables (Peripheral)					
Description	**Shield (Y/N)**	**Length (m)**	**Ferrite (Y/N)**	**Connection 1 (4G)**	**Connection 2**
(2) Fiber Optic Cables	N	2 meters	N	ABIA	AHFII
Cat-5e Cable	Y	7 meters	N	ASIA	WebEM- PC
HS-SUCOFLEX_106 – RF CABLE	Y	2 meters	N	EUT [AHFII] Ant 2-4	250W -50ohm -Load

Cables					
Description	**Shield (Y/N)**	**Length (m)**	**Ferrite (Y/N)**	**Connection 1**	**Connection 2**
HS-SUCOFLEX_106 1.5dB cable attenuator	Y	6 meters	N	EUT [AHFII] Ant port #1	Attenuator 150W/20dB
Attenuator 150W/20dB	N	N/A	N	RF cable HS-SUCOFLEX_106	1.4GHz Low Pass filter 100W
1.4GHz Low Pass filter 100W	N	N/A	N	Attenuator 150W/20dB	RF cable HS-SUCOFLEX_104
HS-SUCOFLEX_104	Y	1 meter	N	1.4GHz Low Pass filter 100W	Analyzer

RF Test Setup Diagram:



CONFIGURATIONS

Test Configuration 2 RF Conducted Emissions

Software/Firmware Running during test	
Description	**Version**
4G BTS Software Version (22R3)	SBTS22R3_ENB_9999_220219_000014
4G RF_SW	RF.FRM6.TRUNK.20220218.019

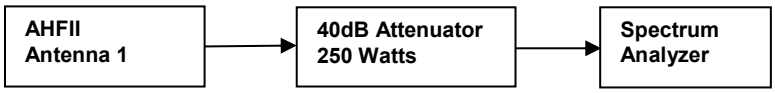
Equipment being tested (include Peripherals)			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
AMIA (BTS System Module)	Nokia Solutions and Networks	473098A.203	RK182307104
ASIA (4G BTS System Module)	Nokia Solutions and Networks	473095A.101	L1164309322
ABIA (4G BTS Baseband Module)	Nokia Solutions and Networks	473096A.103	AH173006372
ABIA (4G BTS Baseband Module)	Nokia Solutions and Networks	473096A.103	L1164121378
AHFII (Radio Remote Head)	Nokia Solutions and Networks	475656A.101	YK214000036
Attenuator 40dB/250W	API Weinschel	58-40-43-LIM	TC909
SFP+ 9.8G,300M,850NM	Nokia	474900A.101	VF2023004CF
SFP+ 9.8G,300M,850NM	Nokia	474900A.101	VF2023000RM
SFP+ 9.8G,300M,850NM	Nokia	474900A.101	VF2020001BQ
SFP+ 9.8G,300M,850NM	Nokia	474900A.101	VF20180015S
Lenovo T490	HP	T490	PF26RVZ0
Keysight N8757- DC System power supply	Keysight	N8757A	US21D4054S
FPAC (DC-pwr supply)	Nokia	472805A.X21	A9124600282
2 Meter RF cable (Load Cable)	Huber + Suhner, Inc.	HS-SUCOFLEX_106	SN297388
2 Meter RF cable (Load Cable)	Huber + Suhner, Inc.	HS-SUCOFLEX_106	SN297387
2 Meter RF cable (Load Cable)	Huber + Suhner, Inc.	HS-SUCOFLEX_106	SN297384
250W -50ohm -Terminating Load	API Weinschel	1433-3-LIM	TC864
250W -50ohm -Terminating Load	API Weinschel	1433-3-LIM	TC869
250W -50ohm -Terminating Load	API Weinschel	1433-3-LIM	TC870
Cat-5e cable	CSA	LL73189	E151955
6 Meters RF cable	Huber + Suhner, Inc.	HS-SUCOFLEX_106	SN297389 SN297373 SN297372
1 Meter RF cable	Huber + Suhner, Inc.	HS-SUCOFLEX_104	SN551432/4
(2) Fiber Optic cable 2m	Amphenol Fiber Optic	VZ1701	995741A

CONFIGURATIONS

Cables (Peripheral)					
Description	**Shield (Y/N)**	**Length (m)**	**Ferrite (Y/N)**	**Connection 1 (4G)**	**Connection 2**
(2) Fiber Optic Cables	N	2 meters	N	ABIA	AHFII
Cat-5e Cable	Y	7 meters	N	ASIA	WebEM- PC
HS-SUCOFLEX_106 – RF CABLE	Y	2 meters	N	EUT [AHFII] Ant 2-4	250W -50ohm -Load

Cables					
Description	**Shield (Y/N)**	**Length (m)**	**Ferrite (Y/N)**	**Connection 1**	**Connection 2**
HS-SUCOFLEX_106	Y	6 meters	N	EUT [AHFII] Ant port #1	Attenuator 250W/40dB
Attenuator 250W/40dB	N	NA	N	RF cable HS-SUCOFLEX_106	RF cable HS-SUCOFLEX_104
HS-SUCOFLEX_104	Y	1 meter	N	Attenuator 250W/40dB	Analyzer

RF Test Setup Diagram:



CONFIGURATIONS

Test Configuration 3 RF Conducted Emissions

Software/Firmware Running during test	
Description	**Version**
4G BTS Software Version (22R3)	SBTS22R3_ENB_9999_220219_000014
4G RF_SW	RF.FRM6.TRUNK.20220218.019

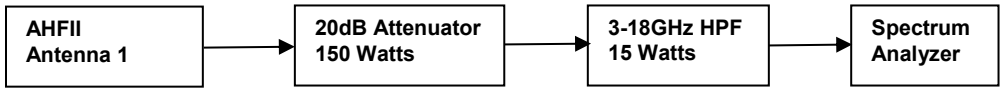
Equipment being tested (include Peripherals)			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
AMIA (BTS System Module)	Nokia Solutions and Networks	473098A.203	RK182307104
ASIA (4G BTS System Module)	Nokia Solutions and Networks	473095A.101	L1164309322
ABIA (4G BTS Baseband Module)	Nokia Solutions and Networks	473096A.103	AH173006372
ABIA (4G BTS Baseband Module)	Nokia Solutions and Networks	473096A.103	L1164121378
AHFII (Radio Remote Head)	Nokia Solutions and Networks	475656A.101	YK214000036
High Pass Filter 3-18GHz/15W	RLC Electronics	F-100-3500-5-R	0011
Attenuator 150W/20dB	Aeroflex Weinschel	66-20-33	BZ2075
SFP+ 9.8G,300M,850NM	Nokia	474900A.101	VF2023004CF
SFP+ 9.8G,300M,850NM	Nokia	474900A.101	VF2023000RM
SFP+ 9.8G,300M,850NM	Nokia	474900A.101	VF2020001BQ
SFP+ 9.8G,300M,850NM	Nokia	474900A.101	VF20180015S
Lenovo T490	HP	T490	PF26RVZ0
Keysight N8757- DC System power supply	Keysight	N8757A	US21D4054S
FPAC (DC-pwr supply)	Nokia	472805A.X21	A9124600282
2 Meter RF cable (Load Cable)	Huber + Suhner, Inc.	HS-SUCOFLEX_106	SN297388
2 Meter RF cable (Load Cable)	Huber + Suhner, Inc.	HS-SUCOFLEX_106	SN297387
2 Meter RF cable (Load Cable)	Huber + Suhner, Inc.	HS-SUCOFLEX_106	SN297384
250W -50ohm -Terminating Load	API Weinschel	1433-3-LIM	TC864
250W -50ohm -Terminating Load	API Weinschel	1433-3-LIM	TC869
250W -50ohm -Terminating Load	API Weinschel	1433-3-LIM	TC870
Cat-5e cable	CSA	LL73189	E151955
6 Meters RF cable	Huber + Suhner, Inc.	HS-SUCOFLEX_106	SN297389 SN297373 SN297372
1 Meter RF cable	Huber + Suhner, Inc.	HS-SUCOFLEX_104	SN551432/4
(2) Fiber Optic cable 2m	Amphenol Fiber Optic	VZ1701	995741A

CONFIGURATIONS

Cables (Peripheral)					
Description	**Shield (Y/N)**	**Length (m)**	**Ferrite (Y/N)**	**Connection 1 (4G)**	**Connection 2**
(2) Fiber Optic Cables	N	2 meters	N	ABIA	AHFII
Cat-5e Cable	Y	7 meters	N	ASIA	WebEM- PC
HS-SUCOFLEX_106 – RF CABLE	Y	2 meters	N	EUT [AHFII] Ant 2-4	250W -50ohm -Load

Cables					
Description	**Shield (Y/N)**	**Length (m)**	**Ferrite (Y/N)**	**Connection 1**	**Connection 2**
HS-SUCOFLEX_106	Y	6 meters	N	EUT [AHFII] Ant port #1	Attenuator 150W/20dB
Attenuator 150W/20dB	N	NA	N	RF cable HS-SUCOFLEX_106	High Pass Filter 3-18GHz/15W
High Pass Filter 3-18GHz/15W	N	NA	N	Attenuator 150W/20dB	RF cable HS-SUCOFLEX_104
HS-SUCOFLEX_104	Y	1 meter	N	High Pass Filter 3-18GHz/15W	Analyzer

RF Test Setup Diagram:



CONFIGURATIONS

Test Configuration 4 RF Conducted Emissions

Software/Firmware Running during test	
Description	**Version**
4G BTS Software Version (22R3)	SBTS22R3_ENB_9999_220219_000014
4G RF_SW	RF.FRM6.TRUNK.20220218.019

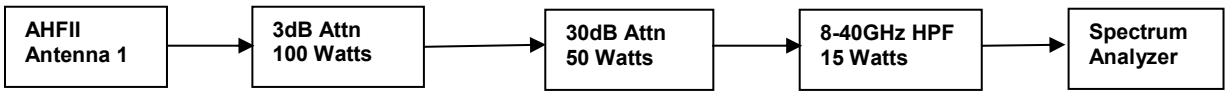
Equipment being tested (include Peripherals)			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
AMIA (BTS System Module)	Nokia Solutions and Networks	473098A.203	RK182307104
ASIA (4G BTS System Module)	Nokia Solutions and Networks	473095A.101	L1164309322
ABIA (4G BTS Baseband Module)	Nokia Solutions and Networks	473096A.103	AH173006372
ABIA (4G BTS Baseband Module)	Nokia Solutions and Networks	473096A.103	L1164121378
AHFII (Radio Remote Head)	Nokia Solutions and Networks	475656A.101	YK214000036
Attenuator 100W/3dB	API Weinschel	47-3-33	CC7387
Attenuator 50W/30dB	Narda	776B	30
High Pass Filter 8-40GHz/15W	RF-Lambda	RHPF23G08G40	17102700014
SFP+ 9.8G,300M,850NM	Nokia	474900A.101	VF2023004CF
SFP+ 9.8G,300M,850NM	Nokia	474900A.101	VF2023000RM
SFP+ 9.8G,300M,850NM	Nokia	474900A.101	VF2020001BQ
SFP+ 9.8G,300M,850NM	Nokia	474900A.101	VF20180015S
Lenovo T490	HP	T490	PF26RVZ0
Keysight N8757- DC System power supply	Keysight	N8757A	US21D4054S
FPAC (DC-pwr supply)	Nokia	472805A.X21	A9124600282
2 Meter RF cable (Load Cable)	Huber + Suhner, Inc.	HS-SUCOFLEX_106	SN297388
2 Meter RF cable (Load Cable)	Huber + Suhner, Inc.	HS-SUCOFLEX_106	SN297387
2 Meter RF cable (Load Cable)	Huber + Suhner, Inc.	HS-SUCOFLEX_106	SN297384
250W -50ohm -Terminating Load	API Weinschel	1433-3-LIM	TC864
250W -50ohm -Terminating Load	API Weinschel	1433-3-LIM	TC869
250W -50ohm -Terminating Load	API Weinschel	1433-3-LIM	TC870
Cat-5e cable	CSA	LL73189	E151955
6 Meters RF cable	Huber + Suhner, Inc.	HS-SUCOFLEX_106	SN297389 SN297373 SN297372
1 Meter RF cable	Huber + Suhner, Inc.	HS-SUCOFLEX_104	SN551432/4
(2) Fiber Optic cable 2m	Amphenol Fiber Optic	VZ1701	995741A

CONFIGURATIONS

Cables (Peripheral)					
Description	**Shield (Y/N)**	**Length (m)**	**Ferrite (Y/N)**	**Connection 1 (4G)**	**Connection 2**
Fiber Optic Cables (2)	N	2 meters	N	ABIA (2)	AHFII
Cat-5e Cable	Y	7 meters	N	ASIA	WebEM- PC
HS-SUCOFLEX_106 – RF CABLE	Y	2 meters	N	EUT [AHFII] Ant 2-4	250W -50ohm -Load

Cables					
Description	**Shield (Y/N)**	**Length (m)**	**Ferrite (Y/N)**	**Connection 1**	**Connection 2**
HS-SUCOFLEX_106	Y	6 meters	N	EUT [AHFII] Ant port #1	Attenuator 100W/3dB
Attenuator 100W/3dB	N	NA	N	RF cable HS-SUCOFLEX_106	Attenuator 50W/30dB
Attenuator 50W/30dB	N	NA	N	Attenuator 100W/3dB	High Pass Filter 8-40GHz/15W
HS-SUCOFLEX_104	Y	1 meter	N	Attenuator 250W/40dB	Analyzer

RF Test Setup Diagram:



CONFIGURATIONS

Test Configuration 5 Radiated Emissions

Software/Firmware Running during test	
Description	**Version**
4G BTS Software Version (22R3)	SBTS22R3_ENB_9999_220219_000014
4G RF_SW	RF.FRM6.TRUNK.20220218.019

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Remote Radio Head	Nokia Solutions and Networks	AHFII / 475656A.101	YK214000036

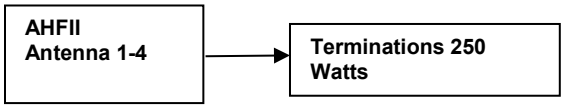
Peripherals in the test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
AOMC SFP28+ 9.8G,70M,850NM (Multi-Mode - Radio)	Nokia	474900A.101	VF2023004CF
AOMC SFP28+ 9.8G,70M,850NM (Multi-Mode - BS)	Nokia	474900A.101	VF2020001BQ
AOSD SFP28+ 9.8G,10KM,850NM (Single-Mode - Radio)	Nokia	474900A.101	VF19220012F
AOSD SFP28+ 9.8G,10KM,850NM (Single-Mode - BS)	Nokia	474900A.101	VF19230003E

CONFIGURATIONS

Equipment Outside of Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
AMIA (BTS System Module)	Nokia Solutions and Networks	473098A.203	RK182307104
ASIA (4G BTS System Module)	Nokia Solutions and Networks	473095A.101	L1164309322
ABIA (4G BTS Baseband Module)	Nokia Solutions and Networks	473096A.103	AH173006372
250W -50ohm -Terminating Load	API Weinschel	1433-3-LIM	TC864
250W -50ohm -Terminating Load	API Weinschel	1433-3-LIM	TC869
250W -50ohm -Terminating Load	API Weinschel	1433-3-LIM	TC870
250W -50ohm -Terminating Load	API Weinschel	1433-3-LIM	TC866
Electric Fan (AC PWR)	Electric	L908	None
ThinkPad T490 (WebEM- PC)	Lenovo	20N3S88012	PF26RVZ0
Keysight N8757- DC System power supply	Keysight	N8757A	US21D4054S
Cat-5e cable	CSA	LL73189	E151955

Cables					
Description	**Shield (Y/N)**	**Length (m)**	**Ferrite (Y/N)**	**Connection 1**	**Connection 2**
TMS Load 1	Y	2m	N	EUT [AHFII] Ant port #1	Antenna Load 1
TMS Load 2	Y	2m	N	EUT [AHFII] Ant port #2	Antenna Load 2
TMS Load 3	Y	2m	N	EUT [AHFII] Ant port #3	Antenna Load 3
TMS Load 4	Y	2m	N	EUT [AHFII] Ant port #4	Antenna Load 4
AC Power (PS Base Station)	N	2m	N	AC mains	Power Supply (Base Station)
AC Power (Laptop)	N	1.65m	N	AC Mains	Power Supply (Laptop)
DC Power Leads	N	7.5m	Y	DC Power Supply (Keysight)	Remote Radio Head Module
AC Power (KeySight)	N	4m	N	AC mains	DC Power Supply (Radio)
Optical Fiber (MM + SM)	N	30m	N	Airscale Base Station (ABIA)	Remote Radio Head Module
RET	N	2.4m	N	Remote Radio Head Module	Unterminated
EAC	N	5.4m	N	Remote Radio Head Module	Unterminated
Grounding	N	3m	N	Remote Radio Head Module	Turntable Ground
Cat-5e Data cable	Y	2m	N	ASIA	WebEM- PC

RF Test Setup Diagram:



CONFIGURATIONS

Test Configuration 6 Frequency Stability

Software/Firmware Running during test	
Description	**Version**
4G BTS Software Version (22R3)	SBTS22R3_ENB_9999_220219_000014
4G RF_SW	RF. FRM6.TRUNK.20220218.019

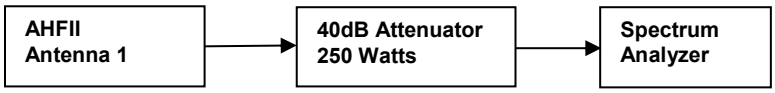
Equipment being tested (include Peripherals)			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
AMIA (BTS System Module)	Nokia Solutions and Networks	473098A.203	RK182307104
ASIA (4G BTS System Module)	Nokia Solutions and Networks	473095A.101	L1164309322
ABIA (4G BTS Baseband Module)	Nokia Solutions and Networks	473096A.103	AH173006372
AHFII (Remote Radio Head)	Nokia Solutions and Networks	475656A.101	YK214000036
Attenuator 40dB/250W	API Weinschel	58-40-43-LIM	TC909
SFP+ 9.8G,300M,850NM	Nokia	474900A.101	VF2020001BQ
SFP+ 9.8G,300M,850NM	Nokia	474900A.101	VF20180015S
Lenovo T490	HP	T490	PF26RVZ0
Keysight N8757- DC System power supply	Keysight	N8757A	US21D4054S
FPAC (DC-pwr supply)	Nokia	472805A.X21	A9124600282
2 Meter RF cable (Load Cable)	Huber + Suhner, Inc.	HS-SUCOFLEX_106	SN297388
2 Meter RF cable (Load Cable)	Huber + Suhner, Inc.	HS-SUCOFLEX_106	SN297387
2 Meter RF cable (Load Cable)	Huber + Suhner, Inc.	HS-SUCOFLEX_106	SN297384
2 Meter RF cable (Load Cable)	Huber + Suhner, Inc.	HS-SUCOFLEX_106	SN297385
250W -50ohm -Terminating Load	API Weinschel	1433-3-LIM	TC864
250W -50ohm -Terminating Load	API Weinschel	1433-3-LIM	TC869
250W -50ohm -Terminating Load	API Weinschel	1433-3-LIM	TC870
250W -50ohm -Terminating Load	API Weinschel	1433-3-LIM	TC866
Cat-5e cable	CSA	LL73189	E151955
6 Meters RF cable	Huber + Suhner, Inc.	HS-SUCOFLEX_106	SN297389 SN297373 SN297372
1 Meter RF cable	Huber + Suhner, Inc.	HS-SUCOFLEX_104	SN551432/4
Thermal Chamber	Cincinnati Sub-zero Product Inc	ZPH-8-2-SCT/AC	ZP1424214
Digital Multimeter	Fluke	77IV	CAL: 27210148
Thermometer	Omega Engineering Inc	HH31	1130101855
Reference cable (Frame Clock & Trigger)	Pomona	2249	C-72

CONFIGURATIONS

Cables (Peripheral)					
Description	**Shield (Y/N)**	**Length (m)**	**Ferrite (Y/N)**	**Connection 1 (4G)**	**Connection 2**
Fiber Optic Cable	N	2 meters	N	ABIA	AHFII
Cat-5e Cable	Y	7 meters	N	ASIA	WebEM- PC
HS-SUCOFLEX_106	Y	6 meters	N	AHFII Ant 1	Attenuator 250W/40dB
Attenuator 250W/40dB	N	NA	N	RF cable HS-SUCOFLEX_106	RF cable HS-SUCOFLEX_104
HS-SUCOFLEX_104	Y	2 meters	N	Attenuator 250W/40dB	Analyzer
HS-SUCOFLEX_106 – RF CABLE	Y	2 meters	N	EUT [AHFII] Ant 2-4	250W -50ohm - Load
Reference cables (Frame Clock & Trigger)	Y	1 meter	N	ASIA	Analyzer
Grounding	N	3 meters	N	Remote Radio Head Module	Interior Temp Chamber wall

Cables					
Description	**Shield (Y/N)**	**Length (m)**	**Ferrite (Y/N)**	**Connection 1**	**Connection 2**
HS-SUCOFLEX_106	Y	6 meters	N	EUT [AHFII] Ant port #1	Attenuator 250W/40dB
Attenuator 250W/40dB	N	NA	N	RF cable HS-SUCOFLEX_106	RF cable HS-SUCOFLEX_104
HS-SUCOFLEX_104	Y	1 meter	N	Attenuator 250W/40dB	Analyzer

RF Test Setup Diagram:



MODIFICATIONS

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	2022-02-28	Occupied Bandwidth	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
2	2022-02-28	Peak to Average Power (PAPR)CCDF	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
3	2022-02-28	Band Edge Compliance	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
4	2022-03-16	Occupied Bandwidth	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
5	2022-03-16	Power Spectral Density	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
6	2022-03-17	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
7	2022-03-18	Frequency Stability	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
8	2022-03-18	Spurious Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

OUTPUT POWER - ALL PORTS

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	SD3379	AMT	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 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 measurement. This method uses trace averaging across 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, to the measured power to compute the average power during the actual transmission times.

RF conducted emissions testing was performed on four ports at Band 25 and Band 66 middle channel to demonstrate that the AHFII antenna ports are essentially electrically identical. AHFII 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.

OUTPUT POWER - ALL PORTS

element

TbtTx 2021.12.14.1 XMit 2022.02.07.0

EUT:	**AHFII Remote Radio Head**			**Work Order:**	**NOKI0037**
Serial Number:	**YK214000036**			**Date:**	**28-Feb-22**
Customer:	**Nokia Solutions and Networks**			**Temperature:**	**22.6 °C**
Attendees:	**David Le, John Rattanavong**			**Humidity:**	**23.7% RH**
Project:	**None**			**Barometric Pres.:**	**1026 mbar**
Tested by:	**Mark Baytan**	**Power:**	**54 VDC**	**Job Site:**	**TX09**

TEST SPECIFICATIONS	**Test Method**
FCC 24E:2022	ANSI C63.26:2015
RSS-133 Issue 6:2013+A1:2018	RSS-133 Issue 6:2013+A1:2018

COMMENTS

All measurement path loses accounted for in the reference level offest including any attenuators, filters, and DC blocks. Band 25 carriers enabled at maximum power is 80 watts/carrier.

DEVIATIONS FROM TEST STANDARD

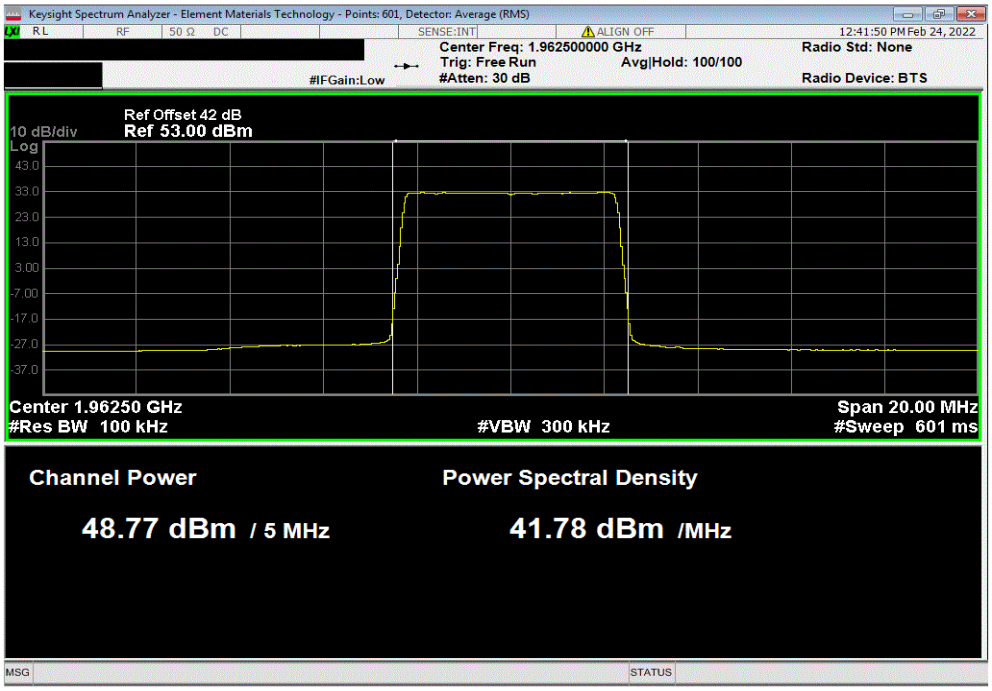
None

Configuration #	**2**	*Signature*

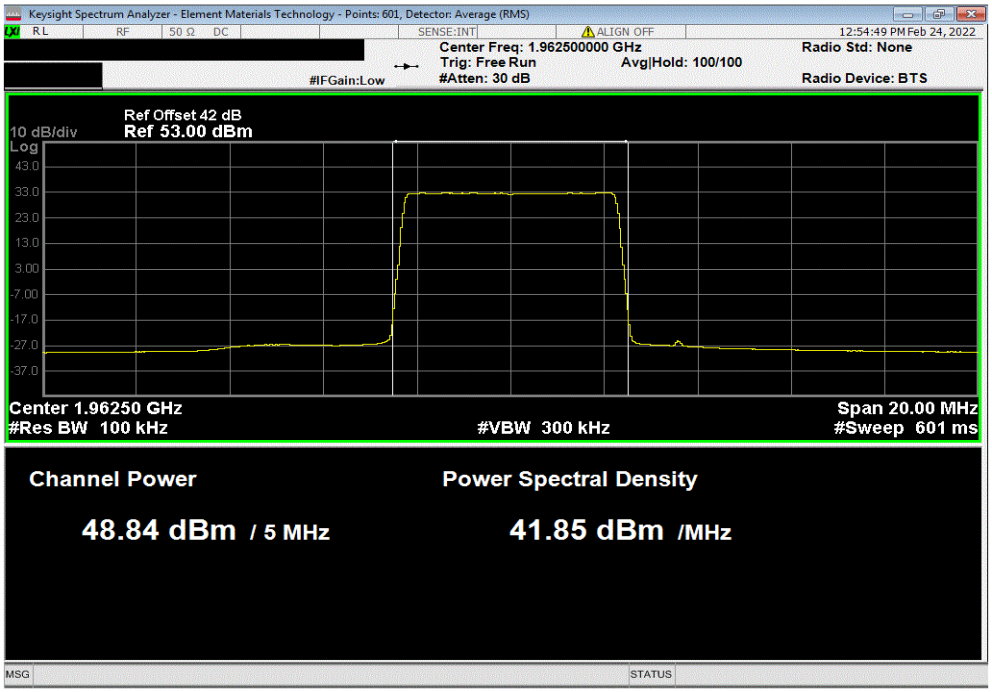
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	ALL Ports Value (dBm)	Limit	Results
Band 25, 1930 MHz - 1995 MHz, LTE Single Carrier						
Port 1						
5 MHz Bandwdith						
256-QAM Modulation						
Mid Channel, 1962.5 MHz	48.770	0	48.8	N/A	Inside Tolerance	N/A
Port 2						
5 MHz Bandwdith						
256-QAM Modulation						
Mid Channel, 1962.5 MHz	48.836	0	48.8	N/A	Inside Tolerance	N/A
Port 3						
5 MHz Bandwdith						
256-QAM Modulation						
Mid Channel, 1962.5 MHz	48.796	0	48.8	N/A	Inside Tolerance	N/A
Port 4						
5 MHz Bandwdith						
256-QAM Modulation						
Mid Channel, 1962.5 MHz	48.877	0	48.9	N/A	Inside Tolerance	N/A

OUTPUT POWER - ALL PORTS

Band 25, 1930 MHz - 1995 MHz, LTE Single Carrier, Port 1, 5 MHz Bandwdith, 256-QAM Modulation, Mid Channel, 1962.5 MHz						
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	ALL Ports Value (dBm)	Limit	Results
	48.77	0	48.8	N/A	Inside Tolerance	N/A



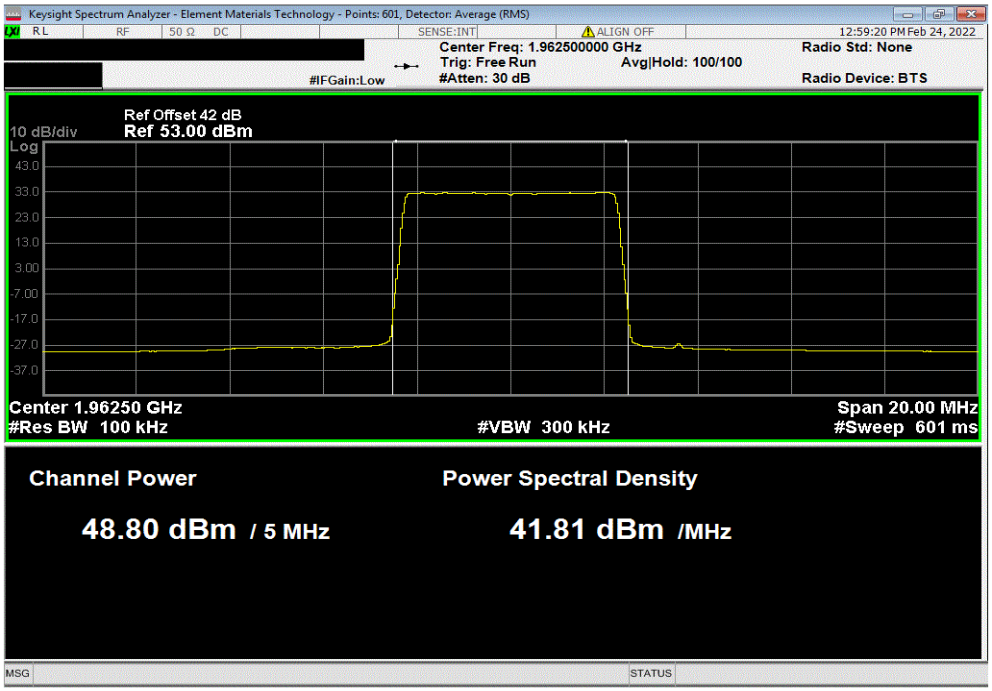
Band 25, 1930 MHz - 1995 MHz, LTE Single Carrier, Port 2, 5 MHz Bandwdith, 256-QAM Modulation, Mid Channel, 1962.5 MHz						
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	ALL Ports Value (dBm)	Limit	Results
	48.836	0	48.8	N/A	Inside Tolerance	N/A



OUTPUT POWER - ALL PORTS

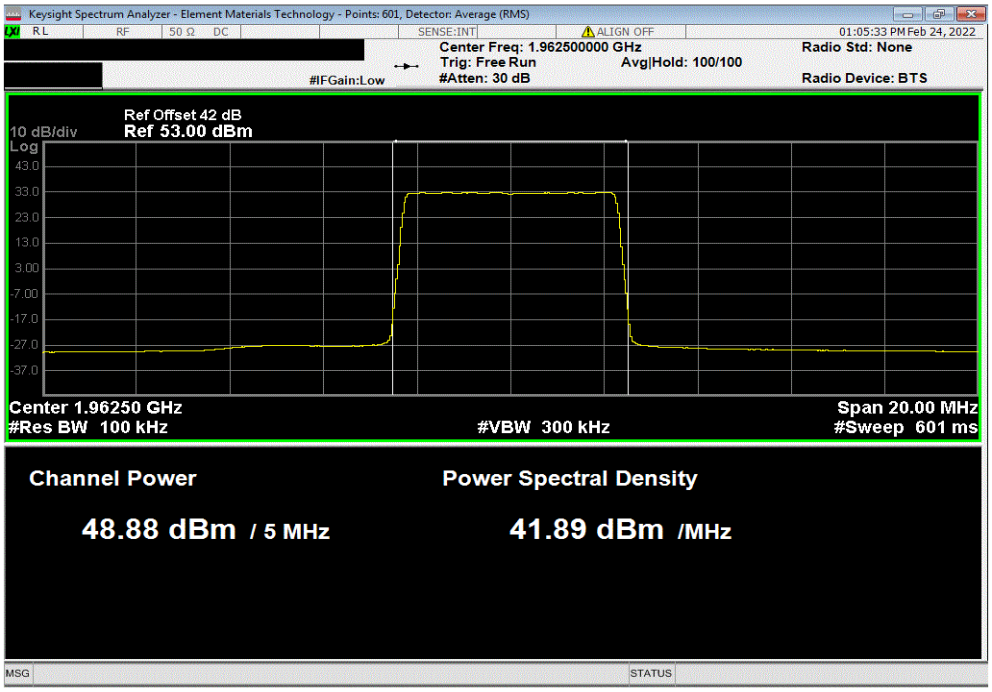
Band 25, 1930 MHz - 1995 MHz, LTE Single Carrier, Port 3, 5 MHz Bandwdith, 256-QAM Modulation, Mid Channel, 1962.5 MHz

	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	ALL Ports Value (dBm)	Limit	Results
	48.796	0	48.8	N/A	Inside Tolerance	N/A



Band 25, 1930 MHz - 1995 MHz, LTE Single Carrier, Port 4, 5 MHz Bandwdith, 256-QAM Modulation, Mid Channel, 1962.5 MHz

	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	ALL Ports Value (dBm)	Limit	Results
	48.877	0	48.9	N/A	Inside Tolerance	N/A



OUTPUT POWER - ALL PORTS

Band 25, 1930 MHz - 1995 MHz, LTE Single Carrier, Port 3, 5 MHz Bandwdith, 256-QAM Modulation, Mid Channel, 1962.5 MHz						
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	ALL Ports Value (dBm)	Limit	Results
	N/A	0	N/A	54.85	N/A	N/A

AVERAGE POWER PORT SUMMING					
	PORT 1	PORT 2	PORT 3	PORT 4	SUM TOTAL
INITIAL VALUE (dBm)	48.8	48.8	48.8	48.9	N/A
INITIAL VALUE (Watts)	75.86	75.86	75.86	77.62	305.2
TOTAL VALUE (dBm)	N/A	N/A	N/A	N/A	54.85

OUTPUT POWER - ALL PORTS

element

TbtTx 2021.12.14.1 XMit 2022.02.07.0

EUT:	AHFII Remote Radio Head			Work Order:	NOKI0037
Serial Number:	YK214000036			Date:	28-Feb-22
Customer:	Nokia Solutions and Networks			Temperature:	22.6 °C
Attendees:	David Le, John Rattanavong			Humidity:	23.7% RH
Project:	None			Barometric Pres.:	1026 mbar
Tested by:	Mark Baytan	Power:	54 VDC	Job Site:	TX09

TEST SPECIFICATIONS	Test Method
FCC 27:2022	ANSI C63.26:2015
RSS-139 Issue 3:2015	RSS-139 Issue 3:2015
RSS-170 Issue 3:2015	RSS-170 Issue 3:2015

COMMENTS

All measurement path loses accounted for in the reference level offest including any attenuators, filters, and DC blocks. Band 66 carriers enabled at maximum power is 80 watts/carrier.

DEVIATIONS FROM TEST STANDARD

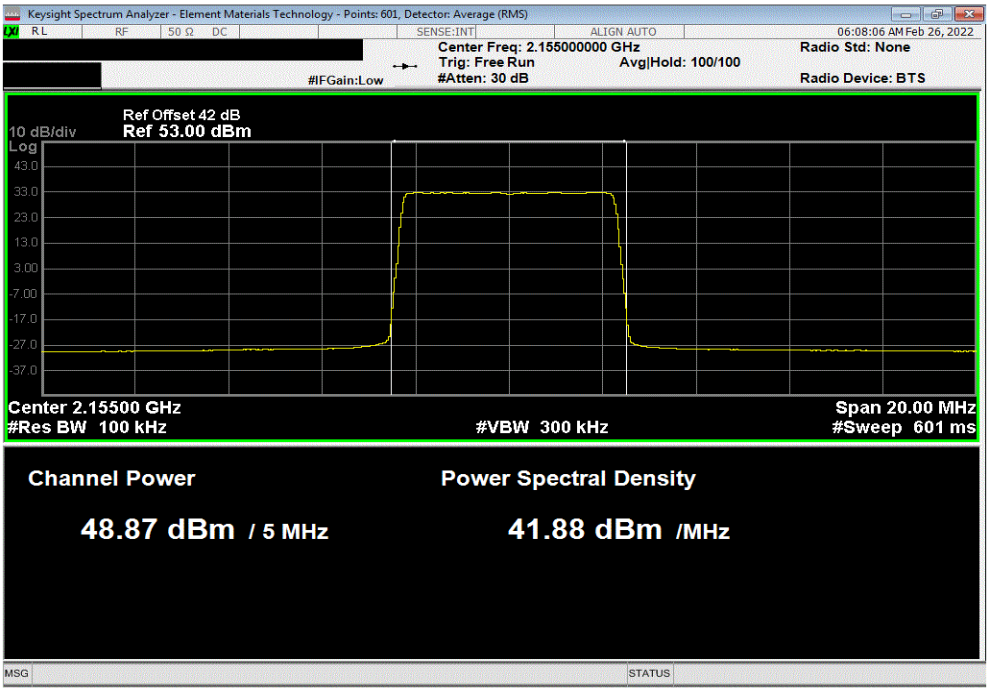
None

Configuration #	2	Signature

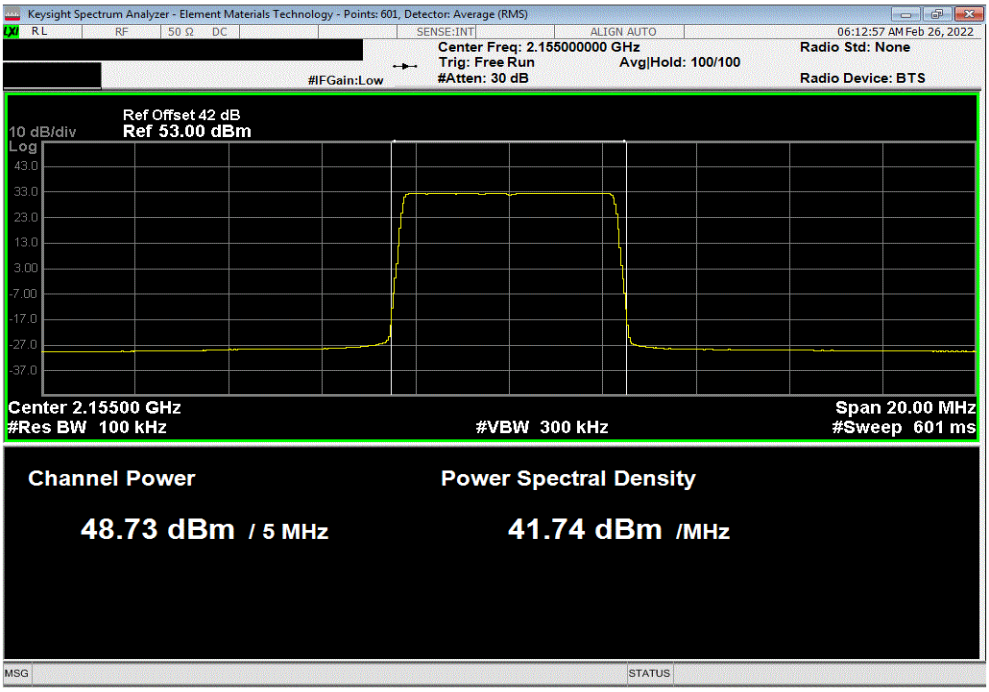
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	All Ports Value (dBm)	Limit	Results
Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier						
Port 1						
5 MHz Bandwdith						
256-QAM Modulation						
Mid Channel, 2155 MHz	48.874	0	48.9		Inside Tolerance	N/A
Port 2						
5 MHz Bandwdith						
256-QAM Modulation						
Mid Channel, 2155 MHz	48.732	0	48.7		Inside Tolerance	N/A
Port 3						
5 MHz Bandwdith						
256-QAM Modulation						
Mid Channel, 2155 MHz	48.904	0	48.9		Inside Tolerance	N/A
Port 4						
5 MHz Bandwdith						
256-QAM Modulation						
Mid Channel, 2155 MHz	48.855	0	48.9		Inside Tolerance	N/A

OUTPUT POWER - ALL PORTS

Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 1, 5 MHz Bandwdith, 256-QAM Modulation, Mid Channel, 2155 MHz						
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	All Ports Value (dBm)	Limit	Results
	48.874	0	48.9		Inside Tolerance	N/A

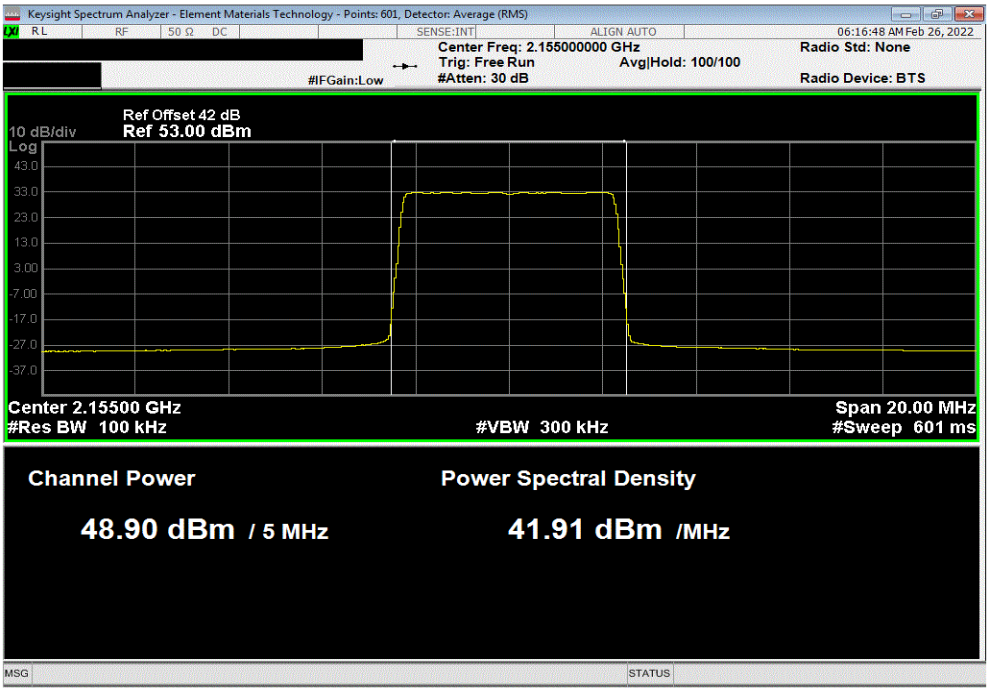


Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 2, 5 MHz Bandwdith, 256-QAM Modulation, Mid Channel, 2155 MHz						
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	All Ports Value (dBm)	Limit	Results
	48.732	0	48.7		Inside Tolerance	N/A

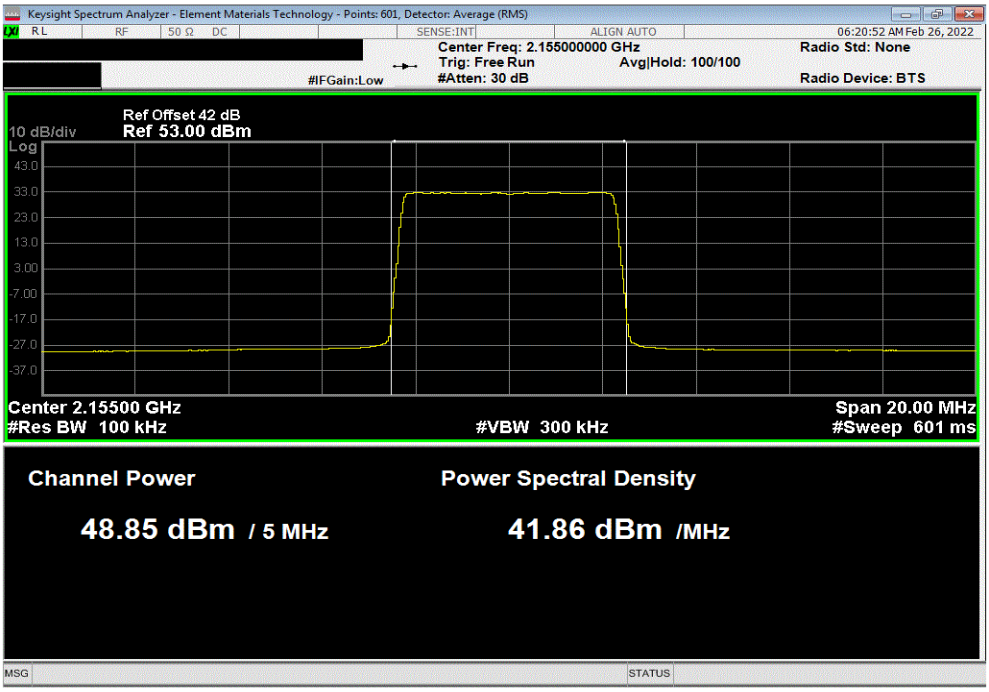


OUTPUT POWER - ALL PORTS

Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 3, 5 MHz Bandwdith, 256-QAM Modulation, Mid Channel, 2155 MHz						
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	All Ports Value (dBm)	Limit	Results
	48.904	0	48.9		Inside Tolerance	N/A



Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 4, 5 MHz Bandwdith, 256-QAM Modulation, Mid Channel, 2155 MHz						
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	All Ports Value (dBm)	Limit	Results
	48.855	0	48.9		Inside Tolerance	N/A



OUTPUT POWER - ALL PORTS

Band 66, 2110 MHz - 2200 MHz, LTE Single Carrier, Port 3, 5 MHz Bandwdith, 256-QAM Modulation, Mid Channel, 2155 MHz						
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	All Ports Value (dBm)	Limit	Results
	N/A	0	N/A		N/A	N/A

AVERAGE POWER PORT SUMMING					
	PORT 1	PORT 2	PORT 3	PORT 4	SUM TOTAL
INITIAL VALUE (dBm)	48.8	48.7	48.9	48.9	N/A
INITIAL VALUE (Watts)	75.86	74.13	77.62	77.62	305.23
TOTAL VALUE (dBm)	N/A	N/A	N/A	N/A	54.85

OUTPUT POWER - ALL PORTS

element

TbtTx 2021.12.14.1 XMit 2022.02.07.0

EUT:	AHFII Remote Radio Head			Work Order:	NOKI0037
Serial Number:	YK214000036			Date:	28-Feb-22
Customer:	Nokia Solutions and Networks			Temperature:	22.6 °C
Attendees:	David Le, John Rattanavong			Humidity:	23.7% RH
Project:	None			Barometric Pres.:	1026 mbar
Tested by:	Mark Baytan	Power:	54 VDC	Job Site:	TX09

TEST SPECIFICATIONS	Test Method
FCC 24E:2022	ANSI C63.26:2015
RSS-133 Issue 6:2013+A1:2018	RSS-133 Issue 6:2013+A1:2018

COMMENTS

All measurement path loses accounted for in the reference level offest including any attenuators, filters, and DC blocks. The carriers are operated at maximum power (~26W/PCS carrier and 40W/AWS carrier) with at total port power of 120 watts (80W for PCS band carriers + 40W for AWS band carrier).

DEVIATIONS FROM TEST STANDARD

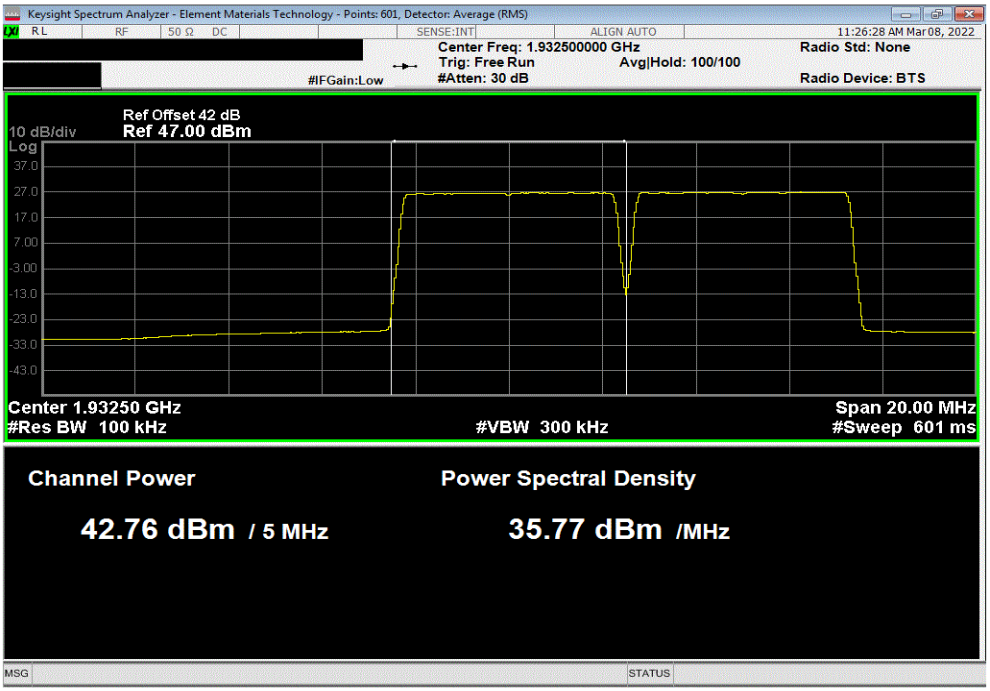
None

Configuration #	2	Signature

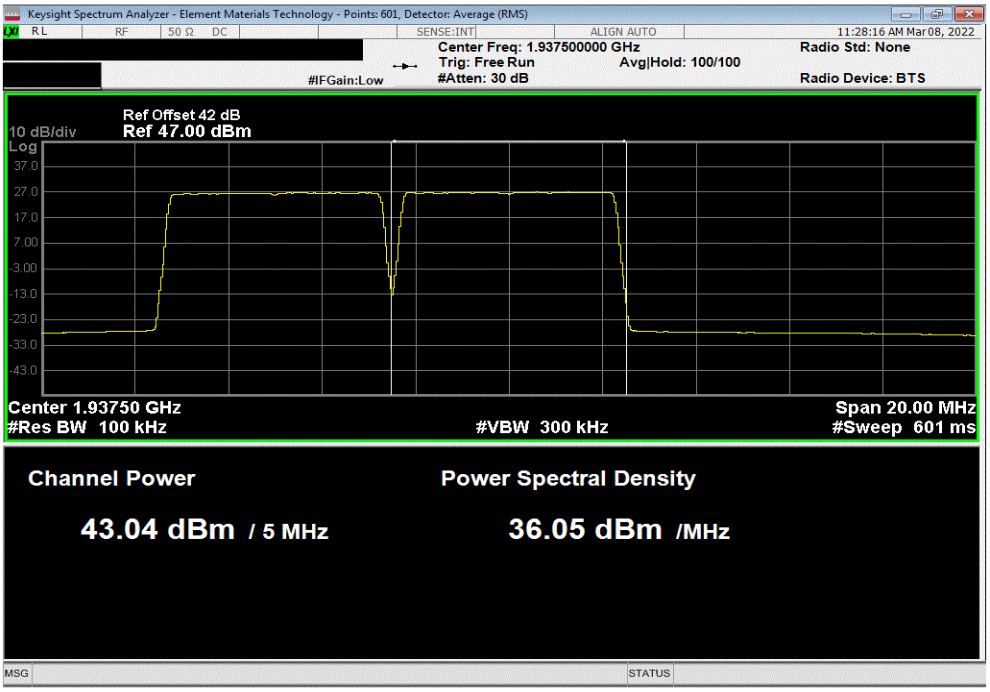
		Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW		Limit	Results
PCS Multicarrier Multiband							
Port 1							
Test Case 1: PCS Band LTE5 (3 Carriers), AWS Band LTE1.4 (Single Carrier)							
256-QAM Modulation							
	PCS Carrier 1, 1932.5 MHz	42.758	0	42.8	N/A	Inside Tolerance	N/A
	PCS Carrier 2, 1937.5 MHz	43.04	0	43.0	N/A	Inside Tolerance	N/A
	PCS Carrier 3, 1992.5 MHz	43.563	0	43.6	N/A	Inside Tolerance	N/A
	AWS Single Carrier, 2155 MHz	45.788	0	45.8	N/A	Inside Tolerance	N/A
Port 2							
Test Case 1: PCS Band LTE5 (3 Carriers), AWS Band LTE1.4 (Single Carrier)							
256-QAM Modulation							
	PCS Carrier 1, 1932.5 MHz	43.29	0	43.4	N/A	Inside Tolerance	N/A
	PCS Carrier 2, 1937.5 MHz	43.275	0	43.3	N/A	Inside Tolerance	N/A
	PCS Carrier 3, 1992.5 MHz	43.625	0	43.6	N/A	Inside Tolerance	N/A
	AWS Single Carrier, 2155 MHz	45.603	0	45.6	N/A	Inside Tolerance	N/A
Port 3							
Test Case 1: PCS Band LTE5 (3 Carriers), AWS Band LTE1.4 (Single Carrier)							
256-QAM Modulation							
	PCS Carrier 1, 1932.5 MHz	42.712	0	42.7	N/A	Inside Tolerance	N/A
	PCS Carrier 2, 1937.5 MHz	43.047	0	43.0	N/A	Inside Tolerance	N/A
	PCS Carrier 3, 1992.5 MHz	43.778	0	43.8	N/A	Inside Tolerance	N/A
	AWS Single Carrier, 2155 MHz	46.056	0	46.1	N/A	Inside Tolerance	N/A
Port 4							
Test Case 1: PCS Band LTE5 (3 Carriers), AWS Band LTE1.4 (Single Carrier)							
256-QAM Modulation							
	PCS Carrier 1, 1932.5 MHz	43.12	0	43.1	N/A	Inside Tolerance	N/A
	PCS Carrier 2, 1937.5 MHz	43.085	0	43.1	N/A	Inside Tolerance	N/A
	PCS Carrier 3, 1992.5 MHz	43.851	0	43.9	N/A	Inside Tolerance	N/A
	AWS Single Carrier, 2155 MHz	45.948	0	46.0	45.948	Inside Tolerance	N/A

OUTPUT POWER - ALL PORTS

PCS Multicarrier Multiband, Port 1, Test Case 1: PCS Band LTE5 (3 Carriers), AWS Band LTE1.4 (Single Carrier), 256-QAM Modulation, PCS Carrier 1, 1932.5 MHz						
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW		Limit	Results
	42.758	0	42.8	N/A	Inside Tolerance	N/A

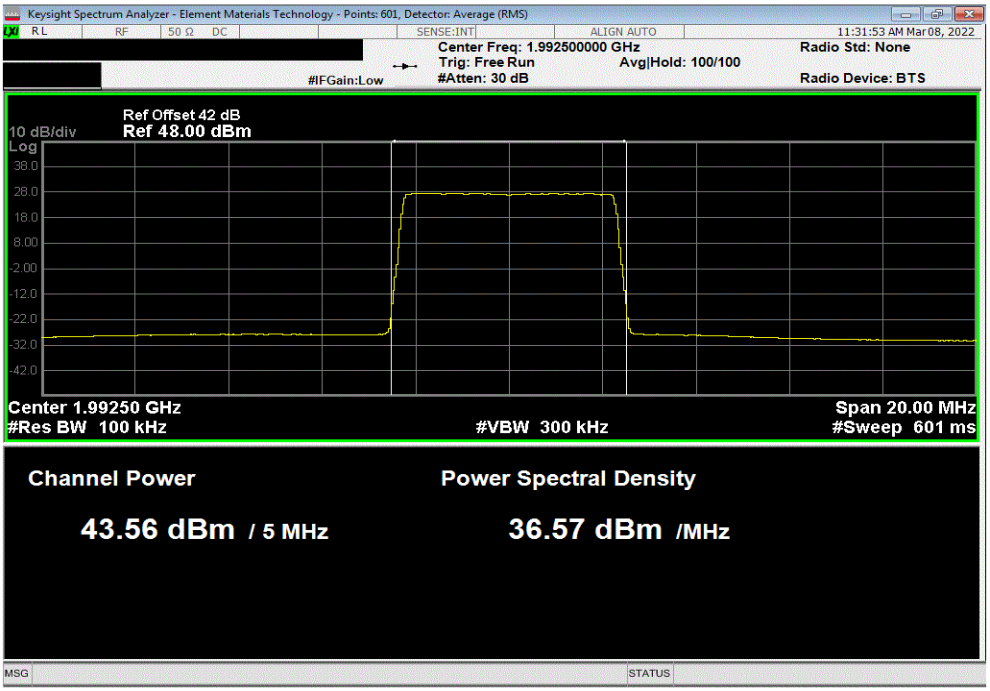


PCS Multicarrier Multiband, Port 1, Test Case 1: PCS Band LTE5 (3 Carriers), AWS Band LTE1.4 (Single Carrier), 256-QAM Modulation, PCS Carrier 2, 1937.5 MHz						
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW		Limit	Results
	43.04	0	43.0	N/A	Inside Tolerance	Pass

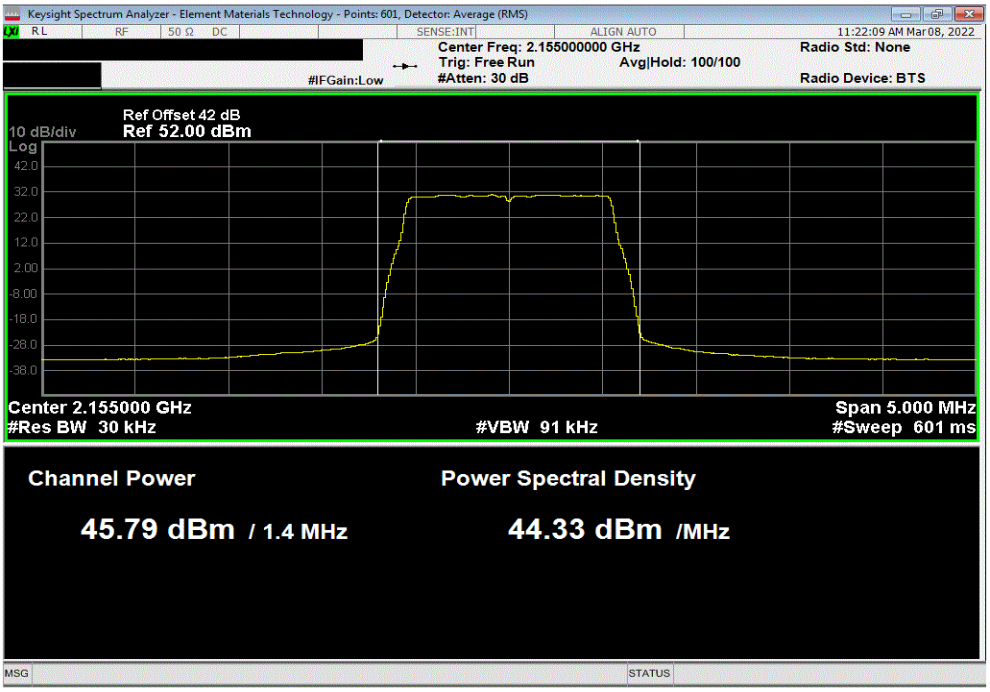


OUTPUT POWER - ALL PORTS

PCS Multicarrier Multiband, Port 1, Test Case 1: PCS Band LTE5 (3 Carriers), AWS Band LTE1.4 (Single Carrier), 256-QAM Modulation, PCS Carrier 3, 1992.5 MHz						
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW		Limit	Results
	43.563	0	43.6	N/A	Inside Tolerance	Pass

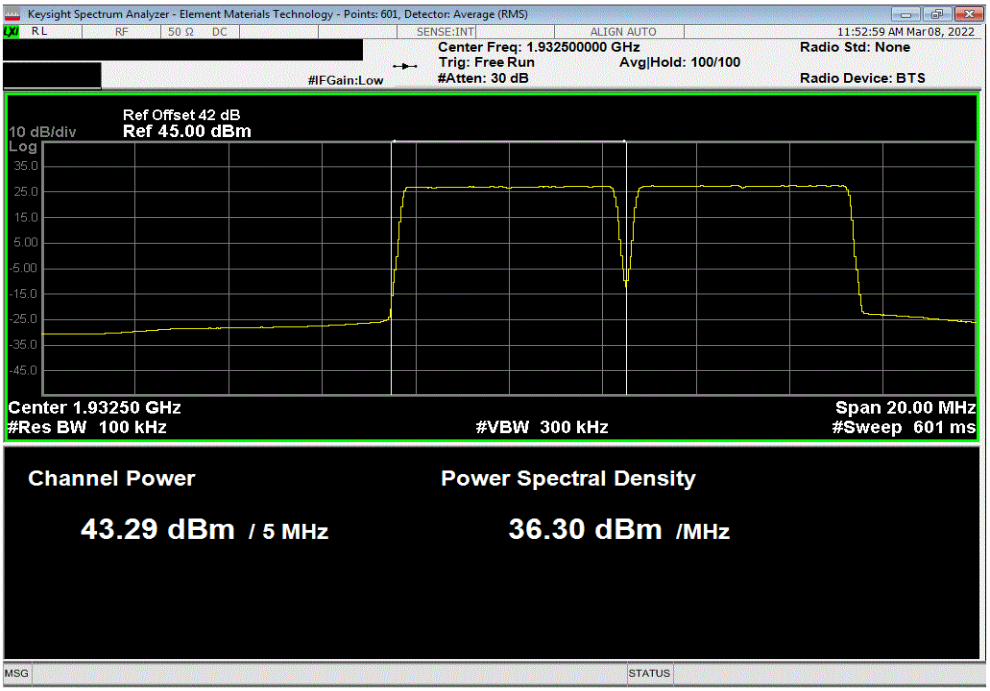


PCS Multicarrier Multiband, Port 1, Test Case 1: PCS Band LTE5 (3 Carriers), AWS Band LTE1.4 (Single Carrier), 256-QAM Modulation, AWS Single Carrier, 2155 MHz						
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW		Limit	Results
	45.788	0	45.8	N/A	Inside Tolerance	Pass



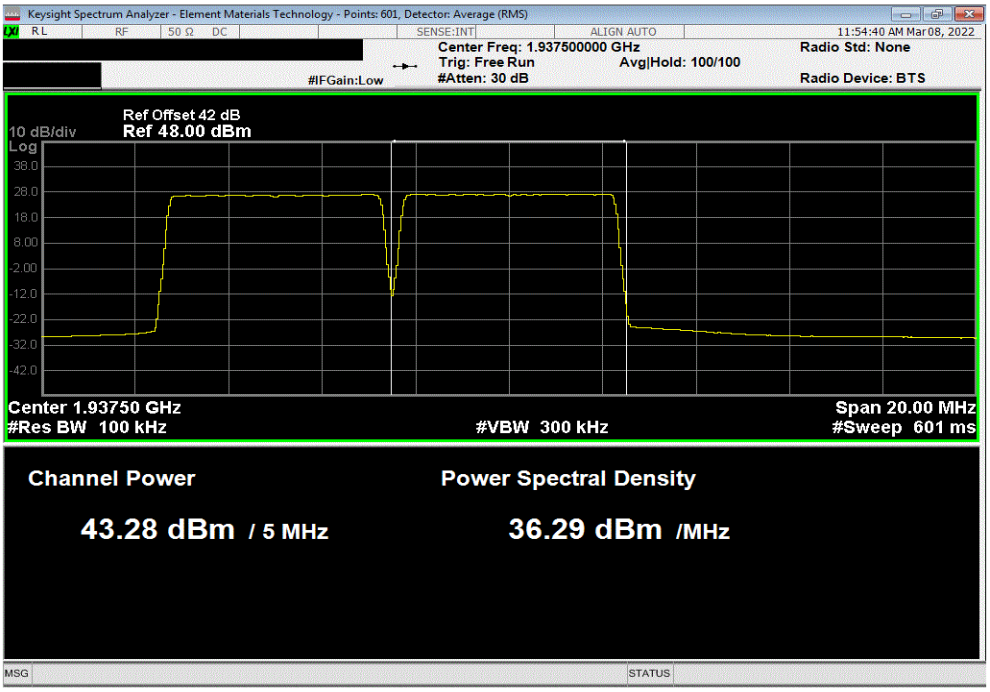
PCS Multicarrier Multiband, Port 2, Test Case 1: PCS Band LTE5 (3 Carriers), AWS Band LTE1.4 (Single Carrier), 256-QAM Modulation, PCS Carrier 1, 1932.5 MHz

	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW		Limit	Results
	43.29	0	43.4	N/A	Inside Tolerance	Pass



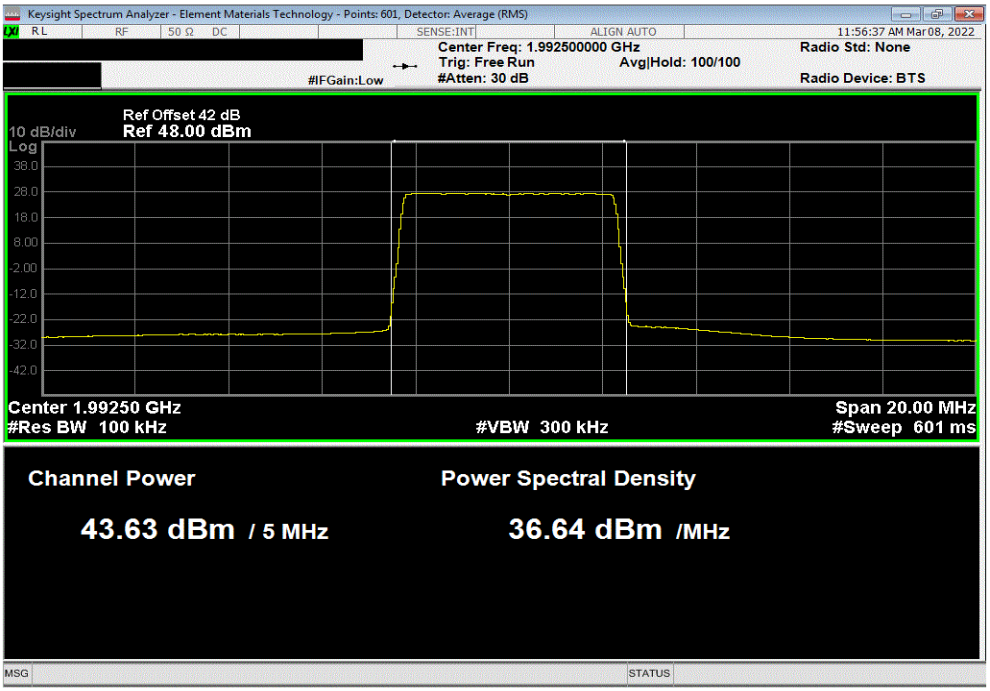
PCS Multicarrier Multiband, Port 2, Test Case 1: PCS Band LTE5 (3 Carriers), AWS Band LTE1.4 (Single Carrier), 256-QAM Modulation, PCS Carrier 2, 1937.5 MHz

	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW		Limit	Results
	43.275	0	43.3	N/A	Inside Tolerance	Pass

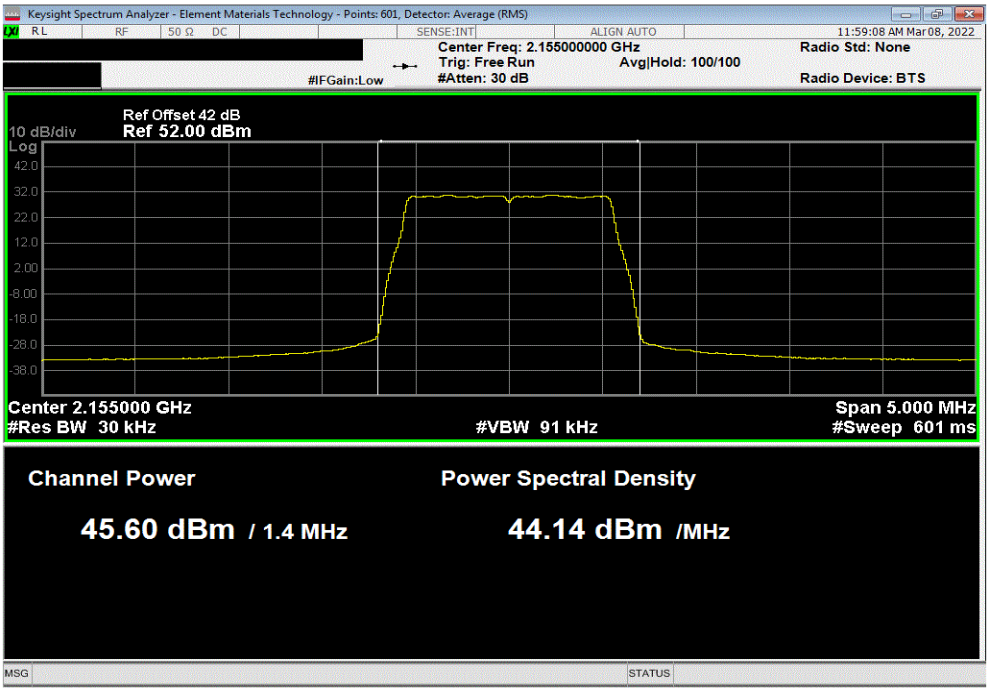


OUTPUT POWER - ALL PORTS

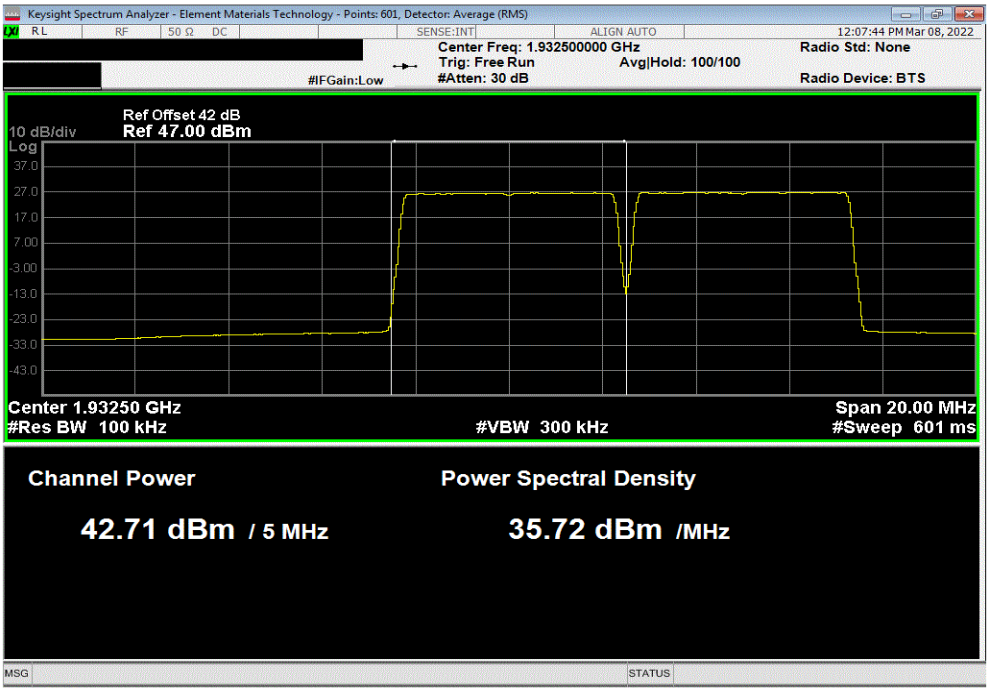
PCS Multicarrier Multiband, Port 2, Test Case 1: PCS Band LTE5 (3 Carriers), AWS Band LTE1.4 (Single Carrier), 256-QAM Modulation, PCS Carrier 3, 1992.5 MHz						
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW		Limit	Results
	43.625	0	43.6	N/A	Inside Tolerance	Pass



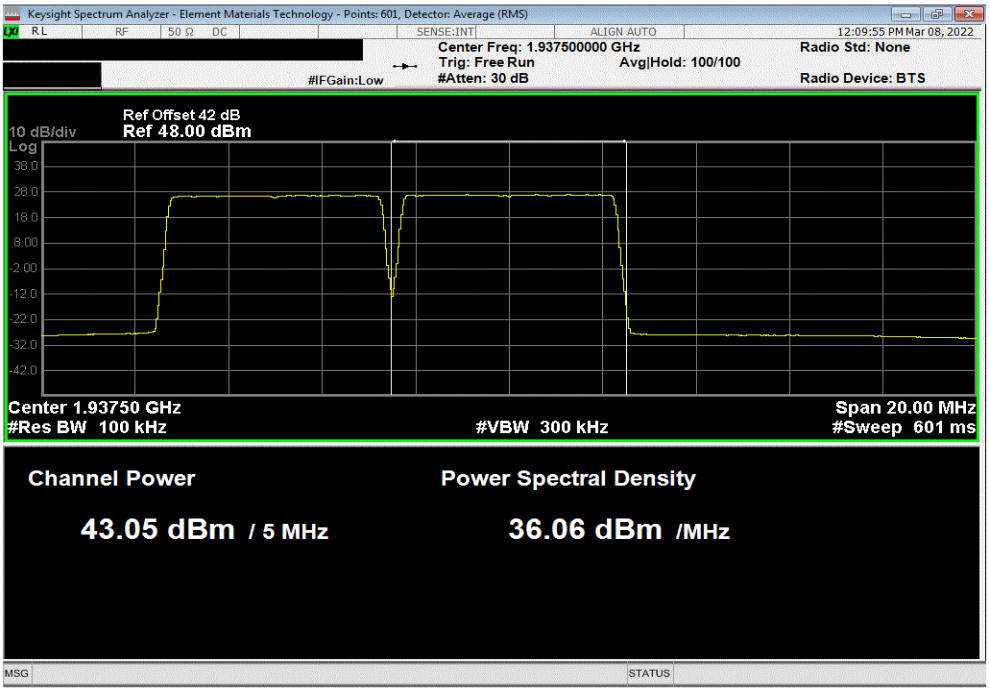
PCS Multicarrier Multiband, Port 2, Test Case 1: PCS Band LTE5 (3 Carriers), AWS Band LTE1.4 (Single Carrier), 256-QAM Modulation, AWS Single Carrier, 2155 MHz						
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW		Limit	Results
	45.603	0	45.6	N/A	Inside Tolerance	Pass



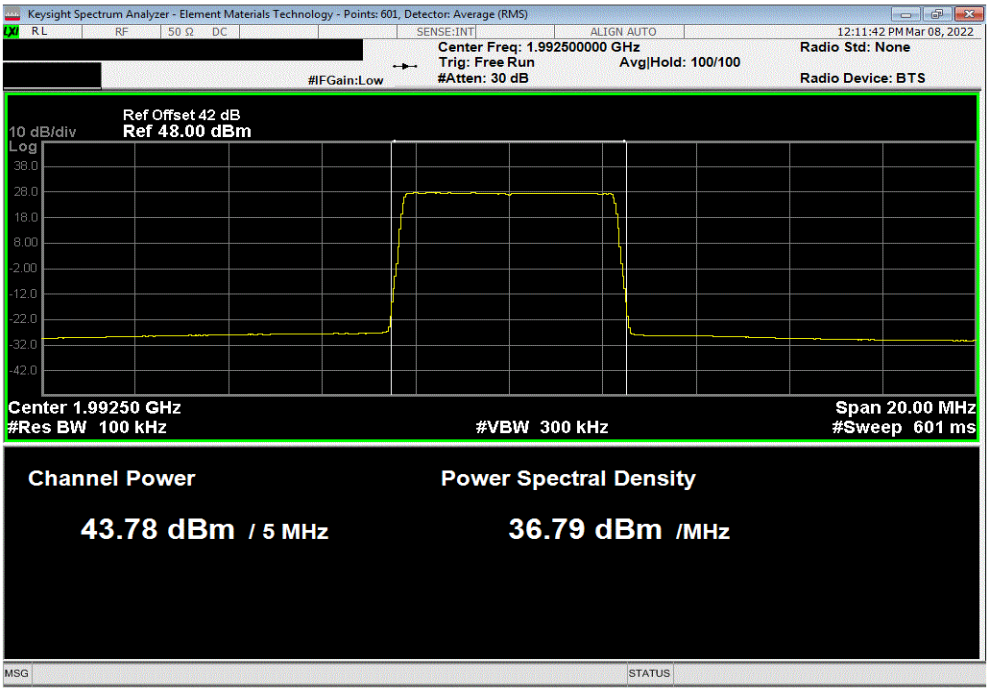
PCS Multicarrier Multiband, Port 3, Test Case 1: PCS Band LTE5 (3 Carriers), AWS Band LTE1.4 (Single Carrier), 256-QAM Modulation, PCS Carrier 1, 1932.5 MHz						
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW		Limit	Results
	42.712	0	42.7	N/A	Inside Tolerance	Pass



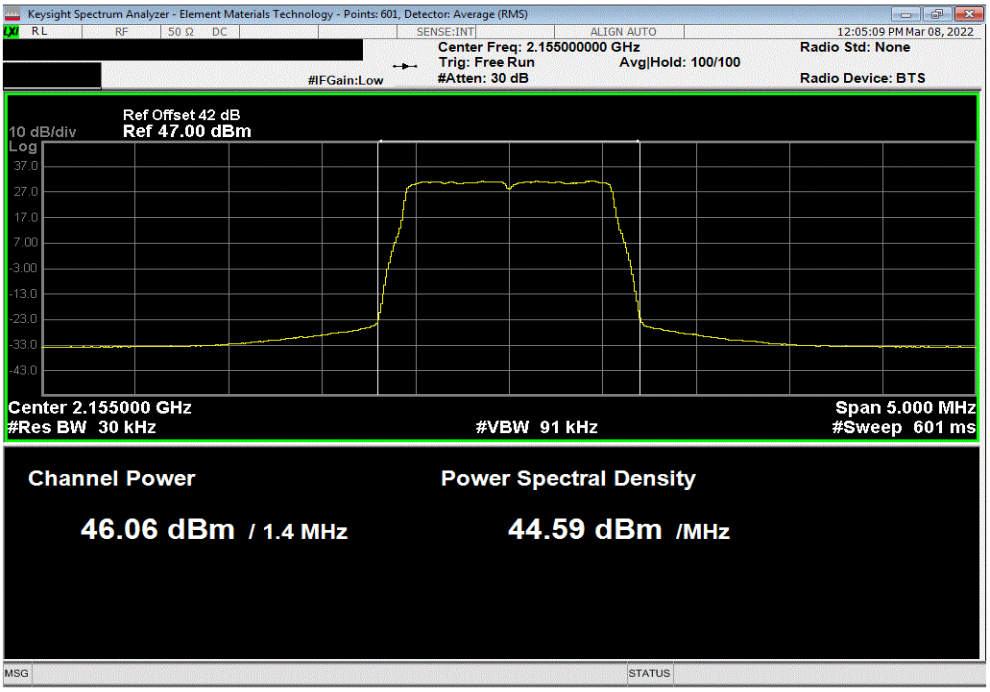
PCS Multicarrier Multiband, Port 3, Test Case 1: PCS Band LTE5 (3 Carriers), AWS Band LTE1.4 (Single Carrier), 256-QAM Modulation, PCS Carrier 2, 1937.5 MHz						
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW		Limit	Results
	43.047	0	43.0	N/A	Inside Tolerance	Pass



PCS Multicarrier Multiband, Port 3, Test Case 1: PCS Band LTE5 (3 Carriers), AWS Band LTE1.4 (Single Carrier), 256-QAM Modulation, PCS Carrier 3, 1992.5 MHz						
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW		Limit	Results
	43.778	0	43.8	N/A	Inside Tolerance	Pass

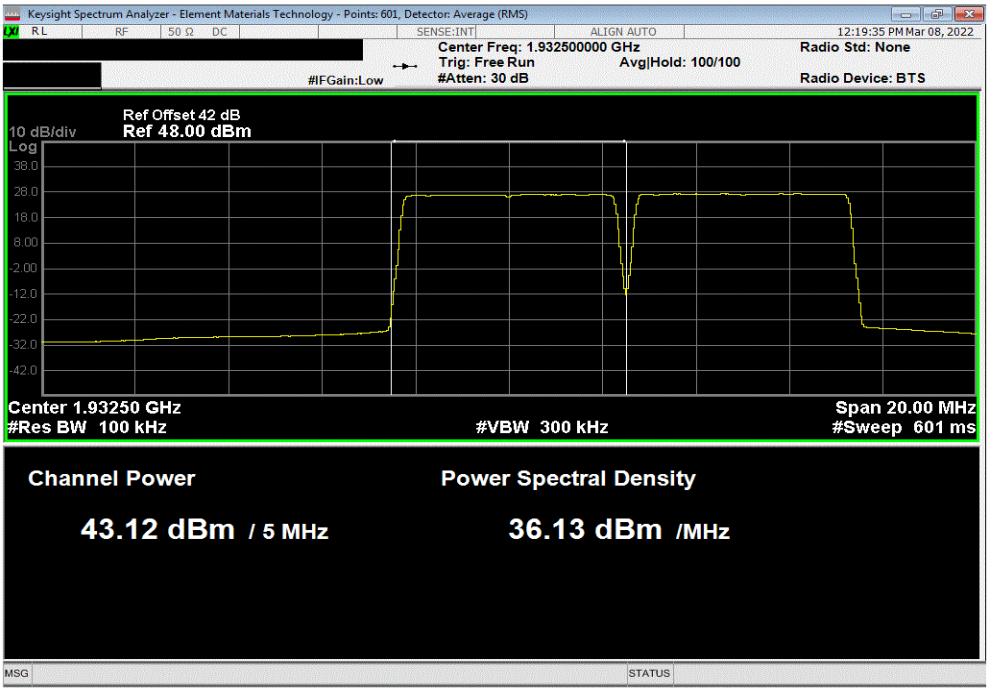


PCS Multicarrier Multiband, Port 3, Test Case 1: PCS Band LTE5 (3 Carriers), AWS Band LTE1.4 (Single Carrier), 256-QAM Modulation, AWS Single Carrier, 2155 MHz						
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW		Limit	Results
	46.056	0	46.1	N/A	Inside Tolerance	Pass

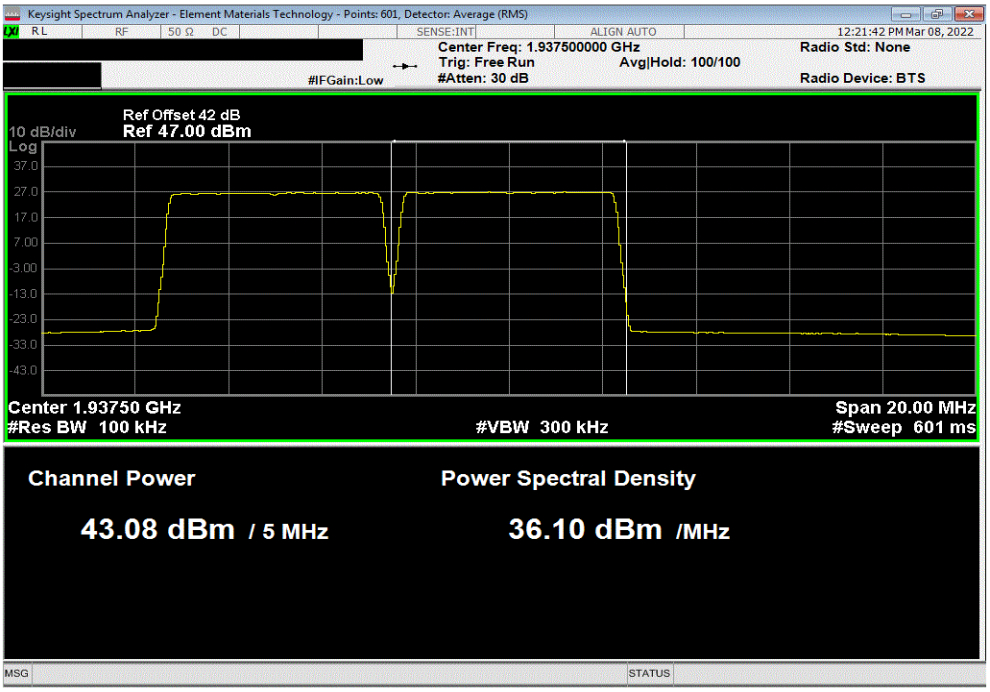


OUTPUT POWER - ALL PORTS

PCS Multicarrier Multiband, Port 4, Test Case 1: PCS Band LTE5 (3 Carriers), AWS Band LTE1.4 (Single Carrier), 256-QAM Modulation, PCS Carrier 1, 1932.5 MHz						
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW		Limit	Results
	43.12	0	43.1	N/A	Inside Tolerance	Pass

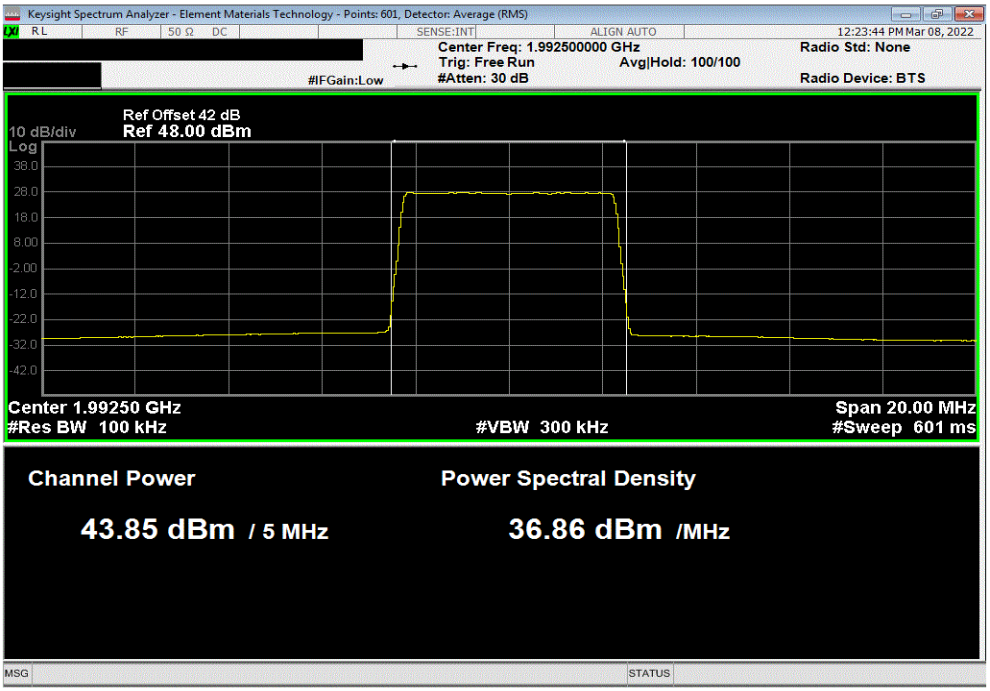


PCS Multicarrier Multiband, Port 4, Test Case 1: PCS Band LTE5 (3 Carriers), AWS Band LTE1.4 (Single Carrier), 256-QAM Modulation, PCS Carrier 2, 1937.5 MHz						
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW		Limit	Results
	43.085	0	43.1	N/A	Inside Tolerance	Pass

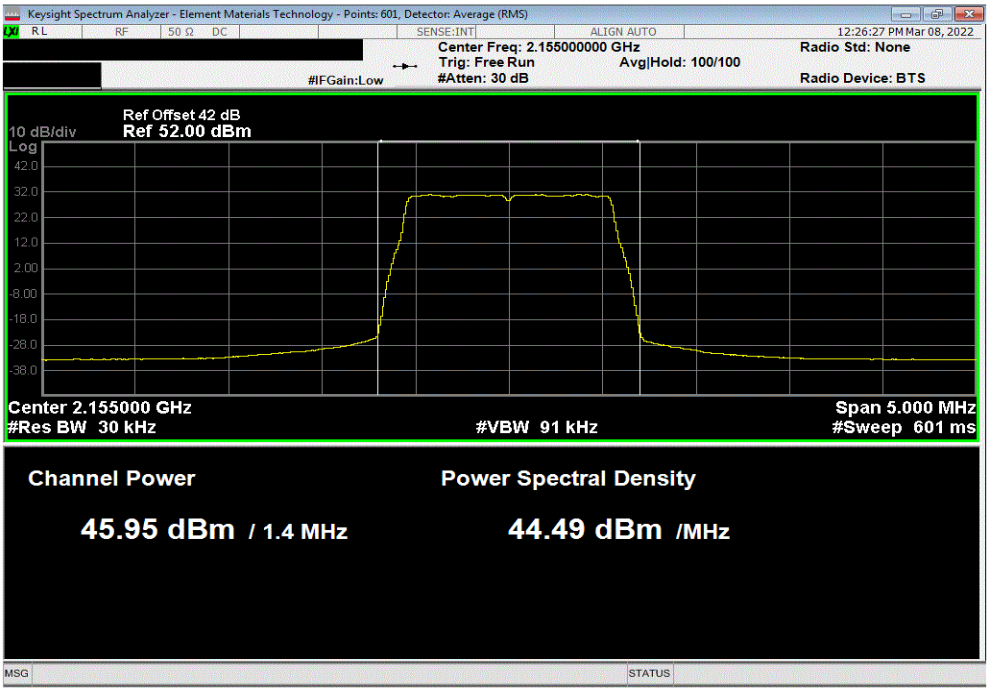


OUTPUT POWER - ALL PORTS

PCS Multicarrier Multiband, Port 4, Test Case 1: PCS Band LTE5 (3 Carriers), AWS Band LTE1.4 (Single Carrier), 256-QAM Modulation, PCS Carrier 3, 1992.5 MHz						
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW		Limit	Results
	43.851	0	43.9	N/A	Inside Tolerance	Pass



PCS Multicarrier Multiband, Port 4, Test Case 1: PCS Band LTE5 (3 Carriers), AWS Band LTE1.4 (Single Carrier), 256-QAM Modulation, AWS Single Carrier, 2155 MHz						
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW		Limit	Results
	45.948	0	46.0	45.948	Inside Tolerance	Pass



OUTPUT POWER - ALL PORTS

element

TbtTx 2021.12.14.1 XMit 2022.02.07.0

EUT:	AHFII Remote Radio Head	Work Order:	NOKI0037
Serial Number:	YK214000036	Date:	28-Feb-22
Customer:	Nokia Solutions and Networks	Temperature:	22.6 °C
Attendees:	David Le, John Rattanavong	Humidity:	23.7% RH
Project:	None	Barometric Pres.:	1026 mbar
Tested by:	Mark Baytan	Power: 54 VDC	Job Site: TX09

TEST SPECIFICATIONS	Test Method
FCC 27:2022	ANSI C63.26:2015
RSS-139 Issue 3:2015	RSS-139 Issue 3:2015
RSS-170 Issue 3:2015	RSS-170 Issue 3:2015

COMMENTS

All measurement path loses accounted for in the reference level offest including any attenuators, filters, and DC blocks. The carriers are operated at maximum power (~26W/AWS carrier and 40W/PCS carrier) with at total port power of 120 watts (80W for AWS band carriers + 40W for PCS band carrier).

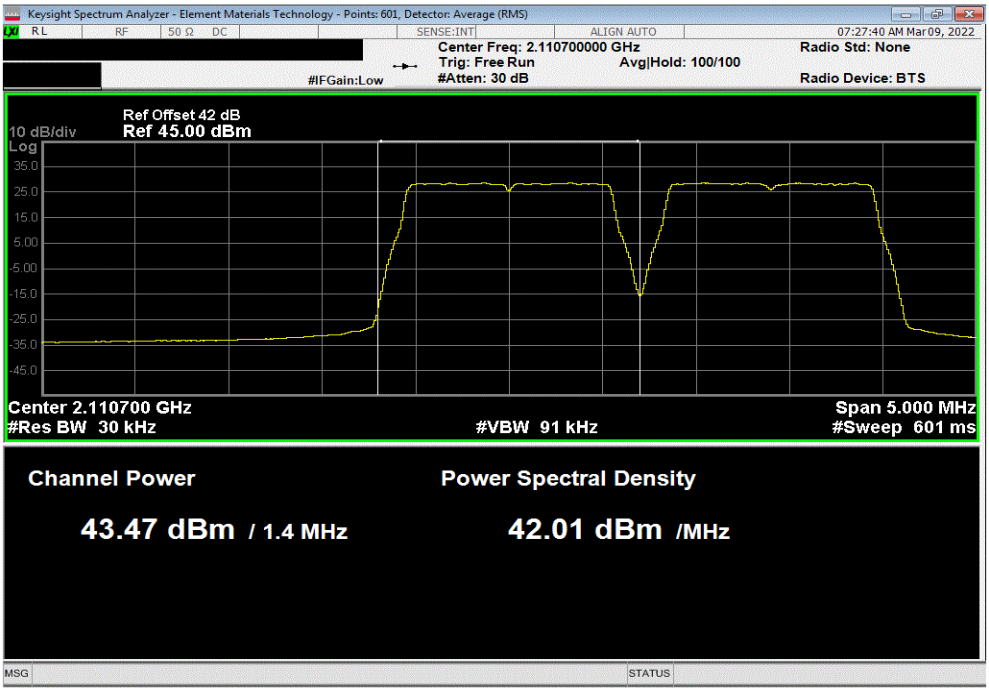
DEVIATIONS FROM TEST STANDARD

None

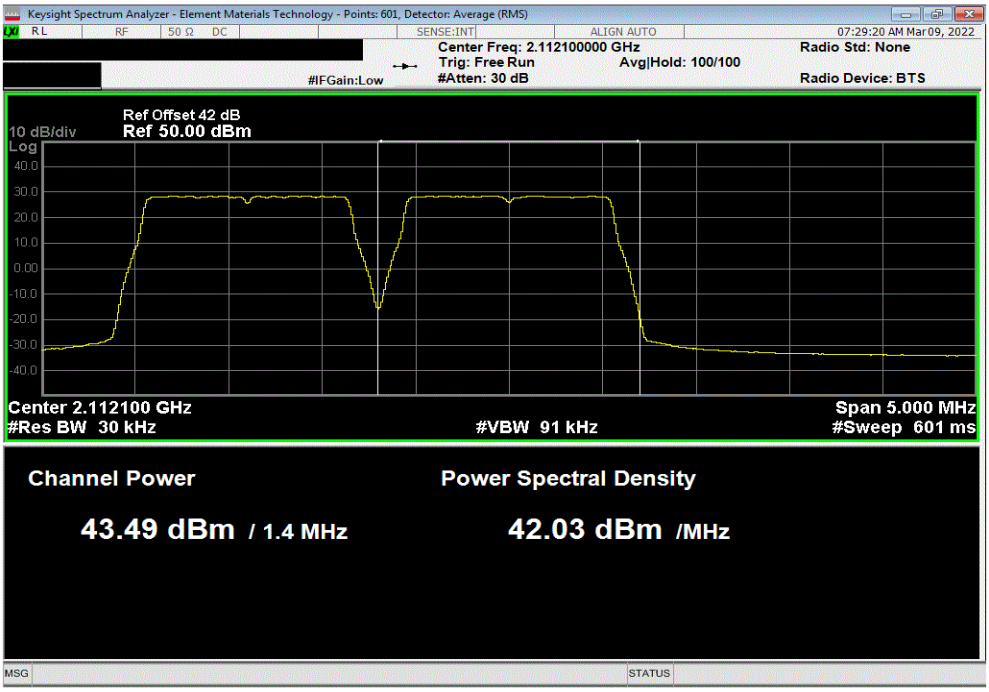
Configuration #	2	Signature

	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Limit	Results
AWS Multicarrier Multiband					
Port 1					
Test Case 1: AWS Band LTE1.4 (3 Carriers), PCS Band LTE1.4 (Single Carrier)					
256-QAM Modulation					
AWS Carrier 1, 2110.7 MHz	43.47	0	43.4	Within Tolerance	N/A
AWS Carrier 2, 2112.1 MHz	43.493	0	43.5	Within Tolerance	N/A
AWS Carrier 3, 2199.3 MHz	44.241	0	44.2	Within Tolerance	N/A
PCS Single Carrier, 1962.5 MHz	45.071	0	45.1	Within Tolerance	N/A
Port 2					
Test Case 1: AWS Band LTE1.4 (3 Carriers), PCS Band LTE1.4 (Single Carrier)					
256-QAM Modulation					
AWS Carrier 1, 2110.7 MHz.	43.41	0	43.4	Within Tolerance	N/A
AWS Carrier 2, 2112.1 MHz.	43.4	0	43.4	Within Tolerance	N/A
AWS Carrier 3, 2199.3 MHz.	44.269	0	44.3	Within Tolerance	N/A
PCS Single Carrier, 1962.5 MHz.	45.293	0	45.3	Within Tolerance	N/A
Port 3					
Test Case 1: AWS Band LTE1.4 (3 Carriers), PCS Band LTE1.4 (Single Carrier)					
256-QAM Modulation					
AWS Carrier 1, 2110.7 MHz..	43.37	0	43.4	Within Tolerance	N/A
AWS Carrier 2, 2112.1 MHz..	43.425	0	43.4	Within Tolerance	N/A
AWS Carrier 3, 2199.3 MHz..	44.424	0	44.4	Within Tolerance	N/A
PCS Single Carrier, 1962.5 MHz..	45.314	0	45.3	Within Tolerance	N/A
Port 4					
Test Case 1: AWS Band LTE1.4 (3 Carriers), PCS Band LTE1.4 (Single Carrier)					
256-QAM Modulation					
AWS Carrier 1, 2110.7 MHz...	43.87	0	43.9	Within Tolerance	N/A
AWS Carrier 2, 2112.1 MHz...	43.952	0	44.0	Within Tolerance	N/A
AWS Carrier 3, 2199.3 MHz...	44.808	0	44.8	Within Tolerance	N/A
PCS Single Carrier, 1962.5 MHz...	45.323	0	45.3	Within Tolerance	N/A

AWS Multicarrier Multiband, Port 1, Test Case 1: AWS Band LTE1.4 (3 Carriers), PCS Band LTE1.4 (Single Carrier), 256-QAM Modulation, AWS Carrier 1, 2110.7 MHz					
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Limit	Results
	43.47	0	43.4	Within Tolerance	N/A

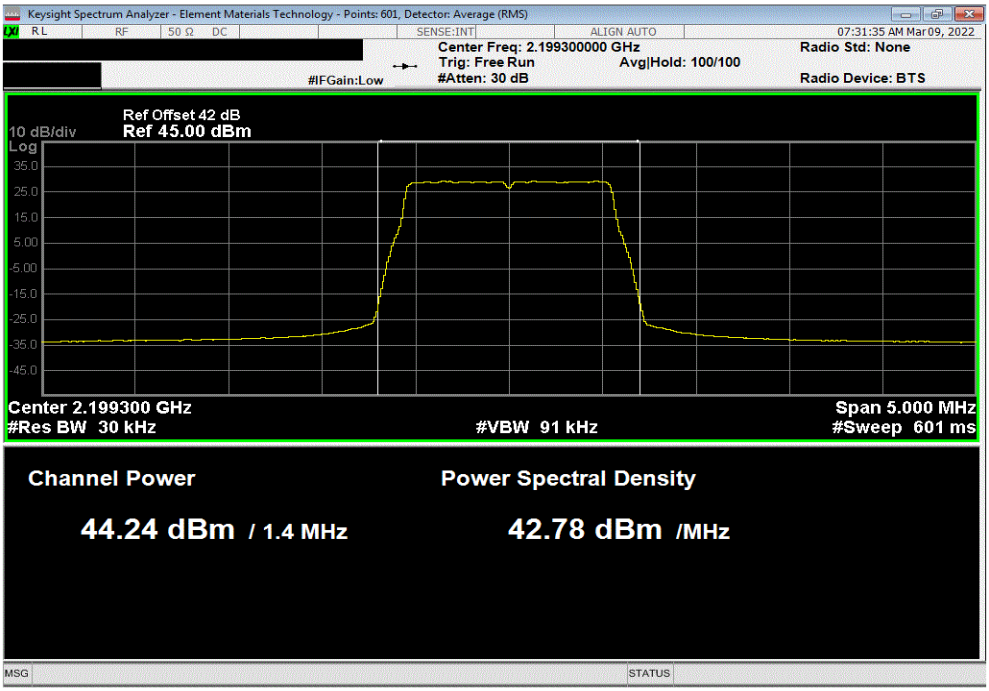


AWS Multicarrier Multiband, Port 1, Test Case 1: AWS Band LTE1.4 (3 Carriers), PCS Band LTE1.4 (Single Carrier), 256-QAM Modulation, AWS Carrier 2, 2112.1 MHz					
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Limit	Results
	43.493	0	43.5	Within Tolerance	N/A

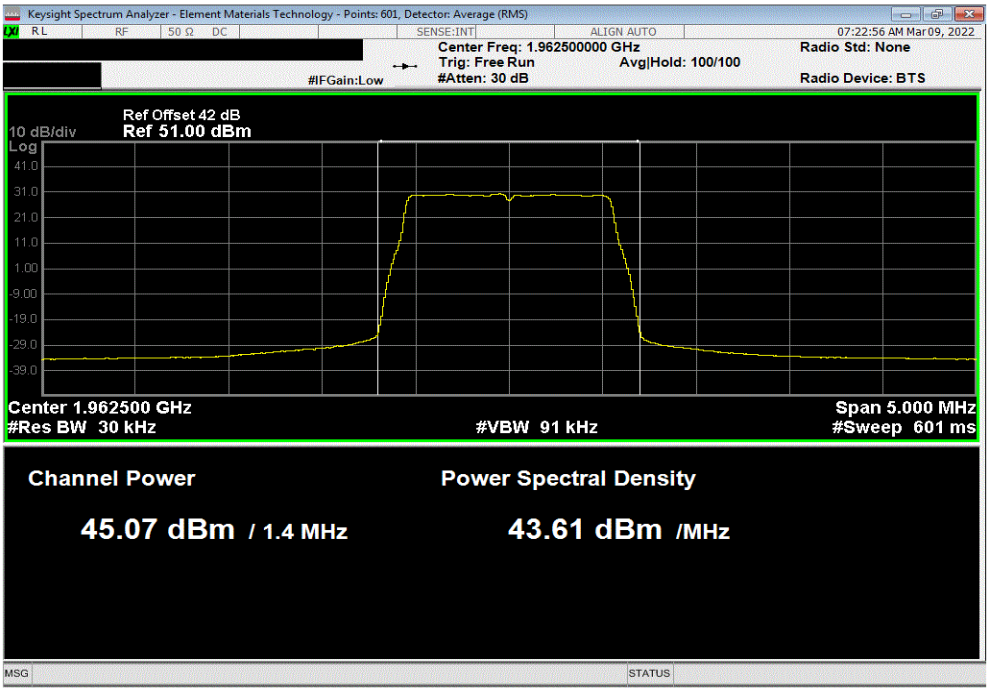


OUTPUT POWER - ALL PORTS

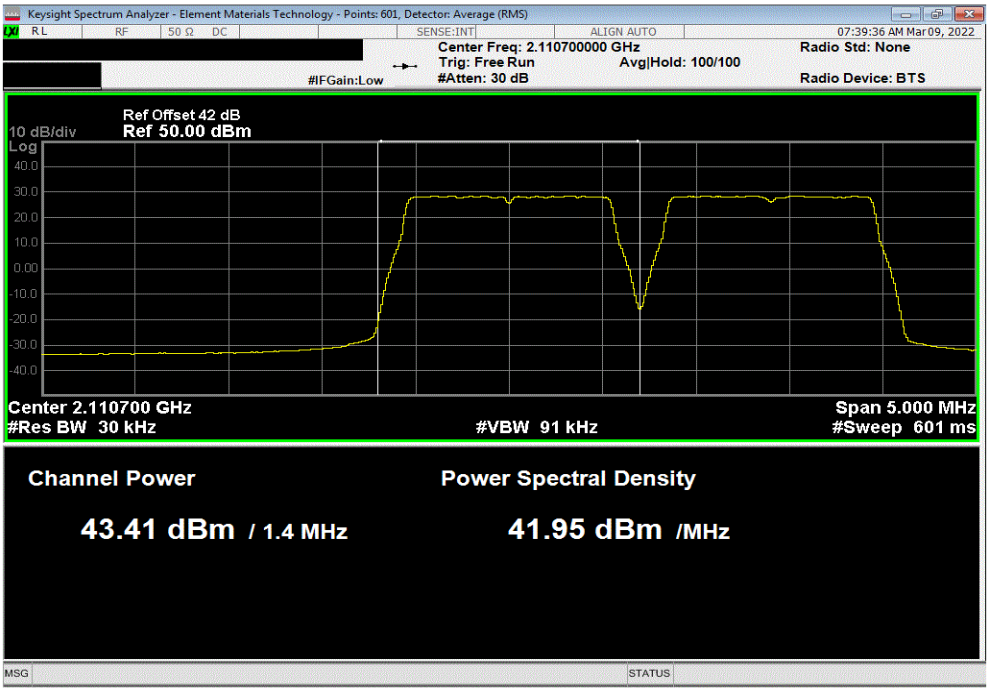
AWS Multicarrier Multiband, Port 1, Test Case 1: AWS Band LTE1.4 (3 Carriers), PCS Band LTE1.4 (Single Carrier), 256-QAM Modulation, AWS Carrier 3, 2199.3 MHz					
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Limit	Results
	44.241	0	44.2	Within Tolerance	N/A



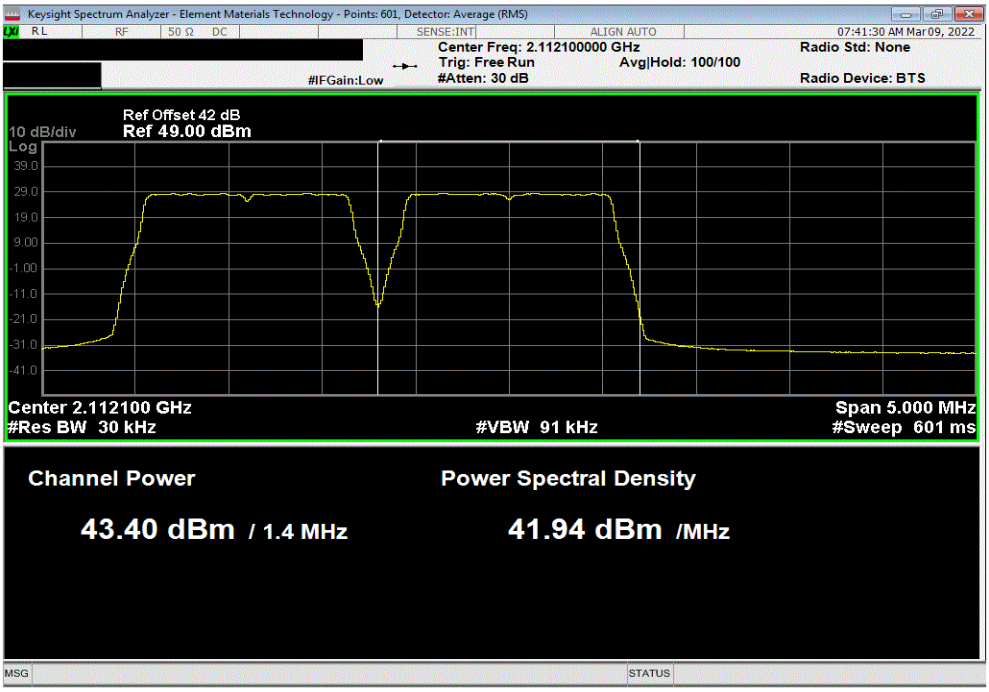
AWS Multicarrier Multiband, Port 1, Test Case 1: AWS Band LTE1.4 (3 Carriers), PCS Band LTE1.4 (Single Carrier), 256-QAM Modulation, PCS Single Carrier, 1962.5 MHz					
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Limit	Results
	45.071	0	45.1	Within Tolerance	N/A



AWS Multicarrier Multiband, Port 2, Test Case 1: AWS Band LTE1.4 (3 Carriers), PCS Band LTE1.4 (Single Carrier), 256-QAM Modulation, AWS Carrier 1, 2110.7 MHz.					
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Limit	Results
	43.41	0	43.4	Within Tolerance	N/A

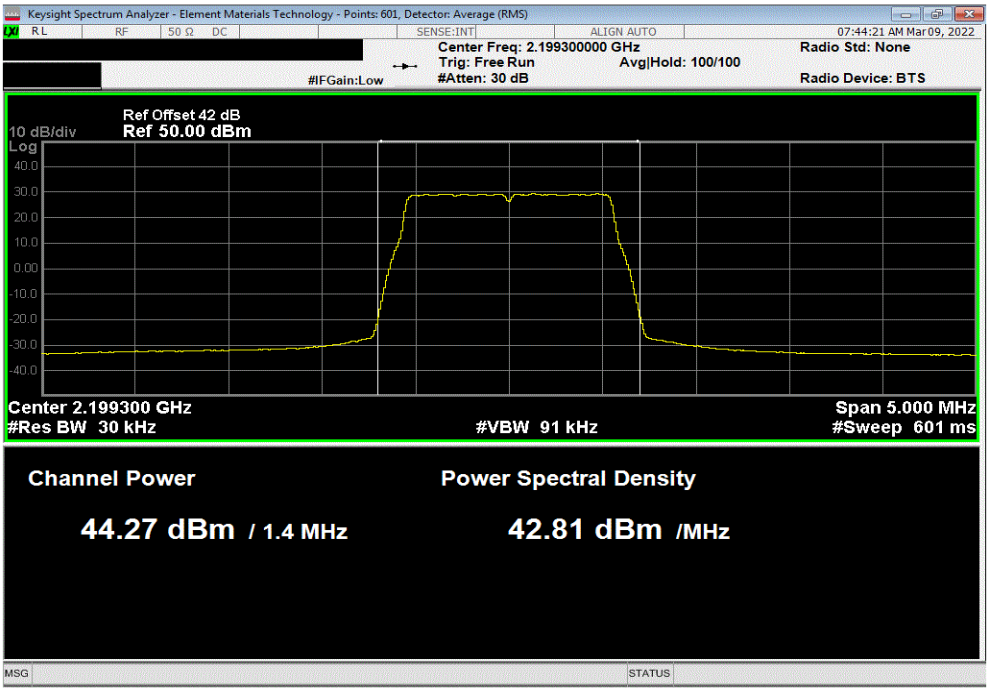


AWS Multicarrier Multiband, Port 2, Test Case 1: AWS Band LTE1.4 (3 Carriers), PCS Band LTE1.4 (Single Carrier), 256-QAM Modulation, AWS Carrier 2, 2112.1 MHz.					
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Limit	Results
	43.4	0	43.4	Within Tolerance	N/A

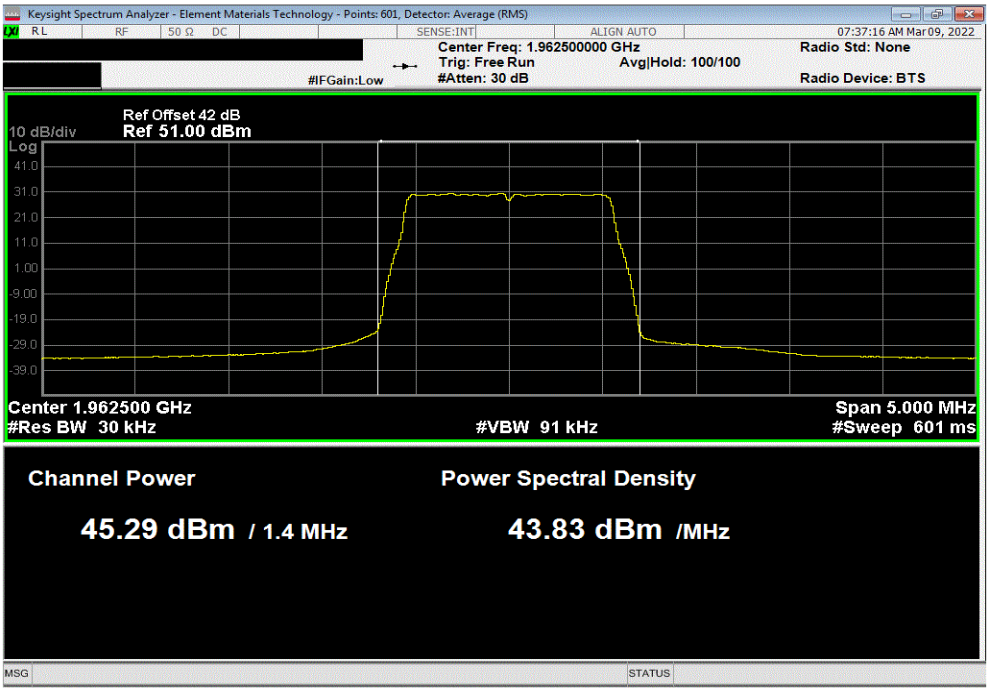


OUTPUT POWER - ALL PORTS

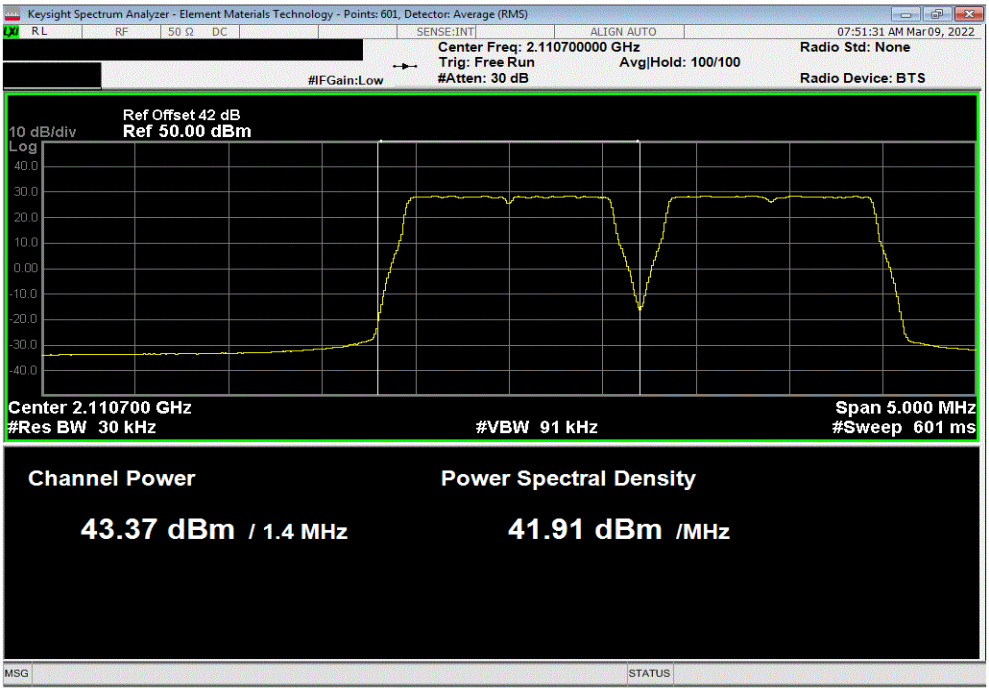
AWS Multicarrier Multiband, Port 2, Test Case 1: AWS Band LTE1.4 (3 Carriers), PCS Band LTE1.4 (Single Carrier), 256-QAM Modulation, AWS Carrier 3, 2199.3 MHz.					
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Limit	Results
	44.269	0	44.3	Within Tolerance	N/A



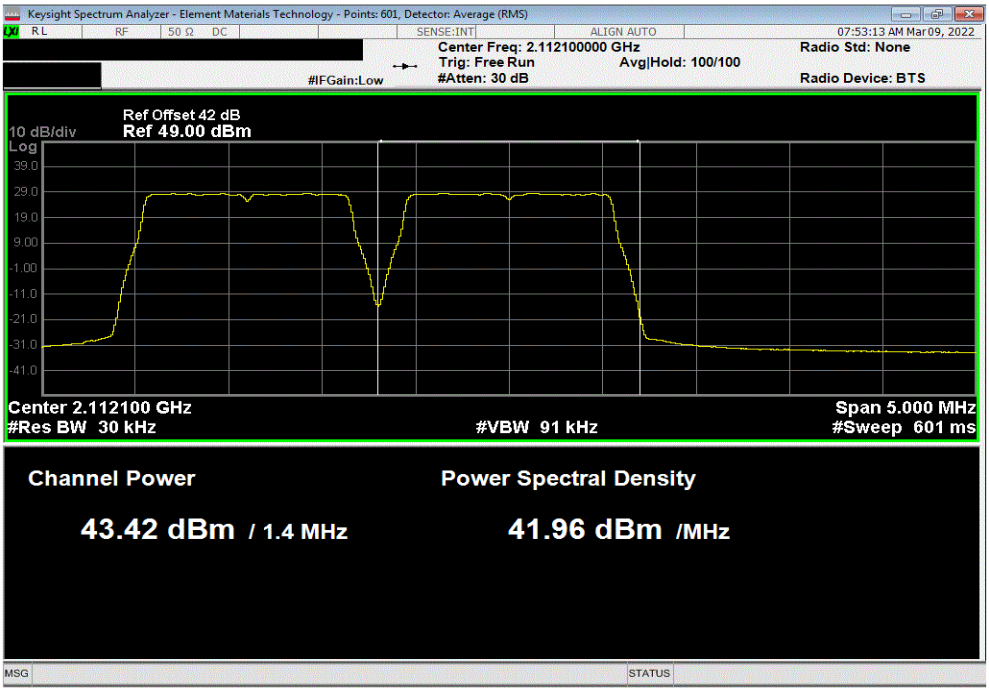
AWS Multicarrier Multiband, Port 2, Test Case 1: AWS Band LTE1.4 (3 Carriers), PCS Band LTE1.4 (Single Carrier), 256-QAM Modulation, PCS Single Carrier, 1962.5 MHz					
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Limit	Results
	45.293	0	45.3	Within Tolerance	N/A



AWS Multicarrier Multiband, Port 3, Test Case 1: AWS Band LTE1.4 (3 Carriers), PCS Band LTE1.4 (Single Carrier), 256-QAM Modulation, AWS Carrier 1, 2110.7 MHz..					
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Limit	Results
	43.37	0	43.4	Within Tolerance	N/A

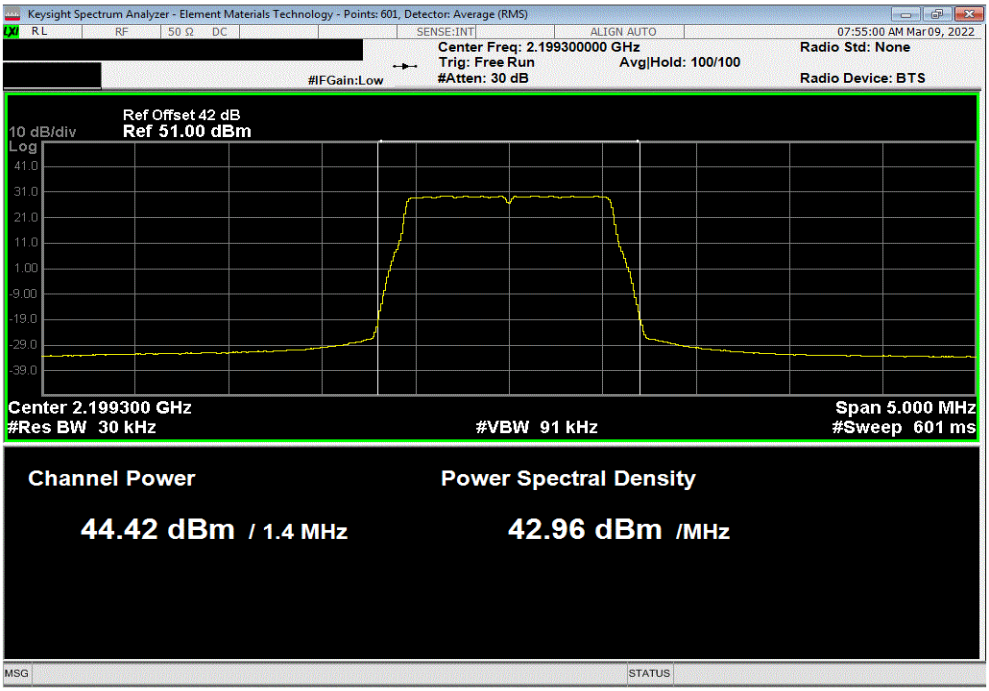


AWS Multicarrier Multiband, Port 3, Test Case 1: AWS Band LTE1.4 (3 Carriers), PCS Band LTE1.4 (Single Carrier), 256-QAM Modulation, AWS Carrier 2, 2112.1 MHz..					
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Limit	Results
	43.425	0	43.4	Within Tolerance	N/A



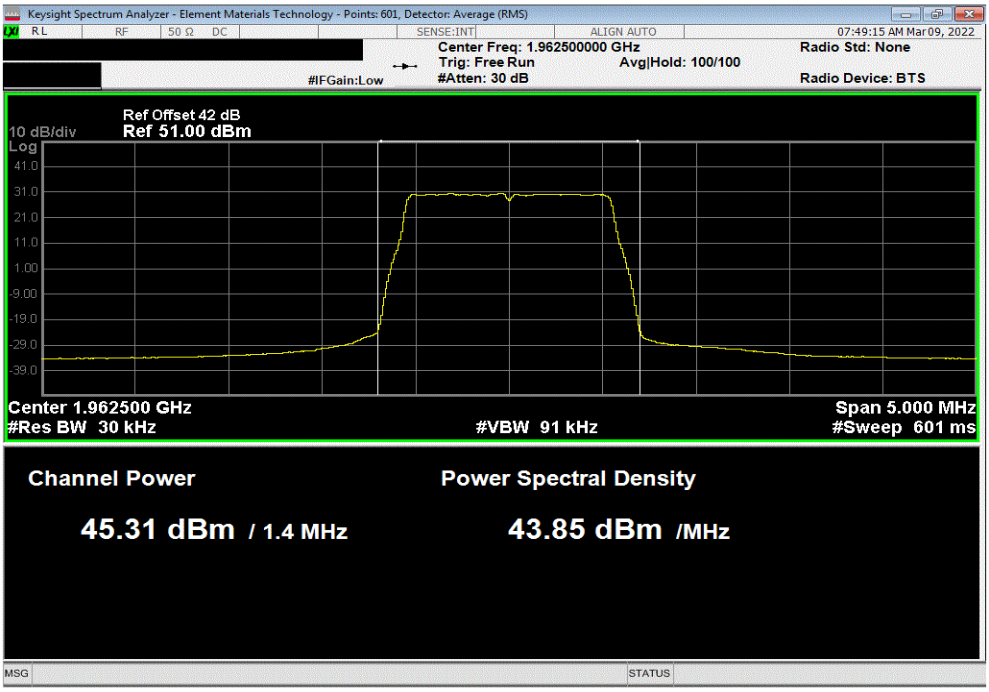
AWS Multicarrier Multiband, Port 3, Test Case 1: AWS Band LTE1.4 (3 Carriers), PCS Band LTE1.4 (Single Carrier), 256-QAM Modulation, AWS Carrier 3, 2199.3 MHz..

	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Limit	Results
	44.424	0	44.4	Within Tolerance	N/A

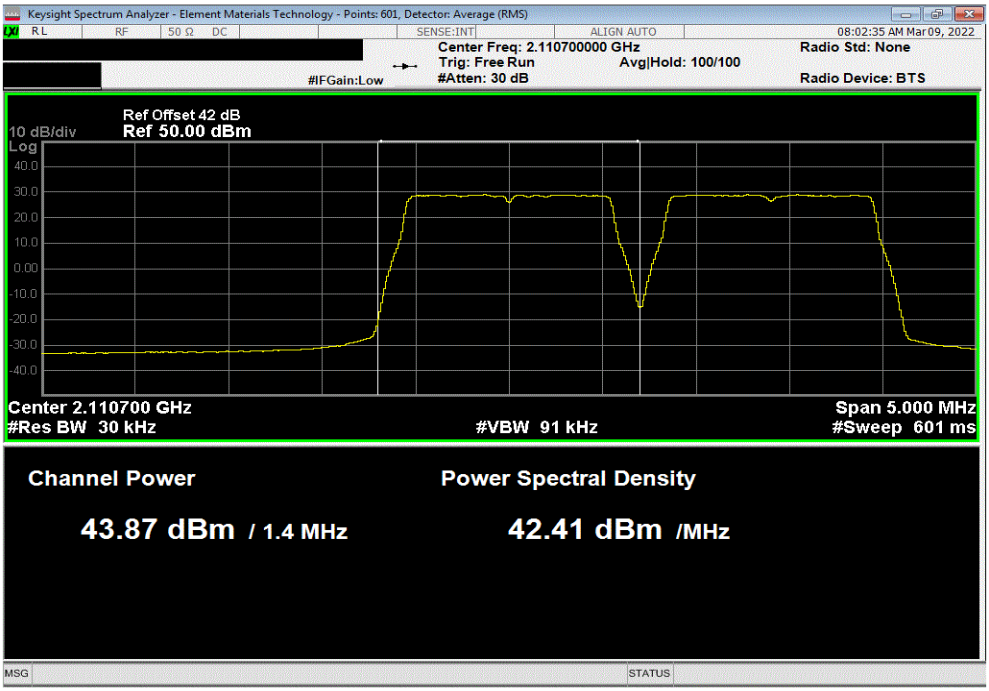


AWS Multicarrier Multiband, Port 3, Test Case 1: AWS Band LTE1.4 (3 Carriers), PCS Band LTE1.4 (Single Carrier), 256-QAM Modulation, PCS Single Carrier, 1962.5 MHz

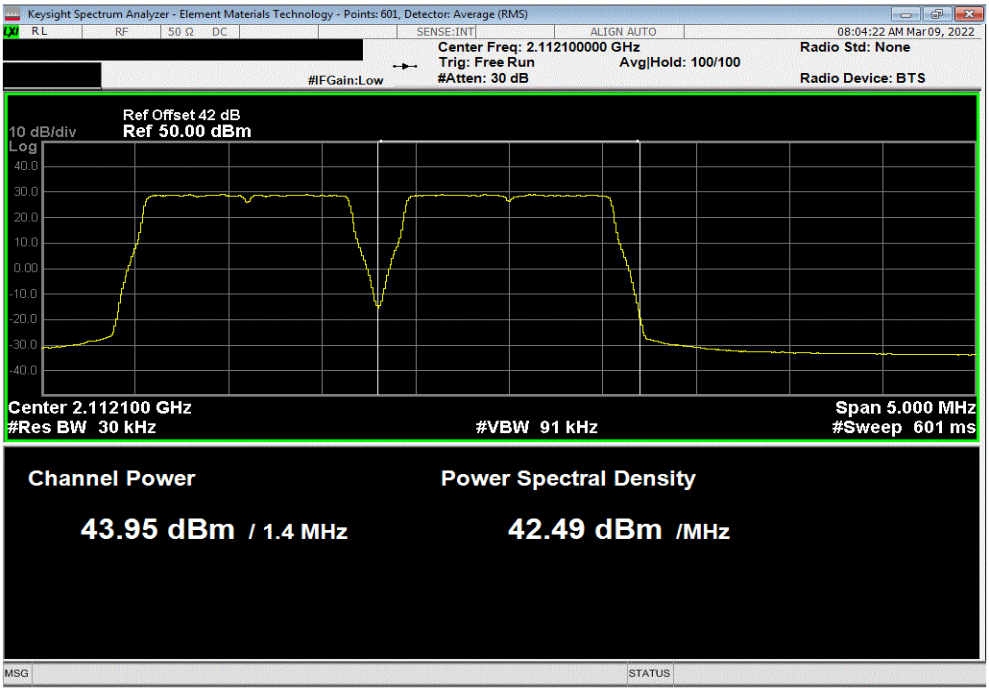
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Limit	Results
	45.314	0	45.3	Within Tolerance	N/A



AWS Multicarrier Multiband, Port 4, Test Case 1: AWS Band LTE1.4 (3 Carriers), PCS Band LTE1.4 (Single Carrier), 256-QAM Modulation, AWS Carrier 1, 2110.7 MHz...					
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Limit	Results
	43.87	0	43.9	Within Tolerance	N/A

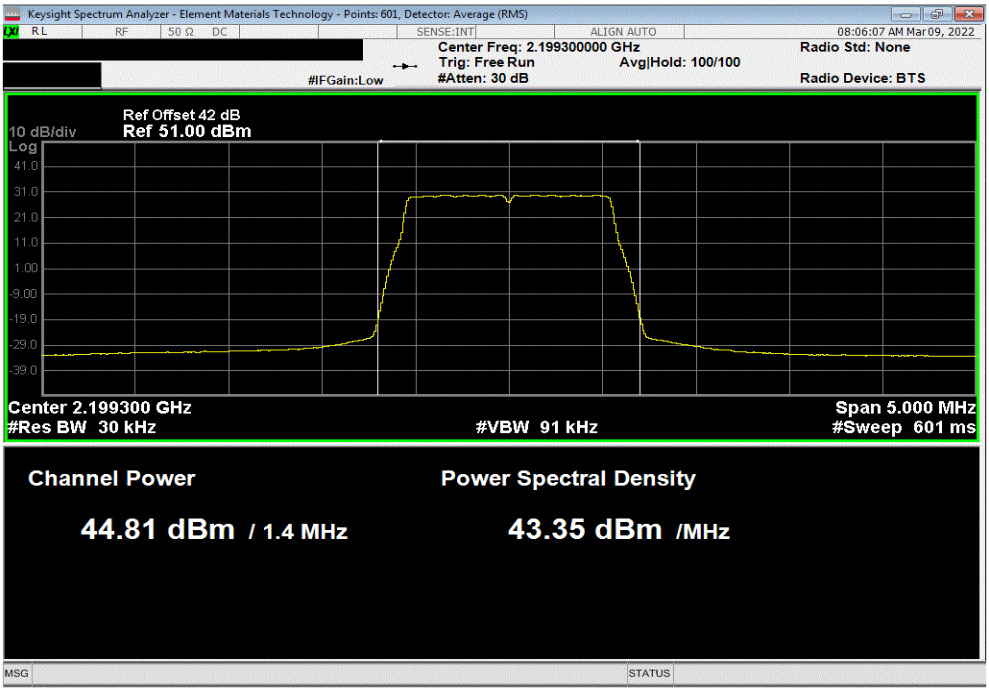


AWS Multicarrier Multiband, Port 4, Test Case 1: AWS Band LTE1.4 (3 Carriers), PCS Band LTE1.4 (Single Carrier), 256-QAM Modulation, AWS Carrier 2, 2112.1 MHz...					
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Limit	Results
	43.952	0	44.0	Within Tolerance	N/A



OUTPUT POWER - ALL PORTS

AWS Multicarrier Multiband, Port 4, Test Case 1: AWS Band LTE1.4 (3 Carriers), PCS Band LTE1.4 (Single Carrier), 256-QAM Modulation, AWS Carrier 3, 2199.3 MHz...					
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Limit	Results
	44.808	0	44.8	Within Tolerance	N/A



AWS Multicarrier Multiband, Port 4, Test Case 1: AWS Band LTE1.4 (3 Carriers), PCS Band LTE1.4 (Single Carrier), 256-QAM Modulation, PCS Single Carrier, 1962.5 MHz.					
	Intial Value dBm/Carrier BW	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Limit	Results
	45.323	0	45.3	Within Tolerance	N/A