

Radio Test Report Application for Grant of Equipment Authorization

> FCC Part 27 (3700MHz – 3980MHz)

FCC ID: VBNAZQW-01

Nokia Solutions and Networks Airscale Base Transceiver Station Report Radio Head Model: AZQW

Report: NOKI0028.1, Issue Date: July 22, 2021





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### Last Date of Test: June 25, 2021 Nokia Solutions and Networks EUT: Airscale Base Transceiver Station Remote Radio Head Model AZQW

### **Radio Equipment Testing**

#### Standards

Specification	Method
Code of Federal Regulations (CFR) Title 47 Part 2 CFR Title 47 Park 27:2021	ANSI C63.26:2015

#### Results

Test Description	Applied	Results	Comments
Duty Cycle	No	N/A	Not required.
Occupied Bandwidth	Yes	Pass	
Frequency Stability	Yes	Pass	
Average Power	Yes	Pass	
Peak to Average Power (PAPR)CCDF	Yes	Pass	
Band Edge Compliance	Yes	Pass	
Spurious Conducted Emissions	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
00	None		

# 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 - Accredited by A2LA to ISO / IEC 17065 as a product certifier. This allows Element to certify transmitters to FCC and IC specifications.

NVLAP - Each laboratory is accredited by NVLAP to ISO 17025

#### 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

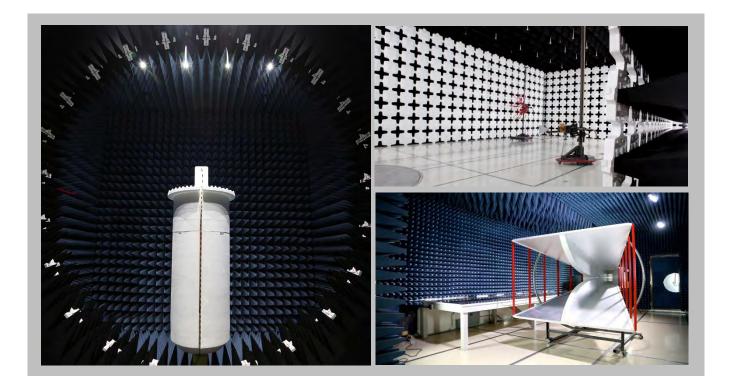
For details on the Scopes of our Accreditations, please visit: <u>https://www.nwemc.com/emc-testing-accreditations</u>

### FACILITIES





<b>California</b> Labs OC01-17 41 Tesla Irvine, CA 92618 (949) 861-8918	<b>Minnesota</b> Labs MN01-11 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612)-638-5136	Oregon Labs EV01-12 6775 NE Evergreen Pkwy #400 Hillsboro, OR 97124 (503) 844-4066	<b>Texas</b> Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	Washington Labs NC01-05 19201 120 <sup>th</sup> Ave NE Bothell, WA 98011 (425)984-6600		
		NVLAP				
NVLAP Lab Code: 200676-0	NVLAP Lab Code: 200881-0	NVLAP Lab Code: 200630-0	NVLAP Lab Code:201049-0	NVLAP Lab Code: 200629-0		
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**



### **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.

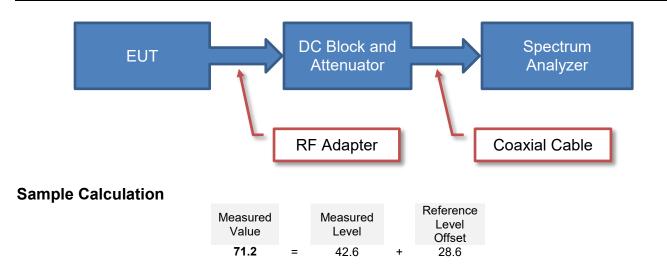
The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

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)	5.2 dB	-5.2 dB
AC Powerline Conducted Emissions (dB)	2.6 dB	-2.6 dB

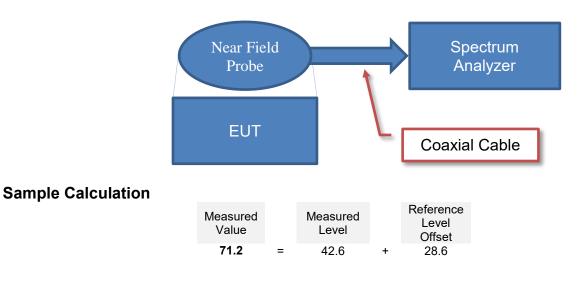
# **TEST SETUP BLOCK DIAGRAMS**



### Antenna Port Conducted Measurements



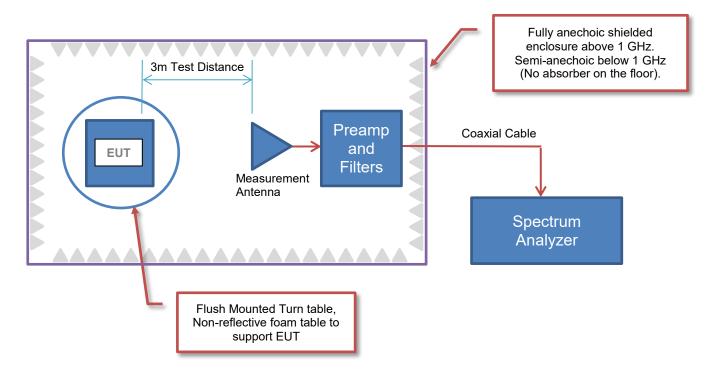
#### **Near Field Test Fixture Measurements**



# **TEST SETUP BLOCK DIAGRAMS**



### **Spurious Radiated Emissions**



# **PRODUCT DESCRIPTION**



Company Name:	Nokia Solutions and Networks
Address:	3201 Olympus Blvd
City, State, Zip:	Dallas, TX 75039
Test Requested By:	Steve Mitchell
EUT:	Airscale Base Transceiver Station Remote Radio Head Model AZQW
First Date of Test:	June 11, 2021
Last Date of Test:	June 25, 2021
Receipt Date of Samples:	June 10, 2021
Equipment Design Stage:	Production
Equipment Condition:	No Damage
Purchase Authorization:	Verified

### Client and Equipment Under Test (EUT) Information

### Information Provided by the Party Requesting the Test

#### Functional Description of the EUT:

The equipment under test (EUT) is a Nokia Solutions and Networks AirScale Base Transceiver Station (BTS) Remote Radio Head (RRH) module, model AZQW. The AZQW remote radio head is a multi-standard multi-carrier remote radio head designed to support 5G NR TDD. The scope of testing in this effort is FCC radio certification of the AZQW for 5G NR TDD Single Carrier operations. Multicarrier operations will be covered under a separate effort.

The AZQW RRH has 8 transmit/receive antenna ports that supports 3GPP frequency band n77 operations (BTS RX: 3700 to 3980 MHz/BTS TX: 3700 to 3980 MHz). The AZQW MIMO operating modes include 8T8R, 2x 4T4R and 4x 2T2R. The maximum RF output power of each antenna port is 40 watts. The total RF output power for the AZQW remote radio head is 320 watts (8 x 40 watts). The remote radio head software supports 20, 40, 60, 80 and 100MHz 5G NR TDD bandwidths. The maximum RF output power for single carrier operations are provided below.

Single Carrier Maximum RF Output Power per Port for each							
	Radio Access Technology Channel Bandwidth						
NR20	NR20 NR40 NR60 NR80 NR100						
15.0 Watts or 30.0 Watts or 40.0 Watts or 40.0 Watts or 40.0 Watts or							
41.8 dBm	44.8 dBm	46.0 dBm	46.0 dBm	46.0 dBm			

The AZQW software supports four downlink modulation types (QPSK, 16QAM, 64QAM, and 256QAM). The instantaneous bandwidth is 140MHz for non-contiguous carriers (frequency gap cannot exceed 80MHz) and 140MHz for contiguous carriers per antenna port. The software supports a maximum of two carriers per antenna port. The maximum total carrier bandwidth (sum of all carrier occupied bandwidths) for the 8T8R mode is 140MHz. Single carrier operations will be certified/verified under this effort. Multicarrier operations will be covered under a separate effort.

The remote radio head has external interfaces including DC power (DC In), ground, RF transmit/receive (ANT), beamforming calibration (BF Cal), optical (OPT) and remote electrical tilt (RET). The RRH with applicable installation kit may be pole or wall mounted. The remote radio head may be configured with an optional cooling fan.

Tests to be performed include RF channel power, CCDF -peak to average power ratio, power spectral density (power/1MHz), emission bandwidth (99% and 26 dB down), band edge spurious emissions (+ 1MHz), spurious emissions (conducted and radiated), and frequency stability (over required voltage/temperature ranges). The 5G

# **PRODUCT DESCRIPTION**



NR modulation types for this testing are setup according to 3GPP TS 38.141-1 Test Models and are NR-FR1-TM 1.1 (QPSK modulation type), NR-FR1-TM 3.2 (16QAM modulation type), NR-FR1-TM 3.1 (64QAM modulation type), and NR-FR1-TM 3.1a (256QAM modulation type).

The 3GPP frequency Band n77 (3700-3980 MHz) band edge NR-ARFCNs for AZQW 5G NR channel bandwidths (20, 40, 60, 80 and 100 MHz) are provided below. The NR-ARFCN is defined as New Radio - Absolute Radio Frequency Channel Number.

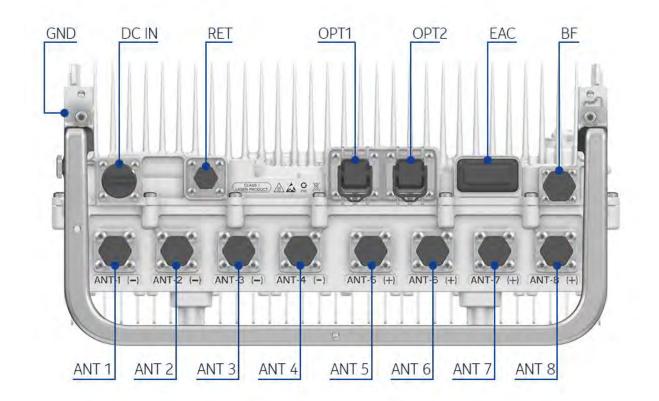
	5G NR	Frequency		5G NR	Channel Ban	dwidth				
	NR-ARFCN	(MHz)	20 MHz	40 MHz	60 MHz	80 MHz	100 MHz			
	Band Edge	3700.00		Lower Band Edge						
	647334	3710.01	Bot Ch							
	648000	3720.00		Bot Ch						
(	648668	3730.02			Bot Ch					
h 8										
ĝno.	649334	3740.01				Bot Ch				
thr										
AZQW Band n77 (Antennas 1 through 8)	650000	3750.00					Bot Ch			
Ante	656000	3840.00			Middle Channel					
7 (1										
d n7	662000	3930.00					Top Ch			
Band										
M	662666	3939.99				Top Ch				
AZQ										
1	663332	3949.98			Top Ch					
	664000	3960.00		Top Ch						
	664666	3969.99	Top Ch							
	Band Edge	3980.00			Upper Band Edge	9				

AZQW Downlink Band Edge 5G NR Band n77 Frequency Channels

# **PRODUCT DESCRIPTION**



#### AZQW Connector Layout:



#### EUT External Interfaces

Name	Qty	Connector Type	Purpose (and Description)
DC In	1	Screw Terminal	2-pole Power Input Terminal
GND	1	Screw lug (2xM5)	Ground
ANT	8	4.3-10	RF signal for Transmitter/Receiver (50 Ohm)
BF	1	4.3-10	Beamforming Calibration
EAC	1	MDR26	External Alarm Interface
ΟΡΤ	2	SFP28	Optical CPRI Interface
RET	1	8-pin circular connector	AISG 2.0 to external devices
Fan	1	Nokia	Power for RRH Fan. Located on the side of RRH.

#### Testing Objective:

Demonstration of Airscale BTS RRH model AZQW (5G NR operations over the 3700MHz to 3980MHz frequency band) radio compliance for FCC certification.



### Configuration 1 RF Conducted Emissions

Software/Firmware Running during test					
Description	Version				
5G BTS Software Version	5G21A_GNB_0011_000800_001175				
5G RF_SW	URM61.03.R33T				

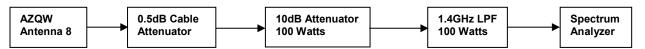
Equipment being tested (include Peripherals)						
Description	Manufacturer	Model/Part Number	Serial Number			
AMIA (BTS System Module)	Nokia Solutions and	473098A.102	J8173107703			
AMIA (BIS System Module)	Networks	475098A.102	30173107703			
ASIK (5G BTS System Module)	Nokia Solutions and	474021A.102	EA194259377			
	Networks		2,1101200011			
ABIL (5G BTS Baseband Module)	Nokia Solutions and	474020A.102	L1183300437			
· · · ·	Networks Nokia Solutions and					
AZQW (Radio Module Model)	Networks	475742A.X21	YK211100168			
Low Pass Filter 1.4GHz/100W	Microwave Circuits, Inc.	L13502G1	SN2454-01			
Attenuator 100W/10dB	Weinschel Corp	48-10-43-LIM	BJ1771			
AOMC SFP28+ 9.8G,70M,850NM		1710000 101	VE204000450			
(Radio)	Nokia	474900A.101	VF20180015S			
AOMC SFP28+ 9.8G,70M,850NM	Nokia	474900A.101	VF2020001BQ			
(BS)						
ThinkPad T490 (WebEM- PC)	Lenovo	20N3S88012	PF26RVZ0			
DC System Power Supply (Radio)	KEYSIGHT	N8757A	US21D4053S			
FPAC (DC-PWR Supply-BS)	Nokia	472438A.101	G711007170			
2 Meter RF Cable 2 Meter RF Cable	RD Microwave Systems RD Microwave Systems	CBL-6FT-NMNM-402J-N CBL-6FT-NMNM-402J-N	18-0204-09 18-0204-63			
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J-N	18-0204-03			
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J-N CBL-6FT-NMNM-402J-N	18-0204-13			
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J-N	18-0204-19			
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J-N	18-0204-20			
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J-N	18-0204-23			
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	SK764			
•		1435-3-LIM	PZ465			
150W -50ohm -Terminating Load	API Weinschel inc					
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	SR300			
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	SR301			
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	PZ075			
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	SR299			
150W -50ohm -Terminating Load	API Weinschel inc	1435-3	LY351			
Fiber Optic Cable 10m	Amphenol Fiber Optic	E201648	995109C-180512			
GPS Receiver Cable	Nokia	995426C	CA2029			
Cat-5e Cable	CSA	E151955	LL79189			
2 Meter RF Cable	Huber + Suhner, Inc.	HS-SUCOFLEX_106	SN297374			
1 Meter RF Cable	Huber + Suhner, Inc.	HS-SUCOFLEX_104	SN551432/4			
Reference Cable (Frame Clock & Trigger)	Pomona	2249	C-72			
Reference Cable (Frame Clock & Trigger)	Pomona	2249	C-48			



Cables (Peripheral)							
Description	Shield (Y/N)	Length (m)	Ferrite (Y/N)	Connection 1 (5G)	Connection 2		
Fiber Optic Cable (2)	No	10 meters	No	ABIL	AZQW		
GPS Receiver Cable	Yes	100 meters	Yes	ASIK	FYGB GPS Receiver		
Cat-5e Cable	Yes	7 meters	No	ASIK	WebEM- PC		
RD Microwave Systems – RF CABLE	Yes	2 meters	No	EUT [AZQW] Ant ports 1-7	150W -50ohm - Load		
Reference Cables (Frame Clock & Trigger)	Yes	1 meter	No	ASIK	Analyzer		

Cables						
Description	Shield (Y/N)	Length (m)	Ferrite (Y/N)	Connection 1	Connection 2	
HS-SUCOFLEX_106 0.5dB Cable Attenuator	Yes	2 meters	No	EUT [AZQW] Ant port #8	Attenuator 100W/10dB	
Attenuator 100W/10dB	No	N/A	No	RF Cable HS- SUCOFLEX_106	Low Pass Filter 1.4G/100W	
Low Pass Filter 1.4G/100W	No	N/A	No	Attenuator 100W/10dB	RF Cable HS- SUCOFLEX_104	
HS-SUCOFLEX_104	Yes	1 meter	No	Low Pass Filter 1.4G/100W	Analyzer	

RF Test Setup Diagram:





### **Configuration 2 RF Conducted Emissions**

Software/Firmware Running during test					
Description	Version				
5G BTS Software Version	5G21A_GNB_0011_000800_001175				
5G RF_SW	URM61.03.R33T				

Equipment being tested (include Peripherals)						
Description	Manufacturer	Model/Part Number	Serial Number			
AMIA (BTS System Module)	Nokia Solutions and Networks	473098A.102	J8173107703			
ASIK (5G BTS System Module)	Nokia Solutions and Networks	474021A.102	EA194259377			
ABIL (5G BTS Baseband Module)	Nokia Solutions and Networks	474020A.102	L1183300437			
AZQW (Radio Module Model)	Nokia Solutions and Networks	475742A.X21	YK211100168			



Attenuator 250W/40dB	API Weinschel	58-40-43-LIM	TC909
AOMC SFP28+ 9.8G,70M,850NM (Radio)	Nokia	474900A.101	VF20180015S
AOMC SFP28+ 9.8G,70M,850NM (BS)	Nokia	474900A.101	VF2020001BQ
ThinkPad T490 (WebEM- PC)	Lenovo	20N3S88012	PF26RVZ0
DC System Power Supply (Radio)	KEYSIGHT	N8757A	US21D4053S
FPAC (DC-PWR Supply-BS)	Nokia	472438A.101	G711007170
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-09
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-63
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-13
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-19
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-26
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-02
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-23
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	SK764
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	PZ465
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	SR300
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	SR301
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	PZ075
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	SR299
150W -50ohm -Terminating Load	API Weinschel inc	1435-3	LY351
Fiber Optic Cable 10m	Amphenol Fiber Optic	E201648	995109C-180512
GPS Receiver Cable	Nokia	995426C	CA2029
Cat-5e Cable	CSA	E151955	LL79189
2 Meter RF Cable	Huber + Suhner, Inc.	HS-SUCOFLEX_106	SN297374
1 Meter RF Cable	Huber + Suhner, Inc.	HS-SUCOFLEX_104	SN551432/4
Reference Cable (Frame Clock & Trigger)	Pomona	2249	C-72
Reference Cable (Frame Clock & Trigger)	Pomona	2249	C-48

Cables (Peripheral)						
Description	Shield (Y/N)	Length (m)	Ferrite (Y/N)	Connection 1 (5G)	Connection 2	
Fiber Optic Cable (2)	No	10 meters	No	ABIL	AZQW	
GPS Receiver Cable	Yes	100 meters	No	ASIK	FYGB GPS Receiver	
Cat-5e Cable	Yes	7 meters	No	ASIK	WebEM- PC	
RD Microwave Systems – RF CABLE	Yes	2 meters	No	EUT [AZQW] Ant ports 1-7	150W -50ohm - Load	
Reference Cables (Frame Clock & Trigger)	Yes	1 meter	No	ASIK	Analyzer	



Cables						
Description	Shield (Y/N)	Length (m)	Ferrite (Y/N)	Connection 1	Connection 2	
HS-SUCOFLEX_106	Yes	2 meters	No	EUT [AZQW] Ant port #8	Attenuator 250W/40dB	
Attenuator 250W/40dB	No	NA	No	RF Cable HS- SUCOFLEX_106	RF Cable HS- SUCOFLEX_104	
HS-SUCOFLEX_104	Yes	1 meter	No	Attenuator 250W/40dB	Analyzer	

#### **RF Test Setup Diagram:**





### **Configuration 3 RF Conducted Emissions**

Software/Firmware Running during test					
Description	Version				
5G BTS Software Version	5G21A_GNB_0011_000800_001175				
5G RF_SW	URM61.03.R33T				

Equipment being tested (include Peripherals)						
Description	Manufacturer	Model/Part Number	Serial Number			
AMIA (BTS System Module)	Nokia Solutions and Networks	473098A.102	J8173107703			
ASIK (5G BTS System Module)	Nokia Solutions and Networks	474021A.102	EA194259377			
ABIL (5G BTS Baseband Module)	Nokia Solutions and Networks	474020A.102	L1183300437			
AZQW (Radio Module Model)	Nokia Solutions and Networks	475742A.X21	YK211100168			



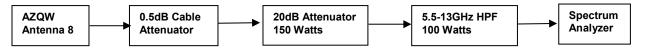
High Pass Filter 5.5GHz/100W	Microwave Circuits	H6G013G1	2454-01
Attenuator 150W/20dB	Aeroflex Weinschel	66-20-33	BZ2075
AOMC SFP28+ 9.8G,70M,850NM (Radio)	Nokia	474900A.101	VF20180015S
AOMC SFP28+ 9.8G,70M,850NM (BS)	Nokia	474900A.101	VF2020001BQ
ThinkPad T490 (WebEM- PC)	Lenovo	20N3S88012	PF26RVZ0
DC System Power Supply (Radio)	KEYSIGHT	N8757A	US21D4053S
FPAC (DC-PWR Supply-BS)	Nokia	472438A.101	G711007170
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-09
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-63
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-13
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-19
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-26
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-02
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-23
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	SK764
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	PZ465
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	SR300
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	SR301
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	PZ075
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	SR299
150W -50ohm -Terminating Load	API Weinschel inc	1435-3	LY351
Fiber Optic Cable 10m	Amphenol Fiber Optic	E201648	995109C-180512
GPS Receiver Cable	Nokia	995426C	CA2029
Cat-5e Cable	CSA	E151955	LL79189
2 Meter RF Cable	Huber + Suhner, Inc.	HS-SUCOFLEX_106	SN297374
1 Meter RF Cable	Huber + Suhner, Inc.	HS-SUCOFLEX_104	SN551432/4
Reference Cable (Frame Clock & Trigger)	Pomona	2249	C-72
Reference Cable (Frame Clock & Trigger)	Pomona	2249	C-48

Cables (Peripheral)					
Description	Shield (Y/N)	Length (m)	Ferrite (Y/N)	Connection 1 (5G)	Connection 2
Fiber Optic Cable (2)	N	10 meters	N	ABIL	AZQW
GPS Receiver Cable	Y	100 meters	N	ASIK	FYGB GPS Receiver
Cat-5e Cable	Y	7 meters	N	ASIK	WebEM- PC
RD Microwave Systems – RF CABLE	Y	2 meters	N	EUT [AZQW] Ant ports 1-7	150W -50ohm - Load
Reference Cables (Frame Clock & Trigger)	Y	1 meter	Ν	ASIK	Analyzer



Cables					
Description	Shield (Y/N)	Length (m)	Ferrite (Y/N)	Connection 1	Connection 2
HS-SUCOFLEX_106	Yes	2 meters	No	EUT [AZQW] Ant port #8	Attenuator 150W/20dB
Attenuator 150W/20dB	No	NA	No	RF Cable HS- SUCOFLEX_106	High Pass Filter 5.5GHz/100W
High Pass Filter 5.5GHz/100W	No	NA	No	Attenuator 150W/20dB	RF Cable HS- SUCOFLEX_104
HS-SUCOFLEX_104	Yes	1 meter	No	High Pass Filter 5.5GHz/100W	Analyzer

#### **RF Test Setup Diagram:**





### **Configuration 4 RF Conducted Emissions**

Software/Firmware Running during test					
Description	Version				
5G BTS Software Version	5G21A_GNB_0011_000800_001175				
5G RF_SW	URM61.03.R33T				

Equipment being tested (include Peripherals)						
Description	Manufacturer	Model/Part Number	Serial Number			
AMIA (BTS System Module)	Nokia Solutions and Networks	473098A.102	J8173107703			
ASIK (5G BTS System Module)	Nokia Solutions and Networks	474021A.102	EA194259377			
ABIL (5G BTS Baseband Module)	Nokia Solutions and Networks	474020A.102	L1183300437			
AZQW (Radio Module Model)	Nokia Solutions and Networks	475742A.X21	YK211100168			



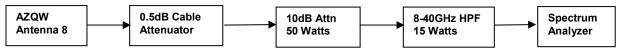
Attenuator 50W/10dB	RF-Lambda	RFS50G26S10FF	20031702
High Pass Filter 8-40GHz/15W	RF-Lambda	RHPF23G08G40	17102700014
AOMC SFP28+ 9.8G,70M,850NM (Radio)	Nokia	474900A.101	VF20180015S
AOMC SFP28+ 9.8G,70M,850NM (BS)	Nokia	474900A.101	VF2020001BQ
ThinkPad T490 (WebEM- PC)	Lenovo	20N3S88012	PF26RVZ0
DC System Power Supply (Radio)	Keysight	N8757A	US21D4053S
FPAC (DC-PWR Supply-BS)	Nokia	472438A.101	G711007170
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-09
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-63
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-13
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-19
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-26
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-02
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-23
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	SK764
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	PZ465
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	SR300
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	SR301
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	PZ075
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	SR299
150W -50ohm -Terminating Load	API Weinschel inc	1435-3	LY351
Fiber Optic Cable 10m	Amphenol Fiber Optic	E201648	995109C-180512
GPS Receiver Cable	Nokia	995426C	CA2029
Cat-5e Cable	CSA	E151955	LL79189
2 Meter RF Cable	Huber + Suhner, Inc.	HS-SUCOFLEX_106	SN297374
1 Meter RF Cable	Huber + Suhner, Inc.	HS-SUCOFLEX_104	SN551432/4
Reference Cable (Frame Clock & Trigger)	Pomona	2249	C-72
Reference Cable (Frame Clock & Trigger)	Pomona	2249	C-48

Cables (Peripheral)					
Description	Shield (Y/N)	Length (m)	Ferrite (Y/N)	Connection 1 (5G)	Connection 2
Fiber Optic Cable (2)	No	10 meters	No	ABIL	AZQW
GPS Receiver Cable	Yes	100 meters	No	ASIK	FYGB GPS Receiver
Cat-5e Cable	Yes	7 meters	No	ASIK	WebEM- PC
RD Microwave Systems – RF CABLE	Yes	2 meters	No	EUT [AZQW] Ant ports 1-7	150W -50ohm - Load
Reference Cables (Frame Clock & Trigger)	Yes	1 meter	No	ASIK	Analyzer



Cables					
Description	Shield (Y/N)	Length (m)	Ferrite (Y/N)	Connection 1	Connection 2
HS-SUCOFLEX_104	Yes	2 meters	No	EUT [AZQW] Ant port #8	Attenuator 50W/10dB
Attenuator 50W/10dB	No	NA	No	RF Cable HS- SUCOFLEX_104	High Pass Filter 8- 40GHz
High Pass Filter 8-40GHz/15W	No	NA	No	Attenuator 50W/10dB	RF-Lambda -AC20040003
RF-Lambda -AC20040003	Yes	1 meter	No	High Pass Filter 8- 40GHz/15W	Analyzer

#### **RF Test Setup Diagram:**





### **Configuration 5 Radiated Emissions**

Software/Firmware Running during test				
Description	Version			
5G BTS Software Version	5G21A_GNB_0011_000800_001175			
5G RF_SW	URM61.03.R33T			

EUT					
Description	Manufacturer	Model/Part Number	Serial Number		
Remote Radio Head	Nokia Solutions and Networks	AZQW / 475742A.x21	YK211100168		

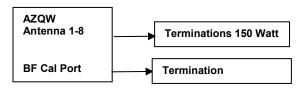
Peripherals in the test setup boundary						
Description	Manufacturer	Model/Part Number	Serial Number			
AOMC SFP28+ 9.8G,70M,850NM (Multi-Mode - Radio)	Nokia	474900A.101	VF20180015S			
AOMC SFP28+ 9.8G,70M,850NM (Multi-Mode - BS)	Nokia	474900A.101	VF2020001BQ			
AOSD SFP28+ 9.8G,10KM,1310NM (Single-Mode - Radio)	Nokia	474902A.101	VF1922001EI			
AOSC SFP28+ 9.8G,2KM,1310NM (Single-Mode - BS)	Nokia	474902A.101	VF19220012F			

Equipment Outside of Test Setup Boundary					
Description	Manufacturer	Model/Part Number	Serial Number		
AMIA (BTS System Module)	Nokia Solutions and Networks	473098A.102	J8173107703		
ASIK (5G BTS System Module)	Nokia Solutions and Networks	474021A.102	EA194259377		
ABIL (5G BTS Baseband Module)	Nokia Solutions and Networks	474020A.102	L1183300437		
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	SK764		
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	PZ465		
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	SR300		
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	SR301		
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	PZ075		
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	SR299		
150W -50ohm -Terminating Load	API Weinschel inc	1435-3	LY351		
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	SR299		
Electric Fan (AC PWR)	Electric	L908	None		
ThinkPad T490 (WebEM- PC)	Lenovo	20N3S88012	PF26RVZ0		
DC System Power Supply (Radio)	Keysight	N8757A	US21D4053S		
GPS Cable 100m	FTSH	995426C	CA2029		
Cat-5e Cable	CSA	E151955	LL79189		



Cables					
Description	Shield (Y/N)	Length (m)	Ferrite (Y/N)	Connection 1	Connection 2
TMS Load 1	Yes	2m	No	EUT [AZQW] Ant port #1	Antenna Load 1
TMS Load 2	Yes	2m	No	EUT [AZQW] Ant port #2	Antenna Load 2
TMS Load 3	Yes	2m	No	EUT [AZQW] Ant port #3	Antenna Load 3
TMS Load 4	Yes	2m	No	EUT [AZQW] Ant port #4	Antenna Load 4
TMS Load 5	Yes	2m	No	EUT [AZQW] Ant port #5	Antenna Load 5
TMS Load 6	Yes	2m	No	EUT [AZQW] Ant port #6	Antenna Load 6
TMS Load 7	Yes	2m	No	EUT [AZQW] Ant port #7	Antenna Load 7
TMS Load 8	Yes	2m	No	EUT [AZQW] Ant port #8	Antenna Load 8
TMS Load 9	Yes	2m	No	EUT [AZQW] BF Cal Port	Load 9
AC Power (PS Base Station)	No	2m	No	AC mains	Power Supply (Base Station)
AC Power (Laptop)	No	1.65m	No	AC Mains	Power Supply (Laptop)
DC Power Leads	No	7.5m	Yes	DC Power Supply (Keysight)	Remote Radio Head Module
AC Power (Keysight)	No	4m	No	AC mains	DC Power Supply (Radiated)
Optical Fiber (SM)	No	30m	No	Airscale Base Station (ABIL)	Remote Radio Head Module
Optical Fiber (MM)	No	30m	No	Airscale Base Station (ABIL)	Remote Radio Head Module
RET	No	2.4m	No	Remote Radio Head Module	Unterminated
EAC	No	5.4m	No	Remote Radio Head Module	Unterminated
Grounding	No	2.3m	No	Remote Radio Head Module	Turntable Ground
Amphenol Fiber Optic Cable	No	m	No	ASIK	AZQW
Cat-5e Data Cable	Yes	m	No	ASIK	WebEM- PC

#### RF Test Setup Diagram:





### Configuration 6 Frequency Stability

Software/Firmware Running during test					
Description	Version				
5G BTS Software Version	5G21A_GNB_0011_000800_001175				
5G RF_SW	URM61.03.R33T				

Equipment being tested (include Peripherals)					
Description	Manufacturer	Model/Part Number	Serial Number		
AMIA (BTS System Module)	Nokia Solutions and Networks	473098A.102	J8173107703		
ASIK (5G BTS System Module)	Nokia Solutions and Networks	474021A.102	EA194259377		
ABIL (5G BTS Baseband Module)	Nokia Solutions and Networks	474020A.102	L1183300437		
AZQW (Radio Module Model)	Nokia Solutions and Networks	475742A.X21	YK211100168		



Attenuator 250W/40dB	API Weinschel	58-40-43-LIM	TC909
AOMC SFP28+ 9.8G,70M,850NM (Radio)	Nokia	474900A.101	VF20180015S
AOMC SFP28+ 9.8G,70M,850NM (BS)	Nokia	474900A.101	VF2020001BQ
ThinkPad T490 (WebEM- PC)	Lenovo	20N3S88012	PF26RVZ0
DC System Power Supply (Radio)	KEYSIGHT	N8757A	US21D4053S
FPAC (DC-PWR Supply-BS)	Nokia	472438A.101	G711007170
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-09
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-63
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-13
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-19
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-26
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-02
2 Meter RF Cable	RD Microwave Systems	CBL-6FT-NMNM-402J- N	18-0204-23
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	SK764
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	PZ465
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	SR300
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	SR301
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	PZ075
150W -50ohm -Terminating Load	API Weinschel inc	1435-3-LIM	SR299
150W -50ohm -Terminating Load	API Weinschel inc	1435-3	LY351
Fiber Optic Cable 10m	Amphenol Fiber Optic	E201648	995109C-180512
GPS Receiver Cable	Nokia	995426C	CA2029
Thermal Chamber	Cincinnati Sub-zero Product Inc	ZPH-8-2-SCT/AC	ZP1424214
Digital Multimeter	Fluke	77IV	27210148
Thermometer	Omega Engineering Inc	HH31	1130101855
Cat-5e Cable	CSA	E151955	LL79189
2 Meter RF Cable	Huber + Suhner, Inc.	HS-SUCOFLEX_106	SN297374
1 Meter RF Cable	Huber + Suhner, Inc.	HS-SUCOFLEX_104	SN551432/4
Reference Cable (Frame Clock & Trigger)	Pomona	2249	C-72
Reference Cable (Frame Clock & Trigger)	Pomona	2249	C-48



Cables (Peripheral)					
Description	Shield (Y/N)	Length (m)	Ferrite (Y/N)	Connection 1 (5G)	Connection 2
Fiber Optic Cable (2)	No	10 meters	No	ABIL	AZQW
GPS Receiver Cable	Yes	100 meters	No	ASIK	FYGB GPS Receiver
Cat-5e Cable	Yes	7 meters	No	ASIK	WebEM- PC
HS-SUCOFLEX_104 1 Meter RF Cable	Yes	2 meter	No	Attenuator 250W/40dB	Analyzer(PXA)
HS-SUCOFLEX_106 2 Meter RF Cable	Yes	2 meter	No	EUT [AZQW] Ant port #8	Analyzer(PXA)
CBL-6FT-NMNM-402J-N 2 Meter RF Cable	Yes	2 meter	No	EUT [AZQW] Ant port #1-7	150W -50ohm - Terminating Load
Reference Cables (Frame Clock & Trigger)	Yes	1 meter	No	ASIK	Analyzer (PXA)
Grounding	No	2.3m	No	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	Yes	2 meters	No	EUT [AZQW] Ant port #8	Attenuator 250W/40dB
Attenuator 250W/40dB	No	NA	No	RF Cable HS- SUCOFLEX_106	RF Cable HS- SUCOFLEX_104
HS-SUCOFLEX_104	Yes	1 meter	No	Attenuator 250W/40dB	Analyzer (PXA)

**RF Test Setup Diagram:** 



# **MODIFICATIONS**



### **Equipment Modifications**

Item	Date	Test	Modification	Note	Disposition of EUT
1	2021-06-11	Average Power	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	2021-06-14	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.
3	2021-06-17	Peak to Average Power	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	2021-06-17	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.
5	2021-06-18	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.
6	2021-06-18	Average Power	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	2021-06-18	Spurious Conducted 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.
8	2021-06-22	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.
9	2021-06-25	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.



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	AMM	2020-09-21	2021-09-21
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFL	2021-03-11	2022-03-11

#### TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The Method in section 5.4 of ANSI C63.26 was used to make this measurement. The spectrum analyzer setting were as follows:

- RBW is 1% 5% of the occupied bandwidth
- VBW is  $\geq$  3x the RBW
- Peak Detector was used
- Trace max was used

The occupied bandwidth was measured with the EUT configured in the modes called out in the datasheets. FCC 27.53(I)(1) defines the 26dB emission bandwidth requirement.

The RF conducted emission testing was performed on one port. The AZQW antenna ports are essentially electrically identical (the RF power variation between antenna ports is small as shown in the "Output Power - All Ports" report section) and antenna port 8 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.

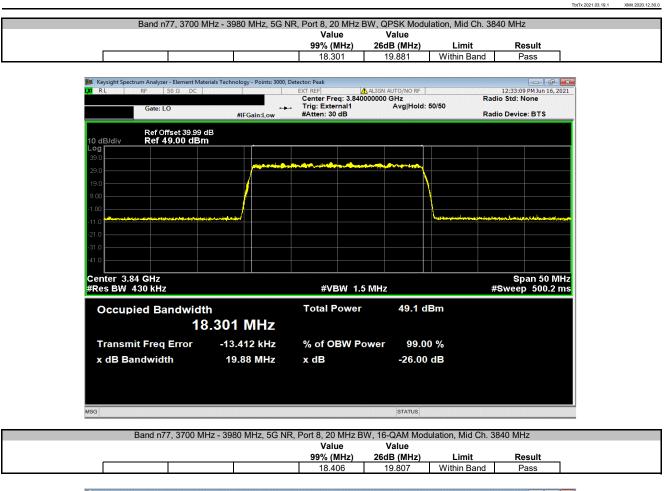
Band n77 (3700MHz to 3980MHz) Emission Designators derived from the measurement results are in the following table.

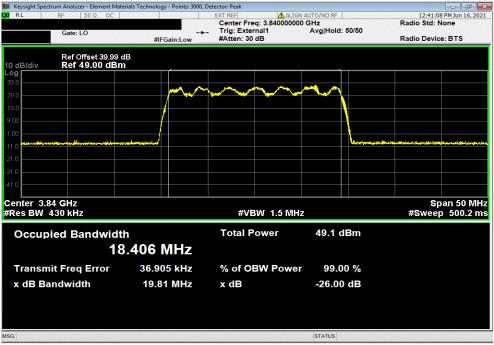
FCC Em	ission Desig	nators for Ba	and n77 (370	0MHz to 398	80MHz)
Chan BW	Radio Channel	5G-NR: QPSK	5G-NR: 16QAM	5G-NR: 64QAM	5G-NR: 256QAM
	Low				19M7G7W
20MHz	Mid	19M9G7W	19M8G7W	19M8G7W	19M8G7W
	High				19M8G7W
	Low				40M4G7W
40MHz	Mid	40M3G7W	40M2G7W	40M4G7W	40M3G7W
	High				40M1G7W
	Low				61M0G7W
60MHz	Mid	61M1G7W	60M8G7W	60M9G7W	60M8G7W
	High				60M7G7W
	Low				82M4G7W
80MHz	Mid	82M3G7W	82M3G7W	82M4G7W	82M4G7W
	High				82M3G7W
	Low				103MG7W
100MHz	Mid	102MG7W	103MG7W	103MG7W	103MG7W
	High				102MG7W
Note: FCC emis	sion designator	s are based on 2	26dB emission b	andwidth.	



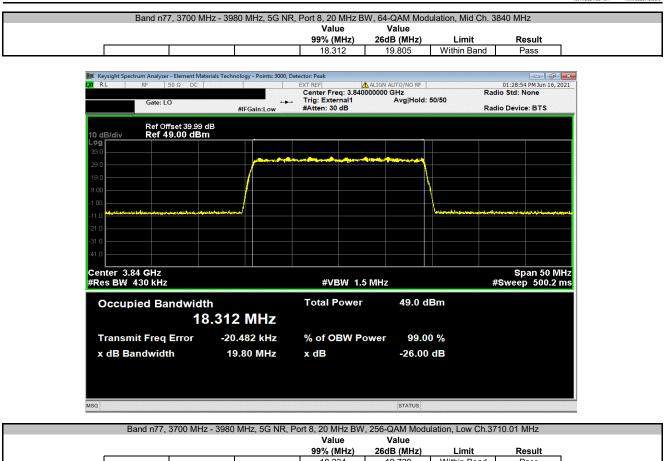
EUT: Airsca	le Base Transceiver	Station Remote Radio Head Model AZQW		Work Order:	TbtTx 2021.03.19.1 NOKI0028	XMit 2020.
Serial Number: YK211					18-Jun-21	
	Solutions and Netwo	orks		Temperature:		
	Rattanavong, David I				51.9% RH	
Project: None				Barometric Pres.:		
Tested by: Brand	on Hobbs	Power: 54VDC		Job Site:		
SPECIFICATIONS		Test Method				
27:2021		ANSI C63.26:2015				
IMENTS						
neasurement path los	ses were accounted	for in the reference level offest including any attenuators, filters and DC blo	ocks. External 1 gating was set usi	na a tria delav = 86	.2us and a gate leng	th = 3.714ms
carrier power was set			<b>3</b> . <b>3</b>	5		
IATIONS FROM TEST	STANDARD					
ne						
		2 4				
figuration #	2	Signative And Sand				
		Signature				
			Value	Value		
			99% (MHz)	26dB (MHz)	Limit	Result
d n77, 3700 MHz - 3980	) MHz, 5G NR					
Port 8						
	20 MHz BW	DOK Madulatian				
	G	PSK Modulation	10.0	40.0		~
		Mid Ch. 3840 MHz	18.3	19.9	Within Band	Pass
	1	6-QAM Modulation	40.4	10.0	Mithin Devel	<b>D</b>
		Mid Ch. 3840 MHz	18.4	19.8	Within Band	Pass
	6	4-QAM Modulation	40.2	10.9	Within Band	Deer
	0	Mid Ch. 3840 MHz 56-QAM Modulation	18.3	19.8	wiulin Band	Pass
	2		18.2	10.7	Within Band	Pass
		Low Ch.3710.01 MHz Mid Ch. 3840 MHz		19.7	Within Band	
			18.3 18.3	19.8 19.8	Within Band	Pass
	40 MHz BW	High Ch. 3969.99 MHz	10.3	19.0	Within Dang	Pass
		PSK Modulation				
	6	Mid Ch. 3840 MHz	37.9	40.3	Within Band	Pass
	1	6-QAM Modulation	51.5	40.5	Within Dand	1 433
		Mid Ch. 3840 MHz	38.1	40.2	Within Band	Pass
	6	4-QAM Modulation	50.1	40.2	Within Dand	1 435
	U	Mid Ch. 3840 MHz	37.9	40.4	Within Band	Pass
	2	56-QAM Modulation	01.0	++	Within Dana	1 455
	-	Low Ch. 3720 Mhz	37.9	40.4	Within Band	Pass
		Mid Ch. 3840 MHz	37.9	40.3	Within Band	Pass
		High Ch. 3960 MHz	37.9	40.1	Within Band	Pass
	60 MHz BW	····g·· •··· ••••				
		PSK Modulation				
		Mid Ch. 3840 MHz	57.9	61.1	Within Band	Pass
	1	6-QAM Modulation				
		Mid Ch. 3840 MHz	58.1	60.8	Within Band	Pass
	6	4-QAM Modulation				
	-	Mid Ch. 3840 MHz	57.9	60.9	Within Band	Pass
	2	56-QAM Modulation				-
		Low Ch. 3730.02 MHz	57.8	61.0	Within Band	Pass
		Mid Ch. 3840 MHz	57.9	60.8	Within Band	Pass
		High Ch. 3949.98 MHz	57.9	60.7	Within Band	Pass
	80 MHz BW					
	G	PSK Modulation				
	_	Mid Ch. 3840 MHz	77.8	82.3	Within Band	Pass
	1	6-QAM Modulation				
		Mid Ch. 3840 MHz	78.1	82.3	Within Band	Pass
	6	4-QAM Modulation				
		Mid Ch. 3840 MHz	77.8	82.4	Within Band	Pass
	2	56-QAM Modulation				
		Low Ch. 3740.01 MHz	77.4	82.4	Within Band	Pass
		Mid Ch. 3840 MHz	77.5	82.4	Within Band	Pass
		High Ch. 3939.99 MHz	77.5	82.3	Within Band	Pass
	100 MHz BW					
	G	PSK Modulation		,		-
	_	Mid Ch. 3840 MHz	97.6	102	Within Band	Pass
	1	6-QAM Modulation				-
	_	Mid Ch. 3840 MHz	97.6	102	Within Band	Pass
	6	4-QAM Modulation		,		_
	-	Mid Ch. 3840 MHz	97.7	103	Within Band	Pass
	2	56-QAM Modulation		400		-
		Low Ch. 3750 MHz	97.4	103	Within Band	Pass
		Mid Ch. 3840 MHz High Ch. 3930 MHz	97.5 97.5	103 102	Within Band Within Band	Pass Pass

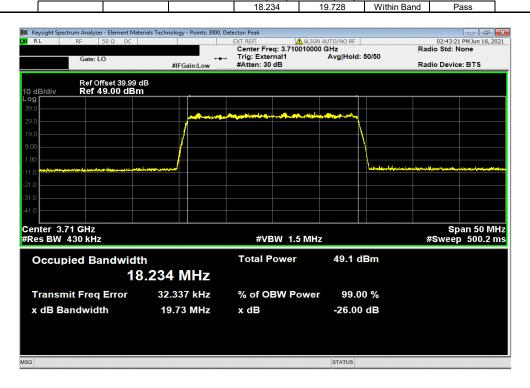






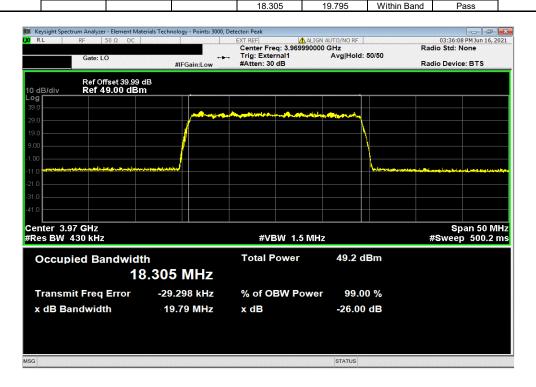






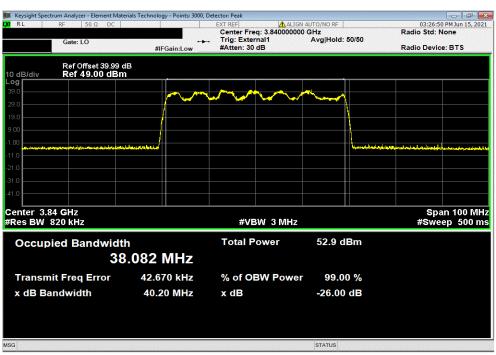


RE     SO Ω     DC     EXT REF     ALION AUTO/NO RF     01:47:11 PM Jun       Gate: LO     #IFGain:Low     Trig: External     Avg Hold: 50/50     Radio Std: None       Radio Device: BTS     #Atten: 30 dB     Avg Hold: 50/50     Radio Device: BTS       Ref 0ffset 39.99 dB     #Ref 49.00 dBm     Image: Std: None     Radio Device: BTS       Image: Std: None     #Atten: 30 dB     Image: Std: None     Radio Device: BTS       Image: Std: None     #Ref 49.00 dBm     Image: Std: None     Radio Device: BTS       Image: Std: None     #Ref 49.00 dBm     Image: Std: None     Radio Device: BTS       Image: Std: None     #Ref 49.00 dBm     Image: Std: None     Radio Device: BTS       Image: Std: None     #Ref 49.00 dBm     Image: Std: None     Radio Device: BTS       Image: Std: None     Image: Std: None     Image: Std: None     Image: Std: None       Image: Std: None     Image: Std: None     Image: Std: None     Image: Std: None       Image: Std: None     Image: Std: None     Image: Std: None     Image: Std: None       Image: Std: None     Image: Std: None     Image: Std: None     Image: Std: None       Image: Std: None     Image: Std: None     Image: Std: None     Image: Std: None       Image: Std: None     Image: Std: None     Image: Std: None     Image: Std: None		Value				
synght Spectrum Analyzer - Bennent Materials Technology - Paints 3000, Detector: Peak: Ref 50 B OC Center Free: 3.4 Materials 7600 0000 GHz Radio Std: None Gate: L0 #FGain:Low Free: 3.4 Materials 7600 0000 GHz Radio Std: None Ref Offset 39.99 dB Ref 49.00 dBm Status Ref 0ffset 39.99 dB Ref 49.00 dBm Span 50 ESCUE Free: 3.84 GHz Span 50 ESCUE Free: 3.84 GHz Span 50 ESCUE Free: 3.84 GHz Span 50 Span 50						
RF       50 0 0 c       EXT REF       ALIGN AUTONOF       0147311PM Jun         Gate: L0       #FGain:Low       Center Fere: 3.84000000 GHz       Avg Hold: 50/50       Radio Std: None         Ref 0 Offset 39.99 dB       #Ref 49.00 dBm       40000000 GHz       Avg Hold: 50/50       Radio Device: BTS         BE/div       Ref 49.00 dBm       40000000 GHz       40000000 GHz       Avg Hold: 50/50       Radio Device: BTS         BE/div       Ref 49.00 dBm       40000000 GHz       400000000 GHz       400000000 GHz       Radio Device: BTS         BE/div       Ref 49.00 dBm       400000000 GHz       400000000 GHz       4000000000 GHz       Radio Device: BTS         BE/div       Ref 49.00 dBm       400000000 GHz       400000000 GHz       400000000 GHz       Radio Device: BTS         BE/div       Ref 49.00 dBm       400000000 GHz       400000000 GHz       400000000 GHz       400000000 GHz         Augusto Std: None       Radio Device: BTS       Span 500       5000000000000000000000000000000000000		18.25	8 19.827	7 Within Ba	and Pass	3
RF       50 0 0 c       EXT REF       ALIGN AUTONOF       0147311PM Jun         Gate: L0       #FGain:Low       Center Fere: 3.84000000 GHz       Avg Hold: 50/50       Radio Std: None         Ref 0 Offset 39.99 dB       #Ref 49.00 dBm       40000000 GHz       Avg Hold: 50/50       Radio Device: BTS         BE/div       Ref 49.00 dBm       40000000 GHz       40000000 GHz       Avg Hold: 50/50       Radio Device: BTS         BE/div       Ref 49.00 dBm       40000000 GHz       400000000 GHz       400000000 GHz       Radio Device: BTS         BE/div       Ref 49.00 dBm       400000000 GHz       400000000 GHz       4000000000 GHz       Radio Device: BTS         BE/div       Ref 49.00 dBm       400000000 GHz       400000000 GHz       400000000 GHz       Radio Device: BTS         BE/div       Ref 49.00 dBm       400000000 GHz       400000000 GHz       400000000 GHz       400000000 GHz         Augusto Std: None       Radio Device: BTS       Span 500       5000000000000000000000000000000000000						
Center Freq: 3.84000000 GHz       Radio Std: None         Trig: External1       Avg Hold: 50/50       Radio Std: None         Ref Offiset 39.99 dB         Ref Offiset 39.99 dB         Ref Offiset 39.99 dB         Center Freq: 3.84000000 GHz       Radio Device: BTS         Ref Offiset 39.99 dB         Status         Status <td></td> <td></td> <td></td> <td>ORE</td> <td></td> <td>- ) 🗗 🔀</td>				ORE		- ) 🗗 🔀
Construction       #Atten: 30 dB       Radio Device: BTS         Ref Offset 39.99 dB       Ref 49.00 dBm       Image: Construction of the second se	KE NF 50.32 UC	Center Free	: 3.840000000 GHz			
Ref Offset 39.99 dB Ref 49.00 dBm Ref 49.00 dBm BBd/// Ref 49.00 dBm				Hold: 50/50	Radio Device: B	TS
Ref 49.00 dBm Ref 49	#IFG	Sam.Low #staten. oo c	<u>b</u>		Rudio Berlice. B	
and a second sec	I0 dB/div Ref 49.00 dBm					
A dB Bandwidth 19.83 MHz x dB -26.00 dB Status Band n77, 3700 MHz - 3980 MHz, 5G NR, Port 8, 20 MHz BW, 256-QAM Modulation, High Ch. 3969.99 MHz Value Value	. <b>og</b> 39.0					
And a second sec		Internet and the second second	- Antonial and a star			
A constrained of the second of	29.0					
A dB Bandwidth 19.83 MHz x dB -26.00 dB 19.00 % t dB Bandwidth 19.83 MHz x dB -26.00 dB 19.00 % t dB Bandwidth 19.83 MHz x dB -26.00 dB 19.00 %	9.0			N		
A construction of the second o	9.00					
Image: Second state of the second s				Man a real black route		ويعار وفينا وسراسه
Anter 3.84 GHz es BW 430 kHz Span 50 es BW 430 kHz Coccupied Bandwidth 18.258 MHz Transmit Freq Error 19.103 kHz Gransmit Freq Error 19.103 kHz Solution 19.83 MHz Solution Status Statu						
Anter 3.84 GHz es BW 430 kHz Bandwidth 18.258 MHz Transmit Freq Error 19.103 kHz MHz Span 50 #Sweep 500 Total Power 49.3 dBm 18.258 MHz Transmit Freq Error 19.103 kHz % of OBW Power 99.00 % A dB Bandwidth 19.83 MHz x dB -26.00 dB STATUS Band n77, 3700 MHz - 3980 MHz, 5G NR, Port 8, 20 MHz BW, 256-QAM Modulation, High Ch. 3969.99 MHz Value Value Value Value	21.0					
Inter 3.84 GHz es BW 430 kHz       #VBW 1.5 MHz       Span 50 #Sweep 500         Occupied Bandwidth 18.258 MHz       Total Power       49.3 dBm         Transmit Freq Error       19.103 kHz       % of OBW Power       99.00 %         X dB Bandwidth       19.83 MHz       x dB       -26.00 dB         STATUS         Band n77, 3700 MHz - 3980 MHz, 5G NR, Port 8, 20 MHz BW, 256-QAM Modulation, High Ch. 3969.99 MHz         Value         Value	31.0					
es BW 430 kHz #VBW 1.5 MHz #Sweep 500 Doccupied Bandwidth Total Power 49.3 dBm 18.258 MHz Transmit Freq Error 19.103 kHz % of OBW Power 99.00 % a dB Bandwidth 19.83 MHz x dB -26.00 dB STATUS Band n77, 3700 MHz - 3980 MHz, 5G NR, Port 8, 20 MHz BW, 256-QAM Modulation, High Ch. 3969.99 MHz Value Value	41.0					
es BW 430 kHz #VBW 1.5 MHz #Sweep 500 Doccupied Bandwidth Total Power 49.3 dBm 18.258 MHz Transmit Freq Error 19.103 kHz % of OBW Power 99.00 % a dB Bandwidth 19.83 MHz x dB -26.00 dB STATUS Band n77, 3700 MHz - 3980 MHz, 5G NR, Port 8, 20 MHz BW, 256-QAM Modulation, High Ch. 3969.99 MHz Value Value					Snan	50 MHz
IB.258 MHz         Transmit Freq Error       19.103 kHz       % of OBW Power       99.00 %         a dB Bandwidth       19.83 MHz       x dB       -26.00 dB         Image: Status         Band n77, 3700 MHz - 3980 MHz, 5G NR, Port 8, 20 MHz BW, 256-QAM Modulation, High Ch. 3969.99 MHz         Value         Value	Center 3.84 GHz					
18.258 MHz         Transmit Freq Error       19.103 kHz       % of OBW Power       99.00 %         a dB Bandwidth       19.83 MHz       x dB       -26.00 dB         Istatus         Band n77, 3700 MHz - 3980 MHz, 5G NR, Port 8, 20 MHz BW, 256-QAM Modulation, High Ch. 3969.99 MHz         Value         Value		#VB	N 1.5 MHz			
Transmit Freq Error       19.103 kHz       % of OBW Power       99.00 %         x dB Bandwidth       19.83 MHz       x dB       -26.00 dB         Istatus         Band n77, 3700 MHz - 3980 MHz, 5G NR, Port 8, 20 MHz BW, 256-QAM Modulation, High Ch. 3969.99 MHz         Value       Value	#Res BW 430 kHz			.3 dBm		
A dB Bandwidth 19.83 MHz x dB -26.00 dB	Res BW 430 kHz Occupied Bandwidth	Total Po		.3 dBm		
Band n77, 3700 MHz - 3980 MHz, 5G NR, Port 8, 20 MHz BW, 256-QAM Modulation, High Ch. 3969.99 MHz Value Value	Res BW 430 kHz Occupied Bandwidth	Total Po MHz	ower 49	0.3 dBm		
Band n77, 3700 MHz - 3980 MHz, 5G NR, Port 8, 20 MHz BW, 256-QAM Modulation, High Ch. 3969.99 MHz Value Value	Res BW 430 kHz Occupied Bandwidth 18.258 N	Total Po MHz	ower 49			
Band n77, 3700 MHz - 3980 MHz, 5G NR, Port 8, 20 MHz BW, 256-QAM Modulation, High Ch. 3969.99 MHz Value Value	Res BW 430 kHz Occupied Bandwidth 18.258 N Transmit Freq Error 19.10	Total Po <b>/IHZ</b> 3 kHz % of OB	ower 49 W Power	99.00 %		
Band n77, 3700 MHz - 3980 MHz, 5G NR, Port 8, 20 MHz BW, 256-QAM Modulation, High Ch. 3969.99 MHz Value Value	#Res BW 430 kHz Occupied Bandwidth 18.258 N Transmit Freq Error 19.10	Total Po <b>/IHZ</b> 3 kHz % of OB	ower 49 W Power	99.00 %		
Band n77, 3700 MHz - 3980 MHz, 5G NR, Port 8, 20 MHz BW, 256-QAM Modulation, High Ch. 3969.99 MHz Value Value	Res BW 430 kHz Occupied Bandwidth 18.258 N Transmit Freq Error 19.10	Total Po <b>/IHZ</b> 3 kHz % of OB	ower 49 W Power	99.00 %		
Value Value	Res BW 430 kHz Occupied Bandwidth 18.258 N Transmit Freq Error 19.10	Total Po <b>/IHZ</b> 3 kHz % of OB	ower 49 W Power	99.00 %		
Value Value	Res BW 430 kHz Occupied Bandwidth 18.258 N Transmit Freq Error 19.10	Total Po <b>/IHZ</b> 3 kHz % of OB	ower 49 W Power -2 -2	99.00 % 6.00 dB		
	Res BW 430 kHz Occupied Bandwidth 18.258 N Transmit Freq Error 19.10 x dB Bandwidth 19.83	Total Po <b>/IHZ</b> 3 kHz % of OB	ower 49 W Power -2 -2	99.00 % 6.00 dB		
99% (MHz) 26dB (MHz) Limit Result	Res BW 430 kHz Occupied Bandwidth 18.258 N Transmit Freq Error 19.10 x dB Bandwidth 19.83	Total Po AHZ 3 kHz % of OB 8 MHz x dB 2, 5G NR, Port 8, 20 MH	ower 49 W Power -2 -2 sta z BW, 256-QAM 1	99.00 % 6.00 dB <sup>rus</sup> Modulation, High	#Sweep 5	i00.2 ms
18 305 19 795 Within Band Pass	Res BW 430 kHz Occupied Bandwidth 18.258 N Transmit Freq Error 19.10 x dB Bandwidth 19.83	Total Po AHZ 3 kHz % of OB 3 MHz x dB z, 5G NR, Port 8, 20 MH Value	wer 49 W Power -2 sta z BW, 256-QAM 1 e Value	99.00 % 6.00 dB <sup>rus</sup> Modulation, High	#Sweep 5	500.2 ms





		Value 99% (MHz)	Value 26dB (MHz)	l instit	Result
		37.871	40.257	Limit Within Band	Pass
		57.071	40.237	Within Danu	Fass
🕱 Keysight Spectrum Analyzer - Element Mate	rials Technology - Points: 3000 D	etector: Peak			
RL RF 50Ω DC	57	EXT REF	ALIGN AUTO/NO RF		03:13:02 PM Jun 15, 2021
		Center Freq: 3.840 Trig: External1	000000 GHz Avg Hold:		dio Std: None
Gate: LO	#IFGain:Low	#Atten: 30 dB	Avginoid.		dio Device: BTS
Ref Offset 39.99 d 10 dB/div Ref 49.00 dBm -og 39.0					
3.0					
19.0				<u> </u>	
9.00					
11.0	and the second			······································	listine, topictif a state or fick has been adapt
21.0					
31.0					
41.0					
Center 3.84 GHz					Span 100 MHz
#Res BW 820 kHz		#VBW 31	٧Hz		#Sweep 500 ms
Occupied Bandwidt	h	Total Power	53.1 d	IBm	
	.871 MHz				
Transmit Freq Error	-42.663 kHz	% of OBW P	ower 99.0	0 %	
x dB Bandwidth	40.26 MHz	x dB	-26.00		
	40.20 WI12	Xub	-20.00		
ASG			STATUS		
			childe		
Band n77, 3700 MI	Hz - 3980 MHz, 5G NR	, Port 8, 40 MHz B	W, 16-QAM Mod	Julation, Mid Ch. 3	840 MHz
		Value	Value		
		99% (MHz)	26dB (MHz)	Limit	Result





	, 2. 50 m	Hz - 3980 MHz, 5G NF	Value	Value	,	
			99% (MHz)	26dB (MHz)	Limit	Result
			37.924	40.355	Within Band	Pass
Keysight Spectru	m Analyzer - Element Ma	terials Technology - Points: 3000, I	Detector: Peak			
XI RL	RF 50 Ω DC			\Lambda ALIGN AUTO/NO RF		03:35:10 PM Jun 15, 2
			Center Freq: 3.840 Trig: External1	000000 GHz Avg Hold:		lio Std: None
	Gate: LO	#IFGain:Low	#Atten: 30 dB			lio Device: BTS
10 dB/div	Ref Offset 39.99 Ref 49.00 dBn					
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29.0						
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1 00						
ante Malajale de vieram	an a	المدر الإخداد وراده والإخراق وال			how we have the second	an she astrong a surprise that a
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41.0						
Center 3.84	GHz		II			Span 100 M
Res BW 82			#VBW 3	MHz		#Sweep 500 r
Occupie	ed Bandwidt		Total Power	53.0 d	Bm	
	37	7.924 MHz				
Transmit	Freq Error	-11.554 kHz	% of OBW P	ower 99.0	0 %	
x dB Ban	idwidth	40.36 MHz	x dB	-26.00	dB	
ISG				STATUS		
				1 1		
	and n77, 3700 Mi	Hz - 3980 MHz, 5G NR	. Port 8, 40 MHz B	W. 256-QAM Mo	dulation. Low Ch	3720 Mhz
Ba			,,	,	,	
Ba		,	Value	Value		
Ba			Value 99% (MHz)	Value 26dB (MHz)	Limit	Result

RL         RF         50 Ω         DC	is recimology * Politis: 5000,		IGN AUTO/NO RF	10:04:11 AM Jun 16, 202
Gate: LO	#IEGain:Low	Center Freq: 3.720000		Radio Std: None Radio Device: BTS
Ref Offset 39.99 dB		#Atten: 30 dB		Radio Device. B13
dB/div Ref 49.00 dBm				
		All the second second second second	-	
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1.0				
.0				
enter 3.72 GHz Res BW 820 kHz		#VBW 3 MH	<b></b>	Span 100 MH #Sweep 500 m
Occupied Bandwidth		Total Power	52.7 dBm	"encop coo
	887 MHz			
Transmit Freq Error	8.522 kHz	% of OBW Pow	ver 99.00 %	
	40.37 MHz	x dB	-26.00 dB	
x dB Bandwidth				
x dB Bandwidth				

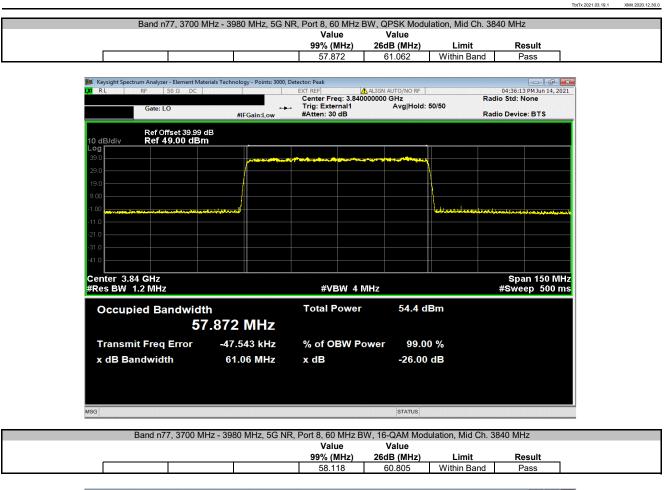


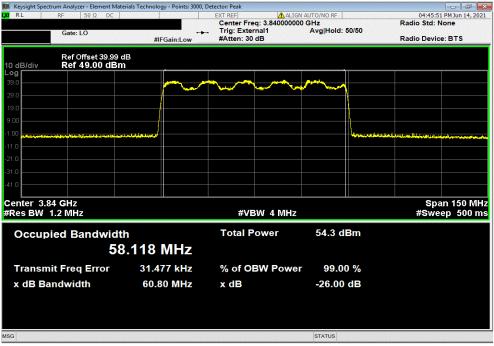
			Value	Value		
			99% (MHz)	26dB (MHz)	Limit	Result
			37.896	40.306	Within Band	Pass
		terials Technology - Points: 3000,				
X/RL	RF 50 Ω DC		EXT REF Center Freg: 3.84	ALIGN AUTO/NO RF	Pad	03:52:57 PM Jun 15, 202 lio Std: None
	Gate: LO		_ Trig: External1	Avg Hold:		io sta. None
		#IFGain:Low	#Atten: 30 dB		Rad	lio Device: BTS
10 dB/div	Ref Offset 39.99 Ref 49.00 dBr					
_ <b>og</b> 39.0						
29.0				A del son a		
19.0						
9.00						
1.00	والمقادلة والمراجع ومعارفية ومحودة ومعاد معرف	h the second			disgrounds herefold a stran sector	والمستعدية والمستعدية والمستعدية
11.0						
21.0						
31.0						
41.0						
Center 3.8						Span 100 MH
#Res BW	820 kHz		#VBW 3	MHz		#Sweep 500 m
Occup	ied Bandwidt	th	Total Power	52.8 d	iBm	
Occup						
	3	7.896 MHz				
Transm	nit Freq Error	19.071 kHz	% of OBW P	ower 99.0	0 %	
x dB Ba	andwidth	40.31 MHz	x dB	-26.00	) dB	
A GD DU		40.01 11112	A GD	20.00		
				STATUS		
SG			NAME AND THE R. A. A. A. M. CO. CO. AND ADDRESS OF A DESCRIPTION OF A DESC			
ISG						
	3and n77, 3700 MF	Iz - 3980 MHz, 5G NF			dulation, High Ch.	3960 MHz
	3and n77, 3700 M⊦	Hz - 3980 MHz, 5G NF	Value	Value		
	3and n77, 3700 M⊦	Hz - 3980 MHz, 5G NF			dulation, High Ch. : Limit Within Band	3960 MHz Result Pass

11:05:07 AM Jun 16, 2021 Radio Std: None 
 Keysight Spectrum Analyzer - Element Materials Technology - Points: 3000, Detector: Peak

 Δ0
 RL
 RF
 50 Ω
 DC
 EXT REF
 EXT REF ALIGN AUTO/NO RF Center Freq: 3.960000000 GHz Trig: External1 Avg|Hold: 50/50 #Atten: 30 dB Gate: LO #IFGain:Low Radio Device: BTS Ref Offset 39.99 dB Ref 49.00 dBm 10 dB/div Log Center 3.96 GHz #Res BW 820 kHz Span 100 MHz #Sweep 500 ms #VBW 3 MHz Total Power 52.7 dBm **Occupied Bandwidth** 37.896 MHz -76.405 kHz % of OBW Power 99.00 % Transmit Freq Error x dB Bandwidth 40.12 MHz x dB -26.00 dB STATUS MSG









			Value	Value		
	—		99% (MHz)	26dB (MHz)	Limit	Result
			57.918	60.897	Within Band	Pass
		erials Technology - Points: 3000, D				
XIRL R	RF 50 Ω DC		EXT REF Center Freq: 3.84	ALIGN AUTO/NO RF	Ra	04:55:37 PM Jun 14, 20 dio Std: None
	Gate: LO	•	. Trig: External1	Avg Hold:	50/50	
		#IFGain:Low	#Atten: 30 dB		Ra	dio Device: BTS
	Ref Offset 39.99 o Ref 49.00 dBm					
Log						
39.0		and the second s	and the second	white the second state of the		
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19.0						
9.00						
1.00	an ai ai an an taith an an tainn dalaan in ta	maadualianan				Materia debasi tatala sita a dala
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21.0						
31.0	والمسمعات					
41.0						
41.0						
Center 3.84						Span 150 Mł
Res BW 1.2	2 MHz		#VBW 4	MHz		#Sweep 500 n
Occupie	d Bandwidt	h	Total Power	54.3 d	Bm	
occupie						
	57	.918 MHz				
	Freq Error	2.539 kHz	% of OBW P	ower 99.0	0 %	
Transmit		60.90 MHz	x dB	-26.00	dB	
	dwidth					
Transmit x dB Band	dwidth	00.00 11112				
	dwidth					
	dwidth					
x dB Band	dwidth					
x dB Band	dwidth			STATUS		
x dB Band				STATUS		720.02 MU-
x dB Band		- 3980 MHz, 5G NR, I	Port 8, 60 MHz BW	status 7, 256-QAM Modu	ulation, Low Ch. 3	730.02 MHz
x dB Band				STATUS	ulation, Low Ch. 3 Limit	730.02 MHz Result

 
 Image: Weysight Spectrum Analyzer - Element Materials Technology - Points: 3000, Detector: Peak

 Image: Weysight Spectrum Analyzer - Element Materials Technology - Points: 3000, Detector: Peak

 Image: Weysight Spectrum Analyzer - Element Materials Technology - Points: 3000, Detector: Peak

 Image: Weysight Spectrum Analyzer - Element Materials Technology - Points: 3000, Detector: Peak

 Image: Weysight Spectrum Analyzer - Element Materials Technology - Points: 3000, Detector: Peak

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 Image: Weysight Spectrum Analyzer - Element Materials Technology - Points: 3000, Detector: Peak

 Image: Weysight Spectrum Analyzer - Element Materials Technology - Points: 3000, Detector: Peak

 Image: Weysight Spectrum Analyzer - Element Materials Technology - Points: 3000, Detector: Peak

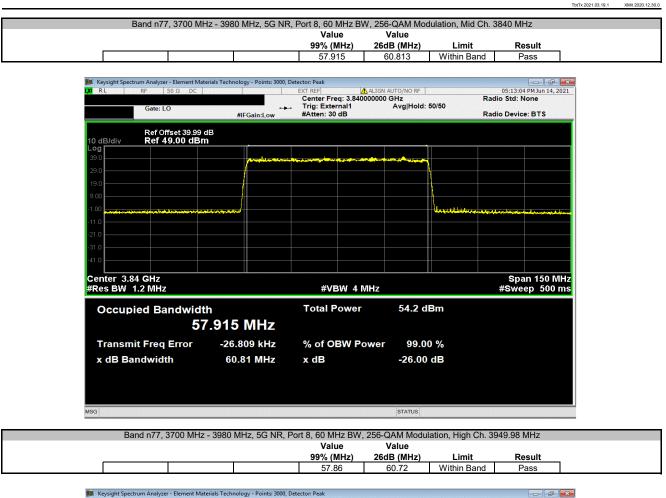
 Image: Weysight Spectrum Analyzer - Element Materials Technology - Points: 3000, Detector: Peak

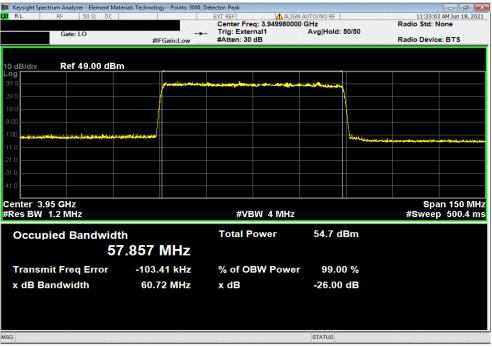
 Image: Weysight Spectrum Analyzer - Element Materials Technology - Points: 3000, Detector: Peak

 Image: Weysight Spectrum Analyzer - Element Materials Technology - Points: 3000, Detector: Peak

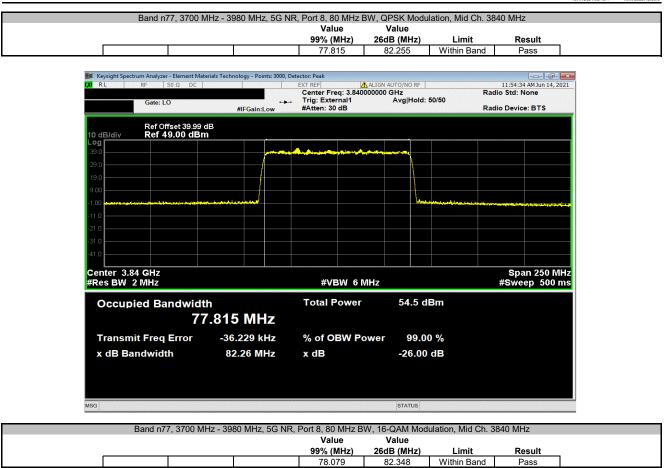
 Image: Weysight Spectrum Analyzer - Element Materials Technology - Points: 3000, Detector: Peak
 01:03:22 PM Jun 15, 2021 Radio Std: None EXT REF ALIGN AUTO/NO RF Center Freq: 3.730020000 GHz Trig: External1 Avg|Hold: 50/50 #Atten: 30 dB Gate: LO -#IFGain:Low Radio Device: BTS Ref Offset 39.99 dB Ref 49.00 dBm 10 dB/div Log Center 3.73 GHz #Res BW 1.2 MHz Span 150 MHz #Sweep 500 ms #VBW 4 MHz Total Power 54.6 dBm **Occupied Bandwidth** 57.785 MHz 17.217 kHz % of OBW Power 99.00 % Transmit Freq Error x dB Bandwidth 60.97 MHz x dB -26.00 dB STATUS MSG

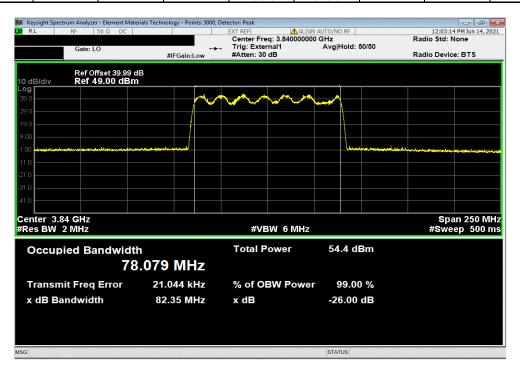




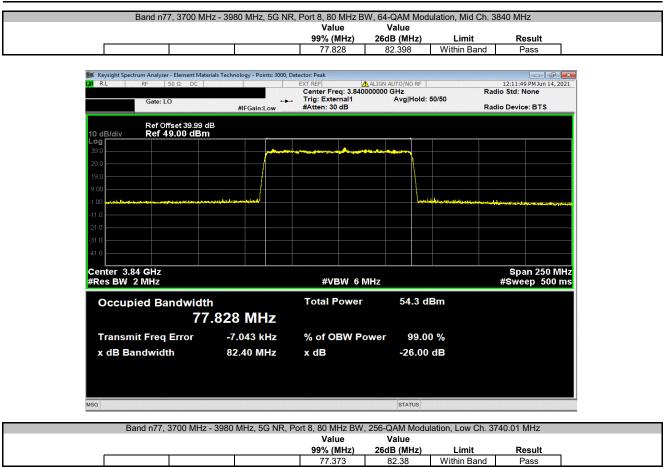






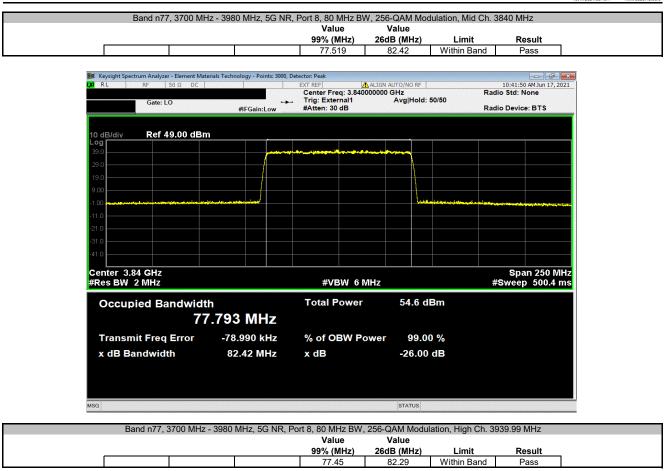


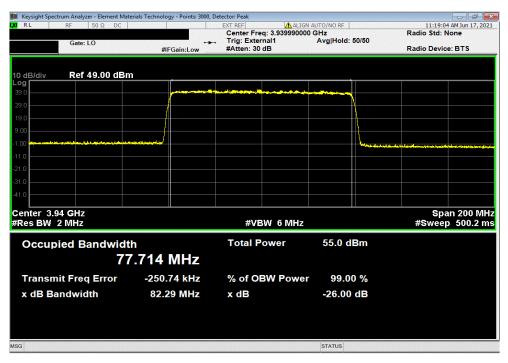






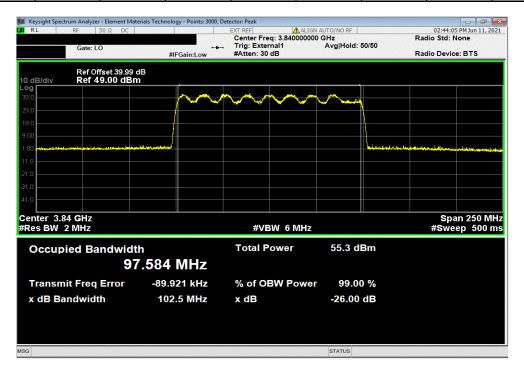








		Value	Value		
		99% (MHz)	26dB (MHz)	Limit	Result
		97.581	102.397	Within Band	Pass
📕 Keysight Spectrum Analyzer - Element Ma	terials Technology - Points: 3000, D	etector: Peak			
XIRL RF 50Ω DC			ALIGN AUTO/NO RF		02:15:03 PM Jun 11,
Cottor I O		Center Freq: 3.840 Trig: External1	Avg Hold:		Radio Std: None
Gate: LO	#IFGain:Low	#Atten: 30 dB			Radio Device: BTS
Ref Offset 39.99 10 dB/div Ref 49.00 dBr	dB m				
-og					
39.0					
29.0					
19.0					
9.00					
00,00	e se district in control			With more marked when a	وسيعجله بمقله مراد والمحاط وملحا وملك
11.0					
21.0					
31.0					
41.0					
Center 3.84 GHz #Res BW 2 MHz		#VBW 61	/IHz		Span 250 M #Sweep 500
Occupied Bandwid		Total Power	55.4 d	IBm	
	7.581 MHz				
Transmit Freq Error	-106.35 kHz	% of OBW Po	ower 99.0	0 %	
x dB Bandwidth	102.4 MHz	x dB	-26.00	dB	
50			STATUS		
SG			STATUS		
	Hz - 3980 MHz 50 NR	Port 8 100 MHz F		dulation Mid Cl	a 3840 MHz
	Hz - 3980 MHz, 5G NR,	Port 8, 100 MHz E		dulation, Mid Cl	n. 3840 MHz
	Hz - 3980 MHz, 5G NR,		W, 16-QAM Mo	dulation, Mid Cl	n. 3840 MHz Result





Band	d n77, 3700 MHz -	3980 MHz, 5G NR	Port 8, 100 MHz I , Value	3W, 64-QAM Moo Value	dulation, Mid Ch. 3	3840 MHz	
			99% (MHz)	26dB (MHz)	Limit	Result	
			97.666	102.535	Within Band	Pass	
			97.000	102.535	Within Band	Pass	
							_
		Technology - Points: 3000, D					
LXI RL RF	50 Ω DC		EXT REF Center Freg: 3.840	ALIGN AUTO/NO RF	Rac	03:24:43 PM Jun 11, 2021 lio Std: None	-
G	ate: LO		Trig: External1	Avg Hold:	50/50		
		#IFGain:Low	#Atten: 30 dB		Rad	lio Device: BTS	
R	ef Offset 39.99 dB						
10 dB/div R	lef 49.00 dBm						
Log							
39.0		Care and the second sec					
29.0							
19.0							
9.00					<b> </b>		
-1.00 <b>-1.00</b>	مديد أمريق وحجر ورخور ويوفرون	where we are a second s			مر و در هم و و و و و و و و و و و و و و و و و و	والمراجعة والمتحافظ والجامعة والمحافية والمعظ	
-11.0							
-21.0							
-31.0							
-41.0							
Center 3.84 G	H7	1				Span 250 MHz	
#Res BW 2 MH			#VBW 6	∕IHz		#Sweep 500 ms	
Occupied	Bandwidth		Total Power	55.2 d	Bm		
	97.6	666 MHz					
Transmit F	req Error	-40.775 kHz	% of OBW P	ower 99.0	0 %		
x dB Bandv	width	102.5 MHz	x dB	-26.00	dB		
				,			
MSG				STATUS			
Band	n77, 3700 MHz -	3980 MHz, 5G NR,	,	,	dulation, Low Ch.	3750 MHz	
			Value	Value			
			99% (MHz)	26dB (MHz)	Limit	Result	
			97.38	102.521	Within Band	Pass	

Keysight Spectrum Analyzer - Element Mate RL RF 50 Ω DC	,		GN AUTO/NO RF	10:47:41 AM Jun 14, 20
		Center Freq: 3.7500000		Radio Std: None
Gate: LO	·•	_ Trig: External1	Avg Hold: 50/50	
	#IFGain:Low	#Atten: 30 dB		Radio Device: BTS
Ref Offset 39.99 d				
dB/div Ref 49.00 dBm	1			
0				
0				
0	<mark>/</mark>			
0			ط احسب الع	Line to be a state of the state
				فتستحف والمتحافظ أتأعف وفعته تصنعت وغدد
0				
0				
0				
0				
nter 3.75 GHz			I II	Span 250 Mi
es BW 2 MHz		#VBW 6 MHz	7	#Sweep 500 n
			2	#3weep 5001
Occupied Bandwidt		Total Power	54.3 dBm	
97	.380 MHz			
Transmit Freq Error	1.856 kHz	% of OBW Powe	er 99.00 %	
x dB Bandwidth	102.5 MHz	x dB	-26.00 dB	



Band n77.	3700 MHz - 3980 MHz, 5G NF	R. Port 8. 100 MHz B	W. 256-QAM Mo	dulation. Mid Ch. 3	3840 MHz	
,		Value	Value	,		
		99% (MHz)	26dB (MHz)	Limit	Result	
		97.541	102.535	Within Band	Pass	
Keysight Spectrum Analyzer	- Element Materials Technology - Points: 3000	Detector: Peak				
	0Ω DC	EXT REF	ALIGN AUTO/NO RF		03:35:45 PM Jun 11, 2021	
		Center Freq: 3.840 Trig: External1	000000 GHz Avg Hold:		io Std: None	
Gate: LO	) ⊶ #IFGain:Low	#Atten: 30 dB	Avginoia:		io Device: BTS	
	set 39.99 dB 9.00 dBm					Ī
Log						1
39.0			State and the state of the stat			
29.0						
19.0						
9.00	<u>/</u>			₩		
-1.00	and a start of the			. Summer of the second second	وروار والمرابع والمراجع والمراجع والمراجع والمراجع والمراجع	
-11.0						
-21.0						
-31.0						
-41.0						
Center 3.84 GHz					Span 250 MHz	
#Res BW 2 MHz		#VBW 61	∕IHz		#Sweep 500 ms	
Occupied Bar	ndwidth 97.541 MHz	Total Power	55.0 d	Bm		
The second for the second				0.0/		
Transmit Freq		% of OBW P				
x dB Bandwidt	h 102.5 MHz	x dB	-26.00	dB		
MSG			STATUS			
Band n77.3	3700 MHz - 3980 MHz, 5G NR	. Port 8, 100 MHz B	N. 256-QAM Mo	dulation. High Ch.	3930 MHz	
		Value	Value			
		99% (MHz)	26dB (MHz)	Limit	Result	

eysight Spectrum Analyzer - Element N	laterials Technology - Points: 300			
RL RF 50 Ω DC			GN AUTO/NO RF	11:20:56 AM Jun 14, 20
Gate: LO	+ #IFGain:Low	Center Freq: 3.9300000 Trig: External1 #Atten: 30 dB	00 GHz Avg Hold: 50/50	Radio Std: None Radio Device: BTS
Ref Offset 39.9 dB/div Ref 49.00 dE				
0				
0	<mark> </mark>			
)				harman ar an ann an Arabada an Ar
- 				
nter 3.93 GHz es BW 2 MHz		#VBW 6 MHz		Span 250 Ml #Sweep 500 n
Occupied Bandwic	lth	Total Power	55.0 dBm	
9	7.508 MHz			
Fransmit Freq Error	-250.60 kHz	% of OBW Powe	er 99.00 %	
dB Bandwidth	102.3 MHz	x dB	-26.00 dB	



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
Chamber - Temperature/Humidity	Cincinnati Sub Zero (CSZ)	ZPH-8-2-SCT/AC	TBH	NCR	NCR
Spectrum Analyzer	Keysight	N9030B	R291	2020-06-13	2021-07-13
Meter - Multimeter	Fluke	77-IV	MLT	2020-10-15	2023-10-15
Thermometer	Omega Engineering, Inc.	HH311	DUI	2021-02-02	2024-02-02

#### **TEST DESCRIPTION**

The spectrum analyzer is equipped with a precision frequency reference that exceeds the stability requirement of the EUT.

Measurements were made on the single transmit frequency as called out on the data sheets. Testing was done while the EUT was continuously operating.

The primary supply voltage was varied from 85 % to 115% of the nominal voltage while at ambient temperature. Using a temperature chamber, the transmit frequency was recorded at the extremes of the specified temperature range of -30  $^{\circ}$  to +50 $^{\circ}$  C and at 10 $^{\circ}$ C intervals.

FCC Part 27.54 defines the frequency deviation limit as follows: "The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation."

While there are no specific limits defined, results with a frequency error of less than 1000 Hz will show the carrier to be operating within the band. The frequency stability/accuracy radio design is the same for all radio technologies and modulation types. The radio was configured for 5G NR100 to show compliance.



EUT.	Airecalo Baso Transcolu	er Station Remote Radio Head Model AZQW		Work Order:		XMit 202
Serial Number:		a Station Remote Radio Head Model AZQW			22-Jun-21	
	Nokia Solutions and Net	warka		Temperature:		
	Mitchell Hill , David Le	WORKS		Humidity:		
Project:				Barometric Pres.:		
	Brandon Hobbs		Power: 54VDC	Job Site:		
ST SPECIFICATI			Test Method	Job Sile:	1705	
C 27:2021	UNG		ANSI C63.26:2015			
6 27.2021			ANSI C03.20.2013			
MMENTS						
		d for in the reference level offest including any		ernal 1 gating was set using a trig delay = 86.	us and a gate leng	gth = 3.714m
e EUT temperatu	ire was stabilized at each	temperature step (for a minimum of 30 minute	es) prior to measurements.			
VIATIONS FROM	I TEST STANDARD					
ne						
	6	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				
onfiguration #	6	Signature	a Jal			
		Oighataio		Absolute Value	Limit	
				Frequency $\Delta$ (Hz)	Δ (Hz)	Result
		-30°C Temperature Conditions		0.991	1000	Deee
	48 VDC Nom	ninal Voltage Conditions				
		Mid Channel 3840 MHz		0.881	1000	Pass
		-20°C Temperature Conditions		0.001	1000	1 833
		Mid Channel 3840 MHz		0.564	1000	Pass
		-10°C Temperature Conditions		0.304	1000	1 833
		Mid Channel 3840 MHz		0.564	1000	Pass
		0°C Temperature Conditions		0.004	1000	1 455
		Mid Channel 3840 MHz		0.582	1000	Pass
		10°C Temperature Conditions		0.002	1000	1 455
		Mid Channel 3840 MHz		0.924	1000	Pass
		20°C Temperature Conditions		0.024	1000	1 455
		Mid Channel 3840 MHz		0.373	1000	Pass
		30°C Temperature Conditions		0.010	1000	1 455
		Mid Channel 3840 MHz		0.451	1000	Pass
		40°C Temperature Conditions		0.401	1000	1 455
		Mid Channel 3840 MHz		0.525	1000	Pass
		50°C Temperature Conditions		5.525	1000	, ass
		Mid Channel 3840 MHz		1.520	1000	Pass
				1.020		. 455
	40.8 VDC Ex	treme Low Voltage Conditions				
		treme Low Voltage Conditions				
		20°C Temperature Conditions		0 135	1000	Pass
		20°C Temperature Conditions Mid Channel 3840 MHz		0.135	1000	Pass
	55.2 VDC Ex	20°C Temperature Conditions Mid Channel 3840 MHz treme High Voltage Conditions		0.135	1000	Pass
	55.2 VDC Ex	20°C Temperature Conditions Mid Channel 3840 MHz		0.135	1000	Pass



		andulated Cami		C Manainal Valtaria Candit		
MHz - 3980 MHz, 5G NR, Po	ort 8, NR100 Demo	ondulated, Carri	er Tone, 48 VD	Absolute Value	Limit	emperature Conditi
	г – т			Frequency Δ (Hz) 0.881	Δ (Hz) 1000	Result Pass
				0.001	1000	1 433
5G NR 1	+					
Modulation Analysis KEYSIGHT Input RF	Input Z: 50 Ω	Atten 18 dB	Tng: External 1	Carrier Ref Freq: 3.840000000 GHz	/	
Align Auto	Corrections: Off	Preamp. Off al #PNO Best Wide	Trig Delay: 86.2 µs			
LNI .						
4 CC0 Error Summary						
Channel Power Channel Power (Active)	37.30 dBm					
EVM	38.59 dBm 2.55 %					
EVM Peak Frequency Error	12.68 % -880.6 mHz					
Symbol Clock Error IQ Offset	0.003 ppm -34.99 dB					
Time Offset	-393 ns					
Sync Correlation Sync Source	99.9 % PDSCH DMRS					
Magnitude Error Phase Error	1.79 % 0.02 rad					
Gain Imbalance	0.02 Tau					
Quad Error Timing Skew						
1605	<b>?</b> Jun 21, 2021 12:24:32 PM					
4 h C 1	12-24-32 DM	(1997)				
	• 12.24.32 FW	~				
MHz - 3980 MHz, 5G NR, Pc			er Tone, 48 VD		ions, -20°C T	
			er Tone, 48 VD	C Nominal Voltage Condit Absolute Value Frequency Δ (Hz)		
			er Tone, 48 VD	Absolute Value	ions, -20°C T Limit	emperature Conditi
MHz - 3980 MHz, 5G NR, Pc	ort 8, NR100 Demo		er Tone, 48 VD	Absolute Value Frequency Δ (Hz)	ions, -20°C T Limit Δ (Hz)	emperature Conditi Result
MHz - 3980 MHz, 5G NR, Po	ort 8, NR100 Demo	ondulated, Carri		Absolute Value Frequency Δ (Hz) 0.564	ions, -20°C T Limit Δ (Hz) 1000	emperature Conditi Result
MHz - 3980 MHz, 5G NR, Pc	ort 8, NR100 Demo	Atten 18 dB	Trig: External 1	Absolute Value Frequency Δ (Hz) 0.564	ions, -20°C T Limit Δ (Hz) 1000	emperature Conditi Result
MHz - 3980 MHz, 5G NR, Po	ert 8, NR100 Demo	Atten: 18 dB	Trig External 1 Trig Delay 86.2 µs	Absolute Value Frequency Δ (Hz) 0.564	ions, -20°C T Limit Δ (Hz) 1000	emperature Conditi Result
MHz - 3980 MHz, 5G NR, Po	ert 8, NR100 Demo	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value           Frequency Δ (Hz)           0.564           Carrier Ref Freq: 3 840000000 GHz           Avg Hold 10/10	ions, -20°C T Limit Δ (Hz) 1000	emperature Conditi Result
MHz - 3980 MHz, 5G NR, Pc	input Z 50 Q Corrections Off Freq Ref. Externi	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value           Frequency Δ (Hz)           0.564           Carrier Ref Freq: 3 840000000 GHz           Avg Hold 10/10	ions, -20°C T Limit Δ (Hz) 1000	emperature Conditi Result
MHz - 3980 MHz, 5G NR, Po	Art 8, NR100 Demo	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value           Frequency Δ (Hz)           0.564           Carrier Ref Freq: 3 840000000 GHz           Avg Hold 10/10	ions, -20°C T Limit Δ (Hz) 1000	emperature Conditi Result
MHz - 3980 MHz, 5G NR, Po	Input Z 50 0 Corrections Off Freq Ref Externi 38.05 dBm 39.34 dBm 2.62 %	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value           Frequency Δ (Hz)           0.564           Carrier Ref Freq: 3 840000000 GHz           Avg Hold 10/10	ions, -20°C T Limit Δ (Hz) 1000	emperature Conditi Result
MHz - 3980 MHz, 5G NR, Po	ort 8, NR100 Demo input Z 50 Q Corrections Off Freq Ref Extern 38.05 dBm 39.34 dBm 2.62 % 13.71 % -563.7 mHz	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value           Frequency Δ (Hz)           0.564           Carrier Ref Freq: 3 840000000 GHz           Avg Hold 10/10	ions, -20°C T Limit Δ (Hz) 1000	emperature Conditi Result
MHz - 3980 MHz, 5G NR, Po 5G NR 1 Modulation Analysis KEYSIGHT Input: RF Coupling: D ↓ 0 4 CC0 Error Summary Channel Power Channel P	38.05 dBm 39.36 dBm 39.37 mHz 0.002 ppm -35.19 dB	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value           Frequency Δ (Hz)           0.564           Carrier Ref Freq: 3 840000000 GHz           Avg Hold 10/10	ions, -20°C T Limit Δ (Hz) 1000	emperature Conditi Result
MHz - 3980 MHz, 5G NR, Po	38.05 dBm 39.34 dBm 39.34 dBm 2.62 % 13.71 % -563.7 mHz 0.002 ppm -3.519 dB -390 ns	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value           Frequency Δ (Hz)           0.564           Carrier Ref Freq: 3 840000000 GHz           Avg Hold 10/10	ions, -20°C T Limit Δ (Hz) 1000	emperature Conditi Result
MHz - 3980 MHz, 5G NR, Po 5G NR 1 Modulation Analysis KEYSIGHT Input: RF Coupling: D Align: Auto 20 4 CC0 Error Summary * Channel Power (Active) EVM EVM Peak Frequency Error Symbol Clock Error IQ Offset Time Offset Sync Correlation Sync Source	262 % 38.05 dBm 38.05 dBm 38.05 dBm 38.05 dBm 2.62 % 13.71 % -563.7 mHz 0.002 ppm -35.19 dB -390 ns 99.9 % PDSCH DMRS	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value           Frequency Δ (Hz)           0.564           Carrier Ref Freq: 3 840000000 GHz           Avg Hold 10/10	ions, -20°C T Limit Δ (Hz) 1000	emperature Conditi Result
MHz - 3980 MHz, 5G NR, Po 5G NR 1 Modulation Analysis KEYSIGHT Input RF Align Auto 20 4 CC0 Error Summary Channel Power Channel Power Symbol Clock Error IQ Offset Time Offset Sync Correlation	ant 8, NR100 Demo Input 2 50 Ω Corrections Off Freq Ref Externo 38.05 dBm 39.34 dBm 2.62 % 13.71 % -563.7 mHz 0.002 ppm -35.19 dB -390 ns 99.9 %	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value           Frequency Δ (Hz)           0.564           Carrier Ref Freq: 3 840000000 GHz           Avg Hold 10/10	ions, -20°C T Limit Δ (Hz) 1000	emperature Conditi Result
MHz - 3980 MHz, 5G NR, Po 5G NR 1 Modulation Analysis KEYSIGHT Input RF Coupring: D Align Auto 20 4 CO0 Error Summary Channel Power Channel Power	28.05 dBm 38.05 dBm 39.34 dBm 2.62 % 13.71 % -563.7 mHz 0.002 ppm -35.19 dB -390 ns 99.9 % 9DSCH DMRS 1.84 % 0.02 rad	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value           Frequency Δ (Hz)           0.564           Carrier Ref Freq: 3 840000000 GHz           Avg Hold 10/10	ions, -20°C T Limit Δ (Hz) 1000	emperature Conditi Result
MHz - 3980 MHz, 5G NR, Po	38.05 dBm 39.34 dBm 39.34 dBm 39.34 dBm 2.62 % 13.71 % -563.7 mHz 0.002 ppm 3-519 dB -390 ns 99.9 % 99.9 % 99.9 % 90.51 DMRS 1.84 % 0.02 rad	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value           Frequency Δ (Hz)           0.564           Carrier Ref Freq: 3 840000000 GHz           Avg Hold 10/10	ions, -20°C T Limit Δ (Hz) 1000	emperature Conditi Result
MHz - 3980 MHz, 5G NR, Po	art 8, NR100 Demo           Input Z 50 Ω           Corrections Off           Freq Ref Extern           38.05 dBm           39.34 dBm           2.62 %           13.71 %           -563.7 mHz           0.002 ppm           -35.19 dB           -390 ns           9.9 %           PDSCH DMRS           1.84 %           0.02 rad	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value           Frequency Δ (Hz)           0.564           Carrier Ref Freq: 3 840000000 GHz           Avg Hold 10/10	ions, -20°C T Limit Δ (Hz) 1000	emperature Conditi Result
MHz - 3980 MHz, 5G NR, Po	art 8, NR100 Demo           Input Z 50 Ω           Corrections Off           Freq Ref Extern           38.05 dBm           39.34 dBm           2.62 %           13.71 %           -563.7 mHz           0.002 ppm           -35.19 dB           -390 ns           9.9 %           PDSCH DMRS           1.84 %           0.02 rad	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value           Frequency Δ (Hz)           0.564           Carrier Ref Freq: 3 840000000 GHz           Avg Hold 10/10	ions, -20°C T Limit Δ (Hz) 1000	emperature Conditi Result
MHz - 3980 MHz, 5G NR, Po	art 8, NR100 Demo           Input Z 50 Ω           Corrections Off           Freq Ref Extern           38.05 dBm           39.34 dBm           2.62 %           13.71 %           -563.7 mHz           0.002 ppm           -35.19 dB           -390 ns           9.9 %           PDSCH DMRS           1.84 %           0.02 rad	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value           Frequency Δ (Hz)           0.564           Carrier Ref Freq: 3 840000000 GHz           Avg Hold 10/10	ions, -20°C T Limit Δ (Hz) 1000	emperature Conditi Result
MHz - 3980 MHz, 5G NR, Po	art 8, NR100 Demo           Input Z 50 Ω           Corrections Off           Freq Ref Extern           38.05 dBm           39.34 dBm           2.62 %           13.71 %           -563.7 mHz           0.002 ppm           -35.19 dB           -390 ns           9.9 %           PDSCH DMRS           1.84 %           0.02 rad	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value           Frequency Δ (Hz)           0.564           Carrier Ref Freq: 3 840000000 GHz           Avg Hold 10/10	ions, -20°C T Limit Δ (Hz) 1000	emperature Conditi Result
MHz - 3980 MHz, 5G NR, Po	art 8, NR100 Demo           Input Z 50 Ω           Corrections Off           Freq Ref Extern           38.05 dBm           39.34 dBm           2.62 %           13.71 %           -563.7 mHz           0.002 ppm           -35.19 dB           -390 ns           9.9 %           PDSCH DMRS           1.84 %           0.02 rad	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value           Frequency Δ (Hz)           0.564           Carrier Ref Freq: 3 840000000 GHz           Avg Hold 10/10	ions, -20°C T Limit Δ (Hz) 1000	emperature Conditi Result
MHz - 3980 MHz, 5G NR, Po 5G NR 1 Modulation Analysis KEYSIGHT Input RF Coupany P Align Auto 20 4 CC0 Error Summary * Channel Power Channel Power	art 8, NR100 Demo	Atten 18 dB Preamp Off at #PNO Best Wide	Trig External 1 Trig Delay 86.2 µs	Absolute Value           Frequency Δ (Hz)           0.564           Carrier Ref Freq: 3 840000000 GHz           Avg Hold 10/10	ions, -20°C T Limit <u>A (Hz)</u> 1000	emperature Conditi Result Pass
MHz - 3980 MHz, 5G NR, Po BG NR 1 Modulation Analysis KEYSIGHT Input RF Aign: Auto V 4 CC0 Error Summary 4 CC0 Error Summary Channel Power Channel Power Coke Error Gain Imbalance Quad Error	28.05 dBm 38.05 dBm 39.34 dBm 2.62 % 13.71 % 558.7 mHz 0.002 ppm -35.19 dB -390 ns 99.9 % 2DSCH DMRS 1.84 % 0.02 rad	Atten 18 dB Preamp Off at #PNO Best Wide	Trig External 1 Trig Delay 86.2 µs	Absolute Value           Frequency Δ (Hz)           0.564           Carrier Ref Freq: 3 840000000 GHz           Avg Hold 10/10	ions, -20°C T Limit <u>A (Hz)</u> 1000	emperature Conditi Result



, 3700 MHz - 3980 MHz, 5G NR, Po	ort 8, NR100 Demo	,		Absolute Value	Limit			
	[			Frequency Δ (Hz) 0.564	Δ (Hz) 1000		Result Pass	
5G NR 1								
Modulation Analysis	input Ζ: 50 Ω	Atten 18 dB	Trig: External 1	Carrier Ref Freq: 3.840000000 GH	-			
KEYSIGHT Input RF Coupling D Align Auto	C Corrections: Off	Preamp: Off I #PNO: Best Wide	Trig Delay: 86.2 µs		2			
1,0		. In the second	and the state				_	
4 CC0 Error Summary   Channel Power	38.05 dBm							
Channel Power (Active) EVM	39.34 dBm 2.62 %							
EVM Peak Frequency Error	13.71 % -563.7 mHz							
Symbol Clock Error IQ Offset	0.002 ppm -35.19 dB							
Time Offset Sync Correlation	-390 ns 99.9 %							
Magnitude Error	PDSCH DMRS 1.84 %							
Phase Error Gain Imbalance	0.02 rad							
Quad Error Timing Skew								
5 C C	2:28:26 PM							
			ier Tone 48 V	DC Nominal Voltage Con				as Mid Channel 3
7, 3700 MHz - 3980 MHz, 5G NR, F			ier Tone, 48 V	Absolute Value	ditions, 0°C <sup>-</sup> Limit	Tempera	ture Condition	ns, Mid Channel 3
			ier Tone, 48 V		ditions, 0°C <sup>-</sup>	Tempera		ns, Mid Channel 3
7, 3700 MHz - 3980 MHz, 5G NR, F	Port 8, NR100 Dem		ier Tone, 48 V	Absolute Value Frequency Δ (Hz)	ditions, 0°C <sup>-</sup> Limit Δ (Hz)	Tempera	ture Condition	ns, Mid Channel 3
7, 3700 MHz - 3980 MHz, 5G NR, F 5G NR 1 Modulation Analysis KEYSIGHT Input RF	Port 8, NR100 Demo		ier Tone, 48 V	Absolute Value Frequency Δ (Hz)	ditions, 0°C <sup>-</sup> Limit Δ (Hz) 1000	Tempera	ture Condition	ns, Mid Channel 3
7, 3700 MHz - 3980 MHz, 5G NR, F 5G NR 1 Modulation Analysis KEYSIGHT Input RF Autor Autor	Port 8, NR100 Demo	ondulated, Carı	Trig: External 1 Trig Delay: 86.2 µs	Absolute Value Frequency & (Hz) 0.582	ditions, 0°C <sup>-</sup> Limit Δ (Hz) 1000	Tempera	ture Condition	ns, Mid Channel 3
7, 3700 MHz - 3980 MHz, 5G NR, F 5G NR 1 Modulation Analysis KEYSIGHT Input RF Coupling D Align Auto W	Port 8, NR100 Demo	Atten 18 dB Preamp Off	Trig: External 1 Trig Delay: 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.582 Carrier Ref Freq: 3 840000000 GH AvgHold 10/10	ditions, 0°C <sup>-</sup> Limit Δ (Hz) 1000	Tempera	ture Condition	ns, Mid Channel 3
7, 3700 MHz - 3980 MHz, 5G NR, F SG NR 1 Modulation Analysis KEYSIGHT Input RF Align Auto UST 4 CC0 Error Summary Channel Power	Port 8, NR100 Demo	Atten 18 dB Preamp Off	Trig: External 1 Trig Delay: 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.582 Carrier Ref Freq: 3 840000000 GH AvgHold 10/10	ditions, 0°C <sup>-</sup> Limit Δ (Hz) 1000	Tempera	ture Condition	ns, Mid Channel 3
7, 3700 MHz - 3980 MHz, 5G NR, F 5G NR 1 Modulation Analysis KEYSIGHT Input RF Coupling D Align Auto 20 4 CC0 Error Summary	c Input Z: 50 Ω Corrections: Off Freq Ref Externa	Atten 18 dB Preamp Off	Trig: External 1 Trig Delay: 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.582 Carrier Ref Freq: 3 840000000 GH AvgHold 10/10	ditions, 0°C <sup>-</sup> Limit Δ (Hz) 1000	Tempera	ture Condition	ns, Mid Channel 3
7, 3700 MHz - 3980 MHz, 5G NR, F 5G NR 1 Modulation Analysis KEYSIGHT Input RF Capping B Align Auto U 4 CC0 Error Summary Channel Power Channel Pow	Port 8, NR100 Demo Port 8, NR100 Demo Impul Z 50 Ω Corrections: Off Freq Ref Externa 38.46 dBm 39.75 dBm	Atten 18 dB Preamp Off	Trig: External 1 Trig Delay: 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.582 Carrier Ref Freq: 3 840000000 GH AvgHold 10/10	ditions, 0°C <sup>-</sup> Limit Δ (Hz) 1000	Tempera	ture Condition	ns, Mid Channel 3
7, 3700 MHz - 3980 MHz, 5G NR, F	20rt 8, NR100 Demo Input Z: 50 Q Corrections: Off Freq Ref Externa 38.46 dBm 39.75 dBm 2.55 % 12.15 % -582.0 mHz 0.001 ppm -35.24 dB	Atten 18 dB Preamp Off	Trig: External 1 Trig Delay: 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.582 Carrier Ref Freq: 3 840000000 GH AvgHold 10/10	ditions, 0°C <sup>-</sup> Limit Δ (Hz) 1000	Tempera	ture Condition	ns, Mid Channel 3
7, 3700 MHz - 3980 MHz, 5G NR, F 5G NR 1 Modulation Analysis KEYSIGHT Input: RF Coupling 0 Align: Auto 20 4 CC0 Error Summary Channel Power Channel Cock Error IQ Offset Time Offset Symbol Clock Error IQ Offset	2ort 8, NR100 Demo input Z 50 Ω Corrections Off Freq Ref Externa 38.46 dBm 39.75 dBm 2.55 % 12.15 % -582.0 mHz 0.001 ppm -35.24 dB -396 ns 99.9 %	Atten 18 dB Preamp Off	Trig: External 1 Trig Delay: 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.582 Carrier Ref Freq: 3 840000000 GH AvgHold 10/10	ditions, 0°C <sup>-</sup> Limit Δ (Hz) 1000	Tempera	ture Condition	ns, Mid Channel 3
7, 3700 MHz - 3980 MHz, 5G NR, F 5G NR 1 Modulation Analysis KEYSIGHT Input: RF Coupling 0 Align: Auto 20 4 CC0 Error Summary Channel Power Channel Cock Error IQ Offset Time Offset Symbol Clock Error IQ Offset	20rt 8, NR100 Demo 20rt 8, NR100 Demo Input Z: 50 Ω Corrections: Off Freq Ref Externa 38.46 dBm 39.75 dBm 2.55 % 12.15 % -582.0 mHz 0.001 ppm -35.24 dB -396 ns	Atten 18 dB Preamp Off	Trig: External 1 Trig Delay: 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.582 Carrier Ref Freq: 3 840000000 GH AvgHold 10/10	ditions, 0°C <sup>-</sup> Limit Δ (Hz) 1000	Tempera	ture Condition	ns, Mid Channel 3
7, 3700 MHz - 3980 MHz, 5G NR, F SG NR 1 Modulation Analysis KEYSIGHT Input RF Capting B Align Auto VT 4 CC0 Error Summary Channel Power Channel Po	Port 8, NR100 Demo Input 2 50 Ω Corrections Off Freq Ref Externa 38.46 dBm 39.75 dBm 2.55 % 12.15 % -582.0 mHz 0.001 ppm -35.24 dB -396 ns 99.9 % PDSCH DMRS	Atten 18 dB Preamp Off	Trig: External 1 Trig Delay: 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.582 Carrier Ref Freq: 3 840000000 GH AvgHold 10/10	ditions, 0°C <sup>-</sup> Limit Δ (Hz) 1000	Tempera	ture Condition	ns, Mid Channel 3
7, 3700 MHz - 3980 MHz, 5G NR, F SG NR 1 Modulation Analysis KEYSIGHT Input RF Counting D Align Auto UV 4 CC0 Error Summary Channel Power Channel P	2ort 8, NR100 Demo Port 8, NR100 Demo Input Z: 50 Ω Corrections Off Freq Ref Externa 38.46 dBm 39.75 dBm 2.55 % 12.15 % -582.0 mHz 0.001 ppm -35.24 dB -396 ns 99.9 % PDSCH DMRS 1.80 % 0.02 rad	Atten 18 dB Preamp Off	Trig: External 1 Trig Delay: 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.582 Carrier Ref Freq: 3 840000000 GH AvgHold 10/10	ditions, 0°C <sup>-</sup> Limit Δ (Hz) 1000	Tempera	ture Condition	ns, Mid Channel 3
7, 3700 MHz - 3980 MHz, 5G NR, F SG NR 1 Modulation Analysis KEYSIGHT Input RF Coupling D Align Auto V 4 CC0 Error Summary ▼ Channel Power Channel	Port 8, NR100 Demo Input 2: 50 Ω Corrections: Off Freq Ref Externa 38.46 dBm 39.75 dBm 2:55 % 12:15 % -582.0 mHz 0.001 ppm -35:24 dB -396 ns 99.9 % PDSCH DMRS 1.80 % 0.02 rad	Atten 18 dB Preamp Off	Trig: External 1 Trig Delay: 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.582 Carrier Ref Freq: 3 840000000 GH AvgHold 10/10	ditions, 0°C <sup>-</sup> Limit Δ (Hz) 1000	Tempera	ture Condition	ns, Mid Channel 3
7, 3700 MHz - 3980 MHz, 5G NR, F SG NR 1 Modulation Analysis KEYSIGHT Input RF Coupling D Align Auto V 4 CC0 Error Summary ▼ Channel Power Channel	Port 8, NR100 Demo Input 2: 50 Ω Corrections: Off Freq Ref Externa 38.46 dBm 39.75 dBm 2:55 % 12:15 % -582.0 mHz 0.001 ppm -35:24 dB -396 ns 99.9 % PDSCH DMRS 1.80 % 0.02 rad	Atten 18 dB Preamp Off	Trig: External 1 Trig Delay: 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.582 Carrier Ref Freq: 3 840000000 GH AvgHold 10/10	ditions, 0°C <sup>-</sup> Limit Δ (Hz) 1000	Tempera	ture Condition	ns, Mid Channel 3
7, 3700 MHz - 3980 MHz, 5G NR, F SG NR 1 Modulation Analysis KEYSIGHT Input RF Coupling D Align Auto V 4 CC0 Error Summary ▼ Channel Power Channel	Port 8, NR100 Demo Input 2: 50 Ω Corrections: Off Freq Ref Externa 38.46 dBm 39.75 dBm 2:55 % 12:15 % -582.0 mHz 0.001 ppm -35:24 dB -396 ns 99.9 % PDSCH DMRS 1.80 % 0.02 rad	Atten 18 dB Preamp Off	Trig: External 1 Trig Delay: 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.582 Carrier Ref Freq: 3 840000000 GH AvgHold 10/10	ditions, 0°C <sup>-</sup> Limit Δ (Hz) 1000	Tempera	ture Condition	ns, Mid Channel 3
7, 3700 MHz - 3980 MHz, 5G NR, F SG NR 1 Modulation Analysis KEYSIGHT Input RF Coupling D Align Auto V 4 CC0 Error Summary ▼ Channel Power Channel	Port 8, NR100 Demo Input 2: 50 Ω Corrections: Off Freq Ref Externa 38.46 dBm 39.75 dBm 2:55 % 12:15 % -582.0 mHz 0.001 ppm -35:24 dB -396 ns 99.9 % PDSCH DMRS 1.80 % 0.02 rad	Atten 18 dB Preamp Off	Trig: External 1 Trig Delay: 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.582 Carrier Ref Freq: 3 840000000 GH AvgHold 10/10	ditions, 0°C <sup>-</sup> Limit Δ (Hz) 1000	Tempera	ture Condition	ns, Mid Channel 3
7, 3700 MHz - 3980 MHz, 5G NR, F SG NR 1 Modulation Analysis KEYSIGHT Input RF Coupling D Align Auto V 4 CC0 Error Summary ▼ Channel Power Channel	Port 8, NR100 Demo Port 8, NR100 Demo Impul Z: 50 Ω Corrections Off Freq Ref Externa 38.46 dBm 39.75 dBm 2.55 % 12.15 % -582.0 mHz 0.001 ppm -35.24 dB -582.0 mHz 0.001 ppm -35.24 dB -399 % PDSCH DMRS 1.80 % 0.02 rad 	Atten 18 dB Preamp Off	Trig: External 1 Trig Delay: 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.582 Carrier Ref Freq: 3 840000000 GH AvgHold 10/10	ilitions, 0°C <sup>-</sup> Limit <u>Δ (Hz)</u> 1000	Tempera	ture Condition Result Pass	ns, Mid Channel 3



MHz - 3980 MHz, 5G NR, F	ort 8, NR100 Dem	ondulated, Carr	ier Ione, 48 VL	C Nominal Voltage Condit Absolute Value	Limit	emperature Cond
<u> </u>				Frequency Δ (Hz)	Δ (Hz)	Result
				0.924	1000	Pass
100 T 100 T						
5G NR 1 Modulation Analysis	1 +					
KEYSIGHT Input RF	input Z: 50 Ω	Atten: 18 dB	Trig: External 1	Carrier Ref Freq: 3 840000000 GHz		
Coupling: I Align: Auto	C Corrections: Off Freq Ref Extern	Preamp. Off al #PNO: Best Wide	Trig Delay: 86.2 µs IF Gain: Low	Avg Hold 10/10 CC Infa: Downlink, 1 CC, SISO		
L)a						
4 CC0 Error Summary						
Channel Power	38.57 dBm					
Channel Power (Active) EVM	39.86 dBm 2.58 %					
EVM Peak	13.25 %					
Frequency Error Symbol Clock Error	-924.3 mHz 0.002 ppm					
IQ Offset	-35.24 dB					
Time Offset Sync Correlation	-389 ns 99.9 %					
Sync Source Magnitude Error	PDSCH DMRS 1.82 %					
Phase Error	0.02 rad					
Gain Imbalance Quad Error						
Timing Skew						
	- tur 04 0004	2				
4 h C L	Jun 21, 2021 4:04:10 PM	(···)				# 🔡 — 🕻
MHz - 3980 MHz 5G NR E	Port 8 NR100 Dem	ondulated (Carr	ier Lone 48 VI	)C Nominal Voltage Condit	ions 20°C T	emperature Cond
MHz - 3980 MHz, 5G NR, F	Port 8, NR100 Dem	ondulated, Carr	ier Ione, 48 VL	Absolute Value	Limit	emperature Cond
MHz - 3980 MHz, 5G NR, F	Port 8, NR100 Dem	ondulated, Carr	ier Ione, 48 VL	Absolute Value Frequency Δ (Hz)	Limit ∆ (Hz)	Result
MHz - 3980 MHz, 5G NR, F	Port 8, NR100 Dem	ondulated, Carr	ier Tone, 48 VL	Absolute Value	Limit	
5G NR 1		ondulated, Carr	ler Ione, 48 VL	Absolute Value Frequency Δ (Hz)	Limit ∆ (Hz)	Result
5G NR 1 Modulation Analysis				Absolute Value Frequency Δ (Hz) 0.373	Limit ▲ (Hz) 1000	Result
5G NR 1 Modulation Analysis KEYSIGHT Input RF	Input Z' 50 Ω Corrections. Off	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value Frequency △ (Hz) 0.373	Limit ▲ (Hz) 1000	Result
5G NR 1 Modulation Analysis KEYSIGHT Input RF Coupring 1 Align Auto	Input Z' 50 Ω Corrections. Off	Atten 18 dB	Trig External 1 Trig Delay 86.2 µs	Absolute Value Frequency △ (Hz) 0.373	Limit ▲ (Hz) 1000	Result
5G NR 1 Modulation Analysis KEYSIGHT Input RF Couping i Align Auto	Input Z' 50 Ω Corrections. Off	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.373 Carrier Ref Freq. 3 840000000 GHz AvgHold 10/10	Limit ▲ (Hz) 1000	Result
5G NR 1 Modulation Analysis KEYSIGHT Input RF Couping I Align Auto W 4 CC0 Error Summary ▼	input Z: 50 Ω Corrections: Off Freq Ref. Extern	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.373 Carrier Ref Freq. 3 840000000 GHz AvgHold 10/10	Limit ▲ (Hz) 1000	Result
SG NR 1 Modulation Analysis KEYSIGHT Input RF → Align Auto DV 4 CC0 Error Summary Channel Power	Input Z' 50 Ω Corrections. Off Freq Ref. Extern 38.64 dBm	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.373 Carrier Ref Freq. 3 840000000 GHz AvgHold 10/10	Limit ▲ (Hz) 1000	Result
5G NR 1         Modulation Analysis         KEYSIGHT Input RF         Coupling 1         Align Auto         201         4 CC0 Error Summary         Channel Power         Channel Power (Active)         EVM	Input Z: 50 Ω Corrections: Off Freq Ref Extern 38.64 dBm 39.93 dBm 2.60 %	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.373 Carrier Ref Freq. 3 840000000 GHz AvgHold 10/10	Limit ▲ (Hz) 1000	Result
SG NR 1 Modulation Analysis KEYSIGHT Input RF Couping I → Align Auto tw 4 CC0 Error Summary Channel Power Channel Power (Active) EVM EVM Peak	100 Input Z 50 0 Corrections: Off Freq Ref. Extern 38.64 dBm 39.93 dBm 2.60 % 12.14 %	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.373 Carrier Ref Freq. 3 840000000 GHz AvgHold 10/10	Limit ▲ (Hz) 1000	Result
5G NR 1         Modulation Analysis         KEYSIGHT Input RF         Coupling 1         Alignt Auto         201         4 CC0 Error Summary         Channel Power         Channel Power (Active)         EVM         Frequency Error         Symbol Clock Error	Input Z: 50 Ω Corrections Off Freq Ref Extern           38.64 dBm 39.93 dBm 2.60 % 12.14 % -373.4 mHz 0.002 ppm	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.373 Carrier Ref Freq. 3 840000000 GHz AvgHold 10/10	Limit ▲ (Hz) 1000	Result
SG NR 1 Modulation Analysis KEYSIGHT Input RF Couping 1 → Align Auto DT 4 CC0 Error Summary Channel Power Channel Pow	38.64 dBm           39.93 dBm           2.60 %           12.14 %           -37.3.4 mHz           0.002 ppm           -35.17 dB	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.373 Carrier Ref Freq. 3 840000000 GHz AvgHold 10/10	Limit ▲ (Hz) 1000	Result
SG NR 1 Modulation Analysis KEYSIGHT Input: RF Couping 1 → Align: Auto DV 4 CC0 Error Summary 4 CC0 Error Summary Channel Power Channel Power Symbol Clock Error IQ Offset Time Offset Sync Correlation	Input Z: 50 0 Corrections: Off Freq Ref Extern 38.64 dBm 39.93 dBm 2.60 % 12.14 % 12.14 % 12.14 % 12.14 % 13.73.4 mHz 0.002 ppm -35.17 dB -393 ns 99.9 %	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.373 Carrier Ref Freq. 3 840000000 GHz AvgHold 10/10	Limit ▲ (Hz) 1000	Result
5G NR 1         Modulation Analysis         KEYSIGHT Input RF         Coupling 1         Imput RF         Align: Auto         20         4 CC0 Error Summary         Channel Power         Channel Power (Active)         EVM         EVM Peak         Frequency Error         Symbol Clock Error         IQ Offset         Time Offset         Sync Correlation         Sync Source	38.64 dBm 39.93 dBm 2.60 % 12.14 % -373.4 mHz 0.002 ppm -35.17 dB -393 ns	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.373 Carrier Ref Freq. 3 840000000 GHz AvgHold 10/10	Limit ▲ (Hz) 1000	Result
SG NR 1 Modulation Analysis KEYSIGHT Input: RF → Cooping 1 → Align Auto ZV 4 CC0 Error Summary ◆ Channel Power Channel Power (Active) EVM EVM Peak Frequency Error Symbol Clock Error IQ Offset Time Offset Sync Source Magnitude Error Phase Error	Input Z         50 Ω           Corrections: Off         Great Ref. Extern           38.64 dBm         2.60 %           12.14 %         -373.4 mHz           -373.4 mHz         0.002 ppm           -393 ns         99.9 %           PDSCH DMRS         1.84 %           0.02 rad	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.373 Carrier Ref Freq. 3 840000000 GHz AvgHold 10/10	Limit ▲ (Hz) 1000	Result
SG NR-1 Modulation Analysis KEYSIGHT Input RF → Coupring 1 → Align: Auto 201 4 CC0 Error Summary 4 CC0 Error Summary Channel Power Channel Power (Active) EVM EVM Peak Frequency Error Symbol Clock Error IQ Offset Time Offset Symc Correlation Sync Source Magnitude Error Phase Error Gain Imbalance	A constant of the second secon	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.373 Carrier Ref Freq. 3 840000000 GHz AvgHold 10/10	Limit ▲ (Hz) 1000	Result
SG NR 1 Modulation Analysis KEYSIGHT Input: RF Cooping 1 → Cooping 1 → Cooping 1 Align Auto EV 4 CC0 Error Summary ◆ Channel Power Channel Power	Input Z         50 Ω           Corrections: Off         Great Ref. Extern           38.64 dBm         2.60 %           12.14 %         -373.4 mHz           -373.4 mHz         0.002 ppm           -393 ns         99.9 %           PDSCH DMRS         1.84 %           0.02 rad	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.373 Carrier Ref Freq. 3 840000000 GHz AvgHold 10/10	Limit ▲ (Hz) 1000	Result
5G NR 1         Modulation Analysis         KEYSIGHT         Input RF         Coupling I         Imput RF         Magnitude Strong Reset         Imput RF         Imput RF </td <td>38.64 dBm 39.93 dBm 2.60 % 12.14 % -373.4 mHz 0.002 ppm -35.17 dB -393 ns 99.9 % PDSCH DMRS 1.84 % 0.02 rad</td> <td>Atten 18 dB Preamp. Off</td> <td>Trig External 1 Trig Delay 86.2 µs</td> <td>Absolute Value Frequency ∆ (Hz) 0.373 Carrier Ref Freq. 3 840000000 GHz AvgHold 10/10</td> <td>Limit ▲ (Hz) 1000</td> <td>Result</td>	38.64 dBm 39.93 dBm 2.60 % 12.14 % -373.4 mHz 0.002 ppm -35.17 dB -393 ns 99.9 % PDSCH DMRS 1.84 % 0.02 rad	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.373 Carrier Ref Freq. 3 840000000 GHz AvgHold 10/10	Limit ▲ (Hz) 1000	Result
5G NR 1         Modulation Analysis         KEYSIGHT         Input RF         Coupling I         Imput RF         Magnitude Strong Reset         Imput RF         Imput RF </td <td>38.64 dBm 39.93 dBm 2.60 % 12.14 % -373.4 mHz 0.002 ppm -35.17 dB -393 ns 99.9 % PDSCH DMRS 1.84 % 0.02 rad</td> <td>Atten 18 dB Preamp. Off</td> <td>Trig External 1 Trig Delay 86.2 µs</td> <td>Absolute Value Frequency ∆ (Hz) 0.373 Carrier Ref Freq. 3 840000000 GHz AvgHold 10/10</td> <td>Limit ▲ (Hz) 1000</td> <td>Result</td>	38.64 dBm 39.93 dBm 2.60 % 12.14 % -373.4 mHz 0.002 ppm -35.17 dB -393 ns 99.9 % PDSCH DMRS 1.84 % 0.02 rad	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.373 Carrier Ref Freq. 3 840000000 GHz AvgHold 10/10	Limit ▲ (Hz) 1000	Result
5G NR 1         Modulation Analysis         KEYSIGHT         Input RF         Coupling I         Imput RF         Magnitude Strong Reset         Imput RF         Imput RF </td <td>38.64 dBm 39.93 dBm 2.60 % 12.14 % -373.4 mHz 0.002 ppm -35.17 dB -393 ns 99.9 % PDSCH DMRS 1.84 % 0.02 rad</td> <td>Atten 18 dB Preamp. Off</td> <td>Trig External 1 Trig Delay 86.2 µs</td> <td>Absolute Value Frequency ∆ (Hz) 0.373 Carrier Ref Freq. 3 840000000 GHz AvgHold 10/10</td> <td>Limit ▲ (Hz) 1000</td> <td>Result</td>	38.64 dBm 39.93 dBm 2.60 % 12.14 % -373.4 mHz 0.002 ppm -35.17 dB -393 ns 99.9 % PDSCH DMRS 1.84 % 0.02 rad	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.373 Carrier Ref Freq. 3 840000000 GHz AvgHold 10/10	Limit ▲ (Hz) 1000	Result
5G NR 1         Modulation Analysis         KEYSIGHT         Input RF         Coupling I         Imput RF         Magnitude Strong Reset         Imput RF         Imput RF </td <td>38.64 dBm 39.93 dBm 2.60 % 12.14 % -373.4 mHz 0.002 ppm -35.17 dB -393 ns 99.9 % PDSCH DMRS 1.84 % 0.02 rad</td> <td>Atten 18 dB Preamp. Off</td> <td>Trig External 1 Trig Delay 86.2 µs</td> <td>Absolute Value Frequency ∆ (Hz) 0.373 Carrier Ref Freq. 3 840000000 GHz AvgHold 10/10</td> <td>Limit ▲ (Hz) 1000</td> <td>Result</td>	38.64 dBm 39.93 dBm 2.60 % 12.14 % -373.4 mHz 0.002 ppm -35.17 dB -393 ns 99.9 % PDSCH DMRS 1.84 % 0.02 rad	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.373 Carrier Ref Freq. 3 840000000 GHz AvgHold 10/10	Limit ▲ (Hz) 1000	Result
5G NR 1         Modulation Analysis         KEYSIGHT         Input RF         Coupling I         Imput RF         Magnitude Strong Reset         Imput RF         Imput RF </td <td>38.64 dBm 39.93 dBm 2.60 % 12.14 % -373.4 mHz 0.002 ppm -35.17 dB -393 ns 99.9 % PDSCH DMRS 1.84 % 0.02 rad</td> <td>Atten 18 dB Preamp. Off</td> <td>Trig External 1 Trig Delay 86.2 µs</td> <td>Absolute Value Frequency ∆ (Hz) 0.373 Carrier Ref Freq. 3 840000000 GHz AvgHold 10/10</td> <td>Limit ▲ (Hz) 1000</td> <td>Result</td>	38.64 dBm 39.93 dBm 2.60 % 12.14 % -373.4 mHz 0.002 ppm -35.17 dB -393 ns 99.9 % PDSCH DMRS 1.84 % 0.02 rad	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.373 Carrier Ref Freq. 3 840000000 GHz AvgHold 10/10	Limit ▲ (Hz) 1000	Result
Sig NR-1 Modulation Analysis KEYSIGHT Input RF → Coupring 1 Alignt Auto 201 4 CC0 Error Summary 4 CC0 Error Summary Channel Power Channel Power (Active) EVM EVM Peak Frequency Error Symbol Clock Error IQ Offset Time Offset Sync Correlation Sync Source Magnitude Error Phase Error Gain Imbalance Quad Error Timing Skew	Input Z: 50 0 Corrections: Off Freq Ref Extern 38.64 dBm 39.93 dBm 2.60 % 12.14 % -373.4 mHz 0.002 ppm -35.17 dB -393 ns 99.9 % PDSCH DMRS 1.84 % 0.02 rad	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.373 Carrier Ref Freq. 3 840000000 GHz AvgHold 10/10	Limit <u>A (Hz)</u> 1000	Result Pass
5G NR 1         Modulation Analysis         KEYSIGHT         Input RF         Coupling I         Imput RF         Magnitude Strong Reset         Imput RF         Imput RF </td <td>Input Z: 50 0 Corrections: Off Freq Ref Extern 38.64 dBm 39.93 dBm 2.60 % 12.14 % -373.4 mHz 0.002 ppm -35.17 dB -393 ns 99.9 % PDSCH DMRS 1.84 % 0.02 rad</td> <td>Atten 18 dB Preamp. Off</td> <td>Trig External 1 Trig Delay 86.2 µs</td> <td>Absolute Value Frequency ∆ (Hz) 0.373 Carrier Ref Freq. 3 840000000 GHz AvgHold 10/10</td> <td>Limit <u>A (Hz)</u> 1000</td> <td>Result</td>	Input Z: 50 0 Corrections: Off Freq Ref Extern 38.64 dBm 39.93 dBm 2.60 % 12.14 % -373.4 mHz 0.002 ppm -35.17 dB -393 ns 99.9 % PDSCH DMRS 1.84 % 0.02 rad	Atten 18 dB Preamp. Off	Trig External 1 Trig Delay 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.373 Carrier Ref Freq. 3 840000000 GHz AvgHold 10/10	Limit <u>A (Hz)</u> 1000	Result



KEYSIGHT Input RF Input 2 50 0. Attent 16 dB Trop External 1 Carrier Rel Freq. 3 64000000 GHz: Connections Off Preamp: Off Trop Delay 85 2 us Avgit4/ud; 10/10 Align: Auto Freq Rel External withO: Best Wide UF Gain Low CC Into Downlink 1 CC, SISO					Absolute Value	Limit	D It
BG NR 1 Modulation Antifysis       Input 2 50.0 Corrections Off       Atten: 16 dB       Troj External 1 Troj Delay 85/2 is Avgit4vid; 10:10 Troj Delay 85/2 is Avgit4vid; 10:10 Freigner Rei Freig       Corrections Off         Augo: Auto       Preamp Off       Troj External 1 Freigner Rei Freig       Corrections Off         Augo: Auto       Preamp Off       Troj External 1 Freigner Rei Freig       Corrections Off         Augo: Auto       Preamp Off       Freigner Rei Freig       3 840000000 GHz         Augo: Auto       Preamp Off       Freigner Rei Freig       3 840000000 GHz         Augo: Auto       Preamp Off       Freigner Rei Freig       3 840000000 GHz         Augo: Auto       Preamp Off       Freigner Rei Freig       3 840000000 GHz         Channel Power       38 89 dBm       Channel Power (Active)       40.18 dBm         EVM       P.es W       2.65 %       EVM Peak       12.17 %         Frequency Error       451.2 mHz       Symbol Clock Error       0.03 ppm         10 Offset       -930 ns       -930 ns       -930 ns         Symbol Clock Error       1.88 %       Phase Error       1.88 %         Phase Error       0.02 rad       -       -							
Medulation Analysis     Imput 2 S0.0     Attent 16 dB     Trop External 1     Carner Ref Freq. 3 s40000000 GHz: Trop Delay 85 2 us Avgit4vid: 10/10       KEYSIGHT Input RF Align Auto     Conner CM     Attent 16 dB     Trop Delay 85 2 us Avgit4vid: 10/10       Conner CM     Freq Ref External #PNO: Best Wide     IP Gain Low     CC Into Dewnlink 1 CC, SISO       Conner Power     38.89 dBm       Channel Power (Active)     40.18 dBm       EVM     2.65 %       EVM     2.65 %       EVM     2.65 %       EVM Peak     12.17 %       Frequency Error     40.18 dBm       Symbol Cock Error     0.003 ppm       IO Offset     -35.14 dB       Sync Cortealation     99.3 %       Sync Cortealation     99.3 %       Sync Cortealation     99.3 %       Sync Cortealation     90.3 %       Phase Error     0.02 rad       Gain Inbalance					0.451	1000	Pass
Medulation Analysis     Imput 2 S0.0     Attent 16 dB     Trop External 1     Carner Ref Freq. 3 s40000000 GHz: Trop Delay 85 2 us Avgit4vid: 10/10       KEYSIGHT Input RF Align Auto     Conner CM     Attent 16 dB     Trop Delay 85 2 us Avgit4vid: 10/10       Conner CM     Freq Ref External #PNO: Best Wide     IP Gain Low     CC Into Dewnlink 1 CC, SISO       Conner Power     38.89 dBm       Channel Power (Active)     40.18 dBm       EVM     2.65 %       EVM     2.65 %       EVM     2.65 %       EVM Peak     12.17 %       Frequency Error     40.18 dBm       Symbol Cock Error     0.003 ppm       IO Offset     -35.14 dB       Sync Cortealation     99.3 %       Sync Cortealation     99.3 %       Sync Cortealation     99.3 %       Sync Cortealation     90.3 %       Phase Error     0.02 rad       Gain Inbalance	No. of the local sector of the						
KEYSIGHT     Input PF     Input 2 50.0     Atten: 16.dB     Trop External 1     Carrier Rel Freq: 3.84000000.06/l/2       Align:	5G NR 1 Modulation Analysis	1+1					
A COO Error Summary  A COO Error Summary  Channel Power  S8.89 dBm Channel Power (Active)  40.18 dBm EVM  2.45 % EVM Peak  12.17 % Frequency Error  451.2 mHz Symbol Clock Error  0.003 ppm Ito Offset  -39.14 dB Time Offset  -39.0 ns Symc Sourcelation  99.9 % Symc Sourcelation  99.9 % Symc Sourcelation  99.9 % EVM Pase Error  1.88 % Phase Error  0.02 rad Gain limbalance	KEYSIGHT Input RF	Input Z 50 Q	Atien: 16 dB	The External 1	Carrier Rel Freq: 3 840000000 Gi	t <u>e</u>	
A COO Error Summary  A COO Error Summary  Channel Power  S8.89 dBm Channel Power (Active)  40.18 dBm EVM  2.45 % EVM Peak  12.17 % Frequency Error  451.2 mHz Symbol Clock Error  0.003 ppm Ito Offset  -39.14 dB Time Offset  -39.0 ns Symc Sourcelation  99.9 % Symc Sourcelation  99.9 % Symc Sourcelation  99.9 % EVM Pase Error  1.88 % Phase Error  0.02 rad Gain limbalance	Align: Auto	Freq Ret External					
Channel Power         38.89 dBm           Channel Power (Active)         40.18 dBm           EVM         2.85 %           EVM Peak         12.17 %           Frequency Error         451.2 mHz           Symbol Clock Error         0.003 ppm           IQ Offset         -35.14 dB           Sync Correlation         99.9 %           Sync Source         PDSCH DMRS           Magnitude Error         1.88 %           Phase Error         0.02 rad           Galn Imbalance         —           Oud Error         —	LN	Constant of States and			and the second s		
Channel Power (Active)         40.18 dBm           EVM         2.65 %           EVM Peak         12.17 %           Frequency Error         451.2 mHz           Symbol Clock Error         0.003 ppm           IQ Offset         -35.14 dB           Time Offset         -390 ns           Sync Gorelation         99.3 %           Sync Source         PDSCH DMRS           Magnitude Error         1.88 %           Phase Error         0.02 rad           Galn Imbalance         —           Quad Error         —	4 CC0 Error Summary *						
EVM         2.85 %           EVM Peak         12.17 %           Frequency Error         451.2 mHz           Symbol Clock Error         0.003 ppm           IQ Offset         -35.14 dB           Time Offset         -390 ns           Sync Correlation         99.9 %           Sync Source         PDSCH DMRS           Magnitude Error         1.88 %           Phase Error         0.02 rad           Gain Imbalance         —							
EVM Peak 12.17 % Frequency Error 451.2 mHz Symbol Clock Error 0.003 ppm IQ Offset -35.14 dB Time Offset -35.14 dB Sync Correlation 99.9 % Sync Sourceation 99.9 % Sync Sourceation 99.9 % PDSCH DMHS Magnitude Error 1.88 % Phase Error 0.02 rad Gain Imbalance -							
Symbol Cibck Error 0.003 ppm IQ Offset -35,14 08 Time Offset -390 ns Sync Correlation 99,9 % Sync Source PDSCH DMRS Magnitude Error 1.88 % Phase Error 0.02 rad Gain Imbalance	EVM Peak	12.17 %					
Ici Offset     -35.14 dB       Time Offset     -390 ns       Sync Concleation     99.9 %       Sync Source     PDSCH DMRS       Magnitude Error     1.88 %       Phase Error     0.02 rad       Gain Imbalance							
Sync Correlation 09.9 % Sync Source PDSCH DMRS Magnitude Error 1.88 % Phase Error 0.02 rad Galn Imbalance Quad Error	IQ Offset	-35,14 dB					
Sync Source PDSCH DMRS Magnitude Error 1,88 % Phase Error 0,02 rad Gain Imbalance							
Magnitude Error 1.88 % Phase Error 0.02 rad Galn Imbalance — Quad Error —							
Gain Imbalance - Quad Error -	Magnitude Error	1.88 %					
Quad Error _							
Timing Skew	Quad Error						
	Timing Skew	-					
	1501	2 Jun 22, 2021 1:30:06 PM					

and n77, 3700 MHz -	- 3980 MH	z, 5G NR, F	ort 8, NR100 Dem	ondulated, Carrie	er Tone, 48 VDC	Nominal Voltage Con	ditions, 40°C Te	emperature Condit	ions, Mid Channel 3840 M
						Absolute Value	Limit		
						Frequency ∆ (Hz)	Δ (Hz)	Result	_
						0.525	1000	Pass	

Channel Power (Active) EVM EVM Peak Frequency Error	39.09 dBm 40.39 dBm 2.67 % 13.90 % 524.8 mHz 0.003 ppm			
Channel Power (Active) EVM EVM Peak Frequency Error Symbol Clock Error	40.39 dBm 2.67 % 13.90 % 524.8 mHz			
Time Offset Sync Correlation Sync Source PDS Magnitude Error Phase Error Gain Imbalance Quad Error Timing Skew				



3700 MHz - 3980 MHz, 5G NR, F	on o, NR 100 Demo			Absolute Value	Limit		
				Frequency Δ (Hz) 1.520	Δ (Hz) 1000	Result Pass	
			•				
5G NR 1 Modulation Analysis	1 +						
KEYSIGHT Input RF	C Input Z 50 Ω Corrections: Off	Atten: 18 dB Preamp: Off	Trig: External 1 Trig Delay: 86.2 µs	Carrier Ref Freq: 3 840000000 GH: AvglHold 10/10	!		
Align: Auto	Freq Ref. Externa	al #PNO Best Wide		CC Info: Downlink, 1 CC, SISO			
4 CC0 Error Summary v							
Channel Power	39.17 dBm						
Channel Power (Active) EVM	40.46 dBm 2.59 %						
EVM Peak Frequency Error	12.10 % -1.52 Hz						
Symbol Clock Error IQ Offset	0.003 ppm -35.09 dB						
Time Offset Sync Correlation	-393 ns 99.9 %						
Sync Source Magnitude Error	PDSCH DMRS 1.84 %						
Phase Error Gain Imbalance	0.02 rad						
Quad Error Timing Skew							
Thinking Skew							
50	<b>11:44:58 AM</b>						
	11:44:58 AM						
00 MHz - 3980 MHz, 5G NR, Port	11:44:58 AM	ulated, Carrier	Tone, 40.8 VDC	Absolute Value	onditions, 20° Limit	C Temperature Cor	
	11:44:58 AM	ulated, Carrier <sup>-</sup>	Tone, 40.8 VDC		onditions, 20°		
00 MHz - 3980 MHz, 5G NR, Port	11:44:58 AM	ulated, Carrier	Tone, 40.8 VDC	Absolute Value Frequency $\Delta$ (Hz)	onditions, 20° Limit Δ (Hz)	C Temperature Cor Result	
	11:44:58 AM	ulated, Carrier <sup>-</sup>	Tone, 40.8 VDC	Absolute Value Frequency $\Delta$ (Hz)	onditions, 20° Limit Δ (Hz)	C Temperature Cor Result	
00 MHz - 3980 MHz, 5G NR, Port 5G NR 1 Modulation Analysis KEYSIGHT Input RF	8, NR100 Demond	Atten 18 dB	Trig: External 1	Absolute Value Frequency ∆ (Hz) 0.135 Carrier Ref Freq: 3 84000000 GH	onditions, 20° Limit Δ (Hz) 1000	C Temperature Cor Result	
5G NR 1 Modulation Analysis KEYSIGHT Input RF Align Auto	8, NR100 Demond		Trig: External 1 Trig: Delay: 86.2 µs	Absolute Value Frequency ∆ (Hz) 0.135 Carrier Ref Freq: 3 84000000 GH	onditions, 20° Limit Δ (Hz) 1000	C Temperature Cor Result	
50 MHz - 3980 MHz, 5G NR, Port	8, NR100 Demond	Atten 18 dB Preamp Off	Trig: External 1 Trig: Delay: 86.2 µs	Absolute Value Frequency & (Hz) 0.135 Carrier Rel Freq; 3.840000000 GH2 AvglHold 10/10	onditions, 20° Limit Δ (Hz) 1000	C Temperature Cor Result	
D0 MHz - 3980 MHz, 5G NR, Port	8, NR100 Demond	Atten 18 dB Preamp Off	Trig: External 1 Trig: Delay: 86.2 µs	Absolute Value Frequency & (Hz) 0.135 Carrier Rel Freq; 3.840000000 GH2 AvglHold 10/10	onditions, 20° Limit Δ (Hz) 1000	C Temperature Cor Result	
D0 MHz - 3980 MHz, 5G NR, Port	8, NR100 Demond 8, NR100 Demond hput Z 50 Ω Corrections Off Freq Ref Externa 38.63 dBm 39.92 dBm	Atten 18 dB Preamp Off	Trig: External 1 Trig: Delay: 86.2 µs	Absolute Value Frequency & (Hz) 0.135 Carrier Rel Freq; 3.840000000 GH2 AvglHold 10/10	onditions, 20° Limit Δ (Hz) 1000	C Temperature Cor Result	
D0 MHz - 3980 MHz, 5G NR, Port	8, NR100 Demond 8, NR100 Demond μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ	Atten 18 dB Preamp Off	Trig: External 1 Trig: Delay: 86.2 µs	Absolute Value Frequency & (Hz) 0.135 Carrier Rel Freq; 3.840000000 GH2 AvglHold 10/10	onditions, 20° Limit Δ (Hz) 1000	C Temperature Cor Result	
D0 MHz - 3980 MHz, 5G NR, Port	8, NR100 Demond 8, NR100 Demond input 2:50 Ω Corrections: Off Freq Ref Externa 38.63 dBm 39.92 dBm 2.59 % 12.87 % -135.1 mHz 0.002 ppm	Atten 18 dB Preamp Off	Trig: External 1 Trig: Delay: 86.2 µs	Absolute Value Frequency & (Hz) 0.135 Carrier Rel Freq; 3.840000000 GH2 AvglHold 10/10	onditions, 20° Limit Δ (Hz) 1000	C Temperature Cor Result	
D0 MHz - 3980 MHz, 5G NR, Port	8, NR100 Demond 8, NR100 Demond Input Z 50 Ω Corrections Off Freq Ref Externa 38.63 dBm 39.92 dBm 2.59 % 12.87 % -135.1 mHz 0.002 ppm -35.16 dB -393 ns	Atten 18 dB Preamp Off	Trig: External 1 Trig: Delay: 86.2 µs	Absolute Value Frequency & (Hz) 0.135 Carrier Rel Freq; 3.840000000 GH2 AvglHold 10/10	onditions, 20° Limit Δ (Hz) 1000	C Temperature Cor Result	
00 MHz - 3980 MHz, 5G NR, Port	8, NR100 Demond 8, NR100 Demond 9 100 Pmpt Z 50 Ω Corrections: Off Freq Ref. Externa 38.63 dBm 39.92 dBm 2.59 % 12.87 % -135.1 mHz 0.002 ppm -35.16 dB -393 ns 99.9 % PDSCH DMRS	Atten 18 dB Preamp Off	Trig: External 1 Trig: Delay: 86.2 µs	Absolute Value Frequency & (Hz) 0.135 Carrier Rel Freq; 3.840000000 GH2 AvglHold 10/10	onditions, 20° Limit Δ (Hz) 1000	C Temperature Cor Result	
DO MHz - 3980 MHz, 5G NR, Port	8, NR100 Demond 8, NR100 Demond Input Z 50 Ω Corrections: Off Freq Ref. Externe 38.63 dBm 39.92 dBm 2.59 % 12.87 % 12.87 % 12.87 % 12.87 % 135.16 dB -393 ns 99.9 %	Atten 18 dB Preamp Off	Trig: External 1 Trig: Delay: 86.2 µs	Absolute Value Frequency & (Hz) 0.135 Carrier Rel Freq; 3.840000000 GH2 AvglHold 10/10	onditions, 20° Limit Δ (Hz) 1000	C Temperature Cor Result	
DO MHz - 3980 MHz, 5G NR, Port	8, NR100 Demond 8, NR100 Demond 100 Period 100 Period 100 Period 100 Period 12.87 % 12.87 % 138.10 HZ 0.002 pm 12.87 % 135.11 HHZ 0.002 pm 13.516 dB -393 ns 99.9 % PDSCH DMRS 1.83 %	Atten 18 dB Preamp Off	Trig: External 1 Trig: Delay: 86.2 µs	Absolute Value Frequency & (Hz) 0.135 Carrier Rel Freq; 3.840000000 GH2 AvglHold 10/10	onditions, 20° Limit Δ (Hz) 1000	C Temperature Cor Result	
DO MHz - 3980 MHz, 5G NR, Port	8, NR100 Demond           8, NR100 Demond           Input Z 50 Ω           Corrections Off           Freq Ref. External           38.63 dBm           39.92 dBm           2.59 %           12.87 %           -135.16 dB           -393 ns           99.9 %           PDSCH DMRS           1.83 %           0.02 rad	Atten 18 dB Preamp Off	Trig: External 1 Trig: Delay: 86.2 µs	Absolute Value Frequency & (Hz) 0.135 Carrier Rel Freq; 3.840000000 GH2 AvglHold 10/10	onditions, 20° Limit Δ (Hz) 1000	C Temperature Cor Result	
D0 MHz - 3980 MHz, 5G NR, Port	8, NR100 Demond 8, NR100 Demond 1, 1, 2, 50 Ω Corrections: Off Freq Ref. Externa 39,63 dBm 39,92 dBm 2,59 % 12,87 % -135.1 mHz 0.002 ppm -35.16 dB -393 ns 99.9 % PDSCH DMRS 1,83 % 0.02 rad	Atten 18 dB Preamp Off	Trig: External 1 Trig: Delay: 86.2 µs	Absolute Value Frequency & (Hz) 0.135 Carrier Rel Freq; 3.840000000 GH2 AvglHold 10/10	onditions, 20° Limit Δ (Hz) 1000	C Temperature Cor Result	
D0 MHz - 3980 MHz, 5G NR, Port	8, NR100 Demond 8, NR100 Demond 1, 1, 2, 50 Ω Corrections: Off Freq Ref. Externa 39,63 dBm 39,92 dBm 2,59 % 12,87 % -135.1 mHz 0.002 ppm -35.16 dB -393 ns 99.9 % PDSCH DMRS 1,83 % 0.02 rad	Atten 18 dB Preamp Off	Trig: External 1 Trig: Delay: 86.2 µs	Absolute Value Frequency & (Hz) 0.135 Carrier Rel Freq; 3.840000000 GH2 AvglHold 10/10	onditions, 20° Limit Δ (Hz) 1000	C Temperature Cor Result	
D0 MHz - 3980 MHz, 5G NR, Port	8, NR100 Demond 8, NR100 Demond 1, 1, 2, 50 Ω Corrections: Off Freq Ref. Externa 39,63 dBm 39,92 dBm 2,59 % 12,87 % -135.1 mHz 0.002 ppm -35.16 dB -393 ns 99.9 % PDSCH DMRS 1,83 % 0.02 rad	Atten 18 dB Preamp Off	Trig: External 1 Trig: Delay: 86.2 µs	Absolute Value Frequency & (Hz) 0.135 Carrier Rel Freq; 3.840000000 GH2 AvglHold 10/10	onditions, 20° Limit Δ (Hz) 1000	C Temperature Cor Result	
D0 MHz - 3980 MHz, 5G NR, Port	8, NR100 Demond 8, NR100 Demond 1, 1, 2, 50 Ω Corrections: Off Freq Ref. Externa 39,63 dBm 39,92 dBm 2,59 % 12,87 % -135.1 mHz 0.002 ppm -35.16 dB -393 ns 99.9 % PDSCH DMRS 1,83 % 0.02 rad	Atten 18 dB Preamp Off	Trig: External 1 Trig: Delay: 86.2 µs	Absolute Value Frequency & (Hz) 0.135 Carrier Rel Freq; 3.840000000 GH2 AvglHold 10/10	onditions, 20° Limit Δ (Hz) 1000	C Temperature Cor Result	
D0 MHz - 3980 MHz, 5G NR, Port	8, NR100 Demond 8, NR100 Demond 1, 1, 2, 50 Ω Corrections: Off Freq Ref. Externa 39,63 dBm 39,92 dBm 2,59 % 12,87 % -135.1 mHz 0.002 ppm -35.16 dB -393 ns 99.9 % PDSCH DMRS 1,83 % 0.02 rad	Atten 18 dB Preamp Off	Trig: External 1 Trig: Delay: 86.2 µs	Absolute Value Frequency & (Hz) 0.135 Carrier Rel Freq; 3.840000000 GH2 AvglHold 10/10	nditions, 20° Limit Δ (Hz) 1000	C Temperature Cor Result	nditions, Mid Chann

