#### **AVERAGE POWER – SINGLE PORT**



RL	#F   50 0. DC	#FGainLow	Center Freq: 2.65500 Trig: Free Run #Atten: 30 dB	Auton orr 0000 GHz Avg(Hold: 100/100	02:36:16 PH Nev 29, 30 Radio Std: None Radio Device: BTS
dBldiv	Ref Offset 45.5 dE Ref 52.00 dBm				
2.0					
10					
0					
0					
20					
0					
0					
enter 2.6 tes BW	55500 GHz 820 kHz		#VBW 2.7 M	AHz	Span 100.0 Mi #Sweep 601.1 n
Chanr	nel Power		Power Spect	ral Density	
4	7.79 dBm	40 MHz	31.76	dBm /мнz	

BRS Band n7, 2620 Mhz - 2690 MHz 40 MHz Bandwidth 256QAM Modulation Mid Ch, 2655.0 MHz

MSG

Keysight Spe	ctrum Analyzer - Element Materials 7	echoology - Points: 1000, 1	Detector: Average (RMS)		0 9 4
RL	NF 59.0 DC	#FGain1.ow	Center Freq: 2.670000 Trig: Free Run #Atten: 30 dB	Augenore AvgiHold: 100/100	03:25:26 PH Nev 29, 2022 Radio Std: None Radio Device: BTS
10 dBldiv	Ref Offset 45.5 dB Ref 52.00 dBm				
42.0					
32.0		/			
22.0					
12.0					
2.00					
18.0				L	
29.0					
38.0					
Center 2.6 #Res BW	7000 GHz 820 kHz		#VBW 2.7 M	IHz	Span 100.0 MHz #Sweep 601.1 ms
Chanr	nel Power		Power Spectr	ral Density	
4	7.83 dBm / 4	0 MHz	31.81	dBm /MHz	

BRS Band n7, 2620 Mhz - 2690 MHz 40 MHz Bandwidth 256QAM Modulation High Ch, 2670.0 MHz



#### **TEST DESCRIPTION**

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.

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

The fundamental emission output power (maximum average conducted output power) was measured using the channels and modes as called out on the following data sheets. The transmit power was set to its default maximum. The method in section 5.2.4.4 of ANSI C63.26 was used to make the measurements. This method uses trace averaging across the ON and OFF times of the EUT transmissions in the spectrum analyzer channel power function using an RMS detector. Following the measurement a duty cycle correction was applied by adding [10 log (1/D)], where D is the duty cycle in decimal, to the measured power to compute the average power during the actual transmission times.

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

The output power was measured for a single carrier over the carrier channel bandwidth listed in the test case. The total output power for multiport (2x2 MIMO, 4x4 MIMO) operations was determined based per ANSI C63.26 clauses 6.4.3.1 and 6.4.3.2.4 (10 log  $N_{out}$ ). The total output power for two port operation is the single port power +3 dB [i.e. 10\*log(2)]. The total power for four port operations is single port power +6 dB [i.e. 10\*log(4)].

#### **TEST EQUIPMENT**

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFL	2023-03-17	2024-03-17
Block - DC	Fairview Microwave	SD3379	AMM	2023-08-04	2024-08-04
Generator - Signal	Keysight	N5182B	TES	2021-09-14	2024-09-14



#### MULTICARRIER TEST CONFIGURATIONS

- a) PCS Multicarrier Multiband Test Case 1: In the PCS band, three NR5 carriers using two carriers (with minimum spacing between carrier frequencies) at the lower band edge (1932.5 MHz and 1937.5 MHz) and a third carrier with maximum spacing between the other two carrier frequencies (1992.5 MHz) at the upper band edge. In the AWS and BRS bands, single NR10 and NR5 carriers at the middle channel (2155.0 MHz and 2655.0 MHz). The smallest channel bandwidth is selected to maximize carrier power spectral density. The carriers are operated at maximum power (~20W/PCS carrier, 60W/AWS carrier and 40W/BRS carrier) with a total port power of 160 watts (60W for PCS band carriers + 60W for AWS band carrier + 40W for BRS band carrier).
- b) PCS Multicarrier Multiband Test Case 2: In the PCS band, two NR30 carriers (with minimum spacing between carrier frequencies) at the lower band edge (1945.0 MHz and 1975.0 MHz). In the AWS and BRS bands, single NR40 carriers at the middle channel (2155.0 MHz and 2655.0 MHz). The largest channel bandwidth is selected to maximize carrier OBW. The carriers are operated at maximum power (~30W/PCS carrier, 60W/AWS carrier and 40W/BRS carrier) with a total port power of 160 watts (60W for PCS band carriers + 60W for AWS band carrier + 40W for BRS band carrier).
- c) PCS Multicarrier Multiband Test Case 3: In the PCS band, two NR30 carriers (with minimum spacing between carrier frequencies) at the upper band edge (1950.0 MHz and 1980.0 MHz). In the AWS and BRS bands, single NR40 carriers at the middle channel (2155.0 MHz and 2655.0 MHz). The largest channel bandwidth is selected to maximize carrier OBW. The carriers and operated at maximum power (~30W/PCS carrier, 60W/AWS carrier and 40W/BRS carrier) with a total port power of 160 watts (60W for PCS band carriers + 60W for AWS band carrier + 40W for BRS band carrier).
- d) AWS Multicarrier Multiband Test Case 1: In the AWS band, three NR5 carriers using two carriers (with minimum spacing between carrier frequencies) at the lower band edge (2112.5 MHz and 2117.5 MHz) and a third carrier with maximum spacing between the other two carrier frequencies (2197.5 MHz) at the upper band edge. In the PCS and BRS bands, single NR10 and NR5 carriers at the middle channel (1962.5 MHz and 2655.0 MHz). The smallest channel bandwidth was selected to maximize carrier power spectral density. The carriers are operated at maximum power (~20W/AWS carrier, 60W/PCS carrier and 40W/BRS carrier) with a total port power of 160 watts (60W for PCS band carrier + 60W for AWS band carriers + 40W for BRS band carrier)
- e) AWS Multicarrier Multiband Test Case 2: In the AWS band, two NR40 carriers (with minimum spacing between carrier frequencies) at the lower band edge (2130.0 MHz and 2170.0 MHz). In the PCS and BRS bands, single NR40 carriers at the middle channel (1962.5 MHz and 2655.0 MHz). The largest channel bandwidth is selected to maximize carrier OBW. The carriers are operated at maximum power (~30W/AWS carrier, 60W/PCS carrier and 40W/BRS carrier) with a total port power of 160 watts (60W for PCS band carrier + 60W for AWS band carriers + 40W for BRS band carrier).
- f) AWS Multicarrier Multiband Test Case 3: In the AWS band, two NR40 carriers (with minimum spacing between carrier frequencies) at the upper band edge (2140.0 MHz and 2180.0 MHz). In the PCS and BRS bands, single NR40 carriers at the middle channel (1962.5 MHz and 2655.0 MHz). The largest channel bandwidth is selected to maximize carrier OBW. The carriers are operated at maximum power (~30W/AWS carrier, 60W/PCS carrier and 40W/BRS carrier) with a total port power of 160 watts (60W for PCS band carrier + 60W for AWS band carriers + 40W for BRS band carrier).
- g) BRS Multicarrier Multiband Test Case 1: In the BRS band, three NR5 carriers using two carriers (with minimum spacing between carrier frequencies) at the lower band edge (2622.5 MHz and 2627.5 MHz) and a third carrier with maximum spacing between the other two carrier frequencies (2687.5 MHz) at the upper band edge. In the PCS and AWS bands, single NR10 and NR5 carriers at the middle channel (1962.5 MHz and 2155.0 MHz). The smallest channel bandwidth was selected to maximize carrier power spectral density. The carriers are operated at maximum power (~20W/BRS carrier, 60W/PCS carrier, and 40W/AWS carrier) with a total port power of 160 watts (60W for PCS band carrier + 60W for BRS band carriers + 40W for AWS band carrier)
- h) BRS Multicarrier Multiband Test Case 2: In the BRS band, two NR30 carriers (with minimum spacing between carrier frequencies) at the lower band edge (2635.0 MHz and 2665.0 MHz). In the PCS and AWS bands, single NR40 carriers at the middle channel (1962.5 MHz and 2155.0 MHz). The largest channel bandwidth is selected to maximize carrier OBW. The carriers are operated at maximum power (~30W/BRS carrier, 60W/PCS carrier and





40W/AWS carrier) with a total port power of 160 watts (60W for PCS band carrier + 60W for BRS band carriers + 40W for AWS band carrier).

i) BRS Multicarrier Multiband Test Case 3: In the BRS band, two NR30 carriers (with minimum spacing between carrier frequencies) at the upper band edge (2645.0 MHz and 2675.0 MHz). In the PCS and AWS bands, single NR40 carriers at the middle channel (1962.5 MHz and 2155.0 MHz). The largest channel bandwidth is selected to maximize carrier OBW. The carriers are operated at maximum power (~30W/BRS carrier, 60W/PCS carrier and 40W/AWS carrier) with a total port power of 160 watts (60W for PCS band carrier + 60W for BRS band carriers + 40W for AWS band carrier).



EUT:	AirScale Base Transceiver Station Remote Radio Head	Work Order:	NOKI0072
	Model AHFIHA		
Serial Number:	RW233800370	Date:	2024-01-25
Customer:	Nokia Solutions and Networks	Temperature:	22.2°C
Attendees:	John Rattanavong, Mitch Hill	Relative Humidity:	32.7%
Customer Project:	None	Bar. Pressure (PMSL):	1026 mbar
Tested By:	Jarrod Brenden	Job Site:	TX07
Power:	54VDC	Configuration:	NOKI0072-2

#### **TEST SPECIFICATIONS**

Specification:	Method:
FCC 24E:2024	ANSI C63.26:2015
FCC 27:2024	ANSI C63.26:2015
RSS-133 Issue 6:2013 +A1:2018	ANSI C63.26:2015
RSS-199 Issue 4:2023	ANSI C63.26:2015
RSS139 Issue 4:2022	ANSI C63.26:2015

#### COMMENTS

Losses in the measurement path were accounted for: DC Block, attenuators, cables, and filters where used. Carriers were enabled at power and frequency combinations described in test cases. The following is the output power measurements at the radio output ports. The output power was measured for a single carrier over the carrier channel bandwidth.

#### **DEVIATIONS FROM TEST STANDARD**

None

#### CONCLUSION

Pass

Jul 1

Tested By

#### **TEST RESULTS**

		Initial Value	Duty Cycle Factor	Single Port dBm/Carrier	Two Port (2x2 MIMO) dBm/Carrier	Four Port (4x4 MIMO) dBm/Carrier
		dBm/MHz	(ab)	BW	BW	BW
Port 1	DCC Multi-contex Multileand					
	PCS Mullicarner Mullipand					
	OBSK Madulation					
	PSC Band n25, NR5, Low Ch, 1932.5 MHz	43.04	0	43	46	49
	PSC Band n25, NR5, Low Ch, 1937.5 MHz	43.2	0	43.2	46.2	49.2
	PSC Band n25, NR5, High Ch, 1992.5 MHz AWS Band n66, NR10, Mid Ch, 2155.0	43.179	0	43.2	46.2	49.2
	MHz	47.44	0	47.4	50.4	53.4
	BRS Band n7, NR5, Mid Ch, 2655.0 MHz	45.87	0	45.9	48.9	51.9
	PCS Multicarrier Multiband					
	Test Case 2					
	QPSK Modulation					
	PSC Band n25, NR30, Low Ch, 1945.0					
	MHz	45.114	0	45.1	48.1	51.1
	PSC Band n25, NR30, Low Ch, 1975.0					
	MHz	45.17	0	45.2	48.2	51.2
	AWS Band n66, NR40, Mid Ch, 2155.0					
	MHz	47.806	0	47.8	50.8	53.8
	BRS Band n7, NR40, Mid Ch, 2655.0 MHz	46.099	0	46.1	49.1	52.1



	Initial Value	Duty Cycle Factor	Single Port dBm/Carrier	Two Port (2x2 MIMO) dBm/Carrier	Four Port (4x4 MIMO) dBm/Carrier
DCC Multicerrier Multileerd	dBm/MHz	(dB)	BW	BW	BW
Test Case 3					
PSC Band p25 NR 30 High Ch 1950 0					
MHz PSC Band n25, NR30, High Ch, 1980.0	45.139	0	45.1	48.1	51.1
MHz AWS Band n66, NR40, Mid Ch, 2155.0	45.106	0	45.1	48.1	51.1
MHz	47.772	0	47.8	50.8	53.8
BRS Band n7, NR40, Mid Ch, 2655.0 MHz AWS Multicarrier Multiband Test Case 1	46.117	0	46.1	49.1	52.1
QPSK Modulation		-			
AWS Band n66, NR5, Low Ch, 2112.5 MHz	42.982	0	43	46	49
AWS Band nob, NR5, Low Cn, 2117.5 MHz AWS Band n66, NR5, High Ch, 2197.5	42.94	0	43	46 2	49
PSC Band n25, NR10, Mid Ch, 1962.5	43.219	0	43.2	40.2	49.2
MHz	47.814	0	47.8	50.8	53.8
BRS Band n7, NR5, Mid Ch, 2655.0 MHz	46.024	0	46	49	52
Test Case 2 QPSK Modulation					
AWS Band n66, NR40, Low Ch, 2130.0 MHz	44.748	0	44.7	47.7	50.7
MHz PSC Band n25 NR40 Mid Ch. 1962 5	44.87	0	44.9	47.9	50.9
MHz	47.95	0	48	51	54
AWS Multicarrier Multiband	40.091	0	40.1	49.1	52.1
OPSK Modulation					
AWS Band n66, NR40, High Ch, 2140.0					
MHz AWS Band n66, NR40, High Ch, 2180.0	44.7	0	44.7	47.7	50.7
MHz PSC Band n25, NR40, Mid Ch, 1962.5	44.869	0	44.9	47.9	50.9
MHZ DDS Dand n7, ND40, Mid Ch, 2655, 0, MUz	47.963	0	48	51	54
BRS Multicarrier Multiband Test Case 1	40.102	0	40.1	49.1	52.1
QPSK Modulation					
BRS Band n7, NR5, Low Ch, 2622.5 MHz	42.66	0	42.7	45.7	48.7
BRS Band n7, NR5, Low Ch, 2627.5 MHz	42.65	0	42.7	45.7	48.7
BRS Band n7, NR5, High Ch, 2687.5 MHz PSC Band n25, NR10, Mid Ch, 1962.5	42.719	0	42.7	45.7	48.7
MHZ	48.018	0	48	51	54
BRS Multicarrier Multiband	45.737	0	45.7	48.7	51.7
QPSK Modulation					
BRS Band n7, NR30, Low Ch, 2635.0 MHz	44.625	0	44.6	47.6	50.6
BRS Band n7, NR30, Low Ch, 2665.0 MHz PSC Band n25, NR40, Mid Ch, 1962.5	44.55	0	44.6	47.6	50.6
MHz AWS Band n66, NR40, Mid Ch, 2155.0	47.902	0	47.9	50.9	53.9
MHz BRS Multicarrier Multiband	45.832	0	45.8	48.8	51.8



	Initial Value dBm/MHz	Duty Cycle Factor (dB)	Single Port dBm/Carrier BW	Two Port (2x2 MIMO) dBm/Carrier BW	Four Port (4x4 MIMO) dBm/Carrier BW
Test Case 3					
QPSK Modulation					
BRS Band n7, NR30, High Ch, 2645.0 MHz	44.51	0	44.5	47.5	50.5
BRS Band n7, NR30, High Ch, 2675.0 MHz PSC Band n25, NR40, Mid Ch, 1962.5	44.592	0	44.6	47.6	50.6
MHz AWS Band n66, NR40, Mid Ch. 2155,0	47.895	0	47.9	50.9	53.9
MHz	45.826	0	45.8	48.8	51.8



RL	RF   50 0. DC	#FGainLow	-+-	Center Freq: 1.9325000 Trig: Free Run #Atten: 30 dB	00 G	i orr Hz Avg(Hold: 100/100	Radio Std: Radio Devi	44 PH Jan 25, 200 None ce: BTS
dBldiv	Ref Offset 44.7 dB Ref 47.00 dBm							
.0			ſ		J			
0 1					1			
0								
0								
0								
nter 1. es BW	93250 GHz 100 kHz			#VBW 300 ki	Hz		Spa #Swee	n 20.00 M p 601.1 r
Chan	nel Power			Power Spectr	al C	Density		
	13 04 dBm	5 MUz		36.05	dE			
	io.or-ubiii /	o miniz		00.00	C.I.	2111-111112		

PCS Multicarrier Multiband Test Case 1 QPSK Modulation PSC Band n25, NR5, Low Ch, 1932.5 MHz

RL AF 50 G (	¢	1 5	Center Freq: 1	992500000	GHz		05:21:39 Radio Std: No	PH Jan 24, 20
	#FGain1.or	* ***	#Atten: 30 dB	-	Avg[Hold:	100/100	Radio Device	BTS
dBidiv Ref 47.00 c	7 dB IBm							
10								
D		r		_				
0		1						
1					1			
,					1			
		1			L			
0								
nter 1.99250 GHz es BW 100 kHz			#VBW	300 kHz			Span : #Sweep	20.00 M 601.1
Channel Power			Power S	pectral	Densit	у		
43.18 dBr	n / 5 MHz		36	19 d	Bm /	MH7		
10.10 abi	in / o mine							

PCS Multicarrier Multiband Test Case 1 QPSK Modulation PSC Band n25, NR5, High Ch, 1992.5 MHz

🚄 Keysight Spe	ectrum Analyzer - Element Material	s Technology - Points: 100	0, Det	ector: Average (RMS)				010
NO RL	RF SRIQ DC	#FGain1.ow	**	Center Freq: 1.93750000 Trig: Free Run #Atten: 30 dB	0 GHz Avg(Hol	d: 100/100	Radio Std: N Radio Devic	PH Jan 24, 2024 Ione e: BTS
10 dB/div	Ref Offset 44.7 dB Ref 47.00 dBm							
17.0								
27.0		1	ſ		ή			
3.00								
-13.0		, , , , , , , , , , , , , , , , , , ,						
43.0								
Center 1. #Res BW	93750 GHz 100 kHz			#VBW 300 kH	z		Span #Sweep	20.00 MH 601.1 m
Chan	nel Power			Power Spectra	I Densi	ty		
4	43.20 dBm /	5 MHz		36.21	dBm	/MHz		
100			-		arena.	_		

PCS Multicarrier Multiband Test Case 1 QPSK Modulation PSC Band n25, NR5, Low Ch, 1937.5 MHz

RL	#F   50) Q DC	#FGainLow	Center Freq: 2.15500 Trig: Free Run #Atten: 30 dB	Auton off 20000 GHz Avg(Hold: 100/100	01:50:34 PH3an 25, 2024 Radio Std: None Radio Device: BTS
10 dBldiv	Ref Offset 44.9 dB Ref 49.00 dBm				
9 <b>9</b> 39:0					
29.0		1			
0.0		/			
11.0					
0.11					
0.10		3			
11 D					
enter 2.1 Res BW	200 kHz		#VBW 620	kHz	Span 25.00 MH #Sweep 601.1 m
Chann	nel Power		Power Spec	tral Density	
4	7.44 dBm	10 MHz	37.4	4 dBm /мнz	
0				STATUS	

PCS Multicarrier Multiband Test Case 1 QPSK Modulation AWS Band n66, NR10, Mid Ch, 2155.0 MHz



RL.	8F   58 Q DC	#FGainLow	-+-	Center Freq: 2.655000 Trig: Free Run #Atten: 30 dB	000 GI	Hz Avg(Hold: 100/100	Radio Std: N Radio Device	443an 24,203 one : BTS
dBldiv	Ref Offset 45.5 dB Ref 50.00 dBm							
0								
0			r		-			
10			ţ.					
10								
0								
0								
0								
enter 2. tes BW	65500 GHz 100 kHz			#VBW 300 k	Hz		Span #Sweep	20.00 M 601.1 r
Chan	nel Power			Power Spectr	al C	Density		
	15 97 dBm	E MU-		20 00	dE	200 /0411-		
		-5 MH2		30.00	ar	JIII /MHZ		

PCS Multicarrier Multiband Test Case 1 QPSK Modulation BRS Band n7, NR5, Mid Ch, 2655.0 MHz

Center Freq. 137000000 dHz #FGain.Low - Trig: Freq mun. Avgiloid: 100100 #Atten: 30 dB Ref 0fitset 447 dB Ref 49.00 dBm	Radio Std: None Radio Device: BTS
Bidiv Ref 49.00 dBm	
ter 1.97500 GHz s BW 620 kHz ≇VBW 2 MHz	Span 100.0 M #Sweep 601.1
channel Power Spectral Density	
45.17 dBm / 30 мнz 30.40 dBm /мнz	

PCS Multicarrier Multiband Test Case 2 QPSK Modulation PSC Band n25, NR30, Low Ch, 1975.0 MHz

Keysight Spec	thum Analyzer - Element Materia	Is Technology - Points 1000, 0	etector: Average (RMS)	A HIGH ONE	
n.	e jau k	#FGainLow	Center Freq: 1.94500 Trig: Free Run #Atten: 30 dB	Avg Hold: 100/100	Radio Std: None Radio Device: BTS
10 dBldiv	Ref Offset 44.7 dB Ref 49.00 dBm				
39.0 19.0					
29.0					
9.00					
1.00					
21.0					
ar.0 41.0					
Center 1.9 #Res BW	4500 GHz 620 kHz		#VBW 2 M	Hz	Span 100.0 MH #Sweep 601.1 m
Chann	Channel Power 45.11 dBm / 30 MHz		Power Spec	tral Density	
4			30.34		
50				STATUS	

PCS Multicarrier Multiband Test Case 2 QPSK Modulation PSC Band n25, NR30, Low Ch, 1945.0 MHz

RL NF 50.0	#FGainLow	Center Freq: 2.15500 Trig: Free Run #Atten: 30 dB	AugHold: 100/100	11:00:07 AH Jan 24, 2024 Radio Std: None Radio Device: BTS
Ref Offset 44	J9 d8 JBm			
41.0				
11.0	/			
11.0				
1.00				
100				
9.0				
29 D				
Center 2.15500 GHz Res BW 820 kHz		#VBW 2.71	Span 100.0 MH #Sweep 601.1 m	
Channel Power		Power Spect		
47.81 dB	m / 40 MHz	31.79		
50			STATUS	

PCS Multicarrier Multiband Test Case 2 QPSK Modulation AWS Band n66, NR40, Mid Ch, 2155.0 MHz



	Ref Offset 45.5 dB Ref 50.00 dBm	MPGBRLOW			Radio Derice. D Ta
0 0 0					
0		~			
0					
0					
0					
0					
0					
0		_			
nter 2.655 es BW 82	00 GHz 0 kHz		#VBW 2.7	MHz	Span 100.0 Mi #Sweep 601.1 n
Channel	Power		Power Spec	tral Density	
46.	10 dBm / 4	0 MHz	30.0	8 dBm /мнz	

PCS Multicarrier Multiband Test Case 2 QPSK Modulation BRS Band n7, NR40, Mid Ch, 2655.0 MHz

RL 80 50 0	#FGainLow	Center Freq: 1.9800 Trig: Free Run #Atten: 30 dB	A 4.16N DFF 00000 GHz Avg(Hold: 100/100	11:47:56 AMJan 24, 20 Radio Std: None Radio Device: BTS
dBidiv Ref 0ffset 44	l.7 dB dBm			
0				
0				
0				
0				
nter 1.98000 GHz es BW 620 kHz		#VBW 2 N	IHz	Span 100.0 M #Sweep 601.1
Channel Power		Power Spec	tral Density	
45.11 dB	m / 30 MHz	30.3	4 dBm /MHz	
			STATUS	

PCS Multicarrier Multiband Test Case 3 QPSK Modulation PSC Band n25, NR30, High Ch, 1980.0 MHz

Keysight Spectrum Analyser - Bernent Materials Technology - Points 1000, Detector Average (BMS)					
NF   50 B DC	#FGaintow	Center Freq: 1.9500 Trig: Free Run #Atten: 30 dB	Avg(Hold: 100/100	Radio Device: BTS	
Ref Offset 44.7 dB Ref 49.00 dBm					
			Y		
5000 GHz 520 kHz		#VBW 2 N	IHz	Span 100.0 MHz #Sweep 601.1 ms	
Channel Power		Power Spec			
5.14 dBm / :	30 MHz	30.3			
			Sector March 1		
	Ref 055et 41.7 dB Ref 49.00 dBm 6000 GHz 20 HHz el Power 5.14 dBm / 3	Ref Offset 44.7 dB Ref 49.00 dBm 6000 GHz 200 Hz 200 Hz 200 Hz 200 Hz 200 Hz 200 Hz	Performer Addition of the second seco	Trig: Free Run     AvgiHidd: 100100     HE GaleLow     Centre Free: 130000 GHz     AvgiHidd: 100100     HE GaleLow     Centre Free: 130000 GHz     AvgiHidd: 100100     HE GaleLow     Centre Free: 130000 GHz     Free Run     AvgiHidd: 100100     HE GaleLow     Centre Free: 130000     GHZ     EVEW 2 MHz     EVEW 2 MHz     EVEW 2 MHz     State	

PCS Multicarrier Multiband Test Case 3 QPSK Modulation PSC Band n25, NR 30, High Ch, 1950.0 MHz

RL .	8F 50 Ω DC	#FGain1.ow	Center Freq: 2.15500 Trig: Free Run #Atten: 30 dB	Auton Der 00000 GHz AvgiHold: 100/100	11:51:05 AMJan 24, 2024 Radio Std: None Radio Device: BTS
10 dB/div	Ref Offset 44.9 dB Ref 51.00 dBm				
41.0					
11.0					
21.0					
1.00					
0.00					
9.0					
29.0					
Center 2.15 Res BW 8	500 GHz 20 kHz		#VBW 2.7	Span 100.0 Mi #Sweep 601.1 n	
Channel Power 47.77 dBm / 40 MHz			Power Spec		
		40 MHz	31.7		
0				STATUS	

PCS Multicarrier Multiband Test Case 3 QPSK Modulation AWS Band n66, NR40, Mid Ch, 2155.0 MHz



RL	RF 50 0 DC	1 9	ENSE INT	ALIGN OFF	11:53:55 AM Jan 24, 20
		#FGainLow	Center Freq: 2.65500 Trig: Free Run #Atten: 30 dB	0000 GHz Avg Hold: 100/100	Radio Std: None Radio Device: BTS
dB/div	Ref Offset 45.5 dB Ref 50.00 dBm				
		(			
,					
es BW	820 kHz		#VBW 2.7 M	MHz	#Sweep 601.1 r
Chanr	nel Power		Power Spect	ral Density	
	6 12 dBm /	40 MH-	30 10	dBm /MHz	
			00.10	Cale Internation	

PCS Multicarrier Multiband Test Case 3 QPSK Modulation BRS Band n7, NR40, Mid Ch, 2655.0 MHz

Keysight spectrum what set - Exement Material	s Technology - Points: 1000, De	rtector: Average (KMG)	A HIGH OFF	
nu n 59.0 K	#FGainLow	Center Freq: 2.117500 Trig: Free Run #Atten: 30 dB	000 GHz Avg Hold: 100/100	Radio Std: None Radio Device: BTS
dBJdiv Ref 47.00 dBm				
	-			
			ha this share a series of	*******
nter 2.11750 GHz es BW 100 kHz		#VBW 300 k	Hz	Span 20.00 N #Sweep 601.1
Channel Power		Power Spectr	al Density	
42.94 dBm /	5 MHz	35.95	dBm /MHz	
			Tests on an U. 1	

AWS Multicarrier Multiband Test Case 1 QPSK Modulation AWS Band n66, NR5, Low Ch, 2117.5 MHz

Keysight Spec	trum Analyzer - Element Mate	rials Technology - Pore	s: 1000, De	etector: Average (RMS)		N 000	12.16.1	Colling March
74	1 M M M	#FGain1.c		Center Freq: 2.1 Trig: Free Run #Atten: 30 dB	12500000 G	iHz Avg(Hold: 100/100	Radio Std: Radio Devi	None ce: BTS
0 dBldiv	Ref Offset 44.9 dE Ref 47.00 dBm							
7.0								
<u>b</u>			r		-			
0			1					
u			1					
0			1			Y		
0			-1-1				-	
0								
nter 2.1 tes BW	1250 GHz 100 kHz			#VBW 3	300 kHz		Spar #Swee	n 20.00 M p 601.1
Chann	el Power			Power Sp	ectral [	Density		
4	2.98 dBm	5 MHz		35	.99 dl	Bm /MHz		
						7. h		

AWS Multicarrier Multiband Test Case 1 QPSK Modulation AWS Band n66, NR5, Low Ch, 2112.5 MHz

RL RL	RF SP.D. DC	#FGainLow	Center Free J Trig: Free J #Atten: 30	q: 2.197500000 ( Run dB	on orr 3Hz Avg(Hold: 100/100	12-25:14 PH Jan 24, 2024 Radio Std: None Radio Device: BTS
10 dB/div	Ref Offset 44.9 dB Ref 47.00 dBm					
37.0 77.5 17.0 7.00 3.00 11.0 22.0						
Center 2. #Res BW	220 430 Center 2,19750 GHz Res BW 100 kHz		#VB	Span 20.00 MHz #Sweep 601.1 ms		
Channel Power 43.22 dBm / 5 MHz		5 MHz	Power Spectral Density 36.23 dBm /MHz			
MSG					STATUS	

AWS Multicarrier Multiband Test Case 1 QPSK Modulation AWS Band n66, NR5, High Ch, 2197.5 MHz



RL	NF SHIQ DC	#FGainLow	Center Freq: 1.962500 Trig: Free Run #Atten: 30 dB	Augenore Avg(Hold: 100/100	12:28:00 PH Jan 24, 20 Radio Std: None Radio Device: BTS
dB/div	Ref Offset 44.7 dB Ref 52.00 dBm				
2.0					
0		r			
0					
0					
0					
0					
nter 1. es BW	.96250 GHz / 200 kHz		#VBW 6201	(Hz	Span 25.00 M #Sweep 601.1 r
Chan	nel Power		Power Spect	ral Density	
	47.81 dBm / 1	I0 MHz	37.81	dBm /MHz	

AWS Multicarrier Multiband Test Case 1 QPSK Modulation PSC Band n25, NR10, Mid Ch, 1962.5 MHz

RL RL	AF SER DC	#FGain1.ow	Center Freq: 2.13000 Trig: Free Run #Atten: 30 dB	Auton orr 0000 GHz Avg(Hold: 100/100	11:19:52 PH Jan 24, 202 Radio Std: None Radio Device: BTS		
10 dBldiv	Ref Offset 44.9 dB Ref 49.00 dBm	_					
39.0							
19.0		(		-γ			
9.00							
1.00							
11.0							
31.0							
a 1 0							
enter 2 Res BV	.13000 GHz / 820 kHz		#VBW 2.7 N	#VBW 2.7 MHz			
Char	nel Power		Power Spect	ral Density			
	44.75 dBm / 40 мнz		28.73	28.73 dBm /мнz			
50				STATUS			

AWS Multicarrier Multiband Test Case 2 QPSK Modulation AWS Band n66, NR40, Low Ch, 2130.0 MHz

Ref Offset 45.5 dB     Efficience     Excellence     Red offset 45.5 dB       0 dddr     Ref 000000000000000000000000000000000000	Keysight Spi	ectrum Analyzer - Element Materials	Technology - Points: 100	), Det	ector: Average (RMS)					-co-1 44 🛃
Ref officient 45.5 dB Ref 2 50.00 dBm	RL	RF   50 Q DC	#FGainLow	•	Center Freq: 2.65500000 Trig: Free Run #Atten: 30 dB	0 6	Hz Hz Avg(Hold: 1	00/100	Radio Std: N Radio Device	PH Jan 24, 2024 one :: BTS
Center 2.65500 GHz REES BW 100 kHz Center 2.65500 GHz REES BW 100 kHz Span 20.00 M Span 20.00 M	10 dB/div	Ref Offset 45.5 dB Ref 50.00 dBm								
Center 2.65500 GHz REES BW 100 kHz Span 20.00 M REES BW 100 kHz Span 20.00 M Span	40.0									
Center 2.65500 GHz Res BW 100 kHz Span 20.00 M Span 20.	30.0			Ċ		ή				
Center 2.65500 GHz Span 20.00 M Res BW 100 kHz Start S	10.5									
Center 2.65500 GHz Span 20.00 M #Res BW 100 KHz #VBW 300 KHz Span 20.00 M #Sweep 601.1 r Channel Power Power Spectral Density 46.02 dBm / 5 MHz 39.03 dBm /MHz	-10.0									
Center 2.65500 GHz Span 20.00 M Res BW 100 kHz #VBW 300 kHz Span 20.00 M #Sweep 601.1 f Channel Power Power Spectral Density 46.02 dBm / 5 MHz 39.03 dBm /MHz	-30.0						_			
Center 2.65500 GHz Span 20.00 M #Res BW 100 kHz #VBW 300 kHz #Sweep 601.1 Channel Power Power Spectral Density 46.02 dBm / 5 MHz 39.03 dBm /MHz	40.0									
Channel Power Power Spectral Density 46.02 dBm / 5 MHz 39.03 dBm /MHz	Center 2. #Res BW	Center 2.65500 GHz #Res BW 100 kHz		#VBW 300 kHz					Span 20.00 MH #Sweep 601.1 m	
46.02 dBm / 5 мнz 39.03 dBm /мнz	Chan	nel Power			Power Spectra	I C	Density			
	2	46.02 dBm / 5 MHz		39.03 dBm /мнz				Hz		
Anna Linea An										

AWS Multicarrier Multiband Test Case 1 QPSK Modulation BRS Band n7, NR5, Mid Ch, 2655.0 MHz

RL	8F   50 Ω DC	#FGeinLow	Center Freq: 2.1700 Trig: Free Run #Atten: 30 dB	01:25:23 PH Jan 24, 2024 Radio Std: None Radio Device: BTS	
0 dB/div	Ref Offset 44.9 dB Ref 49.00 dBm				
9.0					
2.0		- V			
00					
w					
0					
0					
n					
enter 2. Res BW	17000 GHz 820 kHz		#VBW 2.7	MHz	Span 100.0 MH #Sweep 601.1 m
Chan	nel Power		Power Spec		
	14 07 10-		00.0		
	44.87 dBm /4	0 MHz	28.8	5 dBm /MHz	
a .				STATUS	

AWS Multicarrier Multiband Test Case 2 QPSK Modulation AWS Band n66, NR40, Low Ch, 2170.0 MHz



RL.	8F 50 0 DC	#FGain1.ow	Center Freq: 1.962500 Trig: Free Run #Atten: 30 dB	Augenore Avg(Hold: 100/100	Radio Device: BTS
dBldiv	Ref Offset 44.7 dB Ref 52.00 dBm	,			
2.0					
10					
0					
0					
0					
0					
0					
0					
nter 1. es BW	96250 GHz 820 kHz		#VBW 2.7 N	IHz	Span 100.0 M #Sweep 601.1 r
Chan	nel Power		Power Spect	ral Density	
1	7 95 dBm	40 MHz	31 93	dBm mus	
		40 11112	51.55	- GDIII-/MH2	

AWS Multicarrier Multiband Test Case 2 QPSK Modulation PSC Band n25, NR40, Mid Ch, 1962.5 MHz

ŘL	RF SPR DC	#FGainLow	Center Freq: 2.14000 Trig: Free Run #Atten: 30 dB	Auton orr 1000 GHz Avg(Hold: 100/100	01:57:43 PH Jan 24, 2 Radio Std: None Radio Device: BTS		
dBldiv	Ref Offset 44.9 dB Ref 49.00 dBm						
0							
				V			
	ante alla substante autoritatione autoritatione autoritatione autoritatione autoritatione autoritatione autorit						
nter 2.1 es BW	4000 GHz 820 kHz		#VBW 2.7 N	#VBW 2.7 MHz			
Chann	nel Power		Power Spect	ral Density			
44.70 dBm / 40 MHz		0 MHz	28.68				
				STATUS			

AWS Multicarrier Multiband Test Case 3 QPSK Modulation AWS Band n66, NR40, High Ch, 2140.0 MHz

Keysight Spe	octrum Analyzer - Element Materials	echoology - Points: 1000	Detector: Average (RMS)			014
81	NF [SER DC]	#FGainLow	Center Freq: 2.655000 Trig: Free Run #Atten: 30 dB	000 GHz Avg Held: 100/100	Radio Std: No Radio Device	one BTS
10 dB/div	Ref Offset 45.5 dB Ref 50.00 dBm					
40.0						
30.5		/				
20.0						
10.5						
10.0						
0.0				· · · · · ·		
0.0						
40.0						
Center 2. Res BW	65500 GHz 820 kHz		#VBW 2.7 N	IHz	Span #Sweep	100.0 MH 601.1 m
Chan	nel Power		Power Spect	ral Density		
4	46.09 dBm / 40 MHz		30.07			
4.4.1				107 x 19 10		

AWS Multicarrier Multiband Test Case 2 QPSK Modulation BRS Band n7, NR40, Mid Ch, 2655.0 MHz

RL	NF   50 0 DC	#FGainLow	Center Freq: 2.18000 Trig: Free Run #Atten: 30 dB	Auton orr 0000 GHz Avg(Hold: 100/100	01:54:00 PH Jan 24, 2024 Radio Std: None Radio Device: BTS	
0 dB/div	Ref Offset 44.9 dB Ref 49.00 dBm					
29 0 29 0 19 0 9 00 1 00 1 00 21 0 21 0		V				
410 Center 2.18000 GHz Res BW 820 kHz			#VBW 2.71	Span 100.0 MHz #Sweep 601.1 ms		
Channel Power 44.87 dBm / 40 MHz		Power Spect 28.85				
10				STATUS		

AWS Multicarrier Multiband Test Case 3 QPSK Modulation AWS Band n66, NR40, High Ch, 2180.0 MHz



RL	# 59.0 DC	#FGain:Low	Center Freq: 1.962 Trig: Free Run #Atten: 30 dB	AugHeid: 100/100	02:00:41 PH3an 24, 20 Radio Std: None Radio Device: BTS
dBldiv	Ref Offset 44.7 d Ref 52.00 dBi	8 n			
9					
0					
0					
0					
0					
nter 1. es BW	.96250 GHz / 820 kHz		#VBW 2.7	' MHz	Span 100.0 M #Sweep 601.1 r
Chan	nel Power		Power Spe	ctral Density	
	47.96 dBm	/ 40 MHz	31.9	4 dBm /MHz	

AWS Multicarrier Multiband Test Case 3 QPSK Modulation PSC Band n25, NR40, Mid Ch, 1962.5 MHz

RL 80 30 DC	#FGainLow	-+-	Center Freq: 2.622500000 Trig: Free Run #Atten: 30 dB	GH	orr Iz vg(Hold: 100/100	e3:03:22 Radio Std: N Radio Device	PH Jan 24, 20 Ione e: BTS
Ref Offset 45.5 dB		_					
α Ω		-			_		
0		ſ		ł			
2				Y			
)						<u>`</u>	
nter 2.62250 GHz es BW 100 kHz			#VBW 300 kHz			Span #Sweep	20.00 N 601.1
Channel Power			Power Spectral	D	ensity		
42.66 dBm	/ 5 MHz		35.67 d		Sm /MHz		
					STATUS		

BRS Multicarrier Multiband Test Case 1 QPSK Modulation BRS Band n7, NR5, Low Ch, 2622.5 MHz

Keysight Spec	trum Analyzer - Element Materials	Technology - Points: 1000	Detector: Average (RMS)		014 🖬			
N RL	NF 50 0 DC	#FGainLow	Center Freq: 2.655000 Trig: Free Run #Atten: 30 dB	AugHold: 100/100	Radio Device: BTS			
10 dBldiv	Ref Offset 45.5 dB Ref 50.00 dBm							
40.0								
30.0		$\sim$						
10.0								
0.00								
-10.0								
-31.0								
Center 2.6	5500 GHz				Span 100.0 MHz			
#Res BW	820 kHz		#VBW 2.7 N	#VBW 2.7 MHz				
Chann	el Power		Power Spect	ral Density				
4	46.10 dBm / 40 MHz		30.08					
MSG DOM				STATUS				

AWS Multicarrier Multiband Test Case 3 QPSK Modulation BRS Band n7, NR40, Mid Ch, 2655.0 MHz

RL	87 59 0 DC	#FGain:Low	-+-	Center Freq: 2.62750000 Trig: Free Run #Atten: 30 dB	GI	i off Hz Avg(Hold: 100/100	Radio Std: N Radio Device	PH Jan 25, 2024 one c BTS
0 dBldiv	Ref Offset 45.5 dB Ref 47.00 dBm		_					
<b>7</b> .0								
7.0		)	ſ		١			
					1			
w					1			
0.0								
1.0			$\square$					
1.0								
enter 2.6 Res BW	2750 GHz 100 kHz			#VBW 300 kH	z		Span #Sweep	20.00 MH 601.1 m
Chann	el Power			Power Spectra		Density		
4	2 65 dBm /	E MUS		35 66	1	2m /Mus		
- /	2.05 ubiii /	5 MH2		55.00 0	1	3111 /MIN2		

BRS Multicarrier Multiband Test Case 1 QPSK Modulation BRS Band n7, NR5, Low Ch, 2627.5 MHz



RL	RF 50 D DC		-+-	Center Freq: 2.6875000 Trig: Free Run #Atten: 30 dB	02:18:11 Radio Std: N Radio Device	02:18:11 PH Jan 24, 202 Radio Std: None Radio Device: BTS		
dBldiv	Ref Offset 45.5 dB Ref 47.00 dBm	an denicov						
<b>g</b>								
0			r					
0			I					
,			Į.					
nter 2. es BW	68750 GHz 100 kHz			#VBW 300 ki	łz		Span #Sweep	20.00 M 601.1
Channel Power 42.72 dBm / 5 MHz				Power Spectra				
				35.73				

BRS Multicarrier Multiband Test Case 1 QPSK Modulation BRS Band n7, NR5, High Ch, 2687.5 MHz

Keysight Spectrum Analyzer - Element N	Saterials Technology - Points: 10	00, De	ector: Average (RMS)			
RL 10 3/14 04	#FGain1.ow	-+-	Center Freq: 2.15500000 Trig: Free Run #Atten: 30 dB	A	z vg Hold: 100/100	Radio Std: None Radio Device: BTS
Ref Offset 44.9 dBldiv Ref 50.00 dB	dB Jm	_		_		
g .0						
0		ſ		γ		
0				ł		
0				k		
enter 2.15500 GHz Res BW 100 kHz			#VBW 300 kH	Span 20.00 M #Sweep 601.1 r		
Channel Power			Power Spectra			
45.74 dBm / 5 мнz			38.75 0			

BRS Multicarrier Multiband Test Case 1 QPSK Modulation AWS Band n66, NR5, Mid Ch, 2155.0 MHz

Keysight Spech	num Analyzer - Element Materia RF 50 Ω DC	Is Technology - Points: 1000	Detector: Average (RMS) SERVSE (INT)	ALIGN OFF	03:14:10 PM Jan 24, 202	
		#FGain1.ow	Center Freq: 1.9625 Trig: Free Run #Atten: 30 dB	00000 GHz Avg Hold: 100/100	Radio Std: None Radio Device: BTS	
10 dB/div	Ref Offset 44.7 dB Ref 52.00 dBm					
42.0						
32.0		1				
22.0						
2.00						
00.00						
0.0						
31.0						
Center 1.96250 GHz Res BW 200 KHz Channel Power 48.02 dBm / 10 MHz		#VBW 620	#VBW 620 kHz Power Spectral Density 38.02 dBm //MHz			
		Power Spec				
		38.0				
50				STATUS		

BRS Multicarrier Multiband Test Case 1 QPSK Modulation PSC Band n25, NR10, Mid Ch, 1962.5 MHz

RL RL	RF SIG R DC	interesting a series for a	Center Freq: 2.635000	04:36:46 PH Jan 24, 2024 Radio Std: None	
		#FGain1.ow	#Atten: 30 dB		Radio Device: BTS
10 dB/div	Ref Offset 45.5 dB Ref 49.00 dBm				
10g 30 0					
29.0		_			
19.0					
0.00					
1.00					
21.0					
ar.o					
41.0					
Center 2. #Res BW	63500 GHz 620 kHz		#VBW 2 MH	z	Span 100.0 MHz #Sweep 601.1 ms
Chan	nel Power		Power Spectr		
,	44.63 dBm / 3	0 MHz	29.85		
50				STATUS	

BRS Multicarrier Multiband Test Case 2 QPSK Modulation BRS Band n7, NR30, Low Ch, 2635.0 MHz



RL 8F 59 0 DC				Center Freq: 2.6650000 Trig: Free Run	04:38:53 PH Jan 24, 20 Radio Std: None			
	2	#FGain1.ow	_	#Atten: 30 dB		Radio Device: BTS		
dBldiv	Ref Offset 45.5 dB Ref 49.00 dBm	1 1						
9								
0								
0		V						
0								
mand								
,								
0								
nter 2.6 es BW	6500 GHz 620 kHz			#VBW 2 MHz		Span 100.0 M #Sweep 601.1 r		
Channel Power				Power Spectra				
4	4.55 dBm	30 MHz		29.78	dBm /MHz			

BRS Multicarrier Multiband Test Case 2 QPSK Modulation BRS Band n7, NR30, Low Ch, 2665.0 MHz

Keysight Sp	ectrum Analyzer - Element Materials	Technology - Points: 1000, D	etector: Average (RMS					
84	* 1%0 K	#FGain1.ow	Center Freq: 2 Trig: Free Rur #Atten: 30 dB	2.155000000 G	tz vg(Hold: 100r	100	Radio Std: Non Radio Device: E	• • •
0 dBldiv	Ref Offset 44.9 dB Ref 50.00 dBm							
0.0								
0								
0								
0								
ņ								
enter 2.15500 GHz Res BW 820 kHz		#VBW	2.7 MHz		Span 10 #Sweep	00.0 M		
Chan	nel Power		Power S					
	45.83 dBm / 4	0 MHz	2	z				
					STATUS			

BRS Multicarrier Multiband Test Case 2 QPSK Modulation AWS Band n66, NR40, Mid Ch, 2155.0 MHz

Keysight Sp	ectrum Analyzer - Element Materials	Fechnology - Points: 1000, D	etector: Average (RMS)		
OF AL	NF   59 0. DC	#FGain1ow	Center Freq: 1.96250 Trig: Free Run #Atten: 30 dB	AugiHold: 100/100	04-42:15 PH Jan 24, 2024 Radio Std: None Radio Device: BTS
10 dB/div	Ref Offset 44.7 dB Ref 52.00 dBm				
42.0	<u>مر المحصر الم</u>				
32.0		_			
22.0					
12.0					
8.00					
-18.0				L	
28.0					
-38.0					
Center 1. #Res BW	96250 GHz 820 kHz		#VBW 2.7 M	Span 100.0 MHz #Sweep 601.1 ms	
Chan	Channel Power		Power Spect		
	47.90 dBm / 4	0 MHz	31.88		
the state of the s				Terreney	

BRS Multicarrier Multiband Test Case 2 QPSK Modulation PSC Band n25, NR40, Mid Ch, 1962.5 MHz

RL RL	RF 50 D DC		Center Freq: 2.645000 Trig: Free Run	04:54:59 PH3an 24, 2024 Radio Std: None	
		#FGainLow	#Atten: 30 dB		Radio Device: BTS
10 dB/div	Ref Offset 45.5 dB Ref 48.00 dBm				
38.0					
28.0					
10.0		1			
0.00					
2.00					
12.0	NAMES OF TAXABLE PARTY.				
22.0					
32.0					
42.0					
Center 2. #Res BW	64500 GHz 620 kHz		#VBW 2 MH	z	Span 100.0 MHz #Sweep 601.1 ms
Chan	nel Power		Power Spectr		
4	44.51 dBm /:	30 MHz	29.73		
66				STATUS	

BRS Multicarrier Multiband Test Case 3 QPSK Modulation BRS Band n7, NR30, High Ch, 2645.0 MHz



Ref Offset 45.6 dB           Ref 43.00 dBm	Center Freq: 2.675000000 GHz Radio Std: None Trig: Free Run Avg[Hold: 100/100 #Atten: 30 dB Radio Device: BTS	#F 59 0 0C		
miter 2.67500 GHz system se BW 620 kHz system se BW		Ref Offset 45.5 dB		
es BW 620 kHz #VBW 2 MHz #Spar				
nter 2.67500 GHz s BW 620 kHz #SWEW 2 MHz #Swee				
nter 2.67500 GHz Spar es BW 620 kHz #VBW 2 MHz #Swee				
nter 2.67500 GHz Spar s BW 620 kHz #VBW 2 MHz #Swee				
	Span 100.0 M #VBW 2 MHz #Sweep 601.1	er 2.67500 GHz BW 620 kHz		
Channel Power Spectral Density	Power Spectral Density	Channel Power 44.59 dBm / 30 MHz		
44.59 dBm / зо мнz 29.82 dBm /мнz	29.82 dBm /мнz			

BRS Multicarrier Multiband Test Case 3 QPSK Modulation BRS Band n7, NR30, High Ch, 2675.0 MHz

RL	8F   58 B DC	#IFGainLow	Center Freq: Trig: Free Ru #Atten: 30 dB	1.96250000	0 GHz Avg(Hold:	100/100	Radio Std:   Radio Devic	2 PH Jan 24, 202 None se: BTS
10 dBldiv	Ref Offset 44.7 dB Ref 52.00 dBm							
42.0								
22.0								
12.0		_						
2.00								
18.0						L		
38.0								
Center 1.96250 GHz Res BW 820 kHz			#VBW	2.7 MH	Span 100.0 MH #Sweep 601.1 m			
Chan	nel Power		Power S	spectra				
	47.90 dBm /4	40 MHz	31.87 dBm /мнz					
10					STATUS			

BRS Multicarrier Multiband Test Case 3 QPSK Modulation PSC Band n25, NR40, Mid Ch, 1962.5 MHz

Reysight Sp RL	ectrum Analyzer - Element Material RF 59 Q DC	h Technology - Ponets 1000, De	Center Fr Trig: Free	eq: 2.15500000	0 GHz Avg(Hold:	100/100	05-00-47 PH Jan 2 Radio Std: None	, 2024
	Ref Offset 44.9 dB	#FGain1.ow	#Atten: 34	0 dB			Radio Device: BTS	
t0 dB/div Log	Ref 50.00 dBm	- <u>(</u>				1		
30.0								
20.0		(						
10.0								
10.00								
-20.0						L		
-30.0		-						
-40.0								
Center 2. #Res BW	15500 GHz 820 kHz		#V	BW 2.7 MH	Span 100.0 MH #Sweep 601.1 m			
Chan	nel Power		Powe	r Spectra				
	45.83 dBm / 40 MHz			29.81	MHz			
MSG					STATUS			

BRS Multicarrier Multiband Test Case 3 QPSK Modulation AWS Band n66, NR40, Mid Ch, 2155.0 MHz



#### **TEST DESCRIPTION**

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.

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

The fundamental emission power spectral density was measured using the channels and modes as called out on the following data sheets.

The method of ANSI C63.26-2015 section 5.2.4.5 was used to make this measurement.

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

The total PSD for multiport (2x2, 4x4 MIMO) operation was determined based upon ANSI 63.26 clause 6.4.3.2.4 (10 Log Nout). The total PSD for two port operation is single port PSD +3dB [i.e. 10 Log(2)]. The total PSD for four port operation is single port PSD +6dB [i.e. 10 Log(4)]. The EIRP calculations are based upon ANSI C63.26-2015 paragraphs 6.4 for a four port MIMO base station.

#### **REQUIREMENTS FOR PCS BAND n25**

#### FCC Requirements: Part 24.232 Power and antenna height limits.

(a)(2) Base stations with an emission bandwidth greater than 1 MHz are limited to 1640 watts/MHz equivalent isotropically radiated power (EIRP) with an antenna height up to 300 meters HAAT, except as described in paragraph (b) below.

(a)(3) Base station antenna heights may exceed 300 meters HAAT with a corresponding reduction in power; see Tables 1 and 2 of this section.

(b)(2) Base stations that are located in counties with population densities of 100 persons or fewer per square mile, based upon the most recently available population statistics from the Bureau of the Census, with an emission bandwidth greater than 1 MHz are limited to 3280 watts/MHz equivalent isotropically radiated power (EIRP) with an antenna height up to 300 meters HAAT.

#### ISED Requirements RSS-133 Section 6.4/SRSP-510 section 5.1.1:

SRSP-510 section 5.1 Radiated power and antenna height limits for base stations

For base stations with a channel bandwidth greater than 1 MHz, the maximum e.i.r.p. is limited to 3280 watts/MHz e.i.r.p. (i.e., no more than 3280 watts e.i.r.p. in any 1 MHz band segment) with an antenna height above average terrain (HAAT) up to 300 metres. Fixed or base stations operating in urban areas are limited to a maximum allowable e.i.r.p. of 1640 watts/MHz e.i.r.p. Base station antenna heights above average terrain may exceed 300 metres with a corresponding reduction in e.i.r.p. according to the following table:

#### EIRP Calculations for Four Port MIMO Operations for Band n25 Single 5G NR Carriers

EIRP calculations are needed at each transmitter location to optimize base station operational performance while meeting regulatory requirements. Each cell site installation needs to consider the power measurements in the radio certification report as well as site specific regulatory requirements (such as antenna height, population density, etc.), site installation parameters (line loss between antenna and radio, antenna parameters, etc.) and base station operational parameters (MIMO operational setup, carrier power level, channel bandwidth, modulation type, etc.) to optimize performance. Transmitter output power may be reduced (from maximum) by base station setup parameters. Base station antennas are selected by the customer.

The base station antenna is selected by the customer and this EIRP calculation is based upon a sample worst case antenna. The EIRP calculation is based upon Commscope antenna assembly model "FFV4Q4-65B-R7-V2". The maximum Band n25



gain (17.1dBi) for this antenna was used for the EIRP calculation. This antenna assembly has a pair of ±45° cross-polarized radiators used for Band n25. Four AHFIHA transmitter outputs are connected to the antenna assembly RF inputs.

Equivalent Isotropically Radiated Power (EIRP) is calculated (as specified in ANSI C63.26-2015 section 6.4 for uncorrelated output signals) from the results of power measurements (highest measured PSD for each channel bandwidth type). The maximum antenna gain was used for this calculation. The cable loss between the antenna and transmitter is site dependent and a typical loss of 1.0dB for this frequency range was used. Calculations of worst-case EIRP for four port MIMO are as follows:

Parameter	5 MHz Ch BW	10 MHz Ch BW	15 MHz Ch BW	20 MHz Ch BW	25 MHz Ch BW	30 MHz Ch BW	40 MHz Ch BW
Worst Case PSD/Antenna	40.3	39.4	38.4	37.3	36.0	35.5	34.4
Port	dBm/MHz						
Number of Ant Ports per	2	2	2	2	2	2	2
Polarization	2	2	2	2	2	2	2
Total PSD per Polarization	43.3	42.4	41.4	40.3	39.0	38.5	37.4
10Log 2 = + 3dB	dBm/MHz						
Cable Loss (site dependent)	42.3	41.4	40.4	39.3	38.0	37.5	36.4
= 1.0dB	dBm/MHz						
Dir Gain = Max Ant Gain (G <sub>Ant</sub> ) See Note 1	17.1 dBi						
EIRP per Polarization	59.4 dBm/MHz	58.5 dBm/MHz	57.5 dBm/MHz	56.4 dBm/MHz	55.1 dBm/MHz	54.6 dBm/MHz	53.5 dBm/MHz
Number of Polarizations	2	2	2	2	2	2	2
EIRP Total = Y1 <u>+</u> 45°and Y2 <u>+</u> 45° See Note 2	59.4 dBm/MHz	58.5 dBm/MHz	57.5 dBm/MHz	56.4 dBm/MHz	55.1 dBm/MHz	54.6 dBm/MHz	53.5 dBm/MHz
Passing FCC & ISED EIRP Limit	62.15 & 65.16 dBm/MHz						

*Note 1*: The directional gain is equal to antenna gain since the transmit signals are completely uncorrelated. See ANSI C63.26 sections 6.4.5.2.3b) and 6.4.5.3.1b) for guidance.

*Note* 2: The EIRP per antenna polarity is required to be below the regulatory limit as described in ANSI C63.26-2015 section 6.4.6.3 b)2) and KDB 662911 D02v01 page 3 example (2) since the two transmitter outputs to each antenna are 90 degree-phase shifted relative to each other (cross-polarized radiators).

#### **EIRP Calculation Summary**

The worst case AHFIHA Band n25 four port MIMO EIRP levels using antenna assembly model "FFV4Q4-65B-R7-V2" are less than the FCC and ISED (65.16 dBm/MHz and 62.15 dBm/MHz) EIRP Regulatory Limits.



#### **REQUIREMENTS FOR AWS BAND n66**

#### **FCC Requirements:**

27.50(d) The following power and antenna height requirements apply to stations transmitting in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz and 2180-2200 MHz bands:

(1) The power of each fixed or base station transmitting in the 1995-2000 MHz, 2110-2155 MHz, 2155-2180 MHz or 2180-2200 MHz band and located in any county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, is limited to:
 (ii) An EIRP of 3280 watts/MHz when transmitting with an emission bandwidth greater than 1 MHz.

(2) The power of each fixed or base station transmitting in the 1995-2000 MHz, the 2110-2155 MHz 2155-2180 MHz band, or 2180-2200 MHz band and situated in any geographic location other than that described in paragraph (d)(1) of this section is limited to:

(ii) An EIRP of 1640 watts/MHz when transmitting with an emission bandwidth greater than 1 MHz.

#### ISED Requirements RSS-139 Section 5.5/SRSP-513 Section 6.1.2/SRSP-519 Section 6.1.2:

SRSP-513 6.1.3 E.i.r.p. limits and antenna height limits for non-AAS systems

21. For fixed and base stations operating in the band 2110-2180 MHz with a channel bandwidth greater than 1 MHz, the maximum permissible e.i.r.p. is 62 dBm/MHz (i.e. no more than 62 dBm e.i.r.p. in any 1 MHz band segment), with an antenna HAAT of up to 300 m.

22. Fixed and base stations operating in the band 2110-2180 MHz and located in geographic areas at a distance greater than 26 km from large or medium population centres may increase their e.i.r.p. to a maximum of 65 dBm/MHz (i.e. no more than 65 dBm e.i.r.p. in any 1 MHz band segment), with an antenna HAAT of up to 300 m.

SRSP-519 6.1.3 Radiated power and antenna height limits for base stations using non-AAS systems

22. For base stations operating in the bands 2000-2020 MHz and 2180-2200 MHz with an antenna HAAT of up to 300 m, the e.i.r.p. shall not exceed 62 dBm/MHz when transmitting with an emission bandwidth greater than 1 MHz. 23. Base stations located in geographic areas at a distance greater than 26 km from large or medium population centres may increase their e.i.r.p. to a maximum of 65 dBm when transmitting with an emission bandwidth of 1 MHz or less, and 65 dBm/MHz when transmitting with an emission bandwidth greater than 1 MHz. HAAT of up to 300 m.

#### EIRP Calculations for Four Port MIMO Operations for Band n66 Single NR Carriers

EIRP calculations are needed at each transmitter location to optimize base station operational performance while meeting regulatory requirements. Each cell site installation needs to consider the power measurements in the radio certification report as well as site specific regulatory requirements (such as antenna height, population density, etc.), site installation parameters (line loss between antenna and radio, antenna parameters, etc.) and base station operational parameters (MIMO operational setup, carrier power level, channel bandwidth, modulation type, etc.) to optimize performance. Transmitter output power may be reduced (from maximum) by base station setup parameters. Base station antennas are selected by the customer.

The base station antenna is selected by the customer and this EIRP calculation is based upon a sample worst case antenna. The EIRP calculation is based upon Commscope antenna assembly model "FFV4Q4-65B-R7-V2". The maximum Band n66 gain (17.1dBi) for this antenna was used for the EIRP calculation. This antenna assembly has a pair of  $\pm 45^{\circ}$  cross-polarized radiators used for Band n66. Four AHFIHA transmitter outputs are connected to the antenna assembly RF inputs.

Equivalent Isotropically Radiated Power (EIRP) is calculated for four port MIMO (as specified in ANSI C63.26-2015 section 6.4 for uncorrelated output signals) from the results of power measurements (highest measured PSD for each channel bandwidth type). The maximum antenna gain was used for this calculation. The cable loss between the antenna and transmitter is site dependent and a typical loss of 1.0dB for this frequency range was used. EIRP was calculated as described in SRSP 513 clause 6.1.2 and SRSP 519 clause 6.1.2 "EIRP for non-AAS uncorrelated transmission". Calculations of worst-case EIRP for four port MIMO are as follows:



Parameter	5 MHz Ch BW	10 MHz Ch BW	15 MHz Ch BW	20 MHz Ch BW	25 MHz Ch BW	30 MHz Ch BW	40 MHz Ch BW
Worst Case PSD/Antenna	39.9	39.1	38.1	37.0	35.7	35.3	34.1
Port	dBm/MHz						
Number of Ant Ports per Polarization	2	2	2	2	2	2	2
Total PSD per Polarization	42.9	42.1	41.1	40.0	38.7	38.3	37.1
10Log 2 = + 3dB	dBm/MHz						
Cable Loss (site dependent)	41.9	41.1	40.1	39.0	37.7	37.3	36.1
= 1.0dB	dBm/MHz						
Dir Gain = Max Ant Gain (G <sub>Ant</sub> ) See Note 1	17.1 dBi						
EIRP per Polarization	59.0 dBm/MHz	58.2 dBm/MHz	57.2 dBm/MHz	56.1 dBm/MHz	54.8 dBm/MHz	54.4 dBm/MHz	53.2 dBm/MHz
Number of Polarizations	2	2	2	2	2	2	2
EIRP Total = Y1 <u>+</u> 45°and Y2 <u>+</u> 45° See Note 2	59.0 dBm/MHz	58.2 dBm/MHz	57.2 dBm/MHz	56.1 dBm/MHz	54.8 dBm/MHz	54.4 dBm/MHz	53.2 dBm/MHz
Passing FCC EIRP Limit	62.15 & 65.16 dBm/MHz						
Passing ISED EIRP Limit	62.0 & 65.0 dBm/MHz						

*Note 1*: The directional gain is equal to antenna gain since the transmit signals are completely uncorrelated. See ANSI C63.26 sections 6.4.5.2.3b) and 6.4.5.3.1b) for guidance.

*Note 2*: The EIRP per antenna polarity is required to be below the regulatory limit as described in ANSI C63.26-2015 section 6.4.6.3 b)2) and KDB 662911 D02v01 page 3 example (2) since the two transmitter outputs to each antenna are 90 degree-phase shifted relative to each other (cross-polarized radiators).

#### **EIRP Calculation Summary**

The worst case AHFIHA Band n66 four port MIMO EIRP levels using antenna assembly model "FFV4Q4-65B-R7-V2" are less than the FCC (65.16 dBm/MHz and 62.15 dBm/MHz) and ISED (65 dBm/MHz and 62 dBm/MHz) EIRP Regulatory Limits.



#### **REQUIREMENTS FOR BRS BAND n7**

#### **FCC Requirements:**

The FCC EIRP limit is defined by 27.50(h)(ii) as 33dBW+ 10Log(X/Y) dBW + 10 log(360/beamwidth) dBW where X is the channel width in MHz and Y is 5.5 or 6MHz.

#### ISED Requirements RSS-199 Section 5.5/SRSP-517 Section 6.1:

SRSP-517 6.1 Fixed and base stations using non-active antenna systems

19. This section describes how equivalent isotropically radiated power (e.i.r.p.) is calculated for fixed and base stations using non-active antenna systems (non-AAS).

#### SRSP-517 6.1.2 E.i.r.p. for non-AAS uncorrelated transmission

21. In non-AAS uncorrelated transmission, multiple non-AAS antennas can be used at a station to each transmit different digital data in a given symbol period (i.e.: space-time codes) or independent parallel data stream over the same frequency bandwidth in order to increase data rates (i.e., spatial multiplexing), or to form any other transmission mode where signals from different antennas are completely uncorrelated. For these uses, the e.i.r.p. shall be calculated based on the aggregate power conducted across all antennas and the maximum antenna gain (G<sub>max</sub>).

#### SRSP-517 6.1.3 E.i.r.p. limits and antenna height limits for non-AAS systems

23. For fixed and base stations operating in the band 2500-2690 MHz with a channel bandwidth greater than 1 MHz, the maximum permissible e.i.r.p. is 1640 W/MHz (i.e. no more than 1640 W e.i.r.p. in any 1 MHz band segment), with an antenna HAAT of up to 300 m.

24. Fixed and base stations with an antenna HAAT exceeding 300 m shall apply a reduction in e.i.r.p. according to table 1.

#### ISED EIRP Calculations for Four Port MIMO Operations for Band n7 Single 5G NR Carriers

EIRP calculations are needed at each transmitter location to optimize base station operational performance while meeting regulatory requirements. Each cell site installation needs to consider the power measurements in the radio certification report as well as site specific regulatory requirements (such as antenna height, population density, etc.), site installation parameters (line loss between antenna and radio, antenna parameters, etc.) and base station operational parameters (MIMO operational setup, carrier power level, channel bandwidth, modulation type, etc.) to optimize performance. Transmitter output power may be reduced (from maximum) by base station setup parameters. Base station antennas are selected by the customer.

The base station antenna is selected by the customer and this EIRP calculation is based upon a sample worst case antenna. The EIRP calculation is based upon Commscope antenna assembly model "FFV4Q4-65B-R7-V2". The maximum Band n7 gain (17.3dBi) for this antenna was used for the EIRP calculation. This antenna assembly has a pair of ±45° cross-polarized radiators used for Band n7. Four AHFIHA transmitter outputs are connected to the antenna assembly RF inputs.

Equivalent Isotropically Radiated Power (EIRP) is calculated for four port MIMO (as specified in ANSI C63.26-2015 section 6.4 for uncorrelated output signals) from the results of power measurements (highest measured PSD for each channel bandwidth type). The maximum antenna gain was used for this calculation. The cable loss between the antenna and transmitter is site dependent and a typical loss of 1.0dB for this frequency range was used. EIRP was calculated as described in SRSP 517 clause 6.1.2. Calculations of worst-case EIRP for four port MIMO are as follows:



Parameter	5 MHz Ch BW	10 MHz Ch BW	15 MHz Ch BW	20 MHz Ch BW	25 MHz Ch BW	30 MHz Ch BW	40 MHz Ch BW
Worst Case PSD/Antenna	39.8	38.9	38.0	36.9	35.6	35.1	34.0
Port	dBm/MHz						
Number of Ant Ports per Polarization	2	2	2	2	2	2	2
Total PSD per Polarization	42.8	41.9	41.0	39.9	38.6	38.1	37.0
10Log 2 = + 3dB	dBm/MHz						
Cable Loss (site dependent)	41.8	40.9	40.0	38.9	37.6	37.1	36.0
= 1.0dB	dBm/MHz						
Dir Gain = Max Ant Gain (G <sub>Ant</sub> ) See Note 1	17.3 dBi						
EIRP per Polarization	59.1 dBm/MHz	58.2 dBm/MHz	57.3 dBm/MHz	56.2 dBm/MHz	54.9 dBm/MHz	54.4 dBm/MHz	53.3 dBm/MHz
Number of Polarizations	2	2	2	2	2	2	2
EIRP Total = Y1 <u>+</u> 45°and Y2 <u>+</u> 45° See Note 2	59.1 dBm/MHz	58.2 dBm/MHz	57.3 dBm/MHz	56.2 dBm/MHz	54.9 dBm/MHz	54.4 dBm/MHz	53.3 dBm/MHz
Passing ISED EIRP Limit	62.15 dBm/MHz						

*Note 1*: The directional gain is equal to antenna gain since the transmit signals are completely uncorrelated. See ANSI C63.26 sections 6.4.5.2.3b) and 6.4.5.3.1b) for guidance.

*Note 2*: The EIRP per antenna polarity is required to be below the regulatory limit as described in ANSI C63.26-2015 section 6.4.6.3 b)2) and KDB 662911 D02v01 page 3 example (2) since the two transmitter outputs to each antenna are 90 degree-phase shifted relative to each other (cross-polarized radiators).

#### **EIRP Calculation Summary**

The worst case AHFIHA Band n7 four port MIMO EIRP levels using antenna assembly model "FFV4Q4-65B-R7-V2" are less than the ISED (62.15 dBm/MHz) EIRP Regulatory Limits.



#### FCC EIRP Calculations for Four Port MIMO Operations for Band n7 Single NR Carriers

EIRP calculations are needed at each transmitter location to optimize base station operational performance while meeting regulatory requirements. Each cell site installation needs to consider the power measurements in the radio certification report as well as site specific regulatory requirements (such as antenna height, population density, etc.), site installation parameters (line loss between antenna and radio, antenna parameters, etc.) and base station operational parameters (MIMO operational setup, carrier power level, channel bandwidth, modulation type, etc.) to optimize performance. Transmitter output power may be reduced (from maximum) by base station setup parameters. Base station antennas are selected by the customer.

The base station antenna is selected by the customer and this EIRP calculation is based upon a sample worst case antenna. The EIRP calculation is based upon CommScope antenna assembly model "FFV4Q4-65B-R7-V2". The maximum Band n7 gain (17.3dBi) for this antenna was used for the EIRP calculation. This antenna assembly has a pair of <u>+</u>45° cross-polarized radiators used for Band n7. Four AHFIHA transmitter outputs are connected to the antenna assembly RF inputs.

Equivalent Isotropically Radiated Power (EIRP) is calculated for four port MIMO (as specified in ANSI C63.26-2015 section 6.4 for uncorrelated output signals) from the results of power measurements (highest measured power for each channel bandwidth type). The maximum antenna gain was used for this calculation. The cable loss between the antenna and transmitter is site dependent and a typical loss of 1.0dB for this frequency range was used. Calculations of worst-case EIRP for four port MIMO are as follows:

Parameter	5 MHz Ch BW	10 MHz Ch BW	15 MHz Ch BW	20 MHz Ch BW	25 MHz Ch BW	30 MHz Ch BW	40 MHz Ch BW
Worst Case Power Output per Antenna Port	46.1 dBm	47.7 dBm	47.7 dBm	47.8 dBm	47.9 dBm	48.1 dBm	47.8 dBm
Number of Ant Ports per Polarization	2	2	2	2	2	2	2
Total Power per Polarization 10Log 2 = + 3dB	49.1 dBm	50.7 dBm	50.7 dBm	50.8 dBm	50.9 dBm	51.1 dBm	50.8 dBm
Cable Loss (site dependent) = 1.0dB	48.1 dBm	49.7 dBm	49.7 dBm	49.8 dBm	49.9 dBm	50.1 dBm	49.8 dBm
Dir Gain = Max Ant Gain (G <sub>Ant</sub> ) See Note 1	17.3 dBi	17.3 dBi	17.3 dBi	17.3 dBi	17.3 dBi	17.3 dBi	17.3 dBi
EIRP per Polarization	65.4 dBm	67.0 dBm	67.0 dBm	67.1 dBm	67.2 dBm	67.4 dBm	67.1 dBm
Number of Polarizations	2	2	2	2	2	2	2
EIRP Total = Y1 <u>+</u> 45°and Y2 <u>+</u> 45° See Note 2	65.4 dBm	67.0 dBm	67.0 dBm	67.1 dBm	67.2 dBm	67.4 dBm	67.1 dBm
Passing FCC EIRP Limit See Note 3	70.2 dBm	73.2 dBm	75.0 dBm	76.2 dBm	77.2 dBm	78.0 dBm	79.2 dBm

*Note 1*: The directional gain is equal to antenna gain since the transmit signals are completely uncorrelated. See ANSI C63.26 sections 6.4.5.2.3b) and 6.4.5.3.1b) for guidance.

*Note* 2: The EIRP per antenna polarity is required to be below the regulatory limit as described in ANSI C63.26-2015 section 6.4.6.3 b)2) and KDB 662911 D02v01 page 3 example (2) since the two transmitter outputs to each antenna are 90 degree-phase shifted relative to each other (cross-polarized radiators).

Note 3: The EIRP limit is defined by FCC part 27.50(h)(ii) as 33dBW+ 10Log(X/Y) dBW + 10 log(360/beamwidth) dBW where X is the channel width in MHz and Y is 5.5 or 6MHz. The CommScope model FFV4Q4-65B-R7-V2 antenna has a horizontal beamwidth of 57 degrees for the 2490 to 2690MHz frequency range. Y was selected to be 6MHz.

#### **EIRP Calculation Summary**

The worst case AHFIHA Band n7 four port MIMO EIRP levels using antenna assembly model "FFV4Q4-65B-R7-V2" are less than the FCC EIRP Regulatory Limits.



EUT:	AirScale Base Transceiver Station Remote Radio Head	Work Order:	NOKI0072
	Model AHFIHA		
Serial Number:	RW233403213	Date:	2023-12-04
Customer:	Nokia Solutions and Networks	Temperature:	22.9°C
Attendees:	John Rattanavong, Mitch Hill	Relative Humidity:	34%
Customer Project:	None	Bar. Pressure (PMSL):	1023 mbar
Tested By:	Jarrod Brenden	Job Site:	TX07
Power:	54VDC	Configuration:	NOKI0072-2

#### **TEST SPECIFICATIONS**

Specification:	Method:
FCC 24E:2024	ANSI C63.26:2015
FCC 27:2024	ANSI C63.26:2015
RSS-133 Issue 6:2013 +A1:2018	ANSI C63.26:2015
RSS-199 Issue 4:2023	ANSI C63.26:2015
RSS139 Issue 4:2022	ANSI C63.26:2015

#### COMMENTS

Losses in the measurement path were accounted for: DC Block, attenuators, cables, and filters where used. PCS Band n25, AWS Band n66, and BRS Band n7 carriers are enabled individually at maximum power (40 watts/carrier for 5MHz carrier and 60W/carrier for 10MHz to 40MHz carriers).

#### **DEVIATIONS FROM TEST STANDARD**

None

#### CONCLUSION

Pass

Tested By

#### **TEST RESULTS**

		Initial Value	Duty Cycle	Single Port dBm/MHz ==	Two Port (2x2 MIMO) dBm/MHz ==	Four Port (4x4 MIMO) dBm/MHz ==
		dBm/MHz	Factor	PSD	PSD	PSD
Port 1						
PCS Band n25, 1930 MHz - 1995 M	ЛНz					
5 MHz Ba	ndwidth					
	QPSK Modulation					
	Low Ch, 1932.5 MHz	40.303	0	40.3	43.3	46.3
	Mid Ch, 1962.5 MHz	40.09	0	40.1	43.1	46.1
	High Ch, 1992.5 MHz	40.213	0	40.2	43.2	46.2
	16QAM Modulation					
	Low Ch, 1932.5 MHz	40.25	0	40.3	43.3	46.3
	Mid Ch, 1962.5 MHz	40.074	0	40.1	43.1	46.1
	High Ch, 1992.5 MHz	40.208	0	40.2	43.2	46.2
	64QAM Modulation					
	Low Ch, 1932.5 MHz	40.29	0	40.3	43.3	46.3
	Mid Ch, 1962.5 MHz	40.121	0	40.1	43.1	46.1
	High Ch, 1992.5 MHz	40.262	0	40.3	43.3	46.3



	Initial Value	Duty Cycle	Single Port dBm/MHz ==	Two Port (2x2 MIMO) dBm/MHz ==	Four Port (4x4 MIMO) dBm/MHz ==
	dBm/MHz	Factor	PSD	PSD	PSD
256QAM Modulation					
Low Ch, 1932.5 MHz	40.239	0	40.2	43.2	46.2
Mid Ch, 1962.5 MHz	40.198	0	40.2	43.2	46.2
High Ch, 1992.5 MHz	40.167	0	40.2	43.2	46.2
10 MHz Bandwidth					
QPSK Modulation					
Mid Ch, 1962.5 MHz	38.637	0	38.6	41.6	44.6
16QAM Modulation					
Mid Ch, 1962.5 MHz	39.356	0	39.4	42.4	45.4
64QAM Modulation					
Mid Ch, 1962.5 MHz	38.684	0	38.7	41.7	44.7
256QAM Modulation					
Mid Ch, 1962.5 MHz	38.672	0	38.7	41.7	44.7
15 MHz Bandwidth					
QPSK Modulation					
Mid Ch. 1962.5 MHz	36,888	0	36.9	39.9	42.9
16QAM Modulation	001000	Ū			
Mid Ch 1962 5 MHz	38 41	0	38.4	41.4	44.4
64QAM Modulation	00.11	Ű			
Mid Ch. 1962 5 MHz	36 903	0	36.9	39.9	42.9
2560AM Modulation	00.000	U			
Mid Ch. 1962 5 MHz	36.832	0	36.8	39.8	42.8
20 MHz Bandwidth	00.002	U	00.0	00.0	12.0
OPSK Modulation					
Mid Ch. 1962 5 MHz	35.634	0	35.6	38.6	41.6
160AM Modulation	55.054	0	00.0	00.0	11.0
Mid Ch. 1062 5 MHz	27.254	0	37.3	40.3	13.3
	37.234	0	57.5	40.5	45.5
Mid Ch. 1062 5 MUT	25.6	0	35.6	38.6	41.6
Mid Ch, 1962.5 MHZ	35.0	0	55.0	30.0	41.0
256QAM Modulation	05.04	0	25.6	29.6	41.6
Mid Cn, 1962.5 MHZ	35.61	0	35.0	30.0	41.0
QPSK Modulation	04.075	6	047	07.7	40.7
Mid Ch, 1962.5 MHz	34.675	0	34.7	31.1	40.7
16QAM Modulation	0.5.5.5	6	20.0	20.0	40.0
Mid Ch, 1962.5 MHz	35.986	0	36.0	39.0	42.0
64QAM Modulation			<b>0</b> ( <b>-</b>	07 -	16 =
Mid Ch, 1962.5 MHz	34.717	0	34.7	37.7	40.7
256QAM Modulation					
Mid Ch, 1962.5 MHz	34.602	0	34.6	37.6	40.6
30 MHz Bandwidth					
QPSK Modulation					
Mid Ch, 1962.5 MHz	33.882	0	33.9	36.9	39.9
16QAM Modulation					
Mid Ch, 1962.5 MHz	35.5	0	35.5	38.5	41.5
64QAM Modulation					
Mid Ch, 1962.5 MHz	33.847	0	33.8	36.8	39.8
256QAM Modulation					
Mid Ch, 1962.5 MHz	33.908	0	33.9	36.9	39.9
40 MHz Bandwidth			·		
QPSK Modulation					



		Initial Value	Duty Cycle	Single Port dBm/MHz ==	Two Port (2x2 MIMO) dBm/MHz ==	Four Port (4x4 MIMO) dBm/MHz ==
		dBm/MHz	Factor	PSD	PSD	PSD
	Mid Ch, 1962.5 MHz	32.544	0	32.5	35.5	38.5
	16QAM Modulation	I				
	Mid Ch, 1962.5 MHz	34.391	0	34.4	37.4	40.4
	64QAM Modulation				07.0	
	Mid Ch, 1962.5 MHz	32.64	0	32.6	35.6	38.6
	256QAM Modulation	00.500	•	00.5	05.5	00.5
AWS Band n66 21	Mid Ch, 1962.5 MHz	32.528	0	32.5	35.5	38.5
2200 MHz	10 10112 -					
5 MHz Bar	ndwidth					
	QPSK Modulation					
	Low Ch, 2112.5 MHz	39.944	0	39.9	42.9	45.9
	Mid Ch, 2155.0 MHz	39.836	0	39.8	42.8	45.8
	High Ch, 2197.5 MHz	39.732	0	39.7	42.7	45.7
	16QAM Modulation					
	Low Ch, 2112.5 MHz	39.877	0	39.9	42.9	45.9
	Mid Ch, 2155.0 MHz	39.792	0	39.8	42.8	45.8
	High Ch, 2197.5 MHz	39.695	0	39.7	42.7	45.7
	64QAM Modulation					
	Low Ch, 2112.5 MHz	39.921	0	39.9	42.9	45.9
	Mid Ch, 2155.0 MHz	39.826	0	39.8	42.8	45.8
	High Ch, 2197.5 MHz	39.737	0	39.7	42.7	45.7
	256QAM Modulation	I				
	Low Ch, 2112.5 MHz	39.94	0	39.9	42.9	45.9
	Mid Ch, 2155.0 MHz	39.806	0	39.8	42.8	45.8
	High Ch, 2197.5 MHz	39.733	0	39.7	42.7	45.7
10 MHz Ba	andwidth					
	QPSK Modulation	00.007	0	20.4	44.4	44.4
	Mid Ch, 2155.0 MHz	38.397	0	38.4	41.4	44.4
		20,000	0	20.1	40.1	45 1
	Mid Cn, 2155.0 MHZ	39.082	0	39.1	42.1	45.1
	Mid Ch. 2155 0 MHz	39 / 22	0	38.4	A1 A	ΔΔ Δ
	2560AM Modulation	30.433	0	00.4		
	Mid Ch. 2155 0 MHz	38 404	0	38.4	41.4	44 4
15 MHz Ba	andwidth	00.404	Ū			
	OPSK Modulation					
	Mid Ch. 2155.0 MHz	36.603	0	36.6	39.6	42.6
	16QAM Modulation		-			
	Mid Ch, 2155.0 MHz	38.129	0	38.1	41.1	44.1
	64QAM Modulation					
	Mid Ch, 2155.0 MHz	36.597	0	36.6	39.6	42.6
	256QAM Modulation					
	Mid Ch, 2155.0 MHz	36.603	0	36.6	39.6	42.6
20 MHz Ba	andwidth					
	QPSK Modulation					
	Mid Ch, 2155.0 MHz	35.412	0	35.4	38.4	41.4
	16QAM Modulation					
	Mid Ch, 2155.0 MHz	36.989	0	37.0	40.0	43.0
	64QAM Modulation					
	Mid Ch, 2155.0 MHz	35.404	0	35.4	38.4	41.4
	256QAM Modulation					



		Initial Value	Duty Cycle	Single Port dBm/MHz ==	Two Port (2x2 MIMO) dBm/MHz ==	Four Port (4x4 MIMO) dBm/MHz ==
		dBm/MHz	Factor	PSD	PSD	PSD
	Mid Ch, 2155.0 MHz	35.434	0	35.4	38.4	41.4
25 MHz Ba	indwidth					
	QPSK Modulation			04.4	07.4	40.4
	Mid Ch, 2155.0 MHz	34.411	0	34.4	37.4	40.4
	16QAM Modulation	05 744	•	05.7	20.7	44 7
	Mid Ch, 2155.0 MHz	35.714	0	35.7	30.7	41.7
		24.444	0	31.1	27 /	40.4
	Mid Ch, 2155.0 MHz	34.411	0	34.4	57.4	40.4
		24.270	0	31.1	27 /	40.4
	Mild CII, 2155.0 MIHZ	34.379	0	34.4	57.4	40.4
SU MITZ Da						
	Mid Ch. 2155 0 MHz	33 / 87	0	33.5	36.5	39.5
	160AM Modulation	55.407	0	00.0	00.0	00.0
	Mid Ch. 2155 0 MHz	35 272	0	35.3	38.3	41.3
	64QAM Modulation	00.272	0	00.0	00.0	11.0
	Mid Ch. 2155 0 MHz	33 635	0	33.6	36.6	39.6
	256QAM Modulation	00.000	0			
	Mid Ch. 2155.0 MHz	33.699	0	33.7	36.7	39.7
40 MHz Ba	Indwidth					
	QPSK Modulation					
	Mid Ch, 2155.0 MHz	32.309	0	32.3	35.3	38.3
	16QAM Modulation					
	Mid Ch, 2155.0 MHz	34.073	0	34.1	37.1	40.1
	64QAM Modulation					
	Mid Ch, 2155.0 MHz	32.332	0	32.3	35.3	38.3
	256QAM Modulation					
	Mid Ch, 2155.0 MHz	32.326	0	32.3	35.3	38.3
BRS Band n7, 2620	MHz -					
2090 MHZ	adwidth					
	OPSK Modulation					
	Low Ch. 2622 5 MHz	39.74	0	39.7	42 7	45.7
	Mid Ch. 2655 0 MHz	39.74	0	39.7	42.7	45.7
	High Ch. 2687 5 MHz	39.682	0	39.7	42.7	45.7
	16QAM Modulation	00.002	Ū			1011
	Low Ch 2622 5 MHz	39 705	0	39.7	42.7	45.7
	Mid Ch. 2655.0 MHz	39.706	0	39.7	42.7	45.7
	High Ch. 2687.5 MHz	39.659	0	39.7	42.7	45.7
	64QAM Modulation	001000	Ū			
	Low Ch, 2625.0 MHz	39.758	0	39.8	42.8	45.8
	Mid Ch, 2655.0 MHz	39.727	0	39.7	42.7	45.7
	High Ch, 2687.5 MHz	39.669	0	39.7	42.7	45.7
	256QAM Modulation					
	Low Ch, 2622.5 MHz	39.814	0	39.8	42.8	45.8
	Mid Ch, 2655.0 MHz	39.762	0	39.8	42.8	45.8
	High Ch, 2687.5 MHz	39.681	0	39.7	42.7	45.7
10 MHz Ba	ndwidth					
	QPSK Modulation					
	Mid Ch, 2655.0 MHz	38.25	0	38.3	41.3	44.3
	16QAM Modulation					
	Mid Ch, 2655.0 MHz	38.938	0	38.9	41.9	44.9



		Initial Value	Duty Cycle	Single Port dBm/MHz ==	Two Port (2x2 MIMO) dBm/MHz ==	Four Port (4x4 MIMO) dBm/MHz ==
		dBm/MHz	Factor	PSD	PSD	PSD
	64QAM Modulation		1			
	Mid Ch, 2655.0 MHz	38.28	0	38.3	41.3	44.3
	256QAM Modulation			00.0	44.0	44.0
	Mid Ch, 2655.0 MHz	38.283	0	38.3	41.3	44.3
15 MHZ E						
	Mid Ch 2655 0 MHz	36 473	0	36.5	30.5	42.5
	160AM Modulation	30.473	0	50.5	39.5	42.5
	Mid Ch 2655 0 MHz	37 984	0	38.0	41.0	44.0
	64QAM Modulation	01.001	Ū		-	-
	Mid Ch, 2655.0 MHz	36.489	0	36.5	39.5	42.5
	256QAM Modulation					
	Mid Ch, 2655.0 MHz	36.483	0	36.5	39.5	42.5
20 MHz E	Bandwidth					
	QPSK Modulation					
	Mid Ch, 2655.0 MHz	35.265	0	35.3	38.3	41.3
	16QAM Modulation					
	Mid Ch, 2655.0 MHz	36.887	0	36.9	39.9	42.9
	64QAM Modulation		-	05.0	00.0	44.0
	Mid Ch, 2655.0 MHz	35.289	0	35.3	38.3	41.3
	256QAM Modulation	25.200	0	25.2	20.2	41.2
	Mid Ch, 2655.0 MHZ	35.306	0	35.5	30.3	41.5
20 IVII 12 L	OPSK Modulation					
	Mid Ch 2655 0 MHz	34 268	0	34.3	37.3	40.3
	16QAM Modulation	011200	Ŭ			
	Mid Ch, 2655.0 MHz	35.574	0	35.6	38.6	41.6
	64QAM Modulation					
	Mid Ch, 2655.0 MHz	34.275	0	34.3	37.3	40.3
	256QAM Modulation					
	Mid Ch, 2655.0 MHz	34.223	0	34.2	37.2	40.2
30 MHz E	Bandwidth					
	QPSK Modulation			00.4	00.4	00.4
	Mid Ch, 2655.0 MHz	33.373	0	33.4	36.4	39.4
	16QAM Modulation	25.440	0	25.1	29.1	11 1
	Mid Ch, 2655.0 MHz	35.149	0	55.1	50.1	41.1
	Mid Ch. 2655 0 MHz	33 475	0	33.5	36.5	39.5
	256OAM Modulation	55.475	0	00.0	00.0	00.0
	Mid Ch. 2655.0 MHz	33.52	0	33.5	36.5	39.5
40 MHz E	Bandwidth		-			
	QPSK Modulation					
	Mid Ch, 2655.0 MHz	32.199	0	32.2	35.2	38.2
	16QAM Modulation					
	Mid Ch, 2655.0 MHz	33.989	0	34.0	37.0	40.0
	64QAM Modulation					
	Mid Ch, 2655.0 MHz	32.255	0	32.3	35.3	38.3
	256QAM Modulation			00.0	05.0	00.0
	Mid Ch, 2655.0 MHz	32.261	0	32.3	35.3	38.3





PCS Band n25, 1930 MHz - 1995 MHz 5 MHz Bandwidth QPSK Modulation Low Ch, 1932.5 MHz



PCS Band n25, 1930 MHz - 1995 MHz 5 MHz Bandwidth QPSK Modulation Mid Ch, 1962.5 MHz



PCS Band n25, 1930 MHz - 1995 MHz 5 MHz Bandwidth QPSK Modulation High Ch, 1992.5 MHz



PCS Band n25, 1930 MHz - 1995 MHz 5 MHz Bandwidth 16QAM Modulation Low Ch, 1932.5 MHz





PCS Band n25, 1930 MHz - 1995 MHz 5 MHz Bandwidth 16QAM Modulation Mid Ch, 1962.5 MHz



PCS Band n25, 1930 MHz - 1995 MHz 5 MHz Bandwidth 16QAM Modulation High Ch, 1992.5 MHz



PCS Band n25, 1930 MHz - 1995 MHz 5 MHz Bandwidth 64QAM Modulation Low Ch, 1932.5 MHz



PCS Band n25, 1930 MHz - 1995 MHz 5 MHz Bandwidth 64QAM Modulation Mid Ch, 1962.5 MHz





PCS Band n25, 1930 MHz - 1995 MHz 5 MHz Bandwidth 64QAM Modulation High Ch, 1992.5 MHz



PCS Band n25, 1930 MHz - 1995 MHz 5 MHz Bandwidth 256QAM Modulation Low Ch, 1932.5 MHz



PCS Band n25, 1930 MHz - 1995 MHz 5 MHz Bandwidth 256QAM Modulation Mid Ch, 1962.5 MHz



PCS Band n25, 1930 MHz - 1995 MHz 5 MHz Bandwidth 256QAM Modulation High Ch, 1992.5 MHz





PCS Band n25, 1930 MHz - 1995 MHz 10 MHz Bandwidth QPSK Modulation Mid Ch, 1962.5 MHz



PCS Band n25, 1930 MHz - 1995 MHz 10 MHz Bandwidth 16QAM Modulation Mid Ch, 1962.5 MHz



PCS Band n25, 1930 MHz - 1995 MHz 10 MHz Bandwidth 64QAM Modulation Mid Ch, 1962.5 MHz



PCS Band n25, 1930 MHz - 1995 MHz 10 MHz Bandwidth 256QAM Modulation Mid Ch, 1962.5 MHz





PCS Band n25, 1930 MHz - 1995 MHz 15 MHz Bandwidth QPSK Modulation Mid Ch, 1962.5 MHz



PCS Band n25, 1930 MHz - 1995 MHz 15 MHz Bandwidth 16QAM Modulation Mid Ch, 1962.5 MHz



PCS Band n25, 1930 MHz - 1995 MHz 15 MHz Bandwidth 64QAM Modulation Mid Ch, 1962.5 MHz



PCS Band n25, 1930 MHz - 1995 MHz 15 MHz Bandwidth 256QAM Modulation Mid Ch, 1962.5 MHz





PCS Band n25, 1930 MHz - 1995 MHz 20 MHz Bandwidth QPSK Modulation Mid Ch, 1962.5 MHz



PCS Band n25, 1930 MHz - 1995 MHz 20 MHz Bandwidth 16QAM Modulation Mid Ch, 1962.5 MHz



PCS Band n25, 1930 MHz - 1995 MHz 20 MHz Bandwidth 64QAM Modulation Mid Ch, 1962.5 MHz



PCS Band n25, 1930 MHz - 1995 MHz 20 MHz Bandwidth 256QAM Modulation Mid Ch, 1962.5 MHz





PCS Band n25, 1930 MHz - 1995 MHz 25 MHz Bandwidth QPSK Modulation Mid Ch, 1962.5 MHz



PCS Band n25, 1930 MHz - 1995 MHz 25 MHz Bandwidth 16QAM Modulation Mid Ch, 1962.5 MHz



PCS Band n25, 1930 MHz - 1995 MHz 25 MHz Bandwidth 64QAM Modulation Mid Ch, 1962.5 MHz



PCS Band n25, 1930 MHz - 1995 MHz 25 MHz Bandwidth 256QAM Modulation Mid Ch, 1962.5 MHz





PCS Band n25, 1930 MHz - 1995 MHz 30 MHz Bandwidth QPSK Modulation Mid Ch, 1962.5 MHz



PCS Band n25, 1930 MHz - 1995 MHz 30 MHz Bandwidth 16QAM Modulation Mid Ch, 1962.5 MHz



PCS Band n25, 1930 MHz - 1995 MHz 30 MHz Bandwidth 64QAM Modulation Mid Ch, 1962.5 MHz



PCS Band n25, 1930 MHz - 1995 MHz 30 MHz Bandwidth 256QAM Modulation Mid Ch, 1962.5 MHz





PCS Band n25, 1930 MHz - 1995 MHz 40 MHz Bandwidth QPSK Modulation Mid Ch, 1962.5 MHz



PCS Band n25, 1930 MHz - 1995 MHz 40 MHz Bandwidth 16QAM Modulation Mid Ch, 1962.5 MHz



PCS Band n25, 1930 MHz - 1995 MHz 40 MHz Bandwidth 64QAM Modulation Mid Ch, 1962.5 MHz



PCS Band n25, 1930 MHz - 1995 MHz 40 MHz Bandwidth 256QAM Modulation Mid Ch, 1962.5 MHz





AWS Band n66, 2110 MHz - 2200 MHz 5 MHz Bandwidth QPSK Modulation Low Ch, 2112.5 MHz



AWS Band n66, 2110 MHz - 2200 MHz 5 MHz Bandwidth QPSK Modulation Mid Ch, 2155.0 MHz



AWS Band n66, 2110 MHz - 2200 MHz 5 MHz Bandwidth QPSK Modulation High Ch, 2197.5 MHz



AWS Band n66, 2110 MHz - 2200 MHz 5 MHz Bandwidth 16QAM Modulation Low Ch, 2112.5 MHz





AWS Band n66, 2110 MHz - 2200 MHz 5 MHz Bandwidth 16QAM Modulation Mid Ch, 2155.0 MHz



AWS Band n66, 2110 MHz - 2200 MHz 5 MHz Bandwidth 16QAM Modulation High Ch, 2197.5 MHz



AWS Band n66, 2110 MHz - 2200 MHz 5 MHz Bandwidth 64QAM Modulation Low Ch, 2112.5 MHz



AWS Band n66, 2110 MHz - 2200 MHz 5 MHz Bandwidth 64QAM Modulation Mid Ch, 2155.0 MHz





AWS Band n66, 2110 MHz - 2200 MHz 5 MHz Bandwidth 64QAM Modulation High Ch, 2197.5 MHz



AWS Band n66, 2110 MHz - 2200 MHz 5 MHz Bandwidth 256QAM Modulation Low Ch, 2112.5 MHz



AWS Band n66, 2110 MHz - 2200 MHz 5 MHz Bandwidth 256QAM Modulation Mid Ch, 2155.0 MHz



AWS Band n66, 2110 MHz - 2200 MHz 5 MHz Bandwidth 256QAM Modulation High Ch, 2197.5 MHz





AWS Band n66, 2110 MHz - 2200 MHz 10 MHz Bandwidth QPSK Modulation Mid Ch, 2155.0 MHz



AWS Band n66, 2110 MHz - 2200 MHz 10 MHz Bandwidth 16QAM Modulation Mid Ch, 2155.0 MHz



AWS Band n66, 2110 MHz - 2200 MHz 10 MHz Bandwidth 64QAM Modulation Mid Ch, 2155.0 MHz

 Projections Address: Flavous Markets/ Track
 Stock (2m)
 Address (2m)
 Stock (2m)

AWS Band n66, 2110 MHz - 2200 MHz 10 MHz Bandwidth 256QAM Modulation Mid Ch, 2155.0 MHz





AWS Band n66, 2110 MHz - 2200 MHz 15 MHz Bandwidth QPSK Modulation Mid Ch, 2155.0 MHz



AWS Band n66, 2110 MHz - 2200 MHz 15 MHz Bandwidth 16QAM Modulation Mid Ch, 2155.0 MHz



AWS Band n66, 2110 MHz - 2200 MHz 15 MHz Bandwidth 64QAM Modulation Mid Ch, 2155.0 MHz



AWS Band n66, 2110 MHz - 2200 MHz 15 MHz Bandwidth 256QAM Modulation Mid Ch, 2155.0 MHz





AWS Band n66, 2110 MHz - 2200 MHz 20 MHz Bandwidth QPSK Modulation Mid Ch, 2155.0 MHz



AWS Band n66, 2110 MHz - 2200 MHz 20 MHz Bandwidth 16QAM Modulation Mid Ch, 2155.0 MHz



AWS Band n66, 2110 MHz - 2200 MHz 20 MHz Bandwidth 64QAM Modulation Mid Ch, 2155.0 MHz



AWS Band n66, 2110 MHz - 2200 MHz 20 MHz Bandwidth 256QAM Modulation Mid Ch, 2155.0 MHz





AWS Band n66, 2110 MHz - 2200 MHz 25 MHz Bandwidth QPSK Modulation Mid Ch, 2155.0 MHz



AWS Band n66, 2110 MHz - 2200 MHz 25 MHz Bandwidth 16QAM Modulation Mid Ch, 2155.0 MHz



AWS Band n66, 2110 MHz - 2200 MHz 25 MHz Bandwidth 64QAM Modulation Mid Ch, 2155.0 MHz



AWS Band n66, 2110 MHz - 2200 MHz 25 MHz Bandwidth 256QAM Modulation Mid Ch, 2155.0 MHz





AWS Band n66, 2110 MHz - 2200 MHz 30 MHz Bandwidth QPSK Modulation Mid Ch, 2155.0 MHz



AWS Band n66, 2110 MHz - 2200 MHz 30 MHz Bandwidth 16QAM Modulation Mid Ch, 2155.0 MHz



AWS Band n66, 2110 MHz - 2200 MHz 30 MHz Bandwidth 64QAM Modulation Mid Ch, 2155.0 MHz

 Projections Address: Neuron Markets Tabletagy
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AWS Band n66, 2110 MHz - 2200 MHz 30 MHz Bandwidth 256QAM Modulation Mid Ch, 2155.0 MHz





AWS Band n66, 2110 MHz - 2200 MHz 40 MHz Bandwidth QPSK Modulation Mid Ch, 2155.0 MHz



AWS Band n66, 2110 MHz - 2200 MHz 40 MHz Bandwidth 16QAM Modulation Mid Ch, 2155.0 MHz



AWS Band n66, 2110 MHz - 2200 MHz 40 MHz Bandwidth 64QAM Modulation Mid Ch, 2155.0 MHz



AWS Band n66, 2110 MHz - 2200 MHz 40 MHz Bandwidth 256QAM Modulation Mid Ch, 2155.0 MHz





BRS Band n7, 2620 MHz - 2690 MHz 5 MHz Bandwidth QPSK Modulation Low Ch, 2622.5 MHz



BRS Band n7, 2620 MHz - 2690 MHz 5 MHz Bandwidth QPSK Modulation Mid Ch, 2655.0 MHz



BRS Band n7, 2620 MHz - 2690 MHz 5 MHz Bandwidth QPSK Modulation High Ch, 2687.5 MHz



BRS Band n7, 2620 MHz - 2690 MHz 5 MHz Bandwidth 16QAM Modulation Low Ch, 2622.5 MHz





BRS Band n7, 2620 MHz - 2690 MHz 5 MHz Bandwidth 16QAM Modulation Mid Ch, 2655.0 MHz



BRS Band n7, 2620 MHz - 2690 MHz 5 MHz Bandwidth 16QAM Modulation High Ch, 2687.5 MHz



BRS Band n7, 2620 MHz - 2690 MHz 5 MHz Bandwidth 64QAM Modulation Low Ch, 2625.0 MHz



BRS Band n7, 2620 MHz - 2690 MHz 5 MHz Bandwidth 64QAM Modulation Mid Ch, 2655.0 MHz





BRS Band n7, 2620 MHz - 2690 MHz 5 MHz Bandwidth 64QAM Modulation High Ch, 2687.5 MHz



BRS Band n7, 2620 MHz - 2690 MHz 5 MHz Bandwidth 256QAM Modulation Low Ch, 2622.5 MHz



BRS Band n7, 2620 MHz - 2690 MHz 5 MHz Bandwidth 256QAM Modulation Mid Ch, 2655.0 MHz



BRS Band n7, 2620 MHz - 2690 MHz 5 MHz Bandwidth 256QAM Modulation High Ch, 2687.5 MHz





BRS Band n7, 2620 MHz - 2690 MHz 10 MHz Bandwidth QPSK Modulation Mid Ch, 2655.0 MHz



BRS Band n7, 2620 MHz - 2690 MHz 10 MHz Bandwidth 16QAM Modulation Mid Ch, 2655.0 MHz



BRS Band n7, 2620 MHz - 2690 MHz 10 MHz Bandwidth 64QAM Modulation Mid Ch, 2655.0 MHz



BRS Band n7, 2620 MHz - 2690 MHz 10 MHz Bandwidth 256QAM Modulation Mid Ch, 2655.0 MHz





BRS Band n7, 2620 MHz - 2690 MHz 15 MHz Bandwidth QPSK Modulation Mid Ch, 2655.0 MHz



BRS Band n7, 2620 MHz - 2690 MHz 15 MHz Bandwidth 16QAM Modulation Mid Ch, 2655.0 MHz



BRS Band n7, 2620 MHz - 2690 MHz 15 MHz Bandwidth 64QAM Modulation Mid Ch, 2655.0 MHz



BRS Band n7, 2620 MHz - 2690 MHz 15 MHz Bandwidth 256QAM Modulation Mid Ch, 2655.0 MHz





BRS Band n7, 2620 MHz - 2690 MHz 20 MHz Bandwidth QPSK Modulation Mid Ch, 2655.0 MHz



BRS Band n7, 2620 MHz - 2690 MHz 20 MHz Bandwidth 16QAM Modulation Mid Ch, 2655.0 MHz



BRS Band n7, 2620 MHz - 2690 MHz 20 MHz Bandwidth 64QAM Modulation Mid Ch, 2655.0 MHz



BRS Band n7, 2620 MHz - 2690 MHz 20 MHz Bandwidth 256QAM Modulation Mid Ch, 2655.0 MHz





BRS Band n7, 2620 MHz - 2690 MHz 25 MHz Bandwidth QPSK Modulation Mid Ch, 2655.0 MHz



BRS Band n7, 2620 MHz - 2690 MHz 25 MHz Bandwidth 16QAM Modulation Mid Ch, 2655.0 MHz



BRS Band n7, 2620 MHz - 2690 MHz 25 MHz Bandwidth 64QAM Modulation Mid Ch, 2655.0 MHz



BRS Band n7, 2620 MHz - 2690 MHz 25 MHz Bandwidth 256QAM Modulation Mid Ch, 2655.0 MHz





BRS Band n7, 2620 MHz - 2690 MHz 30 MHz Bandwidth QPSK Modulation Mid Ch, 2655.0 MHz



BRS Band n7, 2620 MHz - 2690 MHz 30 MHz Bandwidth 16QAM Modulation Mid Ch, 2655.0 MHz



BRS Band n7, 2620 MHz - 2690 MHz 30 MHz Bandwidth 64QAM Modulation Mid Ch, 2655.0 MHz



BRS Band n7, 2620 MHz - 2690 MHz 30 MHz Bandwidth 256QAM Modulation Mid Ch, 2655.0 MHz





BRS Band n7, 2620 MHz - 2690 MHz 40 MHz Bandwidth QPSK Modulation Mid Ch, 2655.0 MHz



BRS Band n7, 2620 MHz - 2690 MHz 40 MHz Bandwidth 16QAM Modulation Mid Ch, 2655.0 MHz



BRS Band n7, 2620 MHz - 2690 MHz 40 MHz Bandwidth 64QAM Modulation Mid Ch, 2655.0 MHz



BRS Band n7, 2620 MHz - 2690 MHz 40 MHz Bandwidth 256QAM Modulation Mid Ch, 2655.0 MHz