



#### n41 n41,80MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
2592.99	82.480	82.240

#### n41,80MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



08:53:42 14.01.2023

#### n41,80MHz Bandwidth,DFT-s-QPSK (-26dBc BW)







#### n41 n41,90MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
2592.99	92.250	92.250

#### n41,90MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



08:54:35 14.01.2023

#### n41,90MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

![](_page_1_Figure_8.jpeg)

![](_page_2_Picture_0.jpeg)

![](_page_2_Picture_1.jpeg)

#### n41 n41,100MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
2592.99	101.900	101.900

#### n41,100MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)

![](_page_2_Figure_5.jpeg)

08:55:28 14.01.2023

#### n41,100MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

![](_page_2_Figure_8.jpeg)

![](_page_3_Picture_0.jpeg)

![](_page_3_Picture_1.jpeg)

n66,5MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	5.035	5.050

## n66,5MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)

![](_page_3_Figure_6.jpeg)

15:19:48 30.01.2023

## n66,5MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

![](_page_3_Figure_9.jpeg)

15:52:18 30.01.2023

![](_page_4_Picture_0.jpeg)

![](_page_4_Picture_1.jpeg)

n66,10MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	9.800	9.590

#### n66,10MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)

![](_page_4_Figure_6.jpeg)

15:20:39 30.01.2023

#### n66,10MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

![](_page_4_Figure_9.jpeg)

![](_page_5_Picture_0.jpeg)

![](_page_5_Picture_1.jpeg)

n66,15MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	14.431	14.251

#### n66,15MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)

![](_page_5_Figure_6.jpeg)

15:21:37 30.01.2023

#### n66,15MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

![](_page_5_Figure_9.jpeg)

![](_page_6_Picture_0.jpeg)

![](_page_6_Picture_1.jpeg)

n66,20MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	19.181	19.241

#### n66,20MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)

![](_page_6_Figure_6.jpeg)

15:22:38 30.01.2023

#### n66,20MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

![](_page_6_Figure_9.jpeg)

![](_page_7_Picture_0.jpeg)

![](_page_7_Picture_1.jpeg)

#### n78 n78,20MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3500.01	19.361	19.361

#### n78,20MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)

![](_page_7_Figure_5.jpeg)

08:56:25 14.01.2023

#### n78,20MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

![](_page_7_Figure_8.jpeg)

![](_page_8_Picture_0.jpeg)

![](_page_8_Picture_1.jpeg)

#### n78 n78,30MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3500.01	28.322	28.412

#### n78,30MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)

![](_page_8_Figure_5.jpeg)

08:57:19 14.01.2023

#### n78,30MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

![](_page_8_Figure_8.jpeg)

![](_page_9_Picture_0.jpeg)

![](_page_9_Picture_1.jpeg)

#### n78 n78,40MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3500.01	38.480	38.720

#### n78,40MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)

![](_page_9_Figure_5.jpeg)

08:58:12 14.01.2023

#### n78,40MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

![](_page_9_Figure_8.jpeg)

![](_page_10_Picture_0.jpeg)

![](_page_10_Picture_1.jpeg)

## n78 n78,50MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3500.01	48.550	48.700

#### n78,50MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)

![](_page_10_Figure_5.jpeg)

08:59:05 14.01.2023

#### n78,50MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

![](_page_10_Figure_8.jpeg)

![](_page_11_Picture_0.jpeg)

![](_page_11_Picture_1.jpeg)

## n78 n78,60MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3500.01	60.420	60.780

#### n78,60MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)

![](_page_11_Figure_5.jpeg)

08:59:58 14.01.2023

#### n78,60MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

![](_page_11_Figure_8.jpeg)

09:00:14 14.01.2023

![](_page_12_Picture_0.jpeg)

![](_page_12_Picture_1.jpeg)

## n78 n78,70MHz(-26dBc)

	Emission Bandwidth (-26dBc) (MHz)				
	DFT-s-pi/2 BPSK	DFT-s-QPSK			
3500.01	67.340	67.340			

#### n78,70MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)

![](_page_12_Figure_5.jpeg)

09:00:51 14.01.2023

#### n78,70MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

![](_page_12_Figure_8.jpeg)

09:01:07 14.01.2023

![](_page_13_Picture_0.jpeg)

![](_page_13_Picture_1.jpeg)

## n78 n78,80MHz(-26dBc)

	Emission Bandwidth (-26dBc) (MHz)				
	DFT-s-pi/2 BPSK	DFT-s-QPSK			
3500.01	82.240	82.240			

#### n78,80MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)

![](_page_13_Figure_5.jpeg)

09:01:44 14.01.2023

#### n78,80MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

![](_page_13_Figure_9.jpeg)

![](_page_14_Picture_0.jpeg)

![](_page_14_Picture_1.jpeg)

## n78 n78,90MHz(-26dBc)

	Emission Bandwidth (-26dBc) (MHz)				
	DFT-s-pi/2 BPSK	DFT-s-QPSK			
3500.01	91.980	92.250			

#### n78,90MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)

![](_page_14_Figure_5.jpeg)

09:02:37 14.01.2023

#### n78,90MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

![](_page_14_Figure_8.jpeg)

Note: The maximum value of expanded measurement uncertainty for this test item is U = 0.626 kHz, k = 2.©Copyright. All rights reserved by CTTL.Page 185 of 221

![](_page_15_Picture_0.jpeg)

![](_page_15_Picture_1.jpeg)

# A.5 Band Edge Compliance

#### A.5.1 Measurement limit

Part 24.238 and Part 27.53(h) specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

Part 27.53(m) specifies for mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

Part 27.53(n) states for mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with this paragraph (n)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed, but limited to a maximum of 200 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

![](_page_16_Picture_0.jpeg)

![](_page_16_Picture_1.jpeg)

# A.5.2 Measurement result NR n2

# OBW: 1RB-LOW\_offset

![](_page_16_Figure_4.jpeg)

#### LOW BAND EDGE BLOCK-1RB-LOW\_offset

![](_page_16_Figure_6.jpeg)

![](_page_17_Picture_0.jpeg)

![](_page_17_Picture_1.jpeg)

#### OBW: 1RB-HIGH\_offset

![](_page_17_Figure_3.jpeg)

09:54:14 03.02.2023

#### HIGH BAND EDGE BLOCK-1RB-HIGH\_offset

![](_page_17_Figure_6.jpeg)

![](_page_18_Picture_0.jpeg)

![](_page_18_Picture_1.jpeg)

#### LOW BAND EDGE BLOCK-20M-100%RB

![](_page_18_Figure_3.jpeg)

#### HIGH BAND EDGE BLOCK-20M-100%RB

Att 36 dB • SWT 50 ms • VBW	/ 1 MHz Mode.	Auto Sweep				
DF "1" Frequency Sween					0	1Rm View
					M1[1]	-33.52 dBn
0 dBm					1,510	/1200 01
D dBm						
dBm						
10 dBm				-		
it1_for_trace1						
U UBIN						
30 dBm		han the	my			
0 dBm			him	m		~
10 dBm						mo
0 dBm-						

09:57:56 03.02.2023

![](_page_19_Picture_0.jpeg)

![](_page_19_Picture_1.jpeg)

# NR n7 OBW: 1RB-LOW\_offset

![](_page_19_Figure_3.jpeg)

09:58:32 03.02.2023

## LOW BAND EDGE BLOCK-1RB-LOW\_offset

Ref Level 27.00 dBm Offse	et 1.20 dB • RBW 10	kHz					
Att 35 dB • SWT	50 ms 🗢 VBW 50	kHz Mode Auto Swe	вер				
Frequency Sweep							01Rm View
						M1[1]	-26.69 dBr
0 dBm				-		2.4	199 993 00 GH
0 dBm							
dBm							
10 dBm				-			
20 dBm							
30 dBm							why www
						man	W04 1
40 dBm			a Herry Ma	ALAA MA MAA	MAMM	ur ·	
no. Anothe approximate	1. malundation	man Mary Mary Mary	MURMAN A	MhoMuch . A A			
50 dBm	An A to de						
60 dBm							
70 dBm							
70 UDIII							

09:59:17 03.02.2023

![](_page_20_Picture_0.jpeg)

![](_page_20_Picture_1.jpeg)

## LOW BAND EDGE BLOCK-1RB-LOW\_offset

![](_page_20_Figure_3.jpeg)

10:00:03 03.02.2023

![](_page_21_Picture_0.jpeg)

![](_page_21_Picture_1.jpeg)

#### OBW: 1RB-HIGH\_offset

![](_page_21_Figure_3.jpeg)

10:30:27 03.02.2023

#### HIGH BAND EDGE BLOCK-1RB-HIGH\_offset

![](_page_21_Figure_6.jpeg)

10:31:11 03.02.2023

![](_page_22_Picture_0.jpeg)

![](_page_22_Picture_1.jpeg)

## HIGH BAND EDGE BLOCK-1RB-HIGH\_offset

![](_page_22_Figure_3.jpeg)

#### **Channel power**

![](_page_22_Figure_5.jpeg)

10:32:30 03.02.2023

![](_page_23_Picture_0.jpeg)

![](_page_23_Picture_1.jpeg)

#### LOW BAND EDGE BLOCK-20M-100%RB

![](_page_23_Figure_3.jpeg)

10:43:57 03.02.2023

#### **Channel power**

![](_page_23_Figure_6.jpeg)

10:44:28 03.02.2023

![](_page_24_Picture_0.jpeg)

![](_page_24_Picture_1.jpeg)

#### LOW BAND EDGE BLOCK-20M-100%RB

![](_page_24_Figure_3.jpeg)

10:45:14 03.02.2023

![](_page_25_Picture_0.jpeg)

![](_page_25_Picture_1.jpeg)

#### HIGH BAND EDGE BLOCK-20M-100%RB

ultiView Spectrum				
Ref Level 27.00 dBm Offset 1.2 Att 35 dB SWT 5	20 dB • RBW 500 kHz 0 ms • VBW 3 MHz Mode Au	to Sweep		
Frequency Sweep				01Rm
				M1[1] -26.7
D dBm				2.570 019 0
) dBm				
dBm				
10-dBm lit1_for_trace1				
20 dBm-				
M1				
30 dBm			**************************************	
40 dBm				
50 dBm				
50 dBm				
70 dBm				
2.57 GHz	501 nts	100.	0 kHz/	2.57

10:46:20 03.02.2023

#### HIGH BAND EDGE BLOCK-20M-100%RB

AultiView Spectrum			
Ref Level 27.00 dBm Offset 1.20	dB 🖷 RBW 1 MHz		
Att 35 dB • SWT 50	ms  VBW 5 MHz Mode Auto Sweep		
Frequency Sweep			o 1Rm View
			M1[1] -32.61 dBr
l dBm			2.571 260 0 GH
dBm			
dBm			
0.d8m			
f1_for_trace1			
U dBm-			
0 dBm			
man			
0 dBm			
0 dBm-			
0 dBm			
70 dBm			
571 CHz	501 pts	2 0 MHz/	2.6.6H

10:47:06 03.02.2023

![](_page_26_Picture_0.jpeg)

![](_page_26_Picture_1.jpeg)

# **NR n38**

## OBW: 1RB-LOW\_offset

![](_page_26_Figure_4.jpeg)

09:03:37 14.01.2023

## LOW BAND EDGE BLOCK-1RB-LOW\_offset

![](_page_26_Figure_7.jpeg)

09:04:18 14.01.2023

![](_page_27_Picture_0.jpeg)

![](_page_27_Picture_1.jpeg)

## LOW BAND EDGE BLOCK-1RB-LOW\_offset

![](_page_27_Figure_3.jpeg)

#### OBW: 1RB-HIGH\_offset

![](_page_27_Figure_5.jpeg)

09:05:46 14.01.2023

![](_page_28_Picture_0.jpeg)

![](_page_28_Picture_1.jpeg)

## HIGH BAND EDGE BLOCK-1RB-HIGH\_offset

![](_page_28_Figure_3.jpeg)

#### HIGH BAND EDGE BLOCK-1RB-HIGH\_offset

			<b></b>
MultiView Spectrum			
Ref Level         27.00 dBm         Offset         8.20 dBm           Att         28 dB • SWT         3	B • RBW 1 MHz s • VBW 5 MHz Mode Auto Sweep		
I Frequency Sweep			o 1Rm View
			M1[1] -19.90 dBm
20 dBm		A	2.621 009 0 GHz
10 dBm			
0 dBm			
-10-d9m mit1_for_trace1			
11 -20 dBm			
-30 dBm-			
-40 dBm			
a marine			
-50 dBm			
-60 dBm			
-70 dBm			
2.621 GHz	501 pts	900.0 kHz/	2.63 GHz

09:07:08 14.01.2023

![](_page_29_Picture_0.jpeg)

![](_page_29_Picture_1.jpeg)

#### LOW BAND EDGE BLOCK-20M-100%RB

![](_page_29_Figure_3.jpeg)

09:08:23 14.01.2023

#### LOW BAND EDGE BLOCK-20M-100%RB

									\$
MultiView	Spectrum								-
Ref Level 27.00	D dBm Offset 8. 28 dB • SWT	20 dB • RBW 1 3 s • VBW 5	MHz MHz <b>Mode</b>	Auto Sweep					_
Frequency Sw	/eep					-10		115	o1Rm View
								M1[1]	-26.87 dBm
20 dBm									2.568 910 GHz
10 dBm			_						
0 dBm					_				
10.10									
- 10 dBm-									1
-20 dBm								-	-
mit1_for_trace1									M
-30 dBm								~	mont
-40 dBm				-				-	
							m	~	
-50 dBm									
-60 dBm									
-70 dBm									
2.48 GHz			501 pts			B.9 MHz/		1	2.569 GHz

09:09:04 14.01.2023

![](_page_30_Picture_0.jpeg)

![](_page_30_Picture_1.jpeg)

#### HIGH BAND EDGE BLOCK-20M-100%RB

![](_page_30_Figure_3.jpeg)

#### HIGH BAND EDGE BLOCK-20M-100%RB

MultiView	Spectrum								-
Ref Level 27.00	dBm Offset	8.20 dB 🖷 RB	W 1 MHz						
Att 28	B dB 🖷 SWT	3 s 🖷 VB	W 5 MHz Mode	e Auto Sweep					
Frequency Swe	ер		<i>10</i>	n.	a.				01Rm View
								M1[1]	-29.34 dBr
) dBm									2.627 156 0 GH
J dBm									-
dBm									
LO.dBm									
it1_tor_trace1									
o dam									
LO GDIN							-		
an dam		M1							
succession and and and and and and and and and an	mommen	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	mon	min					
				a.	m				
10 dBm						- marken	man		
A. S. S.									
50 dBm									
50 dBm									
70 dBm									
2.621 GHz			501 pts			2.4 MHz/			2.645 GH

09:10:47 14.01.2023

![](_page_31_Picture_0.jpeg)

![](_page_31_Picture_1.jpeg)

#### NR n41

## OBW: 1RB-LOW\_offset

![](_page_31_Figure_4.jpeg)

09:11:28 14.01.2023

## LOW BAND EDGE BLOCK-1RB-LOW\_offset

![](_page_31_Figure_7.jpeg)

![](_page_32_Picture_0.jpeg)

![](_page_32_Picture_1.jpeg)

## LOW BAND EDGE BLOCK-1RB-LOW\_offset

![](_page_32_Figure_3.jpeg)

#### OBW: 1RB-HIGH\_offset

![](_page_32_Figure_5.jpeg)

09:13:33 14.01.2023

![](_page_33_Picture_0.jpeg)

![](_page_33_Picture_1.jpeg)

## HIGH BAND EDGE BLOCK-1RB-HIGH\_offset

![](_page_33_Figure_3.jpeg)

#### HIGH BAND EDGE BLOCK-1RB-HIGH\_offset

AultiView Spectrum						
Ref Level 27.00 dBm         Offset 8.           Att         28 dB • SWT	20 dB • RBW 1 MHz 3 s • VBW 5 MHz Mod	e Auto Sween				
DF "1"						- 10 11
-requency Sweep	ľ			1	 M1[1]	-24.52 dB
1 dBm					ineted (	2.691 009 0 GH
dBm						
18m-					 	
0,d8m						
tl_tor_trace1						
0 dBm						
			-			
0, dBm						
1						
0 dBm						
0 dBm					 	
		- A				
0 dBm-						
		1 St. 1				
O dBm						
.691 GHz	501 pt	s	900	).0 kHz/		2.7 GH

09:14:54 14.01.2023

![](_page_34_Picture_0.jpeg)

![](_page_34_Picture_1.jpeg)

#### LOW BAND EDGE BLOCK-100M-100%RB

![](_page_34_Figure_3.jpeg)

#### **Channel power**

![](_page_34_Figure_5.jpeg)

![](_page_35_Picture_0.jpeg)

![](_page_35_Picture_1.jpeg)

#### LOW BAND EDGE BLOCK-100M-100%RB

![](_page_35_Figure_3.jpeg)

09:16:58 14.01.2023

#### HIGH BAND EDGE BLOCK-100M-100%RB

			\$
MultiView Spectrum			
Ref Level         27.00 dBm         Offset           Att         28 dB         SWT           TDF "1"         28 dB         SWT	8.20 dB ● RBW 1 MHz 3 s ● VBW 5 MHz Mode Auto Sweep		_
1 Frequency Sweep			o 1Rm View
			M1[1] -27.39 dBm
20 dBm			2.690 565 90 GHz
10 dBm			
0 dBm			
mit1_for_trace1			
-20 dBm			
-30 dBm	warman warma	-p.p.m. man man man	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
-40 dBm			
-50 dBm			
-60 dBm			
-70 dBm			
2.69 GHz	501 pts	100.0 kHz/	2.691 GHz
-70 dBm	501 pts	100.0 kHz/	2.6 ing 14

09:18:01 14.01.2023

![](_page_36_Picture_0.jpeg)

![](_page_36_Picture_1.jpeg)

#### HIGH BAND EDGE BLOCK-100M-100%RB

AultiView Spectrum				
tefLevel 27.00 dBm Offset 8.20 dB Att 28 dB ● SWT 3 s	RBW 1 MHz     VBW 5 MHz     Mode Auto Sweep			
DF "1"				o IDeo Maria
Frequency Sweep		1	M1[1]	-28.09 dBm
dBm			(UNE A)	2.691 360 GHz
dBm				
IBm				
idem_trace1				
dBm				
(dBm				
dBm				
dBm				
dBm				
J dBm-				

09:18:41 14.01.2023

![](_page_37_Picture_0.jpeg)

![](_page_37_Picture_1.jpeg)

#### **NR n66**

#### OBW: 1RB-LOW\_offset

![](_page_37_Figure_4.jpeg)

10:48:08 03.02.2023

#### LOW BAND EDGE BLOCK-1RB-LOW\_offset

![](_page_37_Figure_7.jpeg)

![](_page_38_Picture_0.jpeg)

![](_page_38_Picture_1.jpeg)

#### OBW: 1RB-HIGH\_offset

![](_page_38_Figure_3.jpeg)

10:49:37 03.02.2023

#### HIGH BAND EDGE BLOCK-1RB-HIGH\_offset

![](_page_38_Figure_6.jpeg)

10:50:17 03.02.2023

![](_page_39_Picture_0.jpeg)

![](_page_39_Picture_1.jpeg)

#### LOW BAND EDGE BLOCK-20M-100%RB

![](_page_39_Figure_3.jpeg)

#### HIGH BAND EDGE BLOCK-20M-100%RB

![](_page_39_Figure_5.jpeg)

10:52:56 03.02.2023

![](_page_40_Picture_0.jpeg)

![](_page_40_Picture_1.jpeg)

# NR n78

## OBW: 1RB-LOW\_offset

![](_page_40_Figure_4.jpeg)

09:19:35 14.01.2023

# LOW BAND EDGE BLOCK-1RB-LOW\_offset

![](_page_40_Figure_7.jpeg)

![](_page_41_Picture_0.jpeg)

![](_page_41_Picture_1.jpeg)

## LOW BAND EDGE BLOCK-1RB-LOW\_offset

MultiView • Spectrum						
Ref Level 27.00 dBm Offset 8.	50 dB 🖷 RBW 500 kHz					
Att 28 dB • SWT	3 s 🖷 VBW 3 MHz Mode	e Auto Sweep				
l Frequency Sweep				1		IRm View
					M1[1]	-34.89 dBm
20 dBm-					3,*	+48 940 10 GHZ
10 dBm						
D dBm						
-10 dBm						
mit1 for trace1						
-20 dBm-						
-30 dBm						M1
-40 dBm					man	man
				man manufacture of the second		
-50 dBm-						
-60 dBm						
-70 dBm						
3.445 GHz	501 pts		400.0 kHz/			3.449 GHz

09:20:54 14.01.2023

#### OBW: 1RB-HIGH\_offset

![](_page_41_Figure_6.jpeg)

09:21:34 14.01.2023

![](_page_42_Picture_0.jpeg)

![](_page_42_Picture_1.jpeg)

## HIGH BAND EDGE BLOCK-1RB-HIGH\_offset

![](_page_42_Figure_3.jpeg)

#### HIGH BAND EDGE BLOCK-1RB-HIGH\_offset

							~
MultiView	<ul> <li>Spectrum</li> </ul>						-
Ref Level 27. Att	.00 dBm Offset 8 28 dB • SWT	50 dB • RBW 500 kHz 3 s • VBW 3 MHz Moo	le Auto Sweep				_
TDF "1"	Sween						o 18m View
r r equency e	Sweep					M1[1]	-33.26 dBm
20 dBm						3.	5101200 GHz
10 dBm							
0 dBm							
-10 dBm							
mit1_for_trace1							
-20 dBm					-		
180 dBm							
month	manne						
-40 dBm		and the second s				www.	
-50 dBm							
-60 dBm					-		
-70 dBm							
3.551 GHz	· · · · ·	501 pts		400.0 kHz/			3.555 GHz

09:22:53 14.01.2023

![](_page_43_Picture_0.jpeg)

![](_page_43_Picture_1.jpeg)

#### LOW BAND EDGE BLOCK-90M-100%RB

![](_page_43_Figure_3.jpeg)

#### LOW BAND EDGE BLOCK-90M-100%RB

MultiViou Spectrum			
Patternet of on draw offerer			
Att 28 dB • SWT	3 s • VBW 3 MHz Mode Auto Sv	veep	
DF "1" Frequency Sweep			o 1Rm View
			M1[1] -32,42 dBm
0 dBm			3.448 884 20 GHz
0 dBm			
) dBm			
10 dBm			
nit1_for_trace1			
-20 dBm			
30 dBm			M1
	man har many man	amproximeter and the second	mon man mar mar and the
40 dBm			
Sector States			
-50 dBm			
60 dBm			
-70 dBm	FOLata	400.0 http:/	2,440,014
3,443 GHZ	501 pts	400.0 KHZ/	3.449 GHz

09:24:49 14.01.2023

![](_page_44_Picture_0.jpeg)

![](_page_44_Picture_1.jpeg)

#### HIGH BAND EDGE BLOCK-90M-100%RB

MultiView Spectrum				+
Ref Level         27.00 dBm         Offset         8.5           Att         28 dB ●         SWT           TDF "1"         28 dB ●         SWT	50 dB • RBW 200 kHz 3 s • VBW 1 MHz Mode Auto Swe	ep		_
1 Frequency Sweep	an a		14	o 1Rm View
			M1[1]	] -34.84 dBm
20 dBm				3.550 119 80 GHz
10 dBm				_
0. d0m				
o dam-				
-10 dBm				
imit1_for_trace1				
-20 dBm-				
-30 dBm		M1		_
www.www.www.	mannaman	monterman	monorman	mann
-40 dBm-				
-50 dBm				
-60 dBm				
-70 dBm-		.51		52
3.549 GHz	501 pts	200.0 kHz/		3.551 GHz
-		7	Measuring	14.01.2023 09:25:51

09:25:51 14.01.2023

#### HIGH BAND EDGE BLOCK-90M-100%RB

![](_page_44_Figure_6.jpeg)

09:26:29 14.01.2023

Note: The maximum value of expanded measurement uncertainty for this test item is U = 0.626 kHz, k = 2.

![](_page_45_Picture_0.jpeg)

![](_page_45_Picture_1.jpeg)

# A.6 Conducted Spurious Emission

#### A.6.1 Measurement Method

The following steps outline the procedure used to measure the conducted emissions from the EUT.

1. In measuring unwanted emissions, the spectrum shall be investigated from 30 MHz or the lowest radio frequency signal generated in the equipment, whichever is lower, without going below 9 kHz, up to at least the frequency given below:

(a) If the equipment operates below 10 GHz: to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

(b) If the equipment operates at or above 10 GHz: to the fifth harmonic of the highest fundamental frequency or to 100 GHz, whichever is lower.

- 2. Determine EUT transmit frequencies: below outlines the band edge frequencies pertinent to conducted emissions testing.
- 3. The number of sweep points of spectrum analyzer is greater than 2×span/RBW.

## A. 6.2 Measurement Limit

Part 24.238 and Part 27.53(h) specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

Part 27.53(m) specifies for mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

Part 27.53(n) states for mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with this paragraph (n)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed, but limited to a maximum of 200 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

![](_page_46_Picture_0.jpeg)

![](_page_46_Picture_1.jpeg)

#### A. 6.3 Measurement result

#### n2

#### NOTE: peak above the limit line is the carrier frequency.

![](_page_46_Figure_5.jpeg)

# n7

#### NOTE: peak above the limit line is the carrier frequency.

![](_page_46_Figure_8.jpeg)

![](_page_47_Picture_0.jpeg)

![](_page_47_Picture_1.jpeg)

# n38 NOTE: peak above the limit line is the carrier frequency.

![](_page_47_Figure_3.jpeg)

## n41 NOTE: peak above the limit line is the carrier frequency.

![](_page_47_Figure_5.jpeg)

![](_page_48_Picture_0.jpeg)

![](_page_48_Picture_1.jpeg)

# n66 NOTE: peak above the limit line is the carrier frequency.

![](_page_48_Figure_3.jpeg)

## n78 NOTE: peak above the limit line is the carrier frequency.

![](_page_48_Figure_5.jpeg)

Note: The maximum value of expanded measurement uncertainty for this test item is U = 0.372 dB, k = 2.

![](_page_49_Picture_0.jpeg)

![](_page_49_Picture_1.jpeg)

# A.7 Peak-to-Average Power Ratio

The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB

a) Refer to instrument's analyzer instruction manual for details on how to use the power statistics/CCDF function;

b) Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;

c) Set the number of counts to a value that stabilizes the measured CCDF curve;

d) Record the maximum PAPR level associated with a probability of 0.1%.

#### Measurement results

#### n2,20MHz

Frequency (MHz)		PAPR (dB)										
	DFT-s-pi/2 BPSK	DFT-s-QPSK	DFT-s-16QAM	DFT-s-64QAM	DFT-s-256QAM	CP-QPSK	CP-16QAM	CP-64QAM	CP-256QAM			
1880	4.20	5.24	6.16	6.30	6.74	6.94	6.86	7.42	8.54			

#### n7,20MHz

Frequency (MHz)	PAPR (dB)										
	DFT-s-pi/2 BPSK	DFT-s-QPSK	DFT-s-16QAM	DFT-s-64QAM	DFT-s-256QAM	CP-QPSK	CP-16QAM	CP-64QAM	CP-256QAM		
2535	3.96	5.08	6.04	6.06	6.30	6.64	6.50	7.14	7.96		

#### n38,20MHz

Frequency (MHz)		PAPR (dB)										
	DFT-s-pi/2 BPSK	DFT-s-QPSK	DFT-s-16QAM	DFT-s-64QAM	DFT-s-256QAM	CP-QPSK	CP-16QAM	CP-64QAM	CP-256QAM			
2595	4.10	5.21	6.04	6.33	6.66	6.73	6.69	7.25	8.14			

#### n41,100MHz

Frequency (MHz)		PAPR (dB)										
	DFT-s-pi/2 BPSK	DFT-s-QPSK	DFT-s-16QAM	DFT-s-64QAM	DFT-s-256QAM	CP-QPSK	CP-16QAM	CP-64QAM	CP-256QAM			
2592.99	4.38	5.59	6.32	6.43	6.59	7.30	7.27	7.65	8.23			

#### n66,20MHz

Frequency (MHz)	PAPR (dB)										
	DFT-s-pi/2 BPSK	DFT-s-QPSK	DFT-s-16QAM	DFT-s-64QAM	DFT-s-256QAM	CP-QPSK	CP-16QAM	CP-64QAM	CP-256QAM		
1745	4.18	5.24	6.22	6.34	6.82	7.28	7.26	7.28	8.66		

#### n78,90MHz

Frequency (MHz)		PAPR (dB)										
	DFT-s-pi/2 BPSK	DFT-s-QPSK	DFT-s-16QAM	DFT-s-64QAM	DFT-s-256QAM	CP-QPSK	CP-16QAM	CP-64QAM	CP-256QAM			
3500.01	10.50	4.26	5.96	6.36	6.63	6.87	6.87	7.26	8.48			

Note: The maximum value of expanded measurement uncertainty for this test item is U = 0.356 dB, k = 2.

![](_page_50_Picture_0.jpeg)

![](_page_50_Picture_1.jpeg)

# Annex B: Accreditation Certificate

![](_page_50_Picture_3.jpeg)

\*\*\*END OF REPORT\*\*\*