



# n66

n66,25MHz(-26dBc)

	Emission Bandwidth (-26dBc) (MHz)	
Frequency (MHz)	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	24.426	24.500

#### n66,25MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



11:00:17 10.03.2023

## n66,25MHz Bandwidth,DFT-s-QPSK (-26dBc BW)







# n66

n66,30MHz(-26dBc)

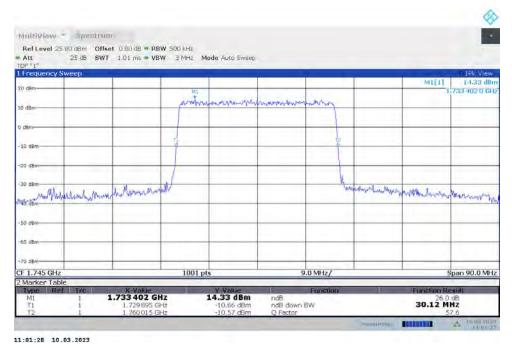
	Emission Bandwidth (-26dBc) (MHz)	
Frequency (MHz)	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	30.030	30.120

#### n66,30MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



11:01:12 10.03.2023

## n66,30MHz Bandwidth,DFT-s-QPSK (-26dBc BW)





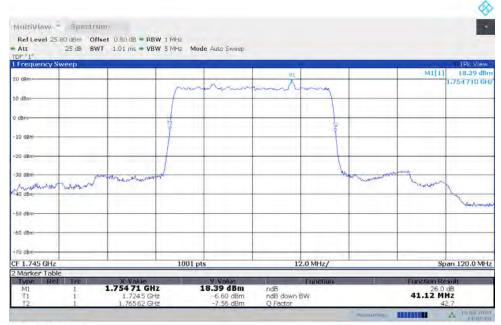


# n66

n66,40MHz(-26dBc)

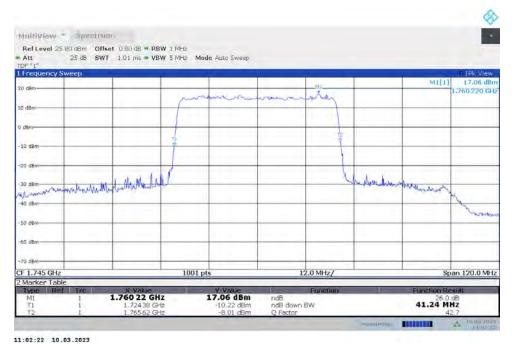
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	41.120	41.240

#### n66,40MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



11:02:07 10.03.2023

## n66,40MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



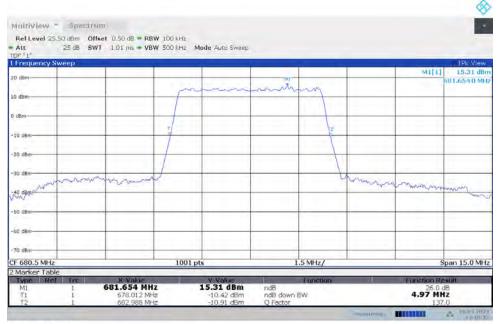




#### n71 n71,5MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
680.5	4.975	4.945

#### n71,5MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



13:40:32 10.03.2023

## n71,5MHz Bandwidth,DFT-s-QPSK (-26dBc BW)







#### n71 n71,10MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
680.5	9.710	9.740

#### n71,10MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



13:41:26 10.03.2023

## n71,10MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



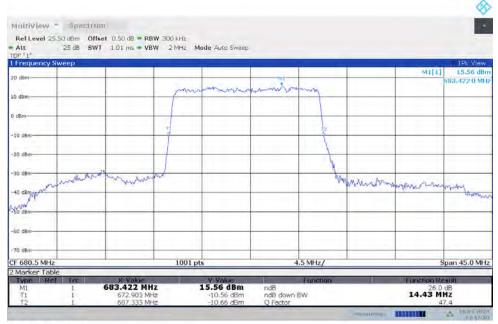




#### n71 n71,15MHz(-26dBc)

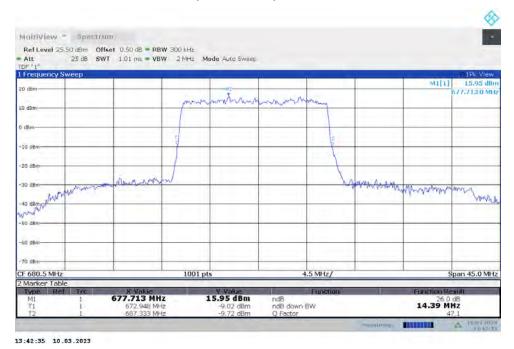
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
680.5	14.431	14.386

#### n71,15MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



13:42:20 10.03.2023

#### n71,15MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



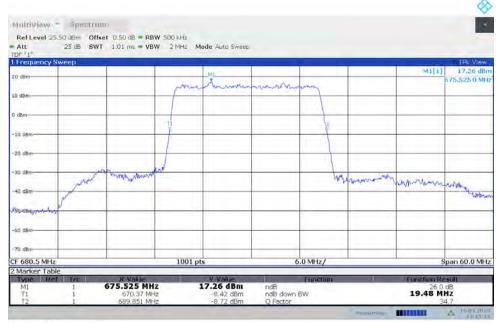




#### n71 n71,20MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
680.5	19.481	19.421

#### n71,20MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



13:43:14 10.03.2023

#### n71,20MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



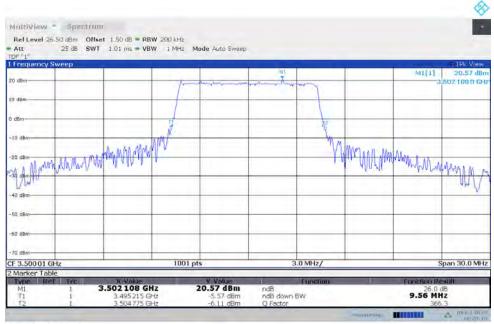




#### n77L n77L 10MHz(-26dBc)

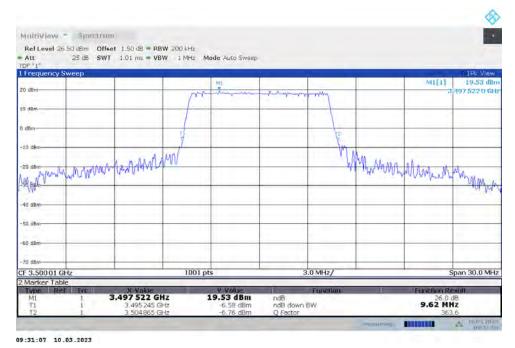
(177E, 1010112(-200BC)		
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3500.01	9.560	9.620

## n77L,10MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



16:20:19 09.03.2023

## n77L,10MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



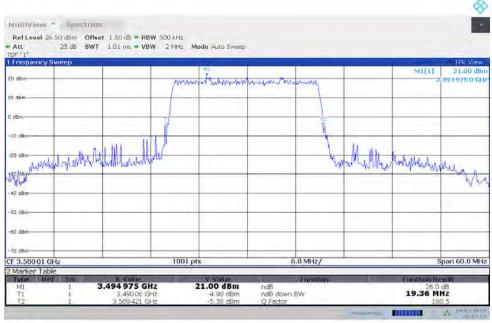




n77L,20MHz(-26dBc)	
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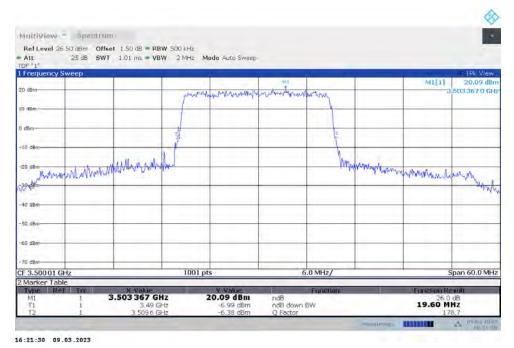
	Emission Bandwidth (-26dBc) (MHz)	
Frequency (MHz)	DFT-s-pi/2 BPSK	DFT-s-QPSK
3500.01	19.361	19.600

#### n77L,20MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



16:21:14 09.03.2023

## n77L,20MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



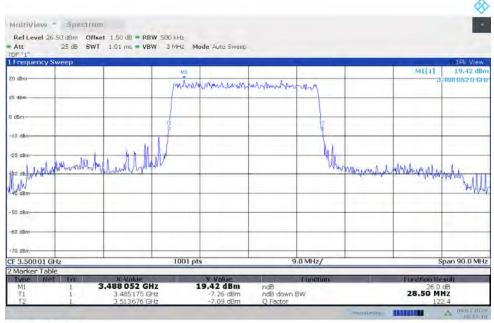




n77L,30MHz(-26dBc)

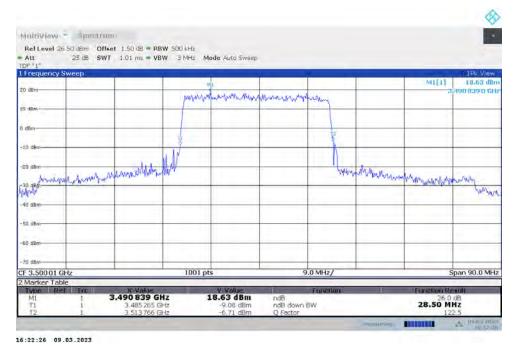
	Emission Bandwidth (-26dBc) (MHz)	
Frequency (MHz)	DFT-s-pi/2 BPSK	DFT-s-QPSK
3500.01	28.501	28.501

## n77L,30MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



16:22:10 09.03.2023

## n77L,30MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



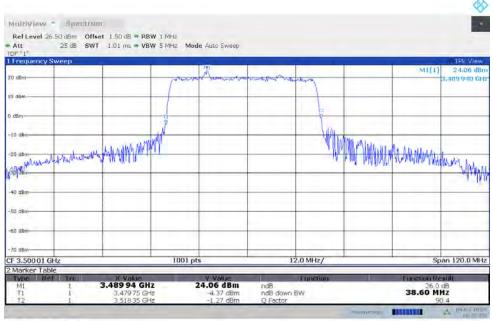




n77L,40MHz(-26dBc)

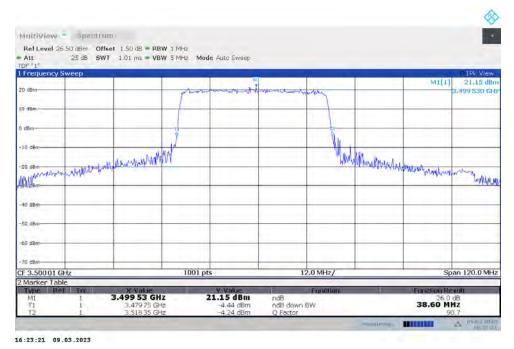
	Emission Bandwidth (-26dBc) (MHz)	
Frequency (MHz)	DFT-s-pi/2 BPSK	DFT-s-QPSK
3500.01	38.600	38.600

# n77L,40MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



16:23:05 09.03.2023

## n77L,40MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



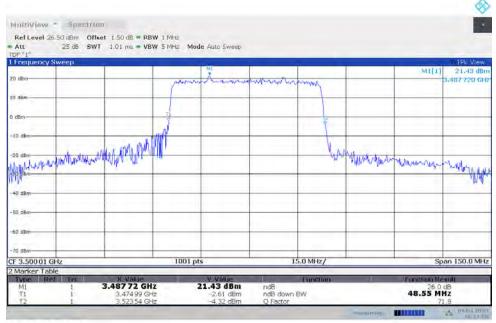




#### n77L,50MHz(-26dBc)

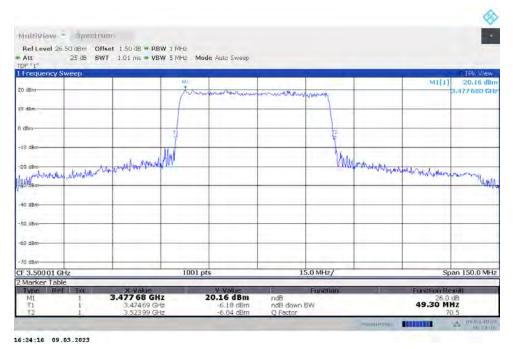
	Emission Bandwidth (-26dBc) (MHz)	
Frequency (MHz)	DFT-s-pi/2 BPSK	DFT-s-QPSK
3500.01	48.550	49.300

#### n77L,50MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



16:24:00 09.03.2023

## n77L,50MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



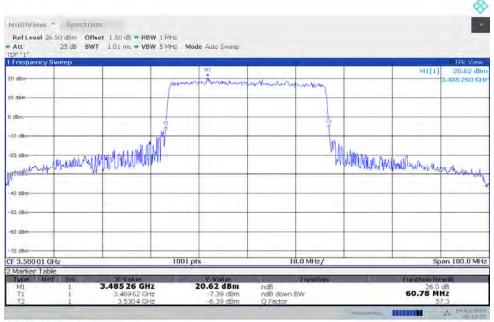




n77L,60MHz(-26dBc)

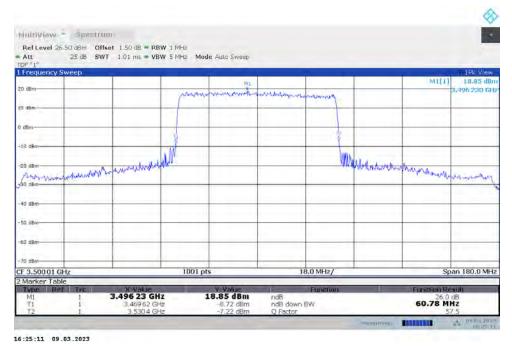
	Emission Bandwidth (-26dBc) (MHz)	
Frequency (MHz)	DFT-s-pi/2 BPSK	DFT-s-QPSK
3500.01	60.780	60.780

# n77L,60MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



16:24:55 09.03.2023

# n77L,60MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



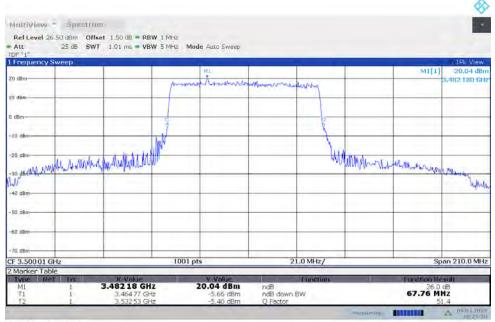




#### n77L n77L,70MHz(-26dBc)

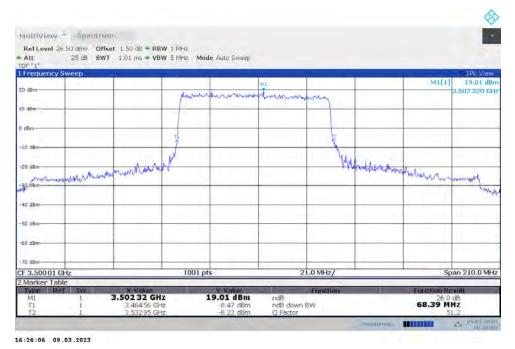
	Emission Bandwidth (-26dBc) (MHz)	
Frequency (MHz)	DFT-s-pi/2 BPSK	DFT-s-QPSK
3500.01	67.760	68.390

#### n77L,70MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



16:25:50 09.03.2023

## n77L,70MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



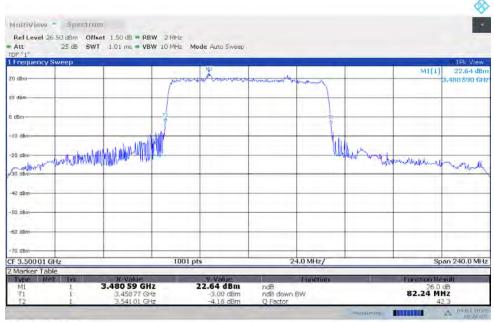




n77L,80MHz(-26dBc)

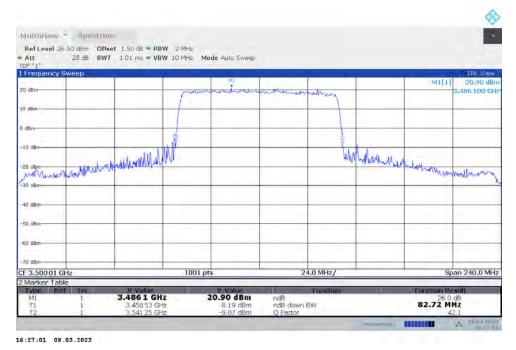
	Emission Bandwidth (-26dBc) (MHz)	
Frequency (MHz)	DFT-s-pi/2 BPSK	DFT-s-QPSK
3500.01	82.240	82.720

## n77L,80MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



16:26:45 09.03.2023

## n77L,80MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



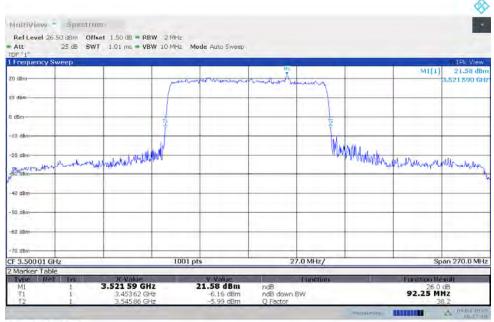




n77L,90MHz(-26dBc)

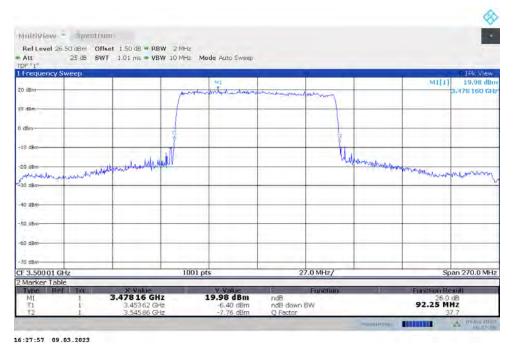
	Emission Bandwidth (-26dBc) (MHz)	
Frequency (MHz)	DFT-s-pi/2 BPSK	DFT-s-QPSK
3500.01	92.250	92.250

# n77L,90MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



16:27:41 09.03.2023

## n77L,90MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



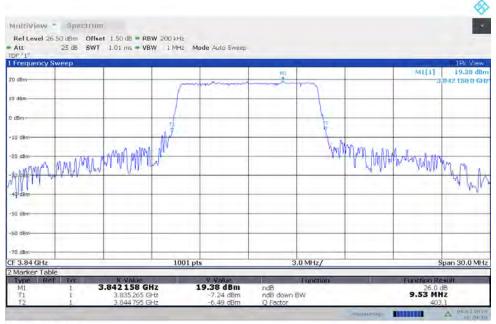




#### n77H n77H,10MHz(-26dBc)

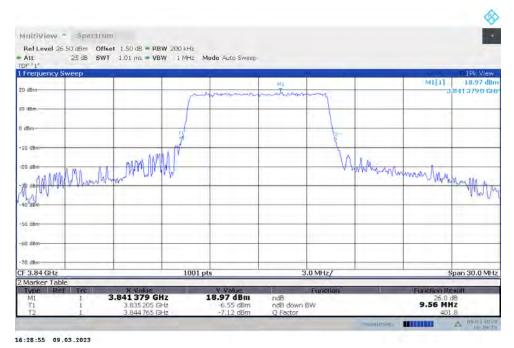
	Emission Bandwidth (-26dBc) (MHz)	
Frequency (MHz)	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	9.530	9.560

#### n77H,10MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



16:28:39 09.03.2023

## n77H,10MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



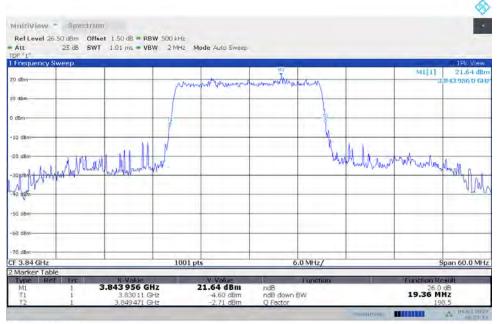




#### n77H n77H,20MHz(-26dBc)

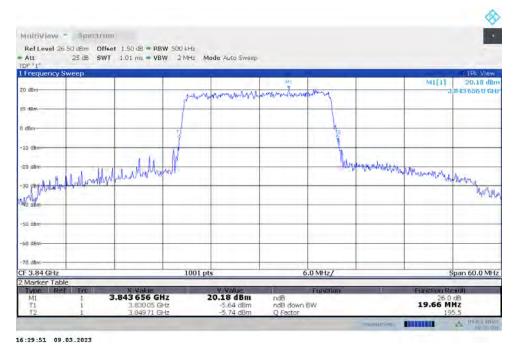
	Emission Bandwidth (-26dBc) (MHz)	
Frequency (MHz)	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	19.361	19.660

#### n77H,20MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



16:29:35 09.03.2023

## n77H,20MHz Bandwidth,DFT-s-QPSK (-26dBc BW)







#### n77H n77H,30MHz(-26dBc)

	Emission Bandwidth (-26dBc) (MHz)	
Frequency (MHz)	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	28.591	28.771

#### n77H,30MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



16:30:31 09.03.2023

## n77H,30MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



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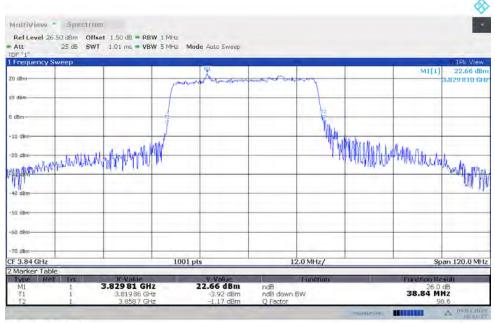




#### n77H n77H,40MHz(-26dBc)

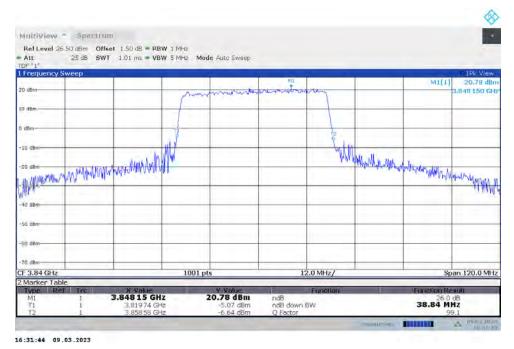
	Emission Bandwidth (-26dBc) (MHz)	
Frequency (MHz)	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	38.840	38.840

#### n77H,40MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



16:31:28 09.03.2023

## n77H,40MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



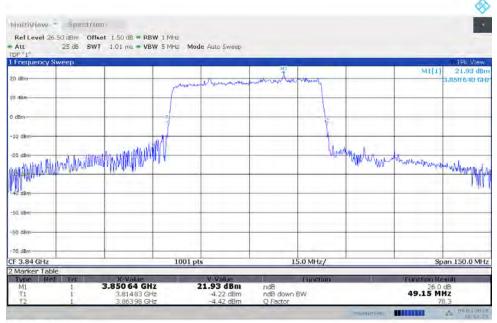




#### n77H n77H,50MHz(-26dBc)

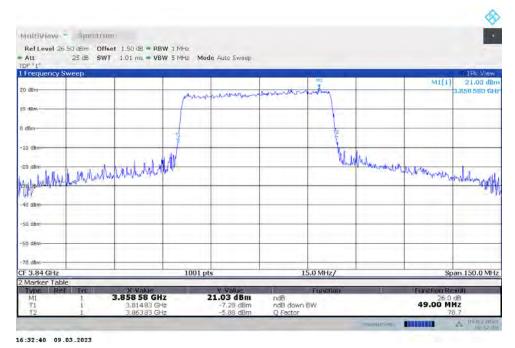
	Emission Bandwidth (-26dBc) (MHz)	
Frequency (MHz)	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	49.150	49.000

#### n77H,50MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



16:32:24 09.03.2023

## n77H,50MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



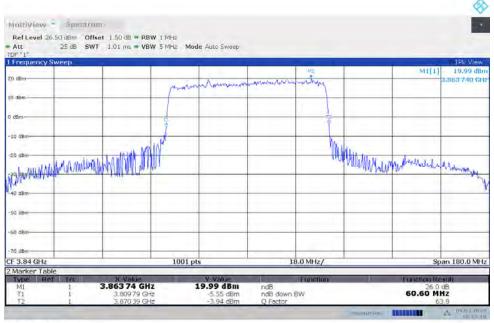




#### n77H n77H,60MHz(-26dBc)

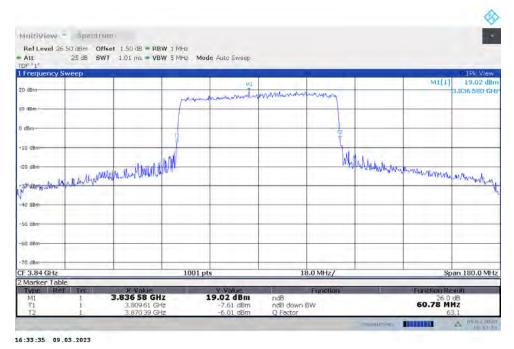
	Emission Bandwidth (-26dBc) (MHz)	
Frequency (MHz)	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	60.600	60.780

#### n77H,60MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



16:33:19 09.03.2023

## n77H,60MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



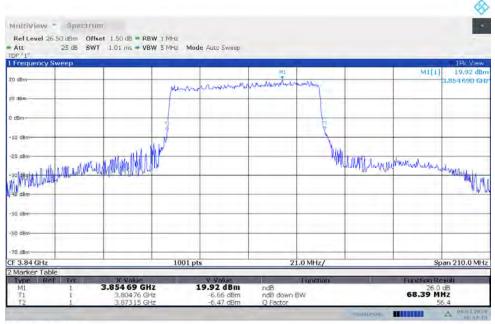




#### n77H n77H,70MHz(-26dBc)

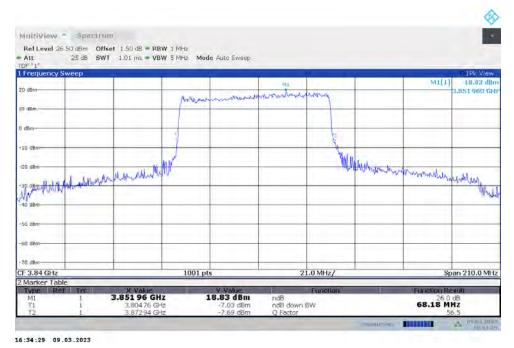
	Emission Bandwidth (-26dBc) (MHz)	
Frequency (MHz)	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	68.390	68.180

#### n77H,70MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



16:34:13 09.03.2023

## n77H,70MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



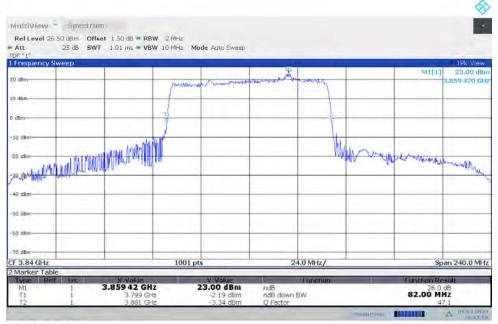




#### n77H n77H,80MHz(-26dBc)

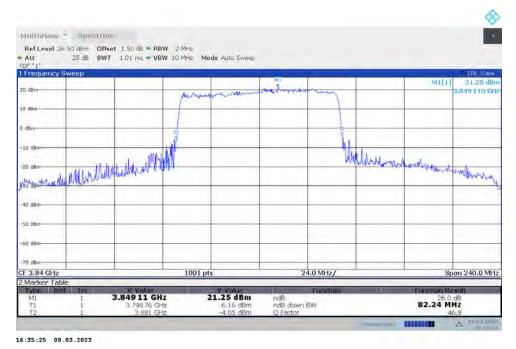
	Emission Bandwidth (	-26dBc) (MHz)
Frequency (MHz)	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	82.000	82.240

#### n77H,80MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



16:35:09 09.03.2023

## n77H,80MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



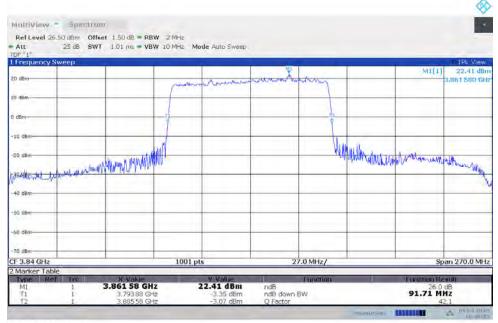




#### n77H n77H,90MHz(-26dBc)

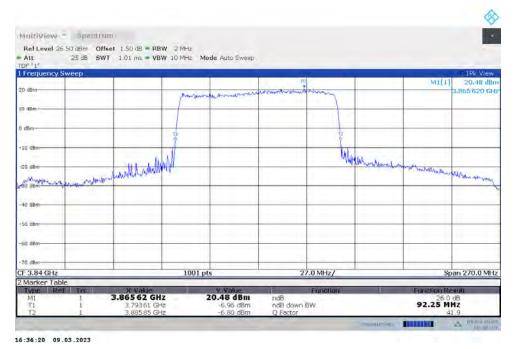
	Emission Bandwidth (	-26dBc) (MHz)
Frequency (MHz)	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	91.710	92.250

#### n77H,90MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



16:36:04 09.03.2023

## n77H,90MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



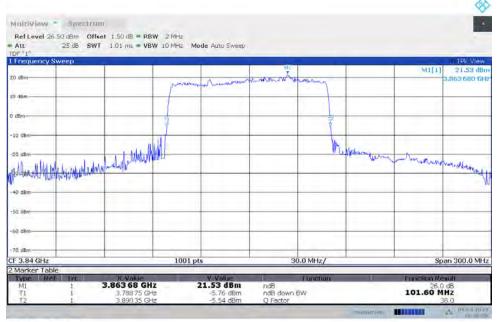




#### n77H n77H,100MHz(-26dBc)

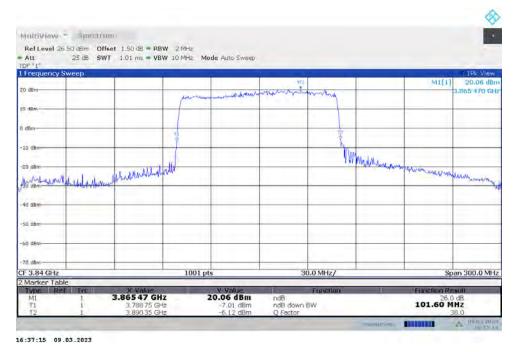
	Emission Bandwidth (	-26dBc) (MHz)
Frequency (MHz)	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	101.600	101.600

#### n77H,100MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



16:36:59 09.03.2023

## n77H,100MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



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 371 of 404





# A.6 Band Edge Compliance

#### A.6.1 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(g) states for operations in the 600 MHz band and the 698–746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

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.

Part 27.53(I) states for mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with this paragraph (I)(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, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 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.

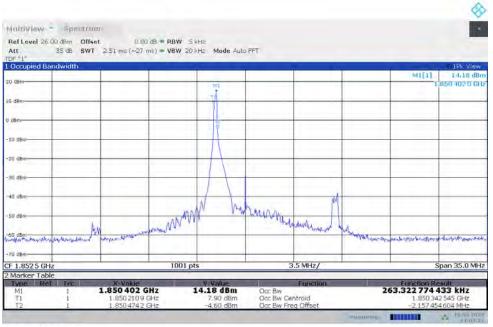
The spectrum analyzer readings are corrected by [10 log (1/duty cycle)] for the non-continuous transmitting scenario.





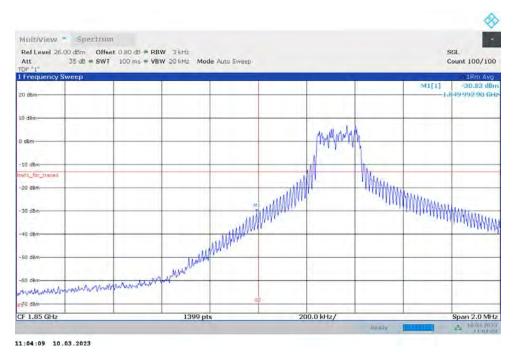
# A.6.2 Measurement result NR n25

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



11:03:22 10.03.2023

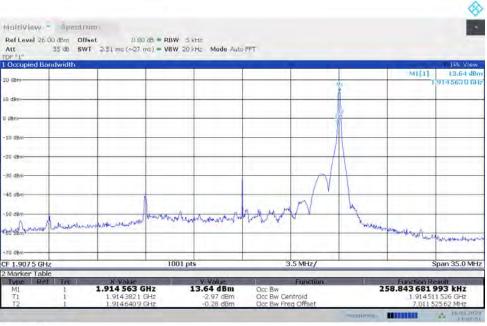
## LOW BAND EDGE BLOCK-1RB-LOW\_offset





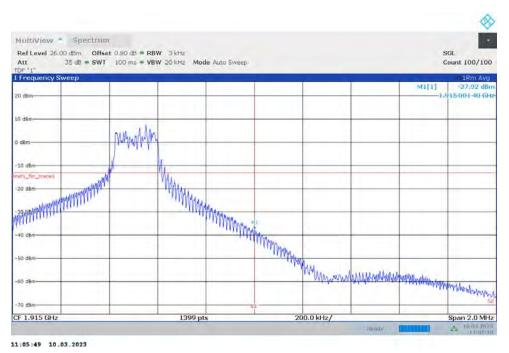


#### OBW: 1RB-HIGH\_offset



11:05:02 10.03.2023

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







#### LOW BAND EDGE BLOCK-40M-100%RB

MultiView Spectrum Ref Level 26.00 dBm Offset 0.					SGL
	50 ms = VBW 2 MHz Mode Auto	Sweep			Count 100/100
Frequency Sweep				1	01Rm Avg
20 dBm-				M1[1]	+20.04 dB 1,950 000 0 GF
0 d8m				_	-
i dBm		F		*	-
10 dBm					
niti_for_trace) 20 dBm					
30 dBm					
40 dēm					
50 dBm-					-
50 dêm					
gʻū dBm-		10			
F 1.85 GHz	501 pts		2.0 MHz/		Span 20.0 MH

# HIGH BAND EDGE BLOCK-40M-100%RB

MultiView Spectrum RefLevel 26.00 dBm Offset 0.8	O HE & DRW SOOLH			SGL
	Dims = VBW 2 MHz Mode Auto Swee	ip		Count 100/100
Frequency Sweep			1	01Rm Avg
0 dBm-			M1[1	1 -22.89 dBm -1.915 000 0 GHz
0 dBm				-
) dBm				
10 dBm				-
niti_for_trace)				
-20 dBm		1		
-30 dBm				-
40 dBm		Lumm		
-50 dBm			and a second second	-
60 dem				
-70 dBm		82		- 52
F 1.915 GHz	501 pts	2.0 MHz/		Span 20.0 MHz

16:11:57 28.03.2023





# NR n41

# OBW: 1RB-LOW\_offset

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09:51:57 10.03.2023

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

Ref Level 26.00 dBm Offset	2.20 dB = RBW 20 kHz				
	3 s = VBW 100 kHz Mode Auto Sweep				
Frequency Sweep					: IRm View
0 dBm				M1[1]	-26.96 dB -195.987.00 GF
) dam					
dBm			-		
10 dBm					
df1_for_mane1					
20 dBm					
10 dBm			in		
al dam-	mmmmm			-	
50 dBm-					
0 dēm			-	-	-
70 dBm					
2.495 GHz	501 pts	100.0 kHz/	1	-	2.496 GH

09:52:37 10.03.2023





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

Ref Level 26.00 dBm Offset 8.20	dB = RBW 1 MHz				-
Att 27 dB = SWT	3 s = VBW 5 MHz Mode Auto Sw	leab.			
Frequency Sweep					11Rm View
Didawine Contraction (Contraction (Contracti				M1[1]	-18,45 dB
0 dBno			-	-	
dbm				-	-
0 dBm					
20 d8m-					-
sti_for_tracal					- August
30 dBm-		a a manunurururururururururururururururururur	wannan	monor	MANN
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u aum					
i0 dBm					
70 d8m					_

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

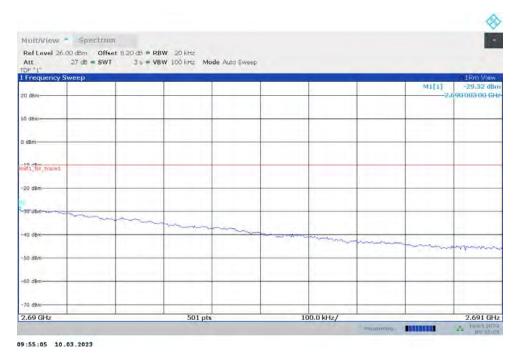


09:54:25 10.03.2023





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



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

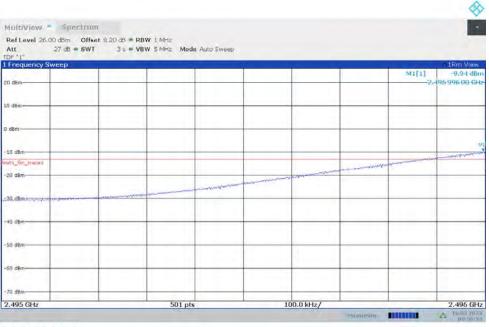
						-
ultiview Spectro						
Ref Level 26.00 dBm Of Att 27 dB = SV DF "1"	Ifset 8.20 dB RBW 1 MHz   VT 3 s VBW 5 MHz	Mode Auto Sweep				
Frequency Sweep		- 25		2		01Rm View
0 dBm					M1[1]	-20.60 dBr -2 691 009 0 GH
0 dBm						
dem						
dBm						
PL Ter traces			_	_		
20 dBm				_		
10 dBm			1			
U DEM	- water man					
0 dBm						*******
0 dBm						-
0 dêm				-	-	-
0 dBm				1		
.691 GHz	50	1 pts	900.0 kHz/		-	2.7 GH
3091 002		r pes	900.0 KHZ/	Magnaning		2.7 GH

09:55:46 10.03.2023





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



09:56:54 10.03.2023

#### **Channel power**



09:57:11 10.03.2023





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

17090 GHZ	Jorpis	550.0 KHZ/	Millionaring.		A 10,0 1 202
2,489 5 GHz	501 pts	550.0 kHz/	1	-	2.495 GHz
70 dBm			-		
60 dBm			-		
50 dBm					
40 dBm					_
au den	and a second	man and the second of the second of	Hanna		a posite a surrent correct
30 dBm-					1
20 dBm					
10 dBm					
dBm					
0 dBio			-		
O dawe			_	M1[1]	-30.35 dBn 2,494 995 0 GH
Frequency Sweep			-	1	1 IRm View
DF *1*	3 = VBW 5 MHz Mode Auto Swee	P			
Ref Level 26.00 dBm Offset 8.2					-
Haitiview - pettrum					
					~

09:57:51 10.03.2023

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

Multiview * Spectrum					
Ref Level 26.00 dBm Offset 5   Att 27 dB = SWT   DF "1" 27 dB = SWT	3.20 dB = RBW 1 MHz 3 s = VBW 5 MHz Mode Auto Swe	ep.			
Frequency Sweep	100 000	20 21	-		01Rm View
			1	M1[1]	-27.99 dBr
0 dBm-			1		2.690.028.90 G
0 dBm-			-	-	
dBm			-	-	
it for traces			-	_	
and a state of the					
20 dBm					
784				-	
30 dBm					
40 dBm-			-	_	
50 dBm-					
- Q#1					
60 d8m-				-	
70 dBm					
	E01-11	100.0115.6		-	0.601.00
2.69 GHz	501 pts	100.0 kHz/	Muasaming		2.691 G

09:58:56 10.03.2023





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

DF "1"	3 s = VBW 5 MHz Mode A	uto Sweep					
Frequency Sweep		-			6	1	01Rm View
0 dBm						M1[1]	-28.82 dBr 2.691 120 GH
dBm						-	
dBm				_			
for track)							
0 dBm							
D'elBen							
0 dBm-							+
0 dBm							
) dem			-			-	-
0 dBm							
.691 GHz	501 pts			9 MHz/	1	-	2.81 GH

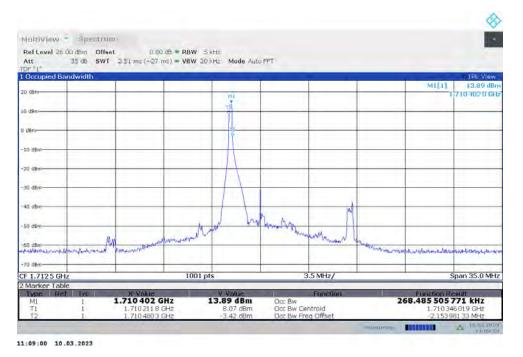
09:59:36 10.03.2023



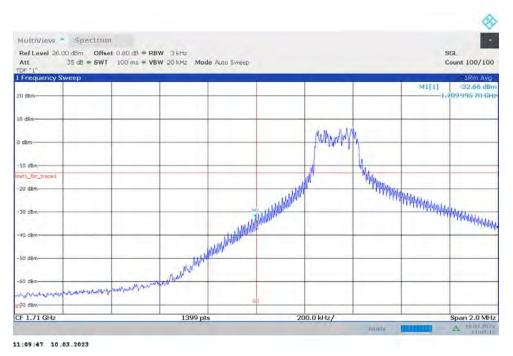


### NR n66

### OBW: 1RB-LOW\_offset



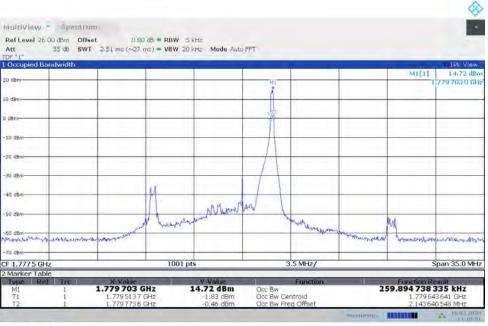
### LOW BAND EDGE BLOCK-1RB-LOW\_offset





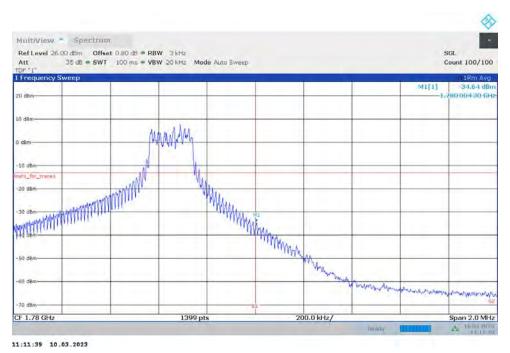


### OBW: 1RB-HIGH\_offset



11:10:52 10.03.2023

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







### LOW BAND EDGE BLOCK-40M-100%RB

RBW 500 kHz VBW 2 MHz Mode Auto Sv	in the second	
	Ageb	Count 100/100
		01Rm Avg
		M1[1] -20.25 dBn 1,710 000 0 GH
_	_	
_		 
_	4	
_		
	0	

11:12:49 10.03.2023

### HIGH BAND EDGE BLOCK-40M-100%RB

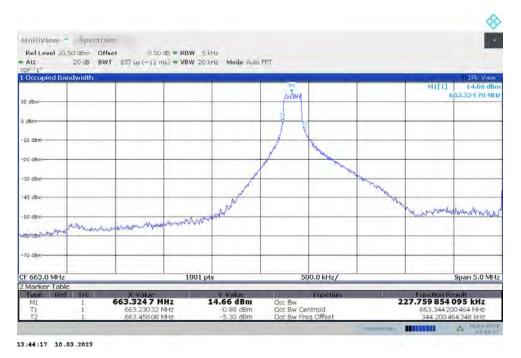
MultiView Spectrum Ref Level 26.00 dBm Offset 0.1	80 dB • RBW 500 kHz		SGL
Att 35 dB = SWT 5	50 ms = VBW 2 MHz Mode Auto Swe	bep	Count 100/100
Frequency Sweep			01Rm Avg
20 d8m-			M1[1] -21.82 dBn 1 780 000 0 GHz
10 d6m-			
0 dBm			
10 dBm			
miti_for_trace3		λ.	
-20 dBm		1	
-30 dBm-			
-40 d&m			
-50 dBm			
-60 dêm			
70 dBm		54	51
2F 1.78 GHz	501 pts	2.0 MHz/	Span 20.0 MHz

11:13:55 10.03.2023

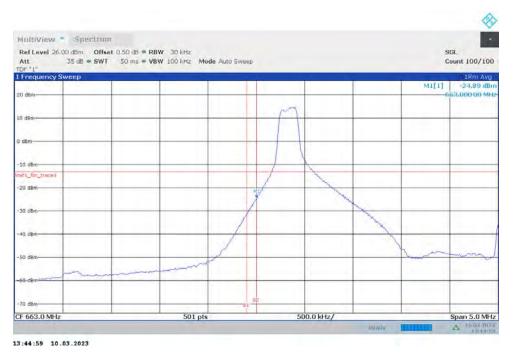




## NR n71 OBW: 1RB-LOW\_offset



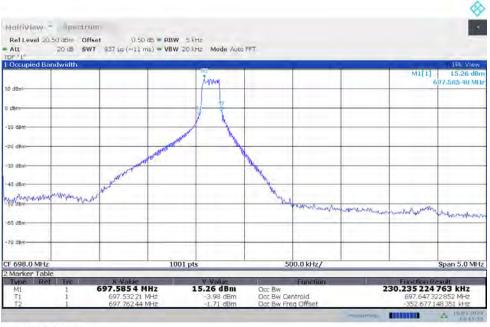
### LOW BAND EDGE BLOCK-1RB-LOW\_offset





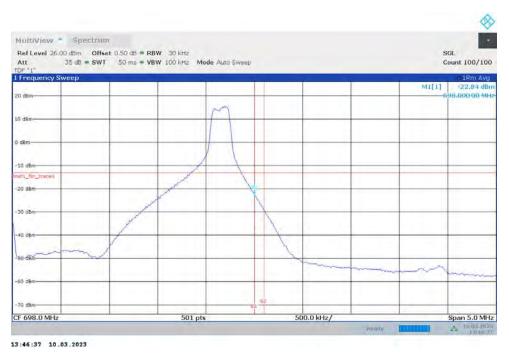


### OBW: 1RB-HIGH\_offset



13:45:55 10.03.2023

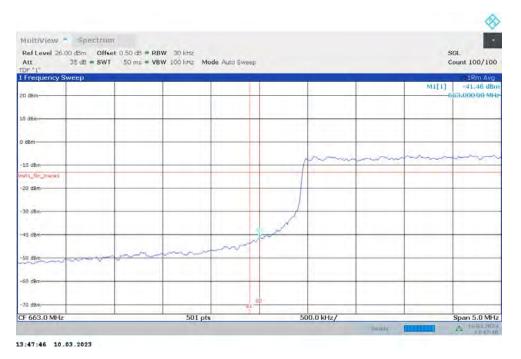
### HIGH BAND EDGE BLOCK-1RB-HIGH\_offset



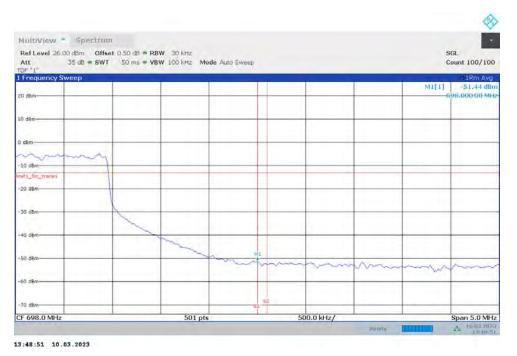




### LOW BAND EDGE BLOCK-20M-100%RB



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





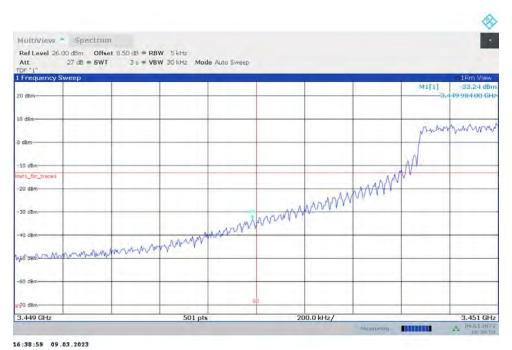


## NR n77L OBW: 1RB-LOW\_offset

cupied Bandwid					_			D IPk View
		1					M1[1]	12.20 dB
3m-	443.							1250 991 50 G
in: //	manut							
	and all							
TP 1		-						
-1	N.							
IBm A	WWW.							
The second second	DWWW.	WALCO IN THE REAL OF THE REAL						
IBrn WOP WWW IBrn		WANANA	)					
iBm-		4-40-WV	MANUTAN					
			ALL AND A	WALL .				
/Brit		-		WWW.cashywyby	Why have be		1.1	
					1. M. M. Yant	han han make the	manna	Munimum
Briv-								
iBen-								
10m								
iBen		-						-
452 5 GHz		1001 pt	5	50	00.0 kHz/			Span 5.0 M

16:38:19 09.03.2023

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







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

DF "1"	22-1011	3 MPIZ MIO	de Auto Sweep					
Frequency Sweep				1			M1[1]	-28.76 dB
0 dB///-								1-18 996 00 GI
dam								
dBm	-							
0 dBm								
ri_for_manes								
20 dBm								
10 dBm-						0.000	n.n.n.n.n.n	harra
0 april march	runnun	nin	www.	hunn	martin	4444	Ver v i v	
0 dBm								
0 dBm							-	
70 dBm								
				1				

16:39:37 09.03.2023

### OBW: 1RB-HIGH\_offset

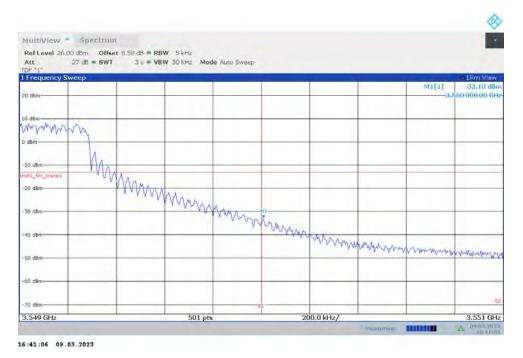


16:40:26 09.03.2023





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



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

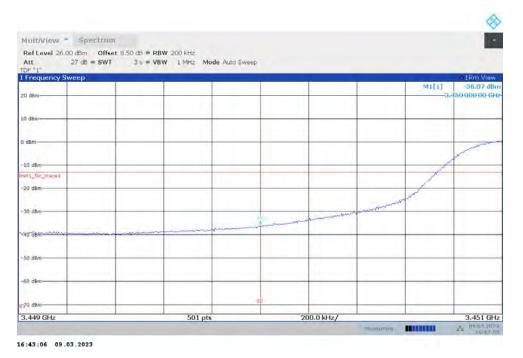
Ref Level 26.00 dBm								
Att 27 dB	SWT 3s	VBW 3 MHZ M	ode Auto Sweep	2				
Frequency Sweep								# 1Rm View
O dBm					1		-M1[1]	-27.85 dBi 1.551 020 00 GF
0 dBro-		_						
dBm								
10 dBm								
nit't_for_tractes								
20 dBm								
98 dem-	and www.www.www.www.www.	www.www.www.www.	www.www.www.www	······································	mannan	WMM halmana	-	
40 dBm				-				
50 dBm								
50 dBm		-		-	-		-	
70 dBm		_						
3.551 GHz		501 pt		-44	00.0 kHz/	1	-	3,555 GH

16:41:44 09.03.2023





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



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

Multiview . Spectr								1
Ref Level 26.00 dBm O   Att 27 dB = S <sup>1</sup> OF "1" 27 dB = S <sup>1</sup>	ffset 8.50 dB ● RBY AVT 3 ≤ ● VBV		ode Auto Sweep					
Frequency Sweep								: IRm View
70 dB/w-					1		-M1[1] 3.	-35.00 dBn 148 8 1 1 30 GH
0 dBm								1
i dBm-								
10 dBm								
hit 1_for_manes								
20 dBm								
30 dBm								ent.
40 dBm				Manana			hallow and the	
50 dBm								
60 dem			10.000		· · · · · · ·			
70 dBm-								
3.445 GHz		501 pt			00.0 kHz/	1		3.449 GH

16:43:44 09.03.2023





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

Ref Level 26.00 dBm Offset 9.50 dB +	RBW 200 kHz					-
Att 27 dB = SWT 3 s +	VBW 1 MHz Mode Auto S	Sweep				
Frequency Sweep					M1[1]	36.60 dBr
70 dBw						520.539.20 GF
lū dām				-		-
) dBm						-
-10 dBm						
nif L_for_Stars i						
-20 dBm						
30-dBm			MI			
-40 dBm	astrone and and	man	- Marine			man
-50 dBm	_			-		-
-60 dBm		_		_		-
-70 dBm-		51				15
3.549 GHz	501 pts	20	0.0 kHz/		-	3.551 GH

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

MultiView * Spectrum						
Ref Level 26.00 dBm Offset   Att 27 dB = SWT   DF "1" 27 dB = SWT	8.50 dB = RBW 500 kHz 3 s = VBW 3 MHz Mor	de Auto Sweep				
Frequency Sweep						# IRm View
70 dBm-					M1[1	-32.97 dBn -3.551 067 90 GH
0 dBro-						
dBm						
10 dBm						
htt_for_manet						
20 dBm						
fili dBm						
40 dBm			******		And any most and any solution	
50 dBm						
60 dBm						-
70 dBm						
3.551 GHz	501 pts		400.0 k	Hz/		3.555 GHz

16:45:27 09.03.2023



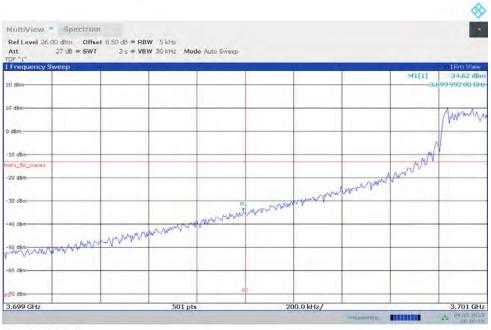


# NR n77H

## OBW: 1RB-LOW\_offset

				THE				
andwidth	TT	- 1					MILTI	e IPk View 13.39 dBr
								00.096.60.61
1	May har my							
-								
1								
1 d	With							
Man	an Manus							
NC.		WWWWWWW	004					
			CAMIN WANTER	MAAAA				
				THE WAY WAY WAY	MAAA.		1	
					L. LEWIN WATHANNA	Winaday .		
						CONTRACTION NICEN	the manufacture of the second	non
						-		
		1001 pts	)	50	JU.0 kHz/			Span 5.0 MH
I Tre	X Value 3.700 896 6 GHz	and summing	V Value 3,39 dBm	Occ Bw	Function	in the second	Function Re 57.174 870	

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



16:46:50 09.03.2023





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

Att 27 dB = SWT	3 WBW 3 MHZ M	ada Aura Suman					
DF "1" Frequency Sweep	Sa - Volt Shine in	and Hore sweet	_	_			: IRm View
rrequency sweep	1	T		-		M1[1]	-31.58 dBr
0 dB/W-						-37	698 988 80 GH
) dBm						-	
7 1 2 2 2 2							1
dBm							
10 dBm							
if 1_for_mare1							
20 dBm							
30 dBm							
						(	mon
10 dBm	www.www.	mound	mann	m	mound	mmmin	-
and the second s							
50 dBm-							
50 d&m			-				
70 dBm							
3.695 GHz	501 pt		-40	0.0 kHz/		-	3.699 GH

16:47:28 09.03.2023

## OBW: 1RB-HIGH\_offset

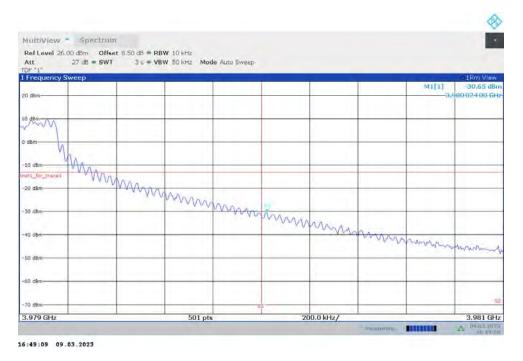
DF "1"	de swr		0 - VBW 20 kH		TH				
Occupied Bandw	vidth		_				Y Y		e IPI: View
0 d8m-								M1[1]	12.60 dB 78 988 50 G
a dam							de la	Marth 1	
dBm								-	
10 dBm		_				MANNAN MANNAN	The Martin	Mana	
d abm		-				MANAMAN	WV**	THE REAL PROPERTY IN	Automation and
AD AD AT				analy MAN	And WAND TO THE STATE				THINKING
			- Andrew Annapolita	port ( Married					
20 dBm 30 dBm 40 dBm 40 dBm	musignet	July and a state of the state o							
60 dBm			-			1			
50 dBm									
70 dBm									
F 3.9775 GHz Marker Table			1001 pt		50	0.0 kHz/	·		Span 5.0 MH

16:48:30 09.03.2023





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



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

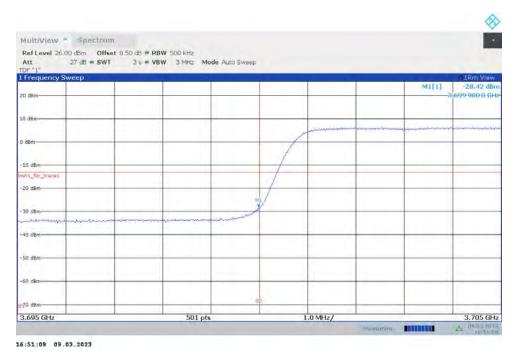
Att 27 dB = SWT	3 s = VBW 3 MHz Mode Auto Sweet				
Frequency Sweep					: IRm View
0 dBm				M1[1]	-28.22 dBn ,981 067 90 GH
) dRm					
dbm			-		
0 dBm					
ri_for_manni					
20 dBm					
BodBporton And And					
	mmmmm	mann	mm	mana	0.0.0.0.0
0 dBm-					the market
i0 dBm					
0 dēm				-	-
-70 dBm					-

16:49:48 09.03.2023

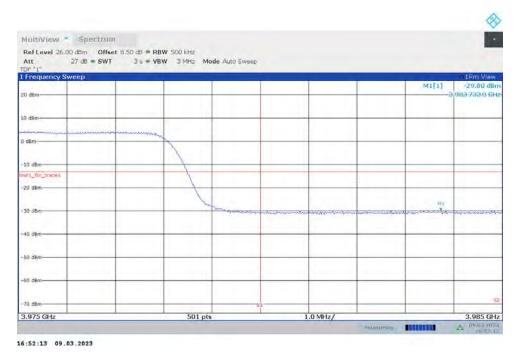




### LOW BAND EDGE BLOCK-100M-100%RB



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



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





## A.7 Conducted Spurious Emission

### A.7.1 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  $2 \times \text{span/RBW}$ .

### A. 7.2 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(g) states for operations in the 600 MHz band and the 698–746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

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.

Part 27.53(I) states for mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with this paragraph (I)(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, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 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 either 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.

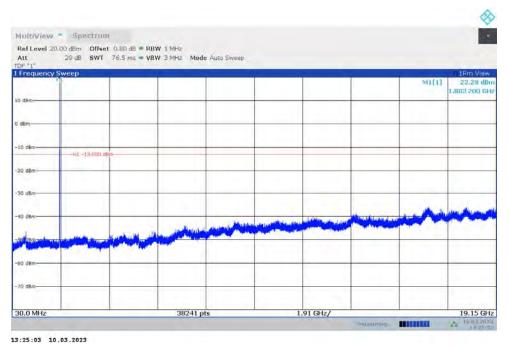




### A. 7.3 Measurement result

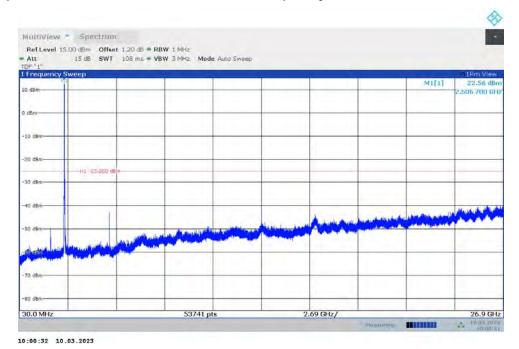
### n25

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



## n41

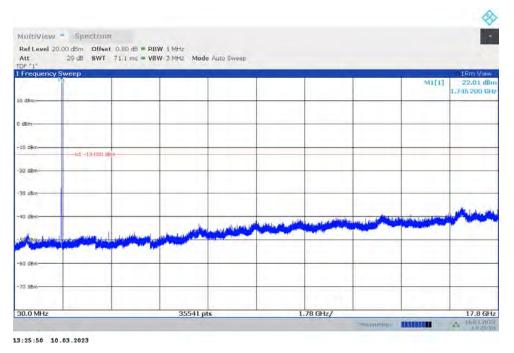
NOTE: peak above the limit line is the carrier frequency.



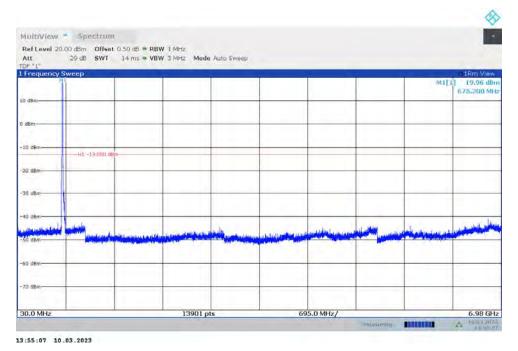




## n66 NOTE: peak above the limit line is the carrier frequency.



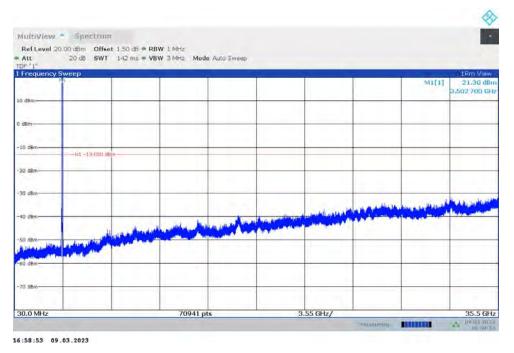
### n71 NOTE: peak above the limit line is the carrier frequency.



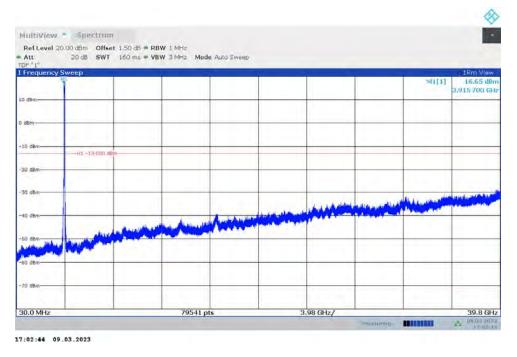




## n77L NOTE: peak above the limit line is the carrier frequency.



### n77H NOTE: peak above the limit line is the carrier frequency.



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





## A.8 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

### n25,40MHz

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		
1882.5	4.74	5.02	6.24	6.50	6.40	8.44	8.44	8.34	8.46		

### 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	4.62	5.57	6.18	6.40	6.49	8.07	7.96	8.14	8.18	

### n66,40MHz

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	4.78	5.04	6.24	6.58	6.40	8.38	8.52	8.36	8.52		

### n71,20MHz

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			
680.5	4.32	5.58	6.30	6.48	6.40	8.10	8.10	8.18	8.52			

### n77L,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	4.32	5.33	6.10	6.33	6.62	7.92	7.94	8.03	8.47			

### n77H,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		
3840	3.95	4.42	6.14	6.48	6.52	8.37	8.23	8.45	8.43		

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





## **Annex B: Accreditation Certificate**



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