



On the plots below the measured Channel Power value in the "Total Channel Power" column must be -19 dBm and lower.



Figure 8.5-133: Conducted emission at the upper band edge

Frequency:	1995 MHz	Mode:	Multi-carrier operation
Meas. BW:	1% of EBW	Tech.:	3 × LTE 5 MHz with IB (IoT1)
Limit:	–19 dBm/50 kHz	Notes:	None



Figure 8.5-132: Conducted emission 1 MHz away from the lower band edge

Frequency:	1929 MHz
Meas. BW:	1 MHz
Limit:	–19 dBm/MHz

 Mode:
 Multi-carrier operation

 Tech.:
 3 × LTE 5 MHz with IB (IoT1)

 Notes:
 None



Figure 8.5-134: Conducted emission 1 MHz away from the upper band edge

Frequency:	1996 MHz	Mode:	Multi-carrier operation
Meas. BW:	1 MHz	Tech.:	3 × LTE 5 MHz with IB (IoT1)
Limit:	–19 dBm/MHz	Notes:	None



+

Span 70 N eep 9.33 ms (20001 p

1 pt

· +

Test data, continued



On the plots below the measured Channel Power value in the "Total Channel Power" column must be -19 dBm and lower.

Figure 8.5-137: Conducted emission at the upper band edge

Frequency:	1995 MHz	Mode:	Multi-carrier operation
Meas. BW:	1% of EBW	Tech.:	6 × LTE 5 MHz with IB (IoT1)
Limit:	–19 dBm/50 kHz	Notes:	None



Frequency:	1996 MHz	Mode:	Multi-carrier operation
Meas. BW:	1 MHz	Tech.:	6 × LTE 5 MHz with IB (IoT1)
Limit:	–19 dBm/MHz	Notes:	None





On the plots below the measured Channel Power value in the "Total Channel Power" column must be -19 dBm and lower.



Frequen Meas. B Lim	cy: 1 W: 1 nit: -	930 MHz % of EBW 19 dBm/50	kHz	Mode: Tech.: Notes:	Single carı NR 5 MHz None	rier operatior
BE 1 MHz Channel Po	wer	CCDF Power Sta	t CCDF	UBE 1PC Channel I	Power	UBE 1M Channel Power
	Input: RF Coupling: DC Align: Auto	Input Z: 50 Q Corrections: On Freq Ref: Int (S) NFE: Off	Atten: 10 dB Preamp: Off µW Path: Standard #PNO: Fast	Trig: Free Run Gete: Off #IF Gain: Low	Center Freq: 1.99502500 Avg[Hold: 100/100 Radio Std: None	0 GHz
1 Graph Scale/Div 10.0 Log	dB			Ref Value 36.40	dBm	Mkr1
26.4						



Figure 8.5-141: Conducted emission at the upper band edge

Frequency:	1995 MHz	Mode:	Single carrier operation	
Meas. BW:	1% of EBW	Tech.:	NR 5 MHz	
Limit:	–19 dBm/50 kHz	Notes:	None	



Figure 8.5-140: Conducted emission 1 MHz away from the lower band edge

Frequency:	1929 MHz
Meas. BW:	1 MHz
Limit:	–19 dBm/MHz

+

Mode:Single carrier operationTech.:NR 5 MHzNotes:None

BE 1 MHz Channel Po	wer	CCDF Power St	at CCDF	UBE 1 Chann	PC el Power	UBE 1M Channel Power	, , +
	Input: RF Coupling: DC Align: Auto	Input Z: 50 Ω Corrections: On Freq Ref: Int (S) NFE: Off	Atten: 10 dB Preamp: Off µW Path: Standard #PNO: Fast	Trig: Free Run Gate: Off #IF Gain: Low	Center Freq: Avg[Hold: 10] Radio Std: No	1.996500000 GHz //100 ine	
1 Graph	,					N	lkr1 1.996000000 GH
Scale/Div 10.0	dB			Ref Value 46.	40 dBm		-32.080 dBn
36.4							
20.4							
20.4		1					
10.4							
6.40		1					
-3.60		1					
-13.0		1					
-23.0	Anne	/		la l			
-33.6						······································	
-43.6							
Center 1.9965 #Res BW 100.	0 GHz 00 kHz			Video BW 30	0.00 kHz*		Span 20 MH Sweep 2.53 ms (1001 pts
2 Metrics	•						
Total Chann	el Power	-22.74 dBm / 1.0	0 MHz				
Total Power	Spectral Density	-82.74 dl	3m/Hz				
4 h	۹ 🔳 ?	Jun 28, 2023 6:34:50 AM					

Figure 8.5-142: Conducted emission 1 MHz away from the upper band edge

Frequency:	1996 MHz
Meas. BW:	1 MHz
Limit:	–19 dBm/MHz

Mode:Single carrier operationTech.:NR 5 MHzNotes:None





On the plots below the measured Channel Power value in the "Total Channel Power" column must be -19 dBm and lower.



Frequenc Meas. BV Lim	ry: 19 N: 1% it: –1	30 MHz 5 of EBV 9 dBm/	z V 100 kHz	M T N	ode: ech.: otes:	Single carri NR 10 MHz None	er operation
BE 1 MHz Channel Pow	er	CCD	F Fr Stat CCDF		UBE 1PC Channel F	Power	UBE 1M Channel Power
	nput: RF Coupling: DC Nign: Auto	Input Z: 50 0 Corrections: Freq Ref: Int NFE: Off	Atten: 10 dB On Preamp: Off (S) µW Path: Standar #PNO: Fast	Trig: Fi Gate: (d #IF Ga	ree Run Off in: Low	Center Freq: 1.995050000 Avg Hold: 100/100 Radio Std: None	GHz
1.0.1							Allered



Figure 8.5-145: Conducted emission at the upper band edge

Frequency:	1995 MHz	Mode:	Single carrier operation	
Meas. BW:	1% of EBW	Tech.:	NR 10 MHz	
Limit:	–19 dBm/100 kHz	Notes:	None	



Figure 8.5-144: Conducted emission 1 MHz away from the lower band edge

Frequency:	1929 MHz
Meas. BW:	1 MHz
Limit:	–19 dBm/MHz

+

Mode:Single carrier operationTech.:NR 10 MHzNotes:None

	BE 1 Chan	MHz Inel Po	wer			CCDF Power Stat	CCDF		UBE	1PC	Power	UBE 1M Channel Power		• +
L L	T T	GHT	Input: F Couplin Align: A	tF g: DC wto	Input Correct Freq F NFE:	Ž: 50 Ω ctions: On Ref: Int (S) Off	Atten: 10 dB Preamp: Off µW Path: Standard #PNO: Fast	Trig: F Gate: #IF Ga	ree R Off in: Lo	w	Center Freq: 1.996500000 Avg[Hold: 100/100 Radio Std: None	GHz		
1 G	raph	iv 10 0	dB	,				Bof Ve	due d	6 40	dPm	Mkr	1 1.996000	0000 GHz
110									inter a	0.10	abili			
36	4													
26	4													
16	<u>_</u>													
6.4				1										
-3.6	0													
-13	6			1					_					
-23	6			1										
-33	6		-not	0					m.	·				
-43	6													
		00000	011-											
#Re	s BV	V 100.0	0 kHz					1000	BW.	500.0	J KHZ-		Sweep 3.73 n	ns (1001 pts)
2 N	lotrics			•										
l t	lotal	Chann	el Powe	ĸ	-22.10	dBm / 1.00 I	MHz							
ľ	Total	Power	Spectra	al Density		-82.10 dBn	n/Hz							
		า		■ ?	Jun 7:20	28, 2023 5:58 AM							.:: 📡	88 🔀

Figure 8.5-146: Conducted emission 1 MHz away from the upper band edge

Frequency:	1996 MHz
Meas. BW:	1 MHz
Limit:	–19 dBm/MHz

Mode:Single carrier operationTech.:NR 10 MHzNotes:None





On the plots below the measured Channel Power value in the "Total Channel Power" column must be -19 dBm and lower.

operation

BE 1M annel Power

+

Figure 8.5-147: Conducted emission at the lower band edge

Frequency: 1930 Meas. BW: 1% o Limit: -19 o		∕IHz EBW 8m/15	Mode: Tech.: Notes:		Single co NR 15 N None	arrier 1Hz	
BE 1 MHz Channel Power		CCDF Power Sta	at CCDF		UBE 1Pe Channel	C Power	V UE
LT + Align: Auto	DC Correct DC Freq F NFE:	, Z: 50 Ω ctions: On Ref: Int (S) Off	Atten: 10 dB Preamp: Off µW Path: Standard #PNO: Fast	Trig: Fi Gate: (#IF Ga	off Off in: Low	Center Freq: 1.9950 Avg[Hold: 100/100 Radio Std: None	75000 GHz



Figure 8.5-149: Conducted emission at the upper band edge

Frequency:	1995 MHz	Mode:	Single carrier operation	
Meas. BW:	1% of EBW	Tech.:	NR 15 MHz	
Limit:	–19 dBm/150 kHz	Notes:	None	



Figure 8.5-148: Conducted emission 1 MHz away from the lower band edge

Frequency:	1929 MHz
Meas. BW:	1 MHz
Limit:	–19 dBm/MHz

Mode:Single carrier operationTech.:NR 15 MHzNotes:None

BE 1 Char	MHz nel Pov	wer		CCDF Power Stat	CCDF		UBE 1PC Channel	: Power		UBE 1M Channel Power		• +
LT	IGHT ·≠·	Input: RF Coupling: DC Align: Auto	Input 2 Correc Freq R NFE: 0	1:50 Ω tions: On tef: Int (S) Dif	Atten: 10 dB Preamp: Off µW Path: Standard #PNO: Fast	Trig: F Gate: I #IF Ga	ree Run Off ain: Low	Center Fre Avg[Hold: Radio Std:	q: 1.996500000 (100/100 None	3Hz		
1 Graph		•								Mk	r1 1.99600	00000 GHz
Scale/D	iv 10.0	dB				Ref Va	alue 46.40	dBm			-30	J.255 dBm
Log												
30.4												
26.4				- second shake								
16.4		_										
6.40												
-3.60												
-13.6												
-23.6												
33.6		~					han					
42.0												
-43.0												
Center 1	1.99650	GHz			1	Video	BW 300.0	0 kHz*				Span 40 MHz
#Res B\	N 100.0	IO KHZ									Sweep 5.00	ms (1001 pts)
2 Motrics	3	,										
Total	Channe	el Power	-21.33	dBm / 1.00	MHz							
Total	Power	Spectral Den	sity	-81.33 dB	m/Hz							
	5		? Jun 2 8:12	28, 2023	DΛ						.:: 😜	ΗX

Figure 8.5-150: Conducted emission 1 MHz away from the upper band edge

Frequency:	1996 MHz	
Meas. BW:	1 MHz	
Limit:	–19 dBm/MHz	

Mode:Single carrier operationTech.:NR 15 MHzNotes:None





On the plots below the measured Channel Power value in the "Total Channel Power" column must be -19 dBm and lower.

 Frequency:
 1995 MHz
 Mode:
 Single carrier operation

 Meas. BW:
 1% of EBW
 Tech.:
 NR 20 MHz

 Limit:
 -19 dBm/200 kHz
 Notes:
 None

Frequency:	1996 MHz
Meas. BW:	1 MHz
Limit:	–19 dBm/MHz

Mode:Single carrier operationTech.:NR 20 MHzNotes:None



On the plots below the measured Channel Power value in the "Total Channel Power" column must be -19 dBm and lower.



Figure 8.5-155: Conducted emission at the lower band edge





Figure 8.5-157: Conducted emission at the upper band edge

ency:	1995 MHz	Mode:	Single carrier operation
BW:	1% of EBW	Tech.:	NR 25 MHz
imit:	–19 dBm/250 kHz	Notes:	None



Figure 8.5-156: Conducted emission 1 MHz away from the lower band edge

Frequency:	1929 MHz	Mode:	Single carrier operation
Meas. BW:	1 MHz	Tech.:	NR 25 MHz
Limit:	–19 dBm/MHz	Notes:	None



Figure 8.5-158: Conducted emission 1 MHz away from the upper band edge

Frequency: 1996 MHz Meas. BW: 1 MHz Limit: -19 dBm/MHz Mode:Single carrier operationTech.:NR 25 MHzNotes:None

Freque

Meas.

L





On the plots below the measured Channel Power value in the "Total Channel Power" column must be -19 dBm and lower.

 Frequency:
 1995 MHz
 Mode:
 Single carrier operation

 Meas. BW:
 1% of EBW
 Tech.:
 NR 30 MHz

 Limit:
 -19 dBm/300 kHz
 Notes:
 None

Frequency:	1996 MHz	
Meas. BW:	1 MHz	
Limit:	–19 dBm/MHz	

Mode: Single carrier operation Tech.: NR 30 MHz Notes: None





On the plots below the measured Channel Power value in the "Total Channel Power" column must be -19 dBm and lower.

 Frequency:
 1995 MHz
 Mode:
 Single carrier operation

 Meas. BW:
 1% of EBW
 Tech.:
 NR 40 MHz

 Limit:
 -19 dBm/400 kHz
 Notes:
 None

Frequency:	1996 MHz
Meas. BW:	1 MHz
Limit:	–19 dBm/MHz

Mode:Single carrier operationTech.:NR 40 MHzNotes:None





On the plots below the measured Channel Power value in the "Total Channel Power" column must be -19 dBm and lower.

+



Frequency: Meas. BW: Limit:	1930 MHz 1% of EBW −19 dBm/5	0 kHz	Mode: Tech.: Notes:	Multi-co 2× NR 5 None	arrier operation 5 MHz
BE 1 MHz Channel Power	CCDF Power S	stat CCDF	UBE 1P Channel	C Power	UBE 1M Channel Power
KEYSIGHT Input: RF LT ↔ Coupling: I Align: Auto	Corrections: On Freq Ref: Int (S) NFE: Off	Atten: 10 dB Preamp: Off µW Path: Standard #PNO: Føst	Trig: Free Run Gate: Off #IF Gain: Low	Center Freq: 1.9950 Avg[Hold: 100/100 Radio Std: None	325000 GHz
1 Graph			Pof Value 26 4	dBm	Mkr1



Figure 8.5-169: Conducted emission at the upper band edge

Frequency:	1995 MHz	Mode:	Multi-carrier operation	
Meas. BW:	1% of EBW	Tech.:	2× NR 5 MHz	
Limit:	–19 dBm/50 kHz	Notes:	None	



Figure 8.5-168: Conducted emission 1 MHz away from the lower band edge

Frequency:	1929 MHz
Meas. BW:	1 MHz
Limit:	–19 dBm/MHz

Multi-carrier operation Mode: Tech.: 2× NR 5 MHz Notes: None

E	3E 1 MHz Channel Po	wer		CCDF Power Stat	CCDF		UBE Chan	1PC nel P	ower	UBE 1M Channel Power		· +
КЕ L	YSIGHT ↓ • • •	Input: RF Coupling: DC Align: Auto	Input 2 Correct Freq F NFE:	Ž: 50 Ω ctions: On Ref: Int (S) Off	Atten: 10 dB Preamp: Off µW Path: Standard #PNO: Fast	Trig: Fi Gate: (#IF Ga	ree Rui Off in: Low	n r	Center Freq: 1.996500000 Avg[Hold: 100/100 Radio Std: None	GHz		
1 Gr	1 Graph • Mkr1 1.996000000 GHz											
Lo	1						100 40		.2			
36	4											
26	4	~		many ,								
10				11								
10.												
0.4												
-3.6				1								
-13)	6											
-23.)	6	/						1				
-33.)	6								and the second se			
-43.	6						-					
Cen	ter 1.9965	0 GHZ				Video	: BW 30	10.00	kHz*			Span 30 MHz
#Re	s BW 100.	00 kHz									Sweep 4.00 m	s (20001 pts)
2 M	otrics	,										
F	otal Chanr	el Power	-22.22	dBm / 1.00 I	MHz							
	otal Power	Spectral Den	sity	-82.22 dBn	n/Hz							
4	5		? Jun 2 11:4	28, 2023 5:27 AM								

Figure 8.5-170: Conducted emission 1 MHz away from the upper band edge

1996 MHz Frequency: Meas. BW: 1 MHz Limit: –19 dBm/MHz Mode: Multi-carrier operation Tech.: 2× NR 5 MHz Notes: None





On the plots below the measured Channel Power value in the "Total Channel Power" column must be -19 dBm and lower.



Frequency:	1930 MHz
Meas. BW:	1% of EBW
Limit:	–19 dBm/50 kHz

Mode:Multi-carrier operationTech.:3 × NR 5 MHzNotes:None



Figure 8.5-173: Conducted emission at the upper band edge

Frequency:	1995 MHz	Mode:	Multi-carrier operation	
Meas. BW:	1% of EBW	Tech.:	3 × NR 5 MHz	
Limit:	–19 dBm/50 kHz	Notes:	None	



Figure 8.5-172: Conducted emission 1 MHz away from the lower band edge

Frequency:	1929 MHz
Meas. BW:	1 MHz
Limit:	–19 dBm/MHz

Mode:Multi-carrier operationTech.:3 × NR 5 MHzNotes:None



Figure 8.5-174: Conducted emission 1 MHz away from the upper band edge

Frequency: 1996 MHz Meas. BW: 1 MHz Limit: -19 dBm/MHz Mode:Multi-carrier operationTech.:3 × NR 5 MHzNotes:None





On the plots below the measured Channel Power value in the "Total Channel Power" column must be -19 dBm and lower.



Frequency:	1930 MHz
Meas. BW:	1% of EBW
Limit:	–19 dBm/50 kHz

Mode:Multi-carrier operationTech.:6 × NR 5 MHzNotes:None



Figure 8.5-177: Conducted emission at the upper band edge

Frequency:	1995 MHz	Mode:	Multi-carrier operation	
Meas. BW:	1% of EBW	Tech.:	6 × NR 5 MHz	
Limit:	–19 dBm/50 kHz	Notes:	None	

BE 1 MHz Channel Pro UBE 1PC UBE 1M Channel Powe Power + KEYSIGHT Input RF Stat CCDF Run Atten: Pream µW Par Off Center Fr Avg[Hold On (S) Align: Auto Mkr1 1.929000000 GH -35.966 dBr Graph Scale/Div 10.0 dE tef Value 46.40 dBm 1 Center 1.92850 GHz #Res BW 100.00 kHz Span 70 M eep 9.33 ms (20001 p 1 pt Motrics Total Channel Power -26.08 dBm / 1.00 MHz Total Power Spectral Density -86.08 dBm/Hz 📲 🕤 🥂 🔳 🕐 Jun 28, 2023 📿

Figure 8.5-176: Conducted emission 1 MHz away from the lower band edge

Frequency:	1929 MHz
Meas. BW:	1 MHz
Limit:	–19 dBm/MHz

Mode:Multi-carrier operationTech.:6 × NR 5 MHzNotes:None



Figure 8.5-178: Conducted emission 1 MHz away from the upper band edge

Frequency: 1996 MHz Meas. BW: 1 MHz Limit: –19 dBm/MHz Mode:Multi-carrier operationTech.:6 × NR 5 MHzNotes:None





On the plots below the measured Channel Power value in the "Total Channel Power" column must be -19 dBm and lower.



Frequency:	1930 MHz	Mode:	Multi-RAT operation
Meas. BW:	1% of EBW	Tech.:	NR 5 MHz and LTE with IoT1 5 MHz
Limit:	–19 dBm/50 kHz	Notes:	None

BE 1 MHz Channel P	ower	CCDF Power Sta	t CCDF	UBE 1P Channe	C I Power	UBE 1M Channel Power	+
EYSIGH	Input: RF Coupling: DC Align: Auto	Input Z: 50 Ω Corrections: On Freq Ref: Int (S) NFE: Off	Atten: 10 dB Preamp: Off µW Path: Standard #PNO: Fast	Trig: Free Run Gate: Off #IF Gain: Low	Center Freq: 1.995025 Avg[Hold: 100/100 Radio Std: None	5000 GHz	
Graph	۲					Mkr1 1.9	95000000 GH
cale/Div 10.	0 dB			Ref Value 36.4) dBm		-19.947 dBr
og							
5.4				لسلام			
0.4							
6.40							
1.60							
3.6							
3.6							
3.6					<		
13.6					And and a state of the state of		
53.6							
enter 1.995	03 GHz			Video BW 100.	00 kHz*	Sween	Span 160.1 MH
Motrics	T					3 #86b	219113 (2000) pt
Total Chan	nel Power	-21.29 dBm / 50.	0 kHz				
Total Powe	r Spectral Densit	-68.28 dE	3m/Hz				
		Jun 28, 2023	\sim \wedge				

Figure 8.5-181: Conducted emission at the upper band edge

Frequency:	1930 MHz	Mode:	Multi-RAT operation
Meas. BW:	1% of EBW	Tech.:	NR 5 MHz and LTE with IoT1 5 MHz
Limit:	–19 dBm/50 kHz	Notes:	None

Note: "and": non-contiguous channels; "+": contiguous channels



Figure 8.5-180: Conducted emission 1 MHz away from the lower band edge

Frequency:	1929 MHz
Meas. BW:	1 MHz
Limit:	–13 dBm/MHz

 Mode:
 Multi-RAT operation

 Tech.:
 NR 5 MHz and LTE with IoT1 5 MHz

 Notes:
 None

BI	E 1 MHz hannel Po	wer		CCDF Power Stal	CCDF		UBE Char	1PC nel F	ower		UBE 1M Channel Power		· +
	′SIGHT •≠•	Input: RF Coupling: DC Align: Auto	Input 2 Correct Freq R NFE: 0	tions: On ten: Int (S)	Atten: 10 dB Preamp: Off µW Path: Standard #PNO: Fast	Trig: Fi Gate: (#IF Ga	ree Ru Off in: Lov	n r	Center Free Avg[Hold: 1 Radio Std: 1	: 1.996500000 0 00/100 None	Hz		
1 Gra	ph	,									Mkr	1 1.9960	00000 GH
Scale	a/Div 10.0	dB				Ref Va	lue 46	.40	lBm			-3	2.660 dBn
36.4													
26.4							here						
16.4													
6.40													
-3.60													
-13.6								-					
-23.6								1					
-33.6							/	R	· · · · · ·				
-43.6													
Centi #Res	er 1.99650 BW 100.0) GHZ)0 kHZ			*	Video	BW 3	0.00	kHz*			Sweep 20.0 r	Span 160 MH ms (20001 pts
2 Mot	rics	,											
То	tal Chann	el Power	-23.19	dBm / 1.00	MHz								
То	tal Power	Spectral Densit	y	-83.19 dB	m/Hz								
			Juna	8. 2023	<u> </u>								
	-)		12:4	5:47 PM	JΔ							•••	i 66 📈

Figure 8.5-182: Conducted emission 1 MHz away from the upper band edge

Frequency:	1929 MHz	Mode:	Multi-RAT operation
Meas. BW:	1 MHz	Tech.:	NR 5 MHz and LTE with IoT1 5 MHz
Limit:	–19 dBm/MHz	Notes:	None





On the plots below the measured Channel Power value in the "Total Channel Power" column must be -19 dBm and lower.



Frequency:	1930 MHz	Mode:	Multi-RAT operation
Meas. BW:	1% of EBW	Tech.:	3 × NR 5 MHz and 3 × LTE with IoT1 5
			MHz
Limit:	–19 dBm/50 kHz	Notes:	None



Figure 8.5-185: Conducted emission at the upper band edge

Frequency:	1930 MHz	Mode:	Multi-RAT operation
Meas. BW:	1% of EBW	Tech.:	3 × NR 5 MHz and 3 × LTE with IoT1 5 MHz
Limit:	–19 dBm/50 kHz	Notes:	None

Note: "and": non-contiguous channels; "+": contiguous channels



Figure 8.5-184: Conducted emission 1 MHz away from the lower band edge

Frequency:	1929 MHz	Mode:	Multi-RAT operation
Meas BW/	1 MH7	Tech :	3 x NR 5 MHz and 3 x I TE with IoT1
wieus. Dw.	1 101112	<i>Tech.</i>	
			5 MHz
Limit:	–13 dBm/MHz	Notes:	None

BE 1 MHz Channel Po	wer	CCDF Power	Stat CCDF		UBE 1PC Channel I	Power		UBE 1M Channel Power		· +
KEYSIGHT	Input: RF Coupling: DC Align: Auto	Input Z: 50 Ω Corrections: Or Freq Ref: Int (S NFE: Off	Atten: 10 dB Preamp: Off) µW Path: Standard #PNO: Fast	Trig: Fi Gate: (#IF Ga	ree Run Off in: Low	Center Free Avg[Hold: 1 Radio Std: 1	: 1.996500000 00/100 None) GHz		
1 Graph	,							Mkr	1 1.99600	0000 GHz
Scale/Div 10.0	dB			Ref Va	lue 46.40	dBm			-31	1.515 dBm
204					1					
30.4										
20.4		٦.								
10.4										
3.60										
-3.00										
22.6										
23.6					<u> </u>					
43.6	-					-				
Center 1.99650 #Res BW 100.0) GHz)0 kHz		*	Video	BW 300.0) kHz*			Sween 20.0 m	Span 160 MHz ns (20001 pts)
2 Metrics	,									
Total Channe	el Power	-21.68 dBm / 1	.00 MHz							
Total Power	Spectral Densit	y -81.68	dBm/Hz							
4 5	r 🔳 1	Jun 28, 2023 12:53:50 PM							.:: 📡	

Figure 8.5-186: Conducted emission 1 MHz away from the upper band edge

_			
Frequency:	1929 MHz	Mode:	Multi-RAT operation
Meas. BW:	1 MHz	Tech.:	3 × NR 5 MHz and 3 × LTE with IoT1
			5 MHz
Limit:	–19 dBm/MHz	Notes:	None





On the plots below the measured Channel Power value in the "Total Channel Power" column must be -19 dBm and lower.



Frequency:	1930 MHz	Mode:	Multi-RAT operation
Meas. BW:	1% of EBW	Tech.:	NR 5 MHz + LTE with IoT1 5 MHz
Limit:	–19 dBm/50 kHz	Notes:	None



Figure 8.5-189: Conducted emission at the upper band edge

Frequency:	1930 MHz	Mode:	Multi-RAT operation
Meas. BW:	1% of EBW	Tech.:	NR 5 MHz + LTE with IoT1 5 MHz
Limit:	–19 dBm/50 kHz	Notes:	None

Note: "and": non-contiguous channels; "+": contiguous channels



Figure 8.5-188: Conducted emission 1 MHz away from the lower band edge

Frequency:	1929 MHz
Meas. BW:	1 MHz
Limit:	–13 dBm/MHz

 Mode:
 Multi-RAT operation

 Tech.:
 NR 5 MHz + LTE with IoT1 5 MHz

 Notes:
 None

BE 1 MH Channel	iz Power	CCDF Power Stat	CCDF		UBE 1PC Channel I	Power	UBE 1M Channel Power	· +
	T Input: RF Coupling: DC Align: Auto	Input Z: 50 Q Corrections: On Freq Ref: Int (S) NFE: Off	Atten: 10 dB Preamp: Off 0 µW Path: Standard 4 #PNO: Fast	Trig: Fre Gate: O #IF Gair	e Run ff t Low	Center Freq: 1.99650 Avg[Hold: 100/100 Radio Std: None	00000 GHz	
1 Graph	•						Mk	r1 1.996000000 GHz
Scale/Div 1	0.0 dB		F	Ref Valı	ue 46.40	dBm		-32.015 dBm
Log 36.4								
26.4	, and the second	manna .	Ruman	~~~				
16.4		1						
6.40		\(
3.60		V						
-13.6		4		\rightarrow				
-23.6				- 1	- 11			
-33.6	and the second s				-			
-43.6								a de la construcción de la constru La construcción de la construcción d
Center 1.99 #Res BW 10	650 GHz 00.00 kHz		#V	/ideo E	SW 300.0) kHz*		Span 30 MHz Sweep 4.00 ms (20001 pts
2 Metrics	,							
Total Cha	annel Power	-22.28 dBm / 1.00	MHz					
Total Pov	ver Spectral Densit	-82.28 dBr	n/Hz					
1	C 🔳 '	2 Jun 28, 2023 1:06:24 PM	DΔ					.# 🖹 🗄 💥

Figure 8.5-190: Conducted emission 1 MHz away from the upper band edge

-	4020 444		14 W DAT
Frequency:	1929 MHz	Node:	Multi-RAT operation
Meas. BW:	1 MHz	Tech.:	NR 5 MHz + LTE with IoT1 5 MHz
Limit:	–19 dBm/MHz	Notes:	None





On the plots below the measured Channel Power value in the "Total Channel Power" column must be -19 dBm and lower.

Figure 8.5-191: Conducted emission at the lower band edge

Frequency:	1930 MHz	Mode:	Multi-RAT operation
Meas. BW:	1% of EBW	Tech.:	3 × NR 5 MHz + 3 × LTE with IoT1 5
			MHz
Limit:	–19 dBm/50 kHz	Notes:	None



Figure 8.5-193: Conducted emission at the upper band edge

Frequency:	1930 MHz	Mode:	Multi-RAT operation
Meas. BW:	1% of EBW	lech.:	3 × NR 5 MHz + 3 × LTE with IoT1 5 MHz
Limit:	–19 dBm/50 kHz	Notes:	None

Note: "and": non-contiguous channels; "+": contiguous channels



Figure 8.5-192: Conducted emission 1 MHz away from the lower band edge

Frequency	1929 MHz	Mode	Multi-RAT operation
Maga DIM	1 1 1 1	Took i	
weus. Bw.		Tech.:	3 × NK 5 IVIEZ + 3 × LIE WILLI IOI 1
			5 MHz
Limit:	–13 dBm/MHz	Notes:	None

BE ⁴ Cha	I MHz nnel Po	wer		CCDF Power Stat	CCDF		UBE ·	IPC nel P	ower		UBE 1M Channel Power		· +
LT	IGHT •	Input: RF Coupling: DC Align: Auto	Input Corre Freq NFE	:Z: 50 Ω actions: On Ref: Int (S) : Off	Atten: 10 dB Preamp: Off µW Path: Standard #PNO: Fast	Trig: Fi Gate: (#IF Ga	ree Run Off in: Low		Center Freq: Avg[Hold: 10 Radio Std: N	1.996500000 0 0/100 one	энz		
1 Graph		,									Mkr	1 1.996000	000 GH
Scale/E	Div 10.0	dB				Ref Va	lue 46	.40 c	IBm			-34.	434 dBn
36.4													
26.4													
16.4						1	-	-					
6.40				-		1		-					
-3.60			-			+		-					
-13.6			X			-							
-23.6								1					
-33.6							1	T	The second se				
-43.0													
Center #Res B	1.99650 W 100.0) GHz)0 kHz			1	#Video	BW 30	0.00	kHz*			Sweep 10.7 ms	pan 80 MH (20001 pt)
2 Metric	s	,						_					(
Total	Channe	el Power	-24.66	6 dBm / 1.00	MHz								
Tota	Power	Spectral Der	sity	-84.66 dBr	n/Hz								
4	5	C 🔳	? Jun	28, 2023								.:: 😽	

Figure 8.5-194: Conducted emission 1 MHz away from the upper band edge

Frequency:	1929 MHz	Mode:	Multi-RAT operation
Meas. BW:	1 MHz	Tech.:	3 × NR 5 MHz + 3 × LTE with IoT1
			5 MHz
Limit:	–19 dBm/MHz	Notes:	None





On the plots below the measured Channel Power value in the "Total Channel Power" column must be -19 dBm and lower.



Frequency:	1930 MHz	Mode:	Multi-RAT operation
Meas. BW:	1% of EBW	Tech.:	LTE with GB 10 MHz + 3 × NR 5 MHz
Limit:	–13 dBm/100 kHz	Notes:	None



Figure 8.5-197: Conducted emission at the upper band edge

Frequency:	1995 MHz	Mode:	Multi-RAT operation
Meas. BW:	1% of EBW	Tech.:	LTE with GB 10 MHz + 3 × NR 5 MHz
Limit:	–13 dBm/100 kHz	Notes:	None



Figure 8.5-196: Conducted emission 1 MHz away from the lower band edge

Frequency:	1929 MHz
Meas. BW:	1 MHz
Limit:	–13 dBm/MHz

 Mode:
 Multi-RAT operation

 Tech.:
 LTE with GB 10 MHz + 3 × NR 5 MHz

 Notes:
 None



Figure 8.5-198: Conducted emission 1 MHz away from the upper band edge

Frequency:	1996 MHz	Mode:	Multi-RAT operation
Meas. BW:	1 MHz	Tech.:	LTE with GB 10 MHz + 3 × NR 5 MHz
Limit:	–13 dBm/MHz	Notes:	None





On the plots below the measured Channel Power value in the "Total Channel Power" column must be -19 dBm and lower.



Frequency:	1930 MHz	Mode:	Multi-RAT operation
Meas. BW:	1% of EBW	Tech.:	NR 40 MHz + 3 × LTE 5 MHz + NR 10
			MHz
Limit:	–13 dBm/400 kHz	Notes:	None

BE 1 MHz Channel Po	wer	CCDF Power Stal	CCDF	UBE 1PC Channel	Power	UBE 1M Channel Power	+
KEYSIGHT LT +≯+	Input: RF Coupling: DC Align: Auto	Input Z: 50 Ω Corrections: On Freq Ref: Int (S) NFE: Off	Atten: 10 dB Preamp: Off µW Path: Standard #PNO: Fast	Trig: Free Run Gate: Off #IF Gain: Low	Center Freq: 1.995200 Avg[Hold: 100/100 Radio Std: None	000 GHz	
Graph	•					Mkr1 1.995	000000 GH
cale/Div 10.0	dB			Ref Value 36.40	dBm		26.982 dBn
.og							
10.4	/						
0.4							
5.40							
.60							
13.6				1			
23.6							
33.6	- M			-	~		
43.6	-						
53.6							
enter 1.99520 Res BW 51.00	0 GHz 00 kHz			Video BW 200.0	0 kHz*	Sweep 75.	Span 160 MH 3 ms (10001 pt
! Metrics	•						
Total Chann	el Power	-25.39 dBm / 400	kHz				
Total Power	Spectral Densit	y -81.41 dBr	n/Hz				
		Jun 28, 2023					

Figure 8.5-201: Conducted emission at the upper band edge

Frequency: Meas. BW:	1995 MHz 1% of EBW	Mode: Tech.:	Multi-RAT operation NR 40 MHz + 3 × LTE 5 MHz + NR 10
			MHz
Limit:	–13 dBm/400 kHz	Notes:	NR 40 MHz on upper channel



Figure 8.5-200: Conducted emission 1 MHz away from the lower band edge

Frequency:	1929 MHz	Mode:	Multi-RAT operation
Meas. BW:	1 MHz	Tech.:	NR 40 MHz + 3 × LTE 5 MHz + NR 10
			MHz
Limit [.]	–13 dBm/MHz	Notes:	None

BE 1 MHz Channel F	r Power	CCDF Power Sta	t CCDF		UBE 1PC Channel P	ower		UBE 1M Channel Power	•	+
LT ++-	T Input: RF Coupling: DC Align: Auto	Input Z: 50 Ω Corrections: On Freq Ref: Int (S) NFE: Off	Atten: 10 dB Preamp: Off µW Path: Standard #PNO: Fast	Trig: Fr Gate: C #IF Gai	ee Run rff n: Low	Center Freq Avg[Hold: 1 Radio Std: N	(; 1.996500000) 00/100 None	GHz		
1 Graph	,							Mk	r1 1.99600000) GHz
Scale/Div 10	.0 dB		1	Ref Val	ue 46.40 d	Bm			-33.800	dBm
Log 36.4					1					
26.4	-									
16.4										
6.40										
-3.60		+ + + +	-							
-13.6										
-23.6										
-33.6					T					
-43.6										
Center 1.996 #Res BW 10	50 GHz 0.00 kHz			Video I	BW 300.00	kHz*			Span 1 Sweep 20.0 ms (100	60 MH: 001 pts
2 Metrics	,									
Total Cha	nel Power	-23.97 dBm / 1.0	MHz							
Total Pow	er Spectral Density	-83.97 dB	3m/Hz							
		Jun 28, 2023	\sim							XX

Figure 8.5-202: Conducted emission 1 MHz away from the upper band edge

Frequency:	1996 MHz	Mode:	Multi-RAT operation
Meas. BW:	1 MHz	Tech.:	NR 40 MHz + 3 × LTE 5 MHz + NR 10
			MHz
Limit:	–13 dBm/MHz	Notes:	NR 40 MHz on upper channel



8.6 Receiver conducted spurious emissions (Band 66 & 2/25)

8.6.1 Definitions and limits

RSS-Gen, 7.4

If the receiver has a detachable antenna of known impedance, an antenna-conducted spurious emissions measurement is permitted as an alternative to radiated measurement. However, the radiated method of section 7.3 is preferred.

The antenna-conducted test shall be performed with the antenna disconnected and with the receiver antenna port connected to a measuring instrument having equal input impedance to that specified for the antenna. The RF cable connecting the receiver under test to the measuring instrument shall also have the same impedance to that specified for the receiver's antenna.

The spurious emissions from the receiver at any discrete frequency, measured at the antenna port by the antenna-conducted method, shall not exceed 2 nW in the frequency range 30–1000 MHz and 5 nW above 1 GHz.

8.6.2 Test summary

Test date	June 29, 2023
Test engineer	Nimish Kapoor

8.6.3 Observations, settings and special notes

The actual limit lines are 2 nW (-56.98 dBm) for 30-1000 MHz range and 5 nW (-53.01 dBm) for above 1 GHz range. The 6 dB compensation to compensate for 4 ports will make the limits lines -63.98 dBm for 30-1000 MHz and -59.01 dBm for above 1 GHz and the scan is below these limits as well.

Spectrum analyzer settings:

Detector mode	RMS
Resolution bandwidth	1 MHz
Video bandwidth	RBW × 3
Trace mode	Averaging

8.6.4 Test data





Figure 8.6-1: Receiver conducted spurious emissions for Band 25

Figure 8.6-2: Receiver conducted spurious emissions for Band 66



8.7 Frequency stability (Band 66)

8.7.1 Definitions and limits

FCC 27.54:

The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

RSS-139, Section 5.4:

The frequency stability shall be sufficient to ensure that the occupied bandwidth stays within the operating frequency block when tested to the temperature and supply voltage variations specified in RSS-Gen.

8.7.2 Test summary

Test date	June 29, 2023
Test engineer	Nimish Kapoor

8.7.3 Observations, settings and special notes

Testing was performed per ANSI C63.26 Paragraphs 5.6.3, 5.6.4 and 5.6.5 methods. 26 dBc points including frequency tolerance were assessed to remain within assigned band.

8.7.4 Test data

Table 8.7-1: Frequency error results

Temperature, °C	Voltage, V _{DC}	Frequency error, Hz
-40	48.0	-8.864
-30	48.0	7.411
-20	48.0	-7.073
-10	48.0	-7.874
0	48.0	-7.035
+10	48.0	-9.086
+20	40.8	7.361
+20	48.0	-7.565
+20	55.2	-7.868
+30	48.0	7.604
+40	48.0	-9.472
+50	48.0	9.757
+55	48.0	6.463

Max negative drift: -9.472 Hz, Max positive drift: +9.757 Hz.



8.8 Frequency stability (Band 2/25)

8.8.1 Definitions and limits

FCC 24.235:

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

RSS-133, Section 6.3:

The carrier frequency shall not depart from the reference frequency, in excess of ±2.5 ppm for mobile stations and ±1.0 ppm for base stations.

In lieu of meeting the above stability values, the test report may show that the frequency stability is sufficient to ensure that the emission bandwidth stays within the operating frequency block when tested to the temperature and supply voltage variations specified in RSS-Gen.

8.8.2 Test summary

Test date	June 29, 2023
Test engineer	Nimish Kapoor

8.8.3 Observations, settings and special notes

Testing was performed per ANSI C63.26 Paragraphs 5.6.3, 5.6.4 and 5.6.5 methods. 26 dBc points including frequency tolerance were assessed to remain within assigned band. The maximum allowed drift (±1.0 ppm) is ±1935 Hz

8.8.4 Test data

Table 8.8-1: Frequency error results

Temperature, °C	Voltage, V _{DC}	Frequency error, Hz
-40	48.0	-8.485
-30	48.0	10.364
-20	48.0	-7.470
-10	48.0	7.304
0	48.0	6.986
+10	48.0	-7.176
+20	40.8	7.725
+20	48.0	-7.628
+20	55.2	7.162
+30	48.0	-9.177
+40	48.0	11.728
+50	48.0	-7.192
+55	48.0	-6.318

Max negative drift: – 9.177 Hz, Max positive drift: +11.728 Hz.



8.9 Occupied bandwidth (Band 66)

8.9.1 Definitions and limits

FCC §2.1049:

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.

RSS-Gen, 6.7

The occupied bandwidth or the "99% emission bandwidth" is defined as the frequency range between two points, one above and the other below the carrier frequency, within which 99% of the total transmitted power of the fundamental transmitted emission is contained. The occupied bandwidth shall be reported for all equipment in addition to the specified bandwidth required in the applicable RSSs.

8.9.2 Test summary

Test date	June 26, 2023
Test engineer	Nimish Kapoor

8.9.3 Observations, settings and special notes

Testing was performed per ANSI C63.26 Paragraphs 5.4.3 and 5.4.4 methods.

Spectrum analyzer settings:

Detector mode	Peak
Resolution bandwidth	≥1% of EBW
Video bandwidth	RBW × 3
Trace mode	Max Hold

8.9.4 Test data

Table 8.9-1: Occupied bandwidth results for LTE 5 MHz channel

Remarks	Frequency, MHz	26 dB BW, MHz	99% OBW, MHz
5 MHz, Low channel	2112.5	4.863	4.493
5 MHz, Mid channel	2155.0	4.870	4.491
5 MHz, Top channel	2197.5	4.870	4.491
5 MHz with IoT1, Low channel	2112.5	4.799	4.488
5 MHz with IoT1, Mid channel	2155.0	4.803	4.490
5 MHz with IoT1, Top channel	2197.5	4.781	4.489
5 MHz with IoT2, Low channel	2112.5	4.821	4.490
5 MHz with IoT2, Mid channel	2155.0	4.820	4.495
5 MHz with IoT2, Top channel	2197.5	4.816	4.494

Table 8.9-2: Occupied bandwidth results for LTE 10 MHz channel

Remarks	Frequency, MHz	26 dB BW, MHz	99% OBW, MHz
10 MHz, Low channel	2115.0	9.706	8.996
10 MHz, Mid channel	2155.0	9.727	8.991
10 MHz, Top channel	2195.0	9.728	8.999
10 MHz with IoT, Low channel	2115.0	9.841	9.228
10 MHz with IoT, Mid channel	2155.0	9.823	9.217
10 MHz with IoT, Top channel	2195.0	9.841	9.241



Table 8.9-3: Occupied bandwidth results for LTE 15 MHz channel

Remarks	Frequency, MHz	26 dB BW, MHz	99% OBW, MHz
15 MHz, Low channel	2117.5	14.550	13.482
15 MHz, Mid channel	2155.0	14.520	13.487
15 MHz, Top channel	2192.5	14.530	13.489
15 MHz with IoT, Low channel	2117.5	14.720	13.786
15 MHz with IoT, Mid channel	2155.0	14.760	13.792
15 MHz with IoT, Top channel	2192.5	14.730	13.790

Table 8.9-4: Occupied bandwidth results for LTE 20 MHz channel

Remarks	Frequency, MHz	26 dB BW, MHz	99% OBW, MHz
20 MHz, Low channel	2120.0	19.250	17.934
20 MHz, Mid channel	2155.0	19.310	17.910
20 MHz, Top channel	2190.0	19.250	17.914
20 MHz with IoT, Low channel	2120.0	19.390	18.185
20 MHz with IoT, Mid channel	2155.0	19.270	18.208
20 MHz with IoT, Top channel	2190.0	19.420	18.216

Table 8.9-5: Occupied bandwidth results for NR 5 MHz channel

Remarks	Frequency, MHz	26 dB BW, MHz	99% OBW, MHz
5 MHz, Low channel	2112.5	4.894	4.510
5 MHz, Mid channel	2155.0	4.877	4.481
5 MHz, Top channel	2197.5	4.880	4.506

Table 8.9-6: Occupied bandwidth results for NR 10 MHz channel

Remarks	Frequency, MHz	26 dB BW, MHz	99% OBW, MHz
10 MHz, Low channel	2115.0	9.840	9.301
10 MHz, Mid channel	2155.0	9.846	9.308
10 MHz, Top channel	2195.0	9.878	9.296

Table 8.9-7: Occupied bandwidth results for NR 15 MHz channel

Remarks	Frequency, MHz	26 dB BW, MHz	99% OBW, MHz
15 MHz, Low channel	2117.5	14.980	14.141
15 MHz, Mid channel	2155.0	14.990	14.158
15 MHz, Top channel	2192.5	14.940	14.138

Table 8.9-8: Occupied bandwidth results for NR 20 MHz channel

Remarks	Frequency, MHz	26 dB BW, MHz	99% OBW, MHz
20 MHz, Low channel	2120.0	19.850	18.911
20 MHz, Mid channel	2155.0	19.910	18.928
20 MHz, Top channel	2190.0	19.920	18.898



Table 8.9-9: Occupied bandwidth results for NR 25 MHz channel

Remarks	Frequency, MHz	26 dB BW, MHz	99% OBW, MHz
25 MHz, Low channel	2122.5	24.930	23.762
25 MHz, Mid channel	2155.0	24.980	23.762
25 MHz, Top channel	2187.5	24.950	23.755

Table 8.9-10: Occupied bandwidth results for NR 30 MHz channel

Remarks	Frequency, MHz	26 dB BW, MHz	99% OBW, MHz
30 MHz, Low channel	2125.0	29.900	28.565
30 MHz, Mid channel	2155.0	29.960	28.554
30 MHz, Top channel	2185.0	29.910	28.505

 Table 8.9-11: Occupied bandwidth results for NR 40 MHz channel

Remarks	Frequency, MHz	26 dB BW, MHz	99% OBW, MHz
40 MHz, Low channel	2130.0	39.990	38.576
40 MHz, Mid channel	2155.0	39.990	38.559
40 MHz, Top channel	2180.0	39.990	38.532