

Keysight Spectrum Analy	zer - Swept SA 50 Ω AC	CORREC	SENSE:INT		05:33:24 PM Mar 12, 2018	
	NFE	PNO: Fast 🗔		#Avg Type: RMS	TRACE 1 2 3 4 5 6 TYPE A WWWW DET A N N N N N	Frequency
0 dB/div Ref 20	0.00 dBm	IFGain:Low	Atten: 30 dB		Mkr1 787.00 MHz -50.16 dBm	Auto Tur
10.0						Center Fre 893.500000 MF
0.0					DL1 -13.00 dBm	Start Fre 787.000000 Mi
0.0						Stop Fre 1.000000000 GH
0.0 1 0.0						CF Ste 21.300000 MI <u>Auto</u> Mi
	ndaladerinteraporteta	Mana ang ang ang ang ang ang ang ang ang	a factor construction of the state	pring the sign of the the standard of the stan	al-ula de clandqui y na cigni anti y tradicio prince	Freq Offs 0 I
						Scale Typ
tart 0.7870 GHz Res BW 100 kHz	2	#VBW	/ 300 kHz	Sweep	Stop 1.0000 GHz 10.22 ms (4261 pts)	Log <u>L</u>
G 連 Points change	d; all traces	cleared		STA	TUS	

Plot 7-107. Conducted Spurious Plot (Band 13 - 10.0MHz QPSK - RB Size 1, RB Offset 0)



Plot 7-108. Conducted Spurious Plot (Band 13 - 10.0MHz QPSK - RB Size 1, RB Offset 0)

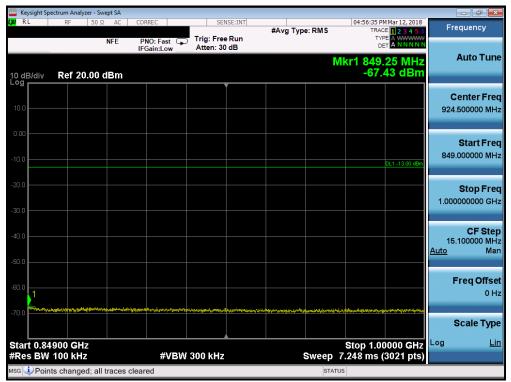
FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕕 LG	Approved by: Quality Manager	
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Band 5

	ectrum Analyzer -						
XU RL	RF 50	DΩ AC NFE	CORREC PNO: Fast	Trig: Free Run Atten: 30 dB	#Avg Type: RMS	04:56:26 PM Mar 12, 2018 TRACE 1 2 3 4 5 6 TYPE A WWWW DET A N N N N N	Frequency
10 dB/div	Ref 20.0	0 dBm			N	lkr1 820.20 MHz -36.03 dBm	Auto Tune
10.0							Center Freq 426.500000 MHz
-10.0						DL1 -13.00 dBm	Start Freq 30.000000 MHz
-20.0						1	Stop Freq 823.000000 MHz
-40.0							CF Step 79.300000 MHz <u>Auto</u> Mar
-60.0							Freq Offset 0 Hz
-70.0		Charles 1. However, and				a gan a gan a sa a a a a a gan a mar na tha tha a sa a sa a sa a sa a sa a sa	Scale Type
Start 30.0 #Res BW			#VBN	/ 300 kHz	Sweep 3	Stop 823.0 MHz 8.06 ms (15861 pts)	Log <u>Lin</u>
MSG					STATU	JS	

Plot 7-109. Conducted Spurious Plot (Band 5 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)



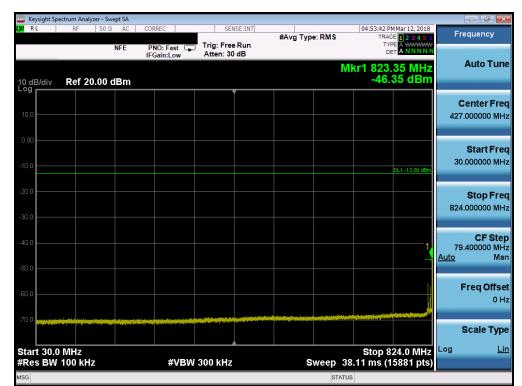
Plot 7-110. Conducted Spurious Plot (Band 5 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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	ectrum Analy											
(XIRL	RF	50 Ω A	AC CO	RREC	SE	NSE:INT	#Avg Typ	e RMS		M Mar 12, 2018	Fre	equency
		NFE		NO: Fast (Gain:Low	Trig: Fre #Atten: 3				TY D			Auto Tune
10 dB/div Log	Ref 7.	00 dBm						M	kr1 1.64 -43.	9 0 GHz 58 dBm		Auto rune
						Ĭ						enter Freq
-3.00											5.500	000000 GHz
-13.0										DL1 -13.00 dBm		
											1.000	Start Freq
-23.0												
-33.0												Stop Freq
-43.0	♦1										10.000	000000 GHz
-43.0							مىرىغ بىلىر بىر بىر ب		-			
-53.0			Maguel	\sim	and the second designment of the second design						900	CF Step .000000 MHz
-63.0											<u>Auto</u>	Man
-63.0												
-73.0											F	Freq Offset 0 Hz
												0112
-83.0											:	Scale Type
Start 1.00	0 GHz								Stop 10	.000 GHz	Log	Lin
#Res BW		z		#VB	W 3.0 MHz		s	weep 1	5.60 ms (1	8001 pts)		
MSG								STATL	JS			

Plot 7-111. Conducted Spurious Plot (Band 5 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)



Plot 7-112. Conducted Spurious Plot (Band 5 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager	
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	ectrum Analyze							
LXI RL	RF	50 Ω AC	CORREC	SENSE:	INT #Avg Ty	pe: RMS	04:53:50 PM Mar 12, 2018 TRACE 1 2 3 4 5 6	Frequency
		NFE	PNO: Fast G	Trig: Free Ru Atten: 30 dE		М	кr1 849.75 MHz -55.97 dBm	Auto Tune
10 dB/div Log	Ref 20.	00 dBm					-55.97 0611	
10.0								Center Freq 924.500000 MHz
-10.0							DL1 -13.00 dBm	Start Freq 849.000000 MHz
-20.0								Stop Freq 1.000000000 GHz
-40.0								CF Step 15.100000 MHz <u>Auto</u> Mar
-60.0								Freq Offset 0 Hz
-70.0			ensäärtäyl ^a siteesen etteringa _e nsäärtäyt		۲۳)))))) ۱۳۳۹ - ۲۰۰۹)) ۱۳۳۹ - ۲۰۰۹) ۱۳۳۹ - ۲۰۰۹ - ۲۰۰۹ ۱۳۳۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹	<u>,</u>	ŢŢŢŶĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸ	Scale Type
Start 0.84 #Res BW			#VBW	/ 300 kHz		Sweep 7	Stop 1.00000 GHz .248 ms (3021 pts)	Log <u>Lin</u>
мsg 🗼 Poin	ts changed	l; all traces o	leared			STATUS	3	

Plot 7-113. Conducted Spurious Plot (Band 5 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)



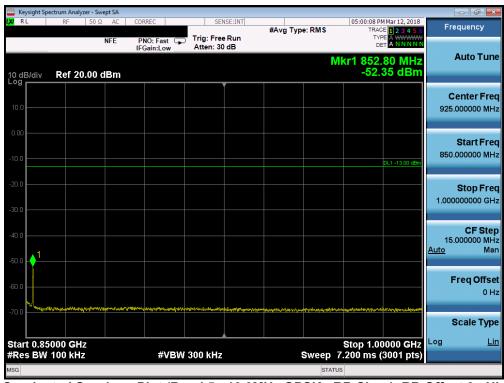
Plot 7-114. Conducted Spurious Plot (Band 5 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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NFE PNO: Fast IFGain:Low Trig: Free Run Atten: 30 dB Trig: Free Run Det Trig: Free		ectrum Analyz		A									
Induitive region Mkr1 822.00 MHz -57.31 dBm Auto Tune 00 dB/div Ref 20.00 dBm -57.31 dBm Center Freq 427.00000 MHz 00 dB/div Ref 20.00 dBm -57.31 dBm Center Freq 427.00000 MHz 00 dB/div Ref 20.00 dBm -57.31 dBm Center Freq 427.00000 MHz 00 dB/div Ref 20.00 dBm -57.31 dBm Start Freq 30.000000 MHz 00 dB/div Ref 20.00 dBm -57.31 dBm Start Freq 30.000000 MHz 00 dB/div Ref 20.00 dBm -57.31 dBm Start Freq 30.000000 MHz 00 dB/div Ref 20.00 dBm -57.31 dBm Start Freq 30.000000 MHz 00 dB/div Ref 20.00 dBm -57.31 dBm -57.31 dBm 00 dB/div -57.31 dBm -57.31 dBm -57.31 dBm 200 dB/div -57.31 dBm -57.31 dBm -57.31 dBm 200 dB/div -57.31 dBm -57.31 dBm -57.31 dBm 200 dB/div -57.31 dBm -57.31 dBm	LXI RL	RF		P	NO: Fast G	Trig: Fre	e Run	#Avg Typ	e: RMS	TRAC	E 1 2 3 4 5 6	F	requency
Center Free 427.00000 MH2 30.000000 MH2 30.000000 MH2 30.000000 MH2 30.000000 MH2 30.000000 MH2 30.000000 MH2 30.00000 MH2 30.0000 MH2 30.00000 MH2 30.00000 MH2 30.00000 MH2 30.00000 MH2 30.00000 MH2 30.00000 MH2 30.00000 MH2 30.00000 MH2 30.00000 MH2 400 500 500 500 500 500 500 500 500 500	10 dB/div	Ref 20	.00 dBn		Gain:Low	Atten: 30) dB		N	/kr1 822	00 MHz		Auto Tune
100 Xtart Free 30.000000 MHz 200 Xtart Free 30.00000 MHz 200	10.0												
Stop Free B24.00000 MHz CF Step 79.400000 MHz CF Step 79.400000 MHz Mate Mar Stop 824.0 MHz Sweep 38.11 ms (15881 pts)	-10.0										DL1 -13.00 dBm	30	Start Freq 0.000000 MHz
4400 79.400000 MHz 500 1 600 1 600 1 77.0 1	-20.0											824	Stop Freq 1.000000 MHz
 and a second seco	-40.0										1		9.400000 MHz
Scale Type Start 30.0 MHz Stop 824.0 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 38.11 ms (15881 pts)	-60.0	an dama kama di			de a barre e di	للمحدق بالمراجع من المراجع ال	the second s	anti-table juited in second	and to find the	a section of the section of the section			
	Start 30.0		headday both			n (a la constitución de secondo				Stop 8	24.0 MHz		Scale Type Lin
		100 kHz			#VBV	V 300 kHz		s		_	5881 pts)		

Plot 7-115. Conducted Spurious Plot (Band 5 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)



Plot 7-116. Conducted Spurious Plot (Band 5 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

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	pectrum Analyzer - S	wept SA						
L <mark>XI</mark> RL	RF 50	Ω AC	CORREC	SENSE	#Avg Typ	e: RMS	05:00:38 PM Mar 12, 2018 TRACE 1 2 3 4 5 6	Frequency
		NFE	PNO: Fast IFGain:Low	Trig: Free R #Atten: 30 d			TYPE A WWWWW DET A NNNN	Auto Tune
10 dB/div Log	Ref 0.00 (dBm				Mk	r1 1.679 0 GHz -42.31 dBm	Auto Tune
				Ĭ				Center Freq
-10.0							DL1 -13.00 dBm	5.500000000 GHz
-20.0								Start Freq
-30.0								1.000000000 GHz
-40.0	1							
	Ť					н.		Stop Freq 10.000000000 GHz
-50.0		in the second	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	and the second s				
-60.0								CF Step 900.000000 MHz
-70.0								<u>Auto</u> Man
-80.0								Freq Offset
								0 Hz
-90.0								Scale Type
Start 1.0							Stop 10.000 GHz	Log <u>Lin</u>
#Res BW	1.0 MHz		#VBW	/ 3.0 MHz	S	weep 15	60 ms (18001 pts)	
MSG						STATUS		

Plot 7-117. Conducted Spurious Plot (Band 5 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

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Keysight Spectrum Analy;							
XURL RF	50 Ω AC NFE	PNO: Fast IFGain:Low	SENSE:INT Trig: Free Run Atten: 30 dB	#Avg Typ	e: RMS	07:43:45 PM Mar 09, 2018 TRACE 1 2 3 4 5 6 TYPE A WWWW DET A N N N N N	Frequency
	.00 dBm	IFGam:Low	Atten: 00 dB		Mk	r1 1.709 0 GHz -30.52 dBm	Auto Tun
10.0							Center Fre 869.500000 MH
-10.0						DL1 -13.00 dBm	Start Fre 30.000000 MH
-20.0						1	Stop Fre 1.709000000 GF
40.0							CF Ste 167.900000 MH <u>Auto</u> Ma
60.0	and the second	**************************************		anan yaku kasa an salayada an darifik karan	,		Freq Offs 0 H
-70.0							Scale Typ
Start 0.0300 GHz #Res BW 1.0 MHz	2	#VBW	3.0 MHz		Sweep 2	Stop 1.7090 GHz .239 ms (3359 pts)	Log <u>Li</u>
ISG					STATUS		

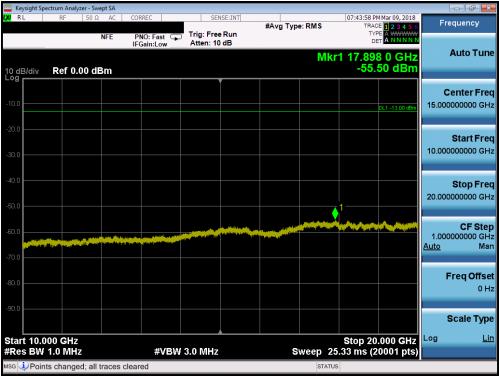
Plot 7-118. Conducted Spurious Plot (Band 66/4 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)



Plot 7-119. Conducted Spurious Plot (Band 66/4 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager	
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Plot 7-120. Conducted Spurious Plot (Band 66/4 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)



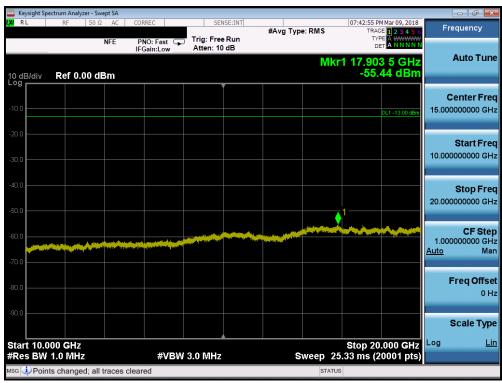
Plot 7-121. Conducted Spurious Plot (Band 66/4 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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Keysight Spectrum Analysis						
LXI RL RF	50 Ω AC	CORREC	SENSE:INT	#Avg Type: RMS	07:42:47 PM Mar 09, 2018 TRACE 1 2 3 4 5 6	Frequency
	NFE	PNO: Fast 🖵 IFGain:Low	Trig: Free Run Atten: 30 dB	м	TYPE A WWWW DET A NNNNN kr1 7.450 0 GHz	Auto Tune
10 dB/div Ref 2	0.00 dBm				-43.50 dBm	
10.0						Center Freq 5.890000000 GHz
0.00						
-10.0						Start Freq 1.78000000 GHz
-10.0					DL1 -13.00 dBm	
-20.0						Stop Freq 10.000000000 GHz
-30.0						10.00000000 GHz
-40.0				<mark>1</mark>		CF Step 822.000000 MHz
-50.0	mul	\sim	and the second s			<u>Auto</u> Man
-60.0						Freq Offset
-00.0						0 Hz
-70.0						Scale Type
Start 1.780 GHz #Res BW 1.0 MH	z	#VBW	3.0 MHz	Sweep 1	Stop 10.000 GHz 4.25 ms (16441 pts)	Log <u>Lin</u>
MSG				STATU	S	

Plot 7-122. Conducted Spurious Plot (Band 66/4 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)



Plot 7-123. Conducted Spurious Plot (Band 66/4 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager	
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🔤 Keysight S	pectrum Analyzer -	Swept SA									x
LXU RL	RF 50	NFE	CORREC		Run	#Avg Type	RMS	TRAC	MMar 09, 2018 E 1 2 3 4 5 6 E A WWWW A N N N N N	Frequency	
10 dB/div Log	Ref 20.00		IFGain:Low	Atten: 30	dB		MI	(r1 1.63	3 5 GHz 67 dBm	Auto Tu	ine
10.0										Center Fr 870.000000 M	
-10.0									DL1 -13.00 dBm	Start Fr 30.000000 M	
-20.0										Stop Fr 1.710000000 G	
-40.0						an a saidhdeach id			1	CF St 168.000000 M <u>Auto</u> M	
-60.0	17-65-24 -84-14-16-19-14-24-2	1999 - 19	/paginania/gao.compania/200779/4446							Freq Offs 0	set Hz
Start 0.0			#\(P)	N 2 0 BALL					100 0112		/pe Lin
#Res BW	1.0 MHz		#VB	A/ 3.0 MHz			Sweep 2		3361 pts)		

Plot 7-124. Conducted Spurious Plot (Band 66/4 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)



Plot 7-125. Conducted Spurious Plot (Band 66/4 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager	
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🔤 Keysight Sp	pectrum Analyz	zer - Swept SA								
LX/ RL	RF	50 Ω AC	CORREC PNO: Fas	Trig: Fre		#Avg Typ	e:RMS	TRAC	M Mar 09, 2018 CE 1 2 3 4 5 6 DE A WWWW T A N N N N N	Frequency
10 dB/div	Ref 0.0	00 dBm	IFGain:Lo	Atten: 1) dB		Mk	r1 17.91		Auto Tune
-10.0									DL1 -13.00 dBm	Center Freq 15.000000000 GHz
-20.0										Start Fred 10.000000000 GHz
-40.0										Stop Fred 20.000000000 GHz
-60.0		a second s	na dia minina amin'ny fisiana managena dia managena				and the product of the second			CF Step 1.000000000 GHz <u>Auto</u> Mar
-70.0										Freq Offse 0 H:
-90.0										Scale Type
Start 10. #Res BW		2	#	VBW 3.0 MHz		s	weep 2	20 Stop 5.33 ms	.000 0112	Log <u>Lir</u>
MSG							STAT	US		

Plot 7-126. Conducted Spurious Plot (Band 66/4 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

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Band 2

	ectrum Analyzer - Swept SA					
X RL Start Free	RF 50 Ω AC q 30.000000 MHz NFE			#Avg Type: RMS	08:27:32 PM Mar 07, 2018 TRACE 1 2 3 4 5 6 TYPE A WWWW DET A NNNNN	Frequency
10 dB/div Log	Ref 20.00 dBm	IPGain.LOw Atten. (М	kr1 1.849 0 GHz -27.689 dBm	Auto Tune
10.0						Center Fred 939.500000 MH:
-10.0					DL1 -13.00 dBm	Start Free 30.000000 MH
-20.0					1 	Stop Free 1.849000000 GH
-40.0						CF Ste 181.900000 MH <u>Auto</u> Ma
60.0	tereserven an	nanasana ana ana ana ana ana ana ana ana				Freq Offse 0 H
Start 0.03	00 GHz				Stop 1.8490 GHz	Scale Type
#Res BW		#VBW 3.0 MH	Z	Sweep	2.425 ms (3639 pts)	
ISG				STATU	S	

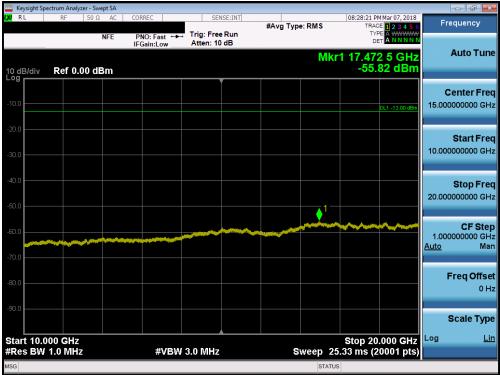
Plot 7-127. Conducted Spurious Plot (Band 2 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)



Plot 7-128. Conducted Spurious Plot (Band 2 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

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Plot 7-129. Conducted Spurious Plot (Band 2 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)



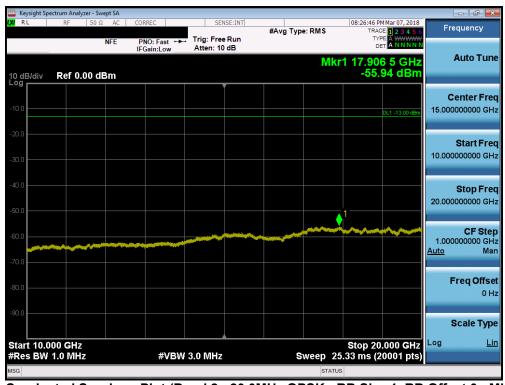
Plot 7-130. Conducted Spurious Plot (Band 2 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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	ectrum Analyze									_	- # X
(X) RL	RF	50 Ω AC	CORREC	SE	NSE:INT	#Avg Typ	e: RMS		M Mar 07, 2018 CE 1 2 3 4 5 6	Fre	equency
		NFE	PNO: Fast G	Trig: Free Atten: 30			N	TΥ			Auto Tune
10 dB/div Log	Ref 20.	00 dBm						-41	25 dBm		
					Í					С	enter Freq
10.0										5.955	000000 GHz
0.00											Otort Eron
-10.0										1.910	Start Freq 000000 GHz
									DL1 -13.00 dBm		
-20.0										40.000	Stop Freq
-30.0										10.000	000000 GHz
-40.0		↓ ¹									CF Step
										809. <u>Auto</u>	000000 MHz Man
-50.0											
-60.0										F	req Offset 0 Hz
-70.0											
										:	Scale Type
Start 1.91					<u> </u>		L	Stop 10		Log	Lin
#Res BW	1.0 MHz		#VB\	N 3.0 MHz		s	weep '	14.02 ms (*	6181 pts)		
mod							SIAI				

Plot 7-131. Conducted Spurious Plot (Band 2 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)



Plot 7-132. Conducted Spurious Plot (Band 2 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

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Keysight Spe	ectrum Analyzer - Swe	ept SA								
L <mark>XI</mark> RL	RF 50 Ω	AC (PNO: Fast	, Trig: Free		#Avg Typ	e:RMS	TRAC	MMar 07, 2018 E 1 2 3 4 5 6 E A WWWW A N N N N N	Frequency
10 dB/div Log	Ref 20.00 d		IFGain:Low	Atten: 30) dB		Μ		2 0 GHz 44 dBm	Auto Tun
10.0										Center Free 940.000000 MH
-10.0									DL1 -13.00 dBm	Start Free 30.000000 MH
-20.0										Stop Free 1.850000000 GH
-40.0				المراجع المراجع المراجع المراجع			ing and the second s		analisis (alistation)	CF Stej 182.000000 MH <u>Auto</u> Mai
-60.0	**************************************									Freq Offse 0 H
Start 0.03								Stop 1.	3500 GHz	Scale Type Log <u>Li</u> i
#Res BW	1.0 MHZ		#VBM	3.0 MHz			Sweep		3641 pts)	

Plot 7-133. Conducted Spurious Plot (Band 2 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)



Plot 7-134. Conducted Spurious Plot (Band 2 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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E Keysight	Spectrum Anal	yzer - Swept SA	4									r X
lxi Rl	RF	50 Ω A				VSE:INT	#Avg Ty	e: RMS	TR	PM Mar 07, 2018 ACE 123456	Freque	ncy
		NFE		IO: Fast ↔ Gain:Low	Trig: Free Atten: 10					YPE A WWWWW DET A N N N N N		_
10 dB/div Log	Ref 0	.00 dBm						Μ	lkr1 17.4 -56	80 5 GHz 6.00 dBm	Auto	o Tune
-10.0										DL1 -13.00 dBm	Cente 15.0000000	e r Freq 100 GHz
-20.0											Sta 10.0000000	rt Freq 00 GHz
-40.0											Sto 20.0000000	p Freq 00 GHz
-60.0					-						C 1.0000000 <u>Auto</u>	F Step 00 GHz Man
-70.0											Freq	Offset 0 Hz
-90.0												e Type
	0.000 GHz N 1.0 MH			#VBW	3.0 MHz			Sweep	Stop 2 25.33 ms	0.000 GHz (20001 pts)	Log	Lin
MSG									ATUS			

Plot 7-135. Conducted Spurious Plot (Band 2 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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7.4 Band Edge Emissions at Antenna Terminal

Test Overview

All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

The minimum permissible attenuation level of any spurious emission is $43 + \log_{10}(P_{[Watts]})$, where P is the transmitter power in Watts.

Test Procedure Used

KDB 971168 D01 v03 - Section 6.0

Test Settings

- 1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
- 2. Span was set large enough so as to capture all out of band emissions near the band edge
- 3. RBW \geq 1% of the emission bandwidth
- 4. VBW <u>></u> 3 x RBW
- 5. Detector = RMS
- 6. Number of sweep points $\geq 2 \times \text{Span/RBW}$
- 7. Trace mode = trace average
- 8. Sweep time = auto couple
- 9. The trace was allowed to stabilize

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

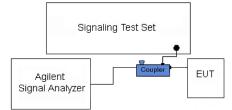


Figure 7-3. Test Instrument & Measurement Setup

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Test Notes

Per 22.917(b) 24.238(a) 27.53(h) in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to demonstrate compliance with the out-of-band emissions limit. 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 emission are attenuated at least 26 dB below the transmitter power.

Per 27.53(g) for operations in the 600 MHz band, and in the 698-746 MHz band, in the 100 kHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least 30 kHz may be employed to demonstrate compliance with the out-of-band emissions limit.

Per 27.53(c)(5) for operations in the 776-788 MHz band, in the 100 kHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least 30 kHz may be employed to demonstrate compliance with the out-of-band emissions limit.

For all plots showing emissions in the 763 - 775MHz and 793 - 805MHz band, the FCC limit per 27.53(c)(4) is $65 + 10log_{10}(P) = -35dBm$ in a 6.25kHz bandwidth.

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Plot 7-136. Lower Band Edge Plot (Band 71 - 5.0MHz QPSK - Full RB Configuration)



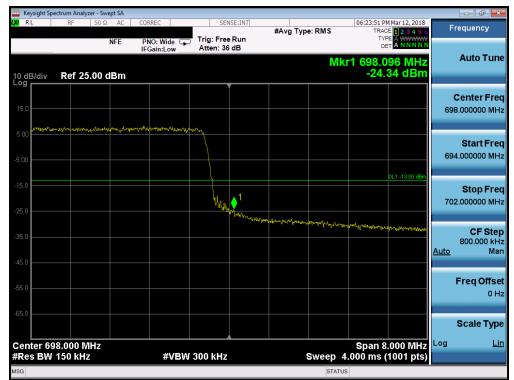
Plot 7-137. Upper Band Edge Plot (Band 71 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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RL RF	50 Ω AC	CORREC	SENSE:INT			06:23:25 PM Mar 12, 2018	_	
	NFE	PNO: Wide	Trig: Free Run	#Avg Type	RMS	TRACE 1 2 3 4 5 6 TYPE A WWWW	Frequenc	y
	NFC	IFGain:Low	Atten: 36 dB			DETANNNN		
					Mk	r1 663.000 MHz	Auto 1	Tur
0 dB/div Ref 25	.00 dBm					-22.318 dBm		
°g			Ĭ				0	-
15.0							Center 663.000000	
13.0							663.000000	וואו נ
5.00				mytemeter	wanterhater	www.whiterester		
							Start	Fr
5.00							659.000000	D M
5.0						DL1 -13.00 dBm	Stop	Er
			↓ ¹ .√				Stop 667.000000	
25.0		No. 1. London March	and the second second second				007.000000	
o and the second and the second	water and the second	Winner Marin and						
35.0 Multi-Induction							CF : 800.000	
							Auto	M
15.0								
							Freq O	ffc
5.0							Trequ	0
65.0							0	-
							Scale ⁻	чy
enter 663.000 M	Hz					Span 8.000 MHz	Log	L
Res BW 150 kHz		#VBW	300 kHz	ş	Sweep 4	.000 ms (1001 pts)		
G					STATUS			_

Plot 7-138. Lower Band Edge Plot (Band 71 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-139. Upper Band Edge Plot (Band 71 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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RL	ectrum Analyz RF			CORREC		SI	ENSE:INT			06:13:00	PM Mar 12, 2018		
								#Avg Ty	pe: RMS	TRA	CE 1 2 3 4 5 6	F	requency
		NF		PNO: Wi IFGain:L	de 🖵 ow	Atten: 3				I			
									M	kr1 662.	952 MHz .15 dBm		Auto Tu
0 dB/div og r	Ref 25.	.00 dB	m							-24	.15 dBm		
° 9							ľ						Center Fr
15.0													3.000000 M
5.00							~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	mar and a second	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
												CE.	Start Fr 7.000000 M
5.00												05	.000000 191
											DL1 -13.00 dBm		
5.0							1						Stop Fr
25.0							2 mm					669	9.000000 M
.0.0				\sim	~~~~								
15.0		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~											CF St
	and the second											Auto	1.200000 M N
15.0 													
													Freq Offs
6.0													0
i5.0													Scale Ty
	63.000 M									Span	12.00 MHz	Log	ļ
Res BW	150 kHz			#	ABM	470 kH	z		Sweep	1.000 ms	(1001 pts)		

Plot 7-140. Lower Band Edge Plot (Band 71 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-141. Upper Band Edge Plot (Band 71 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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Keysight Spectrum Analyzer -						
RL RF 5	DΩ AC COR	O: Wide 💭 Trig	SENSE:INT	#Avg Type: RMS	06:06:04 PM Mar 12, 2018 TRACE 1 2 3 4 5 6 TYPE A WWWW DET A NNNNN	Frequency
0 dB/div Ref 25.0		ain:Low Atte	n: 36 dB	MI	kr1 663.000 MHz -25.01 dBm	Auto Tur
15.0						Center Fre 663.000000 MH
5.00				and a second and the		Start Fre 655.000000 Mi
25.0		to a contractor	1 Jan		DL1 -13.00 dBm	Stop Fre 671.000000 MH
45.0	, and the second s					CF Ste 1.600000 Mi <u>Auto</u> Mi
55.0						Freq Offs 01
65.0 Center 663.000 MHz	2				Span 16.00 MHz 1.000 ms (1001 pts)	Scale Typ
Res BW 200 kHz		#VBW 620	kHz	Sweep	1.000 ms (1001 pts)	

Plot 7-142. Lower Band Edge Plot (Band 71 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-143. Upper Band Edge Plot (Band 71 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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Plot 7-144. Lower Band Edge Plot (Band 12 - 1.4MHz QPSK - Full RB Configuration)



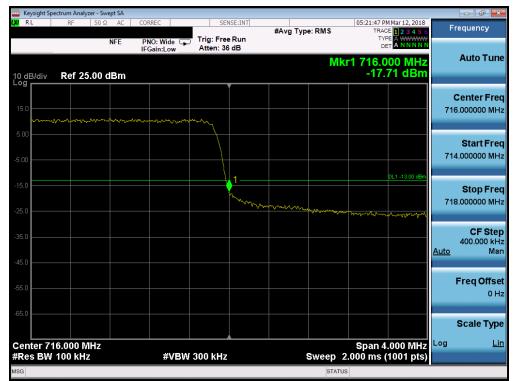
Plot 7-145. Upper Band Edge Plot (Band 12 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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	Swept SA							_	
🗶 RL RF 50		RREC	SENSE:INT	#Avg Typ	e: RMS	05:21:26 PM M TRACE	lar 12, 2018 1 2 3 4 5 6 A WWWWW A WWWWW A A A	Fr	equency
10 dB/div Ref 25.00	IF	NO: Wide 😱 Gain:Low	Atten: 36 dB		Mkr	DET	ANNNNN		Auto Tun
15.0						-	mutut		Center Fre .000000 MH
5.00							_1 -13.00 dBm	696	Start Fre
25.0	hand the state of	mun man and man		man have been a for the second	and the second sec			700	Stop Fre .000000 MH
35.0								<u>Auto</u>	CF Ste 400.000 kH Ma
55.0								ł	F req Offs 0 H
65.0 Center 698.000 MHz						Span 4.0	VV 11112	: Log	Scale Typ
Res BW 100 kHz		#VBW	300 kHz		Sweep 2.	.000 ms (1	001 pts)		

Plot 7-146. Lower Band Edge Plot (Band 12 - 3.0MHz QPSK - Full RB Configuration)



Plot 7-147. Upper Band Edge Plot (Band 12 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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	pectrum Analyzer -										
L XI RL	RF 50	Ω AC	CORREC		SE:INT	#Avg Typ	e: RMS	05:16:02 PM TRACE	Mar 12, 2018 1 2 3 4 5 6	Fr	equency
	_	NFE	PNO: Wide 🖵 IFGain:Low	Trig: Free Atten: 36				DET	A WWWWW A N N N N N		A
10 dB/div Log	Ref 25.00) dBm					Mk	ar1 697.71 -25.1	l6 MHz 9 dBm		Auto Tune
											Center Free
15.0								~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	698	.000000 MH:
5.00											Start Free
-5.00								/		696	.000000 MH:
-15.0							/	C	L1 -13.00 dBm		Oton Eno
				≜ ¹	Ar	man	ment			700	Stop Free .000000 MH
-25.0	man	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	my marine	nge voerbelgeneere						05.04
-35.0										Auto	CF Step 400.000 kH Mar
-45.0										Auto	IVIA
-55.0											Freq Offse
-65.0											0 H
-00.0											Scale Typ
	98.000 MHz	:	-#\/D\A	200 kU-			Buye en 1	Span 4.	000 MHz	Log	Lii
	/ 100 kHz		#VBW	300 kHz			Sweep 7	2.000 ms (1	oon pts)		

Plot 7-148. Lower Band Edge Plot (Band 12 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-149. Upper Band Edge Plot (Band 12 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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	pectrum Analy.						
LXU RL	RF	50 Ω AC	CORREC	SENSE:INT	#Avg Type: RN		Frequency
	_	NFE	PNO: Wide G	Trig: Free Run Atten: 36 dB		TYPE A WWWWW DET A NNNNN	
10 dB/div Log	Ref 25	i.00 dBm				Mkr1 697.896 MHz -25.36 dBm	Auto Tune
							Center Free
15.0							698.000000 MH
5.00						all and the second second	Start Fre
-5.00							694.000000 MH
						DL1 -13.00 dBm	
-15.0				1	www		Stop Free 702.000000 MH
-25.0	mannon	markenter	man Marian	monormon	and a second second		
-35.0							CF Ste 800.000 kH
-45.0							<u>Auto</u> Ma
							Freq Offse
-55.0							0 H
-65.0							Scale Type
Center 6	98.000 N	147				Span 8.000 MHz	Log <u>Li</u> i
#Res BW	98.000 W / 100 kHz	1112. Z	#VBW	/ 300 kHz	Swe	ep 4.000 ms (1001 pts)	
MSG						STATUS	

Plot 7-150. Lower Band Edge Plot (Band 12 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-151. Upper Band Edge Plot (Band 12 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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Plot 7-152. Lower Band Edge Plot (Band 13 - 5.0MHz QPSK - Full RB Configuration)

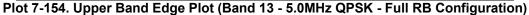


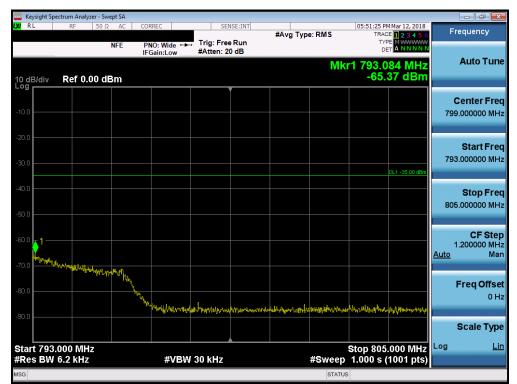
Plot 7-153. Lower Emission Mask Edge Plot (Band 13 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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RL	RF	50 Ω	AC CC	RREC	SE	NSE:INT			05:50:47 P	M Mar 12, 2018	-	
		NF	E P	NO: Wide C Gain:Low	Trig: Fre		#Avg Type	e:RMS	TRAC TY D	CE 1 2 3 4 5 6 PE A WWWW A NNNNN	F	requency
0 dB/div	Ref 2	5.00 dB		Gam:Low	Atten. o			Mk	r1 787.0	24 MHz 33 dBm		Auto Tur
.og	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		,	Andre							Center Fre 7.000000 MH
5.00											78	Start Fr 5.000000 MI
25.0					- M	1	W. martin and the grad			DL1 -13.00 dBm	78	Stop Fr 9.000000 M
45.0											<u>Auto</u>	CF Ste 400.000 k M
55.0												Freq Offs 0
65.0 Center 78	7 000 5	111-2							Snan /	.000 MHz	Log	Scale Ty
Res BW				#VB	W 300 kHz	2	ę	Sweep 2	.000 ms ((1001 pts)		





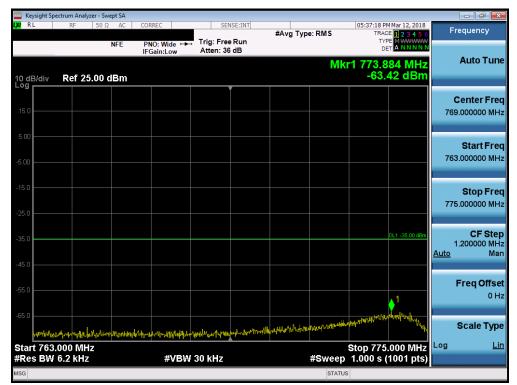
Plot 7-155. Upper Emission Mask Edge Plot (Band 13 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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X/RL	RF	50 Ω AC	CORREC	SENSE:INT		05:36:46 PM Mar 12, 2018	Frequency
		NFE	PNO: Wide 🖵 IFGain:Low	Trig: Free Run Atten: 36 dB	#Avg Type: RMS	TRACE 1 2 3 4 5 6 TYPE A WWWWW DET A NNNNN	Frequency
10 dB/div	Ref 25.	00 dBm				Mkr1 776.992 MHz -25.24 dBm	Auto Tur
15.0							Center Fre 777.000000 MH
-5.00					and the second s	and a second	Start Fre 773.000000 Mi
-15.0				1 M		DL1 -13.00 dBm	Stop Fre 781.000000 Mi
-35.0							CF Ste 800.000 kl <u>Auto</u> M:
-55.0 Ampany	www.anglanewa.ang	Mandad Managara	~~~				Freq Offs 0
-65.0							Scale Typ
Center 77 #Res BW			#VBW	300 kHz	Swee	Span 8.000 MHz 5 4.000 ms (1001 pts)	Log <u>L</u>





Plot 7-157. Lower Emission Mask Edge Plot (Band 13 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕑 LG	Approved by: Quality Manager
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C RL RF	50 Ω AC	CORREC	SENSE:INT		05:38:02 PM Mar 12, 2018	Frequency
	NFE	PNO: Wide G	Trig: Free Run Atten: 36 dB	#Avg Type: RMS	TRACE 1 2 3 4 5 6 TYPE A WWWW DET A NNNNN	rrequency
0 dB/div Ref 2	5.00 dBm			M	kr1 787.040 MHz -22.66 dBm	Auto Tur
15.0						Center Fre 787.000000 Mi
5.00	<u>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</u>	Survey and the provide standing of the				Start Fre 783.000000 Mi
25.0			Mun Munner	ale Areas and a second and a second and a second	DL1 -13.00 dBm	Stop Fre 791.000000 Mi
35.0					and the second with the second with the second	CF Ste 800.000 kł <u>Auto</u> Ma
55.0						Freq Offs 0 I
65.0						Scale Typ
Center 787.000 Res BW 100 kH		#VBM	/ 300 kHz	Sweep	Span 8.000 MHz 4.000 ms (1001 pts)	Log <u>L</u>

Plot 7-158. Upper Band Edge Plot (Band 13 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-159. Upper Emission Mask Edge Plot (Band 13 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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Band 5

RL	RF 50	Ω AC C	ORREC			#Avg Typ	e: RMS	TRAC	Mar 12, 2018 E 1 2 3 4 5 6 E A WWWWW T A N N N N N	F	requency
0 dB/div	Ref 25.00		IFGain:Low	Atten: 36	dB		Mkr	1 824.0	00 MHz 77 dBm		Auto Tun
15.0						and the second	مري يې مړي ور مړي و مړي ور مړي ور مړي ور مړي ور				Center Fre 4.000000 M⊦
5.00										82	Start Fre 2.000000 MH
25.0				J. many may and				have	DL1 -13.00 dBm	82	Stop Fre 6.000000 MH
35.0 	mm	www.www.www								<u>Auto</u>	CF Ste 400.000 ki Ma
5.0											Freq Offs 0 I
5.0											Scale Typ
	24.000 MHz 100 kHz		#VBW	300 kHz			Sweep 2.	Span 4 .000 ms (.000 MHz 1001 pts)	Log	L

Plot 7-160. Lower Band Edge Plot (Band 5 - 1.4MHz QPSK - Full RB Configuration)



Plot 7-161. Upper Band Edge Plot (Band 5 - 1.4MHz QPSK - Full RB Configuration)

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RL	RF	er - Swept SA 50 Ω AC	CORREC	SEN	SE:INT			04-40-01 P	M Mar 12, 2018	-	
	14					#Avg Typ	e:RMS	TRAC	DE 1 2 3 4 5 6	Fr	equency
		NFE	PNO: Wide ⊂ IFGain:Low	Atten: 36				DI	PE A WWWWW ET A NNNNN		
							Mk	r1 823.9	96 MHz		Auto Tur
0 dB/div	Ref 25.	.00 dBm						-18.	16 dBm		
.ºg											Center Fre
15.0											.000000 MI
					<i></i>	mm	m	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	m	024	
5.00					_						
											Start Fr
5.00					1					822	.000000 M
					1				DL1 -13.00 dBm		
15.0				+)'===						Stop Fr
				4						826	.000000 M
25.0			www.	mmmm							
mont	No market	munit	the of the second								CF St
35.0										_	400.000 k
45.0										<u>Auto</u>	М
+3.0											
55.0											Freq Offs
											0
65.0											
											Scale Ty
Contor 9	24.000 M							Enor-4		Loa	L
	24.000 M V 100 kHz		#VB	N 300 kHz			Sween	span 4 2.000 ms.	.000 MHz (1001 pts)		-
SG							STATU		1.00		

Plot 7-162. Lower Band Edge Plot (Band 5 - 3.0MHz QPSK - Full RB Configuration)



Plot 7-163. Upper Band Edge Plot (Band 5 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 102 of 190
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	pectrum Analyzer										
X/RL	RF	50 Ω AC	CORREC		ISE:INT	#Avg Typ	e: RMS	TRAC	Mar 12, 2018	F	requency
		NFE	PNO: Wide +++	Trig: Free Atten: 36				TYF			
							Mk	r1 823.9	88 MHz		Auto Tune
10 dB/div Log	Ref 25.0	00 dBm		,				-22.4	41 dBm		
					Í						Center Fre
15.0										82	4.000000 MH
5.00					ىمىر	www.		h	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
3.00											Start Fre
-5.00										82	2.000000 MH
									DL1 -13.00 dBm		
-15.0					1						Stop Fre
-25.0					JN .					82	6.000000 MH
	A AD SHALL	man	www.when.	when were to							
-35.0	мадличен - чүн ч										CF Ste 400.000 kH
										<u>Auto</u>	Ma
-45.0											
-55.0											Freq Offse
											0 H
-65.0											Scale Typ
	24.000 MH V 100 kHz	z	#3/D14/	300 kHz			D	Span 4		Log	Li
	V TUU KHZ		#VBW	300 KHZ			Sweep 2		1001 pts)		
30							STATUS				

Plot 7-164. Lower Band Edge Plot (Band 5 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-165. Upper Band Edge Plot (Band 5 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 102 of 190
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	Spectrum Analyz									e é 🗾
X/ RL	RF	50 Ω AC NFE	PNO: Wide			#Avg Type	e: RMS	04:57:39 PM Mar 12, 2010 TRACE 1 2 3 4 5 TYPE A WWWW DET A N N N	6	requency
10 dB/div	Ref 25.	00 dBm	IFGain:Low _	Atten: 36	dB		Mk	r1 824.000 MH -28.083 dBn		Auto Tun
15.0									82	Center Fre 24.000000 M⊦
5.00						and and a second se	<u>orfuðs</u> on og det og	<u>ტოამის იკი ლაკ. არ კაკიკი, არ კაკიკი, არ კაკი</u> DL1 -13.00 დმ		Start Fre
25.0					1 del					Stop Fre 28.000000 MF
35.0 	ant and	wageraper Manghan	ann an	August and a second sec					Auto	CF Ste 800.000 kl Ma
55.0										Freq Offs 0 I
Center 8	24.000 M	Hz	<i></i>	N 200 KH-				Span 8.000 MH		Scale Typ
Res BV	V 100 kHz		#VBI	V 300 kHz			sweep 4	4.000 ms (1001 pts	2	

Plot 7-166. Lower Band Edge Plot (Band 5 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-167. Upper Band Edge Plot (Band 5 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕕 LG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Daga 104 of 190	
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Plot 7-168. Lower Band Edge Plot (Band 66/4 - 1.4MHz QPSK - Full RB Configuration)



Plot 7-169. Lower Extended Band Edge Plot (Band 66/4 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 105 of 190	
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RL	RF 50 Ω AC	CORREC	SENSE:INT		08:00:38 PM Mar 09, 2018	
	NFE	PNO: Wide ↔→ IFGain:Low	Trig: Free Run Atten: 36 dB	#Avg Type: RMS	TRACE 1 2 3 4 5 6 TYPE A WWWWW DET A NNNNN	Frequency
) dB/div	Ref 25.00 dBm			Mkr	1 1.755 012 GHz -24.20 dBm	Auto Tur
5.0						Center Fre 1.755000000 GF
.00		o un policio contra la				Start Fre 1.753000000 GH
5.0					DL1 -13.00 dBm	Stop Fre 1.757000000 GF
5.0	M		- Lower	A man man		CF Ste 400.000 kH <u>Auto</u> Ma
5.0					han	Freq Offs 01
5.0						Scale Typ
	.755000 GHz / 13 kHz	#VBW	43 kHz	Sweep	Span 4.000 MHz 8.867 ms (1001 pts)	Log <u>L</u>

Plot 7-170. Upper Band Edge Plot (Band 4 - 1.4MHz QPSK - Full RB Configuration)



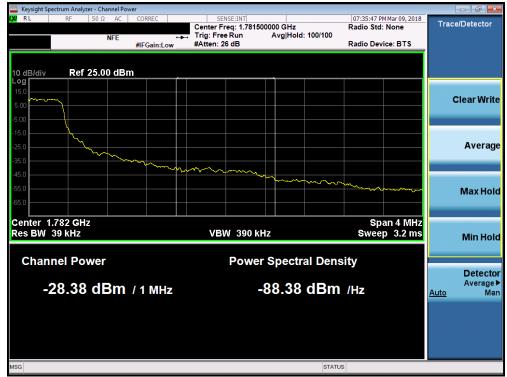
Plot 7-171. Upper Extended Band Edge Plot (Band 4 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 106 of 190	
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RL	Spectrum Analyze RF	er-swept SA 50 Ω AC		REC		SENSE:INT			07:35:27	PM Mar 09, 2018	_	
KL.	N	NFE	PN	IO: Wide ·		Free Run n: 36 dB	#Avg T	ype: RMS	TR	ACE 1 2 3 4 5 6 TYPE A WWWW DET A NNNN	F	requency
0 dB/div og	Ref 25.	.00 dBn						Mk	r1 1.780 -24.	000 GHz 367 dBm		Auto Tur
15.0												Center Fre
.00			no harden h	₩~~V ⁴ trest _e r	- American A A A A A A A A A A A A A A A A A A A					DL1 -13.00 dBm	1.77	Start Fre 8000000 GI
5.0	<i>,</i>					1 1					1.78	Stop Fre 2000000 GI
5.0 ~~~~ 5.0	Andread					- Wy	ww	M			<u>Auto</u>	CF Ste 400.000 kl
5.0								in brown		my		Freq Offs 0 I
65.0	70000								0.00	4 000 084	Log	Scale Typ
Res BW	.780000 C V 13 kHz	PΠZ		#VE	W 43 kł	Iz		Sweep	span 8.867 ms	4.000 MHz (1001 pts)	_ 9	-
G								STA	TUS			

Plot 7-172. Upper Band Edge Plot (Band 66 - 1.4MHz QPSK - Full RB Configuration)



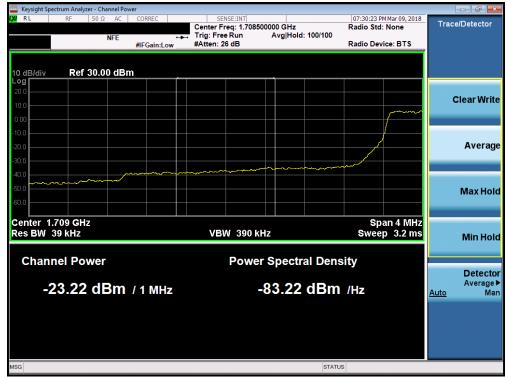
Plot 7-173. Upper Extended Band Edge Plot (Band 66 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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Keysight S RL	pectrum Analy RF		AC	CORREC			NSE:INT			07-20-14	PM Mar 09, 2018	_	
KL	KF		IFE	PNO: W	/ide ↔→	Trig: Fre	e Run	#Avg Typ	e:RMS	TR/	ACE 1 2 3 4 5 6 YPE A WWWWW DET A NNNNN	F	requency
0 dB/div	Ref 2	5.00 dE	Зm	IFGain:I	Low	Atten: 3			Mkr	1 1.710	000 GHz 733 dBm		Auto Tun
15.0													Center Fre 10000000 GH
5.00											DL1 -13.00 dBm	1.70	Start Fre 08000000 GF
25.0							1					1.71	Stop Fre 12000000 GH
35.0 15.0	~~~~		<u></u>	~~~~	\sim	~~						<u>Auto</u>	CF Ste 400.000 kl Ma
5.0													Freq Offs 0
enter 1	.710000	GHz								Span	4.000 MHz	Log	Scale Typ
	30 kHz			3	#VBW	91 kHz			Sweep	2.000 ms	(1001 pts)		
SG									STAT	ับร			

Plot 7-174. Lower Band Edge Plot (Band 66/4 - 3.0MHz QPSK - Full RB Configuration)



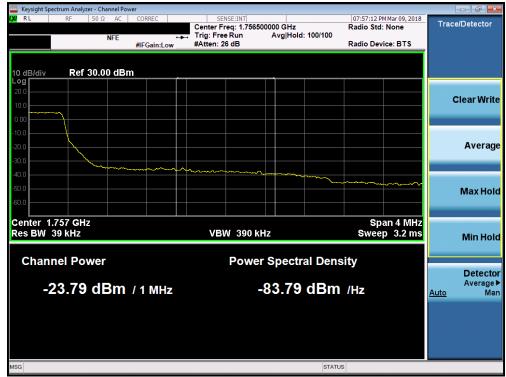
Plot 7-175. Lower Extended Band Edge Plot (Band 66/4 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Degs 100 of 190
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	Spectrum Analy	zer - Swept SA									
XU RL	RF	50 Ω AC	CORREC	Trig: Free		#Avg Typ	e:RMS	TRAC	I Mar 09, 2018 E 1 2 3 4 5 6 E A WWWWW T A N N N N N	Fr	equency
10 dB/div	Ref 2	5.00 dBm	IFGain:Low	Atten: 36	dB		Mkr'	1 1.755 0			Auto Tun
15.0											Center Fre 5000000 GH
5.00	·····								DL1 -13.00 dBm	1.75	Start Fre 3000000 G⊦
25.0					1				ULT -13.00 dBm	1.75	Stop Fre 7000000 G⊦
35.0							~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~	~~~~~	<u>Auto</u>	CF Ste 400.000 kH Ma
55.0											Freq Offs 0 H
65.0											Scale Typ
Center 1 Res BV	.755000 V 30 kHz	GHz	#VBV	V 91 kHz		:	Sweep :	.9 Span 2.000 ms (2000 101112	Log	Li
ISG							STATU	IS			

Plot 7-176. Upper Band Edge Plot (Band 4 - 3.0MHz QPSK - Full RB Configuration)



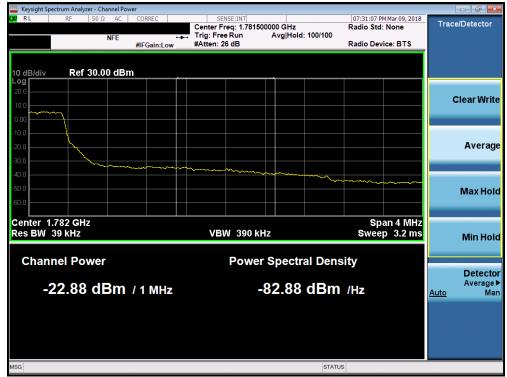
Plot 7-177. Upper Extended Band Edge Plot (Band 4 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕕 LG	Approved by: Quality Manager
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		/zer - Swept SA					
KU RL	RF	50 Ω AC	PNO: Wide	SENSE:INT Trig: Free Run Atten: 36 dB	#Avg Type: RMS	07:30:58 PM Mar 09, 2018 TRACE 1 2 3 4 5 6 TYPE A WWWW DET A N N N N N	Frequency
0 dB/div	Ref 2	5.00 dBm	IFGam:Low	Atten: 00 dB	Mkr	1 1.780 000 GHz -23.496 dBm	Auto Tun
15.0							Center Fre 1.780000000 G⊦
5.00	~~~~^	hangun		~~			Start Fre 1.778000000 GF
25.0				1		DL1 -13.00 dBm	Stop Fre 1.782000000 GF
15.0					~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	······	CF Ste 400.000 kł <u>Auto</u> Ma
5.0							Freq Offs 0 I
55.0	70000						Scale Typ
	.780000 V 30 kHz		#VBW	91 kHz	Sweep	Span 4.000 MHz 2.000 ms (1001 pts)	
SG					STAT	US	

Plot 7-178. Upper Band Edge Plot (Band 66 - 3.0MHz QPSK - Full RB Configuration)



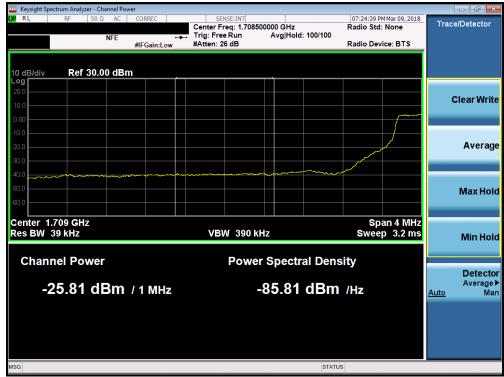
Plot 7-179. Upper Extended Band Edge Plot (Band 66 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 110 of 190
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	Spectrum Analy										
X/RL	RF	50 Ω A	PNO	:Wide ↔ in:Low			#Avg Ty	pe:RMS	07:24:05 PM Mar 09 TRACE 1 2 3 TYPE A WA DET A N	3456	Frequency
I0 dB/div	Ref 25	i.00 dBr		III:LOW	Atten: 0			Mkr	1 1.709 996 (-22.85 d	GHz Bm	Auto Tun
15.0										1.	Center Fre 710000000 G⊦
5.00									DL1 -13		Start Fre 708000000 GF
-15.0						كمر 1					Stop Fre 712000000 GH
35.0	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~						Auto	CF Ste 400.000 kH 2 Ma
55.0											Freq Offs 0 H
	1.710000	GHz							Span 4.000	MHz Log	Scale Typ
Res BV	V 51 kHz			#VBW	160 kHz			Sweep	2.000 ms (1001	pts)	

Plot 7-180. Lower Band Edge Plot (Band 66/4 - 5.0MHz QPSK - Full RB Configuration)



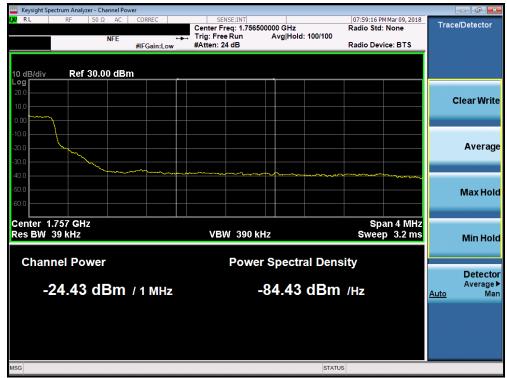
Plot 7-181. Lower Extended Band Edge Plot (Band 66/4 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 111 of 190
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	Spectrum Analyz	er - Swept SA								_	
XI RL	RF	50 Ω AC NFE	PNO: Wide ←	Trig: Free		#Avg Typ	e: RMS	TRAC	MMar 09, 2018 CE 1 2 3 4 5 6 PE A WWWWW ET A N N N N N	F	requency
10 dB/div	Ref 25	.00 dBm	IFGain:Low	Atten: 36	6 dB		Mkr	1 1.755 (Auto Tun
15.0											Center Fre 5000000 G⊦
5.00	·····	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~	~~~						1.75	Start Fre 3000000 GH
25.0				- hy	1				DL1 -13.00 dBm	1.75	Stop Fre 7000000 Gi
15.0						~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~	<u>Auto</u>	CF Ste 400.000 kl M
5.0											Freq Offs 0
65.0	1.755000 (242						Snap 4	.000 MHz		Scale Typ
	V 51 kHz	3112	#VB	N 160 kHz			Sweep	2.000 ms ((1001 pts)		
SG							STAT	US			

Plot 7-182. Upper Band Edge Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)



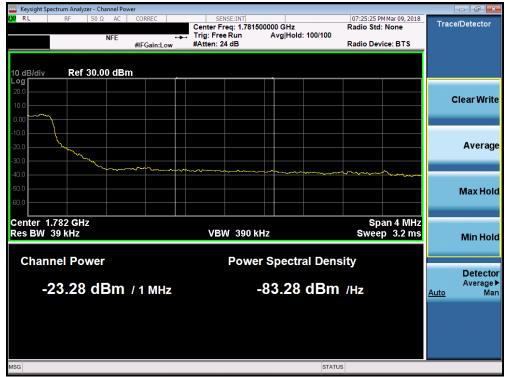
Plot 7-183. Upper Extended Band Edge Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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	pectrum Anal												
<mark>(</mark> RL	RF	50 Ω NF	E	PNO: W		Trig: Free Atten: 36		#Avg Ty	pe:RMS	TR/	PM Mar 09, 2018 ACE 1 2 3 4 5 6 APE A WWWWW DET A NNNNN	F	requency
0 dB/div	Ref 2	5.00 dB		IFGain:L	ow	Atten: 30	đĐ		Mki	1 1.780	012 GHz .79 dBm		Auto Tun
15.0													Center Fre 0000000 G⊦
5.00		·····	<u></u>	~~~	s.							1.77	Start Fre 8000000 GH
25.0						t v	1				DL1 -13.00 dBm	1.78	Stop Fre 2000000 GF
15.0							~~~~				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	<u>Auto</u>	CF Ste 400.000 kł Ma
5.0													Freq Offs 0 I
65.0	.780000	CH2								Snan	4.000 MHz	Log	Scale Typ
	51 kHz			#	VBW	160 kHz			Sweep		(1001 pts)		
SG									STAT	rus			

Plot 7-184. Upper Band Edge Plot (Band 66 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-185. Upper Extended Band Edge Plot (Band 66 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dego 112 of 190
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Keysight Spectrum Analyze	50 Ω AC	CORREC	SEN	ISE:INT			07:18:02 PI	M Mar 09, 2018	_	
	NFE	PNO: Wide ↔		Run	#Avg Typ	e: RMS	TRAC	E 1 2 3 4 5 6 E A WWWW T A N N N N N	Fr	equency
0 dB/div Ref 25.	00 dBm	IFGain:Low	Atten: 36	ab		Mkr1	1.709 9			Auto Tun
15.0										Center Fre
5.00					al water and a second	مى مى مەرىپى مىلى مىلى مىلى مىلى مىلى مىلى مىلى م	and the second	DL1 -13.00 dBm	1.70	Start Fre 6000000 GH
25.0				1. ml				001 - 13.00 dbm	1.71	Stop Fre 4000000 GI
15.0 15.0	/www.wec.muter.rov	vanter Warren and an and a	and the second sec						Auto	CF Ste 800.000 kl M
55.0										Freq Offs 0 I
55.0 Center 1.710000 G	Hz						Span 8	.000 MHz	Log	Scale Typ
Res BW 100 kHz		#VBW	/ 300 kHz			Sweep 4	1.000 ms (1001 pts)		
SG						STATU	s			

Plot 7-186. Lower Band Edge Plot (Band 66/4 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-187. Lower Extended Band Edge Plot (Band 66/4 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 114 of 190
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	Spectrum Ana											_	
<mark>u</mark> rl	RF		AC	PNO: W	ide ↔			#Avg Typ	e:RMS	TRA	PM Mar 09, 2018 CE 1 2 3 4 5 6 (PE A WWWWW DET A NNNNN	F	requency
0 dB/div	Ref 2	5.00 dl	Bm	IFGain:L	.ow	Atten: 3			Mkr	1 1.755	000 GHz 609 dBm		Auto Tun
15.0													Center Fre 5000000 G⊦
5.00	maket the prove		******	Marker Antonio and		~					DL1 -13.00 dBm	1.75	Start Fre 1000000 GF
25.0						he way	1 Wry				DET -13.00 dBm	1.75	Stop Fre 9000000 GH
15.0							JAN JAN	1554 Line March	hanton page and and	ale and the state of the state		<u>Auto</u>	CF Ste 800.000 kl Ma
5.0													Freq Offs 0 I
i5.0	1.755000	CH7								Snan	8.000 MHz	Log	Scale Typ
	V 150 kH			\$	≠VBW	470 kHz			Sweep	4.000 ms	(1001 pts)		
SG									STAT	US			

Plot 7-188. Upper Band Edge Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-189. Upper Extended Band Edge Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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RL RL	pectrum Analy RF	2er - Swept 50 Ω		CORREC		SE	NSE:INT			07:19:36 F	PM Mar 09, 2018	_	
			FE	PNO: W	/ide ↔→		e Run	#Avg Typ	e:RMS	TRA	CE 1 2 3 4 5 6 PE A WWWW A NNNN	Fi	requency
0 dB/div	Ref 25	5.00 dE	3m	IFGain:	Low	Atten: 3	0 ab		Mkr	1.780	000 GHz 81 dBm		Auto Tun
15.0													Center Fre 0000000 GH
5.00 <mark>utwowy</mark> 5.00	manthan and a	y market	An all and	مەر ^{ىي} رامۇرىغە	anto and	γ						1.77	Start Fre 6000000 GI
25.0						have	1				DL1 -13.00 dBm	1.78	Stop Fr 4000000 GI
5.0							- Andrew - A	- Jong Marking Will	and the second	UP THE AND	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	<u>Auto</u>	CF Ste 800.000 kl M
5.0													Freq Offs 0
i5.0													Scale Typ
	.780000 V 100 kH:				#VBW	300 kHz	:		Sweep 4	Span 8 4.000 ms	3.000 MHz (1001 pts)	Log	Ĺ
SG									STATU	IS			

Plot 7-190. Upper Band Edge Plot (Band 66 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-191. Upper Extended Band Edge Plot (Band 66 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕕 LG	Approved by: Quality Manager
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Keysight Spe RL	RF			CORREC		SI	ENSE:INT			07:39:10	PM Mar 09, 2018	_	
			FE	PNO: Wi	de 🔸	Trig: Fre	e Run	#Avg Ty	pe: RMS	TR	ACE 1 2 3 4 5 6 TYPE A WWWWW DET A NNNN	F	requency
				IFGain:L	ow	Atten: 3	6 dB						A
0 dB/div	Ref 25	00 45	200						Mkr	1 1.710 -24	000 GHz 570 dBm		Auto Tur
. ^{og} r	Rel 2J	.00 UE	9111				•						
													Center Fre
15.0												1.71	10000000 GH
5.00							1	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	m ware		Start Fre
												1.70	04000000 GH
5.00													
15.0											DL1 -13.00 dBm		
13.0							1						Stop Fre
25.0							2 rel					1.7	16000000 GH
35.0	~~~~			m									CF Ste 1.200000 Mi
	June	www			\sim	\sim						<u>Auto</u>	1.200000 Mil
45.0													
													Freq Offs
55.0													01
65.0													Scale Typ
enter 1.7										Span	12.00 MHz	Log	L
Res BW	150 kHz			#	VBW	470 kH	z		Sweep	1.000 ms	s (1001 pts)		
SG									STAT	US			

Plot 7-192. Lower Band Edge Plot (Band 66/4 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-193. Lower Extended Band Edge Plot (Band 66/4 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 117 of 190
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	pectrum Analyze										- # ×
(XI) RL	RF	50 Ω AC	CORREC		ISE:INT	#Avg Typ	e: RMS	TRAC	M Mar 09, 2018	Fre	quency
	_	NFE	PNO: Wide 🖵 IFGain:Low	Trig: Free Atten: 36	Run dB			TYF DE			
10 dB/div Log	Ref 25.	00 dBm					Mkr'	1 1.755 0 -23.	00 GHz 80 dBm		Auto Tune
15.0											enter Fred 000000 GH:
-5.00										1.749	Start Free 000000 GH
-15.0				In ,	1				DL1 -13.00 dBm	1.761	Stop Fre 000000 GH
-35.0								www	and the second	1. <u>Auto</u>	CF Stej 200000 MH Mai
49.0 55.0										F	F req Offse 0 H
-65.0											Scale Typ
Center 1 #Res BW	.755000 G 150 kHz	Hz	#VBW	470 kHz			Sweep	Span 1 1.000 ms (2.00 MHz 1001 pts)	Log	Lii
MSG							STATU				

Plot 7-194. Upper Band Edge Plot (Band 4 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-195. Upper Extended Band Edge Plot (Band 4 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Degs 119 of 190
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	pectrum Analy										
X/ RL	RF	50 Ω AC	CORREC		ISE:INT	#Avg Typ	e: RMS	TR	PM Mar 09, 2018 ACE 1 2 3 4 5 6	Fr	equency
		NFE	PNO: Wide +++ IFGain:Low	Trig: Free Atten: 36				1			
10 dB/div	Ref 25	.00 dBm					Mkr	1 1.780 -22.9	000 GHz 981 dBm		Auto Tun
- ^{og}										c	enter Fre
15.0										1.78	0000000 GH
5.00	·····	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~							Start Fre
5.00										1.77	4000000 GH
15.0									DL1 -13.00 dBm		
25.0				how	1					1.78	Stop Fre 5000000 G⊦
25.0					A MA						CF Ste
35.0					\	ward and a second secon		-	- Andrew Contraction	1 <u>Auto</u>	.200000 MH Ma
45.0											
55.0											FreqOffs 0⊦
65.0											0
											Scale Typ
	.780000 150 kHz		#VBW	470 kHz			Sweep	Span 1.000 <u>ms</u>	12.00 MHz (1001 pts)	Log	L
SG							STAT				

Plot 7-196. Upper Band Edge Plot (Band 66 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-197. Upper Extended Band Edge Plot (Band 66 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕕 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 110 of 190
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Keysight Spe	RF	50 Ω		CORREC			SENSE:INT			07:44:15 P	M Mar 09, 2018		
			NFE	PNO: \	Vide 🔶		ree Run	#Avg Ty	/pe: RMS	TRAC	E 1 2 3 4 5 6 E A WWWWW A N N N N N	Fred	quency
				IFGain	Low	Atten	: 36 dB		Mice	1 1.709 9		A	uto Tun
I0 dB/div	Ref 2	5.00 d	Bm						WIKI	-26.	86 dBm		
												Ce	enter Fre
15.0												1.7100	00000 GH
5.00										han har			
													Start Fre
5.00												1.7020	00000 GF
15.0											DL1 -13.00 dBm		Stop Fre
							1-1						00000 GF
25.0													
35.0	mm	ᠰᠬ᠕ᡔᡨᠰ	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	many		mand	/					1.6	CF Ste 00000 MH
45.0												<u>Auto</u>	Ma
43.0												E	
55.0												FI	reqOffs ≀0
65.0													
												S	cale Typ
Center 1.7							A			Span 1	6.00 MHz	Log	L
Res BW :	200 kH:	Z			#VBW	620 k	Ηz		Sweep	1.000 ms (1001 pts)		

Plot 7-198. Lower Band Edge Plot (Band 66/4 - 20.0MHz QPSK - Full RB Configuration)



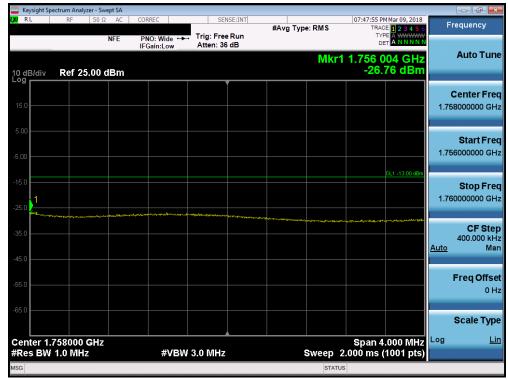
Plot 7-199. Lower Extended Band Edge Plot (Band 66/4 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 120 of 180
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	Spectrum Analy								
XU RL	RF	50 Ω AC	CORREC PNO: Wide			#Avg Typ	e: RMS	07:47:44 PM Mar 09, 2018 TRACE 1 2 3 4 5 6 TYPE A WWWW DET A N N N N	Frequency
10 dB/div	Ref 25	5.00 dBm	IFGam:Low	Atten. or			Mkr	1.755 016 GHz -25.34 dBm	Auto Tun
15.0									Center Fre 1.755000000 GH
5.00		Marin Marina							Start Fre 1.747000000 G⊦
.15.0				- to	1			DL1 -13.00 dBm	Stop Fre 1.763000000 G⊦
35.0							~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	A marine and a marine a	CF Ste 1.600000 MH Auto Ma
55.0									Freq Offs 0 H
·65.0	1.755000	047						Span 16.00 MHz	Scale Typ
	1.755000 W 200 kH:		#VBV	V 620 kHz			Sweep	Span 16.00 MHZ (1001 pts) I.000 ms	
ISG							STATU	s	

Plot 7-200. Upper Band Edge Plot (Band 4 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-201. Upper Extended Band Edge Plot (Band 4 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 101 of 190
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RL	pectrum Analyze RF	50 Ω A		DEC	ct	NSE:INT			07:45:22	PM Mar 09, 2018	_	
	N	NFE	PN	0:Wide 🖵 ain:Low		e Run	#Avg Typ	e:RMS	TR	ACE 1 2 3 4 5 6 YPE A WWWWW DET A NNNN	Fr	equency
0 dB/div	Ref 25.	00 dBn						Mkr	1 1.780 -25	000 GHz 5.57 dBm		Auto Tun
15.0												enter Fre 0000000 GH
5.00	and a company	undur-unu	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~							1.772	Start Fre 2000000 GF
25.0					- Vorge	• ¹				DL1 -13.00 dBm	1.788	Stop Fre 3000000 GH
15.0							m			wannen	1 <u>Auto</u>	CF Ste .600000 MI Ma
5.0											'	Freq Offs
5.0	.780000 0								- Chan	16.00 MHz		Scale Typ
	200 kHz			#VBW	/ 620 kHz	2		Sweep	span 1.000 ms	(1001 pts)		-
G								STAT	US			

Plot 7-202. Upper Band Edge Plot (Band 66 - 20.0MHz QPSK - Full RB Configuration)

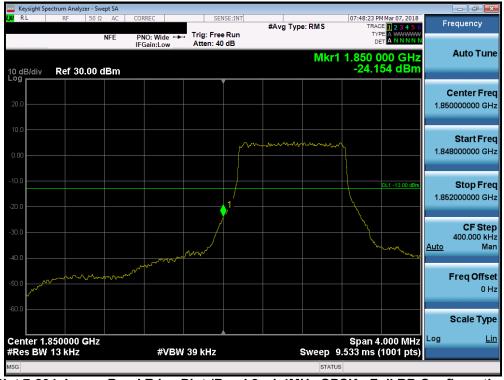


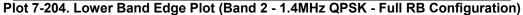
Plot 7-203. Upper Extended Band Edge Plot (Band 66 - 20.0MHz QPSK - Full RB Configuration)

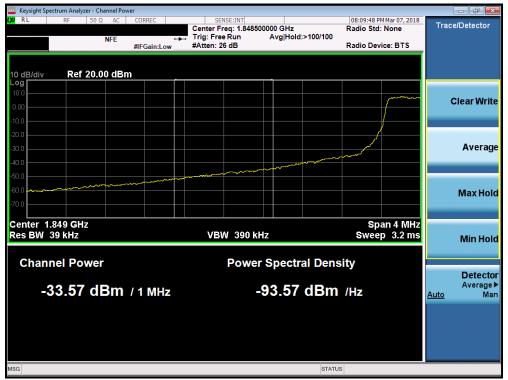
FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 122 of 180
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Band 2







Plot 7-205. Lower Extended Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 122 of 190
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R L	RF 50		CORREC	SENSE:INT		07:49:01 PM Mar 07, 2018	
		NFE	PNO: Wide ↔ IFGain:Low	Trig: Free Run Atten: 40 dB	#Avg Type: RMS	TRACE 123456 TYPE A WWWWW DET A NNNNN	Frequency
) dB/div	Ref 30.00	dBm			M	kr1 1.910 000 GHz -24.914 dBm	Auto Tur
							Center Fre 1.910000000 GF
.00		hun	n na an				Start Fro 1.908000000 GI
D.O				1		DL1 -13.00 dBm	Stop Fre 1.912000000 Gi
0.0	marken			- And	manna		CF Ste 400.000 ki <u>Auto</u> M
0.0						mon way	Freq Offs 01
0.0							Scale Typ
	910000 GH 13 kHz	Z	#VBW	39 kHz	Swee	Span 4.000 MHz p 9.533 ms (1001 pts)	Log <u>L</u>
G					S	TATUS	

Plot 7-206. Upper Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)



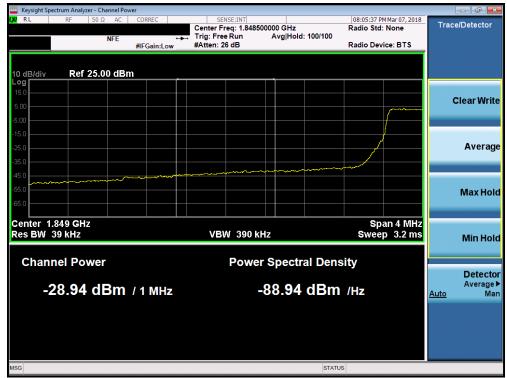
Plot 7-207. Upper Extended Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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	pectrum Analyz										
LXI RL	RF	50 Ω AC	PNO: Wide	SENSE	lun	#Avg Typ	e: RMS	TRACE	Mar 07, 2018 1 2 3 4 5 6 A WWWWW A NNNNN	F	requency
10 dB/div Log	Ref 30	.00 dBm	IFGain:Low	Atten: 40 d	В		Mkr1	1.849 9			Auto Tune
20.0											Center Fred 0000000 GH;
0.00						~~~~	~~~~	·····	~~~~~	1.84	Start Fred 8000000 GH:
-10.0				1	}				DL1 -13.00 dBm	1.85	Stop Free 2000000 GH
-30.0		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		~~~						<u>Auto</u>	CF Stej 400.000 kH Ma
-50.0											Freq Offse 0 H
	.850000 (247						Snan /	000 MHz	Log	Scale Type
#Res BW		3112	#VBW	91 kHz		:	Sweep 2	spair 4. 2.000 ms (1	000 101112		
MSG							STATUS	3			

Plot 7-208. Lower Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)



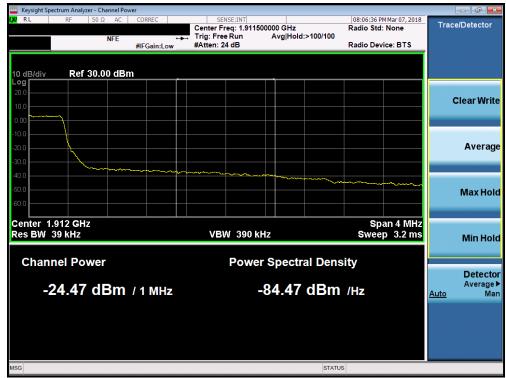
Plot 7-209. Lower Extended Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 105 of 190
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Keysight Spectrum Ar	nalyzer - Swept SA					
XV RL RF	50 Ω AC		SENSE:INT	#Avg Type: RMS	07:52:57 PM Mar 07, 2018 TRACE 1 2 3 4 5 6 TYPE A WWWW DET A N N N N	Frequency
10 dB/div Ref	30.00 dBm	IFGain:Low	Atten: 40 dB	Mkı	1 1.910 000 GHz -23.922 dBm	Auto Tune
20.0						Center Free 1.910000000 GH
0.00	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~^	~			Start Fre 1.908000000 GH
-20.0			1		DL1 -13.00 dBm	Stop Fre 1.912000000 GH
40.0				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	·····	CF Ste 400.000 kH <u>Auto</u> Ma
50.0						Freq Offso 0 ⊦
Center 1.91000	0 GHz				Span 4.000 MHz	Scale Typ
≉Res BW 30 kH		#VBW 9	1 kHz	Sweep	2.000 ms (1001 pts)	
ISG				STAT	TUS	

Plot 7-210. Upper Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)



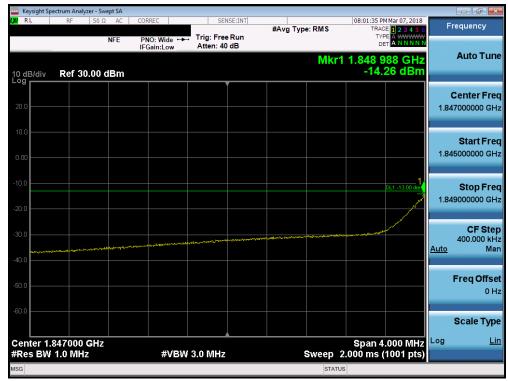
Plot 7-211. Upper Extended Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 106 of 190
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Keysight Spectrum Analyzer - S					
🗶 RL RF 50	Ω AC CORREC	SENSE:INT	#Avg Type: RMS	08:01:14 PM Mar 07, 2018 TRACE 1 2 3 4 5 6	Frequency
	NFE PNO: Wide C IFGain:Low	Trig: Free Run Atten: 40 dB		TYPE A WWWWW DET A N N N N N	Auto Tune
10 dB/div Ref 30.00	dBm		Mkr1	1.850 000 GHz -29.28 dBm	Auto Tune
					Center Fred
20.0					1.850000000 GHz
10.0					Start Fred
0.00		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	·····	······	1.848000000 GHz
-10.0				DL1 -13.00 dBm	Stop Fred
-20.0					1.852000000 GH
		↓1 ¹			CF Ster
-30.0					400.000 kH Auto Mar
-40.0					
-50.0					Freq Offse 0 Hi
-60.0					
					Scale Type
Center 1.850000 GH: #Res BW 51 kHz		N 160 kHz	Sweep 2	Span 4.000 MHz 2.000 ms (1001 pts)	Log <u>Lir</u>
MSG			STATUS	3	

Plot 7-212. Lower Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)



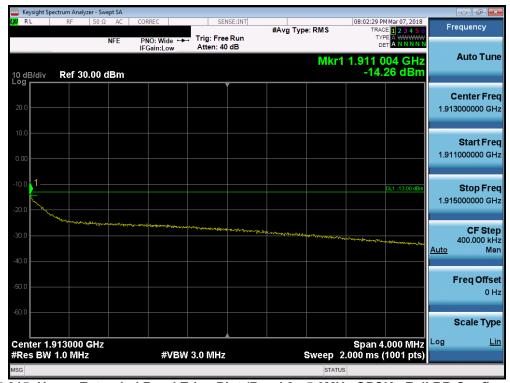
Plot 7-213. Lower Extended Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager			
Test Report S/N:	Test Dates:	EUT Type:		Dogo 107 of 190			
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	pectrum Analyzer										
LXU RL	RF 5	OΩ AC	CORREC	SEN	ISE:INT	#Avg Typ	e: RMS		Mar 07, 2018	F	requency
		NFE	PNO: Wide ↔ IFGain:Low	Trig: Free Atten: 40				TYP			
10 dB/div Log	Ref 30.0	0 dBm					Mkr1	1.910 0 -28.	08 GHz 84 dBm		Auto Tune
20.0											Center Freq 0000000 GHz
0.00		· · · · ·	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~						1.90	Start Freq 8000000 GHz
-10.0									DL1 -13.00 dBm	1.91	Stop Freq 2000000 GHz
-30.0				J.	1	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		······		<u>Auto</u>	CF Step 400.000 kHz Mar
-50.0											Freq Offsel 0 Hz
-60.0											Scale Type
Center 1 #Res BM	.910000 GH V 51 kHz	łz	#VBW	160 kHz			Sweep 2	Span 4 2.000 ms (.000 MHz 1001 pts)	Log	<u>Lin</u>
MSG							STATU				

Plot 7-214. Upper Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-215. Upper Extended Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Daga 129 of 190	
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	pectrum Analy	yzer - Swep	t SA										
X/ RL	RF		AC FE	CORREC		SET Trig: Free Atten: 40		#Avg Typ	e:RMS	TRAC	M Mar 07, 2018 E 1 2 3 4 5 6 E A WWWWW A N N N N N	F	requency
10 dB/div	Ref 30	0.00 dE	3m	IFGain:L	ow	Atten: 40	dB		Mkr	1 1.850 0			Auto Tun
20.0													Center Free 00000000 GH
0.00								nanguna-nghutsunin af	~~~~~	per MANIL Carl and	4-40-10-40-40-40-40-40-40-40-40-40-40-40-40-40	1.84	Start Fre 6000000 GH
-10.0						(1				DL1 -13.00 dBm	1.85	Stop Fre 4000000 GH
30.0				a Star and a Marca								<u>Auto</u>	CF Ste 800.000 kH Ma
50.0	and and the second	Aler of the second	قدال _{مال} ي و _{المو} قد.										Freq Offs 0 H
Center 1	.850000	GH7								Spap 8	.000 MHz	Log	Scale Typ
	V 100 kH			#	VBW 3	00 kHz			Sweep	4.000 ms (1001 pts)		
ISG									STATU	JS			

Plot 7-216. Lower Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-217. Lower Extended Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 100 of 190	
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	Spectrum Anal											_	
U RL	RF		AC		ide ↔	Trig: Free Atten: 40		#Avg Typ	e: RMS	TRA	PM Mar 07, 2018 ACE 1 2 3 4 5 6 YPE A WWWWW DET A N N N N N	F	requency
0 dB/div	Ref 3	0.00 dl	Bm	IFGain:L	.ow	Atten: 40	σ α Β		Mkr	1 1.910	008 GHz .49 dBm		Auto Tur
20.0													Center Fre 0000000 GI
10.0 	lv=z^apapan		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	and sound	un free							1.90	Start Fre 6000000 GI
20.0						Kon	1				DL1 -13.00 dBm	1.91	Stop Fre 4000000 GH
0.0							and a second sec	ettyppon allow	-turn the sea	No Waynanga	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	<u>Auto</u>	CF Ste 800.000 kl M
0.0													Freq Offs 0
60.0													Scale Typ
	.910000 V 100 kH			\$	¢VB₩	300 kHz			Sweep	Span 4.000 ms	8.000 MHz (1001 pts)	Log	Ĺ
SG									STAT	US			

Plot 7-218. Upper Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-219. Upper Extended Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFL713DL		CTEST MEASUREMENT REPORT (CERTIFICATION)				
Test Report S/N:	Test Dates:	EUT Type:		Dage 120 of 190		
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