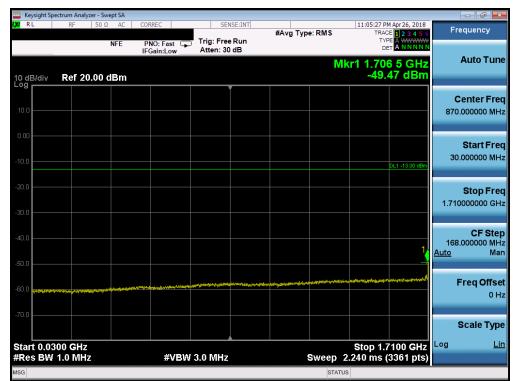


	ectrum Analyzer - Sv	vept SA									
L <mark>XI</mark> RL	RF 50 S	AC AC	CORREC	SEN	ISE:INT	#Avg Typ	e: RMS		Apr 26, 2018	Fre	equency
		NFE	PNO: Fast G	Trig: Free Atten: 10		0 71		TYP			
10 dB/div	Ref 0.00 d	Bm					Mk	r1 17.492 -60.3	2 5 GHz 35 dBm		Auto Tune
-10.0									DL1 -13.00 dBm		<b>enter Freq</b> 0000000 GHz
-20.0										10.000	Start Freq 0000000 GHz
-40.0										20.000	Stop Freq
-60.0							<b>1</b>		~~~	1.000 <u>Auto</u>	<b>CF Step</b> 0000000 GHz Man
-80.0										F	F <b>req Offset</b> 0 Hz
-90.0										Log	Scale Type <sub>Lin</sub>
Start 10.0 #Res BW			#VBW	( 3.0 MHz		S	weep 2	20 Stop 5.33 ms (2	.000 GHz 0001 pts)	LUg	
MSG							STAT				

Plot 7-105. Conducted Spurious Plot (Band 66/4 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)



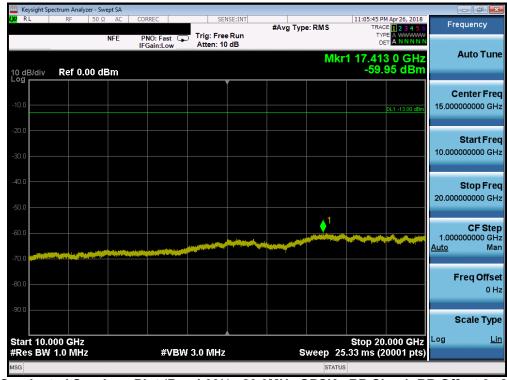
Plot 7-106. Conducted Spurious Plot (Band 66/4 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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	ctrum Analyzer - S	wept SA								
LX/ RL	RF 50	Ω AC C	ORREC	SENS	E:INT ##	vg Type:	RMS		Apr 26, 2018	Frequency
		NFE	PNO: Fast 🖵 FGain:Low	Trig: Free I Atten: 40 c	Run			TYP		
10 dB/div	Ref 30.00	dBm					Mk	r1 7.476 -37.3	6 5 GHz 31 dBm	Auto Tune
	Kel Ju.uu			The second secon						
										Center Freq
20.0										5.89000000 GHz
10.0										
										Start Freq
0.00										1.780000000 GHz
-10.0									DL1 -13.00 dBm	Stop Freq
-20.0										10.00000000 GHz
-30.0										CF Step 822.000000 MHz
(0.0)				1.110	ىلىدىر يورىغان قىغا		يروني المطاطل		أربعه الأردر والمرار	<u>Auto</u> Man
-40.0		telle Marin		The second second second second	and the state of the second	and the second second	and the second states in the	and the state of the same of the state of the	A A A A A A A A A A A A A A A A A A A	
-50.0	All and the second s									Freq Offset
										0 Hz
-60.0										Coole Trees
										Scale Type
Start 1.78								Stop 10	000 0112	Log <u>Lin</u>
#Res BW	1.0 MHz		#VBW	3.0 MHz		Sw		.25 ms (1	6441 pts)	
MSG							STATUS			

Plot 7-107. Conducted Spurious Plot (Band 66/4 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)



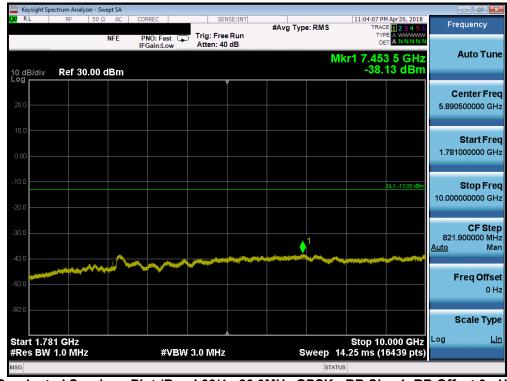
Plot 7-108. Conducted Spurious Plot (Band 66/4 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager	
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	ectrum Analyze										
LX/RL	RF	50 Ω AC	CORREC	SEI	NSE:INT	#Avg Typ	e: RMS		Apr 26, 2018	Fr	equency
		NFE	PNO: Fast 🕞 IFGain:Low	Trig: Free Atten: 30				TYP DE			Auto Tune
10 dB/div Log	Ref 20.	00 dBm					Mł	(r1 1.70 -55.	5 GHz 50 dBm		Auto Tune
											enter Freq
10.0										870	.000000 MHz
0.00											Start Freq
-10.0									DL1 -13.00 dBm	30	.000000 MHz
-20.0											Stop Freq
-30.0										1.710	0000000 GHz
-40.0											CF Step
50.0										168 <u>Auto</u>	.000000 MHz Man
-50.0					والمحمد والمروان والمحافظ التعا		وروب والمراجع المحافظ والمحافظ	eresternetere	and the state of t		req Offset
-60.0	and the second secon	an a	an in the second se			al interior of the second s					0 Hz
-70.0											Scale Type
Start 0.03	00 GHz			<u> </u>				Stop 1.7	'100 GHz	Log	Lin
#Res BW			#VBW	/ 3.0 MHz			Sweep 2	.240 ms (	3361 pts)		
MSG							STATUS	3			

Plot 7-109. Conducted Spurious Plot (Band 66/4 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)



Plot 7-110. Conducted Spurious Plot (Band 66/4 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager				
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	ectrum Analyze	er - Swept SA								
LXU RL	RF	50 Ω AC	CORREC	Trig: Free		#Avg Typ	e: RMS	TRAC	M Apr 26, 2018 DE <b>1 2 3 4 5</b> 6 DE A WWWWW T A N N N N N	Frequency
10 dB/div	Ref 0.0	0 dBm	IFGain:Low	Atten: 10	dB		M	(r1 17.90)		Auto Tune
-10.0									DL1 -13.00 dBm	Center Freq 15.00000000 GHz
-20.0										Start Freq 10.00000000 GHz
-40.0										Stop Fred 20.000000000 GHz
-60.0	~~~~~							1	~~~	CF Step 1.00000000 GHz <u>Auto</u> Mar
-80.0										Freq Offse 0 H:
-90.0	000 GHz							Stop 20	.000 GHz	Scale Type
#Res BW			#VBW	3.0 MHz		s	weep 2	25.33 ms (2	0001 pts)	
MSG							STAT	US		

Plot 7-111. Conducted Spurious Plot (Band 66/4 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager			
Test Report S/N:	Test Dates:	EUT Type:		Dago 75 of 100			
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	A				- <b>f</b> ×
X/RL RF 50Ω A	CORREC E PNO: Fast	SENSE:INT Trig: Free Run Atten: 30 dB	#Avg Type: RMS	09:59:41 PM Apr 26, 2018 TRACE 1 2 3 4 5 6 TYPE A WWWW DET A NNNNN	Frequency
10 dB/div Ref 20.00 dB		Atten: 30 dB	М	kr1 1.842 0 GHz -43.49 dBm	Auto Tune
10.0					Center Fred 939.500000 MH;
-10.0				DL1 -13.00 dBm	Start Free 30.000000 MH
-20.0					Stop Free 1.849000000 GH
-40.0				1 1	CF Stej 181.900000 MH <u>Auto</u> Ma
60.0	erster all the second product and second	ter and a state of the state of t	and the second state of th	fange-general og værgelige værgelige og fan den var med af a	Freq Offse 0 H
-70.0 Start 0.0300 GHz				Stop 1.8490 GHz	Scale Type
#Res BW 1.0 MHz	#VBW 3	B.0 MHZ	Sweep	2.425 ms (3639 pts)	

Plot 7-112. Conducted Spurious Plot (Band 25/2 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)



Plot 7-113. Conducted Spurious Plot (Band 25/2 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager				
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	oectrum Analyzer - S								
LXI RL	RF 50	Ω AC	CORREC	SENSE:IN	T #Avg Typ	e: RMS		Apr 26, 2018	Frequency
	_	NFE	PNO: Fast IFGain:Low	Trig: Free Run Atten: 10 dB			TYP DE		Auto Tune
10 dB/div Log	Ref 0.00 (	lBm				Mkr	1 17.896 -60.3	6 0 GHz 35 dBm	Auto Tune
-10.0								DL1 -13.00 dBm	Center Freq 15.00000000 GHz
-20.0									<b>Start Freq</b> 10.000000000 GHz
-40.0									<b>Stop Freq</b> 20.000000000 GHz
-60.0							1	~~~	<b>CF Step</b> 1.00000000 GHz <u>Auto</u> Man
-80.0									<b>Freq Offset</b> 0 Hz
-90.0									Scale Type
Start 10.			-411/1214	0.0 MU-			Stop 20.		Log <u>Lin</u>
#Res BW	1.0 MHz		#VBV\	/ 3.0 MHz	8	status	.33 ms (2	uour pis)	
						314103			

Plot 7-114. Conducted Spurious Plot (Band 25/2 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)



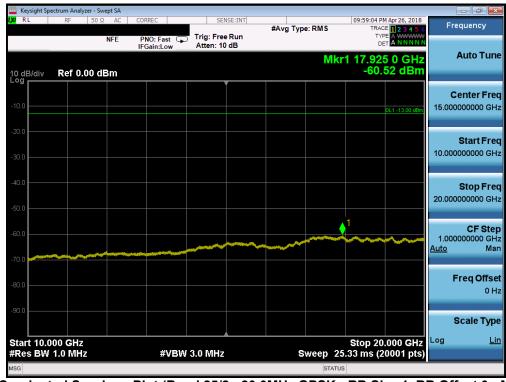
Plot 7-115. Conducted Spurious Plot (Band 25/2 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕑 LG	Approved by: Quality Manager				
Test Report S/N:	Test Dates:	EUT Type:		Dage 77 of 100				
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	ectrum Analyzer - Sw	ept SA									
IXI RL	RF 50 Ω	AC CO	RREC	SEN	SE:INT	#Avg Typ	e: RMS		M Apr 26, 2018	Fre	equency
			NO: Fast 🖵 Gain:Low	Trig: Free Atten: 40				TYF De			
10 dB/div Log	Ref 30.00 c	dBm					Mł	(r1 7.44) -38.	8 0 GHz 03 dBm		Auto Tune
											enter Freq
20.0										5.957	500000 GHz
10.0											Start Freq
0.00										1.915	000000 GHz
-10.0									DL1 -13.00 dBm		Stop Freq
-20.0										10.000	000000 GHz
											CF Step
-30.0						<b>•</b>	1			808. <u>Auto</u>	500000 MHz Man
-40.0	and the state of the	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~								
-50.0										F	req Offset 0 Hz
-60.0											
											Scale Type
Start 1.91 #Res BW			#VBW	3.0 MHz		s	weep 14	Stop 10 .01 ms (1	.000 GHz 6171 pts)	Log	<u>Lin</u>
MSG							STATUS				

Plot 7-116. Conducted Spurious Plot (Band 25/2 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)



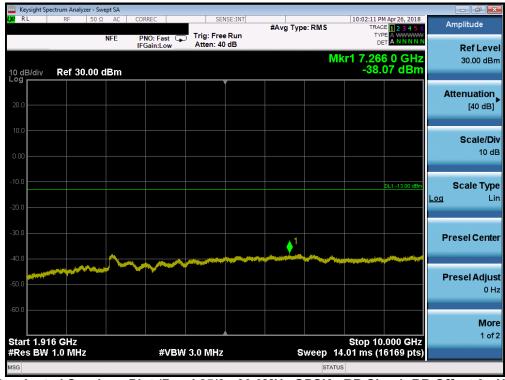
Plot 7-117. Conducted Spurious Plot (Band 25/2 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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	Spectrum Analyz										
LXU RL	RF	50 Ω AC	CORREC	SEN	NSE:INT	#Avg Typ	e: RMS		Apr 26, 2018	Fr	equency
		NFE	PNO: Fast G	Trig: Free Atten: 30				TYP De			A
10 dB/div Log	Ref 20	.00 dBm					Mł	(r1 1.84) -55.	2 5 GHz 27 dBm		Auto Tune
				,							enter Freq
10.0										940	.000000 MHz
0.00											Start Freq
-10.0									DL1 -13.00 dBm	30	.000000 MHz
-20.0											Stop Freq
-30.0										1.850	0000000 GHz
-40.0											CF Step
-50.0										182 <u>Auto</u>	.000000 MHz Man
					an a my ballyfigar ti a sta	ر		a principal and a principal of the princ	****,44,6,000	F	- req Offset
-60.0	and and property of the second se	and the second	alangenge serangebennen felterer								0 Hz
-70.0											Scale Type
Start 0.0	0300 GHz							Stop 1.8	500 GHz	Log	Lin
	₩ 1.0 MHz		#VBW	/ 3.0 MHz			Sweep 2	2.427 ms (	3641 pts)		
MSG							STATUS	5			

Plot 7-118. Conducted Spurious Plot (Band 25/2 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)



Plot 7-119. Conducted Spurious Plot (Band 25/2 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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	ectrum Analyz										
XI RL	RF	50 Ω AC	CORREC		VSE:INT	#Avg Typ	e: RMS	TRAC	M Apr 26, 2018 DE <b>1 2 3 4 5 6</b>	Amplitud	е
		NFE	PNO: Fast G	Trig: Free Atten: 10				TY D		RefL	eve
10 dB/div Log	Ref 0.0	00 dBm					Μ	kr1 17.49 -60.	3 5 GHz 25 dBm		) dBm
-10.0									DL1 -13.00 dBm	Attenuat [10	tion dB]
-20.0										Scal	e/Div
-30.0											10 dE
-40.0										Scale Log	<b>Type</b> Lir
-60.0							<b>↓</b> <sup>1</sup>			PreselC	ente
-70.0											ente
-80.0										PreselA	<b>djus</b> 0 H:
-90.0											More
Start 10.0 #Res BW	000 GHz 1.0 MHz	I	#VBV	V 3.0 MHz		S	weep	Stop 20 25.33 ms (2	.000 GHz 20001 pts)		1 of 2
MSG							STA	TUS			

Plot 7-120. Conducted Spurious Plot (Band 25/2 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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	ectrum Analyzer - S							
0 RL	RF 50 Gate: LO	Ω AC NFE	PNO: Fast	Trig: Free F Atten: 30 c	#. Run	Avg Type: RMS	09:14:54 PM Apr 26, 2018 TRACE 1 2 3 4 5 6 TYPE M WWWW DET A N N N N	4
0 dB/div	Ref 20.00	dBm				Μ	lkr1 2.412 0 GHz -48.45 dBm	
10.0								Center Fre 1.252500000 GF
0.00								Start Fre 30.000000 M⊦
30.0							DL1 -25.00 dBm	Stop Fre 2.475000000 G⊦
40.0 <b></b>								CF Ste 244.500000 MH <u>Auto</u> Ma
	ndaapunaatati caka afadi Maatateti ka ageeti ka eest	din in the chiral dia. The second				, takan yang katilakén disakén jakan sa katan sakén kati ng mga pana katilakén pang katilakén katilakén katilakén katilakén katilakén katilakén katilakén katilakén kati ng mga ng mga katilakén katilakén katilakén katilakén katilakén katilakén katilakén katilakén katilakén katilak		Freq Offs 0 F
70.0								Scale Typ
tart 0.03 Res BW	0 GHz 1.0 MHz		#VBW	3.0 MHz		Sweep	Stop 2.475 GHz 24.45 ms (4891 pts)	Log <u>L</u>

Plot 7-121. Conducted Spurious Plot (Band 41 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)



Plot 7-122. Conducted Spurious Plot (Band 41 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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	ctrum Analyze	r - Swept SA									×
X/RL	RF	50 Ω AC	CORREC	SENS		#Avg Type	RMS		M Apr 26, 2018	Frequency	
	Gate: LO	NFE	PNO: Fast 🖵 IFGain:Low	Trig: Free F Atten: 10 c	Run			TYF			
			IFGain:Low	Atten. 10 t			Mkr		5 0 GHz	Auto Tu	une
10 dB/div	Ref 0.0	0 dBm					INIKI	-49.	90 dBm		
										Center F	
-10.0										21.000000000 0	
										21.0000000000	
-20.0											
									DL1 -25.00 dBm	Start F	
-30.0										15.000000000	۶Hz
-40.0								4		Stop F	
-50.0								<b>♦</b> '		27.00000000 0	GHz
						والمتعادية والمتعادية	and the strength				
-60.0		And a local data	All a literative server							CF St 1.200000000 0	
distantion of the											Mar
70.0											
										Freq Off	set
-80.0										-	) Hz
-90.0											
-90.0										Scale T	vpe
										-	
Start 15.00 #Res BW			#\/B\M	3.0 MHz			4000 04	Stop 27	.000 GHz 4001 pts)	Log	Lin
			# V D VV	3.0 WIHZ		5			400 F pts)		
ISG							STATUS				

Plot 7-123. Conducted Spurious Plot (Band 41 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)



Plot 7-124. Conducted Spurious Plot (Band 41 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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	ectrum Analyz										x
LXU RL	RF	50 Ω AC	CORREC	SEI	SE:INT	#Avg Typ	e: RMS		PM Apr 26, 2018 ACE 1 2 3 4 5 6	Frequency	
	Gate: LO	NFE	PNO: Fast 🕞	Trig: Free Atten: 30		0 //		т	YPE M WWWWW DET A N N N N N		
			IFGain:Low	Atten: ot	ub .		M	kr1 14 86	60 0 GHz	Auto Tu	ne
10 dB/div	Ref 20	.00 dBm						-38	.53 dBm		
				<u> </u>							
10.0										Center Fr	
10.0										8.845000000 G	HZ
0.00											
										Start Fr	
-10.0										2.69000000 G	Hz
-20.0									DL1 -25.00 dBm	Stop Fr	eq
-30.0									001 2000 doin	15.00000000 G	Hz
-30.0									1		
-40.0										CF St	
	<b>A</b> .	المحمد والمسر الحررية	and a log family	Street Harrison	والدوسية التربيسي			and a second		1.231000000 G Auto N	Hz
-50.0		A CONTRACTOR OF STREET		All subscriptions	and a state of the second s						
										Freq Offs	set
-60.0											Hz
-70.0											
-70.0										Scale Ty	pe
										-	·
Start 2.69 #Res BW			#\/D\A	/ 3.0 MHz		_	woon		0.000 0112	-	Lin
#Res BW			#VDV	- <b>5.0</b> WHZ		5			24621 pts)		
Mod							517	103			

Plot 7-125. Conducted Spurious Plot (Band 41 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)



Plot 7-126. Conducted Spurious Plot (Band 41 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
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🔤 Keysight Sp	ectrum Analyzer -	Swept SA								
LXI RL	RF 5	Ω AC	CORREC	SEN	SE:INT	#Avg Typ	e: RMS		Apr 26, 2018	Frequency
	Gate: LO	NFE	PNO: Fast 🖵	Trig: Free				TYP		
			IFGain:Low	Atten: 30	ab		ML			Auto Tune
40 -104-104	Ref 20.0	dBm					IVIK	r1 2.438 -48 (	00 dBm	
10 dB/div	Rel 20.0	лавш								
										Center Freq
10.0										1.263000000 GHz
0.00										Start Freq
10.0										30.000000 MHz
-10.0										
-20.0										
-20.0									DL1 -25.00 dBm	Stop Freq
-30.0										2.496000000 GHz
-40.0										CF Step 246.600000 MHz
									↓ <sup>1</sup>	Auto Man
-50.0					و المراجع المراجع	dilitical a potential		Malan and states of the		
a factor in the	and the second states in the	والتوريع وإركبتا اللاون			and the second	a first the state of the second	Safety and Statistics in			Freq Offset
-60.0										0 Hz
-70.0										Scale Type
										Scale Type
Start 0.03									430 0112	Log <u>Lin</u>
#Res BW	1.0 MHz		#VBW	3.0 MHz			Sweep 2	4.66 ms (4	1933 pts)	
MSG							STATUS			

Plot 7-127. Conducted Spurious Plot (Band 41 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)



Plot 7-128. Conducted Spurious Plot (Band 41 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

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	ectrum Analyze									
LXI RL	RF	50 Ω AC	CORREC		ISE:INT	#Avg Typ	e: RMS	TRAC	M Apr 26, 2018 CE <b>1 2 3 4 5 6</b>	Frequency
	Gate: LO	NFE	PNO: Fast IFGain:Low	Trig: Free Atten: 10				DI		
10 dB/div Log	Ref 0.0	0 dBm					Mkr	1 25.71 -49.	6 5 GHz 97 dBm	Auto Tun
-10.0										Center Fre 21.000000000 GH
-20.0									DL1 -25.00 dBm	Start Fre 15.000000000 GH
-40.0									1	<b>Stop Fre</b> 27.000000000 GH
-60.0 <b></b>						معيدين				CF Ste 1.200000000 GH <u>Auto</u> Ma
-80.0										Freq Offse 0 H
-90.0										Scale Typ
Start 15.0 #Res BW			#VBW	3.0 MHz		s	weep <u>24</u>		.000 GHz 4001 pts)	Log <u>Li</u>
MSG							STATUS			

Plot 7-129. Conducted Spurious Plot (Band 41 - 20.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

FCC ID: ZNFQ710US		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.

The minimum permissible attenuation level for Band 41 is as noted in the Test Notes on the following page.

# Test Procedure Used

KDB 971168 D01 v03r01 - 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 > 1% of the emission bandwidth
- 4. VBW > 3 x RBW
- 5. Detector = RMS
- 6. Number of sweep points  $\geq 2 \times \text{Span/RBW}$
- 7. Trace mode = trace average for continuous emissions, max hold for pulse emissions
- 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 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 limit per 27.53(c)(4) is 65 +  $10\log_{10}(P) = -35dBm$  in a 6.25kHz bandwidth.

Per 27.53(m) for operations in the BRS/EBS bands, the attenuation factor shall be not less than  $40 + 10 \log (P) dB$  on all frequencies between the channel edge and 5 megahertz from the channel edge,  $43 + 10 \log (P) dB$  on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth. In addition, the attenuation factor shall not be less that  $43 + 10 \log (P) dB$  on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz.

Some plots below show a VBW slightly less than 3xRBW. However it has been determined that this does not impact the measurement since the VBW is very close to 3xRBW.

FCC ID: ZNFQ710US	PCTEST	MEASUREMENT REPORT	LG	Approved by:
	CREINEINING LANDRATDET, INC.	(CERTIFICATION)		Quality Manager
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Plot 7-130. Lower Band Edge Plot (Band 12 - 1.4MHz QPSK - Full RB Configuration)



Plot 7-131. Lower Extended Band Edge Plot (Band 12 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
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Keysig RL	ght Spectrum R		r - Swej 50 Ω	AC	CORRE	C		SE	NSE:INT			08:31:48	PM Apr 27, 2018		
				NFE	PNO	:Wide C		g: Fre ten: 36	e Run	#Avg Ty	/pe: RMS	TR	ACE 1 2 3 4 5 6 YPE A WWWW DET A NNNNN	F	requency
0 dB/c	div Re	ef 25.0	00 d	Bm							M	(r1 716. -20	000 MHz ).34 dBm		Auto Tur
5.0					~~~~	~~~~		<u> </u>							Center Fre 6.000000 Mi
.00 -														71	<b>Start Fr</b> 4.000000 Mi
5.0	~~~~	كرر	/					t	1				DL1 -13.00 dBm	71	<b>Stop Fr</b> 8.000000 M
5.0														<u>Auto</u>	<b>CF Ste</b> 400.000 ki M
5.0															Freq Offs 0
i5.0 —															Scale Ty
	r 716.00 BW 30 I		lz			#VB	W 91	kHz	<u> </u>		Sweep	Span 2.000 ms	4.000 MHz (1001 pts)	Log	L
G											STATU	JS			

Plot 7-132. Upper Band Edge Plot (Band 12 - 1.4MHz QPSK - Full RB Configuration)



Plot 7-133. Upper Extended Band Edge Plot (Band 12 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 90 of 100
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	pectrum Analy.										
L <mark>XI</mark> RL	RF	50 Ω AC	CORREC		SE:INT	#Avg Typ	e: RMS	TRAC	Apr 26, 2018	F	requency
		NFE	PNO: Wide 🖵 IFGain:Low	Trig: Free Atten: 36				TYF			
							Mk	r1 697.9	96 MHz		Auto Tune
10 dB/div	Ref 25	.00 dBm			,		1	-21.	84 dBm		
										1	Center Free
15.0										69	B.000000 MH
5.00							ſ				
											Start Free
-5.00							$\vdash$			69	6.000000 MH:
									DL1 -13.00 dBm		
-15.0				(	1	mm	former				Stop Free
-25.0		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	mythene	www.www.						70	0.00000 MH
	and the second	ver stranger									CF Step
-35.0 🗸	~~~~										400.000 kH
-45.0										<u>Auto</u>	Mai
40.0											
-55.0											Freq Offse
											UTI
-65.0											Scale Type
	98.000 N / 100 kHz		#VBW	300 kHz			Sween 2	Span 4 .000 ms (	.000 MHz 1001 pts)	Log	<u>Lii</u>
MSG				000 1112			STATUS		ree i proj		

Plot 7-134. Lower Band Edge Plot (Band 12 - 3.0MHz QPSK - Full RB Configuration)



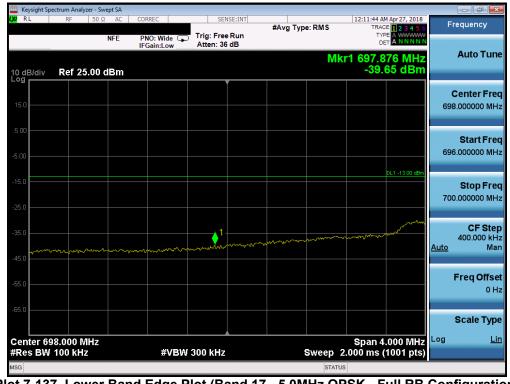
Plot 7-135. Upper Band Edge Plot (Band 12 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	💽 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 00 of 100
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		zer - Swept SA									
X/RL	RF	50 Ω AC	CORREC		SE:INT	#Avg Typ	e: RMS	TRAC	M Apr 27, 2018	F	requency
	_	NFE	PNO: Wide 🖵 IFGain:Low	Trig: Free Atten: 36				DE			
10 dB/div Log	Ref 2	5.00 dBm					Mk	r1 697.8 -23.	32 dBm		Auto Tun
											Center Fre
15.0								m	mm	69	B.000000 MH
5.00											Start Fre
-5.00										69	6.000000 MH
-15.0				- 1					DL1 -13.00 dBm		Stop Fre
-25.0			when the state of	-	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	m.	www.w.			70	0.000000 MH
35.0	un and and	mmmm									CF Ste
										<u>Auto</u>	400.000 kH Ma
45.0											Erea Offer
-55.0											Freq Offs 0 H
65.0											Ocolo Tra
										Log	Scale Typ
	98.000 ľ V 100 kH		#VBW	300 kHz			Sweep 2	5pan 4 000 m <u>s (</u>	.000 MHz 1001 pts)	LUg	<u> </u>
ISG							STATUS	5			

Plot 7-136. Lower Band Edge Plot (Band 12 - 5.0MHz QPSK - Full RB Configuration)



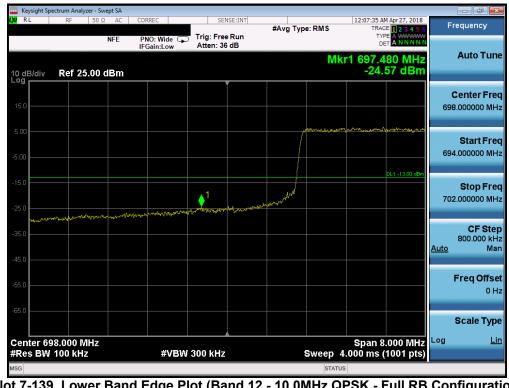
Plot 7-137. Lower Band Edge Plot (Band 17 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dege 01 of 100
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RL RL	pectrum Ana	iyzer - swe 50 Ω	AC	CORREC	1	SE	NSE:INT			12.02.41.4	M Apr 27, 2018	_	
			NFE	PNO: W		Trig: Fre Atten: 3	e Run	#Avg Ty	pe:RMS	TRA	CE 1 2 3 4 5 6 PE A WWWW ET A NNNNN	F	requency
0 dB/div	Ref 2	5.00 d	Bm	IFGain:L	.ow	Atten: 5			MI	kr1 716.(	012 MHz 06 dBm		Auto Tun
15.0		Area a conse	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	<u>~</u>							Center Fre 6.000000 M⊦
5.00											DL1 -13.00 dBm	71	<b>Start Fre</b> 4.000000 Mł
25.0							1	mmm	w			71	<b>Stop Fre</b> 8.000000 Mi
35.0 <b></b>												<u>Auto</u>	CF Ste 400.000 ki M
55.0													Freq Offs 01
55.0													Scale Typ
	'16.000   V 100 kH			#	VBW :	300 kHz			Sweep	Span 4 2.000 ms	.000 MHz (1001 pts)	Log	Ĺ
SG									STAT	us			

Plot 7-138. Upper Band Edge Plot (Band 12/17 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-139. Lower Band Edge Plot (Band 12 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 02 of 100
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	ectrum Analyze		SA										
RL	RF	50 Ω NF		CORREC PNO: W	ide 🖵	Trig: F	ree Run	#Avg Typ	e: RMS	TRAC	Apr 27, 2018 E 1 2 3 4 5 6 E A WINN N	Fi	requency
10 dB/div Log	Ref 25.	.00 dB	3m	IFGain:L	_ow	Atten	36 UB		MI	kr1 697.9			Auto Tun
15.0													Center Fre 3.000000 MH
-5.00											DL1 -13.00 dBm	694	Start Fre 4.000000 M⊦
-15.0							_1					70:	Stop Fre 2.000000 M⊦
-35.0 ,,	and the second second	~	uivilee <del>n ja</del> ge		and the second	anyte to the	gender och son der and	and and the state of the				<u>Auto</u>	CF Ste 800.000 kH Ma
55.0													Freq Offs 0 H
	98.000 M									Span 8	000 10112	Log	Scale Typ
#Res BW	100 kHz			;	#VBW	300 kl	lz		Sweep	4.000 ms (	1001 pts)		

Plot 7-140. Lower Band Edge Plot (Band 17 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-141. Upper Band Edge Plot (Band 12/17 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager			
Test Report S/N:	Test Dates:	EUT Type:	Daga 02 of 100			
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Plot 7-142. Lower Band Edge Plot (Band 13 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-143. Lower Emission Mask Band Edge Plot (Band 13 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Page 94 of 190	
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RL	RF	50 Ω AC	CORREC	SENSE:INT		12:31:50 AM Apr 27, 2018	Fraguaneu
		NFE	PNO: Wide	Trig: Free Run Atten: 36 dB	#Avg Type: RMS	TRACE 1 2 3 4 5 6 TYPE A WWWW DET A N N N N N	Frequency
			IFGain:Low	Atten: 36 dB		kr1 787.000 MHz	Auto Tui
0 dB/div	Ref 25	.00 dBm			IVI	-20.13 dBm	
							Center Fr
15.0							787.000000 M
5.00	~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	en hun me	m			
							Start Fr
5.00							785.000000 M
5.0				±=		DL1 -13.00 dBm	Stop Fr
				and the second			789.000000 M
25.0					when the second s	And a	
							CF St 400.000 k
							<u>Auto</u> N
15.0							
55.0							Freq Offs 0
i5.0							
							Scale Ty
enter 787	.000 M	Hz				Span 4.000 MHz	Log
Res BW 1			#VB	W 300 kHz	Sweep	2.000 ms (1001 pts)	





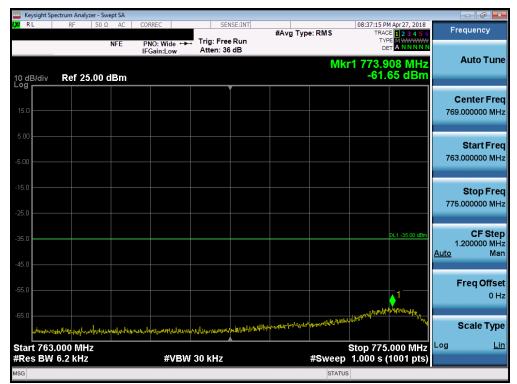
Plot 7-145. Upper Emission Mask Band Edge Plot (Band 13 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 05 of 100	
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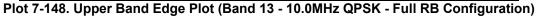


Plot 7-147. Lower Emission Mask Band Edge Plot (Band 13 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 06 of 100
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X/RL	RF	50 Ω	AC	CORREC	SE	NSE:INT				M Apr 27, 2018		
					Trig: Fre	- Dum	#Avg Typ	e:RMS		CE 1 2 3 4 5 6 PE A WWWW	F	requency
		· · · ·	NFE	PNO: Wide IFGain:Low	Atten: 3					ET A NNNNN		
								MI	(r1 787 (	096 MHz		Auto Tun
10 dB/div	Pof 2	25.00 d	Bm						-20	24 dBm		
	INCE 2	u	BIII			V						
												Center Fre
15.0											78	7.000000 MH
5.00			Lin Versee	al and the second second	www.ww							
												Start Fre
-5.00											78	3.000000 MH
										DL1 -13.00 dBm		
-15.0						1						Stop Fre
					Jrul Jrul	and man					79	1.000000 MH
-25.0						Thing	monumanytown	minumulu	man			1.000000 111
									فمويدينين	Margare and		
35.0										and the second s		CF Ste 800.000 kH
											Auto	800.000 Kr
-45.0												
-55.0												Freq Offs
												0 H
-65.0												
												Scale Typ
											Log	L
Center 7 #Res BW				#1/1	3W 470 kH;			Swoon	Span 3	3.000 MHz (1001 pts)	LUg	<u> </u>
FRES DW	130 Ki	12		#VE	JWY 47 U KH			Sweep		(Toor pis)		





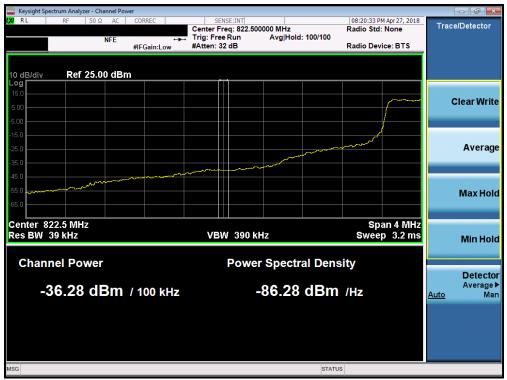
Plot 7-149. Upper Emission Mask Band Edge Plot (Band 13 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 07 of 100	
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Plot 7-150. Lower Band Edge Plot (Band 26/5 - 1.4MHz QPSK - Full RB Configuration)



Plot 7-151. Lower Extended Band Edge Plot (Band 26/5 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 09 of 100
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Plot 7-152. Upper Band Edge Plot (Band 26/5 - 1.4MHz QPSK - Full RB Configuration)



Plot 7-153. Upper Extended Band Edge Plot (Band 26/5 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 00 of 100
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RL	RF	50Ω AC	CORREC	SENS	:INT	#Avg Type	DMC		M Apr 27, 2018 DE <b>1 2 3 4 5 6</b>	F	requency
		NFE	PNO: Wide 🖵 IFGain:Low	Trig: Free F		#Avg Typ	e. Rivi S	TY	PE A WWWWW ET A NNNNN		
0 dB/div	Ref 25.0	0 dBm	IFGain.Low	Auch. oo a			Mk	r1 824.( -17.1	00 MHz 68 dBm		Auto Tui
og 15.0					mm	han an a	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	m	un mart		Center Fr 4.000000 Mi
5.00				L L L L L L L L L L L L L L L L L L L						82	<b>Start Fr</b> 2.000000 M
25.0		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	a channed					DL1 -13.00 dBm	82	<b>Stop Fr</b> 6.000000 M
5.0										<u>Auto</u>	CF St 400.000 k N
5.0											Freq Offs 0
i5.0 <b></b>											Scale Ty
enter 824 Res BW 1		z	#)/B)A	/ 300 kHz			Swoon (	Span 4	.000 MHz (1001 pts)	Log	ļ

Plot 7-154. Lower Band Edge Plot (Band 26/5 - 3.0MHz QPSK - Full RB Configuration)



Plot 7-155. Upper Band Edge Plot (Band 26/5 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 100 of 100
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	pectrum Analyze										
X/RL	RF	50 Ω AC	CORREC		SE:INT	#Avg Typ	e: RMS	TRAC	M Apr 27, 2018 CE 1 2 3 4 5 6	F	requency
		NFE	PNO: Wide 🕞 IFGain:Low	Trig: Free Atten: 36							
							Mk	r1 823.9	80 MHz		Auto Tun
10 dB/div Log	Ref 25.	00 dBm						-21.	13 dBm		
											Center Fre
15.0										82	4.000000 MH
5.00					~^^	ummen m	www.	munn	mmm		
											Start Fre
-5.00										82	2.000000 MH
-15.0					-				DL1 -13.00 dBm		
					AL.					82	Stop Fre 5.000000 МН
-25.0	A.D Advert	- N~~~~~ www.	man and the second	manny							
-35.0	10 (June 4    -0 - 4										CF Ste
-55.0										Auto	400.000 kH Ma
-45.0											
-55.0											Freq Offse
33.0											0 H
-65.0											
											Scale Typ
	24.000 MI	Hz						Span 4	.000 1911 12	Log	Li
	/ 100 kHz		#VBW	300 kHz					(1001 pts)		
SG							STATUS				

Plot 7-156. Lower Band Edge Plot (Band 26/5 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-157. Upper Band Edge Plot (Band 26/5 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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	M Apr 27, 2018	09-11-04 0			SE:INT	CEN.	REC			sight Spectrum	Kej Kolorija
Trace/Detector	DE 1 2 3 4 5 6 PE A WWWWW	TRAC	e: RMS	#Avg Typ		Trig: Free	IO: Wide			-	K
Select Trace	ANNNN					Atten: 36	Gain:Low				
ſ	888 MHz 38 dBm	1 823.8 -25.	MK					Bm	f 25.00 d	3/div Re	
<b>.</b>											og
Clear Wri											15.0
	history and the second s	www.c.j.m	hard and a second and a second se	<del>৻ֈ৻</del> ֈֈ <del>ՠՠՠՠ</del> ՠՠ	why						5.00
Trace Avera											
	DL1 -13.00 dBm										i.00
Max Ho											5.0
WidXTIO					N <sup>N</sup>	<b>(</b>					25.0
						and and a second second	hanterly of a light of the second	rthy and a solution	anteren anterna	whenter	
Min Ho											15.0
											5.0
View Blank											5.0
Viev											
Μο											i5.0
1 0	.000 MHz	Snan 8							0 MHz	ter 824.00	en
	(1001 pts)	.000 ms (	Sweep 4			300 kHz	#VBW			BW 100	
			STATUS								G

Plot 7-158. Lower Band Edge Plot (Band 26/5 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-159. Upper Band Edge Plot (Band 26/5 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🔁 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 102 of 100
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	pectrum Analyzer - Sv										
L <mark>XI</mark> RL	RF 50 S	AC AC	CORREC		SE:INT	#Avg Type	e: RMS	08:17:38 PM A TRACE	pr 27, 2018 1 2 3 4 5 6	Fre	quency
		NFE	PNO: Wide 🖵 IFGain:Low	Trig: Free Atten: 36				TYPE DET	A WWWWW A NNNNN		
							Mk	r1 823.88	0 MHz 8 dBm		Auto Tune
10 dB/div Log	Ref 25.00	dBm			,			-20.10	завш		
										C	enter Fred
15.0										824.0	000000 MHz
5.00							-4000-a-6	LA MARCAN AND AND AND AND AND AND AND AND AND A	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
3.00					^ ~ · · ·						Start Freq
-5.00										818.0	000000 MHz
								DL	1 -13.00 dBm		
-15.0											Stop Freq
-25.0					1					830.0	000000 MHz
~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~^^	~						
-35.0										1.2	CF Step 200000 MHz
										<u>Auto</u>	Mar
-45.0											
-55.0										F	req Offset
											0 Hz
-65.0										-	
											cale Type
	24.000 MHz							Span 12.		Log	<u>Lin</u>
	√ 150 kHz		#VBW	470 kHz				.000 ms (10	JU1 pts)		
MSG							STATUS				

Plot 7-160. Lower Band Edge Plot (Band 26 - 15.0MHz QPSK - Full RB Configuration)



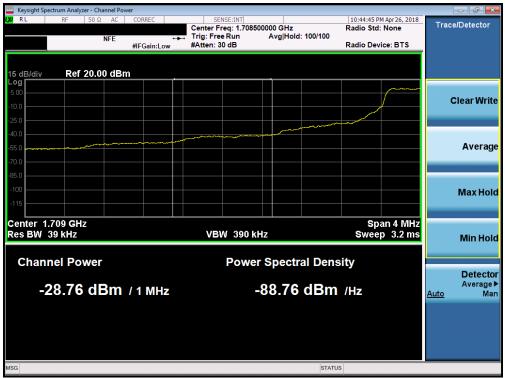
Plot 7-161. Upper Band Edge Plot (Band 26 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 102 of 100
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Plot 7-162. Lower Band Edge Plot (Band 66/4 - 1.4MHz QPSK - Full RB Configuration)



Plot 7-163. Lower Extended Band Edge Plot (Band 66/4 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 104 of 100
1M1803280057-03-R1.ZNF	3/27 - 5/2/2018	Portable Handset		Page 104 of 190
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Keys K/RL	ight Spectrum Ai	nalyzer - Sw 50 Ω		CORREC		C	NSE:INT			11:10:02.0	M Apr 26, 2018	_	
KL	KF	50 52	NFE		Vide 🖵 Low		e Run	#Avg Typ	e: RMS	TRAC	M ADF 26, 2018 CE 1 2 3 4 5 6 PE A WWWWWW ET A N N N N N	F	requency
0 dB	/div Ref	25.00 (	dBm						Mkr1	1.755 ( -24.	00 GHz 12 dBm		Auto Tun
15.0 -													<b>Center Fre</b> 55000000 GH
5.00 -			<u>,</u>	<del>/////******</del>	*****							1.75	<b>Start Fre</b> 53000000 GH
15.0							1				DL1 -13.00 dBm	1.7	<b>Stop Fre</b> 57000000 GI
35.0 - 45.0 -	www	4					L'	1				<u>Auto</u>	<b>CF Ste</b> 400.000 ki Ma
5.0 -											a many way has		Freq Offs 0 I
65.0 - Cento	er 1.75500	0 GHz								Span 4	.000 MHz	Log	Scale Typ
_	BW 15 kH	IZ			#VBW	47 kHz			_	.000 ms (	(1001 pts)		
SG									STATU	5			

Plot 7-164. Upper Band Edge Plot (Band 4 - 1.4MHz QPSK - Full RB Configuration)



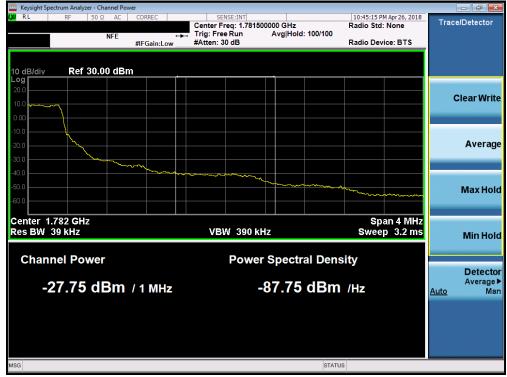
Plot 7-165. Upper Extended Band Edge Plot (Band 4 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 105 of 100
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RL	Spectrum Analyzer - Swe RF 50 Ω		CORREC	SEI	SE:INT			10:45:10	PM Apr 26, 2018	Turne (Datasta
		NFE	PNO: Wide G	Trig: Free Atten: 36		#Avg Typ	e:RMS		CE 123456 /PE A WWWW DET A NNNNN	Trace/Detector
) dB/div	Ref 25.00 d	IBm	il Guilleow				Mkr	1 1.780 -23	000 GHz .91 dBm	Select Trace
5.0										Clear Wri
		hun	han	www.h						Trace Avera
5.0					1				DL1 -13.00 dBm	MaxHo
5.0	m				and the second s	man	, Mar			Min Ho
i.0							- Martin	and and a second and and and and and and and and and a	- Marine Construction	<b>View Blan</b> Viev
	1.780000 GHz							Span 4	4.000 MHz	<b>М</b> с 1 о
ces BV	V 13 kHz		#VBV	/ 43 kHz			Sweep	8.807 ms	(1001 pts)	

Plot 7-166. Upper Band Edge Plot (Band 66 - 1.4MHz QPSK - Full RB Configuration)



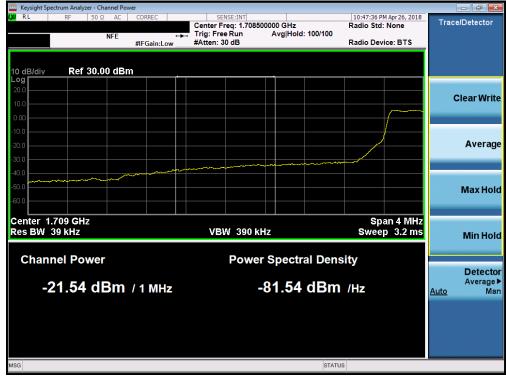
Plot 7-167. Upper Extended Band Edge Plot (Band 66 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	à	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Daga 106 of 100	
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10 dB/div Re	50 Ω AC NFE f 25.00 dBm	CORREC PNO: Wide IFGain:Low	Trig: Free Atten: 36		#Avg Typ	e: RMS	TRAC	Apr 26, 2018 E 1 2 3 4 5 6 E A WWWWW	Fi	equency
	f 25.00 dBm	IFGain:Low	Atten: 36	ab			DE	ANNNN		
						Mkr1	1.709 9	96 GHz 93 dBm		Auto Tun
15.0										Center Fre 0000000 GH
5.00						~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~	DL1 -13.00 dBm	1.70	<b>Start Fre</b> 8000000 G⊦
25.0			~	,1					1.71	<b>Stop Fre</b> 2000000 GH
45.0	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	<u>.</u>	~~~						<u>Auto</u>	CF Ste 400.000 kH Ma
55.0										Freq Offs 0 H
65.0 Center 1.7100							Span 4.		Log	Scale Typ
#Res BW 30 k	Hz	#VBW	91 kHz			Sweep 2	.000 ms (	1001 pts)		

Plot 7-168. Lower Band Edge Plot (Band 66/4 - 3.0MHz QPSK - Full RB Configuration)



Plot 7-169. Lower Extended Band Edge Plot (Band 66/4 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 107 of 100	
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	pectrum Analy										
I <mark>XU</mark> RL	RF	50 Ω AC NFE	PNO: Wide	Trig: Free R Atten: 36 d	un	#Avg Type	e: RMS	TRAC	Apr 26, 2018 <b>1 2 3 4 5 6</b> E A WWWWW T A N N N N N	Fr	equency
10 dB/div	Ref 25	i.00 dBm	IFGain:Low	Atten: 50 u			Mkr1	1.755 0			Auto Tun
15.0											Center Free 5000000 GH
5.00	<u></u>								DL1 -13.00 dBm	1.75	<b>Start Fre</b> 3000000 GH
-15.0									UC1	1.75	<b>Stop Fre</b> 7000000 GH
45.0						~~~~~	~~~~~		Anna and	Auto	CF Ste 400.000 kH Ma
55.0											Freq Offs 0 H
65.0											Scale Typ
	.755000 / 30 kHz	GHz	#VBW	91 kHz		ş	Sweep 2	.000 ms (	000 MHz 1001 pts)	Log	Li
ISG							STATUS	3			

Plot 7-170. Upper Band Edge Plot (Band 4 - 3.0MHz QPSK - Full RB Configuration)



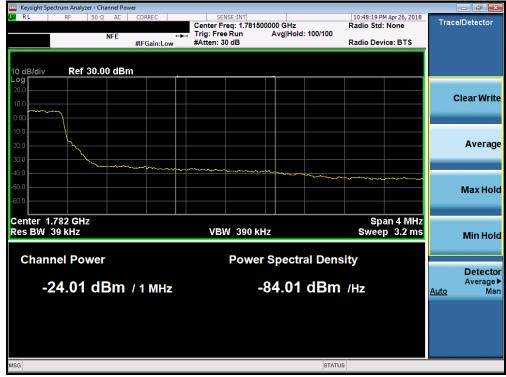
Plot 7-171. Upper Extended Band Edge Plot (Band 4 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 109 of 100
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		zer - Swept SA									
X/RL	RF	50 Ω AC NFE	PNO: Wide			#Avg Typ	e: RMS	10:48:11 PM / TRACE TYPE DET	Apr 26, 2018 <b>1</b> 2 3 4 5 6 A A MNNNN	Fre	quency
10 dB/div	Ref 2	5.00 dBm	IFGam:Low	Atten: 00			Mkr1	1.780 00 -23.3	0 GHz 1 dBm		Auto Tun
15.0											enter Fre 000000 GH
5.00		Munday	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~						L1 -13.00 dBm	1.778	<b>Start Fre</b> 000000 G⊦
25.0					1					1.782	<b>Stop Fre</b> 000000 G⊦
45.0						~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~	<u>Auto</u>	<b>CF Ste</b> 400.000 kH Ma
55.0										F	r <b>eq Offs</b> 0 F
65.0											Scale Typ
	.780000 ∮ 30 kHz	GHz	#VBW	91 kHz			Sweep 2	Span 4.0 2.000 ms (1	000 MHz 001 pts)	Log	Li
ISG							STATU	5			

Plot 7-172. Upper Band Edge Plot (Band 66 - 3.0MHz QPSK - Full RB Configuration)



Plot 7-173. Upper Extended Band Edge Plot (Band 66 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 100 of 100
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Keysight Spectrum Ana	alyzer - Swept SA						
🗶 RL RF	50 Ω AC NFE	PNO: Wide	SENSE:IN	#Avg Typ		10:50:10 PM Apr 26, 2018 TRACE 1 2 3 4 5 6 TYPE A WWWW DET A N N N N N	Frequency
10 dB/div Ref 2	25.00 dBm	IFGain:Low	Atten: 36 dB		Mkr1 1	.709 996 GHz -22.62 dBm	Auto Tun
15.0							Center Fre 1.710000000 GH
5.00				mmm	w	M M M	Start Fre 1.708000000 G⊦
25.0			كمر م	<u></u>		DL1 -13.00 dBm	Stop Fre 1.712000000 G⊦
<sup>35.0</sup>	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	m	~~~				CF Ste 400.000 kH <u>Auto</u> Ma
55.0							Freq Offs 0 F
65.0 Center 1.710000	) CH7					Span 4.000 MHz	Scale Typ
Res BW 51 kH		#VBW	160 kHz		Sweep 2.0	00 ms (1001 pts)	
ISG					STATUS		

Plot 7-174. Lower Band Edge Plot (Band 66/4 - 5.0MHz QPSK - Full RB Configuration)



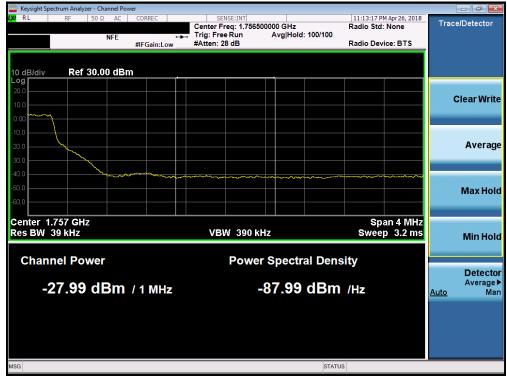
Plot 7-175. Lower Extended Band Edge Plot (Band 66/4 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Degs 110 of 100
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	pectrum Anal	/zer - Swept	SA										
XI RL	RF	50 Ω NF		CORREC PNO: Wi	ide 🖵	Trig: Free Atten: 36		#Avg Typ	e:RMS	TRA	PM Apr 26, 2018 ACE 1 2 3 4 5 6 APE A MANNA A DET A NNNNN	F	requency
10 dB/div	Ref 2	5.00 dB	3m	IFGaint	ow	Atten. or			Mkr	1 1.755 -24	000 GHz .26 dBm		Auto Tun
15.0													Center Fre
5.00	·····	~~~~		~~~	~						DL1 -13.00 dBm	1.75	<b>Start Fre</b> 3000000 GH
25.0						hord and the second sec	1					1.75	Stop Fre 7000000 G⊦
35.0							- John John John John John John John John					<u>Auto</u>	CF Ste 400.000 kH Ma
55.0													Freq Offs 0 H
65.0													Scale Typ
Center 1 Res BM	.755000 V 51 kHz	GHz		#	VBW	160 kHz			Sweep	Span 2.000 ms	4.000 MHz (1001 pts)	Log	Li
ISG									STAT	US			

Plot 7-176. Upper Band Edge Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)



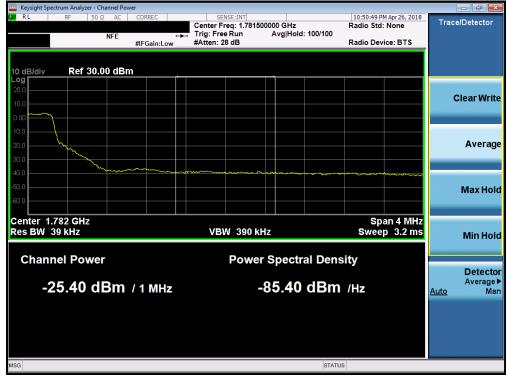
Plot 7-177. Upper Extended Band Edge Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Degs 111 of 100
1M1803280057-03-R1.ZNF	3/27 - 5/2/2018	Portable Handset		Page 111 of 190
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	Spectrum Analy										
XI RL	RF	50 Ω AC	PNO: Wide	Trig: Free		#Avg Typ	e: RMS	10:50:40 PM TRACE TYPE	Apr 26, 2018 <b>1 2 3 4 5 6</b> A WWWWW A N N N N N	Fre	equency
10 dB/div	Ref 2	5.00 dBm	IFGain:Low	Atten: 36	dB		Mkr1	1.780 0			Auto Tun
15.0											enter Fre 000000 GH
5.00	www.	mm	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~						1.778	Start Fre 000000 G⊦
25.0				hung	1			] 	0L1 -13.00 dBm	1.782	<b>Stop Fre</b> 000000 G⊦
35.0							h	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	<u>Auto</u>	<b>CF Ste</b> 400.000 kH Ma
55.0										F	F <b>req Offs</b> 0 H
65.0											Scale Typ
	1.780000 N 51 kHz		#VB	W 160 kHz			Sweep 2	Span 4. 000 ms (1	000 19112	Log	L
ISG							STATUS	6			

Plot 7-178. Upper Band Edge Plot (Band 66 - 5.0MHz QPSK - Full RB Configuration)



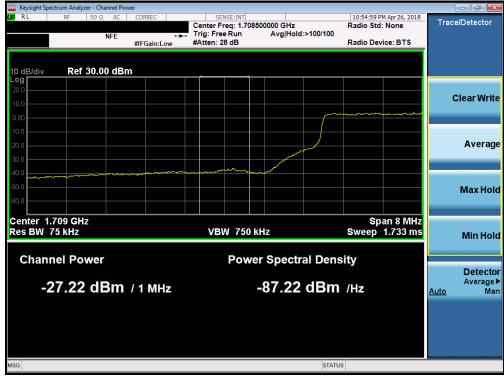
Plot 7-179. Upper Extended Band Edge Plot (Band 66 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 112 of 100
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RL	pectrum Anal RF	50 Ω	AC	CORREC		SE	NSE:INT				10:54:53	PM Apr 26, 2018	_	
			NFE	PNO: Wi		Trig: Fre		#Av	д Тур	e: RMS	TRA	CE 1 2 3 4 5 6	F	requency
		r	NFE	IFGain:Lo		Atten: 36					0			
										Mkr1	1.709	992 GHz		Auto Tun
0 dB/div .og	Ref 2	5.00 d	Bm								-22	.79 dBm		
							Ĭ							Center Fre
15.0														10000000 GH
5.00								provedentaria	Y <sup>m</sup> rwd	managena	and the second	Jaliphallouthytown		
													4.70	Start Fre
5.00													1.70	J6000000 GF
												DL1 -13.00 dBm		
15.0							1							Stop Fre
25.0							PROVE T						1.7	14000000 GH
20.0						AN ALMAN AND AND AND AND AND AND AND AND AND A								
35.0				autility	1.	- March								CF Ste 800.000 kH
generation	and a start and a start and a start a st	willing	hour they a	why and why	1 Marcel	<b>hh</b> r <sup>r</sup>							Auto	800.000 KF
45.0														
														Freq Offs
55.0														01
or 0														
65.0														Scale Typ
	.710000			_,		0001-11				-	Span	0.000 111112	Log	L
	/ 100 kH	Z		#	ABM	300 kHz						(1001 pts)		
iG										STATU	S			

Plot 7-180. Lower Band Edge Plot (Band 66/4 - 10.0MHz QPSK - Full RB Configuration)



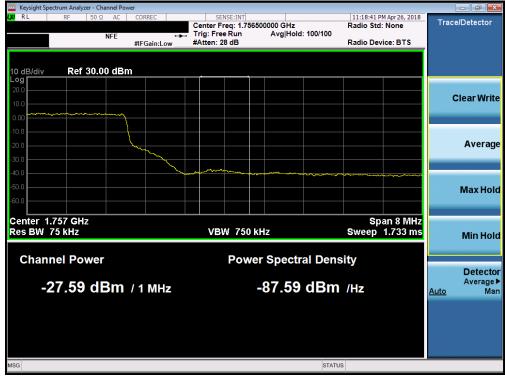
Plot 7-181. Lower Extended Band Edge Plot (Band 66/4 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕑 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Degs 112 of 100
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	pectrum Analyz	er - Swept SA									- 6 💌
X/RL	RF	50 Ω AC	CORREC	Trig: Free		#Avg Typ	e:RMS	11:18:27 PM TRACE TYPE	Apr 26, 2018 <b>1</b> 2 3 4 5 6 A WWWW A NNNNN	Fre	equency
10 dB/div	Ref 25	.00 dBm	IFGain:Low	Atten: 36	dB		Mkr1	1.755 01			Auto Tun
15.0											enter Fre 000000 GH
5.00	ry Hole of the second		nnplenskersenserserser						L1 -13.00 dBm	1.751	Start Fre
25.0				- Constant	1					1.759	<b>Stop Fre</b>
45.0						were the state of	. Contraction of the contraction	and many sections	موية الإسرارية ومستعلمهما	<u>Auto</u>	CF Ste 800.000 kH Ma
5.0										F	F <b>req Offs</b> 0 I
65.0											Scale Typ
	.755000 ( V 100 kHz		#VBW	/ 300 kHz			Sweep 4	Span 8.0 1.000 ms (1	000 MHz 001 pts)	Log	L
ISG							STATU	s			

Plot 7-182. Upper Band Edge Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)



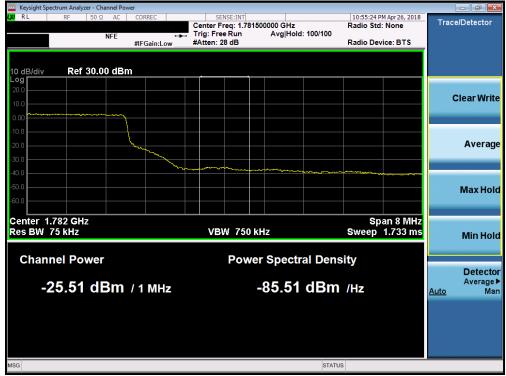
Plot 7-183. Upper Extended Band Edge Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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Keysight Sp RL	ectrum Analy			0050						10.55.40.0		_	
KL .	RF	50 Ω A	E P	NO: Wid		Trig: Fre		#Avg Typ	e: RMS	TRAC	M Apr 26, 2018 CE 1 2 3 4 5 6 PE A WWWWW ET A N N N N N	F	requency
0 dB/div	Ref 25	.00 dBi		Gain:Lo	w	Atten: 3	6 dB		Mkr1	1.780 (	000 GHz 41 dBm		Auto Tur
15.0													Center Fre
5.00	4764-C-Q	mennenne	****	************	estructure of the							1.77	<b>Start Fr</b> 6000000 GI
25.0						Mr. Contraction	1				DL1 -13.00 dBm	1.78	<b>Stop Fr</b> 4000000 G
15.0							North Andrews	Martin Contraction Comparent	An of my theory and the	al and the second second	vingen restartyring	<u>Auto</u>	<b>CF St</b> 800.000 k M
i5.0 <b></b>													Freq Offs 0
i5.0													Scale Ty
	780000 100 kHz			#\	/BW :	300 kHz			Sweep 4	Span 8 1.000 ms (	8.000 MHz (1001 pts)	Log	L
SG									STATU	s			

Plot 7-184. Upper Band Edge Plot (Band 66 - 10.0MHz QPSK - Full RB Configuration)



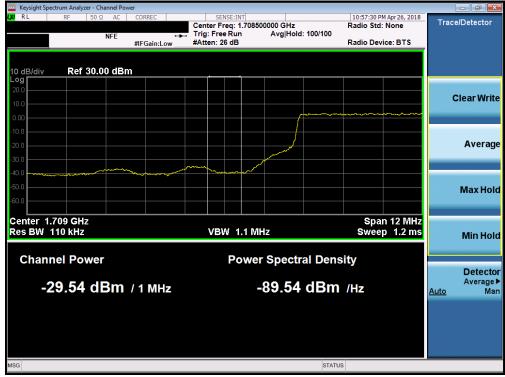
Plot 7-185. Upper Extended Band Edge Plot (Band 66 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 115 of 100
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NFE F	ORREC			#Avg Type		TRAI TY D 1.710 (	M Apr 26, 2018 6 PE A	Ceni 1.710000 Sta 1.704000	to Tun ter Fre 0000 GH art Fre
IF		Atten: 36	S dB		Mkr1	1.710 (	000 GHz 13 dBm	Ceni 1.710000 Sta 1.704000	ter Fre 0000 GH art Fre 0000 GH
5.00 dBm					Mkr1	1.710 ( -25.	13 dBm	Ceni 1.710000 Sta 1.704000	ter Fre 0000 G⊢ art Fre 0000 G⊢
5.00 dBm						-25.		1.710000 Sta 1.704000	0000 GH art Fre
							DL1 -13.00 dBm	1.710000 Sta 1.704000	0000 G⊦ art Fre
						part of the second	DL1 -13.00 dBm	1.710000 Sta 1.704000	0000 G⊦ art Fre
						~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	DL1 -13.00 dBm	St; 1.704000	art Fre
							DL1 -13.00 dBm	1.704000	0000 GH
							DL1 -13.00 dBm	1.704000	0000 GH
							DL1 -13.00 dBm		
							DL1 -13.00 dBm	C+	
			-				DL1 -13.00 dBm	C+	-
			4						
									opFre
		<b>\</b>	× **					1.716000	000 GI
		<i></i> /							
	m								CF Ste
manne	~~~~							1.200 <u>Auto</u>	000 MI Mi
								Auto	IVI
								_	
								Fre	qOffs
									01
								Sca	le Typ
								Log	L
	443 / D344				Curson 4	Span 1	2.00 MHz	_	L
	#VBW	7470 KHZ			sweep 1.	.000 ms	(TOUT pts)		
	GHz						GHz Span 1 z #VBW 470 kHz Sweep 1.000 ms	GHz Span 12.00 MHz z #VBW 470 kHz Sweep 1.000 ms (1001 pts)	GHz Span 12.00 MHz

Plot 7-186. Lower Band Edge Plot (Band 66/4 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-187. Lower Extended Band Edge Plot (Band 66/4 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 116 of 100
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	pectrum Analyze										
XI RL	RF	50 Ω AC NFE	CORREC			#Avg Typ	e:RMS	TRA	PM Apr 26, 2018 CE 1 2 3 4 5 6 (PE A WWWWWW DET A NNNNN	Fi	requency
I0 dB/div	Ref 25.	00 dBm	IFGain:Low	Atten: 36	aB		Mkr1	1.755	000 GHz .49 dBm		Auto Tun
15.0											<b>Center Fre</b> 5000000 G⊦
5.00	Arvertandrand	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	the second second						DL1 -13.00 dBm	1.74	<b>Start Fre</b> 9000000 GH
25.0				how	1					1.76	<b>Stop Fre</b> 1000000 GH
35.0 <b></b>							and the second second		and the second	Auto	CF Ste 1.200000 Mi Ma
i5.0											Freq Offs 0 I
55.0	755000-0							0.000			Scale Typ
	.755000 Q 150 kHz	ΠZ	#VBW	470 kHz			Sweep ′	span 1.000 ms	12.00 MHz (1001 pts)	9	
SG							STATU	S			

Plot 7-188. Upper Band Edge Plot (Band 4 - 15.0MHz QPSK - Full RB Configuration)



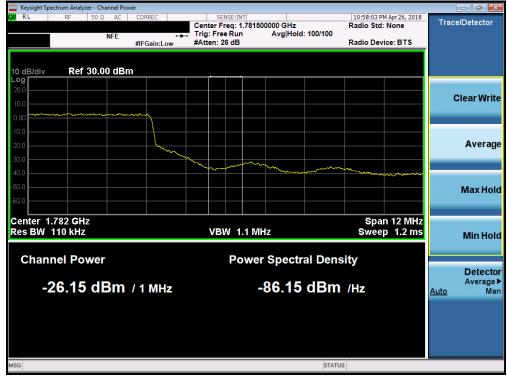
Plot 7-189. Upper Extended Band Edge Plot (Band 4 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Degs 117 of 100
1M1803280057-03-R1.ZNF	3/27 - 5/2/2018	Portable Handset		Page 117 of 190
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	Spectrum Analy			-								
XU RL	RF	50 Ω A0		/ide 🕟 Tri	SENSE:		#Avg Typ	e: RMS	TR. T	PM Apr 26, 2018 ACE 1 2 3 4 5 6 YPE A WWWWW	Fre	equency
		NFE	IFGain:		tten: 36 dB			Mkr		000 GHz		Auto Tun
I0 dB/div	Ref 2	5.00 dBn	n					WIKI	-23	.47 dBm		
					Ĭ							enter Fre
15.0											1.780	1000000 GH
5.00	m	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	·····	many								Start Fre
5.00				}							1.774	1000000 GH
15.0										DL1 -13.00 dBm		Stop Fre
25.0					1						1.786	5000000 GH
25.0					~	hy h	~~~~^	~~				CF Ste
35.0						~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			marine	www.	1 <u>Auto</u>	200000 Mi Mi
45.0											<u>//uto</u>	III
55.0											F	<b>req Offs</b> ۱۱
65.0												01
											:	Scale Typ
	.780000 V 150 kH			#VBW 47(				Sween	Span	12.00 MHz (1001 pts)	Log	L
SG SG	V IJU KH	2		/ VID/VV 47 U	7 KHZ			Sweep		(100 Phis)		

Plot 7-190. Upper Band Edge Plot (Band 66 - 15.0MHz QPSK - Full RB Configuration)



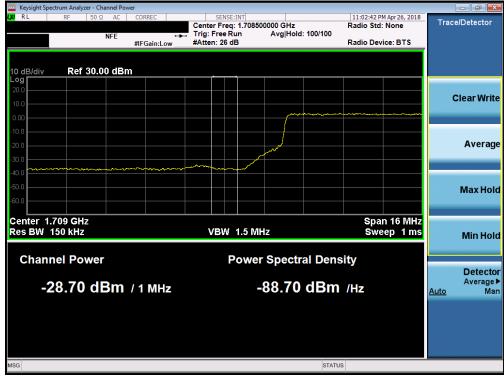
Plot 7-191. Upper Extended Band Edge Plot (Band 66 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Degs 110 of 100
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Keysight Spectrum A	50 Ω AC	CORREC	SEN	ISE:INT			11:02:28	PM Apr 26, 2018	_	
			Trig: Free	Bun	#Avg Typ	e: RMS	TRA		Fr	equency
	NFE	PNO: Wide 🖵 IFGain:Low	Atten: 36							
						Mkr1	1.710	000 GHz		Auto Tun
0 dB/div Ref	25.00 dBm						-26	.14 dBm		
.ºg										
15.0										Center Fre
15.0									1.71	0000000 GH
5.00										
3.00				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	for when	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	www.		Start Fre
5.00									1.70	2000000 GH
15.0								DL1 -13.00 dBm		Oton Eng
				1					1 74	<b>Stop Fre</b> 8000000 GH
25.0				<i>ت</i> ر ا					1.7 1	8000000 GF
			کم							
35.0	Amore and a construction	mon	month						1	CF Ste .600000 MH
									Auto	Ma
45.0										
										Freq Offs
55.0										01
65.0										Scale Typ
										ocale i yp
Center 1.71000							Span '	0.00 10112	Log	<u> </u>
Res BW 200 I	(Hz	#VBW	620 kHz			Sweep '	1.000 ms	(1001 pts)		
SG						STATU	IS			

Plot 7-192. Lower Band Edge Plot (Band 66/4 - 20.0MHz QPSK - Full RB Configuration)



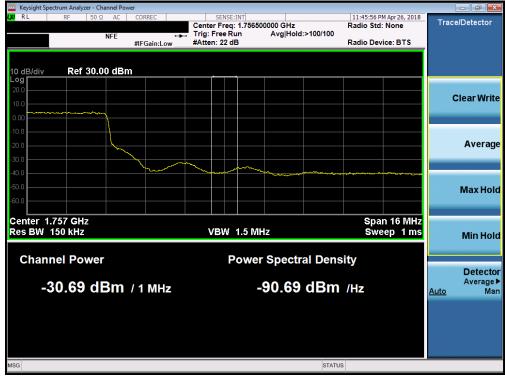
Plot 7-193. Lower Extended Band Edge Plot (Band 66/4 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 110 of 100
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	Spectrum Analyze	r - Swept SA								-	- 6 -
XI RL	RF	50 Ω AC	CORREC	Trig: Free		#Avg Typ	e: RMS	TRAC	Apr 26, 2018 E 1 2 3 4 5 6 E A M N N N N	Freq	uency
10 dB/div	Ref 25.	00 dBm	IFGain:Low	Atten: 36	dB		Mkr1	1.755 0		A	uto Tun
15.0											nter Fre 00000 GH
5.00	dagdyn ad adynywywyr	*A.***********							DL1 -13.00 dBm		tart Fre 00000 G⊦
25.0					1						top Fre
35.0				mon	and the second	- m	mm	hump	www.mah.mah	1.60 <u>Auto</u>	CF Ste 00000 MH Ma
55.0										Fr	e <b>q Offs</b> 0 F
65.0											ale Typ
	I.755000 G V 200 kHz	Hz	#VBW	i 620 kHz			Sweep 1	Span 1 1.000 ms (	6.00 MHz 1001 pts)	Log	L
ISG							STATU	s			

Plot 7-194. Upper Band Edge Plot (Band 4 - 20.0MHz QPSK - Full RB Configuration)



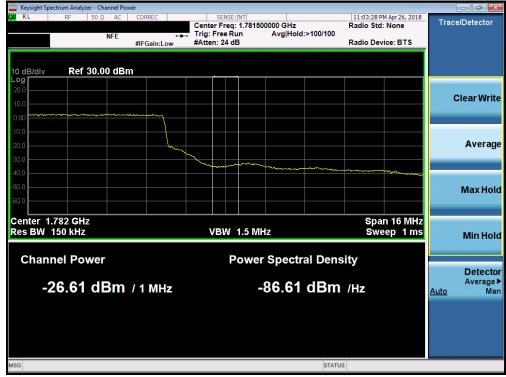
Plot 7-195. Upper Extended Band Edge Plot (Band 4 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 120 of 100
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RL RF				SE:INT			11:02:22.0	M Apr 26, 2018		
	50 Ω AC NFE	PNO: Wide	Trig: Free Atten: 36	Run	#Avg Typ	e:RMS	TRAC	PE A NNNNN	Frequ	iency
0 dB/div Ref 2	25.00 dBm					Mkr1	1.780 ( -24.	)32 GHz 69 dBm	Αι	ito Tur
og 15.0									Cer 1.78000	i <b>ter Fre</b> 0000 Gi
i.00	ale and a second second		~						<b>Si</b> 1.77200	t <b>art Fr</b> e
5.0			- Way	1				DL1 -13.00 dBm	<b>S</b> i 1.78800	t <b>op Fr</b> 0000 G
5.0				No and a second	Arran M	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	and the second	man	1.60 <u>Auto</u>	CF Ste DOOO M M
5.0									Fre	e <b>q Offs</b> 0
5.0										ale Ty
enter 1.780000 Res BW 200 kl		#VBW	620 kHz			Sweep 1	Span 1 .000 ms (	6.00 MHz (1001 pts)	Log	L

Plot 7-196. Upper Band Edge Plot (Band 66 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-197. Upper Extended Band Edge Plot (Band 66 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 101 of 100
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Plot 7-198. Lower Band Edge Plot (Band 25/2 - 1.4MHz QPSK - Full RB Configuration)



Plot 7-199. Lower Extended Band Edge Plot (Band 25/2 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 122 of 100
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Keysig RL	ight Spectrum Analyz RF	er - Swept SA 50 Ω AC	CORREC		ENSE:INT			11-47-49 0	4 Apr 26, 2018	_	
KL	N	NFE	PNO: Wie	le 💭 Trig: Fi	ree Run	#Avg Typ	e: RMS	TRAC	E 1 2 3 4 5 6 E A WWWWW T A N N N N N	Fr	equency
0 dB/o	div Ref 25	.00 dBm					Mkr1	1.910 0 -22.5	00 GHz 85 dBm		Auto Tur
15.0											Center Fre
			ipenan franc							1.90	<b>Start Fr</b> 8000000 G
5.0	امر				1 M				DL1 -13.00 dBm	1.91	<b>Stop Fr</b> 2000000 G
5.0 -	- Marine Carl				hours	MANN	marty	Mangu	47.424	<u>Auto</u>	<b>CF St</b> 400.000 k M
5.0 -									V WWW	l	Freq Offs 0
5.0	er 1.910000 (	247						Span 4	.000 MHz	Log	Scale Typ
	BW 15 kHz	SUIT	#	VBW 47 kHz			Sweep 7	.000 ms (	1000 MH2 1001 pts)		
SG							STATUS	5			

Plot 7-200. Upper Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)



Plot 7-201. Upper Extended Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 122 of 100
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	ctrum Analyzer										
XVIRL	RF	50 Ω AC	CORREC		NSE:INT	#Avg Ty	e: RMS	TRAC	M Apr 26, 2018 CE 1 2 3 4 5 6	Fr	equency
		NFE	PNO: Wide 🕞 IFGain:Low	Trig: Fre Atten: 40				TY			
							Mkı	1 1.915 (	64 GHz		Auto Tune
10 dB/div Log	Ref 30.0	00 dBm						-26.	75 dBm		
										C	enter Fre
20.0										1.91	5000000 GH
10.0											
10.0	m	m	mmm.								Start Fre
0.00										1.91	3000000 GH
-10.0									DL1 -13.00 dBm		Stop Fre
-20.0				L						1.91	7000000 GH
a mar				1mm a	<b>∲</b> <sup>1</sup>						
30.0				~~	hum	<u>م</u>					CF Ste 400.000 kH
						www				<u>Auto</u>	Ma
-40.0						100	m	A			
50.0									mary	I	Freq Offse
											0 H
-60.0											Scale Typ
Center 1.9 Res BW		Hz	-#\{D\\	20 64-			Oween	Span 4	.000 MHz	Log	Li
SG	13 KHZ		#VDV	/ 39 kHz				9.533 ms (	(1001 pts)		
6							STAT	05			

Plot 7-202. Upper Band Edge Plot (Band 25 - 1.4MHz QPSK - Full RB Configuration)



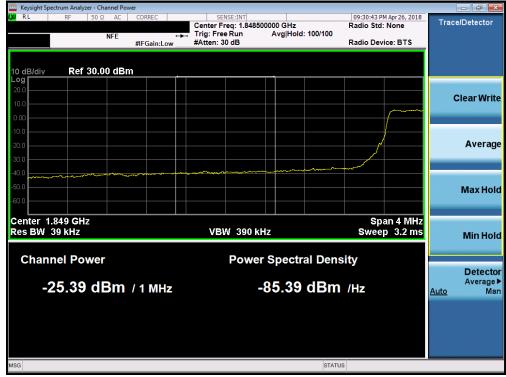
Plot 7-203. Upper Extended Band Edge Plot (Band 25 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 104 of 100
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Keysight Spectrum Analy						
XIRL RF	50 Ω AC	CORREC	SENSE:INT	#Avg Type: RMS	09:30:36 PM Apr 26, 2018 TRACE 1 2 3 4 5 6 TYPE A WWWW DET A NNNNN	Frequency
10 dB/div Ref 31	0.00 dBm	IFGain:Low	Atten: 40 dB	Mkr	1 1.850 000 GHz -26.46 dBm	Auto Tun
20.0						Center Fre 1.850000000 GH
0.00						Start Fre 1.848000000 G⊦
20.0			1		DL1 -13.00 dBm	<b>Stop Fre</b> 1.852000000 GF
40.0		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				CF Ste 400.000 kH <u>Auto</u> Ma
50.0						Freq Offs 0 H
60.0						Scale Typ
Center 1.850000 #Res BW 30 kHz	GHz	#VBW	91 kHz	Sweep	Span 4.000 MHz 2.000 ms (1001 pts)	Log <u>L</u>
ISG				STAT	US	

Plot 7-204. Lower Band Edge Plot (Band 25/2 - 3.0MHz QPSK - Full RB Configuration)



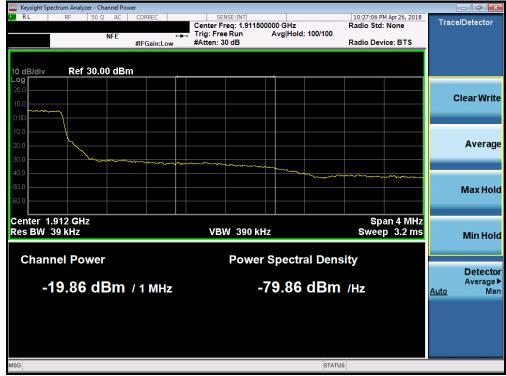
Plot 7-205. Lower Extended Band Edge Plot (Band 25/2 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 105 of 100
1M1803280057-03-R1.ZNF	3/27 - 5/2/2018	Portable Handset		Page 125 of 190
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									alyzer - Swept S/		
Trace/Detector	PM Apr 26, 2018 CE 1 2 3 4 5 6	TRA	e: RMS	#Avg Ty	NSE:INT				50 Ω A	RF	<mark>0</mark> RL
Select Trace		D				Trig: Fre Atten: 3	:Wide 🖵 in:Low	PN IFG	NFE		
1	000 GHz	1 1.910 (	Mkr								
	21 dBm	-22.4			-			n	25.00 dBn	liv Ref	0 dBi . <sup>og</sup> r
Clear Writ											
Clear With											15.0
						4 0		00000	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~	5.00
Trace Average										·	
											5.00
	DL1 -13.00 dBm										5.0
Max Ho					1						13.0
					<u></u>						25.0
			·	-	m						
Min Ho	· ····										5.0
											IS.0 -
View Blank											
View											i5.0 -
											i5.0
Мо											
1 0'	4.000 MHz	Snan /							CH7	r 1.9100	ent
	(1001 pts)	2.000 ms	Sweep			91 kHz	#VBW			3W 30 ki	
		US	STATI								G

Plot 7-206. Upper Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)



Plot 7-207. Upper Extended Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 106 of 100
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	Spectrum Analy	zer - Swept SA								- ē 💌
XI RL	RF	50 Ω AC	CORREC		Run	#Avg Typ	e: RMS	09:31:05 PM Apr 26, 20 TRACE 1 2 3 4 TYPE A WWW DET A N N N	6	Frequency
10 dB/div Log r	Ref 30	).00 dBm	IFGain:Low _	Atten: 40	) dB		Mkr1	L 1.915 000 GH -23.01 dB	z	Auto Tun
20.0									1.9	Center Fre 15000000 GH
0.00			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~						1.9	Start Fre 13000000 G⊦
-10.0					1			DL1 -13.00 c		<b>Stop Fre</b> 17000000 G⊦
40.0						~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			Auto	CF Ste 400.000 kH Ma
50.0										Freq Offs 0 F
60.0									z Log	Scale Typ
	I.915000 V 30 kHz	GHz	#VB	W 91 kHz			Sweep 2	Span 4.000 MI 2.000 ms (1001 pt		Li
ISG							STATU	s		

Plot 7-208. Upper Band Edge Plot (Band 25 - 3.0MHz QPSK - Full RB Configuration)



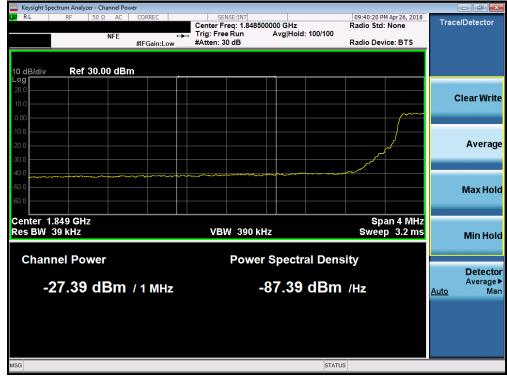
Plot 7-209. Upper Extended Band Edge Plot (Band 25 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 107 of 100
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Keysight Spectrum Ana						- P
K RL RF	50 Ω AC	CORREC PNO: Wide	SENSE:INT	#Avg Type: RMS	09:40:12 PM Apr 26, 2018 TRACE 1 2 3 4 5 6 TYPE A WWWW DET A N N N N N	Frequency
10 dB/div <b>Ref</b> 3	30.00 dBm	IFGain:Low	Atten: 40 dB	M	cr1 1.849 992 GHz -26.74 dBm	Auto Tur
20.0						Center Fre 1.850000000 GH
0.00				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	<b>Start Fre</b> 1.848000000 Gi
20.0			1		DL1 -13.00 dBm	<b>Stop Fre</b> 1.852000000 GF
10.0						<b>CF Ste</b> 400.000 kl <u>Auto</u> M
0.0						Freq Offs 0
60.0						Scale Ty
Center 1.850000 Res BW 51 kH		#VBW	160 kHz	Sweep	Span 4.000 MHz 2.000 ms (1001 pts)	Log <u>L</u>
SG				ST	ATUS	

Plot 7-210. Lower Band Edge Plot (Band 25/2 - 5.0MHz QPSK - Full RB Configuration)



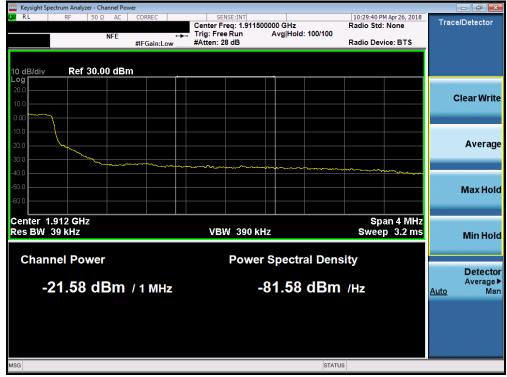
Plot 7-211. Lower Extended Band Edge Plot (Band 25/2 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 120 of 100
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	pectrum Analy	zer - Swept SA								
X/RL	RF	50 Ω AC	PNO: Wide	Trig: Free		#Avg Typ	e: RMS	10:29:34 PM Apr 26, TRACE 1 2 3 TYPE A WW DET A N N	456 FI	requency
10 dB/div	Ref 25	5.00 dBm	IFGain:Low	Atten: 36	dB		Mkr	1 1.910 000 G -23.89 dl	Hz	Auto Tun
15.0										Center Fre 0000000 GH
5.00		~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~							<b>Start Fre</b> 8000000 GH
25.0				hy.	1			DL1 -13.0		<b>Stop Fre</b> 2000000 GF
35.0 <b></b>							·~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Auto	<b>CF Ste</b> 400.000 kH Ma
55.0										Freq Offs 0 F
65.0										Scale Typ
	.910000 V 51 kHz	GHz	#VBW	160 kHz			Sweep	Span 4.000 M 2.000 ms (1001	/IHz <sup>Log</sup> pts)	Li
ISG							STAT	US		

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



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

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 100 of 100
1M1803280057-03-R1.ZNF	3/27 - 5/2/2018	Portable Handset		Page 129 of 190
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		zer - Swept SA									
X/RL	RF	50 Ω AC NFE	PNO: Wide			#Avg Typ	e: RMS	TRAC	M Apr 26, 2018 DE <b>1 2 3 4 5</b> 6 PE A WWWWW T A N N N N N	Fre	equency
I0 dB/div	Ref 30	0.00 dBm	IFGain:Low	Atten: 4	Jab		Mkr	1 1.915 ( -25.			Auto Tun
20.0											enter Fre 5000000 GH
10.0 D.00	~~~~		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~							1.913	Start Fre
20.0					1				DL1 -13.00 dBm	1.917	<b>Stop Fre</b> 7000000 GH
0.0					<u> </u>				Y. Marine Mar	<u>Auto</u>	CF Ste 400.000 kl Ma
i0.0										F	F <b>req Offs</b> 0 I
enter 1.9	015000	CH2						Spap	.000 MHz	tog	Scale Typ
Res BW		GHZ	#VE	W 160 kHz			Sweep	2.000 ms (	1001 pts)		_
ISG							STAT	US			

Plot 7-214. Upper Band Edge Plot (Band 25 - 5.0MHz QPSK - Full RB Configuration)



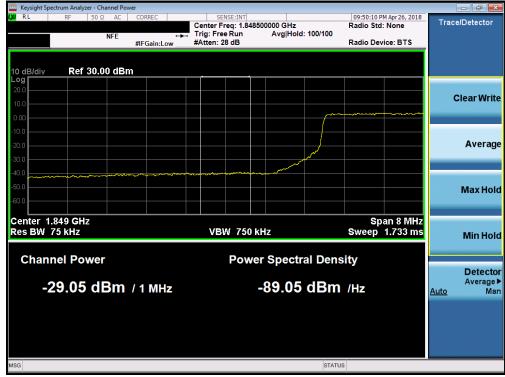
Plot 7-215. Upper Extended Band Edge Plot (Band 25 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFQ710US		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 120 of 100
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Keysight Spectrum Analyzer										
KU RF	50 Ω AC	CORREC	SENS		#Avg Typ	e: RMS	TRAC	M Apr 26, 2018 E 1 2 3 4 5 6 E A WWWWW	F	requency
10 dB/div Ref 25.0	NFE 00 dBm	PNO: Wide IFGain:Low	Atten: 36 d			Mkr1	1.849 9	36 GHz 93 dBm		Auto Tun
- <b>og</b> 15.0										Center Fre 0000000 G⊦
5.00					gen franke kalen skile se k	and a second	henred and a second	DL1 -13.00 dBm	1.84	<b>Start Fre</b> 6000000 G⊦
.15.0			1	المر مر					1.85	<b>Stop Fre</b> 4000000 GH
35.0 45.0	Frank Provident States	at a state of the second second							<u>Auto</u>	CF Ste 800.000 kH Ma
55.0										Freq Offs 0 F
65.0										Scale Typ
Center 1.850000 G Res BW 100 kHz	iHz	#VBW	/ 300 kHz			Sweep 4	Span 8 .000 ms (	.000 MHz 1001 pts)	Log	L
MSG						STATUS	;			

Plot 7-216. Lower Band Edge Plot (Band 25/2 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-217. Lower Extended Band Edge Plot (Band 25/2 - 10.0MHz QPSK - Full RB Configuration)

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	pectrum Analy											
KU RL	RF	50 Ω A	E PN	REC		SENSE:INT	#Avg Ty	pe:RMS	TRAC	M Apr 26, 2018 DE <b>1 2 3 4 5</b> 6 DE A WWWWW T A N N N N N	F	requency
I0 dB/div	Ref 25	i.00 dBr		Gain:Low	Atte	en: 36 dB		Mkr	1 1.910 0			Auto Tun
15.0												Center Fre
5.00 ~~ <b>~~~^</b>	CANADAN PARATA	and the second	NA-JUNIAM	vn_dtq∕µsnyM	M.D.M.L					DL1 -13.00 dBm	1.90	<b>Start Fr</b> 6000000 GI
5.0						Mry 1					1.91	<b>Stop Fr</b> 4000000 G
5.0						Leven and	Marchware White	and the second secon	Charlesternet	Murt March March	<u>Auto</u>	<b>CF St</b> 800.000 k M
5.0												Freq Offs 0
i5.0												Scale Ty
	.910000 V 100 kH;			#VE	SW 300	kHz		Sweep 4	Span 8 4.000 ms (		Log	L
SG								STATU	JS			

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)

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