

Gat	⊧ LO e: LO	PNO: IFGai	East 🕟	SEN Trig: Free Atten: 10		#Avg Type		TRAC TYF DE 1 25.80	MOCt 03, 2018 1 2 3 4 5 6 MWWWWW 2 3 4 5 6 MWWWWW 4 NNNNN 9 0 GHz 48 dBm		Tune
10 dB/div Re		IFGai	n:Low	Atten: 10	dB		Mkr	1 25.80	9 0 GHz		Tune
-10.0											
-20.0										Cente 21.00000000	
-30.0									DL1 -25.00 dBm	Star 15.00000000	t Fred
-40.0					ندور والتناوير ورو	The second s		a rapida dat facilia		Stop 27.00000000	D Free
-60,0					AND IN THE OWNER	ir Teritolika (Januar Halanda) Angele angele	- I Lo Caldina and an and			CF 1.20000000 <u>Auto</u>	5 Stej 00 GH Mai
80.0										Freq	Offse 0 H
-90.0										Scale	
Start 15.000 (#Res BW 1.0			#VBW 3	.0 MHz		s	weep 1.0)00 ms (2	.000 GHz 4001 pts)	Log	Lir

Plot 7-103. Conducted Spurious Plot (Band 41 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)



Plot 7-104. Conducted Spurious Plot (Band 41 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

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	ectrum Analyz	er - Swept SA								
LXU RL	RF Gate: LO	50 Ω AC	CORREC PNO: Fast			#Avg Typ	e: RMS	TRAC	M Oct 03, 2018 CE 123456 PE M WWWWW ET A N N N N N	Frequency
10 dB/div Log	Ref 20.	00 dBm	IFGain:Low	Atten: 30) dB		M	(r1 14.71	,	Auto Tun
10.0										Center Fre 8.845000000 GH
-10.0										Start Fre 2.690000000 GH
-20.0									DL1 -25.00 dBm	Stop Fre 15.000000000 GH
	fillen fjelde sjeneret for	a dia 1990 and an	i Daga din Jaha ganga gaba din Katala Kataga din Jaha ganga gaba din Katala	a) <mark>19 Augusta (19 Augusta) - A</mark>	analo-cont ^a rtelera _d i Natilitet ^{ari} nenteg	in contraction of the particular of the	and the second second	(a na ku pita je podri pod stan A tra stanik je podri ka ka je je sa stanik je podri ka ka je sa stanik je sa stanik je sa stanik je sa stanik A tra stanik je podri ka ka je sa stanik je s		CF Ste 1.231000000 GH <u>Auto</u> Ma
-60.0										Freq Offse 0 H
-70.0										Scale Typ
Start 2.69 #Res BW			#VB	W 3.0 MHz		s	weep ′	Stop 15 1.000 ms (2	.000 GHz 24621 pts)	
MSG							STAT	US		

Plot 7-105. Conducted Spurious Plot (Band 41 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)



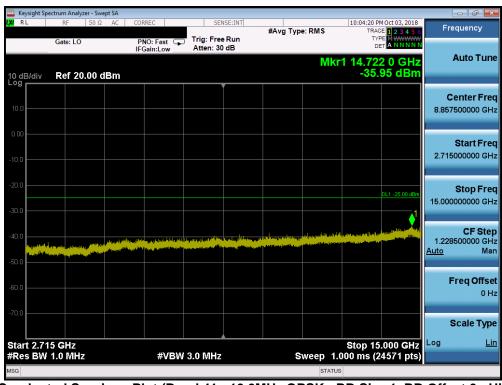
Plot 7-106. Conducted Spurious Plot (Band 41 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

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	Spectrum Analyz	er - Swept SA	A								-	
L <mark>XI</mark> RL	RF	50 Ω AC	C COR	REC	SEN	ISE:INT	#Avg Typ	e: RMS		HOct 03, 2018	Fre	quency
	Gate: LO			lO:Fast ⊂⊊ Gain:Low	Trig: Free Atten: 30		•		TYP			
10 dB/div Log	Ref 20	.00 dBn	n					M	(r1 2.41 -41.	4 0 GHz 61 dBm	4	Auto Tune
10.0												e nter Freq 000000 GHz
-10.0												Start Freq 000000 MHz
-20.0										DL1 -25.00 dBm		Stop Freq 000000 GHz
-40.0				i State and Andrews	an line and a state of the	le brengespjet til som	an 11 di katalan di sebutan di se Sebutan di sebutan di se	name Rectaution for the International Contraction	A second finite frontial transformation and a second		246.6 <u>Auto</u>	CF Step 600000 MHz Man
-60.0											F	req Offset 0 Hz
-70.0												cale Type
Start 0.0 #Res BV)30 GHz N 1.0 MHz			#VBW	3.0 MHz			Sweep 1	Stop 2 .000 ms (.496 GHz 4933 pts)	Log	Lin
MSG								STATUS				

Plot 7-107. Conducted Spurious Plot (Band 41 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)



Plot 7-108. Conducted Spurious Plot (Band 41 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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	ectrum Analyz	er - Swept SA	4							
X <mark>I</mark> RL	RF Gate: LO	50 Ω AC		REC		#Avg Typ	e:RMS	TRA	M Oct 03, 2018 CE 1 2 3 4 5 6 PE M WWWWW ET A N N N N N	Frequency
10 dB/div Log		00 dBm	IFG	Gain:Low	Atten: 10		Μ	kr1 25.61		Auto Tune
-10.0										Center Fred 21.000000000 GHz
-20.0									DL1 -25.00 dBm	Start Fred 15.000000000 GHz
-40.0						piles, p th this _{ex} press			1 	Stop Fred 27.000000000 GH
-60.0 *****			ill'internation (1914) Antonia (1914)	nalisense kondense Tysenne som kanne	an a	 palatu (dis Unity) parata			ér ^{inde} éste _{te} antidés part	CF Step 1.200000000 GH Auto Mar
-70.0										Freq Offse 0 H
-90.0										Scale Type
Start 15.0 #Res BW				#VBW	3.0 MHz	s	weep	Stop 27 1.000 ms (2	.000 GHz 24001 pts)	
MSG							ST/	TUS		

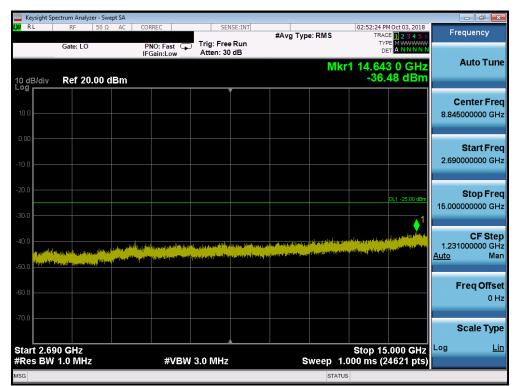
Plot 7-109. Conducted Spurious Plot (Band 41 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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	ectrum Analyzer - Swe									-	- 6 💌
XI RL	RF 50 Ω Gate: LO	PN	REC	Trig: Free		#Avg Typ	e: RMS	TRAC	M Oct 03, 2018 DE 1 2 3 4 5 6 DE M WWWWW T A N N N N N	Free	quency
10 dB/div	Ref 20.00 d		Gain:Low	Atten: 30	dB		Mk	r1 2.21	6 0 GHz 52 dBm	4	Auto Tune
10.0											enter Free 600000 GH
-10.0											Start Fre
-20.0									DL1 -25.00 dBm		Stop Fre
-40.0	u sind an issue	sin di calandara internationale Internationale di calandara internationale di calandara internationale di calandara internationale di calandara	y kishi daya daga sa		kalendik silasi kanal asar Magambergan kanadara	a j Mag Bassi Milai ata kasa Milai ya patra kata pagaa	an an hit state for a sub-to-	Burch Mederates and	1 Mensilletite	244.5 <u>Auto</u>	CF Ste 000000 MH Ma
60.0										F	r eq Offs e 0 H
-70.0										S Log	cale Typ _{Li}
Start 0.03 #Res BW			#VBW	3.0 MHz			Sweep 1	Stop 2 .000 ms (.475 GHz (4891 pts)	LUg	
ISG							STATUS	;			

Plot 7-110. Conducted Spurious Plot (Band 41 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)



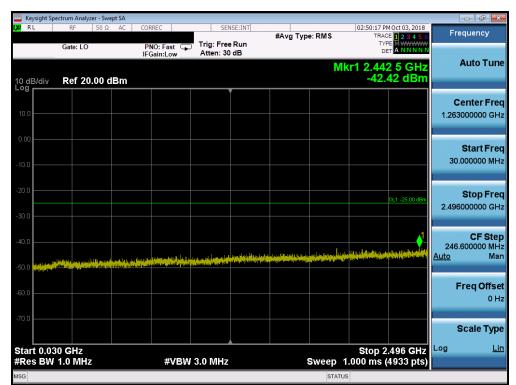
Plot 7-111. Conducted Spurious Plot (Band 41 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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	ctrum Analyzer - Sv							
I <mark>XI</mark> RL	RF 50 S		RREC	SENS	#A	vg Type: RMS	02:52:46 PM Oct 03, 2018 TRACE 1 2 3 4 5 6 TYPE M WWWW DET A N N N N N	Frequency
	Gale. LO	IF	Gain:Low	Atten: 10 c				Auto Tune
10 dB/div Log	Ref 0.00 d	Bm				M	kr1 26.625 5 GHz -48.63 dBm	Auto Tune
_09				Ĭ				Center Free
-10.0								21.00000000 GH
-20.0								
20.0							DL1 -25.00 dBm	Start Free
-30.0								15.00000000 GH
-40.0								
-40.0							<u>_</u> 1	Stop Free 27.00000000 GH:
-50.0						reg the second second second	a the second state state the base of the second states	27.00000000 81
monular	angung Landship and the	an Honey tell special	a tor baylon Unor	and the standard stands	a provinské provinské konsta Natří		ية. والمريح الارونية المتعقدة ومعالم إس. الأربية المريحة المتعقدة ومعالم إس.	CF Ster
-60.0 <mark>11⁶1-1444</mark>	Rody, dr. add		والمرجعة والمقالين والقالي مروقا	المنتقلية المك ^ر ية المسالة الأو				1.20000000 GH Auto Ma
-70.0								
								Freq Offse
-80.0								он:
-90.0								
								Scale Type
Start 15.0							010p 27.000 0112	Log <u>Lir</u>
#Res BW	1.0 MHz		#VBW	3.0 MHz		Sweep	1.000 ms (24001 pts)	
ISG						STA	TUS	

Plot 7-112. Conducted Spurious Plot (Band 41 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)



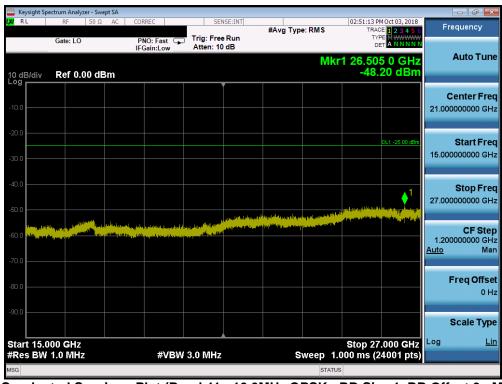
Plot 7-113. Conducted Spurious Plot (Band 41 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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	ectrum Analyze	r - Swept SA						
L <mark>XI</mark> RL	RF Gate: LO	50 Ω AC	PNO: Fast	SENSE:INT	#Avg Type: I	RMS TRAC	M Oct 03, 2018 E 1 2 3 4 5 6 PE M WWWWW T A N N N N	Frequency
10 dB/div Log	Ref 20.	00 dBm	IFGain:Low	Atten: 30 dB		Mkr1 14.82		Auto Tune
10.0								Center Freq 8.845000000 GHz
-10.0								Start Freq 2.69000000 GHz
-20.0							DL1 -25.00 dBm	Stop Freq 15.000000000 GHz
	ahaanaa hayaa ka dan ka a		yayal ^{ala} ligoofayaa asala dagaara	ng gang tang ang ting tang tang tang tang tang tang tang ta	eteene geville telever generaak bie bestel geveen 1964 bezer en en geveel die stelever die stelever en die ste	y postal ang panta panta papanan ing balan aga panta panta panta papanan ing balan	li _{ng p} alangan telar manangan panalapa	CF Step 1.231000000 GHz <u>Auto</u> Man
-60.0								Freq Offset 0 Hz
-70.0								Scale Type
Start 2.69 #Res BW			#VBW	3.0 MHz	Swe	8top 15 eep 1.000 ms (2	.000 0112	
MSG						STATUS		

Plot 7-114. Conducted Spurious Plot (Band 41 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)



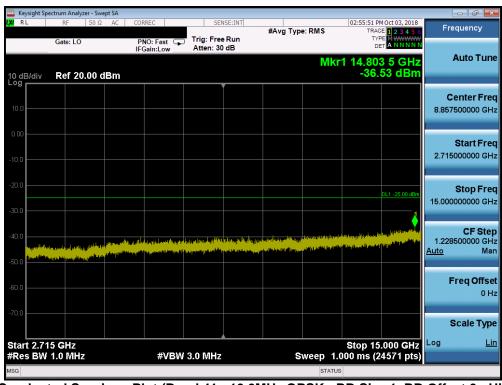
Plot 7-115. Conducted Spurious Plot (Band 41 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

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	ysight Spect	rum Analy	zer - Swe	pt SA										
l,XI R		RF Gate: LO	50 Ω	AC	CORREC	ast 🗔	Trig: Free		#Avg Typ	e:RMS	TRAC	M Oct 03, 2018 DE 1 2 3 4 5 6 DE M WWWWW T A N N N N N	Fr	equency
10 di Log	B/div	Ref 20).00 d	Bm	IFGain:	Low	Atten: 30) dB		Μ	kr1 2.48			Auto Tune
10.0														enter Freq 3000000 GHz
0.00 -10.0													30	Start Freq .000000 MHz
-20.0 -30.0												DL1 -25.00 dBm	2.496	Stop Freq 6000000 GHz
-40.0		hin ii ya	la transfer be		(adapti paleta	ر و دونه او او او دور دو او او او او او	<u>in a settere</u>		(kanalasi katalasi	a di sharan katalan ka		1 Industriality	246 <u>Auto</u>	CF Step .600000 MHz Man
													1	Freq Offset 0 Hz
-70.0 Star	t 0.030	GH7									Stop 2	.496 GHz		Scale Type <u>Lin</u>
#Re	s BW 1	.0 MH	z			#VBW	3.0 MHz			Sweep	1.000 ms (
MSG										STATU	JS			

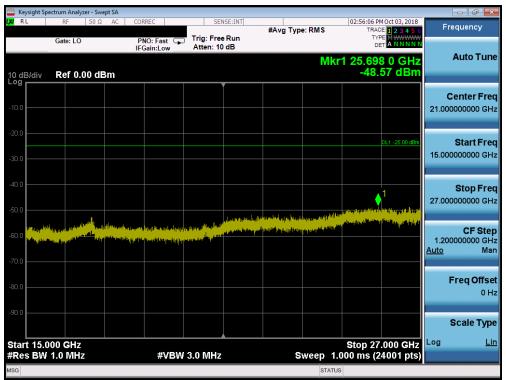
Plot 7-116. Conducted Spurious Plot (Band 41 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)



Plot 7-117. Conducted Spurious Plot (Band 41 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

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Plot 7-118. Conducted Spurious Plot (Band 41 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

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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 \geq 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(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.

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Plot 7-119. Lower Band Edge Plot (Band 12 - 1.4MHz QPSK - Full RB Configuration)



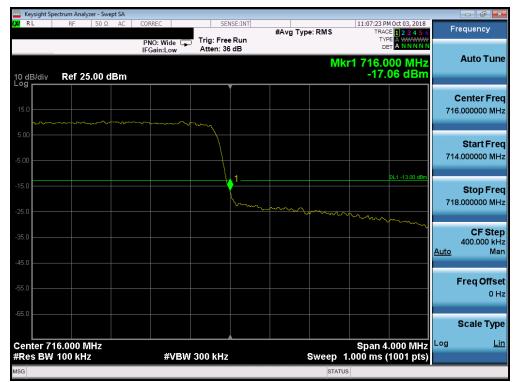
Plot 7-120. Upper Band Edge Plot (Band 12 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager	
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RL	pectrum Analyz RF	50 Ω AC	CORREC	SEN	SE:INT				M Oct 03, 2018		
			PNO: Wide	Trig: Free	Run	#Avg Typ	e:RMS	TYP	DE 1 2 3 4 5 6 DE A WWWWW	F	requency
			IFGain:Low	Atten: 36				DE			A
							Mk	r1 697.8	64 MHz		Auto Tur
0 dB/div	Ref 25.	.00 dBm						-25.	57 dBm		
Ĩ					Í						Center Fre
15.0											8.000000 MH
5.00							- /				04
										60	Start Fre 6.000000 MH
5.00										09	0.000000 IVIF
									DL1 -13.00 dBm		
15.0											Stop Fre
25.0						hanne m	\sim			70	0.000000 MH
23.0			m	m							
35.0	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~										CF Ste
~~~	~~~									Auto	400.000 kH Ma
45.0											
											Freq Offs
55.0											01
											01
65.0											Coole Tre
											Scale Typ
	98.000 M							Span 4	1000 10112	Log	<u>L</u>
Res BW	/ 100 kHz		#VB	W 300 kHz			Sweep 1	.000 ms (	1001 pts)		
SG							STATUS				

Plot 7-121. Lower Band Edge Plot (Band 12 - 3.0MHz QPSK - Full RB Configuration)



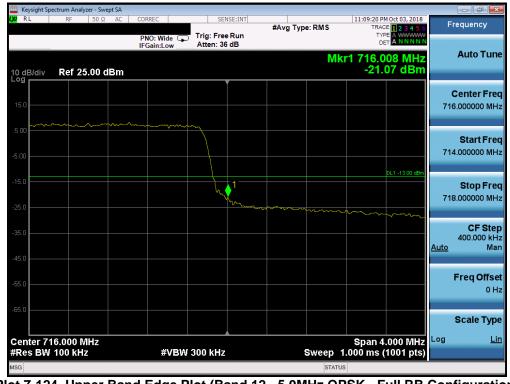
Plot 7-122. Upper Band Edge Plot (Band 12 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager	
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- F <b>×</b>									Analyzer - Swe		
Frequency	0 PM Oct 03, 2018 RACE 1 2 3 4 5 6		e: RMS	#Avg Typ	NSE:INT	SE	RREC	AC CC	F 50 Ω		XI RI
Auto Tune	C.924 MHz 6.80 dBm	TYF DE Kr1 697.9		0 1		Trig: Fre Atten: 36	NO: Wide  ⊊ Gain:Low	IF	ef 25.00 d		10 dE
Center Freq 698.000000 MHz											Log 15.0
Start Freq 696.000000 MHz	DL1 -13.00 dBm										5.00 -5.00
<b>Stop Freq</b> 700.000000 MHz	DE1-13.00 dBm			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~							-15.0 -25.0
CF Step 400.000 kHz <u>Auto</u> Man									,~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~	-35.0 -45.0
Freq Offset 0 Hz											-55.0
Scale Type											-65.0
Log <u>Lin</u>	14.000 MHz s (1001 pts)	Span 4 1.000 ms (	Sweep			300 kHz	#VBW			er 698.0 BW 10	
		JS	STATU								MSG

Plot 7-123. Lower Band Edge Plot (Band 12 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-124. Upper Band Edge Plot (Band 12 - 5.0MHz QPSK - Full RB Configuration)

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Keysight Spectrum Analyzer - Swept SA				
XIRL RF 50Ω AC	CORREC SENSE:INT	#Avg Type: RMS	11:10:34 PM Oct 03, 2018 TRACE 1 2 3 4 5 6	Frequency
10 dB/div Ref 25.00 dBm	PNO: Wide Trig: Free Run IFGain:Low Atten: 36 dB		r1 697.744 MHz -30.07 dBm	Auto Tune
				Center Freq 698.000000 MHz
-5.00			<del></del>	Start Freq 694.000000 MHz
-15.0	1		DL1 -13.00 dBm	<b>Stop Freq</b> 702.000000 MHz
-35.0				<b>CF Step</b> 800.000 kHz <u>Auto</u> Mar
-55.0				Freq Offse 0 H;
-65.0				Scale Type
Center 698.000 MHz #Res BW 100 kHz	#VBW 300 kHz	Sweep	Span 8.000 MHz 1.000 ms (1001 pts)	Log <u>Lin</u>
MSG		STATU	s	

Plot 7-125. Lower Band Edge Plot (Band 12 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-126. Upper Band Edge Plot (Band 12 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 95 of 195
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Plot 7-127. Lower Band Edge Plot (Band 13 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-128. Lower Emission Mask Plot (Band 13 - 5.0MHz QPSK - Full RB Configuration)

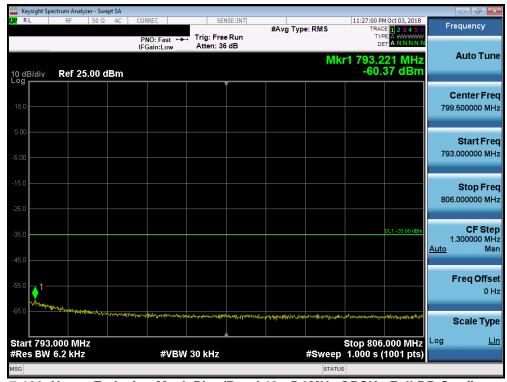
FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:			
1M1809240182-05.ZNF	9/25/2018 - 10/9/2018	Portable Handset		Page 86 of 185	
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	Spectrum Analyzer										- 6 -
L <mark>XI</mark> RL	RF	50 Ω AC	CORREC		NSE:INT	#Avg Typ	e: RMS	TRAC	M Oct 03, 2018	Fi	equency
			PNO: Wide ⊂ IFGain:Low	Trig: Free Atten: 36				TYF			
10 dB/div	Ref 25.0	00 dBm					Mk	r1 787.0 -21.	28 MHz 17 dBm		Auto Tune
15.0											Center Fre 2.000000 MH
-5.00									DL1 -13.00 dBm	788	Start Fre
-15.0					<b>1</b>	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~			789	Stop Fre 9.000000 MH
-35.0										<u>Auto</u>	CF Ste 400.000 k⊢ Ma
-40.0											FreqOffs 0⊦
-65.0											Scale Typ
	787.000 MH V 100 kHz	z	#VB	W 300 kHz			Sweep	Span 4 1.000 ms (	.000 MHz 1001 pts)	Log	Li
ISG							STATU				

Plot 7-129. Upper Band Edge Plot (Band 13 - 5.0MHz QPSK - Full RB Configuration)



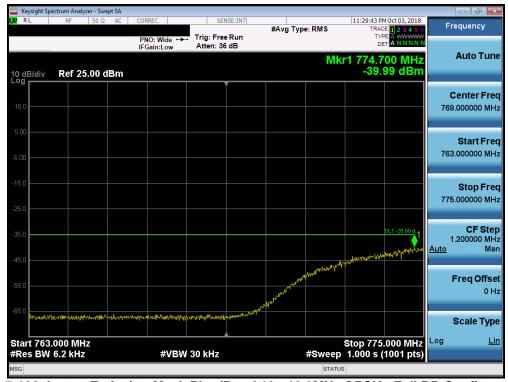
Plot 7-130. Upper Emission Mask Plot (Band 13 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 07 of 105
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	pectrum Analyzei									- # ×
L <mark>XI</mark> RL	RF	50 Ω AC	CORREC	SENS		#Avg Typ	e: RMS	11:29:26 PM Oct 03, 2018 TRACE 1 2 3 4 5	0	requency
			PNO: Wide 🖵 IFGain:Low	Trig: Free Atten: 36 d	Run IB				Ń	
10 dB/div Log	Ref 25.0	00 dBm					Mk	r1 777.000 MHz -25.86 dBm		Auto Tune
				Ĭ						Center Fred
15.0									77	7.000000 MH
5.00					~~~		~~~~~~			Start Fre
-5.00									77:	3.000000 MH
								DL1 -13.00 dBm		
-15.0					1,√				78	Stop Free 1.000000 MH
-25.0			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		<u>۷۰ ر</u>					
-35.0		-							-	CF Ste 800.000 kH
-45.0									<u>Auto</u>	Ma
										Freq Offse
-55.0										он
-65.0										Scale Type
	77.000 MH / 100 kHz	Z	#VBW	300 kHz			Sweep 1	Span 8.000 MHz .000 ms (1001 pts	Log	Lii
MSG							STATUS			

Plot 7-131. Lower Band Edge Plot (Band 13 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-132. Lower Emission Mask Plot (Band 13 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 88 of 185
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RL RF	50 Ω AC	CORREC	SENSE:INT		11:29:53 PM Oct 03, 2018	Frequency
		PNO: Wide 🗔	Trig: Free Run	#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			Auto Tur
				M	kr1 787.000 MHz	Auto Tur
0 dB/div Ref 2:	5.00 dBm				-25.09 dBm	
			Ĭ			Center Fre
15.0						787.000000 MI
5.00	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		~~~~			Start Fr
						783.000000 M
5.00						100.000000 111
15.0					DL1 -13.00 dBm	
15.0			6 1			Stop Fre
25.0						791.000000 MI
			· · · · · · · · · · · · · · · · · · ·	· ·····	· · · · · · · · · · · · · · · · · · ·	
35.0						CF Ste 800.000 k
						Auto M
45.0						
						Freq Offs
55.0						. 0
65.0						
55.6						Scale Ty
						1.00
enter 787.000 N Res BW 100 kH		#\/D\A	300 kHz	Swoon	Span 8.000 MHz 1.000 ms (1001 pts)	Log <u>l</u>
	2	#VDV	500 KH2	Sweep		

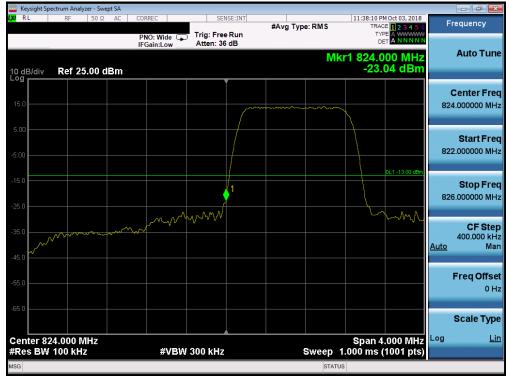
Plot 7-133. Upper Band Edge Plot (Band 13 - 10.0MHz QPSK - Full RB Configuration)

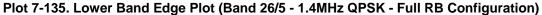


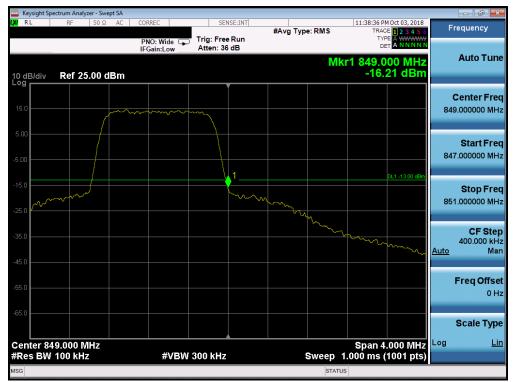
Plot 7-134. Lower Emission Mask Plot (Band 13 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 90 of 195	
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Plot 7-136. Upper Band Edge Plot (Band 26/5 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 00 of 195	
1M1809240182-05.ZNF	9/25/2018 - 10/9/2018	Portable Handset		Page 90 of 185	
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Keysight Spectrum Analyzer - RL RF 50	0 Ω AC CORREC	SENSE:INT	#Avg Type: RMS	11:52:34 PM Oct 03, 2018 TRACE 1 2 3 4 5 6	Frequency
	PNO: Wide 🕞 IFGain:Low	Atten: 36 dB		TYPE A WWWW	
10 dB/div Ref 25.00	0 dBm		Mk	r1 824.000 MHz -20.39 dBm	Auto Tun
_og		Ĭ			Center Fre
15.0					824.000000 MH
5.00					
					Start Fre 822.000000 MH
-5.00					
15.0		1		DL1 -13.00 dBm	Stop Fre
-25.0					826.000000 MH
					05.0%
35.0 <b>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</b>	······································	NM)			CF Ste 400.000 kH
-45.0					<u>Auto</u> Ma
					Freq Offs
-55.0					0+
-65.0					O serie T
					Scale Typ
Center 824.000 MHz #Res BW 100 kHz		/ 300 kHz	Sween	Span 4.000 MHz 1.000 ms (1001 pts)	Log <u>L</u>
ISG	<i>"</i> <b>vov</b> .	0001112	STATU		

Plot 7-137. Lower Band Edge Plot (Band 26/5 - 3.0MHz QPSK - Full RB Configuration)



Plot 7-138. Upper Band Edge Plot (Band 26/5 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕕 LG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 01 of 195	
1M1809240182-05.ZNF	9/25/2018 - 10/9/2018	Portable Handset		Page 91 of 185	
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Keysight Spectrum .							
LXI RL RF	50 Ω AC	CORREC	SENSE:IN	#Avg Typ	e: RMS	11:54:55 PM Oct 03, 2018 TRACE 1 2 3 4 5 6	Frequency
10 dB/div <b>Re</b>	f 25.00 dBm	PNO: Wide 🖵 IFGain:Low	Trig: Free Run Atten: 36 dB		Mkr	1 824.000 MHz -23.80 dBm	Auto Tune
							Center Frec 824.000000 MHz
-5.00						DL1 -13.00 dBm	Start Fred 822.000000 MHz
-15.0							Stop Freq 826.000000 MHz
-35.0	Anna Maria	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					CF Step 400.000 kH: <u>Auto</u> Mar
-55.0							Freq Offse 0 H
-65.0							Scale Type
Center 824.00 #Res BW 100		#VBW	300 kHz		Sweep 1.	Span 4.000 MHz 000 ms (1001 pts)	Log <u>Lir</u>
MSG					STATUS		

Plot 7-139. Lower Band Edge Plot (Band 26/5 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-140. Upper Band Edge Plot (Band 26/5 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 02 of 195
1M1809240182-05.ZNF	9/25/2018 - 10/9/2018	Portable Handset		Page 92 of 185
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Keysight Spectrum A	50 Ω AC	CORREC	SENSE:INT			11:56:26 PM	Oct 03, 2018	
		PNO: Wide		#Avg Typ	e: RMS	TRACE TYPE	123456 A WWWW	Frequency
		IFGain:Low	Atten: 36 dB			DET	ANNNN	
					Mkr	1 824.00	0 MHz	Auto Tun
0 dB/div Ref	25.00 dBm					-32.4	5 dBm	
			Ī					Center Fre
15.0								824.000000 MH
5.00						m	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Start Fre
5.00								820.000000 MH
5.00								
15.0						D	L1 -13.00 dBm	Stop Fre
								828.000000 MH
25.0			1					
			• • • • • • • • • • • • • • • • • • •					CF Ste
35.0		mm	~~~~~					800.000 kł
45.0	V*							<u>Auto</u> Ma
43.0								
55.0								Freq Offs
								01
65.0								0
								Scale Typ
Center 824.000						Span 8.0		Log <u>L</u>
Res BW 100 I	kHz	#VBW	300 kHz		Sweep 1.	000 ms (1	001 pts)	
SG					STATUS			

Plot 7-141. Lower Band Edge Plot (Band 26/5 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-142. Upper Band Edge Plot (Band 26/5 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager					
Test Report S/N:	Test Dates:	EUT Type:		Page 93 of 185					
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	ectrum Analyzer								
LX/IRL	RF	50Ω AC	CORREC	SEI	NSE:INT	#Avg Typ	e: RMS	12:00:05 AM Oct 04, 2018 TRACE 1 2 3 4 5 6	Frequency
			PNO: Wide 🕞	Trig: Free Atten: 36				DET A NNNN	
							Mk	r1 823.964 MHz	Auto Tune
10 dB/div Log	Ref 25.0	00 dBm						-32.19 dBm	
					Ĭ				Center Free
15.0									824.000000 MH:
5.00									
3.00									Start Free
-5.00									818.000000 MH:
								DL1 -13.00 dBm	
-15.0									Stop Free
-25.0					- 1				830.000000 MH:
					11				CE Otor
-35.0	mm		$\sim$	m	v				CF Step 1.200000 MH:
-45.0									<u>Auto</u> Mar
45.0									
-55.0									Freq Offse
-65.0									Scale Type
Center 82 #Res BW	24.000 MH 160 kHz	Z	#VBW	/ 510 kHz			Sweep 1	Span 12.00 MHz .000 ms (1001 pts)	
MSG							STATUS		

Plot 7-143. Lower Band Edge Plot (Band 26 - 15.0MHz QPSK - Full RB Configuration)

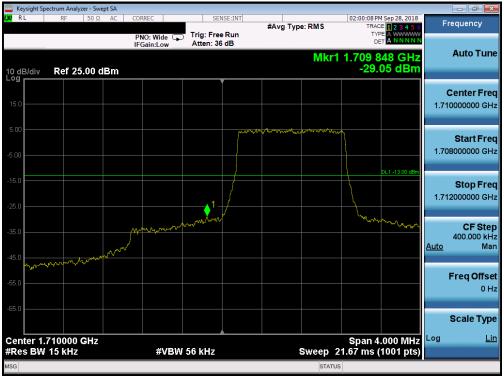


Plot 7-144. Upper Band Edge Plot (Band 26 - 15.0MHz QPSK - Full RB Configuration)

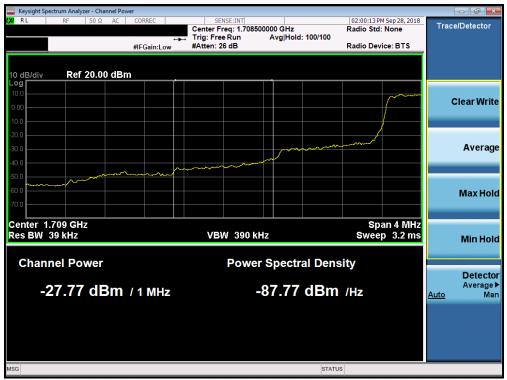
FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager				
Test Report S/N:	Test Dates:			Dage 04 of 195				
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### Band 4



Plot 7-145. Lower Band Edge Plot (Band 4 - 1.4MHz QPSK - Full RB Configuration)



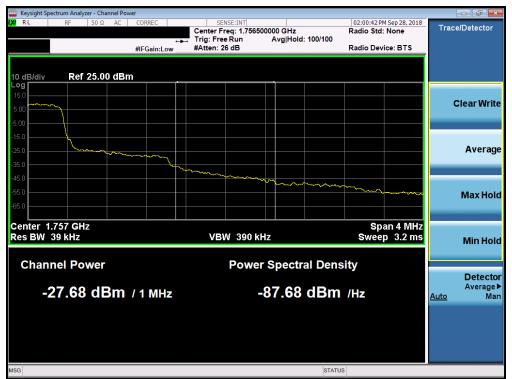
Plot 7-146. Lower Extended Band Edge Plot (Band 4 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	💽 LG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage OF of 195	
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PNO: Wide Trig: Free Run Atten: 36 dB 0 dB/div Ref 25.00 dBm 0 dB/div Ref 25.00 dBm 150 500 500 500 500 500 500 50	Keysight Spect	trum Analyzer - Swept S		CENCEANT		03-00-26 PM C++ 20, 2012	
Center F 1.75500000 Center F 1.755000000 Center F 1.755000000 Center F 1.755000000 Center F 1.7550000000 Center F 1.7550000000 Center F 1.7550000000 Center F 1.7550000000 Center F 1.7550000000 Center F 1.755000000000 Center F 1.75500000000000000000000000000000000000	KL	R- 50 Ω A	PNO: Wide	Trig: Free Run	#Avg Type: RMS	TRACE 1 2 3 4 5 6 TYPE A WWWW	Frequency
5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	) dB/div	Ref 25.00 dBr	n		Mkr1	1.755 092 GHz -27.52 dBm	Auto Tur
00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0							Center Fre 1.755000000 GH
50 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							<b>Start Fr</b> 1.753000000 G
5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0				↓ ↓ 1		UC1 -13.00 dbm	<b>Stop Fre</b> 1.757000000 Gi
50 Freq Of 50 Scale T enter 1.755000 GHz Span 4.000 MHz	5.0			July Marker	La contraction of the second sec	where the second s	<b>CF Ste</b> 400.000 ki <u>Auto</u> Mi
enter 1.755000 GHz Span 4.000 MHz						and the second s	Freq Offs 0 I
	5.0						Scale Ty
Res BW 15 kHz #VBW 56 kHz Sweep 21.67 ms (1001 pts)			#VBW	56 kHz	Sweep 2	Span 4.000 MHz 21.67 ms (1001 pts)	Log <u>L</u>

Plot 7-147. Upper Band Edge Plot (Band 4 - 1.4MHz QPSK - Full RB Configuration)



Plot 7-148. Upper Extended Band Edge Plot (Band 4 - 1.4MHz QPSK - Full RB Configuration)

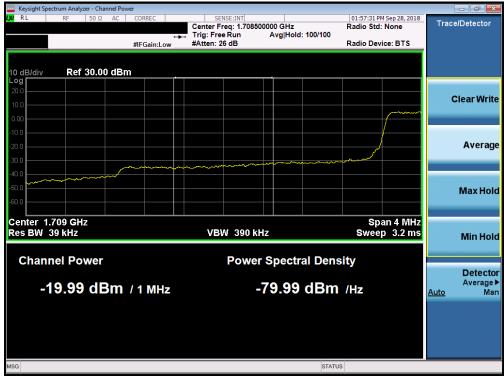
FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:   8 Portable Handset		Dage 00 of 105
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	ectrum Analyz									
L <mark>XI</mark> RL	RF	50Ω A	C COF	RREC	5	ENSE:INT	#Avg Typ	e: RMS	01:57:25 PM Sep 28, 2018 TRACE 1 2 3 4 5 6	Frequency
			PN IFC	NO:Wide C Gain:Low	Trig: Fr Atten:					
10 dB/div Log	Ref 25	.00 dBr	n					Mkr	1 1.710 000 GHz -27.18 dBm	Auto Tune
15.0										Center Freq 1.710000000 GHz
-5.00							·····			Start Freq 1.708000000 GHz
-15.0						↓1			DL1 -13.00 dBm	<b>Stop Fred</b> 1.712000000 GH:
-35.0	Arr m	~~~	~~~^	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	nunn					CF Step 400.000 kH: <u>Auto</u> Mar
-55.0										Freq Offse 0 H:
-65.0										Scale Type
Center 1. #Res BW		GHz		#VB	W 130 kH	z		Sweep	Span 4.000 MHz 3.800 ms (1001 pts)	Log <u>Lin</u>
MSG								STAT		

Plot 7-149. Lower Band Edge Plot (Band 4 - 3.0MHz QPSK - Full RB Configuration)



Plot 7-150. Lower Extended Band Edge Plot (Band 4 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	G	Approved by: Quality Manager				
Test Report S/N:	Test Dates:	EUT Type:		Dage 07 of 195				
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	um Analyzer - Swe										- • ×
LXVI RL	RF 50 Ω	AC CC	ORREC	SEI	NSE:INT	#Avg Typ	e: RMS		M Sep 28, 2018	Fre	equency
			PNO: Wide 🖵 FGain:Low	Trig: Fre Atten: 36		0 //		TYF DE			A
10 dB/div	Ref 25.00 d	Bm					Mkr1	1.755 0 -25.	08 GHz 29 dBm		Auto Tune
15.0											enter Fred
-5.00		u	~~~~~~	~~~					DL1 -13.00 dBm	1.753	<b>Start Fre</b> 0000000 GH
-15.0					1					1.757	<b>Stop Fre</b> 0000000 GH
-35.0					www		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		·	<u>Auto</u>	<b>CF Ste</b> j 400.000 kH Ma
-55.0										F	F <b>req Offse</b> 0 H
-65.0											Scale Typ
Center 1.75 #Res BW 30			#VBW	130 kHz			Sweep 3	Span 4 8.800 m <u>s (</u>	.000 MHz 1001 pts)	Log	<u>Lir</u>
MSG							STATUS				

Plot 7-151. Upper Band Edge Plot (Band 4 - 3.0MHz QPSK - Full RB Configuration)



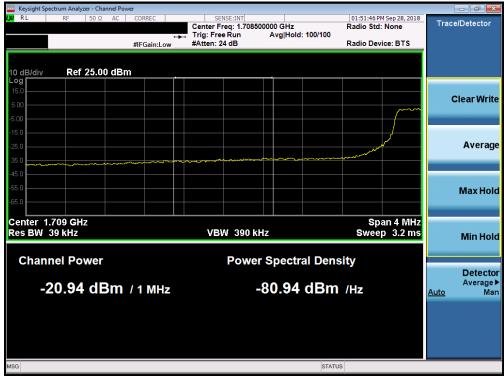
Plot 7-152. Upper Extended Band Edge Plot (Band 4 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager			
Test Report S/N:	Test Dates:	EUT Type:	Dage 09 of 195			
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🔤 Keysight Spectrum Analyze										- • ×
K RL RF	50 Ω AC (	CORREC		SE:INT	#Avg Type	e: RMS	01:51:27 PM TRACE	123456	Fr	equency
		PNO: Wide 😱 IFGain:Low	Trig: Free Atten: 36				TYPE DET	A WWWWW A N N N N N		
10 dB/div Ref 25.	00 dBm					Mkr1	1.710 0 -25.0	00 GHz )2 dBm		Auto Tune
15.0										enter Freq
-5.00						~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	1.708	Start Freq
-15.0				-				0L1 -13.00 dBm		Stop Freq
-25.0		· · · · · · · · · · · · · · · · · · ·	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	<u></u>					1.712	2000000 GH: CF Step
-35.0									<u>Auto</u>	400.000 kH: Mar
-55.0									i	F <b>req Offse</b> 0 H:
-65.0										Scale Type
Center 1.710000 G #Res BW 62 kHz	iHz	#VBW	220 kHz			Sweep 1	Span 4. .333 ms (1	000 MHz 1001 pts)	Log	Lin
MSG						STATUS				

Plot 7-153. Lower Band Edge Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)



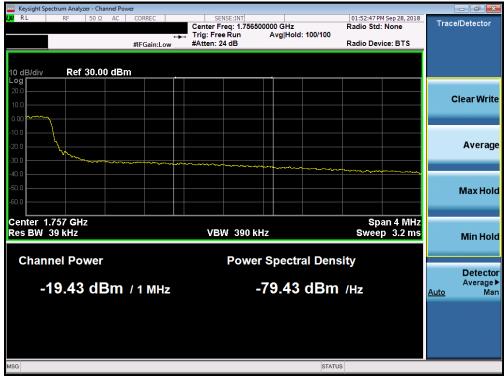
Plot 7-154. Lower Extended Band Edge Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager			
Test Report S/N:	Test Dates:	EUT Type:	Dage 00 of 195			
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	ectrum Analyz										×
LXI RL	RF	50 Ω AC	CORREC		VSE:INT	#Avg Ty	pe: RMS	01:52:39 PM TRACE	123456	Frequenc	:y
			PNO: Wide C IFGain:Low	Trig: Free Atten: 36				TYPE DET	A WWWWW A N N N N N	Auto ⁻	Tupo
10 dB/div Log	Ref 25.	.00 dBm					Mkr	1 1.755 02 -25.5	20 GHz i4 dBm	Auto	rune
15.0										Center	
										1.75500000	0 GHz
	~~~~		~~~~~~	~						Start 1.75300000	
-5.00								C)L1 -13.00 dBm	1.75500000	U GH2
-15.0				5	1					Stop 1.757000000	
-25.0				\ 	· ····				~~~		Step
-35.0										400.00 Auto	
-55.0										Freq O	Offset
-65.0											
										Scale	
Center 1. #Res BW		GHz	#VB	W 220 kHz			Sweep	Span 4.0 1.333 ms (1		Log	Lin
MSG							STATU	_			

Plot 7-155. Upper Band Edge Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)



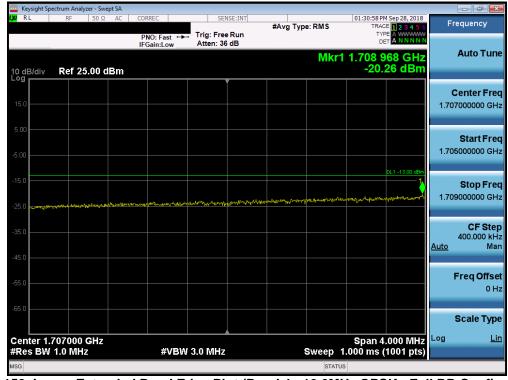
Plot 7-156. Upper Extended Band Edge Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	.G	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dogo 100 of 195		
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🔤 Keysight Spectrum Analyzer - Swep	pt SA				
LX RL RF 50 Ω	AC CORREC	SENSE:INT	#Avg Type: RMS	01:30:48 PM Sep 28, 2018 TRACE 1 2 3 4 5 6	Frequency
10 dB/div Ref 25.00 dl	PNO: Wide 🖵 IFGain:Low	Trig: Free Run Atten: 36 dB	Mkr1	1.710 000 GHz -28.20 dBm	Auto Tune
15.0					Center Freq 1.710000000 GHz
-5.00			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	DL1 -13.00 dBm	Start Freq 1.706000000 GHz
-15.0					Stop Freq 1.714000000 GHz
-35.0					CF Step 800.000 kHz <u>Auto</u> Mar
-55.0					Freq Offset 0 Hz
-65.0					Scale Type
Center 1.710000 GHz #Res BW 110 kHz	#VBW	390 kHz	Sweep 1	Span 8.000 MHz .000 ms (1001 pts)	Log <u>Lin</u>
MSG			STATUS	5	

Plot 7-157. Lower Band Edge Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)



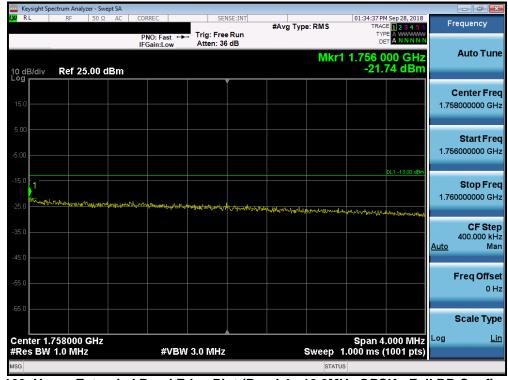
Plot 7-158. Lower Extended Band Edge Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dage 101 of 195		
1M1809240182-05.ZNF	9/25/2018 - 10/9/2018	Portable Handset		Page 101 of 185		
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🚾 Keysight Spectrum Analyzer - Swept SA					
LXI RE 50Ω AC	CORREC	SENSE:INT	#Avg Type: RMS	01:33:22 PM Sep 28, 2018 TRACE 1 2 3 4 5 6	Frequency
	PNO: Wide 🖵 IFGain:Low	Trig: Free Run Atten: 36 dB			
10 dB/div Ref 25.00 dBm			Mkr	1 1.755 000 GHz -30.27 dBm	Auto Tune
15.0					Center Fred 1.755000000 GHz
5.00					Start Fred 1.751000000 GH:
-15.0		1		DL1 -13.00 dBm	Stop Fred 1.759000000 GH:
-35.0		W.	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	······································	CF Step 800.000 kH <u>Auto</u> Ma
55.0					Freq Offse 0 H
-65.0					Scale Type
Center 1.755000 GHz #Res BW 110 kHz	#VBW	390 kHz	Sweep	Span 8.000 MHz 1.000 ms (1001 pts)	Log <u>Lir</u>
MSG			STAT	US	

Plot 7-159. Upper Band Edge Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-160. Upper Extended Band Edge Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dage 102 of 195		
1M1809240182-05.ZNF	9/25/2018 - 10/9/2018	Portable Handset		Page 102 of 185		
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Keysight Spectrur										
LXI RL	RF 50 Ω	AC CC	RREC		NSE:INT	#Avg Typ	e: RMS	TRAC	Sep 28, 2018	Frequency
10 dB/div R	ef 25.00 d	IF	NO: Wide ⊆ Gain:Low	Trig: Free Atten: 36			Mkr1	DE	00 GHz 97 dBm	Auto Tun
15.0										Center Fre 1.710000000 G⊦
-5.00								· · · · · · · · · · · · · · · · · · ·	DL1 -13.00 dBm	Start Fre 1.704000000 G⊦
-15.0		~			1.					Stop Fre 1.716000000 G⊦
-35.0										CF Ste 1.200000 M⊢ <u>Auto</u> Ma
-55.0										Freq Offse 0 ⊢
-65.0										Scale Typ
Center 1.710 #Res BW 18			#VBW	620 kHz			Sweep 1	(\$	2.00 191112	Log <u>L</u> i
MSG							STATUS	5		

Plot 7-161. Lower Band Edge Plot (Band 4 - 15.0MHz QPSK - Full RB Configuration)



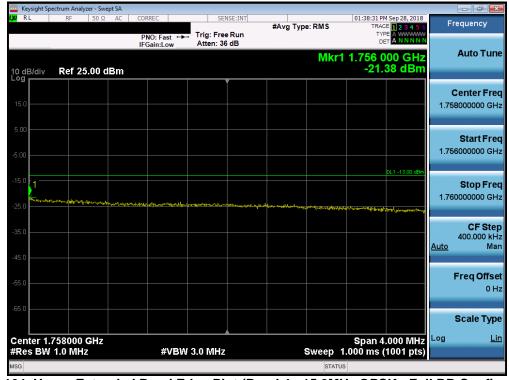
Plot 7-162. Lower Extended Band Edge Plot (Band 4 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dogo 102 of 195		
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Keysight Spectrum Analyzer - Swept SA					
KL RF 50Ω AC	CORREC	SENSE:INT	#Avg Type: RMS	01:38:24 PM Sep 28, 2018 TRACE 1 2 3 4 5 6	Frequency
10 dB/div Ref 25.00 dBm	PNO: Wide 😱 IFGain:Low	Trig: Free Run Atten: 36 dB	Mkr1	11.755 852 GHz -28.13 dBm	Auto Tune
					Center Freq 1.755000000 GHz
5.00	mann			DL1 -13.00 dBm	Start Freq 1.749000000 GHz
-15.0					Stop Freq 1.761000000 GHz
-35.0		- United	Marine Marine Com		CF Step 1.200000 MHz <u>Auto</u> Man
-65.0					Freq Offset 0 Hz
-65.0					Scale Type
Center 1.755000 GHz #Res BW 180 kHz	#VBW	620 kHz	Sweep 7	Span 12.00 MHz 1.000 ms (1001 pts)	Log <u>Lin</u>
MSG			STATU		

Plot 7-163. Upper Band Edge Plot (Band 4 - 15.0MHz QPSK - Full RB Configuration)



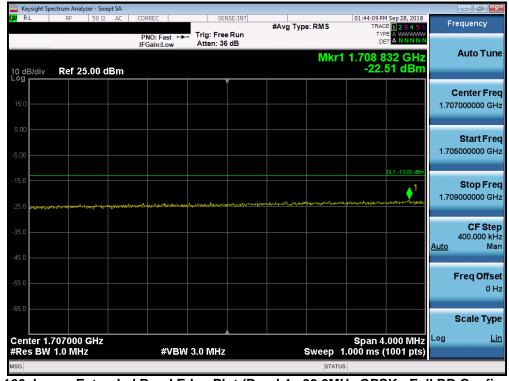
Plot 7-164. Upper Extended Band Edge Plot (Band 4 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 104 of 195
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	um Analyzer - Swe										
(X/ RL	RF 50 Ω	AC COP	REC	SEI	NSE:INT	#Avg Typ	e: RMS	01:43:31 PM : TRACE	Sep 28, 2018	Fre	quency
10 dB/div	Ref 25.00 d	IFC	Ю:Fast ⊆ Gain:Low	Trig: Free Atten: 36			Mkr1	DET	6 GHz 6 dBm		Auto Tune
15.0											enter Freq 000000 GHz
-5.00						angung an ang Ma			مىسىمەرمىيىمە L1 -13.00 dBm	1.702	Start Freq 000000 GHz
-15.0					1_1					1.718	Stop Freq 000000 GHz
-35.0		er han han	fre mar have							1. <u>Auto</u>	CF Step 600000 MHz Man
-55.0										F	F req Offset 0 Hz
-65.0 Center 1.710								Span 46	00 MHz	t og	Scale Type Lin
#Res BW 24			#VBW	/ 820 kHz			Sweep 1	span 16 .000 ms (1	.00 MHz 001 pts)		
MSG							STATUS	6			

Plot 7-165. Lower Band Edge Plot (Band 4 - 20.0MHz QPSK - Full RB Configuration)



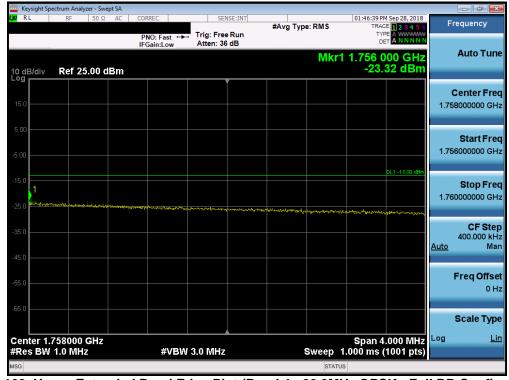
Plot 7-166. Lower Extended Band Edge Plot (Band 4 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 105 of 195	
1M1809240182-05.ZNF	9/25/2018 - 10/9/2018	Portable Handset		Page 105 of 185	
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	um Analyzer - Swe										ðX
LXI RL	RF 50 Ω	AC O	ORREC		SE:INT	#Avg Typ	e: RMS	TRAC	E 1 2 3 4 5 6	Frequ	ency
		I	PNO: Fast 📮 FGain:Low	Trig: Free Atten: 36				TYP			
10 dB/div	Ref 25.00 d	Bm					Mkr1	1.755 0 -28.1	64 GHz 14 dBm	Au	to Tune
15.0										Cen 1.755000	ter Fred 0000 GH:
-5.00		and a second contraction of the second s	and and a second and							St : 1.747000	art Free
-15.0					1				DL1 -13.00 dBm	St 1.763000	op Fre 0000 GH
-35.0				1654	turn	M Maran and a second	Mannon	manne	and a factoria for the same		CF Stej 1000 MH Ma
-55.0										Fre	q Offse 0 H
-65.0										Sca	ale Typ
Center 1.75 #Res BW 24			#VBW	820 kHz			Sweep 1	Span 1 .000 ms (6.00 MHz 1001 pts)	Log	<u>Lir</u>
MSG							STATUS	;			

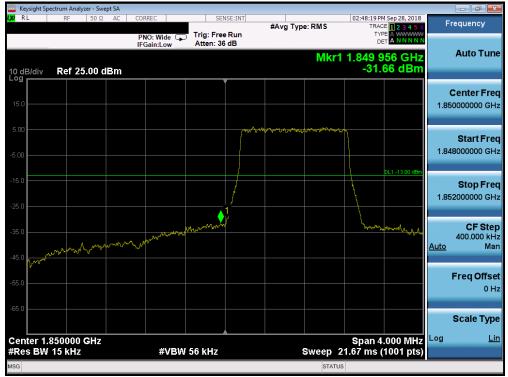
Plot 7-167. Upper Band Edge Plot (Band 4 - 20.0MHz QPSK - Full RB Configuration)



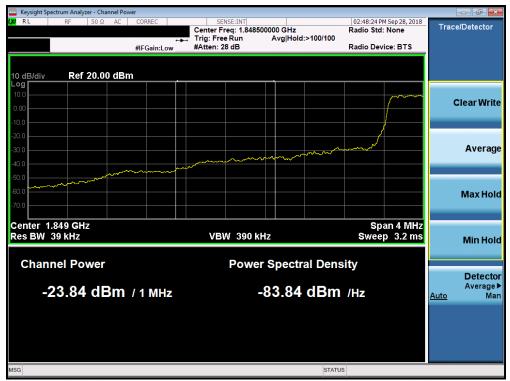
Plot 7-168. Upper Extended Band Edge Plot (Band 4 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 106 of 195
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Plot 7-169. Lower Band Edge Plot (Band 25/2 - 1.4MHz QPSK - Full RB Configuration)



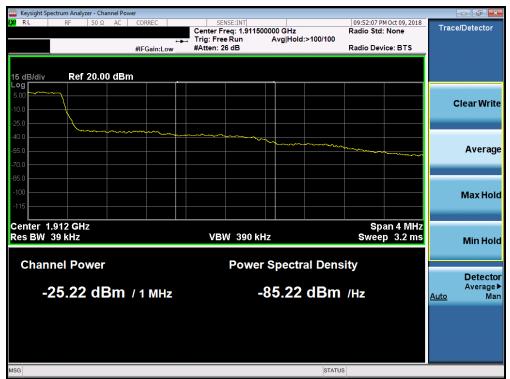
Plot 7-170. Lower Extended Band Edge Plot (Band 25/2 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Degs 107 of 195
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Keysight Sp R L	pectrum Analyzer - Sv RF 50 S		CORREC	CEN	ISE:INT			00-52-00 0	M Oct 09, 2018	_	
KL	NF 50 3	Z AC	PNO: Wide G		Run	#Avg Typ	e: RMS	TRAC	DE 1 2 3 4 5 6 PE A WWWW ET A NNNNN	F	requency
) dB/div	Ref 25.00	dBm					Mkr1	1.910 (-35.4	000 GHz 06 dBm		Auto Tui
5.0											Center Fre 0000000 GI
.00		parameter	an a							1.90	Start Fr 8000000 G
5.0									DL1 -13.00 dBm	1.91	Stop Fr 2000000 G
5.0	mannaphon				1 www.www	Reported and the	martin	-www.Azon	and the second sec	<u>Auto</u>	CF St 400.000 k M
5.0											Freq Offs 0
5.0											Scale Ty
	.910000 GHz / 16 kHz		#VBW	/ 56 kHz			Sweep 1	Span 4 19.13 ms (.000 MHz (1001 pts)	Log	Ĺ
G							STATU	s			

Plot 7-171. Upper Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)



Plot 7-172. Upper Extended Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 100 of 195
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🔤 Keysight Spectrum Analyzer - Swep					
LX RL RF 50 Ω	AC CORREC	SENSE:INT	#Avg Type: RMS	02:48:41 PM Sep 28, 2018 TRACE 1 2 3 4 5 6	Frequency
	PNO: Wide 🖵 IFGain:Low	Trig: Free Run Atten: 36 dB		TYPE A WWWWW DET A NNNNN	
10 dB/div Ref 25.00 dl	Bm		Mkr1	1.915 000 GHz -32.76 dBm	Auto Tune
15.0					Center Fred 1.915000000 GH:
-5.00	ny to an	America		DL1 -13.00 dBm	Start Free 1.913000000 GH:
-15.0					Stop Fred 1.917000000 GH
-35.0			and many demander	ward when a	CF Stej 400.000 kH <u>Auto</u> Ma
-55.0					Freq Offse 0 H
-65.0					Scale Type
Center 1.915000 GHz #Res BW 15 kHz	#VBW	56 kHz	Sweep 2	Span 4.000 MHz 1.67 ms (1001 pts)	Log <u>Lir</u>
MSG			STATUS		

Plot 7-173. Upper Band Edge Plot (Band 25 - 1.4MHz QPSK - Full RB Configuration)



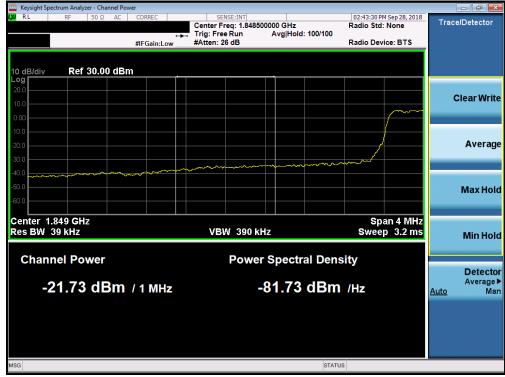
Plot 7-174. Upper Extended Band Edge Plot (Band 25 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	à	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 100 of 195
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🚾 Keysight Spectrum Analyzer - Swept SA 🚽				
LX RL RF 50Ω AC	CORREC SEN	ISE:INT #Avg Type	02:43:25 PM Sep 28, 2018 E: RMS TRACE 1 2 3 4 5 6	Frequency
	PNO: Wide Trig: Free IFGain:Low Atten: 36	Run		
10 dB/div Ref 25.00 dBm			Mkr1 1.850 000 GHz -27.15 dBm	Auto Tune
15.0				Center Fred 1.850000000 GH;
-5.00			and the share of the state of the	Start Fred 1.848000000 GH:
-15.0		1	DL1 -13.00 dBm	Stop Fred 1.852000000 GH:
-35.0				CF Stej 400.000 kH <u>Auto</u> Mar
-55.0				Freq Offse 0 H
-65.0				Scale Type
Center 1.850000 GHz #Res BW 36 kHz	#VBW 130 kHz		Span 4.000 MHz Sweep 3.800 ms (1001 pts)	Log <u>Lir</u>
MSG			STATUS	

Plot 7-175. Lower Band Edge Plot (Band 25/2 - 3.0MHz QPSK - Full RB Configuration)



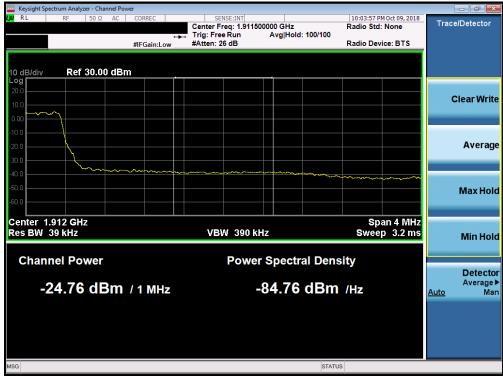
Plot 7-176. Lower Extended Band Edge Plot (Band 25/2 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 110 of 195
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	ectrum Analyz	er - Swept SA									
LXU RL	RF	50 Ω AC	PNO: Wide	Trig: Fre		#Avg Typ	e: RMS	TRA	M Oct 09, 2018 CE 1 2 3 4 5 6 PE A WWWWW ET A N N N N N	F	equency
10 dB/div	Ref 25	.00 dBm	IFGain:Low	Atten: 36	6 dB		Mkr	1 1.910 (Auto Tune
15.0											Center Fred 0000000 GH:
5.00 	work	Ann	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	m						1.90	Start Fre 8000000 GH
-15.0					.1				DL1 -13.00 dBm	1.91	Stop Fre 2000000 GH
35.0						~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	V	~~~~~		<u>Auto</u>	CF Ste 400.000 kH Ma
55.0											FreqOffse 0⊦
-65.0	910000	GH7						Snan 4	.000 MHz	Log	Scale Typ <u>Li</u>
#Res BW		ente	#VB	N 130 kHz			Sweep	3.800 ms			
MSG							STAT	US			

Plot 7-177. Upper Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)



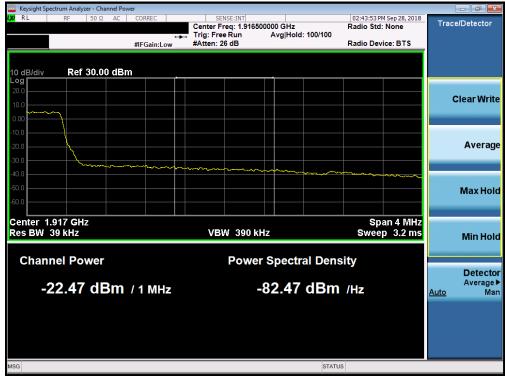
Plot 7-178. Upper Extended Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 111 of 195
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	ectrum Analy:												
XU RL	RF	50 Ω A		ORREC	ide 😱	Trig: F	sense:INT	#Avg Ty	e: RMS	TRA	M Sep 28, 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 dBi		FGain:L	ow	Atten:	36 dB		Mkr	1 1.915 (Auto Tun
15.0													Center Fre 5000000 GH
5.00		t	~~~~	~~~	~~~~	m						1.91	Start Fre 3000000 GH
25.0							1				DL1 -13.00 dBm	1.91	Stop Fre 7000000 GF
15.0							hum	<u>~~~~</u> ^	how	humm	/	<u>Auto</u>	CF Ste 400.000 kl M
55.0													Freq Offs 0 I
65.0 Center 1.	915000	GHz								Span 4	.000 MHz	Log	Scale Typ
Res BW				#	VBW	130 kH	z		Sweep	3.800 ms			
SG									STAT	US			

Plot 7-179. Upper Band Edge Plot (Band 25 - 3.0MHz QPSK - Full RB Configuration)



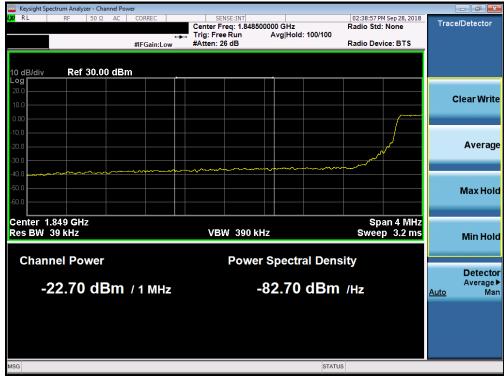
Plot 7-180. Upper Extended Band Edge Plot (Band 25 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 110 of 195
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	ectrum Analyzer -								
LXI RL	RF 50	Ω AC	CORREC	SEI	NSE:INT	#Avg Typ	e: RMS	02:38:43 PM Sep 28, 2018 TRACE 1 2 3 4 5 6	Frequency
			PNO: Wide G	Trig: Free Atten: 36		- //			
10 dB/div Log	Ref 25.00) dBm					Mkr1	1.849 980 GHz -26.30 dBm	
									Center Fre
15.0									1.850000000 GH
5.00					~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~		
-5.00									Start Fre 1.848000000 GH
-5.00								DL1 -13.00 dBm	
-15.0									Stop Fre
-25.0				(1,~				1.852000000 GH
25.0	-	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		mm					CF Ste
-35.0									400.000 kH Auto Ma
-45.0									
-55.0									Freq Offs
									0 H
-65.0									Scale Typ
Center 1.	850000 GH	z						Span 4.000 MHz	Log <u>L</u>
#Res BW			#VBW	í 220 kHz			Sweep	1.333 ms (1001 pts)	
MSG							STATU	s	

Plot 7-181. Lower Band Edge Plot (Band 25/2 - 5.0MHz QPSK - Full RB Configuration)



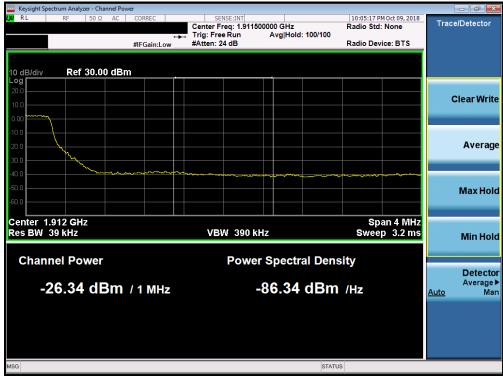
Plot 7-182. Lower Extended Band Edge Plot (Band 25/2 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	à	Approved by: Quality Manager					
Test Report S/N:	Test Dates:	EUT Type:		Dage 112 of 195					
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	ectrum Analy	zer - Swep	ot SA										
LXI RL	RF	50 Ω	AC	CORREC	ide 😱	SEI		#Avg Typ	e: RMS	TRA	M Oct 09, 2018 CE 1 2 3 4 5 6 PE A WWWWW ET A N N N N N	F	equency
10 dB/div	Ref 25	i.00 dl	Bm	IFGain:L	.ow	Atten: 36			Mkr	1 1.910 (000 GHz 10 dBm		Auto Tune
15.0													Center Fred 0000000 GH:
-5.00	~~~		<i>,</i>	· · · · · ·	~~~							1.90	Start Free 8000000 GH
-15.0							1				DL1 -13.00 dBm	1.91	Stop Fre 2000000 GH
-35.0							Show -	~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		~~~~~	Auto	CF Ste 400.000 kH Ma
-55.0													Freq Offse 0 H
-65.0	91000 <u>0</u>	GHz_								Span 4	.000 191112	Log	Scale Type Lii
#Res BW				\$	¢VB₩	220 kHz			Sweep	1.333 ms	(1001 pts)		
//SG									STATU	IS			

Plot 7-183. Upper Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)



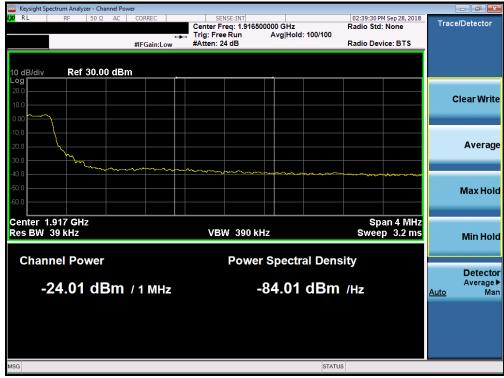
Plot 7-184. Upper Extended Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager						
Test Report S/N:	Test Dates:	EUT Type:	Daga 111 of 195						
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	ectrum Analyz											
LXI RL	RF	50 Ω AC	CORREC			SE:INT	#Avg Typ	e: RMS	TRAC	M Sep 28, 2018 DE <mark>1 2 3 4 5 6</mark>	Fr	equency
			PNO: V IFGain	Vide 🖵 :Low	Trig: Free Atten: 30				TYI Di			
10 dB/div	Ref 25	.00 dBm	1					Mkr	1 1.915 (-27.)00 GHz 10 dBm		Auto Tune
											(Center Freq
15.0											1.91	5000000 GHz
5.00			~~~~~~	~~~~	$\overline{}$							Start Free
-5.00											1.91	3000000 GHz
-15.0										DL1 -13.00 dBm		Stop Free
-25.0					K,	1					1.91	7000000 GHz
					v							CF Step
-35.0											<u>Auto</u>	400.000 kHz Mar
-45.0												
-55.0												Freq Offse 0 Ha
-65.0												Scale Type
											Log	Scale Type
Center 1. #Res BW		GHZ		#VBW	220 kHz			Sweep	Span 4 1.333 ms (.000 MHz (1001 pts)		
MSG								STATU				

Plot 7-185. Upper Band Edge Plot (Band 25 - 5.0MHz QPSK - Full RB Configuration)



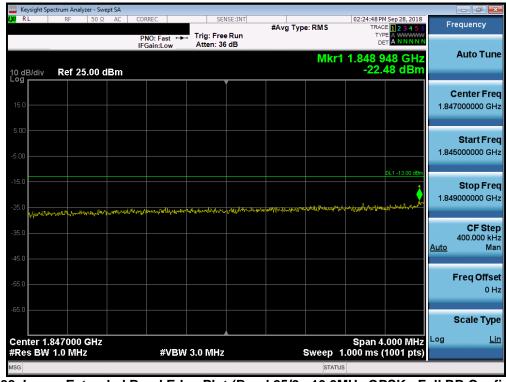
Plot 7-186. Upper Extended Band Edge Plot (Band 25 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 115 of 195
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E Keysight Spectrum Analyzer - Swept SA				
LXVIRL RF 50Ω AC	CORREC SENSE:IM	#Avg Type: RMS	02:24:36 PM Sep 28, 2018 TRACE 1 2 3 4 5 6	Frequency
	PNO: Wide Trig: Free Run IFGain:Low Atten: 36 dB	ו	DET A WWWWW	
10 dB/div Ref 25.00 dBm		М	kr1 1.850 000 GHz -30.590 dBm	Auto Tune
				Center Freq
15.0				1.850000000 GHz
5.00		m		Start Fred
-5.00				1.846000000 GHz
			DL1 -13.00 dBm	
-15.0				Stop Fred 1.854000000 GHz
-25.0	1			1.85400000 GH2
-35.0	mmmm			CF Step 800.000 kHz
-45.0				<u>Auto</u> Mar
-45.0				Freq Offse
-55.0				0 Hz
-65.0				
				Scale Type
Center 1.850000 GHz #Res BW 120 kHz	#VBW 430 kHz	Swee	Span 8.000 MHz p 1.000 ms (1001 pts)	Log <u>Lir</u>
MSG			TATUS	

Plot 7-187. Lower Band Edge Plot (Band 25/2 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-188. Lower Extended Band Edge Plot (Band 25/2 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 116 of 195
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	ım Analyzer - Swe									(
LXI RL	RF 50 Ω	AC C	ORREC		NSE:INT	#Avg Typ	e: RMS	10:06:29 PM 0 TRACE	123456	Fre	quency
			PNO: Wide 🖵 FGain:Low	Trig: Free Atten: 36				TYPE DET	A WWWWW A N N N N N		
			Guineon				Mkr′	1 1.910 00	0 GHz		Auto Tune
10 dB/div R	tef 25.00 d	Bm						-30.4	1 dBm		
					Í					С	enter Fred
15.0											000000 GHz
5 00											
5.00	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~							Start Fred
-5.00										1.906	000000 GHz
								DI	_1 -13.00 dBm		
-15.0											Stop Fred
-25.0				Ч	- 1					1.914	000000 GHz
				W	1						
-35.0					~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					CF Step 800.000 kHz
-45.0										<u>Auto</u>	Mar
-#5.0										_	
-55.0										F	req Offsei 0 Ha
											011
-65.0										5	Scale Type
Center 1.910 #Res BW 12			#VBM	/ 430 kHz			Sween	Span 8.0 1.000 ms (1	00 MHz 001 pts)	Log	Lir
WSG				100 M 12			STATU		ee i pas)		

Plot 7-189. Upper Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)



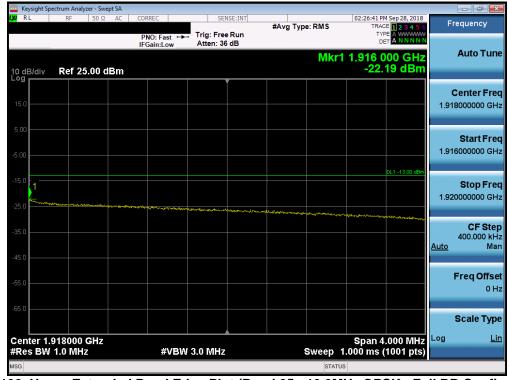
Plot 7-190. Upper Extended Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 117 of 195
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	pectrum Anal												
X/RL	RF	50 Ω	AC	CORREC	/ide 😱	Trig: Fre		#Avg Typ	e: RMS	TRA	M Sep 28, 2018 CE 1 2 3 4 5 6 PE A WWWWW ET A N N N N N	F	requency
10 dB/div	Ref 2	5.00 di	Bm	IFGain:	ow	Atten: 36	6 dB		Mkr	1 1.915 (056 GHz 20 dBm		Auto Tun
15.0													Center Fre 5000000 G⊦
5.00			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~						DL1 -13.00 dBm	1.91	Start Fre 1000000 GF
25.0							1					1.91	Stop Fre 9000000 GH
45.0							in and the second se	~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	<u>~~~~</u> ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	·····	Auto	CF Ste 800.000 kł Ma
55.0													Freq Offs 0 I
55.0													Scale Typ
	.915000 ∮ 120 kH			-	#VBW	430 kHz			Sweep	Span 8 1.000 ms	8.000 MHz (1001 pts)	Log	L
ISG									STATI	JS			

Plot 7-191. Upper Band Edge Plot (Band 25 - 10.0MHz QPSK - Full RB Configuration)



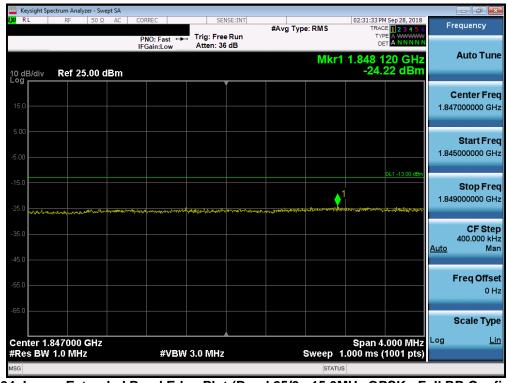
Plot 7-192. Upper Extended Band Edge Plot (Band 25 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager			
Test Report S/N:	Test Dates:	EUT Type:		Dage 119 of 195			
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	oectrum Analyzer -									
L <mark>XI</mark> RL	RF 50	Ω AC	CORREC		NSE:INT	#Avg Typ	e: RMS	02:31:26 PM Sep TRACE	23456	Frequency
10 dB/div	Ref 25.00) dBm	PNO: Wide IFGain:Low	Trig: Free Atten: 36			Mkr1		GHz dBm	Auto Tune
15.0										Center Fred 1.85000000 GHz
-5.00									13.00 dBm	Start Fred 1.844000000 GH;
-15.0					1,					Stop Fred 1.856000000 GH:
-35.0		un m	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	www.www.					4	CF Stej 1.200000 MH Auto Ma
-55.0										Freq Offse 0 H
-65.0	.850000 GH	z						Span 12.0	0 MHz	Scale Type
#Res BW	180 kHz		#VBW	/ 620 kHz				.000 ms (100	1 pts)	
MSG							STATUS	3		

Plot 7-193. Lower Band Edge Plot (Band 25/2 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-194. Lower Extended Band Edge Plot (Band 25/2 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dogo 110 of 195	
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🔤 Keysight Spectrum Analyzer - Swept SA 🚽					
LX/ RL RF 50Ω AC	CORREC	SENSE:INT	#Avg Type: RMS	10:07:30 PM Oct 09, 2018 TRACE 1 2 3 4 5 6	Frequency
10 dB/div Ref 25.00 dBm		Trig: Free Run Atten: 36 dB	Mkr	1.910 108 GHz -32.52 dBm	Auto Tune
15.0					Center Freq 1.910000000 GHz
-5.00	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			DL1 -13.00 dBm	Start Freq 1.904000000 GHz
-15.0					Stop Freq 1.916000000 GHz
-36.0		W.	mmmmm	·····	CF Step 1.200000 MHz <u>Auto</u> Man
-55.0					Freq Offset 0 Hz
-65.0					Scale Type
Center 1.910000 GHz #Res BW 180 kHz	#VBW 6	20 kHz	Sweep	Span 12.00 MHz 1.000 ms (1001 pts)	Log <u>Lin</u>
MSG			STATU		

Plot 7-195. Upper Band Edge Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)



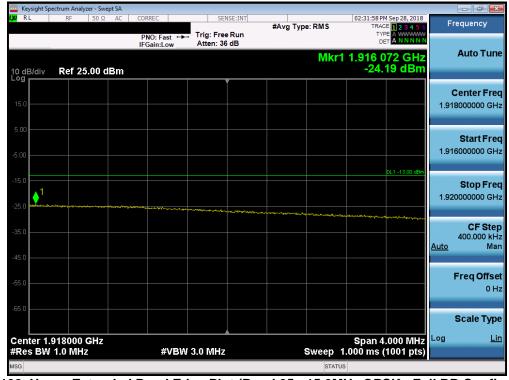
Plot 7-196. Upper Extended Band Edge Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 100 of 195
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	ectrum Analy												- 6 론
XI RL	RF	50 Ω	AC	CORREC	/ide 🖵	Trig: Fre		#Avg Ty	pe: RMS	TRA	M Sep 28, 2018 CE 1 2 3 4 5 6 PE A WWWWW ET A N N N N N	Fr	equency
10 dB/div	Ref 2	5.00 dE	3m	IFGain:	LOW	Atten: 3	6 dB		Mkr	1 1.915 (048 GHz 01 dBm		Auto Tun
15.0													Center Fre 5000000 G⊦
5.00		°et (norther									DL1 -13.00 dBm	1.90	Start Fre 9000000 GH
25.0							1					1.92	Stop Fre 1000000 GH
45.0							h	www.		the - bear the grant was a start was a	m.m.	1 <u>Auto</u>	CF St e .200000 MI Mi
55.0													F req Offs 0 I
65.0													Scale Typ
enter 1. Res BW				-	#VBW	620 kHz	z		Sweep	Span ′ 1.000 ms	2.00 MHz (1001 pts)	Log	Ŀ
ISG									STATU	JS			

Plot 7-197. Upper Band Edge Plot (Band 25 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-198. Upper Extended Band Edge Plot (Band 25 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	💽 LG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dogo 121 of 195	
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Keysight Spectrum Analyzer - Swept SA				
KL RF 50Ω AC		SE:INT #Avg Type	02:36:16 PM Sep 28, 2018 E: RMS TRACE 1 2 3 4 5	Frequency
	PNO: Fast Frig: Free IFGain:Low Atten: 36			
10 dB/div Ref 25.00 dBm			Mkr1 1.849 856 GHz -31.76 dBm	
				Center Fred
15.0				1.85000000 GHz
5.00			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Start Fred
-5.00				1.842000000 GHz
			DL1 -13.00 dBm	
-15.0				Stop Fred 1.858000000 GHz
-25.0		1		05.04
-35.0 more and a start of the s	warman and and a second			CF Step 1.600000 MH: Auto Mar
-45.0				
-55.0				Freq Offset 0 Ha
-65.0				
				Scale Type
Center 1.850000 GHz #Res BW 240 kHz	#VBW 820 kHz		Span 16.00 MHz Sweep 1.000 ms (1001 pts	Log <u>Lir</u>
MSG			STATUS	

Plot 7-199. Lower Band Edge Plot (Band 25/2 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-200. Lower Extended Band Edge Plot (Band 25/2 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 100 of 105	
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	Spectrum Analyz	er - Swept S	A										
I <mark>XI</mark> RL	RF	50Ω A	PI	NO: Fast		rig: Free		#Avg Typ	e:RMS	TRA	PM Oct 09, 2018 CE 1 2 3 4 5 6 (PE A WWWWW DET A NNNNN	F	requency
10 dB/div Log	Ref 25	.00 dBr		Gain:Low	A	tten: 36	dB		Mkr	1 1.910 (000 GHz .44 dBm		Auto Tune
15.0													Center Free 0000000 GH
5.00	*******	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Waren Anna	n an h	ann ann b							1.90	Start Fre 2000000 GH
-15.0											DL1 -13.00 dBm	1.91	Stop Fre 8000000 GH
35.0						"W	1	mantinghtynywyn	and the second sec	www.man	www.	<u>Auto</u>	CF Ste 1.600000 M⊢ Ma
55.0													Freq Offs 0 ⊦
65.0													Scale Typ
	1.910000 (N 240 kHz			#VI	BW 82	0 kHz			Sweep	Span ′ 1.000 ms	16.00 MHz (1001 pts)	Log	Li
ISG									STATU	JS			

Plot 7-201. Upper Band Edge Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-202. Upper Extended Band Edge Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 100 of 195
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🚾 Keysight Spectrum Analyze										
RL RF	50 Ω AC	CORREC		ISE:INT	#Avg Type	e: RMS		PM Sep 28, 2018 CE 1 2 3 4 5 6	Fre	quency
		PNO: Fast 🖵 IFGain:Low	Trig: Free Atten: 36				רד נ			
10 dB/div Ref 25.	00 dBm					Mkr1	1.915 -31	032 GHz .38 dBm		Auto Tun
15.0										enter Free 000000 GH
5.00	and a grand of the	Ancherten Angeleen C								Start Fre 000000 GH
-15.0				.1				DL1 -13.00 dBm		Stop Fre 000000 GH
35.0			⁹ %~_	m	- market	and the second sec	mar mar and	how was how	1.0 <u>Auto</u>	CF Ste 500000 M⊢ Ma
55.0									F	reqOffso 0⊦
-65.0									S	cale Typ
Center 1.915000 G ≇Res BW 240 kHz	HZ	#VBW	820 kHz			Sweep ′	Span 1.000 ms	16.00 MHz (1001 pts)	LUg	
ISG						STATU	s			

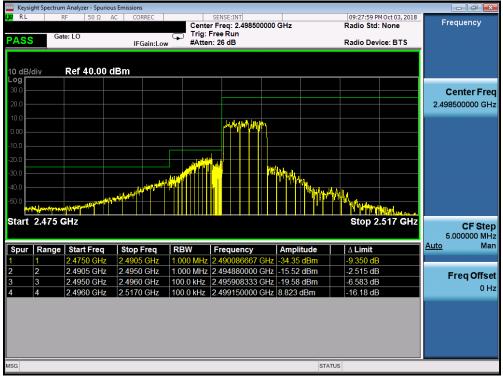
Plot 7-203. Upper Band Edge Plot (Band 25 - 20.0MHz QPSK - Full RB Configuration)



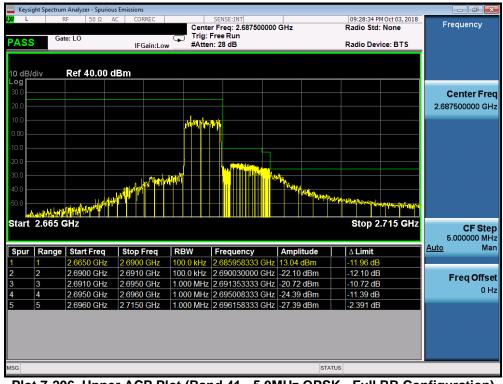
Plot 7-204. Upper Extended Band Edge Plot (Band 25 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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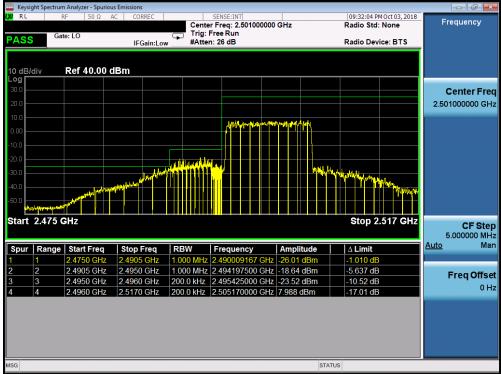
Plot 7-205. Lower ACP Plot at 2496 MHz (Band 41 - 5.0MHz QPSK - Full RB Configuration)



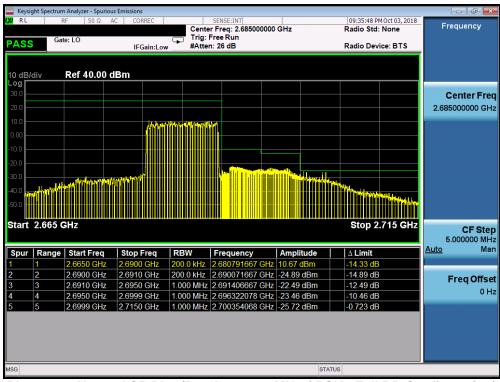
Plot 7-206. Upper ACP Plot (Band 41 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 125 of 195
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Plot 7-207. Lower ACP Plot at 2496 MHz (Band 41 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-208. Upper ACP Plot (Band 41 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 100 of 105
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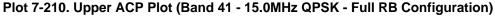
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Plot 7-209. Lower ACP Plot at 2496 MHz (Band 41 - 15.0MHz QPSK - Full RB Configuration)





FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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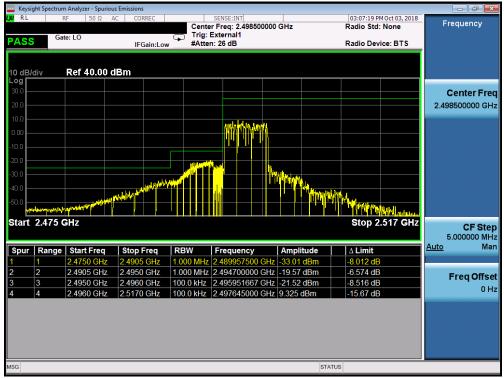
Plot 7-211. Lower ACP Plot at 2496 MHz (Band 41 - 20.0MHz QPSK - Full RB Configuration)



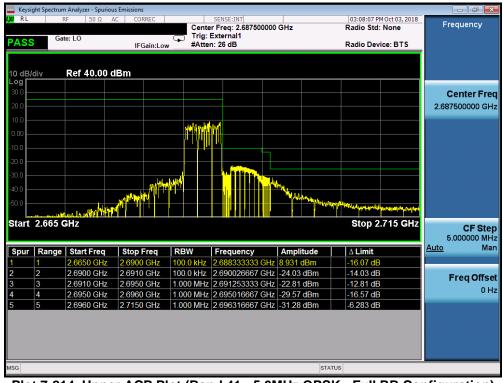
Plot 7-212. Upper ACP Plot (Band 41 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕑 LG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 100 of 105
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Plot 7-213. Lower ACP Plot at 2496 MHz (Band 41 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-214. Upper ACP Plot (Band 41 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFX220PM		MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Approved by: Quality Manager
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