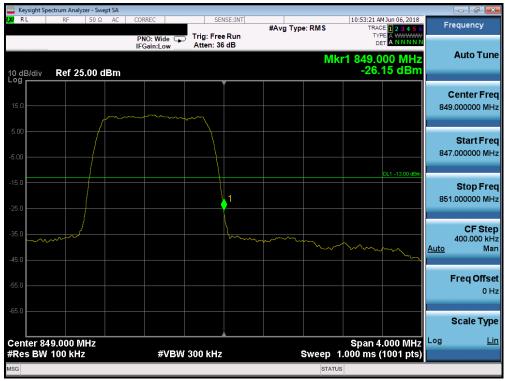


Band 5

RL RF 50 Ω	AC CORREC	SENSE:INT		10:09:38 AM Jun 06, 2018	Frequency
	PNO: Wide 🆵 IFGain:Low	Trig: Free Run Atten: 36 dB	#Avg Type: RMS	TRACE 1 2 3 4 5 6 TYPE A WWWW DET A NNNN	
0 dB/div Ref 25.00 d		Atten oo ub	Mk	r1 824.000 MHz -26.15 dBm	Auto Tur
og 15.0					Center Fre 824.000000 Mi
5.00				DL1 -13.00 dBm	Start Fr 822.000000 M
25.0		1			Stop Fr 826.000000 M
15.0	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~/			CF Sto 400.000 k <u>Auto</u> M
5.0					Freq Offs 0
55.0					Scale Ty
enter 824.000 MHz Res BW 100 kHz	#VBW 3	300 kHz	Sweep 1	Span 4.000 MHz 1.000 ms (1001 pts)	Log <u>l</u>

Plot 7-106. Lower Band Edge Plot (Band 5 - 1.4MHz QPSK - Full RB Configuration)



Plot 7-107. Upper Band Edge Plot (Band 5 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 74 of 150
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	ectrum Analyz											
XI RL	RF	50 Ω AC		c Wide 🖵		Run	#Avg Typ	e:RMS	TRAC	M Jun 06, 2018 E 1 2 3 4 5 6 PE A WWWW A N N N N N	F	requency
10 dB/div	Ref 25	.00 dBn	IFGai	n:Low	Atten: 36	dB		Mk	(r1 823.9			Auto Tune
15.0												Center Fre 4.000000 MH
5.00											82:	Start Fre 2.000000 MH
25.0						1				DL1 -13.00 dBm	82	Stop Fre 5.000000 MH
35.0	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~	~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~							<u>Auto</u>	CF Ste 400.000 kł Ma
15.0 												Freq Offs 0
65.0	24 000 54	U-7							Spap 4	.000 MHz	Log	Scale Typ
Res BW				#VBW	300 kHz			Sweep	5pan 4 1.000 ms (1001 pts)		
SG								STATU	JS			

Plot 7-108. Lower Band Edge Plot (Band 5 - 3.0MHz QPSK - Full RB Configuration)



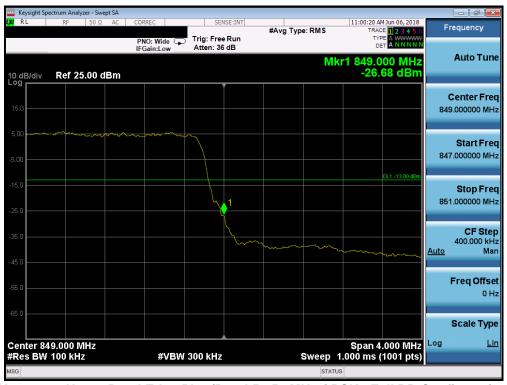
Plot 7-109. Upper Band Edge Plot (Band 5 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 75 of 150
1M1804230079-03.ACJ	5/1-6/14/2018	Portable Handset		Page 75 of 159
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	ectrum Analyzer - Sw	•									
X/RL	RF 50 Ω	AC	CORREC	Trig: Free		#Avg Typ	e: RMS	TRAC	I Jun 06, 2018 E 1 2 3 4 5 6 E A WWWWWW T A N N N N N	F	requency
10 dB/div	Ref 25.00 (dBm	IFGain:Low	Atten: 36	dB		Mk	r1 823.9			Auto Tun
15.0											Center Fre 4.000000 MH
5.00								~	~~,,~ ~_ _	822	Start Fre 2.000000 MH
25.0				(1				DL1 -13.00 dBm	826	Stop Fre 5.000000 MH
35.0	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~	v 					<u>Auto</u>	CF Ste 400.000 kH Ma
15.0 											Freq Offs 0 I
65.0											Scale Typ
≎enter 82 Res BW	4.000 MHz 100 kHz		#VBW	300 kHz			Sweep 1	.000 ms (.000 MHz 1001 pts)	Log	L
SG							STATUS	5			

Plot 7-110. Lower Band Edge Plot (Band 5 - 5.0MHz QPSK - Full RB Configuration)



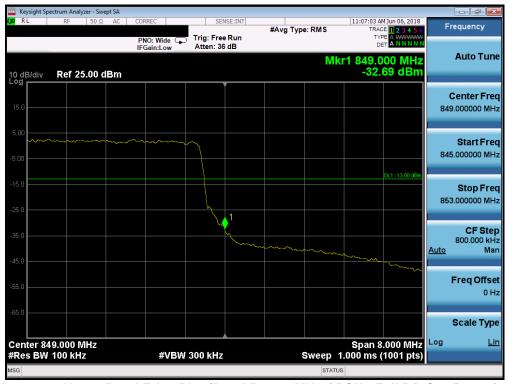
Plot 7-111. Upper Band Edge Plot (Band 5 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 76 of 150
1M1804230079-03.ACJ	5/1-6/14/2018	Portable Handset		Page 76 of 159
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Operation Nik T 624,000 Ninz 31.80 dBm -31.80 dBm	Keysight Spectrum Analyzer	- Swept SA									
Incluition Mikr1 824.000 MHz -31.80 dBm Auto Tu 0 Ref 25.00 dBm -31.80 dBm Center Fill 0	RL RF S		PNO: Wide 🗔	Trig: Free	Run	#Avg Typ	e: RMS	TRAC	E 1 2 3 4 5 6	F	requency
50 Center Fill 50 Fill	0 dB/div Ref 25.0		FGain:Low	Atten: 36	dB		Mkr	1 824.0	00 MHz		Auto Tun
Start Fill 50 011-1300 dBn 60 011-1300 dBn 50 011-1300 dBn 60 011-1300 dBn </td <td>15.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Center Fre 4.000000 M⊦</td>	15.0										Center Fre 4.000000 M⊦
5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	5.00				\int		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		82	Start Fre
50 50 50 50 50 50 50 50 50 50	25.0				1				DL1 -13.00 dBm	82	Stop Fre 3.000000 MH
enter 824.000 MHz Span 8.000 MHz	15.0	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~		,					<u>Auto</u>	CF Ste 800.000 kl M
enter 824.000 MHz Scale Ty	55.0										Freq Offs 0 I
Res BW 100 kHz #VBW 300 kHz Sweep 1.000 ms (1001 pts)		Iz						Span 8	.000 MHz	Log	Scale Typ
G STATUS	Res BW 100 kHz		#VBW	300 kHz					1001 pts)		

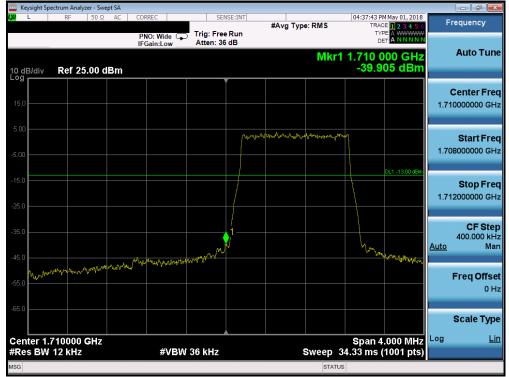
Plot 7-112. Lower Band Edge Plot (Band 5 - 10.0MHz QPSK - Full RB Configuration)



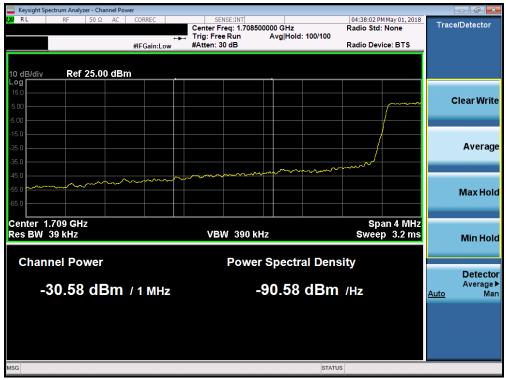
Plot 7-113. Upper Band Edge Plot (Band 5 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 77 of 159
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Plot 7-114. Lower Band Edge Plot (Band 66/4 - 1.4MHz QPSK - Full RB Configuration)



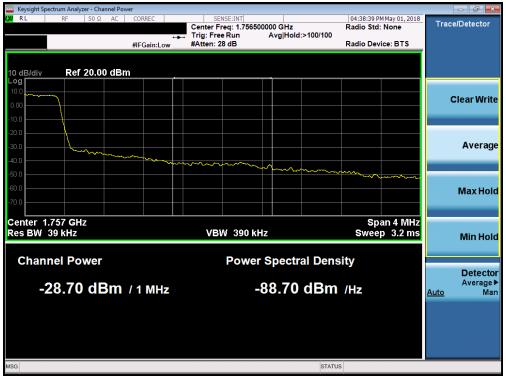
Plot 7-115. Lower Extended Band Edge Plot (Band 66/4 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 70 of 150
1M1804230079-03.ACJ	5/1-6/14/2018	Portable Handset		Page 78 of 159
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Keysight S	pectrum Analyzer - Sv	•	000050	0516				01.00.01.01		_	
L	RF 50 Ω	2 AC	CORREC PNO: Wide G			#Avg Typ	e: RMS	TRAC	May 01, 2018 E 1 2 3 4 5 6 E A WWWW T A N N N N N	Fr	equency
0 dB/div	Ref 25.00	dBm	Ir Gain:Low	Atten: 00 t			Mkr1	1.755 0 -36.	00 GHz 71 dBm		Auto Tun
15.0											Center Fre 5000000 G⊦
5.00		partration	ᠬᠰᡇᡗᢪᢁᢦᡔᠣᡟᢔᡨᡎᡟᢥᡪᢑᡗ							1.75	Start Fre 3000000 GH
25.0									DL1 -13.00 dBm	1.75	Stop Fre 7000000 GH
35.0 <u>\</u> \\\\	rondurgingh				1 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	hermonday	a A.			<u>Auto</u>	CF Ste 400.000 kH Ma
55.0							an where the	ar van Arven	hanna	1	F req Offs 0 H
65.0											Scale Typ
	.755000 GHz / 12 kHz		#VBV	V 36 kHz			Sweep 3	Span 4. 4.33 ms (.000 MHz 1001 pts)	Log	Ľ
SG							STATUS	6			

Plot 7-116. Upper Band Edge Plot (Band 4 - 1.4MHz QPSK - Full RB Configuration)



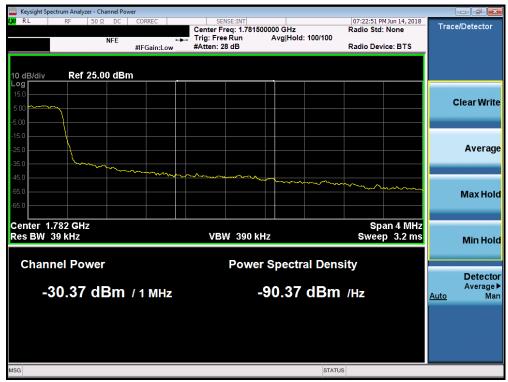
Plot 7-117. Upper Extended Band Edge Plot (Band 4 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 70 of 150
1M1804230079-03.ACJ	5/1-6/14/2018	Portable Handset		Page 79 of 159
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	pectrum Analyzer - S										
X <mark>/</mark> RL	RF 50		CORREC			#Avg Typ	e: RMS	TRAC	MJun 14, 2018	Fr	equency
I0 dB/div	Ref 25.00	NFE dBm	PNO: Wide G	Atten: 36			Mkr1	1.780 0	20 GHz 56 dBm		Auto Tun
- og 15.0											Center Fre
5.00		rwww	mmmmm	Martin					DL1 -13.00 dBm	1.77	Start Fre B000000 G⊦
25.0										1.78	Stop Fre 2000000 GH
35.0	Manan				1	Lang and a company				<u>Auto</u>	CF Ste 400.000 kH Ma
55.0							Marconto	ann y an	www.		Freq Offs 0 H
65.0	700000 011										Scale Typ
	.780000 GH / 12 kHz	Z	#VBV	V 39 kHz		:	Sweep 1	Span 4 0.60 ms (.000 MHz 1001 pts)	LUg	Ŀ
SG							STATU	5			

Plot 7-118. Upper Band Edge Plot (Band 66 - 1.4MHz QPSK - Full RB Configuration)



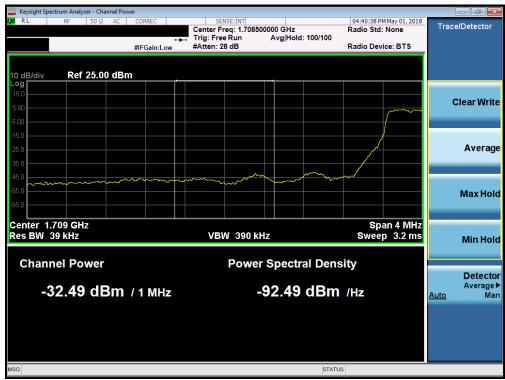
Plot 7-119. Upper Extended Band Edge Plot (Band 66 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 80 of 150	
1M1804230079-03.ACJ	5/1-6/14/2018	Portable Handset		Page 80 of 159	
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Keysight Spectrum Analyzer - Swept SA				
α L RF 50 Ω AC	CORREC SENSE:INT PNO: Wide Trig: Free Run IFGain:Low Atten: 36 dB	#Avg Type: RMS	04:40:20 PM May 01, 2018 TRACE 1 2 3 4 5 6 TYPE A WWWW DET A N N N N N	Frequency
0 dB/div Ref 25.00 dBm	IFGain:Low Atten: 30 dB	Mki	r1 1.710 000 GHz -26.98 dBm	Auto Tun
15.0				Center Fre 1.710000000 GH
5.00		what may may have been a second the second	-ne-ne-ne-	Start Fre 1.708000000 GH
25.0	1		DL1 -13.00 dBm	Stop Fre 1.712000000 G⊦
45.0				CF Ste 400.000 kH <u>Auto</u> Ma
55.0				Freq Offso 0 ⊦
65.0 Center 1.710000 GHz			Span 4.000 Minz	Scale Typ
¢Res BW 30 kHz	#VBW 91 kHz	Sweep	5.533 ms (1001 pts)	

Plot 7-120. Lower Band Edge Plot (Band 66/4 - 3.0MHz QPSK - Full RB Configuration)



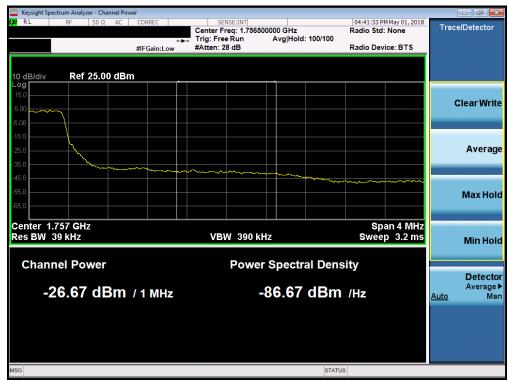
Plot 7-121. Lower Extended Band Edge Plot (Band 66/4 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION) Panasonic		Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 91 of 150
1M1804230079-03.ACJ	5/1-6/14/2018	Portable Handset		Page 81 of 159
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🔤 Keysight Sp	ectrum Analy:	zer - Swep	it SA									_	
XI L	RF	50 Ω	AC	CORREC	ide 😱	Trig: Fre		#Avg Typ	e: RMS	TRAC	M May 01, 2018 E 1 2 3 4 5 6 E A WWWW A N N N N N	F	requency
10 dB/div	Ref 25	.00 dE	Зm	IFGain:I	ow	Atten: 3	6 dB		Mkr1	1.755 0	000 GHz 83 dBm		Auto Tun
15.0													Center Fre
5.00	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	b	~~~~	înve							1.75	Start Fre 3000000 G⊦
25.0							↓1				DL1 -13.00 dBm	1.75	Stop Fre 7000000 GF
45.0								Vumm		·······································	hanna	<u>Auto</u>	CF Ste 400.000 kH Ma
55.0													Freq Offs 0 I
65.0	755000	GHz								Span 4	.000 MHz	Log	Scale Typ
Res BW				3	#VBW	91 kHz			Sweep 5	.533 ms (1001 pts)		
ISG									STATUS				

Plot 7-122. Upper Band Edge Plot (Band 4 - 3.0MHz QPSK - Full RB Configuration)



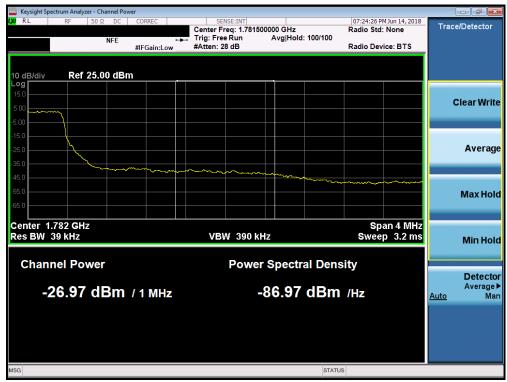
Plot 7-123. Upper Extended Band Edge Plot (Band 4 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager				
Test Report S/N:	Test Dates:	EUT Type:		Dage 92 of 150				
1M1804230079-03.ACJ	5/1-6/14/2018	Portable Handset		Page 82 of 159				
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	pectrum Analy										
<mark>0</mark> RL	RF	50 Ω DC NFE	CORREC PNO: Wide			#Avg Typ	e: RMS	TRAC	M Jun 14, 2018 CE 1 2 3 4 5 6 PE A WWWW A N N N N N	F	requency
0 dB/div	Ref 25	i.00 dBm	IF Galli.Low				Mkr	1 1.780 0 -27.8	00 GHz 07 dBm		Auto Tun
15.0											Center Fre 80000000 G⊦
5.00	~~~~~	~~~~	~~~~~							1.77	Start Fre 8000000 GH
25.0					1				DL1 -13.00 dBm	1.78	Stop Fre 2000000 GF
15.0					h w	~~~~	^	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~	<u>Auto</u>	CF Ste 400.000 kl Ma
5.0											Freq Offs 0 I
enter 1	.780000	GH7						Snan 4	.000 MHz	Log	Scale Typ
	/ 30 kHz	OH2	#VBV	V 91 kHz			Sweep	2.000 ms (1001 pts)		
SG							STATU	JS			

Plot 7-124. Upper Band Edge Plot (Band 66 - 3.0MHz QPSK - Full RB Configuration)



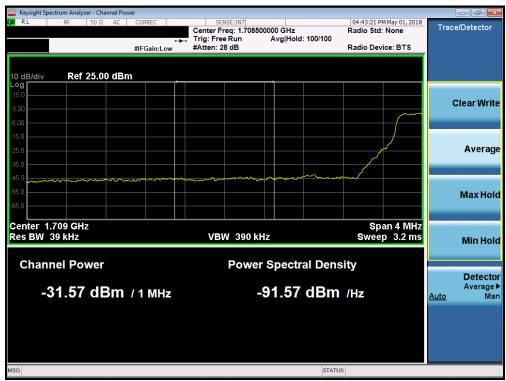
Plot 7-125. Upper Extended Band Edge Plot (Band 66 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager				
Test Report S/N:	Test Dates:	EUT Type:		Dage 92 of 150				
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L RF 50 Ω	AC CORREC PNO: Wide IFGain:Low			#Avg Typ	e: RMS		4 May 01, 2018	Er	requency
	IF Gall.Low		dB			TYF	E 1 2 3 4 5 6 E A WWWW A N N N N N		equency
10 dB/div Ref 25.00 d	Bm				Mkr1	1.710 0 -30.	00 GHz 68 dBm		Auto Tune
15.0									Center Free 0000000 GH
5.00				 	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		1.70	Start Fre 8000000 GH
25.0			1				DL1 -13.00 dBm	1.71	Stop Fre 2000000 GH
35.0 45.0		~						<u>Auto</u>	CF Ste 400.000 kH Ma
55.0									FreqOffso 0 ⊦
65.0 Center 1.710000 GHz						Span 4	.000 MHz	Log	Scale Typ Li
FRes BW 51 kHz	#VBW	160 kHz			Sweep 1	.933 ms (1001 pts)		

Plot 7-126. Lower Band Edge Plot (Band 66/4 - 5.0MHz QPSK - Full RB Configuration)



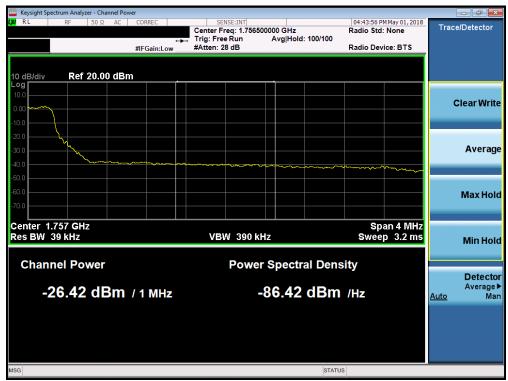
Plot 7-127. Lower Extended Band Edge Plot (Band 66/4 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION) Panasonic		Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dega 94 of 150	
1M1804230079-03.ACJ	5/1-6/14/2018	Portable Handset		Page 84 of 159	
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	ectrum Analy												
U L	RF	50 Ω	AC	CORREC	/ide 🔾	Trig: Fre		#Avg Ty	pe: RMS	TRA	PM May 01, 2018 CE 1 2 3 4 5 6 (PE A WWWWW DET A NNNNN	F	requency
				IFGain:		Atten: 3	6 dB						Auto Tun
0 dB/div	Ref 2	5.00 d	Bm						Mkı	1 1.755 -29	000 GHz .83 dBm		Auto Tuli
.og							Ĭ						Center Fre
15.0												1.75	5000000 GH
5.00		~~~~		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~								Start Fre
5.00												1.75	3000000 GH
											DL1 -13.00 dBm		
15.0												1 75	Stop Fre
5.0							1					1.75	1000000 81
15.0							L.						CF Ste
								~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		mmm		<u>Auto</u>	400.000 ki M
5.0													
i5.0													Freq Offs
5.0													
													Scale Typ
enter 1.		GHz								Span 4	4.000 MHz	Log	L
Res BW	51 kHz				#VBW	160 kHz			Sweep	1.933 ms	(1001 pts)		

Plot 7-128. Upper Band Edge Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)



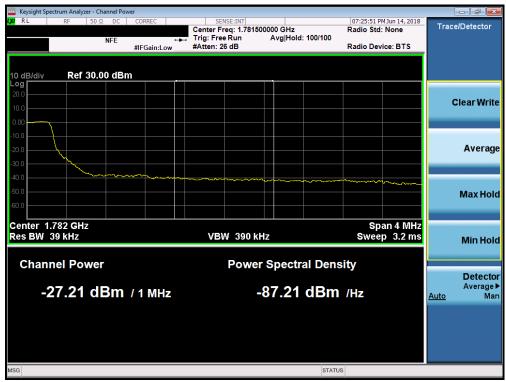
Plot 7-129. Upper Extended Band Edge Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	anasonic	Approved by: Quality Manager				
Test Report S/N:	Test Dates:	EUT Type:		Dage 95 of 150				
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Plot 7-130. Upper Band Edge Plot (Band 66 - 5.0MHz QPSK - Full RB Configuration)



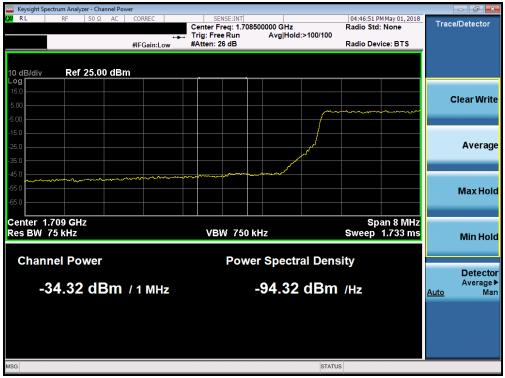
Plot 7-131. Upper Extended Band Edge Plot (Band 66 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION) Panasonic		Approved by: Quality Manager				
Test Report S/N:	Test Dates:	EUT Type:		Dage 96 of 150				
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Plot 7-132. Lower Band Edge Plot (Band 66/4 - 10.0MHz QPSK - Full RB Configuration)



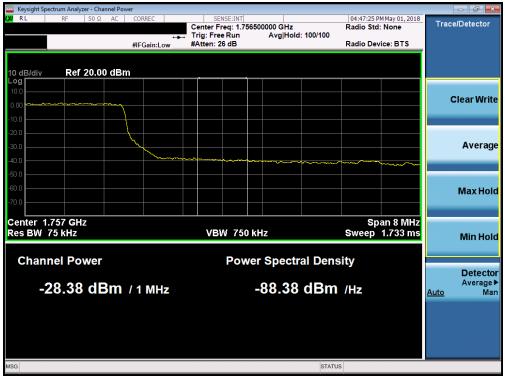
Plot 7-133. Lower Extended Band Edge Plot (Band 66/4 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 97 of 150	
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PNO: Wide C Trig: Free Run Atten: 36 dB Mkr1 1.755 000 GHz -31.91 dBm 10 dB/div Ref 25.00 dBm -31.91 dBm 1.7550000 1.7550000 BHZ 1.7550000 BHZ 1.755000 BHZ 1.75500	Keysight Spectrum Analyzer - Swept SA	CORREC SENSE:INT		04:47:09 PM May 01, 2018	
Cente 31.91 dBm Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7550000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.7590000 Cente 1.759			#Avg Type: RMS	TRACE 1 2 3 4 5 6 TYPE A WWWWW DET A NNNN	Frequency
5.0       Cente         5.0	dB/div Ref 25.00 dBm		Mkr	1 1.755 000 GHz -31.91 dBm	Auto Tur
00     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     01     <					Center Fre 1.755000000 GI
50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50       50 <td< td=""><td></td><td></td><td></td><td></td><td><b>Start Fr</b> 1.751000000 G</td></td<>					<b>Start Fr</b> 1.751000000 G
50 50 50 50 50 50 50 50 50 50 50 50 50 5				DL1 -13.00 dBm	<b>Stop Fr</b> 1.759000000 G
5.0 Freq					<b>CF St</b> 800.000 k <u>Auto</u> M
Scale	5.0				Freq Offs 0
	5.0				Scale Ty
enter 1.755000 GHz Span 8.000 MHz ^{Log} Res BW 100 kHz #VBW 300 kHz Sweep 1.000 ms (1001 pts)		#VBW 300 kHz	Sweep	Span 8.000 MHz 1.000 ms (1001 pts)	Log <u>l</u>

Plot 7-134. Upper Band Edge Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)



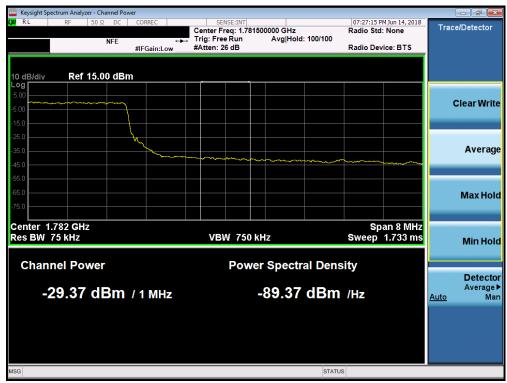
Plot 7-135. Upper Extended Band Edge Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	anasonic	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dega 90 of 150	
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🔤 Keysight S	pectrum Analyzer	- Swept SA									
LXU RL	RF	NFE	CORREC			#Avg Typ	e:RMS	TRAC	M Jun 14, 2018 CE 1 2 3 4 5 6 PE A WWWW A N N N N N	F	requency
10 dB/div Log	Ref 25.0		IFGain:Low	Atten: 36			Mkr1	1.780 0			Auto Tune
15.0											Center Free 0000000 GH
5.00 -^vvj~- 5.00	mmyaurana	ale and a second se	-Win combres marker	,alling						1.77	<b>Start Fre</b> 6000000 GH
25.0									DL1 -13.00 dBm	1.78	<b>Stop Fre</b> 4000000 G⊦
35.0				Pollon L	1 Maynara	and and an and a low and	-evel of open and	humana	myun	<u>Auto</u>	CF Ste 800.000 kH Ma
45.0 <u></u> 55.0 <u></u>											Freq Offs 0 H
65.0											Scale Typ
	.780000 Gi / 100 kHz	Hz	#VBW	300 kHz			Sweep 4	8 Span 4.000 ms (	.000 MHz 1001 pts)	Log	Li
ISG							STATU	IS			

Plot 7-136. Upper Band Edge Plot (Band 66 - 10.0MHz QPSK - Full RB Configuration)



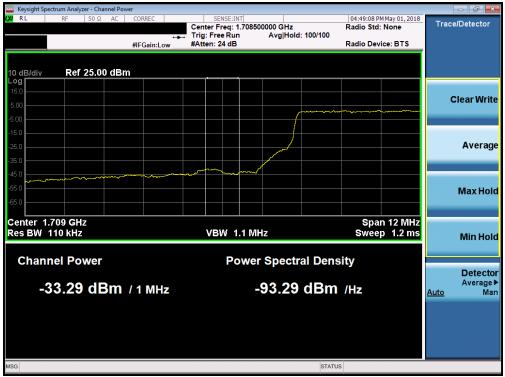
Plot 7-137. Upper Extended Band Edge Plot (Band 66 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 90 of 150	
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Keysight Spectrum Analyzer - Swept SA           L         RF         50 Ω         AC	CORREC SEM	NSE:INT	04:48:49 PM May 01, 201	
	PNO: Wide Trig: Free		E: RMS TRACE 12345 TYPE A WWWW DET A NNNN	6 Frequency
dB/div Ref 25.00 dBm	I Gam. Eow		Mkr1 1.710 000 GH -31.85 dBr	z Auto Tur n
5.0				Center Fre 1.710000000 GH
.00			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Start Fre 1.704000000 G
5.0		1	DL1 -13.00 dE	<b>Stop Fr</b> 1.716000000 G
5.0	m m m			CF Sto 1.200000 M <u>Auto</u> M
5.0				Freq Offs 0
5.0				Scale Ty
enter 1.710000 GHz Res BW 150 kHz	#VBW 470 kHz		Span 12.00 MH Sweep 1.000 ms (1001 pts	z ^{Log <u>L</u> 6)}

Plot 7-138. Lower Band Edge Plot (Band 66/4 - 15.0MHz QPSK - Full RB Configuration)



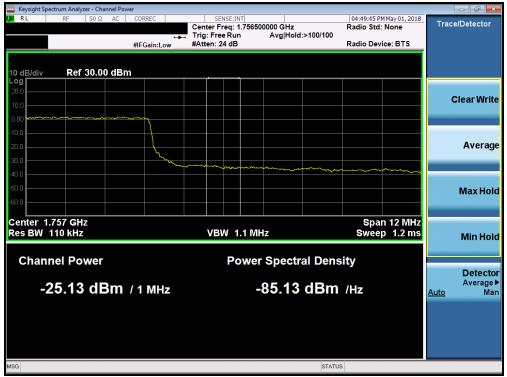
Plot 7-139. Lower Extended Band Edge Plot (Band 66/4 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 00 of 150	
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Keysight Spectrum Analyzer - S L RF 50		SENSE:INT	#Avg Type: RMS	04:49:29 PM May 01, 2018 TRACE 1 2 3 4 5 6	Frequency
	PNO: Wide 🕞 IFGain:Low	Trig: Free Run Atten: 36 dB	#Avg Type. Rwis	TYPE A WWWWW DET A NNNNN	
0 dB/div Ref 25.00	dBm		Mkr1	1.755 000 GHz -30.97 dBm	Auto Tur
15.0					Center Fre 1.755000000 GF
5.00	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				<b>Start Fre</b> 1.749000000 GH
25.0				DL1 -13.00 dBm	<b>Stop Fre</b> 1.761000000 GH
15.0			Mar and a start of the start of	and the second	<b>CF Ste</b> 1.200000 Mi <u>Auto</u> Mi
55.0					Freq Offs 01
65.0					Scale Typ
enter 1.755000 GHz Res BW 150 kHz		470 kHz	Sweep 1	Span 12.00 MHz I.000 ms (1001 pts)	Log <u>L</u>
SG			STATU		

Plot 7-140. Upper Band Edge Plot (Band 4 - 15.0MHz QPSK - Full RB Configuration)



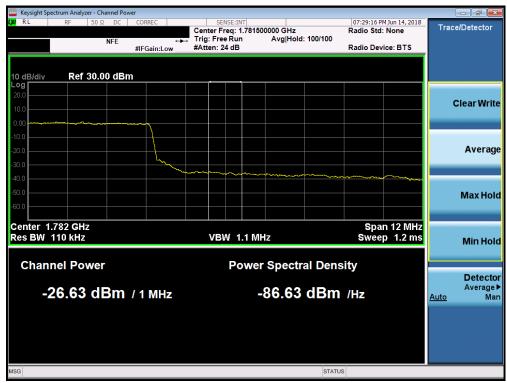
Plot 7-141. Upper Extended Band Edge Plot (Band 4 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dama 01 of 150	
1M1804230079-03.ACJ	5/1-6/14/2018	Portable Handset		Page 91 of 159	
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	pectrum Analy:										
<mark>0</mark> RL	RF	50 Ω DC NFE	CORREC			#Avg Typ	e: RMS	TRACI	Jun 14, 2018 <b>1 2 3 4 5 6</b> A WWWWW A N N N N N	Frequ	iency
0 dB/div	Ref 25	.00 dBm	I Guilleon				Mkr1	1.780 0 -30.9	00 GHz 96 dBm	Αι	ito Tun
15.0											n <b>ter Fre</b> 0000 GH
5.00	·····	m	where								t <b>art Fre</b> 0000 G⊦
25.0					1				0L1 -13.00 dBm	<b>S</b> 1.78600	top Fre 0000 GH
35.0 <u> </u>					· · · · · · · · · · · · · · · · · · ·	mana a		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		CF Ste 0000 MH Ma
55.0										Fre	e <b>q Offs</b> 0 F
enter 1	.780000 (	GH7						Span_1	2.00 MHz	Sc Log	ale Typ
	150 kHz		#VBW	i 470 kHz			Sweep	1.000 ms ('	001 pts)		
SG							STATU	IS			

Plot 7-142. Upper Band Edge Plot (Band 66 - 15.0MHz QPSK - Full RB Configuration)



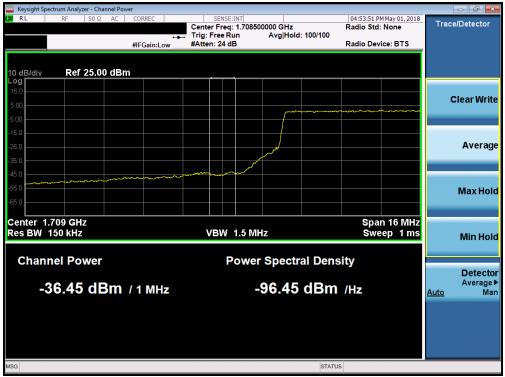
Plot 7-143. Upper Extended Band Edge Plot (Band 66 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION) Panasor	Approved by: Quality Manage	er	
Test Report S/N:	Test Dates:	EUT Type:	Dago 02 of 150		
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Plot 7-144. Lower Band Edge Plot (Band 66/4 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-145. Lower Extended Band Edge Plot (Band 66/4 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dago 02 of 150
1M1804230079-03.ACJ	5/1-6/14/2018	Portable Handset		Page 93 of 159
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Keysight Spectrum Analyzer - Swept SA           L         RF         50 Ω         AC	CORREC SENSE:INT	#Avg Type: RMS	04:54:47 PM May 01, 2018 TRACE 1 2 3 4 5 6 TYPE A WATMANN N DET A NNNN N	Frequency
0 dB/div Ref 25.00 dBm	IFGain:Low Atten: 36 dB	Mkr	1 1.755 000 GHz -28.71 dBm	Auto Tun
15.0				Center Fre 1.755000000 GH
5.00	mmm			Start Fre 1.747000000 GH
25.0	1_		DL1 -13.00 dBm	Stop Fre 1.763000000 G⊦
15.0		and the second second second	when and a company	CF Ste 1.600000 MH <u>Auto</u> Ma
55.0				Freq Offs 0 F
				Scale Typ
enter 1.755000 GHz Res BW 200 kHz	#VBW 620 kHz	Sweep	1.000 ms (1001 pts)	

Plot 7-146. Upper Band Edge Plot (Band 4 - 20.0MHz QPSK - Full RB Configuration)

Keysight Spectrum Analyzer - Swept SA RL RF 50 Ω AC		SENSE:INT		04:55:38 PM May 01, 2018	
		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
0 dB/div Ref 25.00 dBn	n		Mkr1	1.756 012 GHz -22.59 dBm	Auto Tur
15.0					Center Fre 1.758000000 GF
5.00					<b>Start Fr</b> 1.756000000 GI
5.0 1	n for total a frequencies of the	All VI Party Manager and Manager and Analgorical	anga daaraa ahaa ahaa ahaa ahaa ahaa ahaa a	DL1 -13.00 dBm	<b>Stop Fr</b> 1.760000000 G
15.0					<b>CF St</b> e 400.000 k <u>Auto</u> M
55.0					Freq Offs 0
55.0					Scale Ty
enter 1.758000 GHz Res BW 1.0 MHz	#VBW 3	.0 MHz	Sweep 7	Span 4.000 MHz 1.000 ms (1001 pts)	Log <u>L</u>

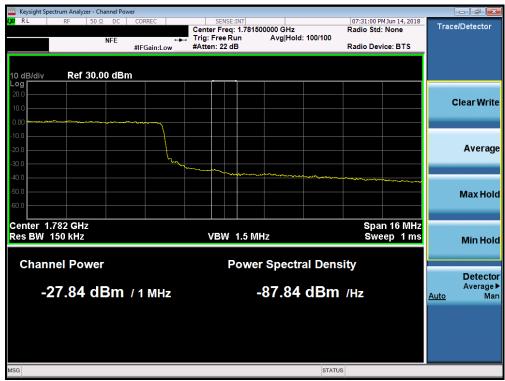
Plot 7-147. Upper Extended Band Edge Plot (Band 4 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 04 of 150	
1M1804230079-03.ACJ	5/1-6/14/2018	Portable Handset		Page 94 of 159	
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🔤 Keysight Sp	pectrum Analyze	r - Swept SA									
LXU RL	RF	50 Ω DC	CORREC	Trig: Free		#Avg Typ	e: RMS	TRAC	M Jun 14, 2018 E 1 2 3 4 5 6 E A WWWW A N N N N N	Fr	equency
10 dB/div Log	Ref 25.0		IFGain:Low	Atten: 36	dB		Mkr1	1.780 0	000 GHz 38 dBm		Auto Tune
15.0											Center Free
5.00		march	www.comments	~						1.77:	Start Fre 2000000 GH
25.0					.1				DL1 -13.00 dBm	1.78	<b>Stop Fre</b> 3000000 G⊦
35.0				~~	~	the second	mamma	and the second s	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	1 <u>Auto</u>	CF Ste .600000 MH Ma
45.0 55.0										ľ	F <b>req Offs</b> 0 H
65.0											Scale Typ
	.780000 G 200 kHz	Hz	#VBW	620 kHz		:	Sweep 1	Span 1 .000 m <u>s (</u>	6.00 MHz 1001 pts)	Log	Li
ISG							STATUS	;			

Plot 7-148. Upper Band Edge Plot (Band 66 - 20.0MHz QPSK - Full RB Configuration)

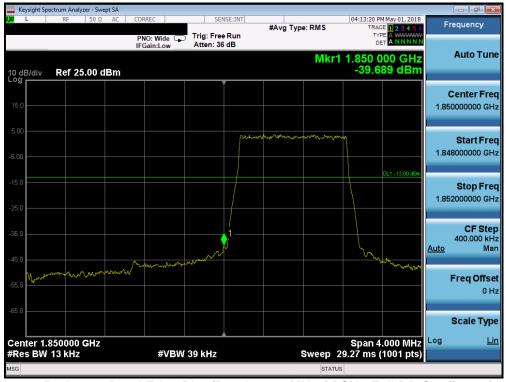


Plot 7-149. Upper Extended Band Edge Plot (Band 66 - 20.0MHz QPSK - Full RB Configuration)

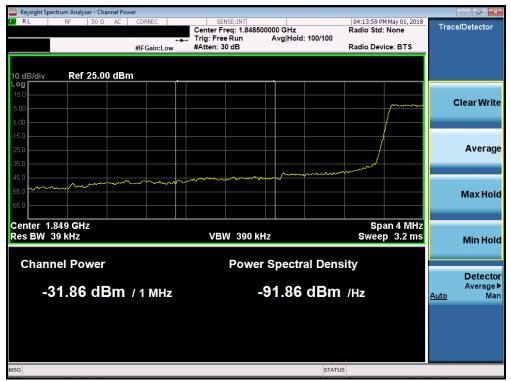
FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager							
Test Report S/N:	Test Dates:	EUT Type:		Dage OF of 150							
1M1804230079-03.ACJ	5/1-6/14/2018	Portable Handset		Page 95 of 159							
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## Band 2



Plot 7-150. Lower Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)



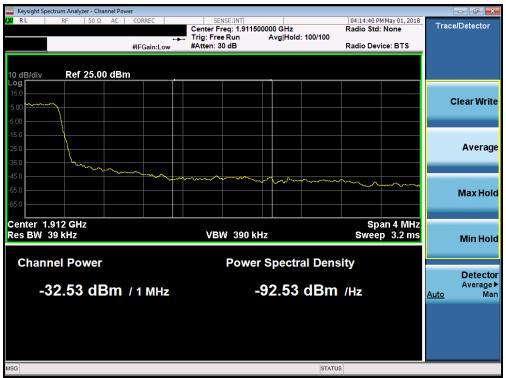
Plot 7-151. Lower Extended Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION) Panasor		Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 06 of 150	
1M1804230079-03.ACJ	5/1-6/14/2018	Portable Handset		Page 96 of 159	
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Keysight Spectrum Analyze						
L RF	50 Ω AC	PNO: Wide	SENSE:INT Trig: Free Run Atten: 36 dB	#Avg Type: RMS	04:14:22 PM May 01, 2018 TRACE 1 2 3 4 5 6 TYPE A WWWW DET A NNNNN	Frequency
0 dB/div Ref 25.	00 dBm	IFGain:Low	Atten: 36 dB	Mk	1 1.910 000 GHz -39.92 dBm	Auto Tur
15.0			Ĭ			Center Fre 1.91000000 GF
.00	A Maria Maria		union of the second sec			Start Fre 1.908000000 GH
5.0					DL1 -13.00 dBm	<b>Stop Fre</b> 1.912000000 GH
5.0			1-	Δ		CF Ste 400.000 kł <u>Auto</u> Ma
5.0				Murringhur	van Annan M	Freq Offs 0 F
5.0						Scale Ty
enter 1.910000 G Res BW 13 kHz	Hz	#VBW	39 kHz	Sweep	Span 4.000 MHz 29.27 ms (1001 pts)	Log <u>L</u>
ŝG				STA		

Plot 7-152. Upper Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)



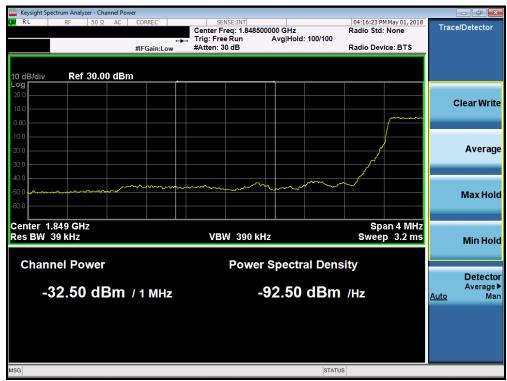
Plot 7-153. Upper Extended Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager							
Test Report S/N:	Test Dates:	EUT Type:		Dago 07 of 150							
1M1804230079-03.ACJ	5/1-6/14/2018	Portable Handset		Page 97 of 159							
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Keysight:	Spectrum													
U L	RF	5	0Ω	AC	CORREC	Vide 🔾	Trig: Free		#Avg Ty	pe:RMS	TRA	M May 01, 2018 CE 1 2 3 4 5 6 PE A WWWWW ET A N N N N N	F	requency
0 dB/div	Ref	f 25.0	0 de	3m	IFGain	Low	Atten: 36	6 dB		Mkr	1 1.850 (	000 GHz 09 dBm		Auto Tun
15.0														Center Fre 50000000 G⊦
5.00									r market and the second	mann	n www.	///////////////////////////////////////	1.84	<b>Start Fre</b> 18000000 GH
5.0							(	i				DL1 -13.00 dBm	1.85	<b>Stop Fre</b> 52000000 GF
5.0						~							<u>Auto</u>	<b>CF Ste</b> 400.000 ki Ma
i5.0 —	~~~~~	d	~~~~	No and										Freq Offs 0 I
enter '	1.8500	00 GH	łz _								Span 4	.000 MHz	Log	Scale Typ
Res B∖	N/ 30 k	Hz				#VBW	91 kHz			Sweep		(1001 pts)		
G										STAT	JS			

Plot 7-154. Lower Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)



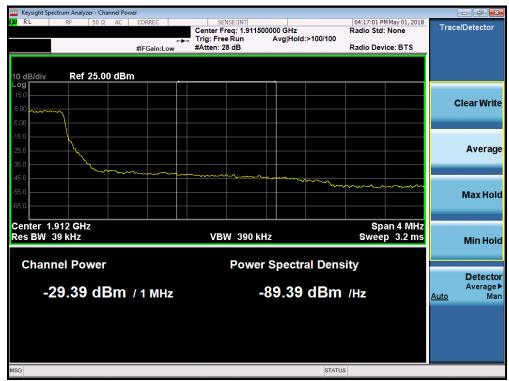
Plot 7-155. Lower Extended Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	anasonic	Approved by: Quality Manager					
Test Report S/N:	Test Dates:	EUT Type:		Dega 00 of 150					
1M1804230079-03.ACJ	5/1-6/14/2018	Portable Handset		Page 98 of 159					
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Keysight S	pectrum Analy												
L	RF	50 Ω	AC	CORREC		SE Trig: Fre		#Avg Typ	e: RMS	TRAC	M May 01, 2018	F	requency
				PNO: W IFGain:L	ide ⊊⊃ ₋ow	Atten: 3				DE			
0 dB/div	Ref 25	.00 dE	3m						Mkr1	1.910 0 -27.	00 GHz 37 dBm		Auto Tun
°g							Ĭ						Center Fre
15.0													0000000 GI
5.00													
	And the second	s and a second	Y	~~~~~	~~~~~							1.00	Start Fr 8000000 G
5.00												1.90	8000000 Gi
5.0											DL1 -13.00 dBm		Stop Fr
25.0						ľ,	1					1.91	2000000 G
6.0													CF Ste 400.000 ki
15.0							m	mm		- Anna	·····	<u>Auto</u>	М
													Freq Offs
i5.0													0
i5.0													
													Scale Typ
	.910000 / 30 kHz	GHz			#\/D\A/	91 kHz			Swoon 5	Span 4	.000 MHz (1001 pts)	Log	L
	JUKHZ			+	FV DVV	91 NH2			Sweep a		roor pis)		

Plot 7-156. Upper Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)



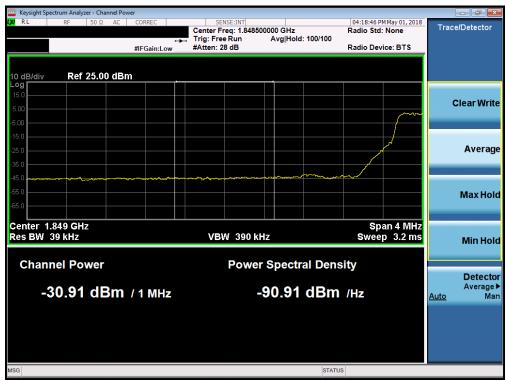
Plot 7-157. Upper Extended Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager						
Test Report S/N:	Test Dates:	EUT Type:		Baga 00 of 150						
1M1804230079-03.ACJ	5/1-6/14/2018	Portable Handset		Page 99 of 159						
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Keysight Spectr		- Swept S	5A									_	
<mark>XI</mark> L	RF	50Ω A		PNO: W	ide 😱	Trig: Fre		#Avg Ty	pe:RMS	TRAC	M May 01, 2018 DE 1 2 3 4 5 6 PE A WWWWW ET A N N N N N	F	requency
10 dB/div	Ref 25.0	0 dBi		IFGain:L	.ow	Atten: 3	6 dB		Mkr	1 1.850 (			Auto Tune
15.0							<b>.</b>						Center Fre
5.00							(	~~~~~~		·	~~~~	1.84	<b>Start Fre</b> 8000000 G⊦
25.0							¢1				DL1 -13.00 dBm	1.85	<b>Stop Fre</b> 2000000 G⊦
35.0	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~	~~~~	~~~~	~~~~	~~/						<u>Auto</u>	<b>CF Ste</b> 400.000 kH Ma
55.0													Freq Offs 0 H
-65.0 Center 1.85		Hz								Span 4	.000 MHz	Log	Scale Typ
#Res BW 5	1 kHz			\$	¢VB₩	160 kHz	4		Sweep	1.933 ms (	1001 pts)		
ISG									STATU	JS			

Plot 7-158. Lower Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)



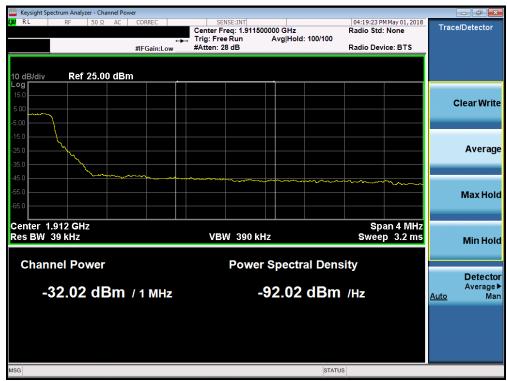
Plot 7-159. Lower Extended Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager						
Test Report S/N:	Test Dates:	EUT Type:		Dage 100 of 150						
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Keysight Spe	ectrum Analy:												
L	RF	50 Ω	AC	CORREC PNO: W	lide 🖵	Trig: Free Atten: 36		#Avg Typ	e: RMS	TRAC	M May 01, 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 dE	3m	in Gam.					Mkr	1 1.910 ( -30.	000 GHz 23 dBm		Auto Tun
15.0													Center Fre 0000000 G⊦
5.00	~~~~	~~~~	~~~~		~~~							1.90	<b>Start Fre</b> 8000000 GH
25.0							1				DL1 -13.00 dBm	1.91	<b>Stop Fre</b> 2000000 GH
15.0							· · · · · · · · · · · · · · · · · · ·	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				<u>Auto</u>	<b>CF Ste</b> 400.000 kH Ma
5.0													Freq Offs 0 F
enter 1.9	910000	GH7								Snap 4	.000 MHz	Log	Scale Typ
Res BW		eniz		;	#VBW	160 kHz			Sweep	1.933 ms (	(1001 pts)		
SG									STAT	US			

Plot 7-160. Upper Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)



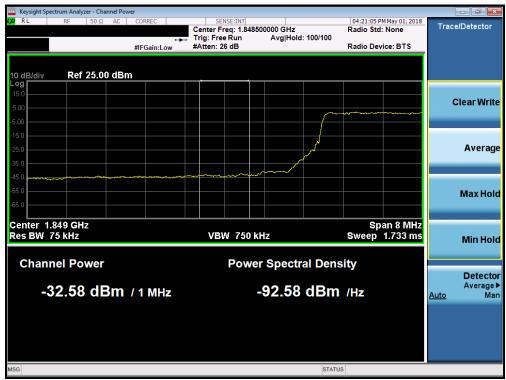
Plot 7-161. Upper Extended Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager						
Test Report S/N:	Test Dates:	EUT Type:		Dogo 101 of 150						
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Keysight Spectrum	F 50 Ω		CORREC	1	SEI	NSE:INT			04:20:46 P	M May 01, 2018		
			PNO: Wi IFGain:L	de 🖵 ow	Trig: Free Atten: 36	Run	#Avg Typ	be: RMS	TRAC	DE 1 2 3 4 5 6 PE A WWWWW A N N N N N	F	requency
0 dB/div <b>R</b> e	ef 25.00 di	Bm						Mkr1	1.850 ( -32.	000 GHz 44 dBm		Auto Tur
15.0												Center Fre
.00						$\int$			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	1.84	<b>Start Fr</b> 6000000 GI
5.0						1				DL1 -13.00 dBm	1.85	<b>Stop Fr</b> 4000000 G
5.0					~	)'					<u>Auto</u>	<b>CF St</b> e 800.000 k M
5.0												Freq Offs 0
5.0												Scale Ty
enter 1.850 Res BW 100			#	VBW :	300 kHz			Sweep	Span 8 1.000 ms (	.000 MHz (1001 pts)	Log	L
G								STATU				

Plot 7-162. Lower Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)



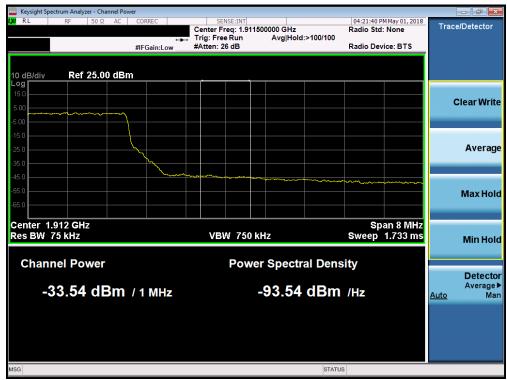
Plot 7-163. Lower Extended Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 102 of 150
1M1804230079-03.ACJ	5/1-6/14/2018	Portable Handset		Page 102 of 159
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Keysight Spe	ctrum Analyz			000050	_		0510	- 14-T					_	
L	RF	50Ω A		CORREC PNO: W IFGain:L	ide 😱 .ow		Free F		#Avg Typ	e:RMS	TF	B PM May 01, 2018 RACE 1 2 3 4 5 6 TYPE A WWWW DET A NNNNN	F	requency
0 dB/div	Ref 25	.00 dBr								Mkr	1 1.910 -3	000 GHz 1.93 dBm		Auto Tur
15.0														Center Fre 10000000 G⊦
5.00			~~~~~	~~~~	~~~~~	$\sim$							1.90	<b>Start Fre</b> 06000000 GH
25.0							<u>м</u>	1				DL1 -13.00 dBm	1.9 [.]	<b>Stop Fre</b> 14000000 GF
35.0							hę	'					<u>Auto</u>	<b>CF Ste</b> 800.000 kł Ma
i5.0												~~~~~		Freq Offs 0 I
55.0											0	0.000 844	Log	Scale Typ
enter 1.9 Res BW				\$	≠vв₩	300 k	κHz			Sweep	span 1.000 ms	8.000 MHz s (1001 pts)		-
SG										STAT				

Plot 7-164. Upper Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)



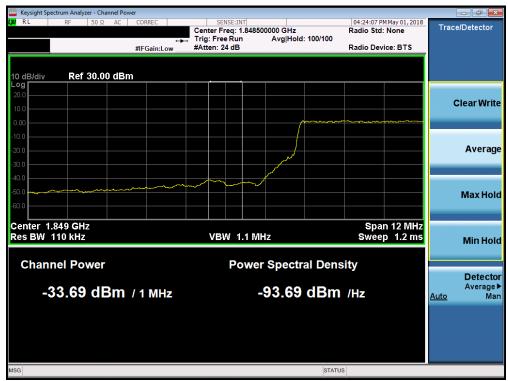
Plot 7-165. Upper Extended Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 102 of 150
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Keysight :	Spectrum Ana				_					04.00.40.0		_	
L	RF	50 Ω		CORREC PNO: W IFGain:L	/ide 🖵			#Avg 1	ype: RMS	TRA	M May 01, 2018 CE 1 2 3 4 5 6 PE A WWWWW ET A N N N N N	F	requency
0 dB/div	Ref 2	25.00 d		IFGain:L	Low	Atten: 3	0 UB		Mkr	1 1.850 (			Auto Tun
- <b>og</b>													Center Fre 0000000 G⊦
5.00								~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	n.v.m		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	1.84	<b>Start Fre</b> 4000000 GH
25.0							1				DL1 -13.00 dBm	1.85	<b>Stop Fre</b> 6000000 Gi
15.0			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	server and a server and a server a s	~~	~~/	<b>&gt;</b>					, <u>Auto</u>	CF Ste 1.200000 MI M
i5.0	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~												Freq Offs 0 I
	1.850000									Span 1	2.00 MHz	Log	Scale Typ
Res BV	N 150 ki	z		;	#VBW	470 kHz	z		Sweep	1.000 ms	(1001 pts)		
G									STAT	JS			

Plot 7-166. Lower Band Edge Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)



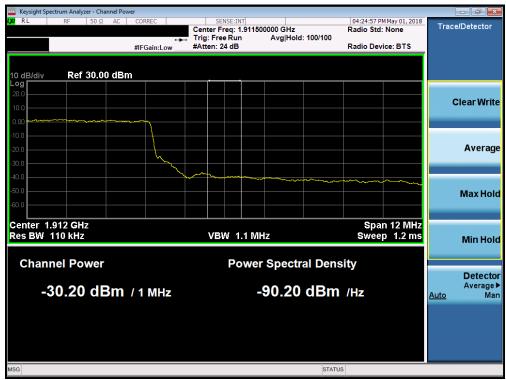
Plot 7-167. Lower Extended Band Edge Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager						
Test Report S/N:	Test Dates:	EUT Type:		Dage 104 of 150						
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Keysight Sp	ectrum Analy					ENGE INT					_	
L	RF	50 Ω	CORREC PNO: W IFGain:L	ide 🖵		ee Run 36 dB	#Avg Ty	pe: RMS	TRA	M May 01, 2018 CE 1 2 3 4 5 6 PE A WWWWW DET A NNNNN	Fr	equency
0 dB/div	Ref 25	.00 dB	in Gamile					Mkr	1 1.910 -31	000 GHz .94 dBm		Auto Tun
15.0												<b>enter Fre</b> 0000000 G⊦
5.00	~~~~~		 ~~~~	~~~~~	~~						1.904	<b>Start Fre</b> 4000000 GH
25.0						1				DL1 -13.00 dBm	1.910	<b>Stop Fre</b> 5000000 GF
15.0						\ <b>\</b>	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		······	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	1 <u>Auto</u>	CF Ste 200000 MH Ma
5.0											•	F <b>req Offs</b> 0 F
55.0											Log	Scale Typ
	910000 ( 150 kHz		\$	≠VBW	470 kH	z		Sweep	Span ′ 1.000 ms	12.00 MHz (1001 pts)	Log	<u> </u>
SG								STAT				

Plot 7-168. Upper Band Edge Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)



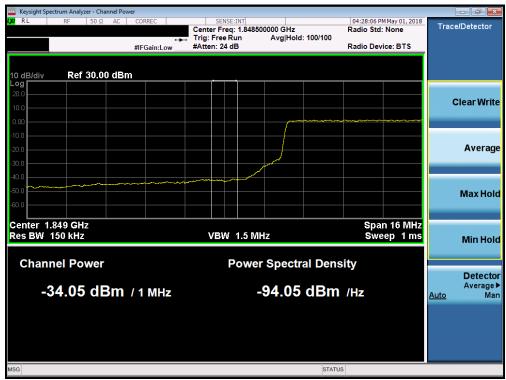
Plot 7-169. Upper Extended Band Edge Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dege 105 of 150
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Keysight S	Spectrum Ana RF	lyzer - Swep 50 Ω		CORREC	_	C	NSE:INT			04:27:44.0	M May 01, 2018	_	
L	KF	J 20 Ω	AC		ast 😱	Trig: Fre Atten: 3	e Run	#Avg Ty	/pe: RMS	TRA	MMAY 01, 2018 DE <b>1 2 3 4 5 6</b> PE A WWWWW ET A N N N N N	F	requency
0 dB/div	Ref 2	.5.00 d	Bm						Mkr	1 1.850 ( -32.	00 GHz 23 dBm		Auto Tur
15.0													Center Fre
.00							(			nperturnation (1970)	and the second	1.84	<b>Start Fro</b> 2000000 GI
5.0							1~				DL1 -13.00 dBm	1.85	<b>Stop Fr</b> 8000000 G
5.0	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~ ^a		Julian Margaret	and the second sec	<b>?</b> ′					<u>Auto</u>	<b>CF St</b> 1.600000 M M
5.0													Freq Offs 0
5.0	050000	CHE								- Chort	6 00 000	Log	Scale Tyj
	I.850000 V 200 kH				#VBW	620 kHz			Sweep	Span 1 1.000 ms	6.00 MHz (1001 pts)		-
G									STATU				

Plot 7-170. Lower Band Edge Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)



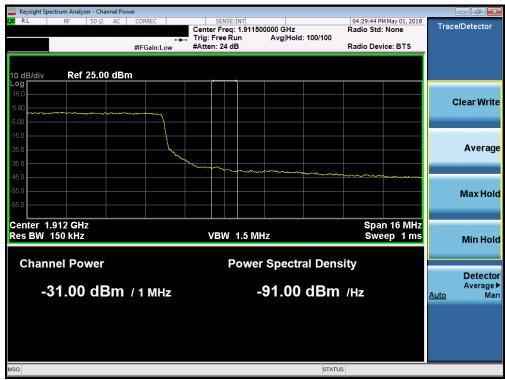
Plot 7-171. Lower Extended Band Edge Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager			
Test Report S/N:	Test Dates:	EUT Type:		Page 106 of 159			
1M1804230079-03.ACJ	5/1-6/14/2018	Portable Handset					
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Keysight Sp	ectrum Analy						OFNOT THE			04.05.77		_	- 0
L	RF	50Ω A		DRREC PNO: Fa FGain:L	ast 🖵	Trig: I Atten	SENSE:INT	#Avg T	ype: RMS	TR	PM May 01, 2018 ACE 1 2 3 4 5 6 YPE A WWWW DET A N N N N N	Fre	equency
0 dB/div	Ref 25	.00 dBr		Gamil					Mk	r1 1.910 -32	000 GHz .54 dBm		Auto Tun
. <b>og</b> 15.0													enter Fre 0000000 G⊦
5.00	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	le_Andre	^	l ^{an} n y ^a n y	~						1.902	<b>Start Fre</b> 2000000 GH
25.0							× 1				DL1 -13.00 dBm	1.918	<b>Stop Fre</b>
15.0								Marrow C	m	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	1. <u>Auto</u>	CF Ste 600000 MI M
5.0												F	F <b>req Offs</b> 0 I
enter 1.	910000	GHz								Span	16.00 MHz		Scale Typ L
	200 kHz			#	¢VBW	620 k	Hz		Sweep	1.000 ms	(1001 pts)		
SG									STA	TUS			

Plot 7-172. Upper Band Edge Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-173. Upper Extended Band Edge Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager			
Test Report S/N:	port S/N: Test Dates: EUT Type:		Dogo 107 of 150				
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# 7.5 Peak-Average Ratio

### **Test Overview**

A peak to average ratio measurement is performed at the conducted port of the EUT. The spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level.

### Test Procedure Used

KDB 971168 D01 v03r01 - Section 5.7.1

### **Test Settings**

- 1. The signal analyzer's CCDF measurement profile is enabled
- 2. Frequency = carrier center frequency
- 3. Measurement BW > Emission bandwidth of signal
- 4. The signal analyzer was set to collect one million samples to generate the CCDF curve
- 5. The measurement interval was set depending on the type of signal analyzed. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms.

#### Test Setup

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



Figure 7-4. Test Instrument & Measurement Setup

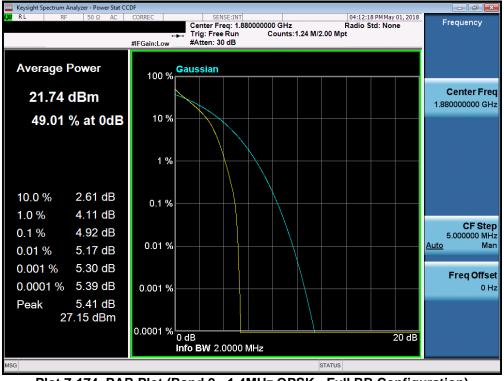
### Test Notes

None.

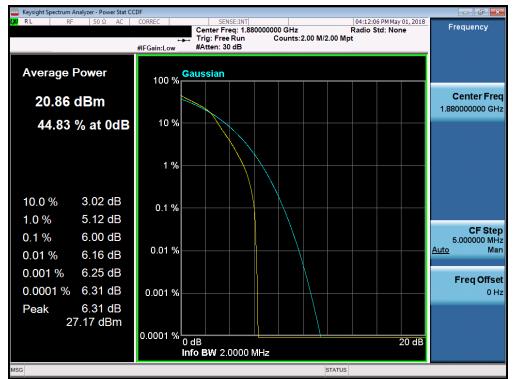
FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dage 100 of 150		
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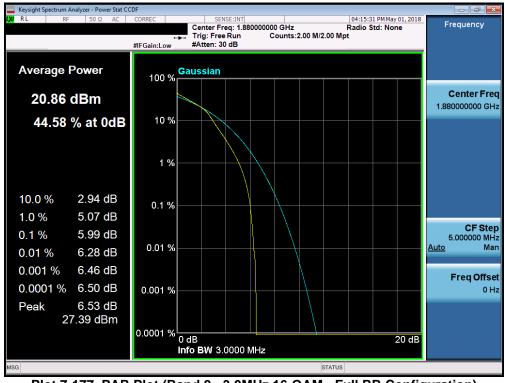
### Plot 7-175. PAR Plot (Band 2 - 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 100 of 150	
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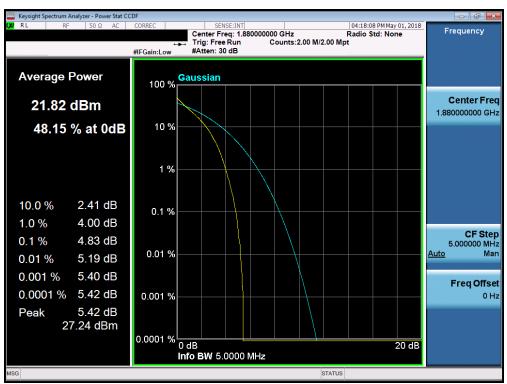




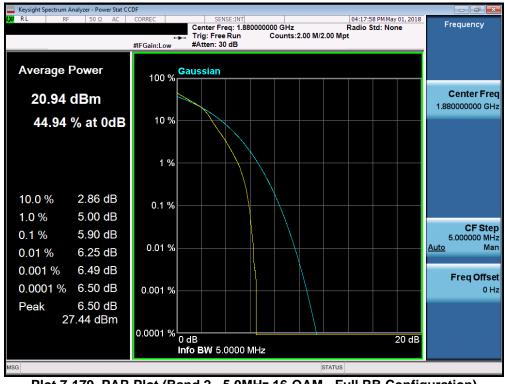
Plot 7-177. PAR Plot (Band 2 - 3.0MHz 16-QAM - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 110 of 150
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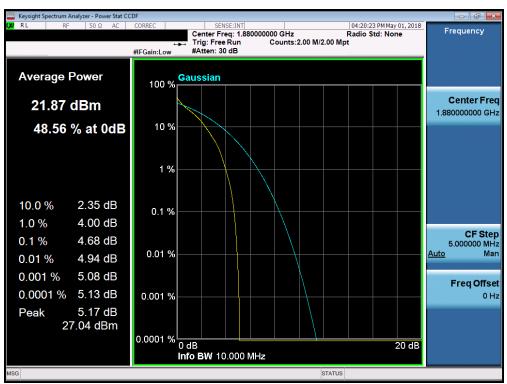
Plot 7-178. PAR Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)



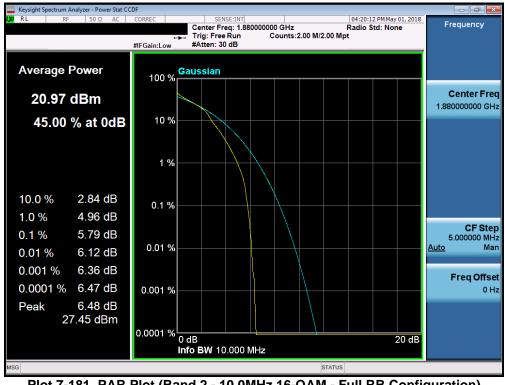
Plot 7-179. PAR Plot (Band 2 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 111 of 150
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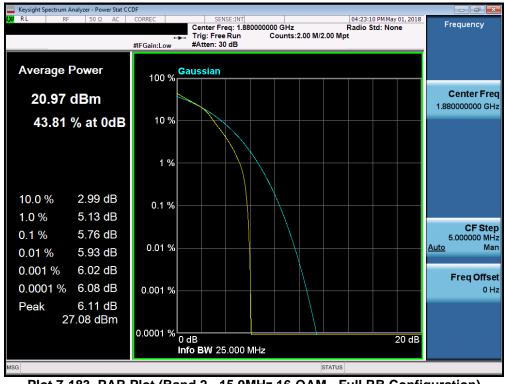
Plot 7-181. PAR Plot (Band 2 - 10.0MHz 16-QAM - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 110 of 150
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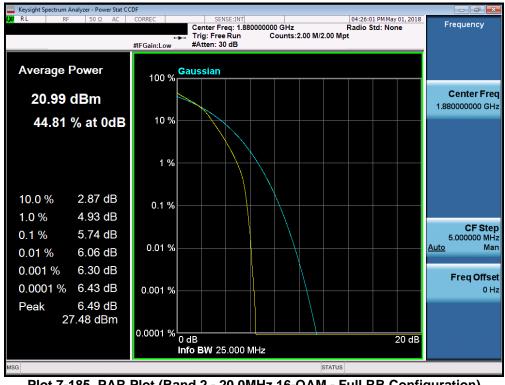
Plot 7-183. PAR Plot (Band 2 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 112 of 150
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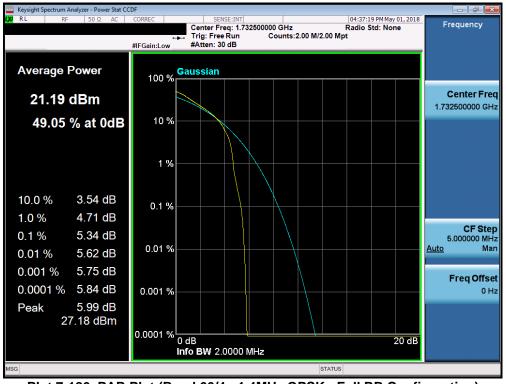
Plot 7-184. PAR Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)

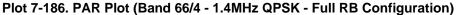


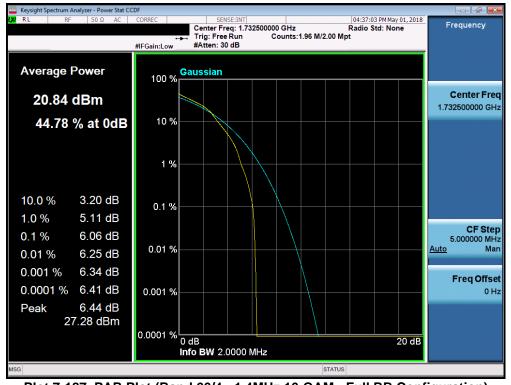
Plot 7-185. PAR Plot (Band 2 - 20.0MHz 16-QAM - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dago 114 of 150
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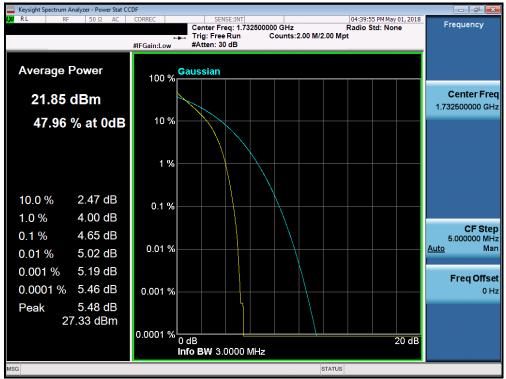


Plot 7-187. PAR Plot (Band 66/4 - 1.4MHz 16-QAM - Full RB Configuration)

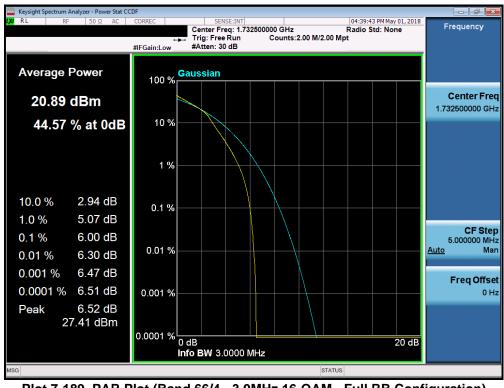
FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 115 of 150
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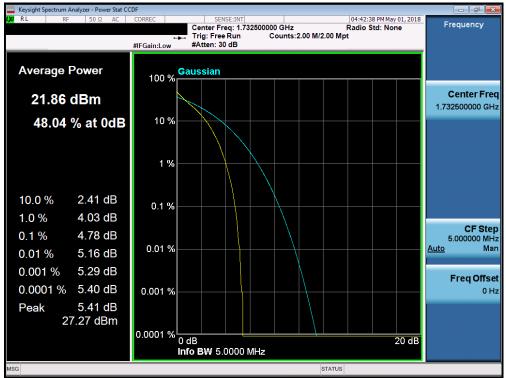




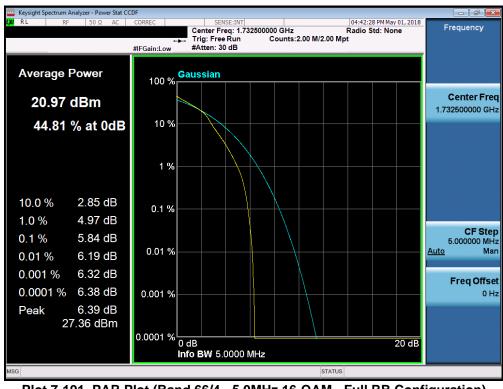
Plot 7-189. PAR Plot (Band 66/4 - 3.0MHz 16-QAM - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 116 of 159
1M1804230079-03.ACJ	5/1-6/14/2018	Portable Handset		Page 116 01 159
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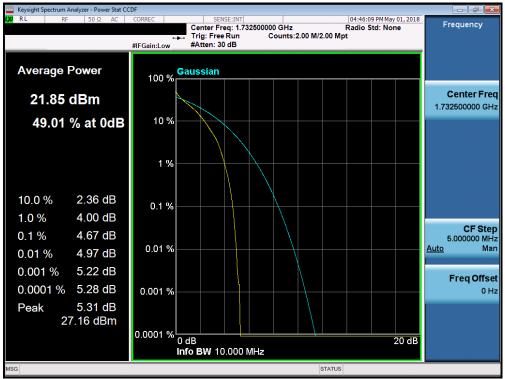


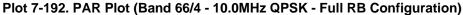


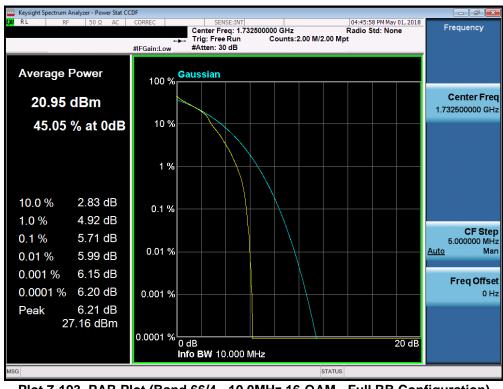
Plot 7-191. PAR Plot (Band 66/4 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 117 of 150
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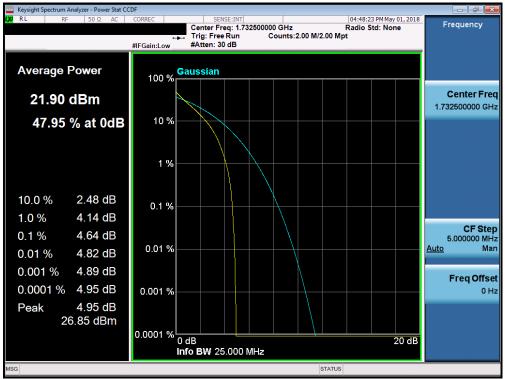


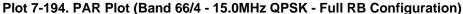


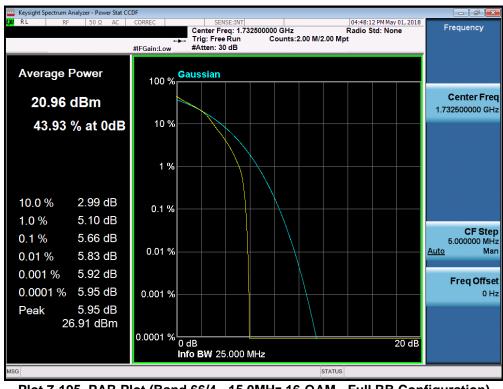
Plot 7-193. PAR Plot (Band 66/4 - 10.0MHz 16-QAM - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 119 of 150
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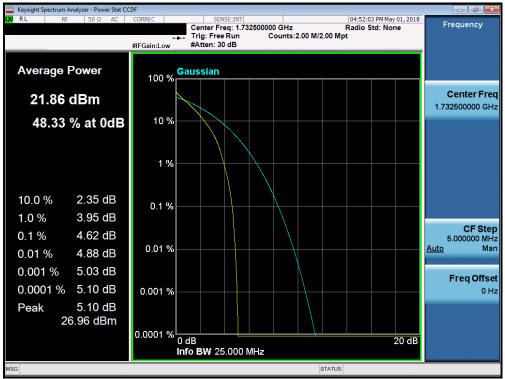




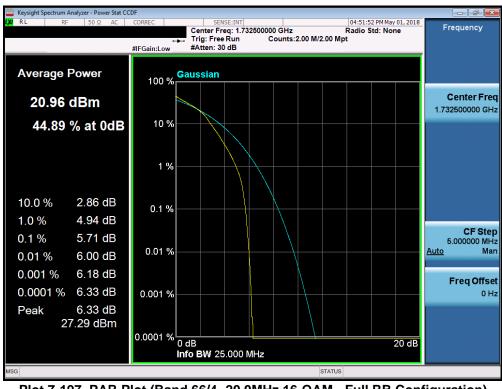
Plot 7-195. PAR Plot (Band 66/4 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
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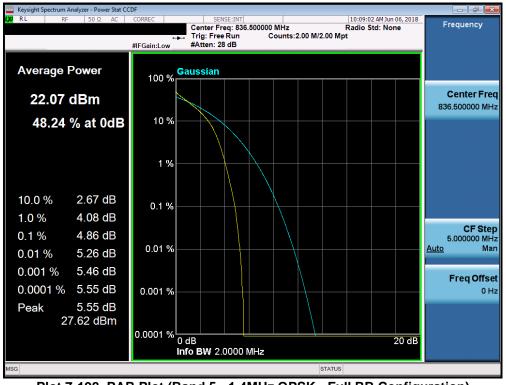




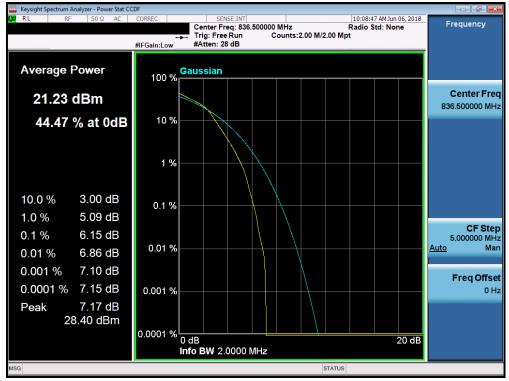
Plot 7-197. PAR Plot (Band 66/4- 20.0MHz 16-QAM - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	asonic	Approved by: Quality Manager
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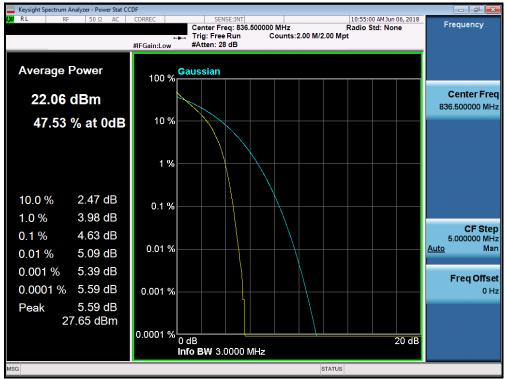




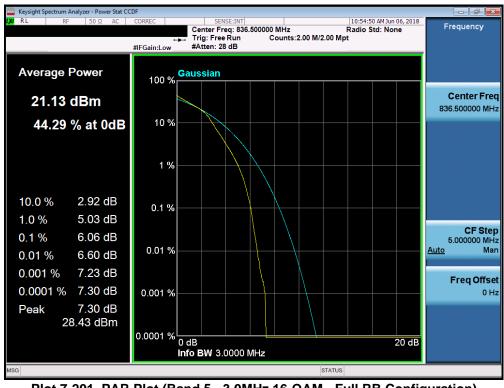
Plot 7-199. PAR Plot (Band 5 - 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
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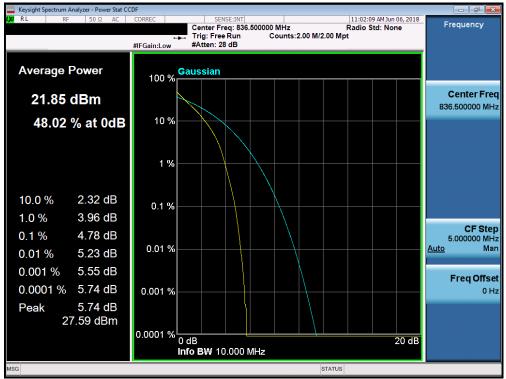




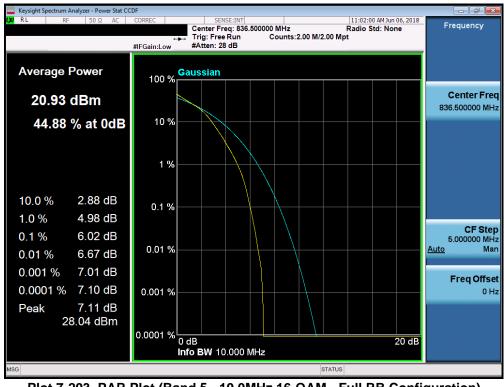
Plot 7-201. PAR Plot (Band 5 - 3.0MHz 16-QAM - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
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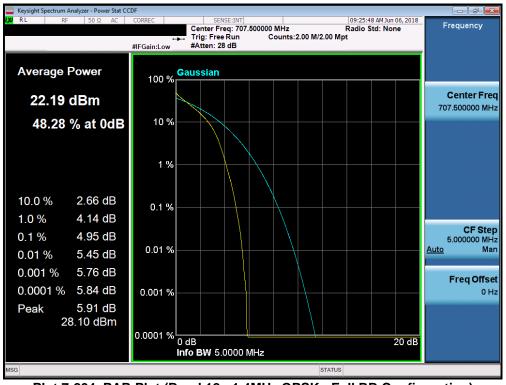




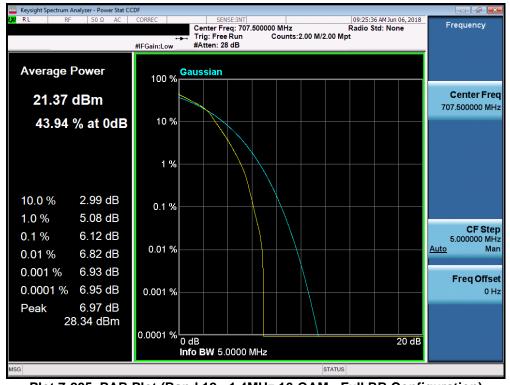
Plot 7-203. PAR Plot (Band 5 - 10.0MHz 16-QAM - Full RB Configuration)

FCC ID: ACJFZN1D		Panasonic	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Page 123 of 159
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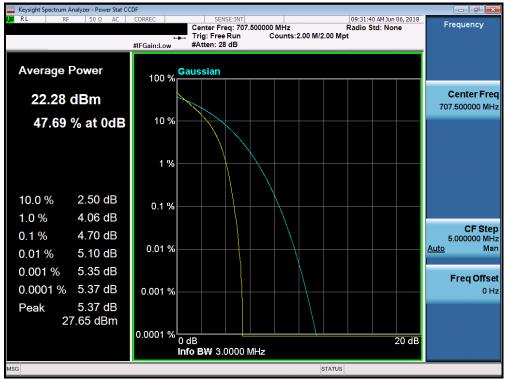




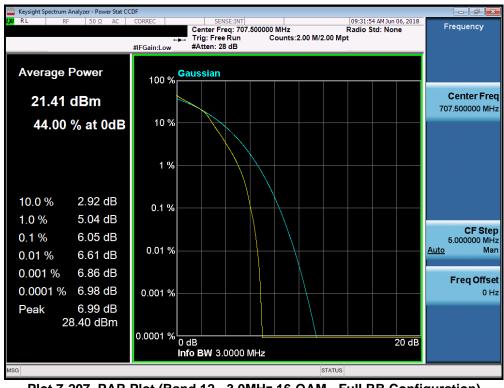
FCC ID: ACJFZN1D			Panasonic	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 124 of 150
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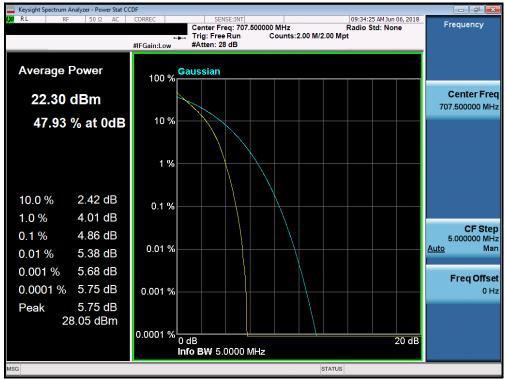




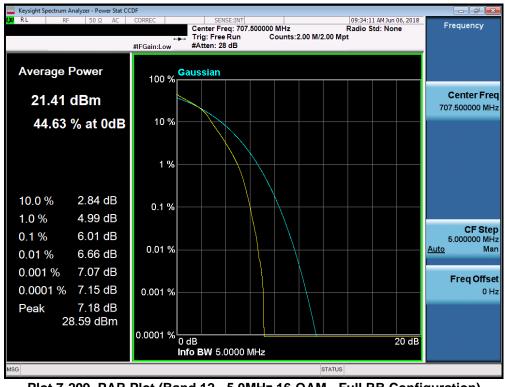
Plot 7-207. PAR Plot (Band 12 - 3.0MHz 16-QAM - Full RB Configuration)

FCC ID: ACJFZN1D	MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager	
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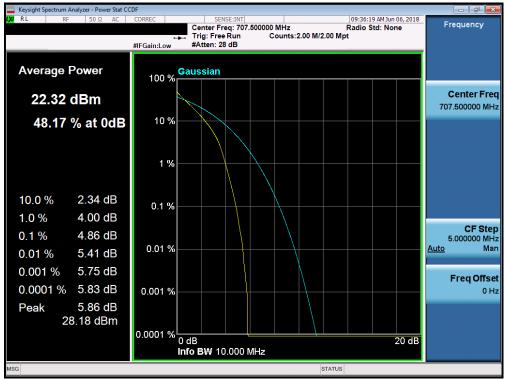




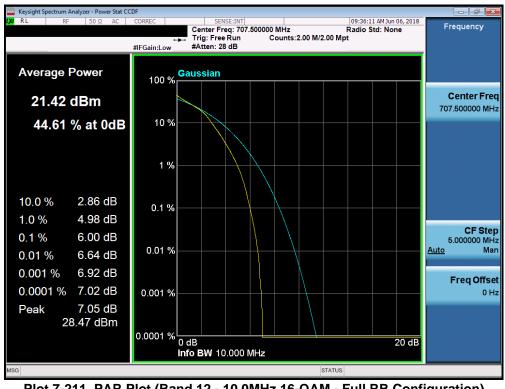
Plot 7-209. PAR Plot (Band 12 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
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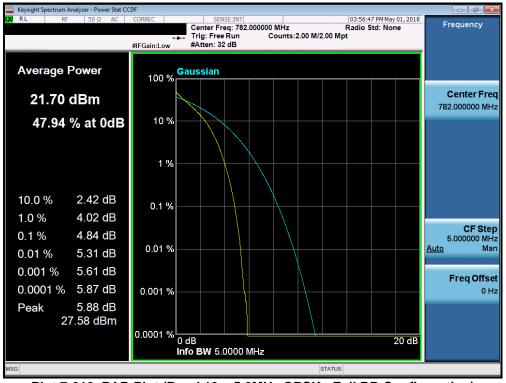




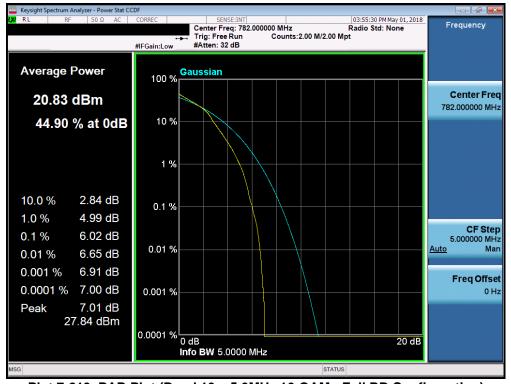
Plot 7-211. PAR Plot (Band 12 - 10.0MHz 16-QAM - Full RB Configuration)

FCC ID: ACJFZN1D	MEASUREMENT REPORT (CERTIFICATION)		Panasonic	Approved by: Quality Manager
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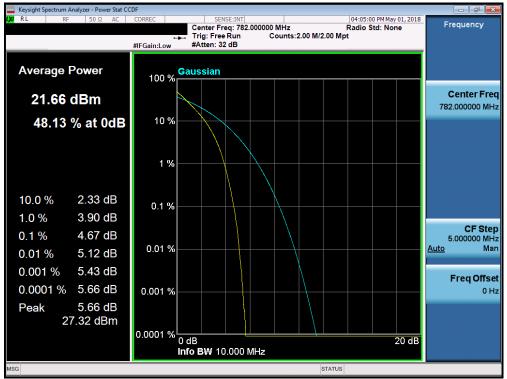


Plot 7-213. PAR Plot (Band 13 – 5.0MHz 16-QAM - Full RB Configuration)

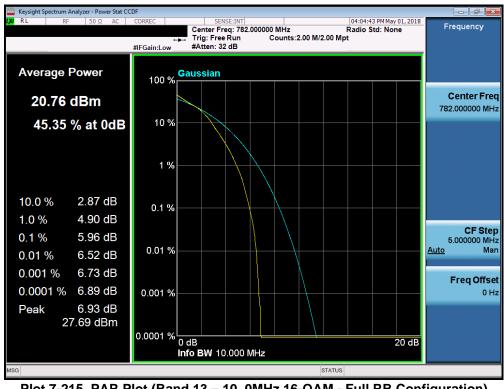
FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 129 of 150
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Plot 7-215. PAR Plot (Band 13 - 10 .0MHz 16-QAM - Full RB Configuration)

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# 7.6 Radiated Power (ERP/EIRP)

### Test Overview

Effective Radiated Power (ERP) and Equivalent Isotropic Radiated Power (EIRP) measurements are performed using the substitution method described in ANSI/TIA-603-E-2016 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically and horizontally polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized tuned broadband horn antennas. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

### Test Procedures Used

KDB 971168 D01 v03r01 - Section 5.2.1

ANSI/TIA-603-E-2016 - Section 2.2.17

### Test Settings

- 1. Radiated power measurements are performed using the signal analyzer's "channel power" measurement capability for signals with continuous operation.
- 2. RBW = 1 5% of the expected OBW, not to exceed 1MHz
- 3. VBW  $\ge$  3 x RBW
- 4. Span = 1.5 times the OBW
- 5. No. of sweep points  $\geq 2 \times \text{span} / \text{RBW}$
- 6. Detector = RMS
- 7. Trigger is set to "free run" for signals with continuous operation with the sweep times set to "auto".
- 8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation.
- 9. Trace mode = trace averaging (RMS) over 100 sweeps
- 10. The trace was allowed to stabilize

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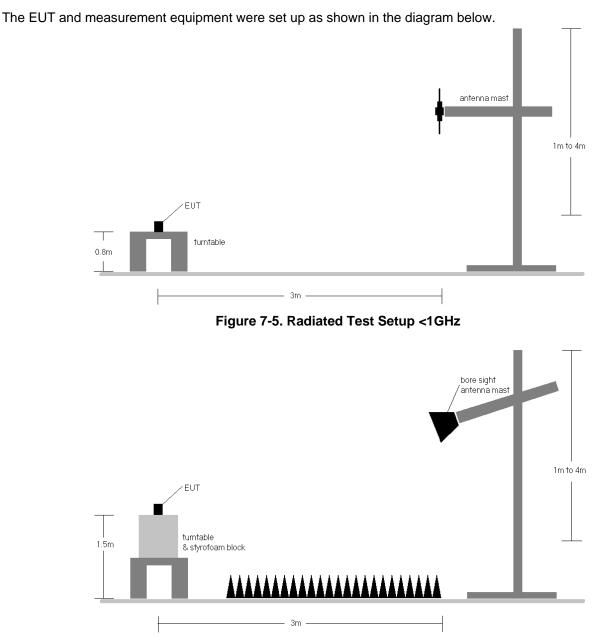


Figure 7-6. Radiated Test Setup >1GHz

### Test Notes

- 1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
- 2) This unit was tested with its standard battery.

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# 7.6.1 Radiated Power (ERP/EIRP)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
699.70	1.4	QPSK	н	150	262	1 / 5	19.94	1.10	18.89	0.077	34.77	-15.88	21.04	0.127	36.99	-15.95
707.50	1.4	QPSK	н	150	262	1 / 5	20.02	1.13	19.00	0.079	34.77	-15.77	21.15	0.130	36.99	-15.84
715.30	1.4	QPSK	н	150	262	1 / 0	19.71	1.16	18.72	0.075	34.77	-16.05	20.87	0.122	36.99	-16.12
699.70	1.4	16-QAM	н	150	262	1 / 5	19.87	1.10	18.82	0.076	34.77	-15.95	20.97	0.125	36.99	-16.02
707.50	1.4	16-QAM	н	150	262	1 / 5	19.10	1.13	18.08	0.064	34.77	-16.69	20.23	0.105	36.99	-16.76
715.30	1.4	16-QAM	н	150	262	1 / 0	19.66	1.16	18.67	0.074	34.77	-16.10	20.82	0.121	36.99	-16.17
700.50	3	QPSK	н	150	269	1 / 14	20.03	1.10	18.98	0.079	34.77	-15.79	21.13	0.130	36.99	-15.86
707.50	3	QPSK	н	150	258	1 / 0	20.01	1.13	18.99	0.079	34.77	-15.78	21.14	0.130	36.99	-15.85
714.50	3	QPSK	н	150	269	1 / 0	19.81	1.16	18.82	0.076	34.77	-15.95	20.97	0.125	36.99	-16.02
700.50	3	16-QAM	н	150	269	1 / 14	19.31	1.10	18.26	0.067	34.77	-16.51	20.41	0.110	36.99	-16.58
707.50	3	16-QAM	н	150	258	1 / 0	19.22	1.13	18.20	0.066	34.77	-16.57	20.35	0.108	36.99	-16.64
714.50	3	16-QAM	н	150	269	1 / 0	19.03	1.16	18.04	0.064	34.77	-16.73	20.19	0.104	36.99	-16.80
701.50	5	QPSK	н	150	254	1 / 0	20.65	1.11	19.61	0.091	34.77	-15.17	21.76	0.150	36.99	-15.23
707.50	5	QPSK	н	150	250	1 / 0	20.20	1.13	19.18	0.083	34.77	-15.59	21.33	0.136	36.99	-15.66
713.50	5	QPSK	н	150	254	1 / 24	19.77	1.15	18.77	0.075	34.77	-16.00	20.92	0.124	36.99	-16.07
701.50	5	16-QAM	н	150	254	1 / 0	19.64	1.11	18.60	0.072	34.77	-16.18	20.75	0.119	36.99	-16.24
707.50	5	16-QAM	н	150	250	1 / 0	19.48	1.13	18.46	0.070	34.77	-16.31	20.61	0.115	36.99	-16.38
713.50	5	16-QAM	н	150	254	1 / 24	19.04	1.15	18.04	0.064	34.77	-16.73	20.19	0.105	36.99	-16.80
704.00	10	QPSK	н	150	265	1/0	20.35	1.12	19.32	0.085	34.77	-15.45	21.47	0.140	36.99	-15.52
707.50	10	QPSK	н	150	265	1 / 0	20.24	1.13	19.22	0.084	34.77	-15.55	21.37	0.137	36.99	-15.62
711.00	10	QPSK	н	150	265	1 / 0	20.25	1.14	19.24	0.084	34.77	-15.53	21.39	0.138	36.99	-15.60
704.00	10	16-QAM	н	150	265	1 / 0	19.40	1.12	18.37	0.069	34.77	-16.40	20.52	0.113	36.99	-16.47
707.50	10	16-QAM	н	150	265	1/0	19.52	1.13	18.50	0.071	34.77	-16.27	20.65	0.116	36.99	-16.34
711.00	10	16-QAM	н	150	265	1 / 0	19.36	1.14	18.35	0.068	34.77	-16.42	20.50	0.112	36.99	-16.49
701.50	5	QPSK	V	150	254	1 / 0	19.63	1.11	18.59	0.072	34.77	-16.19	20.74	0.118	36.99	-16.25
701.50	5	QPSK	н	150	0	1 / 0	18.42	1.11	17.38	0.055	34.77	-17.39	19.53	0.090	36.99	-17.46

Table 7-3. ERP Data (Band 12)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
779.50	5	QPSK	V	150	100	1 / 24	18.76	1.32	17.93	0.062	34.77	-16.84	20.08	0.102	36.99	-16.91
782.00	5	QPSK	v	150	100	1/0	18.64	1.33	17.82	0.061	34.77	-16.95	19.97	0.099	36.99	-17.02
784.50	5	QPSK	V	150	100	1/0	19.01	1.34	18.20	0.066	34.77	-16.57	20.35	0.108	36.99	-16.64
779.50	5	16-QAM	v	150	100	1 / 24	17.59	1.32	16.76	0.047	34.77	-18.01	18.91	0.078	36.99	-18.08
782.00	5	16-QAM	V	150	100	1/0	17.33	1.33	16.51	0.045	34.77	-18.26	18.66	0.073	36.99	-18.33
784.50	5	16-QAM	V	150	100	1/0	17.69	1.34	16.88	0.049	34.77	-17.89	19.03	0.080	36.99	-17.96
782.00	10	QPSK	V	150	79	1/0	18.87	1.33	18.05	0.064	34.77	-16.72	20.20	0.105	36.99	-16.79
782.00	10	16-QAM	V	150	79	1/0	17.66	1.33	16.84	0.048	34.77	-17.93	18.99	0.079	36.99	-18.00
784.50	5	QPSK	н	150	179	1/0	15.48	1.34	14.67	0.029	34.77	-20.10	16.82	0.048	36.99	-20.17
784.50	5 (L-Battery)	QPSK	V	150	186	1/0	17.95	1.34	17.14	0.052	34.77	-17.63	19.29	0.085	36.99	-17.70

## Table 7-4. ERP Data (Band 13)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
824.70	1.4	QPSK	V	150	296	1/5	20.42	1.50	19.77	0.095	38.45	-18.68	21.92	0.156	40.61	-18.69
836.50	1.4	QPSK	V	150	296	1/5	20.86	1.50	20.21	0.105	38.45	-18.24	22.36	0.172	40.61	-18.25
848.30	1.4	QPSK	V	150	296	1/5	20.19	1.50	19.54	0.090	38.45	-18.91	21.69	0.148	40.61	-18.92
824.70	1.4	16-QAM	V	150	296	1/5	19.68	1.50	19.03	0.080	38.45	-19.42	21.18	0.131	40.61	-19.43
836.50	1.4	16-QAM	V	150	296	1/5	20.00	1.50	19.35	0.086	38.45	-19.10	21.50	0.141	40.61	-19.11
848.30	1.4	16-QAM	V	150	296	1/5	19.36	1.50	18.71	0.074	38.45	-19.74	20.86	0.122	40.61	-19.75
825.50	3	QPSK	V	150	304	1 / 14	20.23	1.50	19.58	0.091	38.45	-18.87	21.73	0.149	40.61	-18.88
836.50	3	QPSK	V	150	304	1 / 14	20.78	1.50	20.13	0.103	38.45	-18.32	22.28	0.169	40.61	-18.33
847.50	3	QPSK	V	150	304	1 / 14	20.18	1.50	19.53	0.090	38.45	-18.92	21.68	0.147	40.61	-18.93
825.50	3	16-QAM	V	150	304	1 / 14	19.56	1.50	18.91	0.078	38.45	-19.54	21.06	0.128	40.61	-19.55
836.50	3	16-QAM	V	150	304	1 / 14	19.76	1.50	19.11	0.081	38.45	-19.34	21.26	0.134	40.61	-19.35
847.50	3	16-QAM	V	150	304	1 / 14	19.40	1.50	18.75	0.075	38.45	-19.70	20.90	0.123	40.61	-19.71
826.50	5	QPSK	V	150	295	1 / 24	20.26	1.50	19.61	0.091	38.45	-18.84	21.76	0.150	40.61	-18.85
836.50	5	QPSK	V	150	295	1/0	20.54	1.50	19.89	0.097	38.45	-18.56	22.04	0.160	40.61	-18.57
846.50	5	QPSK	V	150	295	1/0	20.67	1.50	20.02	0.100	38.45	-18.43	22.17	0.165	40.61	-18.44
826.50	5	16-QAM	V	150	295	1 / 24	19.53	1.50	18.88	0.077	38.45	-19.57	21.03	0.127	40.61	-19.58
836.50	5	16-QAM	V	150	295	1/0	19.68	1.50	19.03	0.080	38.45	-19.42	21.18	0.131	40.61	-19.43
846.50	5	16-QAM	V	150	295	1/0	20.16	1.50	19.51	0.089	38.45	-18.94	21.66	0.147	40.61	-18.95
829.00	10	QPSK	V	150	300	1 / 49	20.42	1.50	19.77	0.095	38.45	-18.68	21.92	0.156	40.61	-18.69
836.50	10	QPSK	V	150	300	1 / 49	20.59	1.50	19.94	0.099	38.45	-18.51	22.09	0.162	40.61	-18.52
844.00	10	QPSK	V	150	300	1/0	20.71	1.50	20.06	0.101	38.45	-18.39	22.21	0.166	40.61	-18.40
829.00	10	16-QAM	V	150	300	1 / 49	19.62	1.50	18.97	0.079	38.45	-19.48	21.12	0.129	40.61	-19.49
836.50	10	16-QAM	V	150	300	1 / 49	19.89	1.50	19.24	0.084	38.45	-19.21	21.39	0.138	40.61	-19.22
844.00	10	16-QAM	V	150	300	1/0	19.78	1.50	19.13	0.082	38.45	-19.32	21.28	0.134	40.61	-19.33
836.50	1.4	QPSK	н	150	195	1/5	18.72	1.50	18.07	0.064	38.45	-20.38	20.22	0.105	40.61	-20.39
836.50	1.4 (L-Battery)	QPSK	V	150	171	1 / 5	17.75	1.50	17.10	0.051	38.45	-21.35	19.25	0.084	40.61	-21.36

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Table 7-5. ERP Data (Band 5)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1710.70	1.4	QPSK	н	150	96	1/0	18.84	5.56	24.40	0.275	30.00	-5.60
1732.50	1.4	QPSK	н	150	96	1/5	19.27	5.41	24.68	0.294	30.00	-5.32
1754.30	1.4	QPSK	н	150	96	1/0	18.96	5.26	24.22	0.264	30.00	-5.78
1710.70	1.4	16-QAM	н	150	96	1/0	17.73	5.56	23.29	0.213	30.00	-6.71
1732.50	1.4	16-QAM	н	150	96	1 / 5	18.52	5.41	23.93	0.247	30.00	-6.07
1754.30	1.4	16-QAM	н	150	96	1/5	17.73	5.26	22.99	0.199	30.00	-7.01
1711.50	3	QPSK	н	150	103	1 / 14	18.69	5.55	24.24	0.266	30.00	-5.76
1732.50	3	QPSK	н	150	103	1/0	19.30	5.41	24.71	0.296	30.00	-5.29
1753.50	3	QPSK	н	150	103	1/0	20.07	5.26	25.33	0.342	30.00	-4.67
1711.50	3	16-QAM	н	150	103	1 / 14	18.08	5.55	23.63	0.231	30.00	-6.37
1732.50	3	16-QAM	н	150	103	1 / 14	18.57	5.41	23.98	0.250	30.00	-6.02
1753.50	3	16-QAM	н	150	103	1/0	19.34	5.26	24.60	0.289	30.00	-5.40
1712.50	5	QPSK	н	150	71	1 / 24	19.31	5.55	24.86	0.306	30.00	-5.14
1732.50	5	QPSK	н	150	96	1/0	19.03	5.41	24.44	0.278	30.00	-5.56
1752.50	5	QPSK	н	150	71	1/0	19.26	5.27	24.53	0.284	30.00	-5.47
1712.50	5	16-QAM	н	150	71	1 / 24	18.37	5.55	23.92	0.246	30.00	-6.08
1732.50	5	16-QAM	н	150	96	1/0	18.31	5.41	23.72	0.235	30.00	-6.28
1752.50	5	16-QAM	н	150	71	1 / 24	18.21	5.27	23.48	0.223	30.00	-6.52
1715.00	10	QPSK	н	150	83	1 / 49	18.74	5.53	24.27	0.267	30.00	-5.73
1732.50	10	QPSK	н	150	83	1/0	19.15	5.41	24.56	0.286	30.00	-5.44
1750.00	10	QPSK	н	150	83	1 / 49	19.65	5.29	24.94	0.312	30.00	-5.06
1715.00	10	16-QAM	н	150	83	1 / 49	17.82	5.53	23.35	0.216	30.00	-6.65
1732.50	10	16-QAM	н	150	83	1 / 49	18.33	5.41	23.74	0.236	30.00	-6.26
1750.00	10	16-QAM	н	150	83	1 / 49	17.94	5.29	23.23	0.210	30.00	-6.77
1717.50	15	QPSK	н	150	269	1/0	19.06	5.51	24.57	0.286	30.00	-5.43
1732.50	15	QPSK	н	150	269	1 / 74	19.25	5.41	24.66	0.292	30.00	-5.34
1747.50	15	QPSK	н	150	269	1 / 74	19.28	5.31	24.59	0.287	30.00	-5.41
1717.50	15	16-QAM	н	150	269	1 / 74	18.04	5.51	23.55	0.227	30.00	-6.45
1732.50	15	16-QAM	н	150	269	1 / 74	18.35	5.41	23.76	0.238	30.00	-6.24
1747.50	15	16-QAM	Н	150	269	1 / 74	18.36	5.31	23.67	0.233	30.00	-6.33
1720.00	20	QPSK	Н	150	258	1 / 99	19.72	5.49	25.21	0.332	30.00	-4.79
1732.50	20	QPSK	н	150	258	1 / 99	19.65	5.41	25.06	0.320	30.00	-4.94
1745.00	20	QPSK	н	150	258	1/0	20.02	5.32	25.34	0.342	30.00	-4.66
1720.00	20	16-QAM	н	150	258	1 / 99	18.97	5.49	24.46	0.279	30.00	-5.54
1732.50	20	16-QAM	н	150	258	1 / 99	18.88	5.41	24.29	0.268	30.00	-5.71
1745.00	20	16-QAM	н	150	258	1 / 99	18.27	5.32	23.59	0.229	30.00	-6.41
1745.00	20	QPSK	V	150	2	1/0	18.22	5.32	23.54	0.226	30.00	-6.46
1745.00	20 (L-Battery)	QPSK	н	150	54	1/0	18.91	5.32	24.23	0.265	30.00	-5.77
		1	Т	ahlo 7-		Data (	Band 6	6/4)		1	1	1

Table 7-6. EIRP Data (Band 66/4)

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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1850.70	1.4	QPSK	V	150	167	1/0	20.49	3.69	24.18	0.262	33.01	-8.83
1880.00	1.4	QPSK	V	150	168	1/0	20.67	3.63	24.30	0.269	33.01	-8.71
1909.30	1.4	QPSK	V	150	167	1/0	20.12	3.57	23.69	0.234	33.01	-9.32
1850.70	1.4	16-QAM	V	150	167	1/0	19.58	3.69	23.27	0.212	33.01	-9.74
1880.00	1.4	16-QAM	V	150	168	1/5	19.64	3.63	23.27	0.212	33.01	-9.74
1909.30	1.4	16-QAM	V	150	167	1/0	19.22	3.57	22.79	0.190	33.01	-10.22
1851.50	3	QPSK	V	150	183	1/0	21.15	3.69	24.84	0.305	33.01	-8.17
1880.00	3	QPSK	V	150	183	1 / 14	20.91	3.63	24.54	0.285	33.01	-8.47
1908.50	3	QPSK	V	150	183	1/0	20.79	3.58	24.37	0.273	33.01	-8.64
1851.50	3	16-QAM	V	150	183	1/0	20.26	3.69	23.95	0.248	33.01	-9.06
1880.00	3	16-QAM	V	150	183	1 / 14	19.91	3.63	23.54	0.226	33.01	-9.47
1908.50	3	16-QAM	V	150	183	1/0	19.87	3.58	23.45	0.221	33.01	-9.56
1852.50	5	QPSK	V	150	265	1 / 24	20.89	3.69	24.58	0.287	33.01	-8.43
1880.00	5	QPSK	V	150	265	1 / 24	20.82	3.63	24.45	0.279	33.01	-8.56
1907.50	5	QPSK	V	150	265	1/0	20.40	3.58	23.98	0.250	33.01	-9.03
1852.50	5	16-QAM	V	150	265	1 / 24	19.55	3.69	23.24	0.211	33.01	-9.77
1880.00	5	16-QAM	V	150	265	1 / 24	19.59	3.63	23.22	0.210	33.01	-9.79
1907.50	5	16-QAM	V	150	265	1/0	19.15	3.58	22.73	0.187	33.01	-10.28
1855.00	10	QPSK	V	150	96	1 / 49	19.99	3.68	23.67	0.233	33.01	-9.34
1880.00	10	QPSK	V	150	96	1 / 49	19.86	3.63	23.49	0.223	33.01	-9.52
1905.00	10	QPSK	V	150	96	1/0	19.61	3.58	23.19	0.209	33.01	-9.82
1855.00	10	16-QAM	V	150	96	1 / 49	18.91	3.68	22.59	0.182	33.01	-10.42
1880.00	10	16-QAM	V	150	96	1 / 49	18.68	3.63	22.31	0.170	33.01	-10.70
1905.00	10	16-QAM	V	150	96	1/0	18.56	3.58	22.14	0.164	33.01	-10.87
1857.50	15	QPSK	V	150	84	1 / 74	19.77	3.68	23.45	0.221	33.01	-9.56
1880.00	15	QPSK	V	150	84	1 / 74	19.91	3.63	23.54	0.226	33.01	-9.47
1902.50	15	QPSK	V	150	84	1/0	19.37	3.59	22.96	0.198	33.01	-10.05
1857.50	15	16-QAM	V	150	84	1 / 74	18.99	3.68	22.67	0.185	33.01	-10.34
1880.00	15	16-QAM	V	150	84	1 / 74	18.64	3.63	22.27	0.169	33.01	-10.74
1902.50	15	16-QAM	V	150	84	1 / 74	18.08	3.59	21.67	0.147	33.01	-11.34
1860.00	20	QPSK	V	150	83	1 / 99	20.00	3.67	23.67	0.233	33.01	-9.34
1880.00	20	QPSK	V	150	83	1/0	19.81	3.63	23.44	0.221	33.01	-9.57
1900.00	20	QPSK	V	150	83	1/0	19.55	3.59	23.14	0.206	33.01	-9.87
1860.00	20	16-QAM	V	150	83	1 / 99	18.70	3.67	22.37	0.173	33.01	-10.64
1880.00	20	16-QAM	V	150	83	1/0	18.85	3.63	22.48	0.177	33.01	-10.53
1900.00	20	16-QAM	V	150	83	1/0	18.71	3.59	22.30	0.170	33.01	-10.71
1851.50	3	QPSK	н	150	171	1/0	20.57	3.69	24.26	0.267	33.01	-8.75
1851.50	3 (L-Battery)	QPSK	н	150	175	1/0	19.53	3.69	23.22	0.210	33.01	-9.79
		I	-	Table 7	-7. Ell	RP Data	a (Band	2)	L	I	I	I

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## 7.7 Radiated Spurious Emissions Measurements

### **Test Overview**

Radiated spurious emissions measurements are performed using the substitution method described in ANSI/TIA-603-E-2016 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically and horizontally polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas.

### **Test Procedures Used**

KDB 971168 D01 v03r01 - Section 5.8

ANSI/TIA-603-E-2016 - Section 2.2.12

#### **Test Settings**

- 1. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
- 2. VBW  $\geq$  3 x RBW
- 3. Span = 1.5 times the OBW
- 4. No. of sweep points  $\geq$  2 x span / RBW
- 5. Detector = RMS
- 6. Trace mode = Average (Max Hold for pulsed emissions)
- 7. The trace was allowed to stabilize

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EUT turntable & styrofoam block

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

Figure 7-7. Test Instrument & Measurement Setup

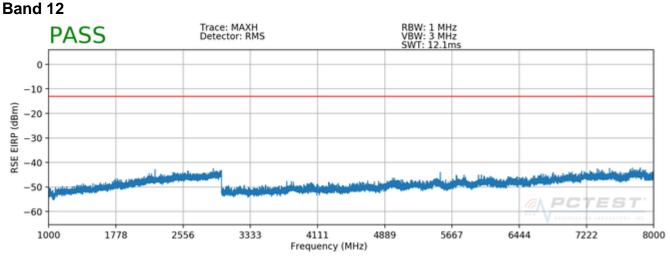
#### **Test Notes**

- 1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
- 2) This unit was tested with its standard battery.
- 3) The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.
- 4) Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
- 5) The "-" shown in the following RSE tables are used to denote a noise floor measurement.

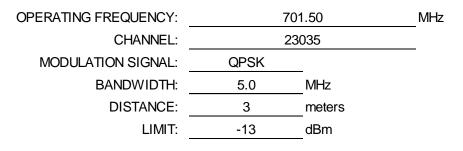
FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
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# 7.7.1 Radiated Spurious Emissions Measurements





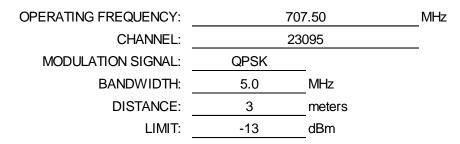


Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1403.00	Н	157	154	-58.30	3.80	-54.50	-41.5
2104.50	Н	-	-	-62.18	4.80	-57.38	-44.4

Table 7-8. Radiated Spurious Data (Band 12 – Low Channel)

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Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1415.00	Н	113	178	-57.59	3.90	-53.68	-40.7
2122.50	Н	-	-	-61.97	4.78	-57.19	-44.2

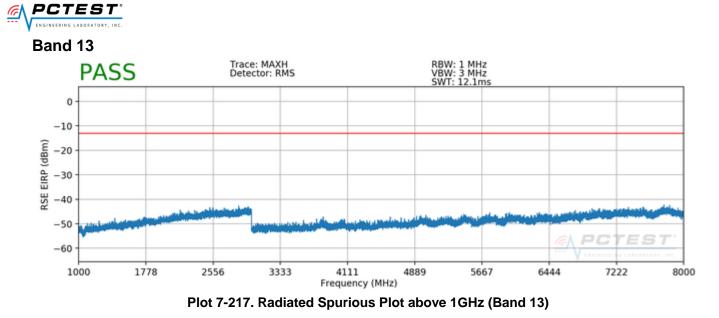
Table 7-9. Radiated Spurious Data (Band 12 - Mid Channel)

OPERATING FREQUENCY:	713	3.50 MHz
CHANNEL:	23	155
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	5.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1427.00	Н	-	-	-62.62	4.01	-58.61	-45.6
2140.50	Н	-	-	-62.29	4.77	-57.52	-44.5

Table 7-10. Radiated Spurious Data (Band 12 – High Channel)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
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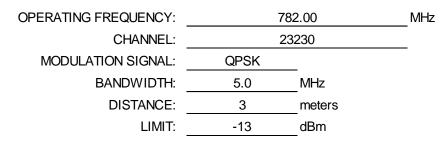
OPERATING FREQUENCY:	7	79.50	MHz
CHANNEL:	2		
MODULATION SIGNAL:	QPSK		
BANDWIDTH:	5.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-13	dBm	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2338.50	Н	-	-	-49.99	4.86	-45.13	-32.1
3118.00	Н	-	-	-49.89	5.99	-43.90	-30.9

Table 7-11. Radiated Spurious Data (Band 13 – Low Channel)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
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Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2346.00	Н	-	-	-55.36	6.02	-49.34	-36.3

Table 7-12. Radiated Spurious Data (Band 13 – Mid Channel)

OPERATING FREQUENCY:	78	4.50 MH	Ηz
CHANNEL:	23	255	
MODULATION SIGNAL:	QPSK	_	
BANDWIDTH:	5.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-13	dBm	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2353.50	Н	-	-	-51.82	6.05	-45.78	-32.8

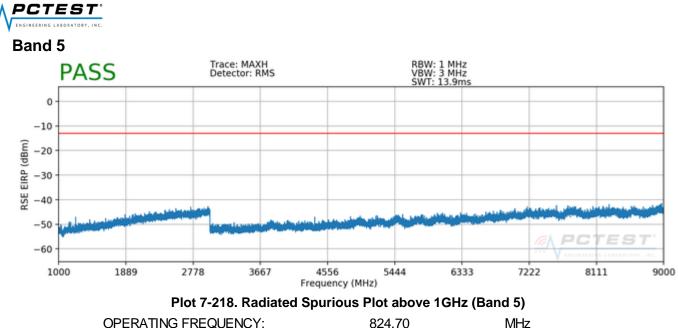
Table 7-13. Radiated Spurious Data (Band 13 – High Channel)

MODULATION SIGNAL:QPSKBANDWIDTH:5.00DISTANCE:3NARROWBAND EMISSION LIMIT:-50WIDEBAND EMISSION LIMIT:-40dBm/MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1559.00	Н	-	-	-53.41	4.86	-48.55	-8.5
1564.00	Н	150	315	-56.24	4.88	-51.36	-11.4
1569.00	Н	-	-	-53.24	4.90	-48.34	-8.3

Table 7-14. Radiated Spurious Data (Band 13 - 1559-1610MHz Band)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
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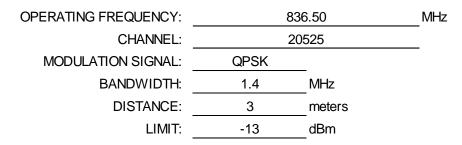
MH	24.70	8	OPERATING FREQUENCY:
	20407	2	CHANNEL:
		QPSK	MODULATION SIGNAL:
	MHz	1.4	BANDWIDTH:
	meters	3	DISTANCE:
	dBm	-13	LIMIT:

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1649.40	Н	-	-	-59.32	4.81	-54.50	-41.5
2474.10	Н	-	-	-56.31	4.99	-51.32	-38.3

Table 7-15. Radiated Spurious Data (Band 5 – Low Channel)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
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Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1673.00	Н	-	-	-59.32	4.86	-54.46	-41.5
2509.50	Н	-	-	-55.47	5.10	-50.37	-37.4

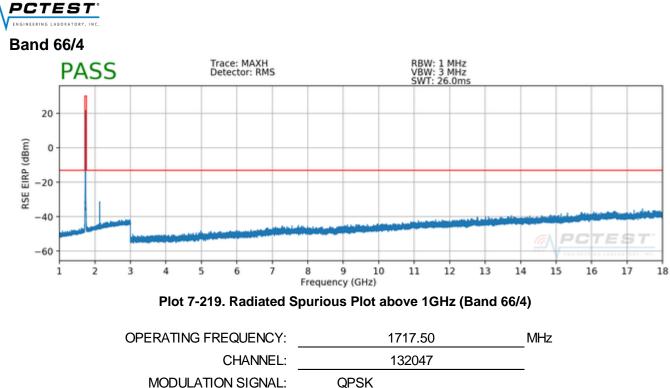
Table 7-16. Radiated Spurious Data (Band 5 – Mid Channel)

OPERATING FREQUENCY:	848	3.30 MI	Ηz
CHANNEL:	20	643	
MODULATION SIGNAL:	QPSK	_	
BANDWIDTH:	1.4	MHz	
DISTANCE:	3	meters	
LIMIT:	-13	dBm	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1696.60	Н	-	-	-59.80	4.91	-54.89	-41.9
2544.90	Н	-	-	-57.18	5.27	-51.91	-38.9

 Table 7-17. Radiated Spurious Data (Band 5 – High Channel)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
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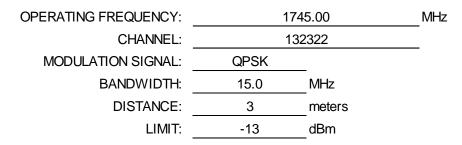
		2011
ATION SIGNAL:	QPSK	
BANDWIDTH:	15.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3435.00	Н	-	-	-43.25	6.61	-36.64	-23.6
5152.50	Н	-	-	-39.85	8.58	-31.27	-18.3

Table 7-18. Radiated Spurious Data (Band 66/4 – Low Channel)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
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Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3490.00	Н	-	-	-42.22	6.65	-35.57	-22.6
5235.00	Н	-	-	-37.17	8.61	-28.56	-15.6

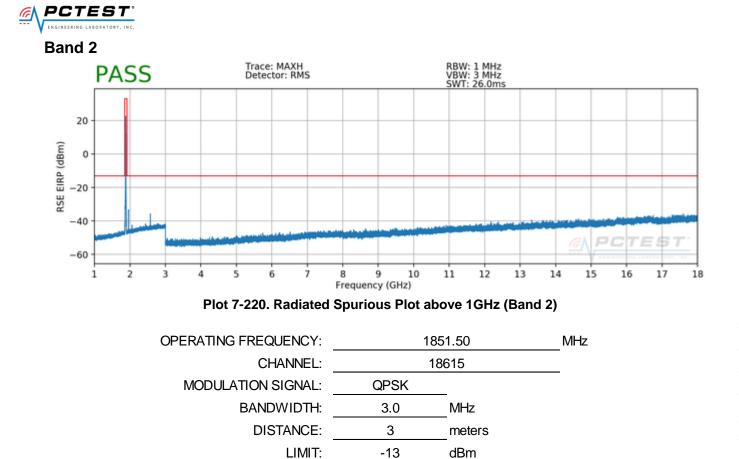
Table 7-19. Radiated Spurious Data (Band 66/4 - Mid Channel)

OPERATING FREQUENCY:	177	2.50 N	/IHz
CHANNEL:	132	2597	
MODULATION SIGNAL:	QPSK	_	
BANDWIDTH:	15.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-13	dBm	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3545.00	Н	-	-	-42.38	6.68	-35.69	-22.7
5317.50	Н	-	-	-38.54	8.62	-29.92	-16.9

Table 7-20. Radiated Spurious Data (Band 66/4 – High Channel)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager	
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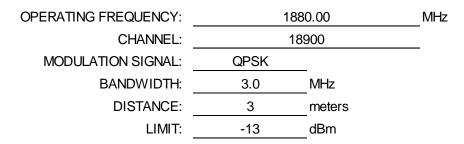


Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3703.00	н	-	-	-41.12	6.76	-34.36	-21.4
5554.50	Н	-	-	-39.04	8.44	-30.61	-17.6

Table 7-21. Radiated Spurious Data (Band 2 – Low Channel)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
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Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3760.00	Н	-	-	-39.29	6.84	-32.45	-19.5
5640.00	Н	-	-	-40.12	8.52	-31.60	-18.6
7520.00	Н	-	-	-35.17	8.44	-26.72	-13.7

Table 7-22. Radiated Spurious Data (Band 2 – Mid Channel)

OPERATING FREQUENCY:	190	8.50 MHz	
CHANNEL:	19 [,]	185	
MODULATION SIGNAL:	QPSK		
BANDWIDTH:	3.0	MHz	
DISTANCE:	3	meters	
LIMIT:	-13	dBm	

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3817.00	Н	-	-	-38.20	6.99	-31.21	-18.2
5725.50	Н	-	-	-38.94	8.58	-30.37	-17.4

Table 7-23. Radiated Spurious Data (Band 2 – High Channel)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager	
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### 7.8 Frequency Stability / Temperature Variation

#### **Test Overview and Limit**

Frequency stability testing is performed in accordance with the guidelines of ANSI/TIA-603-E-2016. The frequency stability of the transmitter is measured by:

- a.) **Temperature:** The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.
- b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

For Part 22, the frequency stability of the transmitter shall be maintained within  $\pm 0.00025\%$  ( $\pm 2.5$  ppm) of the center frequency. For Part 24, Part 27, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

#### Test Procedure Used

ANSI/TIA-603-E-2016

#### Test Settings

- 1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
- 2. The equipment is turned on in a "standby" condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
- 3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

#### Test Setup

The EUT was connected via an RF cable to a spectrum analyzer with the EUT placed inside an environmental chamber.

#### Test Notes

None

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### **Band 12 Frequency Stability Measurements**

OPERATING FREQUENCY:	707,500,000	Hz
CHANNEL:	23790	_
REFERENCE VOLTAGE:	3.80	VDC

VOLTAGE (%)	POWER (VDC)	<b>TEMP</b> (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	+ 20 (Ref)	707,500,093	93	0.0000131
100 %		- 30	707,499,946	-54	-0.0000076
100 %		- 20	707,499,896	-104	-0.0000147
100 %		- 10	707,500,088	88	0.0000124
100 %		0	707,500,128	128	0.0000181
100 %		+ 10	707,500,147	147	0.0000208
100 %		+ 20	707,499,896	-104	-0.0000147
100 %		+ 30	707,499,930	-70	-0.0000099
100 %		+ 40	707,499,883	-117	-0.0000165
100 %		+ 50	707,499,922	-78	-0.0000110
BATT. ENDPOINT	3.40	+ 20	707,499,917	-83	-0.0000117

 Table 7-24. Frequency Stability Data (Band 12)

#### Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager	
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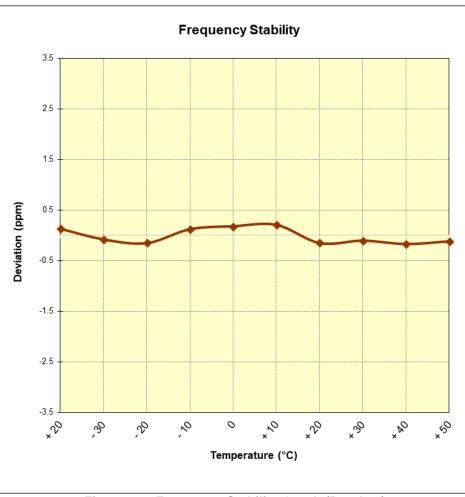


Figure 7-8. Frequency Stability Graph (Band 12)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
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### **Band 13 Frequency Stability Measurements**

OPERATING FREQUENCY:	782,000,000	Hz
CHANNEL:	23230	_
REFERENCE VOLTAGE:	3.80	VDC

VOLTAGE (%)	POWER (VDC)	<b>TEMP</b> (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	+ 20 (Ref)	781,999,852	-148	-0.0000189
100 %		- 30	781,999,957	-43	-0.0000055
100 %		- 20	781,999,934	-66	-0.000084
100 %		- 10	782,000,011	11	0.0000014
100 %		0	781,999,896	-104	-0.0000133
100 %		+ 10	782,000,023	23	0.0000029
100 %		+ 20	781,999,949	-51	-0.0000065
100 %		+ 30	782,000,140	140	0.0000179
100 %		+ 40	781,999,898	-102	-0.0000130
100 %		+ 50	781,999,877	-123	-0.0000157
BATT. ENDPOINT	3.40	+ 20	782,000,126	126	0.0000161

 Table 7-25. Frequency Stability Data (Band 13)

#### Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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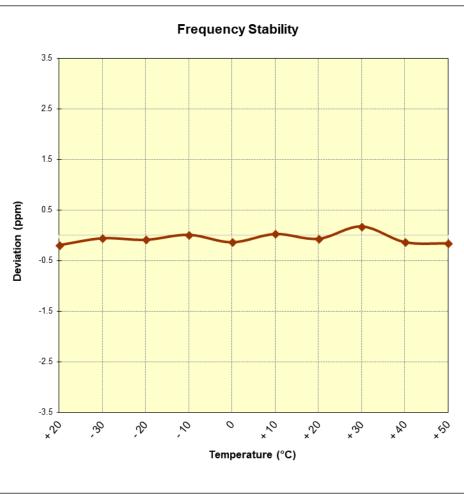


Figure 7-9. Frequency Stability Graph (Band 13)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
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## **Band 5 Frequency Stability Measurements**

 OPERATING FREQUENCY:
 836,500,000
 Hz

 CHANNEL:
 20525

 REFERENCE VOLTAGE:
 3.80
 VDC

 DEVIATION LIMIT:
 ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	<b>ТЕМР</b> ( [°] С)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	+ 20 (Ref)	836,499,961	-39	-0.0000047
100 %		- 30	836,500,133	133	0.0000159
100 %		- 20	836,500,150	150	0.0000179
100 %		- 10	836,500,022	22	0.0000026
100 %		0	836,500,028	28	0.0000033
100 %		+ 10	836,500,117	117	0.0000140
100 %		+ 20	836,499,864	-136	-0.0000163
100 %		+ 30	836,500,113	113	0.0000135
100 %		+ 40	836,499,904	-96	-0.0000115
100 %		+ 50	836,499,994	-6	-0.0000007
BATT. ENDPOINT	3.40	+ 20	836,500,068	68	0.0000081

Table 7-26. Frequency Stability Data (Band 5)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
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# **Band 5 Frequency Stability Measurements**

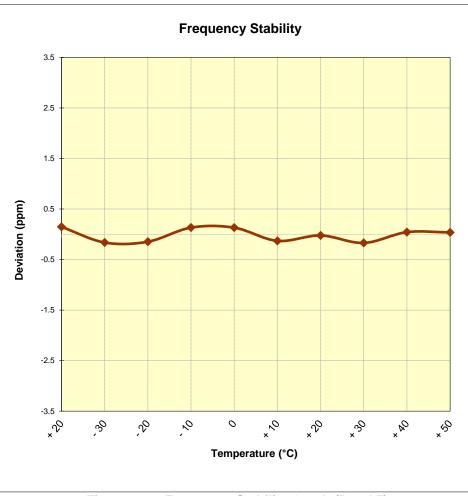


Figure 7-10. Frequency Stability Graph (Band 5)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
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### **Band 66/4 Frequency Stability Measurements**

OPERATING FREQUENCY:	1,732,500,000	Hz
CHANNEL:	20175	_
REFERENCE VOLTAGE:	3.80	VDC

VOLTAGE (%)	POWER (VDC)	<b>TEMP</b> (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	+ 20 (Ref)	1,732,500,023	23	0.0000013
100 %		- 30	1,732,500,059	59	0.0000034
100 %		- 20	1,732,500,014	14	0.000008
100 %		- 10	1,732,500,130	130	0.0000075
100 %		0	1,732,499,855	-145	-0.0000084
100 %		+ 10	1,732,499,858	-142	-0.0000082
100 %		+ 20	1,732,500,107	107	0.0000062
100 %		+ 30	1,732,500,041	41	0.0000024
100 %		+ 40	1,732,500,060	60	0.0000035
100 %		+ 50	1,732,499,920	-80	-0.0000046
BATT. ENDPOINT	3.40	+ 20	1,732,499,981	-19	-0.0000011

Table 7-27. Frequency Stability Data (Band 66/4)

### Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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# **Band 66/4 Frequency Stability Measurements**

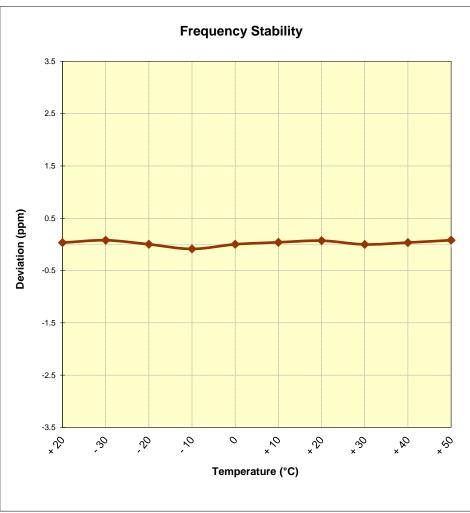


Figure 7-11. Frequency Stability Graph (Band 66/4)

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## **Band 2 Frequency Stability Measurements**

 OPERATING FREQUENCY:
 1,880,000,000
 Hz

 CHANNEL:
 18900

 REFERENCE VOLTAGE:
 3.80
 VDC

 DEVIATION LIMIT:
 ± 0.00025 % or 2.5 ppm
 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	+ 20 (Ref)	1,880,000,061	61	0.0000032
100 %		- 30	1,880,000,080	80	0.0000043
100 %		- 20	1,880,000,064	64	0.0000034
100 %		- 10	1,880,000,044	44	0.0000023
100 %		0	1,880,000,133	133	0.0000071
100 %		+ 10	1,880,000,083	83	0.0000044
100 %		+ 20	1,879,999,920	-80	-0.0000043
100 %		+ 30	1,879,999,867	-133	-0.0000071
100 %		+ 40	1,880,000,048	48	0.0000026
100 %		+ 50	1,879,999,945	-55	-0.0000029
BATT. ENDPOINT	3.40	+ 20	1,880,000,021	21	0.0000011

Table 7-28. Frequency Stability Data (Band 2)

FCC ID: ACJFZN1D		MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Approved by: Quality Manager
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## **Band 2 Frequency Stability Measurements**

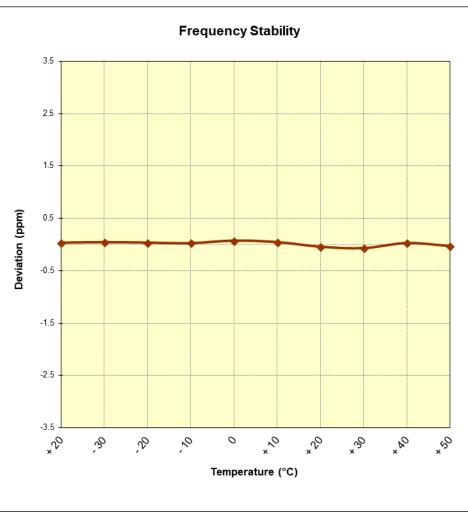


Figure 7-12. Frequency Stability Graph (Band 2)

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### 8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Panasonic Portable Handset FCC ID: ACJFZN1D** complies with all the requirements of Part 22, 24, & 27 of the FCC Rules and RSS-130, RSS-132, RSS-133, RSS-139 of the Innovation, Science and Economic Development Canada rules for LTE operation only.

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