

🤤 Keysight Spectrum Analyzer - Swept SA					
R F 50 Ω DC	CORREC	SENSE:INT	ALIGN AUTO	06:48:33 PM Jul 19, 2016 TRACE 1 2 3 4 5 6	Frequency
	PNO: Wide ↔ Trig: IFGain:Low Atte	: Free Run en: 40 dB	Avg Hold: 100/100		
10 dB/div Ref 30.00 dBm			Mkr	1 1.710 000 GHz -34.385 dBm	Auto Tune
20.0					Center Freq 1.710000000 GHz
0.00			where a start and the start of	wash why when	Start Freq 1.706000000 GHz
-10.0				-13.00 dĐn	Stop Freq 1.714000000 GHz
-30.0	La grand and a grand and a grand and a grand a	1. ANY			CF Step 800.000 kHz <u>Auto</u> Man
-50.0					Freq Offset 0 Hz
-60.0					Scale Type
Center 1.710000 GHz #Res BW 51 kHz	#VBW 160	kH7*	Sween	Span 8.000 MHz 4.000 ms (1001 nts)	Log <u>Lin</u>
MSG	<i>"</i>		STAT	us	

Plot 7-101. Lower Band Edge Plot (Band 4 – 10.0MHz QPSK – RB Size 50)

🔤 Keysig	ht Spectrum Anal	yzer - Swept S	A									- • • ×
L <mark>XI</mark>	RF	50 Ω D	C CORR	EC	SEN	SE:INT		ALIGN AUTO	06:49:09 PI	M Jul 19, 2016	F	requency
			PNO	D:Wide ↔	Trig: Free Atten: 40	Run dB	Avg Hold	: 100/100	TYF			
								Mkr	1 1.708 9	80 GHz		Auto Tune
10 dB/d	iv Ref 3	0.00 dBi	m						-24.3	88 dBm		
20.0						·					1.70	Center Freq 07000000 GHz
10.0												
0.00											1.70	Start Freq 5000000 GHz
-10.0										-13.00 dBm	4.70	Stop Freq
-20.0										1 <mark>)</mark>	1.70	9000000 GHZ
-30.0	440.00-1-00-1 -00-10-10-10-10-10-10-10-10-10-10-10-10-	Magilingue Mandanaeth	⋪⋳ ⋹⋛⋲ ⋸⋍⋎∕⋑∊⋑⋶∊⋺⋍	and a state of the	ىرىيىيى «ئەرىۋە» مەرىرىي	an a	a geographica and a second	**************************************	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	and and an and an and an and an and an	Auto	CF Step 400.000 kHz Man
-40.0												
-50.0												Freq Offset 0 Hz
-60.0												
											1.00	Scale Type
Center #Res E	r 1.707000 3W 1.0 MH	GHz z		#VBV	V 3.0 MHz*			Sweep	Span 4 2.000 ms (.000 MHz 1001 pts)	LUg	Lin
MSG								STAT	JS			

Plot 7-102. Lower Extended Band Edge Plot (Band 4 – 10.0MHz QPSK – RB Size 50)

FCC ID: ZNFW280		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed by: Quality Manager
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🔤 Keysight Spectrum Analyzer - Swept SA									
LXI RF 50 Ω DC	CORREC	SEN	ISE:INT		ALIGN AUTO	06:49:56 PI	4 Jul 19, 2016	F	requency
	PNO: Wide ++++ IFGain:Low	Trig: Free Atten: 40	Run dB	Avg Hold:	100/100	TYF DE			Auto Tuno
10 dB/div Ref 30.00 dBm					Mkr	1 1.755 0 -31.3	00 GHz 32 dBm		Auto Tune
20.0								(1.75	Center Freq 5000000 GHz
0.00	per generative the second second	~						1.75	Start Freq 1000000 GHz
-10.0							-13.00 dBm	1.75	Stop Freq 9000000 GHz
-30.0		N. W.	1 Welleryhumen	and the approximation of the second	f ylangenydd	- Adage of the state of the sta	Clark & Clark	<u>Auto</u>	CF Step 800.000 kHz Man
-50.0									Freq Offset 0 Hz
-60.0									Scale Type
Center 1.755000 GHz #Res BW 100 kHz	#VBW 3	00 kHz*			Sween	Span 8 4.000 ms (.000 MHz 1001 pts)	Log	Lin
MSG	<i>"••••••••••••••••••••••••••••••••••••</i>				STAT	us	ree (pco)		

Plot 7-103. Upper Band Edge Plot (Band 4 – 10.0MHz QPSK – RB Size 50)

🔤 Keysight S	pectrum Analyze	er - Swept SA									
L <mark>XI</mark>	RF	50 Ω DC	CORREC	SEN	ISE:INT		ALIGN AUTO	06:50:27 PI	4 Jul 19, 2016	Fi	requency
			PNO: Wide 🕶	. Trig: Free	Run	Avg Hold	: 100/100	TYF			
	_		IFGain:Low	Atten: 40	dB			DE			Auto Tune
							Mkr1	1.756 0	00 GHZ		Auto Tune
10 dB/div Log	Ref 30.	00 dBm						-25.6			
											Center Frea
20.0										1.75	8000000 GHz
10.0											
										4.75	Start Freq
0.00										1.75	6000000 GHZ
-10.0									-13.00 dBm		Stop Freq
										1.76	0000000 GHz
-20.0											
and a strength											CF Step
-30.0	and the second sec	and the state of t	and the second	and the factor of the second	when the second	hypertheter preserves	we wanter	hours and the second second	nigerand for the second		400.000 kHz
.40.0										Auto	Man
40.0											
-50.0											Freq Offset
											0 Hz
-60.0											
											Scale Type
Contor 1	750000 0							Enon 4		Log	Lin
#Res BM	/ 58000 G	ΠZ	#VBM	3.0 MHz	:		Sweep_2	span 4 2.000 ms.(1001 MHZ	9	
MSG				one miniz			STATUS		ree i proj		
							0				

Plot 7-104. Upper Extended Band Edge Plot (Band 4 – 10.0MHz QPSK – RB Size 50)

FCC ID: ZNFW280		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed by: Quality Manager
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🔤 Key	/sight Spec	trum Analyzer	- Swept SA									
L,XI		RF :	50 Ω DC	CORREC	SE	NSE:INT		ALIGN AUTO	06:54:24 P	M Jul 19, 2016	F	requency
				PNO: Wide ↔ IFGain:Low	Trig: Free Atten: 40	e Run) dB	Avg Hold	: 100/100	TYI			
10 dE	3/div	Ref 30.0	0 dBm					Mkr	1 1.710 (-32.4	00 GHz 76 dBm		Auto Tune
20.0											1.71	Center Freq 0000000 GHz
10.0 0.00						~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Mun	www.	1.70	Start Freq 04000000 GHz
-10.0 -20.0										-13.00 dBm	1.71	Stop Freq 6000000 GHz
-30.0	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~		www.www.	www	1,1					Auto	CF Step 1.200000 MHz Man
-50.0												Freq Offset 0 Hz
-60.0												Scale Type
Cent	ter 1.7	10000 G	Hz	#\/B\	540 LU-	*		Swoon	Span 1	2.00 MHz	Log	Lin
#Res	5 DW	50 KHZ		#VBV	V STU KHZ			Sweep	1.000 ms (TOUT pts)		
MSG								STAT	05			

Plot 7-105. Lower Band Edge Plot (Band 4 – 15.0MHz QPSK – RB Size 75)

🔤 Keysight:	Spectrum Analyze	r - Swept SA									
L <mark>XI</mark>	RF	50 Ω DC	CORREC	SEN	SE:INT		ALIGN AUTO	06:54:57 PI	1 Jul 19, 2016	F	requency
			PNO: Wide ↔ IFGain:Low	Trig: Free Atten: 40	Run dB	Avg Hold	: 100/100	TYF	A WWWWW A NNNNN		
10 dB/div	Ref 30.	00 dBm					Mkr1	1.708 9 -26.7	84 GHz 86 dBm		Auto Tune
20.0										1.70	Center Freq 07000000 GHz
10.0 0.00										1.70	Start Freq 5000000 GHz
-10.0									-13.00 dBm	1.70	Stop Freq 19000000 GHz
-30.0		alar ang	nga malan sa fasatan ka sa	الى مى الماد المراجع والم	ing-weit-angle Darting Stark		and the product of the			<u>Auto</u>	CF Step 400.000 kHz Man
-50.0											Freq Offset 0 Hz
-60.0										Log	Scale Type
Center ' #Res Bl	I.707000 G V 1.0 M <u>Hz</u>	Hz	#VBW	3.0 MHz*			Sweep 2	59 Span 2.000 m <u>s (</u>	.000 MHz 1001 pt <u>s)</u>	Log	
MSG							STATU	3			

Plot 7-106. Lower Extended Band Edge Plot (Band 4 – 15.0MHz QPSK – RB Size 75)

FCC ID: ZNFW280		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed by: Quality Manager			
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🔤 Keysight	Spectrum	Analyzer - S	wept SA								_	
L <mark>XI</mark>	R	F 50	ΩDC	CORREC	SEN	ISE:INT		ALIGN AUTO	06:53:13 PI TRAC	MJul 19, 2016	F	requency
				PNO: Wide ↔ IFGain:Low	Trig: Free Atten: 40	e Run) dB	Avg Hold	: 100/100	TYF De			Auto Tuno
10 dB/div	Re	f 30.00	dBm					Mkr	1 1.755 0 -33.9	00 GHz 48 dBm		Auto Tune
20.0											1.75	Center Freq 5000000 GHz
10.0												Start Fred
0.00	~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	mun	· · · · · · · · · · · · · · · · · · ·	my l						1.74	9000000 GHz
-10.0										-13.00 dBm	1.76	Stop Freq 1000000 GHz
-20.0						1						CF Step
-40.0					wy	mm	him	$\sim \sim \sim \sim$	mm	·/····	<u>Auto</u>	1.200000 MHz Man
-50.0												Freq Offset 0 Hz
-60.0												
												Scale Type
Center	1.755	000 GHz	2					-	Span 1	2.00 MHz	Log	<u>Lin</u>
#Res B	W 150	kHz		#VB۱	N 510 kHz	*		Sweep	1.000 ms (1001 pts)		
MSG								STAT	rus			

Plot 7-107. Upper Band Edge Plot (Band 4 – 15.0MHz QPSK – RB Size 75)



Plot 7-108. Upper Extended Band Edge Plot (Band 4 – 15.0MHz QPSK – RB Size 75)

FCC ID: ZNFW280		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed by: Quality Manager			
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🔤 Keysight S	pectrum Analyzer - S	Swept SA										
LXI	RF 50	Ω DC	CORREC	SEN	SE:INT			ALIGN AUTO	06:56:03 P	M Jul 19, 2016	F	requency
	_		PNO: Wide ↔ IFGain:Low	Trig: Free Atten: 40	e Run) dB		Avg Hold:	100/100	TYI Di			
10 dB/div	Ref 30.00	dBm						Mkr	1 1.709 8 -34.6	88 GHz 22 dBm		Auto Tune
20.0											1.7	Center Freq 10000000 GHz
0.00							~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	mum	umm	mmm	1.7	Start Freq 02000000 GHz
-10.0						}				-13.00 dBm	1.7	Stop Freq 18000000 GHz
-30.0	mana	m	mphanton	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	1 <i>M</i>						<u>Auto</u>	CF Step 1.600000 MHz Man
-50.0												Freq Offset 0 Hz
-60.0												Scale Type
Center 1	.710000 GH	Z	#\/B\M	620 kH=	*			Swoop	Span 1	6.00 MHz	Log	Lin
MEG	200 KH2		#VBV	020 KH2				oweep		1001 pts)		
Mod								STAT	03			

Plot 7-109. Lower Band Edge Plot (Band 4 – 20.0MHz QPSK – RB Size 100)



Plot 7-110. Lower Extended Band Edge Plot (Band 4 – 20.0MHz QPSK – RB Size 100)

FCC ID: ZNFW280		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed by: Quality Manager
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🔤 Keys	ight Spec	trum An	alyzer - Sw	ept SA											
L <mark>XI</mark>		RF	50 Ω	DC	CORREC		SE	NSE:INT	Ava	ALIGN	AUTO	06:57:18 F	M Jul 19, 2016	F	requency
					PNO: W IFGain:L	ide ↔ .ow	Trig: Fre Atten: 4	e Run 0 dB	Avgil	Hold: 100/	100	TΥ			Auda Tuna
10 dBa	/div	Ref	30.00	dBm						N	Mkr1	1.755 (-31.5	000 GHz 55 dBm		Auto Tune
20.0 -								• 						1.75	Center Freq 55000000 GHz
10.0 0.00	~~~~~	- Andrew	v~~~~~	1 mmmm	www	m~w/m	~~~							1.74	Start Freq 47000000 GHz
-10.0 -20.0													-13.00 dBm	1.76	Stop Freq 53000000 GHz
-30.0 -							have a	1	~~~~~~	www.v	Vunn		mm	<u>Auto</u>	CF Step 1.600000 MHz Man
-50.0 -															Freq Offset 0 Hz
-60.0															Scale Type
Cente #Pee	er 1.7	5500	0 GHz			#\/R\/	620 kHz	*		Swa	en 1	Span 1	6.00 MHz	Log	Lin
MSG		-00-1	112		·		- 020 KH2			Swe	STATU	s	(noor pis)		
MSG											STATU	S			

Plot 7-111. Upper Band Edge Plot (Band 4 – 20.0MHz QPSK – RB Size 100)



Plot 7-112. Upper Extended Band Edge Plot (Band 4 – 20.0MHz QPSK – RB Size 100)

FCC ID: ZNFW280		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed by: Quality Manager
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Plot 7-113. Lower Band Edge Plot (Band 2 – 1.4MHz QPSK – RB Size 6)



Plot 7-114. Lower Extended Band Edge Plot (Band 2 – 1.4MHz QPSK – RB Size 6)

FCC ID: ZNFW280		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed by: Quality Manager
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Plot 7-115. Upper Band Edge Plot (Band 2 – 1.4MHz QPSK – RB Size 6)



Plot 7-116. Upper Extended Band Edge Plot (Band 2 – 1.4MHz QPSK – RB Size 6)

FCC ID: ZNFW280		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed by: Quality Manager
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Keysight Spectrum Analyzer - Swept SA									
LXI RF 50 Ω DC	CORREC	SENS	E:INT	Avg Type	ALIGN AUTO	04:46:18 PI TRAC	MJul 19, 2016	F	requency
	PNO: Wide ↔ IFGain:Low	Trig: Free F Atten: 40 c	Run IB	Avg Hold:	100/100	TYF De			A
10 dB/div Ref 30.00 dBm					Mkr1	1.850 0 -28.0	00 GHz 50 dBm		Auto Tune
20.0								(1.85	Center Freq 0000000 GHz
0.00			\bigcap	~~~~~	~~~~~	~~~~	~~~~~	1.84	Start Freq 8000000 GHz
-20.0			1				-13.00 dBm	1.85	Stop Freq 2000000 GHz
-30.0	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~						<u>Auto</u>	CF Step 400.000 kHz Man
-50.0									Freq Offset 0 Hz
-60.0									Scale Type
Center 1.850000 GHz #Res BW 30 kHz	#VBW Q	91 kHz*		_	Sween_2	Span 4	.000 MHz 1001 pts)	Log	Lin
MSG					STATUS				

Plot 7-117. Lower Band Edge Plot (Band 2 – 3.0MHz QPSK – RB Size 15)



Plot 7-118. Lower Extended Band Edge Plot (Band 2 – 3.0MHz QPSK – RB Size 15)

FCC ID: ZNFW280		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed by: Quality Manager
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Keysight S	pectrum Analyzer - S	wept SA		_		_					
LXI	RF 50	Ω DC	CORREC	SEN	NSE:INT		ALIGN AUTO	04:44:41 PI	MJul 19, 2016	F	requency
			PNO: Wide ↔	Trig: Free	Run	Avg Hold	100/100	TYF			
			IFGain:Low	Atten: 40	ав		Mice	4 4 040 0			Auto Tune
10 dB/div	Ref 30.00	dBm					IVIKI	-29.1	28 dBm		
											Center Freg
20.0										1.91	0000000 GHz
10.0											Start Fred
· · · · ·	mm	~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	\sim						1.90	8000000 GHz
0.00											
-10.0									42.00 dBr		Stop Frog
									-13.00 dBm	1.91	2000000 GHz
-20.0											
				<u>ک</u>							CF Step
-30.0											400.000 kHz
-40.0							~~~		m	<u>Auto</u>	Man
-50.0											
											0112
-60.0											
											Scale Type
Center 1	.910000 GHz	Z						Span 4	.000 MHz	Log	Lin
#Res BW	30 kHz		#VBW	91 kHz*			sweep	2.000 ms (1001 pts)		
MSG							STAT	US			

Plot 7-119. Upper Band Edge Plot (Band 2 – 3.0MHz QPSK – RB Size 15)



Plot 7-120. Upper Extended Band Edge Plot (Band 2 – 3.0MHz QPSK – RB Size 15)

FCC ID: ZNFW280		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed by: Quality Manager
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Plot 7-121. Lower Band Edge Plot (Band 2 – 5.0MHz QPSK – RB Size 25)



Plot 7-122. Lower Extended Band Edge Plot (Band 2 – 5.0MHz QPSK – RB Size 25)

FCC ID: ZNFW280		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed by: Quality Manager
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Keysight Spectrum Analyzer - Swept SA					
LX RF 50 Ω DC	CORREC SE	Avg Type	ALIGN AUTO 04:49:37	PM Jul 19, 2016 ACE 1 2 3 4 5 6	Frequency
	PNO: Wide +++ Trig: Fre IFGain:Low Atten: 4	eRun Avg Hold: 0 dB	: 100/100 T		
10 dB/div Ref 30.00 dBm			Mkr1 1.910 -27.4	000 GHz 420 dBm	Auto Tune
20.0					Center Freq 1.910000000 GHz
0.00	m				Start Freq 1.908000000 GHz
-10.0		1		-13.00 dBm	Stop Freq 1.912000000 GHz
-30.0		h	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	······	CF Step 400.000 kHz <u>Auto</u> Man
-50.0					Freq Offset 0 Hz
-60.0					Scale Type
Center 1.910000 GHz #Res BW 51 kHz	#VBW 160 kHz	*	Span - Sweep 2.000 ms	4.000 MHz (1001 pts)	
MSG			STATUS		

Plot 7-123. Upper Band Edge Plot (Band 2 – 5.0MHz QPSK – RB Size 25)



Plot 7-124. Upper Extended Band Edge Plot (Band 2 – 5.0MHz QPSK – RB Size 25)

FCC ID: ZNFW280		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed by: Quality Manager
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🔤 Keysight Spe	ectrum Analyzer - S	wept SA										
L <mark>XI</mark>	RF 50 9	Ω DC O	DRREC	SEN	ISE:INT		Ava Type	ALIGN AUTO	04:51:26 PI	M Jul 19, 2016	F	requency
		1	PNO: Wide ↔ FGain:Low	. Trig: Free Atten: 40	e Run dB		Avg Hold:	100/100	TYF De	A NNNN		
10 dB/div	Ref 30.00	dBm						Mkr	1 1.850 0	00 GHz 52 dBm		Auto Func
20.0				Ì							1.05	Center Freq
20.0											1.85	0000000 GHZ
10.0										an bound the		Start Freq
0.00						www	and a second	and a share			1.84	6000000 GHZ
-10.0										-13.00 dBm		Stop Freq
-20.0											1.85	4000000 GHz
-30.0					1,1							CF Step 800.000 kHz
-40.0	and the state	an and the second second	your for the	Not when a start							<u>Auto</u>	Man
-50.0												Freq Offset
												0 Hz
-60.0												Scale Type
Center 1.8	350000 GHz	2							Span 8	.000 MHz	Log	Lin
#Res BW	100 kHz		#VBW	300 kHz	\$			Sweep	4.000 ms (1001 pts)		
MSG								STAT	US			

Plot 7-125. Lower Band Edge Plot (Band 2 – 10.0MHz QPSK – RB Size 50)



Plot 7-126. Lower Extended Band Edge Plot (Band 2 – 10.0MHz QPSK – RB Size 50)

FCC ID: ZNFW280		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed by: Quality Manager
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LXI		RF	50 Ω	DC	CORREC		SEN	ISE:INT	Ava	ALIG	N AUTO	04:53:09 F	M Jul 19, 2016	F	requency
					PNO: Wi IFGain:L	de ⊶⊷ ow	Trig: Free Atten: 40	e Run) dB	Avgil	Hold: 100	/100	TY			
10 dE	3/div	Ref	30.00	dBm							Mkr	1 1.910 (-30.9	000 GHz 17 dBm		Auto Tune
20.0														1.9 [,]	Center Freq 10000000 GHz
10.0 0.00	ya dana da	m	ol y a formation		-Martina	₩	~							1.90	Start Freq 06000000 GHz
-10.0 -20.0													-13.00 dBm	1.9 [.]	Stop Freq 14000000 GHz
-30.0							M _{MM}	1 ^{Whathhada}	mantenue	Manualina	querter	~~	h-Malandana jahata	<u>Auto</u>	CF Step 800.000 kHz Man
-50.0															Freq Offset 0 Hz
-60.0															Scale Type
Cent #Dec	ter 1.9	1000	0 GHz		+		200 64-	ŧ.		C 117		Span 8	3.000 MHz	Log	Lin
MSG	5 - 114	TOUR	112		#		300 KHZ			SW	STAT	4.000 mis	(1001 pts)		
MoG											STAR	03			

Plot 7-127. Upper Band Edge Plot (Band 2 – 10.0MHz QPSK – RB Size 50)



Plot 7-128. Upper Extended Band Edge Plot (Band 2 – 10.0MHz QPSK – RB Size 50)

FCC ID: ZNFW280		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed by: Quality Manager
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🔤 Key	sight Spec	trum Analyze	er - Swept SA											
L <mark>XI</mark>		RF	50 Ω DC	CORR	EC	SEI	SE:INT			ALIGN AUTO	04:55:06 P	M Jul 19, 2016	F	requency
				PNC IFGa):Wide ↔ ain:Low	Trig: Free Atten: 40	e Run) dB		Avg Hold:	100/100	TY			
10 dE	3/div	Ref 30.	00 dBm							Mkr	1 1.850 (-32.8	000 GHz 60 dBm		Auto Tune
20.0													1.8	Center Freq 50000000 GHz
10.0 0.00								m		~~~~	·······································	······································	1.84	Start Freq 44000000 GHz
-10.0												-13.00 dBm	1.8	Stop Freq 56000000 GHz
-30.0				-males a	1 million	m	<u></u>] /						<u>Auto</u>	CF Step 1.200000 MHz Man
-50.0	-low-w													Freq Offset 0 Hz
-60.0														Scale Type
Cent #Pee	ter 1.8	50000 G	Hz		#\/R\A	510 kHz	ĸ			Sween	Span 1	2.00 MHz	Log	Lin
MSG		50 KHZ			#VDV					SWEEP		(100 Ppts)		
mod										3141				

Plot 7-129. Lower Band Edge Plot (Band 2 – 15.0MHz QPSK – RB Size 75)



Plot 7-130. Lower Extended Band Edge Plot (Band 2 – 15.0MHz QPSK – RB Size 75)

FCC ID: ZNFW280		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed by: Quality Manager
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🔤 Keysi	ght Spec	trum Ar	alyzer - Sv	vept SA		Seysight Spectrum Analyzer - Swept SA											
L <mark>XI</mark>		RF	50 \$	2 DC	CORREC		SEN	NSE:INT	Ave	Type	ALIGN AUTO	04:56:	84 PM Jul 19, 2016		Frequency		
					PNO: W	ide 🛶	Trig: Free	Run	Avg	Hold	100/100						
					IFGain:L	.0W	Atten: 40	uВ			Miles	4 4 040			Auto Tune		
10 dB/e	div	Ref	30.00	dBm							WIKI	-28	.730 dBm				
								Í							Center Freq		
20.0														1.9	10000000 GHz		
10.0															Start Freq		
0.00	ww	~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	www	$\sim\sim\sim$	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~							1.9	04000000 GHz		
-10.0													-13.00 dBn		Stop Freq		
														1.9	16000000 GHz		
-20.0							k.	1									
-30.0							"hy	him							CF Step		
								~			m	mm	man	Auto	1.200000 MHz Man		
-40.0																	
															Freq Offset		
-50.0															0 Hz		
-60.0																	
															Scale Type		
Cente	r 1 9	1000	0 GHz									Sna	n 12 00 MHz	Log	Lin		
#Res	BW	150 k	Hz		\$	¢VB₩	510 kHz	ĸ		-	Sweep	1.000 m	s (1001 pts				
MSG											STAT	rus					

Plot 7-131. Upper Band Edge Plot (Band 2 – 15.0MHz QPSK – RB Size 75)



Plot 7-132. Upper Extended Band Edge Plot (Band 2 – 15.0MHz QPSK – RB Size 75)

FCC ID: ZNFW280		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed by: Quality Manager
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🧫 Keysight Spectrum Analyzer - Swept SA							
LX RF 50 Ω DC	CORREC	SENSE:I	NT Ava	ALIGN AUTO	04:58:39 PM TRAC	1 Jul 19, 2016	Frequency
	PNO: Wide ↔ IFGain:Low	Trig: Free Ru Atten: 40 dB	n Avg ⊦	lold: 100/100	TYP DE		
10 dB/div Ref 30.00 dBm				Mkr	1 1.850 0 -33.6	00 GHz 67 dBm	Auto Tune
20.0							Center Freq 1.85000000 GHz
0.00				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Man Magan ma	und anna ann	Start Freq 1.842000000 GHz
-20.0						-13.00 dBm	Stop Freq 1.858000000 GHz
-30.0	mound	man and the second	<u>/</u>				CF Step 1.600000 MHz <u>Auto</u> Man
-50.0							Freq Offset 0 Hz
-60.0							Scale Type
Center 1.850000 GHz #Res BW 200 kHz	#\/B\\(620 kHz*		Sween	Span 1 1 000 ms (6.00 MHz	Log <u>Lin</u>
MSG	# V (3) V V	020 1112		STATI	JS	roor pts)	

Plot 7-133. Lower Band Edge Plot (Band 2 – 20.0MHz QPSK – RB Size 100)



Plot 7-134. Lower Extended Band Edge Plot (Band 2 – 20.0MHz QPSK – RB Size 100)

FCC ID: ZNFW280		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed by: Quality Manager
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🔤 Kej	ysight Spe	ctrum Anal	yzer - Swe	ept SA										
L)XI		RF	50 Ω	DC	CORREC		SEN	ISE:INT	AvaT	ALIGN AUT	0 05:00:2	2 PM Jul 19, 2016	F	requency
					PNO: Wid IFGain:Lo	le ⊶⊷ w	Trig: Free Atten: 40	Run dB	Avg He	old: 100/100				
10 dE Loa	3/div	Ref 3	0.00 c	IBm						Mk	r1 1.910 -34	000 GHz 337 dBm		Auto Tune
20.0													1.9 [.]	Center Freq 10000000 GHz
10.0 0.00	en de la constante	~~~~~	Constrained	~~~~~	M-M-MM	www	~						1.90	Start Freq 02000000 GHz
-10.0 -20.0												-13.00 dBm	1.9 [.]	Stop Freq 18000000 GHz
-30.0							Mun (1 ^v~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	mmer and	www.	man	<u>Auto</u>	CF Step 1.600000 MHz Man
-50.0														Freq Offset 0 Hz
-60.0														Scale Type
Cent #Pos	ter 1.9	10000	GHz		#	RM	620 kHz			Sween	Span	16.00 MHz	Log	Lin
MSG	5-1044	200 M	2		#		020 MHZ			SINCE	TUS	s (1001 pts)		
Mod										514				

Plot 7-135. Upper Band Edge Plot (Band 2 – 20.0MHz QPSK – RB Size 100)



Plot 7-136. Upper Extended Band Edge Plot (Band 2 – 20.0MHz QPSK – RB Size 100)

FCC ID: ZNFW280		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed by: Quality Manager
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7.5 Peak-Average Ratio §24.232(d)

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 v02r02 - 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.

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Plot 7-138. PAR Plot (Band 2 – 1.4MHz 16-QAM – RB Size 6)

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Plot 7-140. PAR Plot (Band 2 – 3.0MHz 16-QAM – RB Size 15)

FCC ID: ZNFW280	PCTEST	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed by: Quality Manager
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Plot 7-142. PAR Plot (Band 2 - 5.0MHz 16-QAM - RB Size 25)

FCC ID: ZNFW280		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed by: Quality Manager
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Plot 7-144. PAR Plot (Band 2 - 10.0MHz 16-QAM - RB Size 50)

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Plot 7-146. PAR Plot (Band 2 - 15.0MHz 16-QAM - RB Size 75)

FCC ID: ZNFW280		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed by: Quality Manager
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Plot 7-148. PAR Plot (Band 2 – 20.0MHz 16-QAM – RB Size 100)

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7.6 Radiated Power (ERP/EIRP) §22.913(a.2) §24.232(c.2) §27.50(b.10) §27.50(d.4)

Test Overview

Effective Radiated Power (ERP) and Equivalent Isotropic Radiated Power (EIRP) measurements are performed using the substitution method described in ANSI/TIA-603-D-2010 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. 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 v02r02 - Section 5.2.1

ANSI/TIA-603-D-2010 - 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 > 2 x span / 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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Test Setup

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



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.

FCC ID: ZNFW280	PCTEST	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed 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 [dBd]	ERP [dBm]	ERP Limit [dBm]	Margin [dB]
779.50	5	QPSK	Н	213	10	1 / 0	9.49	4.19	13.68	34.77	-21.09
782.00	5	QPSK	н	209	1	1 / 24	9.86	4.25	14.11	34.77	-20.66
784.50	5	QPSK	н	215	8	1 / 0	9.84	4.32	14.16	34.77	-20.61
779.50	5	16QAM	н	213	10	1 / 0	8.71	4.19	12.90	34.77	-21.87
782.00	5	16QAM	н	209	1	1 / 24	9.11	4.25	13.36	34.77	-21.41
784.50	5	16QAM	Н	215	8	1 / 0	9.05	4.32	13.37	34.77	-21.40
782.00	10	QPSK	Н	198	21	1 / 0	10.10	4.25	14.35	34.77	-20.42
782.00	10	16QAM	Н	198	21	1 / 0	9.48	4.25	13.73	34.77	-21.04
782.00	10	QPSK	V	115	121	1 / 0	9.65	4.25	13.90	34.77	-20.87

Table 7-2. ERP Data (Band 13)

FCC ID: ZNFW280		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed 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 [dBd]	ERP [dBm]	ERP Limit [dBm]	Margin [dB]
824.70	1.4	QPSK	н	142	195	3 / 2	10.55	5.01	15.56	38.45	-22.89
836.50	1.4	QPSK	н	135	201	3 / 2	10.29	5.16	15.45	38.45	-23.00
848.30	1.4	QPSK	н	146	181	3 / 2	10.23	5.30	15.53	38.45	-22.92
824.70	1.4	16-QAM	н	142	195	3 / 2	9.78	5.01	14.79	38.45	-23.66
836.50	1.4	16-QAM	Н	135	201	3 / 2	9.44	5.16	14.60	38.45	-23.85
848.30	1.4	16-QAM	Н	146	181	3 / 2	9.32	5.30	14.62	38.45	-23.83
825.50	3	QPSK	н	140	206	1 / 14	10.99	5.02	16.01	38.45	-22.44
836.50	3	QPSK	Н	146	197	1 / 0	10.58	5.16	15.74	38.45	-22.71
847.50	3	QPSK	н	152	211	1 / 0	10.68	5.29	15.97	38.45	-22.48
825.50	3	16-QAM	н	140	206	1 / 14	10.13	5.02	15.15	38.45	-23.30
836.50	3	16-QAM	н	146	197	1 / 0	9.68	5.16	14.84	38.45	-23.61
847.50	3	16-QAM	Н	152	211	1 / 0	9.64	5.29	14.93	38.45	-23.52
826.50	5	QPSK	Н	150	189	1 / 0	10.93	5.03	15.96	38.45	-22.49
836.50	5	QPSK	н	139	163	1 / 0	10.64	5.16	15.80	38.45	-22.65
846.50	5	QPSK	н	167	194	1 / 0	10.56	5.28	15.84	38.45	-22.61
826.50	5	16-QAM	Н	150	189	1 / 0	10.15	5.03	15.18	38.45	-23.27
836.50	5	16-QAM	Н	139	163	1 / 0	9.88	5.16	15.04	38.45	-23.41
846.50	5	16-QAM	н	167	194	1 / 0	9.68	5.28	14.96	38.45	-23.49
829.00	10	QPSK	Н	149	188	1 / 0	10.63	5.06	15.69	38.45	-22.76
836.50	10	QPSK	Н	144	206	1 / 0	10.32	5.16	15.48	38.45	-22.97
844.00	10	QPSK	Н	155	200	1 / 0	10.36	5.25	15.61	38.45	-22.84
829.00	10	16-QAM	Н	149	188	1/0	9.87	5.06	14.93	38.45	-23.52
836.50	10	16-QAM	Н	144	206	1/0	9.52	5.16	14.68	38.45	-23.77
844.00	10	16-QAM	Н	155	200	1/0	9.49	5.25	14.74	38.45	-23.71
825.50	3	QPSK	V	227	137	1 / 0	9.71	5.02	14.73	38.45	-23.72

Table 7-3. ERP Data (Band 5)

FCC ID: ZNFW280	PCTEST	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed 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 Limit [dBm]	Margin [dB]
1710.70	1.4	QPSK	Н	206	244	3 / 2	7.06	9.66	16.72	30.00	-13.28
1732.50	1.4	QPSK	н	209	251	3 / 2	7.47	9.61	17.08	30.00	-12.92
1754.30	1.4	QPSK	н	213	241	3 / 2	7.08	9.57	16.65	30.00	-13.35
1710.70	1.4	16-QAM	н	206	244	3 / 2	6.16	9.66	15.82	30.00	-14.18
1732.50	1.4	16-QAM	н	209	251	3 / 2	6.58	9.61	16.19	30.00	-13.81
1754.30	1.4	16-QAM	н	213	241	3 / 2	6.12	9.57	15.69	30.00	-14.31
1711.50	3	QPSK	н	214	236	1 / 14	8.94	9.65	18.59	30.00	-11.41
1732.50	3	QPSK	н	209	245	1 / 0	8.48	9.61	18.09	30.00	-11.91
1753.50	3	QPSK	н	209	242	1 / 14	8.81	9.57	18.38	30.00	-11.62
1711.50	3	16-QAM	н	214	236	1 / 14	8.00	9.65	17.65	30.00	-12.35
1732.50	3	16-QAM	н	209	245	1 / 0	7.59	9.61	17.20	30.00	-12.80
1753.50	3	16-QAM	н	209	242	1 / 14	7.89	9.57	17.46	30.00	-12.54
1712.50	5	QPSK	н	200	261	1 / 24	9.14	9.65	18.79	30.00	-11.21
1732.50	5	QPSK	н	209	244	1/0	8.62	9.61	18.23	30.00	-11.77
1752.50	5	QPSK	н	216	255	1 / 24	9.56	9.57	19.13	30.00	-10.87
1712.50	5	16-QAM	н	200	261	1 / 24	8.13	9.65	17.78	30.00	-12.22
1732.50	5	16-QAM	н	209	244	1/0	7.90	9.61	17.51	30.00	-12.49
1752.50	5	16-QAM	н	216	255	1 / 24	8.82	9.57	18.39	30.00	-11.61
1715.00	10	QPSK	н	199	250	1 / 49	8.57	9.65	18.22	30.00	-11.78
1732.50	10	QPSK	н	210	239	1 / 49	7.79	9.61	17.40	30.00	-12.60
1750.00	10	QPSK	н	216	245	1 / 49	8.46	9.58	18.04	30.00	-11.96
1715.00	10	16-QAM	н	199	250	1 / 49	7.62	9.65	17.27	30.00	-12.73
1732.50	10	16-QAM	н	210	239	1 / 49	6.77	9.61	16.38	30.00	-13.62
1750.00	10	16-QAM	н	216	245	1 / 49	7.59	9.58	17.17	30.00	-12.83
1717.50	15	QPSK	н	222	215	1 / 74	8.26	9.64	17.90	30.00	-12.10
1732.50	15	QPSK	н	207	246	1/0	7.86	9.61	17.47	30.00	-12.53
1747.50	15	QPSK	н	215	264	1 / 74	8.18	9.58	17.76	30.00	-12.24
1717.50	15	16-QAM	н	222	215	1 / 74	7.29	9.64	16.93	30.00	-13.07
1732.50	15	16-QAM	н	207	246	1/0	6.78	9.61	16.39	30.00	-13.61
1747.50	15	16-QAM	н	215	264	1 / 74	7.23	9.58	16.81	30.00	-13.19
1720.00	20	QPSK	н	226	264	1 / 0	8.82	9.64	18.46	30.00	-11.54
1732.50	20	QPSK	н	200	238	1 / 0	8.38	9.61	17.99	30.00	-12.01
1745.00	20	QPSK	н	218	216	1/0	8.52	9.59	18.11	30.00	-11.89
1720.00	20	16-QAM	н	226	264	1/0	7.77	9.64	17.41	30.00	-12.59
1732.50	20	16-QAM	н	200	238	1/0	7.46	9.61	17.07	30.00	-12.93
1745.00	20	16-QAM	н	218	216	1/0	7.40	9.59	16.99	30.00	-13.01
1752.50	5	QPSK	V	143	298	1/0	7.41	9.57	16.98	30.00	-13.02

Table 7-4. EIRP Data (Band 4)

FCC ID: ZNFW280	PCTEST	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dege 06 of 117
0Y0607131263.ZNF	7/14 - 7/29/2016	Portable Wrist Device		Page 90 01 117
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186.070 1.4. OPSK H 1.43 1.92 1.10 8.84 9.35 8.10 3.0.0 1.4.2 1880.00 1.4 OPSK H 151 200 1.10 9.71 9.25 18.80 3.0.01 1.5.02 1909.30 1.44 IG-OM H 143 120 1.10 8.0.0 3.0.1 1.5.0.1 1880.00 1.44 IG-OM H 142 120 1.10 8.0.0 3.0.2 1.5.0.1 1909.30 1.4 IG-OM H 142 200 1.10 1.0.2 5.1 3.0.01 1.5.40 1909.30 3.3 OPSK H 130 212 1.14 9.00 3.0.7 1.6.0.1 1.3.01 1.5.01 1909.30 3.3 IG-CAM H 142 205 1.10 9.27 9.35 8.3.01 1.4.2.0 1800.00 3.3 IG-CAM H 142 205 1.1.2 <	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 Limit [dBm]	Margin [dB]
188000 1.4 OPSK H 140 183 3/2 8.72 9.27 17.99 3.31 -15.02 1909.30 1.4 OPSK H 151 200 1/0 9.71 9.25 18.66 3.01 -14.05 180.00 1.4 16-CAM H 143 192 1/0 8.03 9.35 17.38 3.01 -15.30 1909.30 1.4 16-CAM H 142 205 1/0 8.97 9.25 18.22 3.01 -14.30 1881.00 3 OPSK H 132 212 1/14 9.02 9.27 18.2 3.00 -14.30 1908.50 3 16-CAM H 142 205 1/10 9.17 9.35 18.22 3.01 -14.30 1908.50 3 16-CAM H 148 199 1/12 9.47 9.34 13.1 3.01 -14.32 1908.50 5 OPSK	1850.70	1.4	QPSK	н	143	192	1 / 0	8.84	9.35	18.19	33.01	-14.82
1309.30 14 OPSK H 151 200 1/0 9.71 9.25 18.96 33.01 -14.95 1860.00 1.4 16-QAM H 143 192 1/0 8.03 9.35 17.38 33.01 -15.63 1860.00 1.4 16-QAM H 161 200 1/0 8.07 9.25 18.22 33.01 -14.79 1861.50 3 OPSK H 142 205 1/0 10.02 9.35 19.37 33.01 -13.84 1806.00 3 OPSK H 138 199 1/0 11.08 9.25 2.033 33.01 -14.28 1805.00 3 16-QAM H 139 212 1/14 9.02 9.27 18.29 33.01 -15.29 1805.00 3 16-QAM H 142 203 1/24 9.67 9.4 19.3 33.01 -15.29 1862.00 5 <	1880.00	1.4	QPSK	н	140	183	3/2	8.72	9.27	17.99	33.01	-15.02
IBS0.70 1.4 IE-QAM H 143 192 1/0 8.03 9.35 17.38 33.01 -15.83 1880.00 1.4 16-QAM H 140 183 1/5 7.84 9.27 17.11 33.01 -15.90 1909.30 1.4 16-QAM H 151 200 1/0 8.97 9.25 18.22 33.01 -13.44 1880.00 3 OPSK H 139 212 1/14 9.00 9.27 19.17 33.01 -13.84 1905.50 3 OPSK H 138 199 1/0 11.08 9.25 20.33 33.01 -14.28 180.00 3 16-QAM H 132 212 1/14 9.02 9.27 18.23 3.01 -14.28 180.00 5 OPSK H 146 203 1/24 9.97 18.24 3.01 -14.27 180.00 5 OPSK <td< td=""><td>1909.30</td><td>1.4</td><td>QPSK</td><td>н</td><td>151</td><td>200</td><td>1 / 0</td><td>9.71</td><td>9.25</td><td>18.96</td><td>33.01</td><td>-14.05</td></td<>	1909.30	1.4	QPSK	н	151	200	1 / 0	9.71	9.25	18.96	33.01	-14.05
1880.00 1.4 16-QAM H 140 183 1/5 7.84 9.27 17.11 33.01 -15.90 1909.30 1.4 16-QAM H 151 200 1/0 8.97 9.25 18.22 33.01 -14.79 1861.50 3 OPSK H 139 212 1/14 9.00 9.27 18.17 33.01 -13.84 1908.50 3 OPSK H 136 199 1/0 11.08 9.25 2.03 33.01 -14.28 1805.00 3 16-QAM H 142 2.05 1/0 9.27 18.22 3.01 -14.29 1806.00 3 16-QAM H 138 199 1/0 8.47 9.25 17.72 3.01 -14.72 1808.00 5 OPSK H 146 203 1/24 9.97 9.34 19.31 3.01 -14.29 1880.00 5 16-QAM <t< td=""><td>1850.70</td><td>1.4</td><td>16-QAM</td><td>н</td><td>143</td><td>192</td><td>1 / 0</td><td>8.03</td><td>9.35</td><td>17.38</td><td>33.01</td><td>-15.63</td></t<>	1850.70	1.4	16-QAM	н	143	192	1 / 0	8.03	9.35	17.38	33.01	-15.63
1909.30 14 16-QAM H 151 200 1/0 8.97 9.25 18.22 3.3.01 -14.79 1851.50 3 QPSK H 142 205 1/0 10.02 9.35 19.37 33.01 -13.64 1880.00 3 QPSK H 139 212 1/14 9.00 9.27 19.17 33.01 -13.84 1908.50 3 OPSK H 136 199 1/0 11.08 9.25 20.33 33.01 -14.28 1880.00 3 16-QAM H 139 212 1/14 9.02 9.27 18.29 33.01 -14.72 1908.50 3 16-QAM H 146 203 1/24 9.67 9.34 19.31 33.01 -13.70 186.00 5 16-QAM H 148 199 1/24 8.99 9.27 18.23 33.01 -14.79 1860.00 10	1880.00	1.4	16-QAM	н	140	183	1 / 5	7.84	9.27	17.11	33.01	-15.90
1851.50 3 QPSK H 142 205 1 / 0 10.02 9.35 19.37 3.01 -1.3.64 1880.00 3 QPSK H 139 212 1 / 14 9.90 9.27 19.17 3.01 -1.3.84 1908.50 3 QPSK H 138 199 1 / 0 9.27 9.35 18.62 3.01 -1.4.39 1880.00 3 16-QAM H 142 205 1 / 0 9.27 9.35 18.62 3.01 -1.4.29 1880.00 3 16-QAM H 139 212 1 / 14 9.02 9.27 18.29 3.01 -1.529 1852.50 5 QPSK H 148 199 1 / 24 9.97 9.34 18.32 3.01 -1.3.10 1852.50 5 16-QAM H 148 199 1 / 24 8.99 9.27 18.26 3.01 -1.4.57 1907.50 5	1909.30	1.4	16-QAM	н	151	200	1 / 0	8.97	9.25	18.22	33.01	-14.79
1880.00 3 OPSK H 139 212 1/14 9.90 9.27 19.17 33.01 -13.84 1908.50 3 OPSK H 136 199 1/0 11.08 9.25 20.33 33.01 -12.88 1851.50 3 16-QAM H 142 205 1/10 9.27 9.35 18.62 33.01 -14.39 1860.00 3 16-QAM H 138 199 1/10 8.47 9.25 17.72 33.01 -14.72 1908.50 3 16-QAM H 148 199 1/24 9.97 9.34 19.31 33.01 -13.58 1907.50 5 OPSK H 148 199 1/24 8.98 9.44 18.32 33.01 -14.75 1907.50 5 16-QAM H 148 199 1/24 8.99 9.27 18.81 33.01 -14.27 180.00 10 <	1851.50	3	QPSK	Н	142	205	1 / 0	10.02	9.35	19.37	33.01	-13.64
1908.50 3 QPSK H 136 199 1/0 11.08 9.25 20.33 33.01 1.268 1851.50 3 16-QAM H 142 205 1/0 9.27 9.35 18.62 33.01 1.4.39 1880.00 3 16-QAM H 139 212 1/14 9.02 9.27 18.29 33.01 1.4.72 1908.50 3 16-QAM H 136 199 1/0 8.47 9.25 17.72 33.01 1.529 1852.50 5 QPSK H 148 199 1/24 10.16 9.27 19.43 33.01 1.3.01 1852.50 5 16-QAM H 148 199 1/24 8.99 9.27 18.26 33.01 1.4.75 1907.50 5 16-QAM H 142 210 1/0 10.02 9.24 19.26 33.01 1.4.27 188.00 10 <t< td=""><td>1880.00</td><td>3</td><td>QPSK</td><td>н</td><td>139</td><td>212</td><td>1 / 14</td><td>9.90</td><td>9.27</td><td>19.17</td><td>33.01</td><td>-13.84</td></t<>	1880.00	3	QPSK	н	139	212	1 / 14	9.90	9.27	19.17	33.01	-13.84
1851.50 3 16-QAM H 142 205 1/0 9.27 9.35 18.62 3.01 14.39 1880.00 3 16-QAM H 139 212 1/14 9.02 9.27 18.29 3.01 14.72 1908.50 3 16-QAM H 136 199 1/0 8.47 9.25 17.72 3.01 1.529 1852.50 5 QPSK H 146 203 1/24 9.97 9.34 19.31 3.01 -13.70 1880.00 5 QPSK H 148 199 1/24 8.98 9.34 18.32 3.01 -14.69 1880.00 5 16-QAM H 148 199 1/24 8.99 9.27 18.26 3.01 -14.75 1890.00 5 16-QAM H 142 216 1/49 9.40 9.34 18.74 3.01 -14.20 1807.50 10 QPSK </td <td>1908.50</td> <td>3</td> <td>QPSK</td> <td>н</td> <td>136</td> <td>199</td> <td>1 / 0</td> <td>11.08</td> <td>9.25</td> <td>20.33</td> <td>33.01</td> <td>-12.68</td>	1908.50	3	QPSK	н	136	199	1 / 0	11.08	9.25	20.33	33.01	-12.68
1880.00 3 16-QAM H 139 212 1/14 9.02 9.27 18.29 3.01 1.4.72 1906.50 3 16-QAM H 136 199 1/0 8.47 9.25 17.72 3.01 1.5.29 1852.50 5 QPSK H 146 203 1/24 9.97 9.34 19.31 3.01 -13.70 1860.00 5 QPSK H 148 199 1/24 10.16 9.27 19.33 3.01 -14.89 1852.50 5 16-QAM H 146 203 1/24 8.98 9.34 18.32 3.01 -14.75 1907.50 5 16-QAM H 148 199 1/24 8.99 9.27 18.26 3.01 -14.75 1880.00 10 QPSK H 144 216 1/49 9.40 9.34 18.74 3.01 -14.20 1905.00 10 QP	1851.50	3	16-QAM	н	142	205	1 / 0	9.27	9.35	18.62	33.01	-14.39
1908.50 3 16-QAM H 136 199 1/0 8.47 9.25 17.72 33.01 -15.29 1852.50 5 QPSK H 146 203 1/24 9.97 9.34 19.31 33.01 -13.70 1880.00 5 QPSK H 148 199 1/24 10.16 9.27 19.43 33.01 -13.80 1907.50 5 16-QAM H 148 199 1/24 8.99 9.27 18.26 33.01 -14.69 1880.00 5 16-QAM H 148 199 1/24 8.99 9.27 18.26 33.01 -14.75 1907.50 5 16-QAM H 142 210 1/0 10.02 9.24 19.26 33.01 -14.27 1880.00 10 QPSK H 140 210 1/49 9.27 18.81 33.01 -14.27 1880.00 10 QPSK	1880.00	3	16-QAM	н	139	212	1 / 14	9.02	9.27	18.29	33.01	-14.72
1852.50 5 QPSK H 146 203 1/24 9.97 9.34 19.31 33.01 13.70 1880.00 5 QPSK H 148 199 1/24 10.16 9.27 19.43 33.01 -13.58 1907.50 5 QPSK H 152 210 1/0 10.76 9.24 20.00 33.01 -14.69 1882.50 5 16-QAM H 1448 199 1/24 8.99 9.27 18.26 33.01 -14.75 1907.50 5 16-QAM H 142 210 1/0 10.02 9.24 19.26 33.01 -14.75 1800.00 10 QPSK H 140 210 1/49 9.40 9.34 18.74 33.01 -14.20 1905.00 10 QPSK H 140 210 1/49 8.72 9.34 18.06 33.01 -14.85 1880.00 10 <	1908.50	3	16-QAM	н	136	199	1 / 0	8.47	9.25	17.72	33.01	-15.29
1880.00 5 QPSK H 148 199 1/24 10.16 9.27 19.43 33.01 -13.58 1907.50 5 QPSK H 152 210 1/0 10.76 9.24 20.00 33.01 -14.69 1852.50 5 16-QAM H 148 199 1/24 8.98 9.34 18.32 33.01 -14.69 1880.00 5 16-QAM H 148 199 1/24 8.99 9.27 18.26 33.01 -14.75 1907.50 5 16-QAM H 152 210 1/0 10.02 9.24 19.26 33.01 -14.27 1880.00 10 QPSK H 140 210 1/49 9.41 9.27 18.81 33.01 -14.20 1905.00 10 16-QAM H 144 216 1/49 8.72 9.34 18.06 33.01 -14.95 180.00 10	1852.50	5	QPSK	Н	146	203	1 / 24	9.97	9.34	19.31	33.01	-13.70
1907.50 5 QPSK H 152 210 1 / 0 10.76 9.24 20.00 33.01 -13.01 1852.50 5 16-QAM H 146 203 1 / 24 8.98 9.34 18.32 33.01 -14.69 1880.00 5 16-QAM H 148 199 1 / 24 8.99 9.27 18.26 33.01 -14.75 1907.50 5 16-QAM H 142 216 1 / 49 9.40 9.34 18.74 33.01 -14.75 1800.00 10 QPSK H 140 210 1 / 49 9.40 9.34 18.74 33.01 -14.20 1905.00 10 QPSK H 140 210 1 / 49 9.42 19.15 33.01 -14.80 180.00 10 16-QAM H 140 210 1 / 49 8.73 9.27 18.00 33.01 -14.91 180.00 10 16-	1880.00	5	QPSK	н	148	199	1 / 24	10.16	9.27	19.43	33.01	-13.58
1852.50 5 16-QAM H 146 203 1/24 8.98 9.34 18.32 33.01 -14.69 1880.00 5 16-QAM H 148 199 1/24 8.99 9.27 18.26 33.01 -14.75 1907.50 5 16-QAM H 152 210 1/0 10.02 9.24 19.26 33.01 -14.75 1855.00 10 QPSK H 144 216 1/49 9.40 9.34 18.74 33.01 -14.20 1800.00 10 QPSK H 140 210 1/49 9.54 9.27 18.81 33.01 -14.20 1905.00 10 QPSK H 140 210 1/49 8.72 9.34 18.06 33.01 -14.80 1880.00 10 16-QAM H 143 200 1/74 9.69 9.33 19.02 33.01 -14.81 1880.00 15	1907.50	5	QPSK	н	152	210	1 / 0	10.76	9.24	20.00	33.01	-13.01
1880.00 5 16-QAM H 148 199 1/24 8.99 9.27 18.26 33.01 -14.75 1907.50 5 16-QAM H 152 210 1/0 10.02 9.24 19.26 33.01 -13.75 1855.00 10 QPSK H 144 216 1/49 9.40 9.34 18.74 33.01 -14.27 1880.00 10 QPSK H 140 210 1/49 9.40 9.34 18.74 33.01 -14.27 1880.00 10 QPSK H 140 210 1/49 9.40 9.34 18.06 33.01 -14.20 1905.00 10 16-QAM H 140 210 1/49 8.73 9.27 18.00 33.01 -14.51 1905.00 10 16-QAM H 143 200 1/74 9.69 9.33 19.02 33.01 -14.51 1800.0 15	1852.50	5	16-QAM	н	146	203	1 / 24	8.98	9.34	18.32	33.01	-14.69
1907.50 5 16-QAM H 152 210 1/0 10.02 9.24 19.26 33.01 -13.75 1855.00 10 QPSK H 144 216 1/49 9.40 9.34 18.74 33.01 -14.27 1880.00 10 QPSK H 140 210 1/49 9.54 9.27 18.81 33.01 -14.20 1905.00 10 QPSK H 153 200 1/0 9.81 9.24 19.15 33.01 -14.20 1905.00 10 16-QAM H 144 216 1/49 8.72 9.34 18.06 33.01 -14.95 1800.00 10 16-QAM H 140 210 1/49 8.73 9.27 18.00 33.01 -14.61 1805.00 10 16-QAM H 133 220 1/74 9.69 9.33 19.02 33.01 -14.61 1802.00 15	1880.00	5	16-QAM	н	148	199	1 / 24	8.99	9.27	18.26	33.01	-14.75
1855.00 10 QPSK H 144 216 1/49 9.40 9.34 18.74 33.01 -14.27 1880.00 10 QPSK H 140 210 1/49 9.54 9.27 18.81 33.01 -14.20 1905.00 10 QPSK H 153 200 1/0 9.91 9.24 19.15 33.01 -13.86 1855.00 10 16-QAM H 144 216 1/49 8.72 9.34 18.06 33.01 -14.50 1880.00 10 16-QAM H 140 210 1/49 8.73 9.27 18.00 33.01 -15.01 1905.00 10 16-QAM H 143 200 1/74 9.69 9.33 19.02 33.01 -14.61 1800.00 15 OPSK H 142 208 1/74 9.69 9.33 19.20 33.01 -14.86 1800.0 15	1907.50	5	16-QAM	н	152	210	1 / 0	10.02	9.24	19.26	33.01	-13.75
1880.00 10 QPSK H 140 210 1/49 9.54 9.27 18.81 33.01 -14.20 1905.00 10 QPSK H 153 200 1/0 9.91 9.24 19.15 33.01 -13.86 1855.00 10 16-QAM H 144 216 1/49 8.72 9.34 18.06 33.01 -14.95 1880.00 10 16-QAM H 140 210 1/49 8.73 9.27 18.00 33.01 -14.61 1905.00 10 16-QAM H 153 200 1/74 9.69 9.33 19.02 33.01 -14.61 180.00 15 QPSK H 142 208 1/74 9.69 9.33 19.02 33.01 -13.81 180.00 15 QPSK H 142 208 1/74 9.97 9.23 19.20 33.01 -14.76 188.00 15	1855.00	10	QPSK	н	144	216	1 / 49	9.40	9.34	18.74	33.01	-14.27
1905.00 10 QPSK H 153 200 1/0 9.91 9.24 19.15 33.01 -13.86 1855.00 10 16-QAM H 144 216 1/49 8.72 9.34 18.06 33.01 -14.95 1880.00 10 16-QAM H 140 210 1/49 8.73 9.27 18.00 33.01 -14.95 1800.00 10 16-QAM H 143 200 1/0 9.16 9.24 18.40 33.01 -14.61 1905.00 10 16-QAM H 133 220 1/74 9.69 9.33 19.02 33.01 -13.99 1880.00 15 QPSK H 142 208 1/74 9.69 9.33 18.25 33.01 -14.61 1800.00 15 GPSK H 142 208 1/74 9.69 9.33 18.25 33.01 -14.76 1800.00 15	1880.00	10	QPSK	н	140	210	1 / 49	9.54	9.27	18.81	33.01	-14.20
1855.00 10 16-QAM H 144 216 1/49 8.72 9.34 18.06 33.01 -14.95 1880.00 10 16-QAM H 140 210 1/49 8.73 9.27 18.00 33.01 -15.01 1905.00 10 16-QAM H 153 200 1/0 9.16 9.24 18.40 33.01 -14.61 180.00 15 QPSK H 133 220 1/74 9.69 9.33 19.02 33.01 -13.99 1880.00 15 QPSK H 142 208 1/74 9.69 9.33 19.02 33.01 -13.99 1880.00 15 QPSK H 146 195 1/74 9.83 9.27 19.10 33.01 -14.76 1880.00 15 16-QAM H 142 208 1/74 9.04 9.27 18.31 3.01 -14.76 1880.00 15 16-QAM H 142 208 1/74 9.26 9.23 18.49 <t< td=""><td>1905.00</td><td>10</td><td>QPSK</td><td>н</td><td>153</td><td>200</td><td>1 / 0</td><td>9.91</td><td>9.24</td><td>19.15</td><td>33.01</td><td>-13.86</td></t<>	1905.00	10	QPSK	н	153	200	1 / 0	9.91	9.24	19.15	33.01	-13.86
1880.00 10 16-QAM H 140 210 1/49 8.73 9.27 18.00 33.01 -15.01 1905.00 10 16-QAM H 153 200 1/0 9.16 9.24 18.40 33.01 -14.61 1857.50 15 QPSK H 133 220 1/74 9.69 9.33 19.02 33.01 -13.99 1880.00 15 QPSK H 142 208 1/74 9.83 9.27 19.10 33.01 -13.99 1800.00 15 QPSK H 142 208 1/74 9.83 9.27 19.10 33.01 -13.91 1902.50 15 QPSK H 146 195 1/74 9.97 9.23 19.20 33.01 -14.76 1880.00 15 16-QAM H 142 208 1/74 9.04 9.27 18.31 33.01 -14.70 1902.50 15 16-QAM H 142 208 1/74 9.26 9.23 18.49 <t< td=""><td>1855.00</td><td>10</td><td>16-QAM</td><td>н</td><td>144</td><td>216</td><td>1 / 49</td><td>8.72</td><td>9.34</td><td>18.06</td><td>33.01</td><td>-14.95</td></t<>	1855.00	10	16-QAM	н	144	216	1 / 49	8.72	9.34	18.06	33.01	-14.95
1905.00 10 16-QAM H 153 200 1/0 9.16 9.24 18.40 33.01 -14.61 1857.50 15 QPSK H 133 220 1/74 9.69 9.33 19.02 33.01 -13.99 1880.00 15 QPSK H 142 208 1/74 9.83 9.27 19.10 33.01 -13.91 1902.50 15 QPSK H 146 195 1/74 9.97 9.23 19.20 33.01 -13.91 1902.50 15 16-QAM H 133 220 1/74 8.92 9.33 18.25 33.01 -14.76 1880.00 15 16-QAM H 142 208 1/74 9.04 9.27 18.31 33.01 -14.70 1902.50 15 16-QAM H 142 208 1/74 9.04 9.27 18.31 33.01 -14.70 1902.50 15 16-QAM H 146 195 1/74 9.26 9.23 18.92	1880.00	10	16-QAM	н	140	210	1 / 49	8.73	9.27	18.00	33.01	-15.01
1857.50 15 QPSK H 133 220 1/74 9.69 9.33 19.02 33.01 -13.99 1880.00 15 QPSK H 142 208 1/74 9.69 9.33 19.02 33.01 -13.99 1902.50 15 QPSK H 142 208 1/74 9.69 9.33 19.20 33.01 -13.91 1902.50 15 QPSK H 146 195 1/74 9.69 9.33 18.25 33.01 -13.81 1857.50 15 16-QAM H 133 220 1/74 8.92 9.33 18.25 33.01 -14.76 1880.00 15 16-QAM H 142 208 1/74 9.04 9.27 18.31 33.01 -14.70 1902.50 15 16-QAM H 146 195 1/74 9.26 9.23 18.49 3.01 -14.70 1860.00 20	1905.00	10	16-QAM	Н	153	200	1 / 0	9.16	9.24	18.40	33.01	-14.61
1880.0015QPSKH1422081/749.839.2719.1033.01-13.911902.5015QPSKH1461951/749.979.2319.2033.01-13.811857.501516-QAMH1332201/748.929.3318.2533.01-14.761880.001516-QAMH1422081/749.049.2718.3133.01-14.761902.501516-QAMH1422081/749.049.2718.3133.01-14.701902.501516-QAMH1422081/749.069.2318.4933.01-14.521860.0020QPSKH1521981/999.609.2218.9233.01-14.991880.0020QPSKH1372061/999.869.2219.0833.01-13.941900.0020QPSKH1521981/998.839.3218.1533.01-14.861880.002016-QAMH1521981/999.669.2718.3333.01-14.861880.002016-QAMH1521981/999.869.2218.1533.01-14.861880.002016-QAMH1462111/999.069.2718.3333.01-14.861900.002016-QAM <td>1857.50</td> <td>15</td> <td>QPSK</td> <td>н</td> <td>133</td> <td>220</td> <td>1 / 74</td> <td>9.69</td> <td>9.33</td> <td>19.02</td> <td>33.01</td> <td>-13.99</td>	1857.50	15	QPSK	н	133	220	1 / 74	9.69	9.33	19.02	33.01	-13.99
1902.50 15 QPSK H 146 195 1/74 9.97 9.23 19.20 33.01 -13.81 1857.50 15 16-QAM H 133 220 1/74 8.92 9.33 18.25 33.01 -14.76 1880.00 15 16-QAM H 142 208 1/74 9.04 9.27 18.31 33.01 -14.76 1902.50 15 16-QAM H 142 208 1/74 9.04 9.27 18.31 33.01 -14.70 1902.50 15 16-QAM H 146 195 1/74 9.26 9.23 18.49 33.01 -14.70 1902.50 15 16-QAM H 146 195 1/74 9.26 9.23 18.49 33.01 -14.52 1860.00 20 QPSK H 146 211 1/99 9.60 9.22 19.08 30.01 -13.93 1860.00 20	1880.00	15	QPSK	н	142	208	1 / 74	9.83	9.27	19.10	33.01	-13.91
1857.50 15 16-QAM H 133 220 1/74 8.92 9.33 18.25 33.01 -14.76 1880.00 15 16-QAM H 142 208 1/74 9.04 9.27 18.31 33.01 -14.70 1902.50 15 16-QAM H 146 195 1/74 9.26 9.23 18.49 33.01 -14.52 1860.00 20 QPSK H 146 195 1/74 9.26 9.23 18.49 33.01 -14.52 1860.00 20 QPSK H 152 198 1/99 9.60 9.32 18.92 33.01 -14.59 1880.00 20 QPSK H 146 211 1/99 9.60 9.27 19.07 33.01 -13.94 1900.00 20 QPSK H 137 206 1/99 9.86 9.22 19.08 33.01 -14.86 1880.00 20	1902.50	15	QPSK	н	146	195	1 / 74	9.97	9.23	19.20	33.01	-13.81
1880.00 15 16-QAM H 142 208 1/74 9.04 9.27 18.31 33.01 -14.70 1902.50 15 16-QAM H 146 195 1/74 9.26 9.23 18.49 33.01 -14.70 1860.00 20 QPSK H 152 198 1/99 9.60 9.32 18.92 33.01 -14.69 1880.00 20 QPSK H 146 211 1/99 9.60 9.32 18.92 33.01 -14.99 1880.00 20 QPSK H 146 211 1/99 9.80 9.27 19.07 33.01 -13.94 1900.00 20 QPSK H 137 206 1/99 9.86 9.22 19.08 33.01 -14.86 1860.00 20 16-QAM H 152 198 1/99 8.83 9.32 18.15 33.01 -14.86 1880.00 20	1857.50	15	16-QAM	Н	133	220	1 / 74	8.92	9.33	18.25	33.01	-14.76
1902.50 15 16-QAM H 146 195 1/74 9.26 9.23 18.49 33.01 -14.52 1860.00 20 QPSK H 152 198 1/99 9.60 9.32 18.49 33.01 -14.52 1860.00 20 QPSK H 152 198 1/99 9.60 9.32 18.92 33.01 -14.50 1880.00 20 QPSK H 146 211 1/99 9.60 9.27 19.07 33.01 -14.99 1900.00 20 QPSK H 146 211 1/99 9.80 9.27 19.07 33.01 -13.94 1900.00 20 QPSK H 137 206 1/99 9.86 9.22 19.08 33.01 -14.86 1860.00 20 16-QAM H 146 211 1/99 9.66 9.27 18.33 33.01 -14.86 1900.00 20	1880.00	15	16-QAM	н	142	208	1 / 74	9.04	9.27	18.31	33.01	-14.70
1860.00 20 QPSK H 152 198 1/99 9.60 9.32 18.92 33.01 -14.09 1880.00 20 QPSK H 146 211 1/99 9.80 9.27 19.07 33.01 -13.94 1900.00 20 QPSK H 137 206 1/99 9.86 9.22 19.08 33.01 -13.93 1860.00 20 QPSK H 137 206 1/99 9.86 9.22 19.08 33.01 -13.93 1860.00 20 16-QAM H 152 198 1/99 8.83 9.32 18.15 33.01 -14.86 1880.00 20 16-QAM H 146 211 1/99 9.06 9.27 18.33 33.01 -14.68 1900.00 20 16-QAM H 137 206 1/99 9.00 9.22 18.22 33.01 -14.79 1908.50 3	1902.50	15	16-QAM	н	146	195	1 / 74	9.26	9.23	18.49	33.01	-14.52
1880.00 20 QPSK H 146 211 1/99 9.80 9.27 19.07 33.01 -13.94 1900.00 20 QPSK H 137 206 1/99 9.80 9.27 19.07 33.01 -13.94 1900.00 20 QPSK H 137 206 1/99 9.86 9.22 19.08 33.01 -13.93 1860.00 20 16-QAM H 152 198 1/99 8.83 9.32 18.15 33.01 -14.86 1880.00 20 16-QAM H 146 211 1/99 9.06 9.27 18.33 33.01 -14.86 1900.00 20 16-QAM H 137 206 1/99 9.00 9.22 18.22 33.01 -14.79 1908.50 3 QPSK V 185 148 1/0 9.43 9.25 18.68 33.01 -14.33	1860.00	20	QPSK	н	152	198	1 / 99	9.60	9.32	18.92	33.01	-14.09
1900.00 20 QPSK H 137 206 1/99 9.86 9.22 19.08 33.01 -13.93 1860.00 20 16-QAM H 152 198 1/99 8.83 9.32 18.15 33.01 -14.86 1880.00 20 16-QAM H 146 211 1/99 9.06 9.27 18.33 33.01 -14.86 1900.00 20 16-QAM H 137 206 1/99 9.00 9.22 18.22 33.01 -14.86 1900.00 20 16-QAM H 137 206 1/99 9.00 9.22 18.22 33.01 -14.79 1908.50 3 QPSK V 185 148 1/0 9.43 9.25 18.68 33.01 -14.33	1880.00	20	QPSK	н	146	211	1 / 99	9.80	9.27	19.07	33.01	-13.94
1860.00 20 16-QAM H 152 198 1/99 8.83 9.32 18.15 33.01 -14.86 1880.00 20 16-QAM H 146 211 1/99 9.06 9.27 18.33 33.01 -14.86 1900.00 20 16-QAM H 137 206 1/99 9.00 9.22 18.22 33.01 -14.79 1908.50 3 QPSK V 185 148 1/0 9.43 9.25 18.68 33.01 -14.33	1900.00	20	QPSK	н	137	206	1 / 99	9.86	9.22	19.08	33.01	-13.93
1880.00 20 16-QAM H 146 211 1/99 9.06 9.27 18.33 33.01 -14.68 1900.00 20 16-QAM H 137 206 1/99 9.00 9.22 18.22 33.01 -14.68 1908.50 3 QPSK V 185 148 1/0 9.43 9.25 18.68 33.01 -14.33	1860.00	20	16-QAM	н	152	198	1 / 99	8.83	9.32	18.15	33.01	-14.86
1900.00 20 16-QAM H 137 206 1/99 9.00 9.22 18.22 33.01 -14.79 1908.50 3 QPSK V 185 148 1/0 9.43 9.25 18.68 33.01 -14.33	1880.00	20	16-QAM	н	146	211	1 / 99	9.06	9.27	18.33	33.01	-14.68
1908.50 3 QPSK V 185 148 1/0 9.43 9.25 18.68 33.01 -14.33	1900.00	20	16-QAM	н	137	206	1 / 99	9.00	9.22	18.22	33.01	-14.79
	1908.50	3	QPSK	V	185	148	1/0	9.43	9.25	18.68	33.01	-14.33

Table 7-5. EIRP Data (Band 2)

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7.7 Radiated Spurious Emissions Measurements §2.1053 §22.917(a) §24.238(a) §27.53(c) §27.53(f) §27.53(h)

Test Overview

Radiated spurious emissions measurements are performed using the substitution method described in ANSI/TIA-603-D-2010 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 dipole antennas. Measurements on signals operating above 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. All measurements are performed as peak 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 v02r02 - Section 5.8

ANSI/TIA-603-D-2010 - 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 = Peak
- 6. Trace mode = max hold
- 7. The trace was allowed to stabilize

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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.

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Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	[dBc]
2346.00	Н	-	-	-63.37	7.33	-56.04	70.4
3128.00	Н	-	-	-59.88	7.20	-52.68	67.0
3910.00	Н	-	-	-55.11	7.34	-47.77	62.1

Table 7-6. Radiated Spurious Data (Band 13 – Mid Channel)

_	QPSK	MODULATION SIGNAL:
MHz	10.00	BANDWIDTH:
meters	3	DISTANCE:
dBm	-50	NARROWBAND EMISSION LIMIT:
dBm/MHz	-40	WIDEBAND EMISSION LIMIT:
-		

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	Margin [dB]
1564.00	Н	-	-	-65.75	6.57	-59.18	-19.2

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

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Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	[dBc]
2346.00	Н	-	-	-63.54	7.33	-56.21	70.6
3128.00	Н	-	-	-60.39	7.20	-53.19	67.5
3910.00	Н	-	-	-55.64	7.34	-48.30	62.7

Table 7-8. Radiated Spurious Data with WCP (Band 13 - Mid Channel)



Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	[dBc]
1651.00	Н	110	206	-60.66	6.70	-53.97	70.0
2476.50	Н	190	54	-53.60	7.53	-46.07	62.1
3302.00	Н	-	-	-58.99	7.37	-51.63	67.6
4127.50	Н	-	-	-56.14	8.09	-48.05	64.1

Table 7-9. Radiated Spurious Data (Band 5 – Low Channel)

FCC ID: ZNFW280		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed 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 [dBd]	Spurious Emission Level [dBm]	[dBc]
1673.00	н	110	227	-61.54	6.70	-54.84	70.6
2509.50	Н	183	37	-51.93	7.63	-44.31	60.0
3346.00	Н	-	-	-58.62	7.51	-51.11	66.8
4182.50	Н	-	-	-57.01	8.23	-48.78	64.5

Table 7-10. Radiated Spurious Data (Band 5 – Mid Channel)

OPERATING FREQUENCY:	847	7.50	MHz
CHANNEL:	206	635	_
MEASURED OUTPUT POWER:	15.97	dBm =	0.040 W
MODULATION SIGNAL:	QPSK		
BANDWIDTH:	3.0	MHz	
DISTANCE:	3	meters	
LIMIT:	43 + 10 log ₁₀ (W) =	28.97	dBc
			-

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBd]	Spurious Emission Level [dBm]	[dBc]
1695.00	Н	113	209	-60.64	6.70	-53.94	69.9
2542.50	Н	167	56	-53.69	7.60	-46.09	62.1
3390.00	Н	-	-	-59.39	7.66	-51.73	67.7
4237.50	Н	-	-	-56.68	8.39	-48.29	64.3

Table 7-11. Radiated Spurious Data (Band 5 – High Channel)

FCC ID: ZNFW280	PCTEST	FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed 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 [dBd]	Spurious Emission Level [dBm]	[dBc]
1651.00	Н	110	185	-61.36	6.70	-54.67	70.7
2476.50	Н	156	41	-54.43	7.53	-46.90	62.9
3302.00	Н	-	-	-59.17	7.37	-51.81	67.8

Table 7-12. Radiated Spurious Data with WCP (Band 5 -Low Channel)



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]	[dBc]
3425.00	Н	110	198	-54.65	9.87	-44.78	63.6
5137.50	Н	110	75	-51.92	10.76	-41.16	60.0
6850.00	Н	117	62	-45.42	11.67	-33.75	52.5
8562.50	Н	134	201	-44.72	11.06	-33.65	52.4
10275.00	Н	-	-	-51.09	12.37	-38.72	57.5

Table 7-13. Radiated Spurious Data (Band 4 – Low Channel)

FCC ID: ZNFW280		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed 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]	[dBc]
3465.00	Н	110	215	-55.30	9.91	-45.39	63.6
5197.50	Н	110	62	-51.64	10.75	-40.89	59.1
6930.00	Н	121	51	-45.44	11.76	-33.68	51.9
8662.50	Н	155	231	-43.96	11.00	-32.96	51.2
10395.00	Н	-	-	-50.48	12.65	-37.84	56.1

Table 7-14. Radiated Spurious Data (Band 4 – Mid Channel)



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]	[dBc]
3505.00	Н	110	197	-54.83	9.95	-44.88	64.0
5257.50	Н	110	100	-51.33	10.71	-40.62	59.8
7010.00	Н	113	82	-45.51	11.83	-33.68	52.8
8762.50	Н	143	261	-43.08	10.96	-32.12	51.3
10515.00	Н	-	-	-49.14	12.67	-36.47	55.6

Table 7-15. Radiated Spurious Data (Band 4 – High Channel)

FCC ID: ZNFW280		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed 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]	[dBc]
3505.00	н	110	188	-55.34	9.95	-45.39	64.5
5257.50	Н	110	134	-51.91	10.71	-41.20	60.3
7010.00	н	110	102	-45.06	11.83	-33.23	52.4
8762.50	Н	155	235	-43.66	10.96	-32.70	51.8
10515.00	Н	-	-	-49.62	12.67	-36.95	56.1

Table 7-16. Radiated Spurious Data with WCP (Band 4 – High Channel)



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]	[dBc]
3703.00	Н	110	198	-49.17	9.52	-39.65	59.0
5554.50	Н	154	237	-50.14	11.02	-39.12	58.5
7406.00	Н	161	222	-49.48	10.95	-38.53	57.9
9257.50	Н	138	168	-44.06	11.52	-32.54	51.9
11109.00	Н	-	-	-47.78	12.81	-34.97	54.3

Table 7-17. Radiated Spurious Data (Band 2 – Low Channel)

FCC ID: ZNFW280		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed 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]	[dBc]
3760.00	Н	116	215	-48.83	9.39	-39.45	58.6
5640.00	Н	167	250	-51.07	11.22	-39.85	59.0
7520.00	Н	158	238	-48.61	11.10	-37.50	56.7
9400.00	Н	126	136	-43.27	11.54	-31.73	50.9
11280.00	Н	-	-	-48.39	12.76	-35.63	54.8

Table 7-18. Radiated Spurious Data (Band 2 – Mid Channel)



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]	[dBc]
3817.00	Н	110	237	-47.82	9.32	-38.50	58.8
5725.50	Н	167	255	-49.80	11.36	-38.45	58.8
7634.00	Н	158	221	-48.18	11.33	-36.86	57.2
9542.50	Н	126	158	-43.35	11.76	-31.59	51.9
11451.00	Н	-	-	-46.01	12.69	-33.32	53.6

Table 7-19. Radiated Spurious Data (Band 2 – High Channel)

FCC ID: ZNFW280		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed 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]	[dBc]
3817.00	Н	110	211	-48.14	9.32	-38.82	59.1
5725.50	Н	154	215	-50.61	11.36	-39.26	59.6
7634.00	Н	161	239	-49.25	11.33	-37.93	58.3
9542.50	Н	147	177	-43.30	11.76	-31.54	51.9
11451.00	Н	-	-	-45.71	12.69	-33.02	53.3

 Table 7-20. Radiated Spurious Data with WCP (Band 2 – High Channel)

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7.8 Frequency Stability / Temperature Variation §2.1055 §22.355 §24.235 §27.54

Test Overview and Limit

Frequency stability testing is performed in accordance with the guidelines of ANSI/TIA-603-D-2010. 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 $\pm 0.00025\%$ (± 2.5 ppm) of the center frequency. For Part 24 and 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-D-2010

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 13 Frequency Stability Measurements §2.1055 §27.54

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

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	+ 20 (Ref)	781,999,718	-282	-0.0000361
100 %		- 30	782,000,243	243	0.0000311
100 %		- 20	781,999,994	-6	-0.0000008
100 %		- 10	782,000,030	30	0.000038
100 %		0	781,999,871	-129	-0.0000165
100 %		+ 10	781,999,827	-173	-0.0000221
100 %		+ 20	782,000,070	70	0.0000090
100 %		+ 30	782,000,392	392	0.0000501
100 %		+ 40	781,999,714	-286	-0.0000366
100 %		+ 50	782,000,143	143	0.0000183
BATT. ENDPOINT	3.40	+ 20	781,999,838	-162	-0.0000207

Table 7-21. Frequency Stability Data (Band 13)

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Band 13 Frequency Stability Measurements §2.1055 §27.54



Figure 7-8. Frequency Stability Graph (Band 13)

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Band 5 Frequency Stability Measurements §2.1055 §22.355

OPERATING FREQUENCY:	836,500,000	Hz
CHANNEL:	20525	_
REFERENCE VOLTAGE:	3.80	VDC
DEVIATION LIMIT :	± 0.00025 % or 2.5 ppm	

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	+ 20 (Ref)	836,500,027	27	0.0000032
100 %		- 30	836,500,165	165	0.0000197
100 %		- 20	836,500,294	294	0.0000351
100 %		- 10	836,499,701	-299	-0.0000357
100 %		0	836,500,253	253	0.0000302
100 %		+ 10	836,499,788	-212	-0.0000253
100 %		+ 20	836,499,940	-60	-0.0000072
100 %		+ 30	836,500,093	93	0.0000111
100 %		+ 40	836,500,287	287	0.0000343
100 %		+ 50	836,499,975	-25	-0.0000030
BATT. ENDPOINT	3.40	+ 20	836,499,749	-251	-0.0000300

Table 7-22. Frequency Stability Data (Band 5)

FCC ID: ZNFW280		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	🕒 LG	Reviewed by: Quality Manager
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Band 5 Frequency Stability Measurements §2.1055 §22.355



Figure 7-9. Frequency Stability Graph (Band 5)

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Band 4 Frequency Stability Measurements §2.1055 §§27.54

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

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	+ 20 (Ref)	1,732,500,008	8	0.0000005
100 %		- 30	1,732,499,989	-11	-0.0000006
100 %		- 20	1,732,499,920	-80	-0.0000046
100 %		- 10	1,732,499,809	-191	-0.0000110
100 %		0	1,732,500,275	275	0.0000159
100 %		+ 10	1,732,499,670	-330	-0.0000190
100 %		+ 20	1,732,500,349	349	0.0000201
100 %		+ 30	1,732,499,951	-49	-0.0000028
100 %		+ 40	1,732,500,033	33	0.0000019
100 %		+ 50	1,732,500,181	181	0.0000104
BATT. ENDPOINT	3.40	+ 20	1,732,499,722	-278	-0.0000160

Table 7-23. Frequency Stability Data (Band 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 inband 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 4 Frequency Stability Measurements §2.1055 §§27.54



Figure 7-10. Frequency Stability Graph (Band 4)

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Band 2 Frequency Stability Measurements §2.1055 §24.235

OPERATING FREQUENCY:	1,880,000,000	Hz
CHANNEL:	18900	-
REFERENCE VOLTAGE:	3.80	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	+ 20 (Ref)	1,879,999,916	-84	-0.0000045
100 %		- 30	1,880,000,101	101	0.0000054
100 %		- 20	1,880,000,099	99	0.0000053
100 %		- 10	1,880,000,190	190	0.0000101
100 %		0	1,879,999,662	-338	-0.0000180
100 %		+ 10	1,879,999,919	-81	-0.0000043
100 %		+ 20	1,880,000,232	232	0.0000123
100 %		+ 30	1,880,000,082	82	0.0000044
100 %		+ 40	1,880,000,293	293	0.0000156
100 %		+ 50	1,880,000,180	180	0.0000096
BATT. ENDPOINT	3.40	+ 20	1,879,999,934	-66	-0.0000035

 Table 7-24. Frequency Stability Data (Band 2)

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 inband 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 2 Frequency Stability Measurements §2.1055 §24.235



Figure 7-11. 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 **LG Portable Wrist Device FCC ID: ZNFW280** complies with all the requirements of Parts 22, 24, & 27 of the FCC rules for LTE operation only.

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