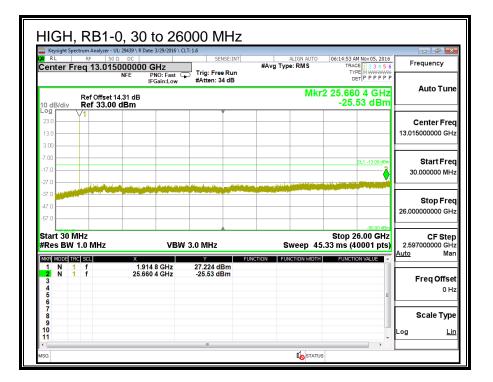
		er - UL: 29439 \ R Date	te: 3/29/2016 \ C				
enter F		50 Ω DC 015000000 (GH7	SENSE:INT	ALIGN AL #Avg Type: RMS		
ence .	164 10.0	NFE F	PNO: Fast	Trig: Free Run #Atten: 34 dB		TYPE MWW DET P P F	www
			IFGain:Low	#Atten. 04 ab		Mkr2 25.478 7 0	Auto Tun
0 dB/div		et 14.31 dB .00 dBm				-24.07 d	
	X1						<u> </u>
23.0	<u></u>		+	+			Center Fre
13.0	++-			+			13.015000000 GH
3.00			_				
7.00	++-		_			DL1 -13.0	3.00 JPm Start Fre
17.0	++		+	+		DL1-rox	300 Start Fre 30.000000 MH
27.0					- to all the second		50.000000 i
37.0 Lauliika	- Aller Contraction	and the second	A CARGE AND	and the design of the first of	and a second		
47.0			T				Stop Fre
57.0			Τ				26.00000000 GH
57.0			1				0.00 dBm
start 30 l						Stop 26.00	GHz CF Ste
Res BW	V 1.0 MHz		VBW	V 3.0 MHz	Sweep	o 45.33 ms (40001	1 pts) 2.597000000 GH Auto Ma
IKR MODE T		X			FUNCTION FUNCTION W	WIDTH FUNCTION VALU	
2 N	1 f 1 f		4 8 GHz 78 7 GHz	27.35 dBm -24.07 dBm			
3							Freq Offs
5							= 0 H
6 7							
8							Scale Typ
9 10							Log L
11							*
				m			

LTE BAND 25 16QAM, (1.4 MHz)

XI RL		39 \ R Date: 3/29/2016 \ C	SENSE:INT	ALIGN AUTO	06:13:09 AM Nov 05, 2016	
Center F	req 13.01500		Trig: Free Run	#Avg Type: RMS	TRACE 1 2 3 4 5 6 TYPE M WWWWW	Frequency
	NF	IFGain:Low	#Atten: 34 dB		DET PPPPP	Auto Tur
10 dB/div	Ref Offset 14.31 Ref 33.00 dB			Mkr	2 25.600 1 GHz -25.45 dBm	Auto Tune
23.0	¥1		Ĭ			Center Fre
13.0						13.015000000 GH
3.00						
-7.00					0L1 -13.00 dBm	Start Fre
-17.0					2	30.000000 MH
-27.0		and a state of the second state of the second	an antista da patricia (a call Statistica a	where the proceeding of the second second		
-37.0			and a shift have not set to star and a star of the set	and the second		Stop Fre
-47.0						26.00000000 GH
-57.0						20.00000000000
Start 30	MHz		A		-90.00 dBm Stop 26.00 GHz	CF Ster
#Res BW	1.0 MHz	VBW	3.0 MHz	Sweep 45	.33 ms (40001 pts)	2.597000000 GH
MKR MODE T		X		JNCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Ma
	1 f 1 f	1.851 1 GHz 25.600 1 GHz	28.917 dBm -25.45 dBm			F 0ff
3						Freq Offse
5					E	
7 8						Scale Typ
9 10						Log Li

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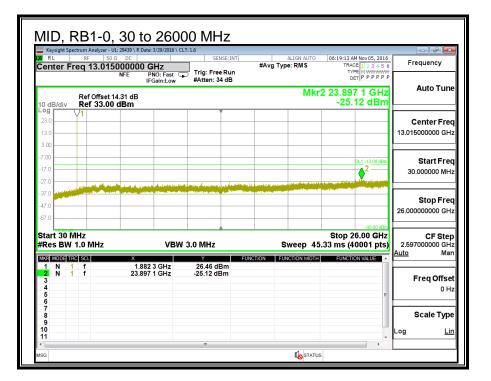
RL RF 50	Ω DC				
	NFE PNO: Fast	Trig: Free Run	ALIGN AUTO #Avg Type: RMS	06:14:01 AM Nov 05, 2016 TRACE 1 2 3 4 5 6 TYPE M WWWWW DET P P P P P P	Frequency
Ref Offset 1 10 dB/div Ref 33.00		#Atten: 34 dB	Mkr	2 25.840 3 GHz -25.19 dBm	Auto Tune
Log 1 23.0					Center Fred
13.0					13.015000000 GH
-7.00				DL1 -13.00 dBm	Start Free
-17.0				2	30.000000 MH
-37.0		perfectore diterritikas) and ferritikas Advantas provincias and ferritikas			Stop Fred
-47.0					26.000000000 GH
Start 30 MHz				-90.00 dBm Stop 26.00 GHz	CF Ster
#Res BW 1.0 MHz		/ 3.0 MHz	•	.33 ms (40001 pts)	2.597000000 GH Auto Mar
MKR MODE TRC SCL 1 N 1 f 2 N 1 f	× 1.883 0 GHz	27.315 dBm	UNCTION FUNCTION WIDTH	FUNCTION VALUE	
2 N 1 T 3 4	25.840 3 GHz	-25.19 dBm			Freq Offse
5				E	0 H:
7 8 9					Scale Type
9 10 11					Log <u>Lir</u>



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LTE BAND 25 QPSK, (3 MHz)

RL	RF 5	r - UL: 29439 \ R Date: 3/29/2016 \ C 50 Ω DC 15000000 GHz NFE PNO: Fast C	SENSE:INT	ALIGN AUTO #Avg Type: RMS	06:18:22 AM Nov 05, 2016 TRACE 1 2 3 4 5 6 TYPE M WWWWW DET P P P P P P	
10 dB/div	Ref Offset Ref 33.0	IFGain:Low et 14.31 dB 00 dBm	#Atten: 34 ab	Mkr	2 25.423 5 GHz -25.16 dBm	Auto Tun
-og 23.0	Υ1					Contor Err
13.0						Center Fre 13.015000000 GH
3.00						13.01000000 0.1
7.00						I
17.0	<u> </u>		+		DL1 -13.00 dBm	Start Fre
27.0						30.000000 MH
27.0 37.0 000	and the second second					
47.0						Stop Fre
-47.0						26.00000000 GH
57.0					-90.00 dBm	
Start 30	MHz V 1.0 MHz				Stop 26.00 GHz	CF Ste 2.597000000 GH
			W 3.0 MHz	•	5.33 ms (40001 pts)	2.597000000 GF Auto Ma
MKR MODE T	TRC SCL	× 1.850 5 GHz	Y FL 28.13 dBm	UNCTION FUNCTION WIDTH	EUNCTION VALUE	E
	1 f	25.423 5 GHz	-25.16 dBm			Freq Offse
4					/	0 +
5 6					=	
7 8						Scale Typ
9 10						
						Log <u>L</u>



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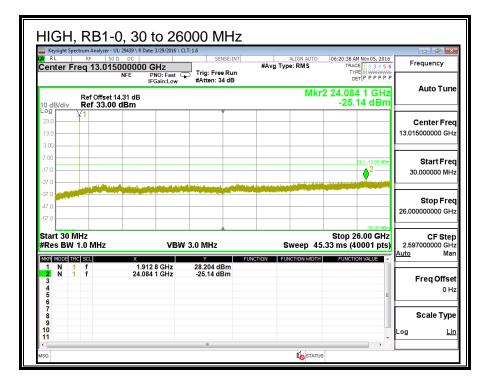
		r - UL: 29439 \ R Date: 3/29/2016 \				
RL Center F		50 Ω DC 15000000 GHz	SENSE:INT	ALIGN AUTO #Avg Type: RMS	06:20:09 AM Nov 05, 2016 TRACE 1 2 3 4 5 6	Frequency
Gine.	104 .0.2	NFE PNO: Fast IFGain:Low			DET P P P P P	-
				Mkr	2 25.822 8 GHz	Auto Tun
0 dB/div	Ref Offset Ref 33.0	et 14.31 dB 00 dBm		••••	-25.06 dBm	(
og 🗌	Υ <u>1</u>		The second secon			
23.0	++					Center Fre
13.0	++					13.015000000 GH
3.00	++					/
7.00					DL1 -13.00 dBm	Start Fre
17.0	\rightarrow	+++				30.000000 MH
27.0		In the second second second second	alization and the state of the state of the state of the			/ <u></u>
37.0	California de	An and the plantan with the plantan first star	And a setting of the set of the Advertised			Stop Fre
47.0						26.00000000 GH
57.0						20.000000000000000000000000000000000000
tart 30 l	MH7		i		-90.00 dBm Stop 26.00 GHz	CF Ste
	/ 1.0 MHz	VB	SW 3.0 MHz	Sweep 45	5.33 ms (40001 pts)	2.597000000 GH
ikr mode t		Х		FUNCTION FUNCTION WIDTH	FUNCTION VALUE	Auto Ma
1 N '	1 f 1 f	1.912 8 GHz 25.822 8 GHz	27.16 dBm -25.06 dBm			4
3	<u> </u>	20.022 0 0112	-20.00 dbm			Freq Offs
4 5					E	01
6 7						
8						Scale Typ
-					U	Log L
9 10 11						

LTE BAND 25 16QAM, (3 MHz)

XI RL	RF 5	- UL: 29439 \ R Date: 3/29/2016 \ 0 0 Ω DC 50000000 GHz	LI:1.6 SENSE:INT	ALIGN AUTO #Avg Type: RMS	06:18:47 AM Nov 05, 2016 TRACE 1 2 3 4 5 6	Frequency
	req 13.01	NFE PNO: Fast (IFGain:Low	Trig: Free Run #Atten: 34 dB	#Avg Type. Rins	TYPE MWWWW DET P P P P P P	
10 dB/div	Ref Offset Ref 33.0	t 14.31 dB		Mkr	2 25.703 3 GHz -24.60 dBm	Auto Tune
23.0	¥1					Conton Fro
13.0						Center Free 13.015000000 GH
-7.00					DL1 -13.00 dRm	Start Free
-17.0						30.000000 MH
-37.0		۲۵٬۵۱۵ (۲۰۰۵) و ۲۵٬۵۰۵ (۲۰۰۵ ۲۵٬۵۰۵ (۲۰۰۵) (۲۰۰۵) (۲۰۰۵) (۲۰۰۵) (۲۰۰۵) (۲۰۰۵) (۲۰۰۵) (۲۰۰۵) (۲۰۰۵) (۲۰۰۵) (۲۰۰۵) (۲۰۰۵) (۲۰۰۵) (۲۰۰۵) (۲۰۰۵)				Stop Free
-47.0						26.000000000 GH
Start 30	MHz				-90.00 dBm Stop 26.00 GHz	CF Ster
	1.0 MHz	VBV	/ 3.0 MHz	•	.33 ms (40001 pts)	2.597000000 GH Auto Mar
MKR MODE T	1 f	× 1.851 1 GHz	29.19 dBm	UNCTION FUNCTION WIDTH	FUNCTION VALUE	
3	1 f	25.703 3 GHz	-24.60 dBm			Freq Offse
4 5 6					E	он
7 8						Scale Type
9 10						Log Lir

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), 30 to 260				
	50 Ω DC 15000000 GHz NFE PNO: Fast C	SENSE:INT	ALIGN AUTO #Avg Type: RMS	06:19:43 AM Nov 05, 2016 TRACE 1 2 3 4 5 6 TYPE M WWWWW DET P P P P P P	Frequency
Ref Offse 10 dB/div Ref 33.0	IFGain:Low et 14.31 dB 00 dBm	#Atten: 34 dB	Mkr	2 24.108 7 GHz -24.24 dBm	Auto Tune
23.0 13.0 3.00					Center Fred 13.015000000 GHz
-7.00				DL1 -13 00 dBm	Start Free 30.000000 MH;
-37.0 -47.0 -57.0				-90.00 dBm	Stop Fred 26.000000000 GH;
Start 30 MHz #Res BW 1.0 MHz	VBW	3.0 MHz	•	Stop 26.00 GHz .33 ms (40001 pts)	CF Step 2.597000000 GH: Auto Mar
MKR MODE TRC SCL 1 N 1 f 2 N 1 f 3 4 5 5 6	x 1.881 7 GHz 24.108 7 GHz	Y F 27.21 dBm -24.24 dBm	FUNCTION FUNCTION WIDTH	FUNCTION VALUE	Freq Offse
5 6 7 8 9 10 11					Scale Type
MSG		m	STATUS	6	



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LTE BAND 25 QPSK, (5 MHz)

RL	RF 5	- UL: 29439 \ R Date: 3/29/2016 \ 50 Ω DC 50 Ω DC 50 Ω DC 50 Ω DC FE PNO: Fast IFGain:Low	SENSE:INT	ALIGN AUTO #Avg Type: RMS	06:52:56 AM Nov 05, 2016 TRACE 1 2 3 4 5 6 TYPE M WWW DET P P P P P P	Frequency
0 dB/div	Ref Offse Ref 33.0			Mkr	2 25.774 1 GHz -24.40 dBm	Auto Tur
.og	- Y1					
23.0						Center Fre 13.015000000 GH
3.00						15.01500000 GP
7.00						
17.0					DL1 -13.00 dFm	Start Fre
27.0						30.000000 MH
37.0 						
47.0						Stop Fre
57.0						26.00000000 G
57.0					-90.00 dBm	
tart 30					Stop 26.00 GHz	CF Ste
	V 1.0 MHz		W 3.0 MHz	•	.33 ms (40001 pts)	2.597000000 GI Auto M
IKR MODE	TRC SCL	× 1.851 1 GHz	27.20 dBm	JNCTION FUNCTION WIDTH	FUNCTION VALUE	
2 N 3	i i	25.774 1 GHz	-24.40 dBm			Freq Offs
4						01
5 6					E	
7						Scale Typ
Q						- Could Typ
8 9						

Keysight Spectrum Analyzer -	, 30 to 260		ALIGN AUTO	06:53:59 AM Nov 05, 2016	
Center Freq 13.01			#Avg Type: RMS	TRACE 1 2 3 4 5 6 TYPE M WWWWW DET P P P P P P	Frequency
Ref Offset 10 dB/div Ref 33.0			Mkr	2 25.478 7 GHz -24.70 dBm	Auto Tune
23.0 13.0 3.00					Center Fred 13.015000000 GH:
-7.00			1997 \$ 444 \$ 1999 \$ 100	DL1 -13.00 dBin	Start Free 30.000000 MH;
-37.0 -47.0 -57.0					Stop Fred 26.000000000 GH;
Start 30 MHz #Res BW 1.0 MHz		/ 3.0 MHz	•	-90.00 dBm Stop 26.00 GHz .33 ms (40001 pts)	CF Step 2.597000000 GH: Auto Mar
MKR MODE TRC SCL 1 N 1 f 2 N 1 f 3 4 5	X 1.881 0 GHz 25.478 7 GHz	Y F 27.17 dBm -24.70 dBm	JNCTION FUNCTION WIDTH	FUNCTION VALUE	Freq Offse
6 7 8 9					Scale Type
10 11				-	Log <u>Lir</u>

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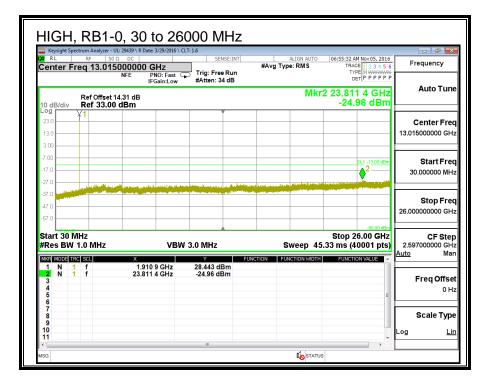
		- UL: 29439 \ R Date: 3/29/2016 \ C				
RL Center F		50 Ω DC	SENSE:INT	ALIGN AUTO #Avg Type: RMS	06:55:01 AM Nov 05, 2016 TRACE 1 2 3 4 5 6	Frequency
Grade .		NFE PNO: Fast C IFGain:Low	Trig: Free Run #Atten: 34 dB		DET P P P P P P	
0 dB/div	Ref Offset Ref 33.00	t 14.31 dB		Mkr	r2 23.748 4 GHz -25.24 dBm	Auto Tun
.og	$\nabla 1$					/
23.0	++		+		+	Center Fre
13.0	+				+	13.015000000 GH
3.00	+				+	/ <u></u>
7.00	++				DL1 -13.00 dBm	Start Fre
17.0	+				² ′	30.000000 MH
27.0		nakalik ana pada ya ana kana dinika sisak	and the states and a states	an and the substrate of the		/———
37.0			and the second se	a sale production of the set of t		Ctop Er
47.0						Stop Fre 26.00000000 GH
57.0						20.00000000000
Start 30 P	ЛШ-7				-90.00 dBm Stop 26.00 GHz	CF Ste
	/ 1.0 MHz	VBV	N 3.0 MHz	Sweep 45	5.33 ms (40001 pts)	
KR MODE TI	RC SCL	Х		FUNCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Ma
1 N 1	1 f 1 f	1.910 9 GHz 23.748 4 GHz	26.64 dBm -25.24 dBm			——
3	I T	23./40 4 012	-20.24 UDm			Freq Offs
4 5					E	01
6 7					/	
8						Scale Typ
9 10						Log L
11						

LTE BAND 25 16QAM, (5 MHz)

RL	RF 50		CLT: 1.6 SENSE:INT	ALIGN AUTO	06:53:28 AM Nov 05, 2016	Frequency
Center F	req 13.015	5000000 GHz NFE PNO: Fast IFGain:Low	Trig: Free Run #Atten: 34 dB	#Avg Type: RMS	TRACE 1 2 3 4 5 6 TYPE M WWWW DET P P P P P P	Trequency
10 dB/div	Ref Offset			Mkr	2 23.912 7 GHz -25.36 dBm	Auto Tune
	¥1					
13.0						Center Free 13.015000000 GH:
-7.00					DL1 -13.00 dBm	Start Free
-17.0			dan ahasa kitu daara daala		2	30.000000 MH
-37.0 alada						Stop Free
-57.0						26.00000000 GH;
Start 30 M #Res BW		VBV	V 3.0 MHz	Sweep 45	-90.00 dBm Stop 26.00 GHz .33 ms (40001 pts)	CF Step 2.597000000 GH
MKR MODE TH		× 1.851 1 GHz	Y F	UNCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Mar
3	f f	23.912 7 GHz	-25.36 dBm			Freq Offse
4 5 6					E	0 H
7 8 9						Scale Type
10 11						Log <u>Lii</u>

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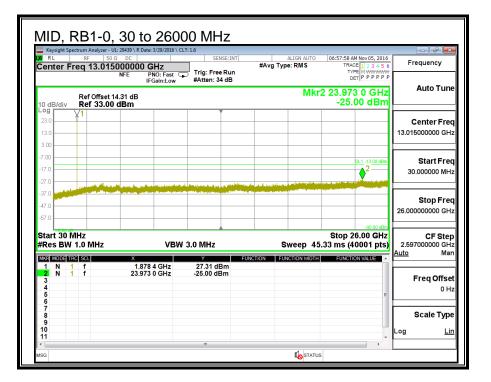
Keysight Spectrum Analyze	D, 30 to 260				
X RL RF Center Freq 13.0	NFE PNO: Fast 0	Trig: Free Run #Atten: 34 dB	ALIGN AUTO #Avg Type: RMS	06:54:30 AM Nov 05, 2016 TRACE 1 2 3 4 5 6 TYPE M WWWWW DET P P P P P P	Frequency
	IFGain:Low et 14.31 dB 00 dBm	#Atten: 34 dB	Mkr	2 24.020 4 GHz -24.94 dBm	Auto Tune
23.0 ×1 13.0					Center Free 13.015000000 GH
3.00				DL1 -13.00 dBm	Start Free 30.000000 MH
-37.0 -47.0 -57.0					Stop Free 26.000000000 GH
Start 30 MHz #Res BW 1.0 MHz		V 3.0 MHz	•	-90.00 dBm Stop 26.00 GHz .33 ms (40001 pts)	CF Step 2.597000000 GH Auto Mar
MKR MODE TRG SCL 1 N 1 f 2 N 1 f 3 4 5	x 1.881 0 GHz 24.020 4 GHz	Y F 28.149 dBm -24.94 dBm	UNCTION FUNCTION WIDTH	FUNCTION VALUE	Freq Offse
6 7 8 9					Scale Type
11					Log <u>Li</u> i



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LTE BAND 25 QPSK, (10 MHz)

enter Fi	RF 50 Ω D req 13.015000 NFE	0000 GHz	T: 1.6 SENSE:INT Trig: Free Run #Atten: 34 dB	ALIGN AUTO #Avg Type: RMS	06:56:50 AM Nov 05, 2016 TRACE 1 2 3 4 5 6 TYPE M WWWW DET P P P P P P	Frequency
I0 dB/div	Ref Offset 14.31 Ref 33.00 dBi	dB		Mkr	2 24.118 5 GHz -24.77 dBm	Auto Tur
- og 23.0	X1					Center Fre
13.0						13.015000000 GH
3.00						
7.00					DL1 -13.00 dBm	Start Fre
17.0					∂ ²	30.000000 MH
27.0			a sector (percent of a sector of the sector			
47.0						Stop Fre
57.0						26.00000000 GI
tart 30 N	117				-90.00 dBm Stop 26.00 GHz	CF Ste
Res BW		VBW	3.0 MHz	Sweep 45	.33 ms (40001 pts)	2.597000000 G
IKR MODE TH		x		JNCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Ma
1 N 1 2 N 1		1.851 1 GHz 24.118 5 GHz	28.22 dBm -24.77 dBm			Ener Offe
3 4						Freq Offs
5 6					E	
7 8						Scale Typ
9						Log L



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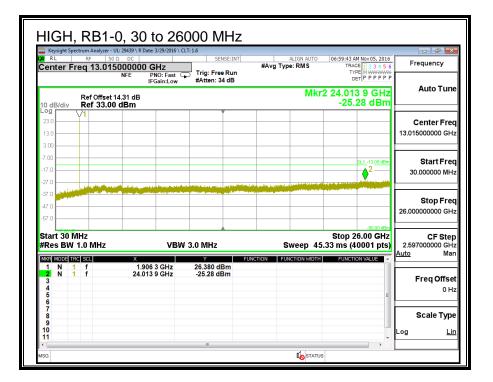
		29439 \ R Date: 3/29/2016 \ CI				
RL Center F	RF 50 Ω Freq 13.01500	DC 00000 GHz	SENSE:INT	ALIGN AUTO #Avg Type: RMS	TRACE 1 2 3 4 5 6	Frequency
Gine.		NFE PNO: Fast G	Trig: Free Run #Atten: 34 dB		TYPE M WWWWW DET P P P P P P	
	Ref Offset 14.3			Mk	r2 25.629 3 GHz	Auto Tun
0 dB/div	Ref Offset 14.3 Ref 33.00 dl				-25.03 dBm	/
.og	¥1					Cantor Fr
		1				Center Fre 13.015000000 GH
13.0	+	1	+			13.015000000 Gm
3.00	++	1			+ + +	
7.00		,			DL1 -13.00 dBm	Start Fre
17.0	++	1	+		+	30.000000 MH
27.0		and the second second second second				
37.0					+	Stop Fre
47.0	+++	1	+		+	26.000000000 GH
57.0		1	+		+	/ <u> </u>
start 30 l			A		Stop 26.00 GHz	CF Ste
	/ 1.0 MHz	VBW	V 3.0 MHz	Sweep 4/	5.33 ms (40001 pts)	2.597000000 GH
KR MODE T		X		FUNCTION FUNCTION WIDTH	H FUNCTION VALUE	Auto Ma
	1 f 1 f	1.906 3 GHz 25.629 3 GHz	27.61 dBm -25.03 dBm			
3 4						Freq Offs
5					E	01
6 7						
8					I	Scale Typ
10						Log <u>L</u>
11					· · · · ·	-
•						

LTE BAND 25 16QAM, (10 MHz)

Keysight Sp RL		r - UL: 29439 \ R Date: 3/29/2016 \ 50 Ω DC	CLT: 1.6 SENSE:INT	ALIGN AUTO	06:57:23 AM Nov 05, 2016	
Center F	req 13.0	15000000 GHz	Trig: Free Run	#Avg Type: RMS	TRACE 1 2 3 4 5 6	Frequency
		IFGain:Low	#Atten: 34 dB			Auto Tun
10 dB/div	Ref Offse Ref 33.0	et 14.31 dB 00 dBm		IVIKI.	2 25.832 5 GHz -24.86 dBm	
23.0	¥1					0
13.0						Center Free 13.015000000 GH
3.00						
7.00					0L1 -13.00 dBm	Start Fre
17.0					2	30.000000 MH
-27.0	and a state of the	فاللأوط ومخاف بدوسيس ويهيك ودكا أأخلتهم	ward her well war ward a state of the			
-37.0		allana dita ang ang ang ang ang ang ang ang ang an				Stop Fre
47.0						26.00000000 GH
57.0					-90.00 dBm	
Start 30	MHz (1.0 MHz	VPV	V 3.0 MHz	Swoon 45	Stop 26.00 GHz .33 ms (40001 pts)	CF Ste 2.597000000 GH
MKR MODE T		×			FUNCTION VALUE	Auto Ma
1 N	1 f 1 f	1.851 1 GHz	28.755 dBm	Function with the	FONCTION VALUE	
3	1 1	25.832 5 GHz	-24.86 dBm			Freq Offse
4					E	0 H
5 6 7						Quelo Tra
8 9						Scale Typ
10 11						Log <u>Li</u>

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	UL: 29439 \ R Date: 3/29/2016 \ C				
Center Freq 13.01	Ω DC 5000000 GHz NFE PNO: Fast ⊂ IFGain:Low	Trig: Free Run #Atten: 34 dB	#Avg Type: RMS	06:58:33 AM Nov 05, 2016 TRACE 1 2 3 4 5 6 TYPE M WWWW DET P P P P P P	Frequency
Ref Offset 10 dB/div Ref 33.00	14.31 dB	matten. 04 dB	Mkr	2 24.941 1 GHz -24.79 dBm	Auto Tune
		The second secon			
13.0					Center Fred 13.015000000 GH:
-7.00				DL1 -13.00 dBm	Start Fred
-17.0	and the second	Read to a children of the second second		2-	30.000000 MH;
-37.0		and a large second s			Stop Fred
-47.0					26.00000000 GH;
Start 30 MHz #Res BW 1.0 MHz		3.0 MHz	•	<u>-so.oo dBm</u> Stop 26.00 GHz .33 ms (40001 pts)	CF Step 2.597000000 GH Auto Mar
MKR MODE TRC SCL	× 1.879 1 GHz	26.90 dBm	UNCTION FUNCTION WIDTH	FUNCTION VALUE	
2 N 1 f 3 4 5	24.941 1 GHz	-24.79 dBm		E	Freq Offse 0 H
5 6 7 8 9					Scale Type
10 11					Log <u>Lir</u>



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LTE BAND 25 QPSK, (15 MHz)

RL		SE	e Run	ALIGN AUTO 07 /pe: RMS	1:00:48 AM Nov 05, 2016 TRACE 1 2 3 4 5 6 TYPE M WWWW DET P P P P P P	Frequency
0 dB/div	Ref Offset 14.31 dB Ref 33.00 dBm			Mkr2 2	4.410 6 GHz -25.14 dBm	Auto Tun
-og 7	1		Ť			Center Fre
13.0						13.015000000 GH
3.00						
7.00					DL1 -13.00 dBm	Start Fre
27.0						30.000000 MH
37.0	ألبا الالالا ومروق والألب الالالة والمسألة والالارد وم	Responses to the second s	and the first first state of the state of th			
47.0						Stop Fre
57.0						26.00000000 GH
tart 30 MH	7			S	-30.00 dBm Stop 26.00 GHz	CF Ste
Res BW 1.		VBW 3.0 MHz			ms (40001 pts)	2.597000000 GH
	scu x f 1.851 8 (Y GHz 28.71 d		UNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Ma
2 N 1 3	f 24.410 6					Freq Offs
3 4 5						01
6 7						
8						Scale Typ

Keysight Spectrum Analyze	0, 30 to 260	CLT: 1.6			
¤ RL RF Center Freq 13.0	50 Ω DC 15000000 GHz NFE PNO: Fast O IFGain:Low	Trig: Free Run #Atten: 34 dB	ALIGN AUTO #Avg Type: RMS	07:01:57 AM Nov 05, 2016 TRACE 1 2 3 4 5 6 TYPE M WWWWW DET P P P P P P	Frequency
	et 14.31 dB .00 dBm	#Atten: 04 dB	Mkr	2 25.724 1 GHz -25.02 dBm	Auto Tune
23.0 13.0					Center Freq 13.015000000 GHz
3.00 -7.00 -17.0 -27.0				DL1 -13.00 dBm	Start Fred 30.000000 MHz
-37.0 -47.0 -57.0					Stop Fred 26.000000000 GH;
Start 30 MHz #Res BW 1.0 MHz		V 3.0 MHz	•	-90.00 dBm Stop 26.00 GHz .33 ms (40001 pts)	CF Step 2.597000000 GH Auto Mar
MKR MODE TRC SCL 1 N 1 f 2 N 1 f 3 4 5 6	x 1.876 5 GHz 25.724 1 GHz	Y F 26.59 dBm -25.02 dBm	JNCTION FUNCTION WIDTH	FUNCTION VALUE	Freq Offse
6 7 8 9					Scale Type
10 11				-	Log <u>Lir</u>

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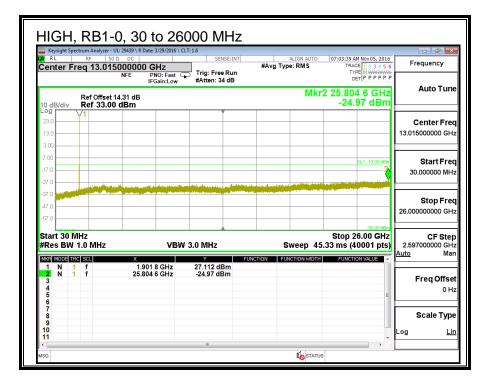
		- UL: 29439 \ R Date: 3/29/2016 \				
RL enter F		50 Ω DC 15000000 GHz	SENSE:INT	ALIGN AUTO #Avg Type: RMS	07:03:06 AM Nov 05, 2016 TRACE 1 2 3 4 5 6	Frequency
		NFE PNO: Fast IFGain:Low	Trig: Free Run #Atten: 34 dB		DET PPPPP	
0 dB/div	Ref Offse Ref 33.0			Mkr	2 23.975 0 GHz -25.25 dBm	Auto Tur
og 🗌	X1					
23.0						Center Fre
13.0						13.015000000 GH
3.00						
.00					DL1 -13.00 dBm	Start Fre
7.0					²	30.00000 MI
7.0	مطالعهم ويدي ا	ومرطاب والمرواني والمرواني والارد	Hune Alexandra and a sub-line and	Present installer press and press in the Arrest and		
7.0	and the second	an and a star and a sta	and the state of the			Stop Fre
7.0						26.00000000 GI
7.0						
tart 30 P	MHz		A		-90.00 dBm Stop 26.00 GHz	CF Ste
Res BW	1.0 MHz	VB	W 3.0 MHz	Sweep 45	.33 ms (40001 pts)	2.597000000 G
KR MODE T	RC SCL	х		JNCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Ma
1 N 1 2 N 1		1.901 8 GHz 23.975 0 GHz	27.91 dBm -25.25 dBm			
3		20.070 0 0112	20.20 0.511			Freq Offs
5					E	01
6 7						
8						Scale Typ
						Log L

LTE BAND 25 16QAM, (15 MHz)

Keysight Sp Keysight Sp		- UL: 29439 \ R Date: 3/29/2016 \	CLT: 1.6 SENSE:INT	ALIGN AUTO	07:01:22 AM Nov 05, 2016	
Center F	req 13.01	NFE PNO: Fast	Trig: Free Run #Atten: 34 dB	#Avg Type: RMS	TRACE 1 2 3 4 5 6 TYPE M WWWW DET P P P P P P	Frequency
10 dB/div	Ref Offse Ref 33.0	t 14.31 dB		Mkr	2 25.644 9 GHz -25.41 dBm	Auto Tune
23.0	¥1					Conton Fro
13.0						Center Free 13.015000000 GH
-7.00					DL1 -13.00 dBm	Start Free
-17.0						30.000000 MH
-27.0						
-47.0						Stop Free 26.00000000 GH
-57.0					-90.00 dBm	
Start 30 ≇Res BW	MHz 1.0 MHz	VBV	V 3.0 MHz	Sweep 45	Stop 26.00 GHz .33 ms (40001 pts)	CF Step 2.597000000 GH
MKR MODE T		X 1.851 8 GHz	Y F	UNCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Mai
2 N 3	1 f 1 f	25.644 9 GHz	-25.41 dBm			Freq Offse
4 5 6 7					E	он
7 8 9						Scale Type
9 10 11						Log <u>Li</u> i

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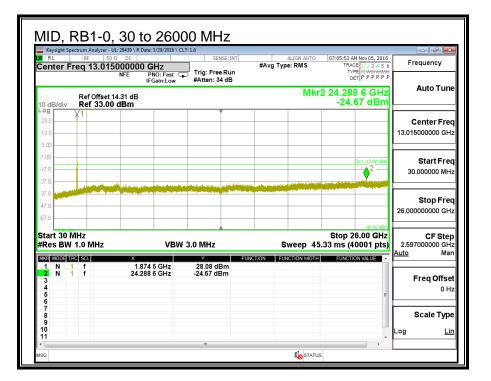
Keysight Spectrum Analyze	0, 30 to 260	CLT: 1.6			
Center Freq 13.0	NFE PNO: Fast	Trig: Free Run #Atten: 34 dB	ALIGN AUTO #Avg Type: RMS	07:02:30 AM Nov 05, 2016 TRACE 1 2 3 4 5 6 TYPE M WWWWW DET P P P P P P	Frequency
	IFGain:Low et 14.31 dB 00 dBm	#Atten: 34 dB	Mkr	2 25.119 0 GHz -24.79 dBm	Auto Tune
23.0 V1					Center Free 13.015000000 GH
3.00 -7.00 -17.0				DL1 -13.00 dBm	Start Free 30.000000 MH
-27.0 -37.0 -47.0 -57.0	erst kill in ange energige energi af menergi her skille anergedeli	nyang di Kang di Kang yang pag-pang pang di Kalang Sang Kang di Kang di Kang yang pang di Kalang Sang Kang di Kang di			Stop Free 26.00000000 GH:
Start 30 MHz #Res BW 1.0 MHz		V 3.0 MHz	•	Stop 26.00 GHz .33 ms (40001 pts)	CF Step 2.597000000 GH: Auto Mar
MKR MODE TRC SCL 1 N 1 f 2 N 1 f 3 4 5	x 1.876 5 GHz 25.119 0 GHz	Y F 26.616 dBm -24.79 dBm	UNCTION FUNCTION WIDTH	FUNCTION VALUE	Freq Offse
5 6 7 8 9					Scale Type
10 11					Log <u>Lir</u>



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LTE BAND 25 QPSK, (20 MHz)

RL	RF 50 Ω		CLT: 1.6 SENSE:INT	ALIGN AUTO #Avg Type: RMS	07:04:44 AM Nov 05, 2016 TRACE 1 2 3 4 5 6	Frequency
entern		NFE PNO: Fast G	Trig: Free Run #Atten: 34 dB	#*··9 ·)/	TYPE MWWWW DET PPPPP	
0 dB/div	Ref Offset 14. Ref 33.00 d			Mkr	r2 24.187 9 GHz -24.83 dBm	Auto Tur
.og 23.0	¥1					
13.0						Center Fre 13.015000000 GH
3.00	,					13.01000000 31
7.00						
17.0			+		DL1 -13.00 dBm	Start Fre
27.0						30.000000 MH
37.0	and and the state of the state		and the second			
47.0						Stop Fre
57.0					/	26.00000000 GH
L					-90.00 dBm	
Start 30	MHz V 1.0 MHz	VBV	V 3.0 MHz	Sween 4!	Stop 26.00 GHz 5.33 ms (40001 pts)	CF Ste 2.597000000 GH
KR MODE		×		UNCTION FUNCTION WIDTH	· · · ·	Auto Ma
1 N	1 f	1.851 8 GHz	27.88 dBm	INCTION FORCEON WIGHT	- FONCTION VALUE	L
3	1 f	24.187 9 GHz	-24.83 dBm			Freq Offs
4					E	01
6 7						
8					/	Scale Ty
9 10						Log L
11			m		· · · · · · · · · · · · · · · · · · ·	
				I STATUS		L



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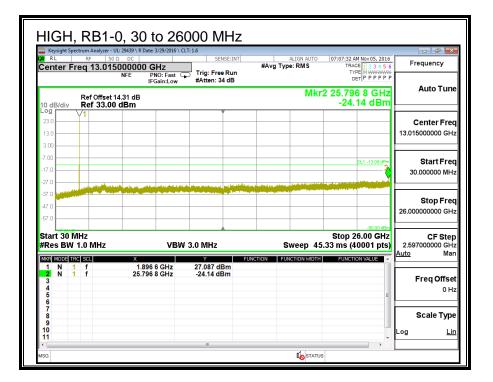
		er - UL: 29439 \ R Date: 3/29/2							
RL Center F		50 Ω DC 15000000 GHz		ENSE:INT	A #Avg Type	ALIGN AUTO e: RMS	07:07:00 AM Nov 05, TRACE 1 2 3	456	Frequency
United 1	109 .0.2		Fast 😱 Trig: Fre		• • •		DET P P P		
0 dB/div		et 14.31 dB .00 dBm	.01			Mkr	2 25.647 5 G -23.04 di		Auto Tun
og 🗌	X1			<u> </u>	T			<u>~</u>]⊢	
23.0	++			+	$\left \right $				Center Fre
13.0	+				++	ł		13.0	015000000 GH
3.00	+				++				
7.00	+			+	<u> </u>		DL1-13.00	JU 07	Start Fre
17.0	\mp			+				-2	30.000000 MH
27.0		alare Mi. Mar. in	and the second						
37.0			and a second state of the	And the second second					Stop Fre
47.0					++				000000000 GH
57.0									
tart 30	MH7			نــــــــــــــــــــــــــــــــــــ	<u> </u>		Stop 26.00 G	GHZ	CF Ste
	/ 1.0 MHz	•	VBW 3.0 MHz		Sv	weep 45.	.33 ms (40001 j	pts) 2.5	597000000 GH
ikr mode t		x	Y		CTION FUNC	ICTION WIDTH	FUNCTION VALUE	Auto	<u>o</u> Ma
	1 f 1 f	1.896 6 GH 25.647 5 GH							
3			16	Biii					Freq Offs
5								=	0 H
6 7									
8									Scale Typ
								Log	
10								*	
								- F	

LTE BAND 25 16QAM, (20 MHz)

XI RL	RF	r - UL: 29439 \ R Date: 3/29/2016 \ 50 Ω DC 150000000 GHz	SENSE:INT	ALIGN AUTO #Avg Type: RMS	07:05:17 AM Nov 05, 2016 TRACE 1 2 3 4 5 6	Frequency
Center I	164 15.0	NFE PNO: Fast IFGain:Low	Trig: Free Run #Atten: 34 dB		DET P P P P P P	
10 dB/div		et 14.31 dB 00 dBm		Mkr	2 23.690 0 GHz -25.13 dBm	Auto Tune
23.0	¥1					Center Free
13.0						13.015000000 GH
-7.00					DL1 -13.00 dBm	Start Free
-17.0					2	30.000000 MH
-37.0						Oton From
-47.0						Stop Free 26.00000000 GH
Start 30	MHz				-90.00 dBm Stop 26.00 GHz	CF Ster
	/ 1.0 MHz	VB	N 3.0 MHz	•	.33 ms (40001 pts)	2.597000000 GH Auto Mar
MKR MODE	1 f	× 1.851 8 GHz	29.091 dBm	UNCTION FUNCTION WIDTH	FUNCTION VALUE	
2 N 3 4	1 f	23.690 0 GHz	-25.13 dBm			Freq Offse
4 5 6					E	он
7 8 9						Scale Typ
10 11						Log Li

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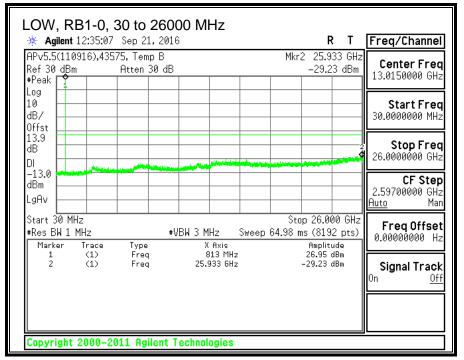
Keysight Spectrum Analyze	0, 30 to 260	CLT: 1.6			¢
Center Freq 13.0	50 Ω DC 15000000 GHz NFE PNO: Fast (IFGain:Low	Trig: Free Run #Atten: 34 dB	ALIGN AUTO #Avg Type: RMS	07:06:27 AM Nov 05, 2016 TRACE 1 2 3 4 5 6 TYPE M WWWW DET P P P P P P	Frequency
	et 14.31 dB 00 dBm	#Atten: 04 dB	Mkr	2 23.763 3 GHz -24.38 dBm	Auto Tune
23.0 3.00					Center Fred 13.015000000 GH:
-7.00	abataniki, yant yang atau atau	ave the state state state state state of the s	A the second key is writing of provident Value	DL1 -13.00 dBm	Start Free 30.000000 MH;
-37.0				-90.00 dBm	Stop Fred 26.000000000 GH;
Start 30 MHz #Res BW 1.0 MHz		V 3.0 MHz	•	Stop 26.00 GHz .33 ms (40001 pts)	CF Step 2.597000000 GH: Auto Mar
MKR MODE TRC SCL 1 N 1 f 2 N 1 f 3 4 5 6	x 1.874 5 GHz 23.763 3 GHz	28.259 dBm -24.38 dBm	UNCTION FUNCTION WIDTH	FUNCTION VALUE	Freq Offse
5 6 7 8 9					Scale Type
10 11					Log <u>Lir</u>

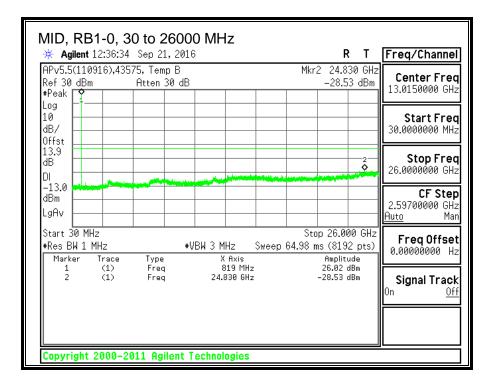


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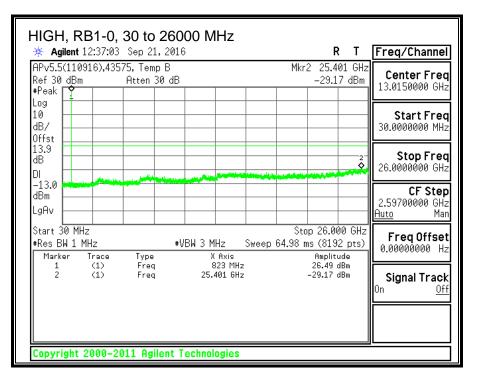
8.3.9. LTE BAND 26

LTE BAND 26 QPSK, (1.4 MHz)

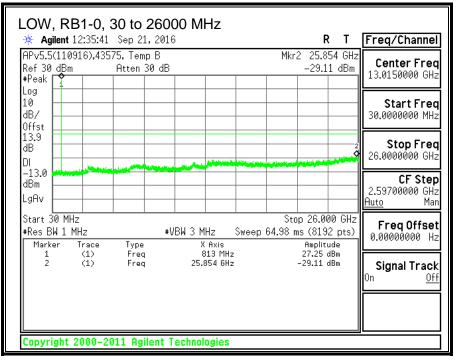




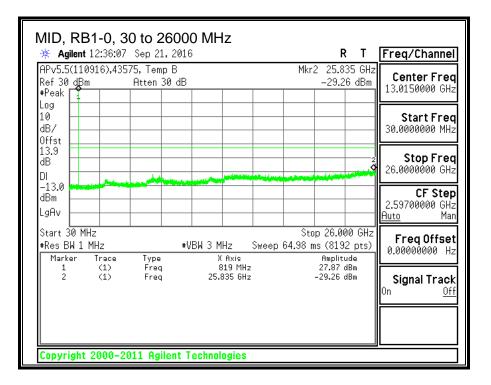
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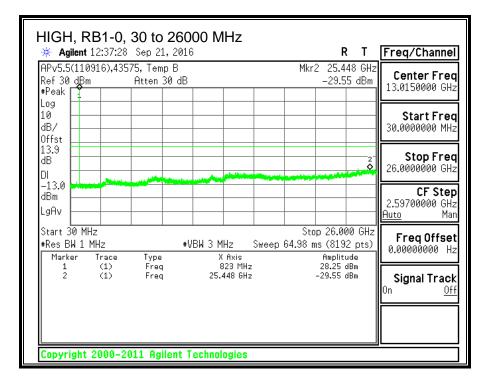


LTE BAND 26 16QAM, (1.4 MHz)



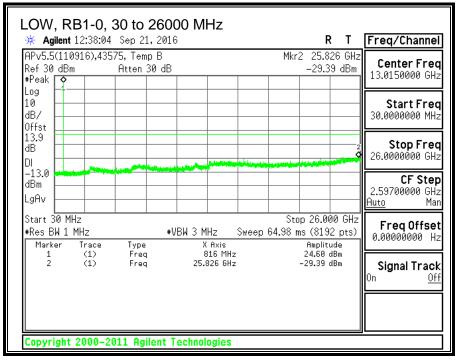
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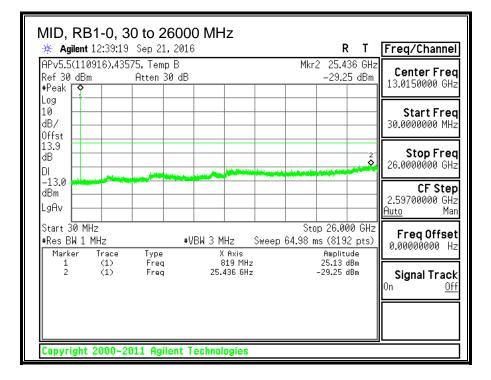




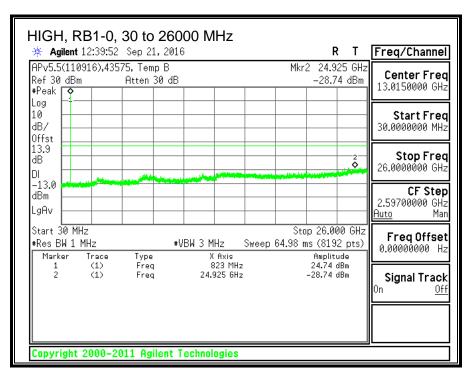
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LTE BAND 26 QPSK, (3 MHz)

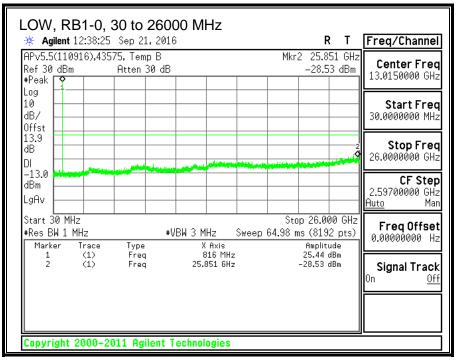




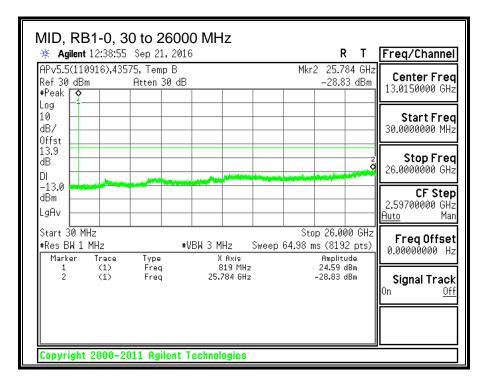
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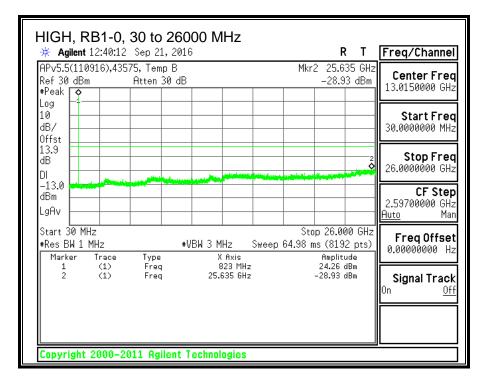


LTE BAND 26 16QAM, (3 MHz)



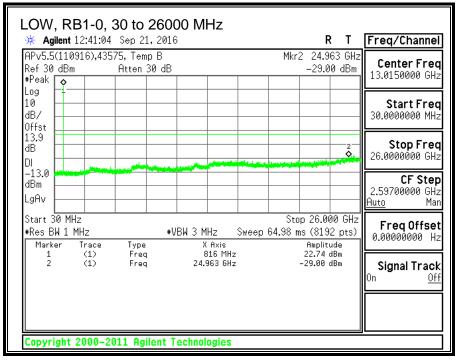
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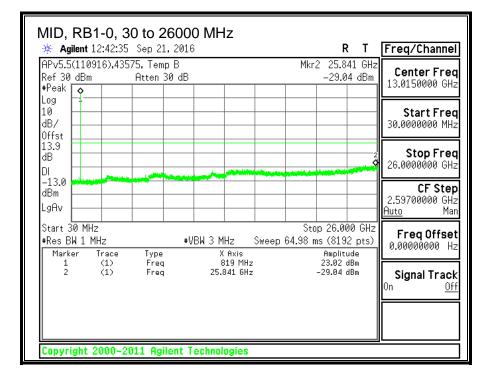




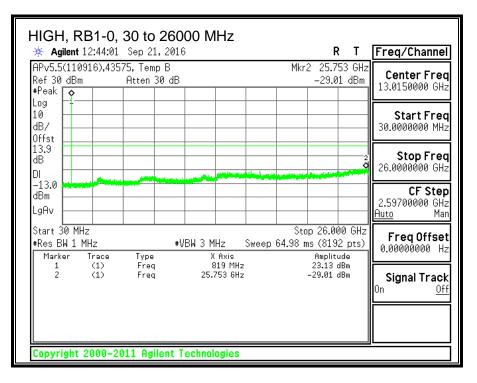
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LTE BAND 26 QPSK, (5 MHz)

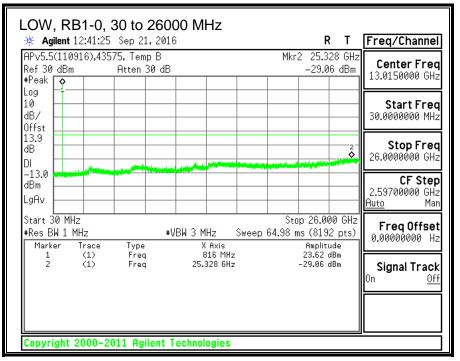




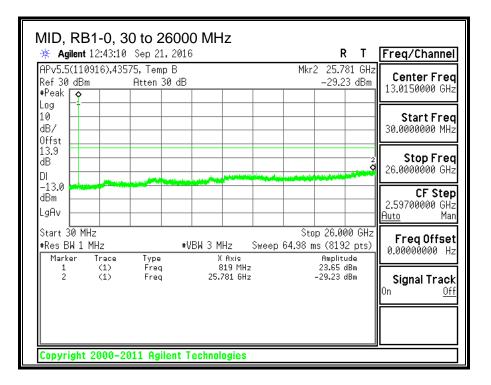
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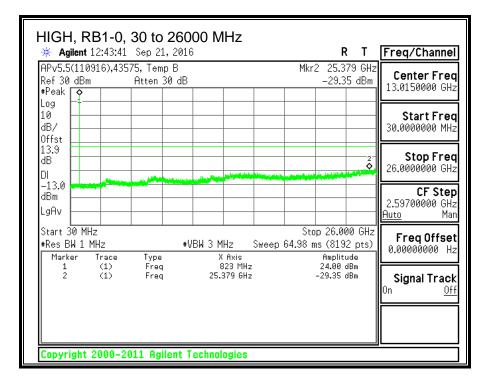


LTE BAND 26 16QAM, (5 MHz)



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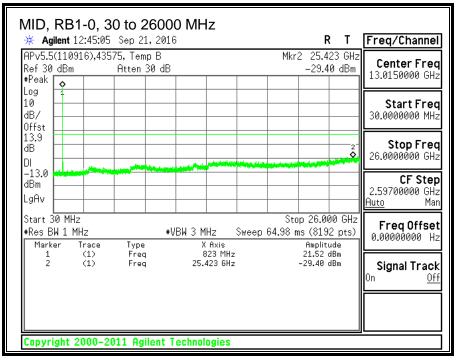


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LTE BAND 26 QPSK, (10 MHz)

,		, 30 to 260 :45 Sep 21, 20			R	т	Freq/Channel
Ref 30 #Peak		43575, Temp B Atten 30 dE	3		25.93 -29.52		Center Freq 13.0150000 GHz
Log 10 dB/ Offst	4						Start Freq 30.0000000 MHz
13.9 dB DI						2	Stop Freq 26.0000000 GHz
-13.0 dBm LgAv							CF Step 2.59700000 GHz <u>Auto</u> Man
Marke	N 1 MHz er Trac	е Туре	ŧVBW 3 MHz X Axis	4.98 ms	Amplituc	pts) ie	FreqOffset 0.00000000 Hz
1 2	(1) (1)	Freq Freq	823 MH 25.930 GH		21.44 dE 29.52 dE		Signal Track ^{On <u>Off</u>}
Conuri	abt 2000	-2011 Agilent	Toobrologioo				

LTE BAND 26 16QAM, (10 MHz)

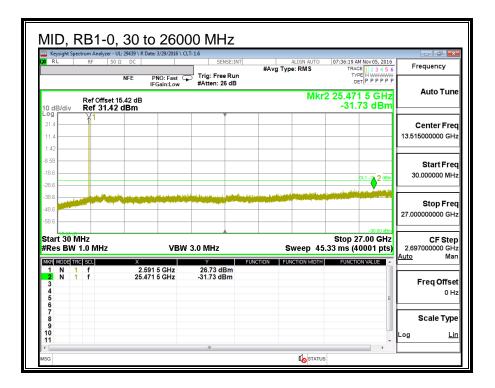


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8.3.10. LTE BAND 41

LTE BAND 41 QPSK, (5 MHz)

U RL	RF 50 S	Pv5.4(101216),30606, Conduct 2 DC	SENSE:INT	ALIGN AUTO #Avg Type: RMS	10:22:10 AM Nov 05, 2016 TRACE 1 2 3 4 5 6	Frequency
		NFE PNO: Fast IFGain:Low	Trig: Free Run #Atten: 26 dB	Avg[Hold:>100/100	DET P P P P P P	
10 dB/div	Ref Offset 19 Ref 31.42			Mkr	2 26.210 5 GHz -32.578 dBm	Auto Tune
21.4	Q1					Center Free
11.4						13.515000000 GH
8.58						Start Free
18.6					DL1 -25.00 d 2	30.000000 MH;
38.6	and the second second					
48.6						Stop Free 27.00000000 GH
-58.6					-90.00 dBm	
Start 30 #Res BW	MHz 1.0 MHz	VB	V 3.0 MHz	Sweep 45	Stop 27.00 GHz .33 ms (40001 pts)	CF Step 2.697000000 GH
MKR MODE T	RC SCL	X 2.498 4 GHz	Y E	JNCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Mai
2 N 3	f	26.210 5 GHz	-32.578 dBm			Freq Offse
4 5 6 7					E	ОН
6 7 8 9						Scale Typ
9 10 11						Log <u>Li</u> i



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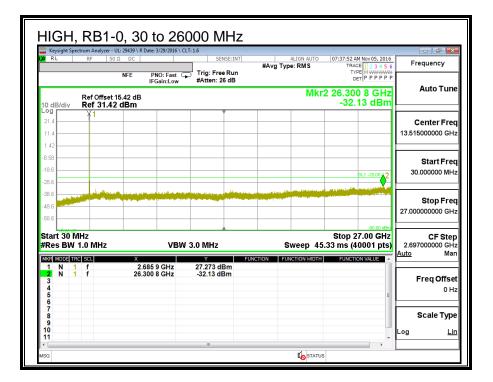
RL		439 \ R Date: 3/29/2016 \ C				
RL	RF 50 Ω	DC	SENSE:INT	ALIGN AUTO #Avg Type: RMS	07:37:21 AM Nov 05, 2016 TRACE 1 2 3 4 5 6	Frequency
	NE	FE PNO: Fast C IFGain:Low	Trig: Free Run #Atten: 26 dB		DET P P P P P	
0 dB/div	Ref Offset 15.4 Ref 31.42 dE			Mkr	2 26.304 8 GHz -30.92 dBm	Auto Tur
.og	X1		The second secon			Center Fre
11.4						13.515000000 GH
1.42						
3.58						
18.6						Start Fre 30.000000 MH
8.6					DL1 -25.00 2	30.00000 WIF
8.6	and the second se	a martine and the second s	ويستقصل ميتريقي ومحافظ	and the second state of th		
8.6		a an a la _{co} ntra la contra l				Stop Fre 27.00000000 GH
8.6						27.00000000 G
tart 30 N	ALI-5				-90.00 dBm Stop 27.00 GHz	05.04
	1.0 MHz	VBW	3.0 MHz	Sweep 45	.33 ms (40001 pts)	CF Ste 2.697000000 GH
KR MODE TH	C SCL	x	Y FL	JNCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Ma
1 N 1 2 N 1	f	2.685 9 GHz 26.304 8 GHz	27.61 dBm -30.92 dBm			
3		20.304 8 GHZ	-50.92 uBm			Freq Offs
4 5					E	01
6 7						Scale Typ

LTE BAND 41 16QAM, (5 MHz)

Keysight Sp	ectrum Analyzer - UL RF 50 Ω	: 29439 \ R Date: 3/29/2016 \ 0	SENSE:INT	ALIGN AUTO	07:35:49 AM Nov 05, 2016	
				#Avg Type: RMS	TRACE 1 2 3 4 5 6	Frequency
		NFE PNO: Fast (IFGain:Low	 Trig: Free Run #Atten: 26 dB 		DET P P P P P P	
10 dB/div	Ref Offset 16 Ref 31.42			Mkr	2 26.460 6 GHz -31.88 dBm	Auto Tun
Log	¥1		The second secon			
21.4						Center Fre
11.4						13.515000000 GH
1.42						
-8.58						Start Fre
-18.6					DL1 -25.00 d 2	30.000000 MH
-28.6						
-38.6		te and a set of the set			and a second state of the	Stop Fre
-48.6						27.00000000 GH
-58.6					-90.00 dBm	
Start 30 I	MHz	1			Stop 27.00 GHz	CF Ste
#Res BW	1.0 MHz	VBV	/ 3.0 MHz	Sweep 45	.33 ms (40001 pts)	2.697000000 GH
MKR MODE T		X		NCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Ma
1 N 2 N	l f l f	2.497 1 GHz 26.460 6 GHz	27.727 dBm -31.88 dBm			
3						Freq Offse 0 H
5					E	UH
7 8						Scale Typ
9						
10 11						Log <u>Li</u>

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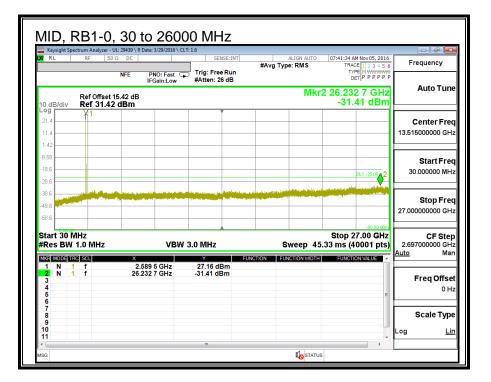
Keysight Spectrum Analyzer - U					
X RL RF 50 S	NFE PNO: Fast C	Trig: Free Run #Atten: 26 dB	ALIGN AUTO #Avg Type: RMS	07:36:51 AM Nov 05, 2016 TRACE 1 2 3 4 5 6 TYPE M WWWWWW DET P P P P P P	Frequency
Ref Offset 1 10 dB/div Ref 31.42		#Atten: 26 db	Mkr	2 23.820 9 GHz -31.88 dBm	Auto Tune
11.4 11.4					Center Free 13.515000000 GH
-8.68				2 L1 -25.00 dBm	Start Free 30.000000 MH
-38.6 -48.6 -58.6				-90.00 dBm	Stop Fred 27.00000000 GH:
Start 30 MHz #Res BW 1.0 MHz	VBW	/ 3.0 MHz	Sweep 45	Stop 27.00 GHz .33 ms (40001 pts)	CF Step 2.697000000 GH Auto Mar
MKR MODE TRC SCL 1 N 1 f 2 N 1 f 3	× 2.591 5 GHz 23.820 9 GHz	Y FU 25.761 dBm -31.88 dBm	INCTION FUNCTION WIDTH	FUNCTION VALUE	Freq Offse
4 5 6 7				E	он
8 9 10					Scale Type
9					"



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LTE BAND 41 QPSK, (10 MHz)

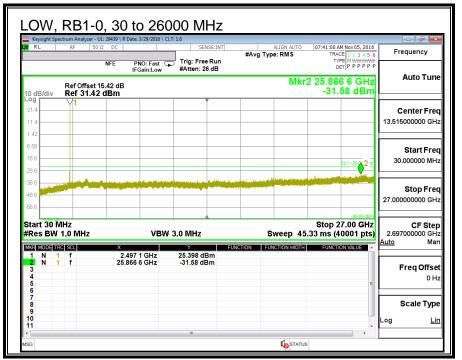
			- UL: 29439 \ R Dat	ite: 3/29/2016 \ C							- 6 2
RL		RF 50	50 Ω DC		SENSE		ALIGN AUTO	07:40:25 AM N TRACE	Nov 05, 2016	Frequ	uency
				PNO: Fast G	Trig: Free R #Atten: 26 d	Run		TYPE	<u>1 2 3 4 5 6</u> M	<u> </u>	
0 dB/di		Ref Offset Ref 31.42	t 15.42 dB I 2 dB m				Mkr	2 25.979 9 -31.72		Au	uto Tun
^{og}	<u> </u>	x1									
21.4		f		+	++			+	I		nter Fre
11.4					++			++	——II	13.51500	/0000 GH
1.42		4		—	++				lt		
-8.58		4							<u> </u> Г		
18.6											start Fre
-28.6			<u> </u>	<u> </u>			<u> </u>		<u>1 -25.09 2 n</u>	30.004	00000 MH
		C				والمروية والقريبة ومعاقدت	·····	a and the second second			
		The second s	No. of the local division of the local divis		a second second		And the second s			S	Stop Fre
-48.6		+		-	+					27.00000	
-58.6		+			++			+	——I		
Start 3	0 MH				A			Stop 27.	-90.00 dBm		CF Ste
Fres B				VB₩	V 3.0 MHz		Sweep 45	5.33 ms (400			CF SIE
	DE TRC S		×			FUNCTION	FUNCTION WIDTH	•	· · /	Auto	Ma
1 N	1	f	2.49	97 1 GHz	26.07 dBm	n		Tuncing	ALLON		
2 N 3	1	f	25.97	79 9 GHz	-31.72 dBm	1				Fre	eq Offs
4											01
5 6									=		
7											ale The
8 9										36	ale Typ
10										Log	L
11					m				- F		



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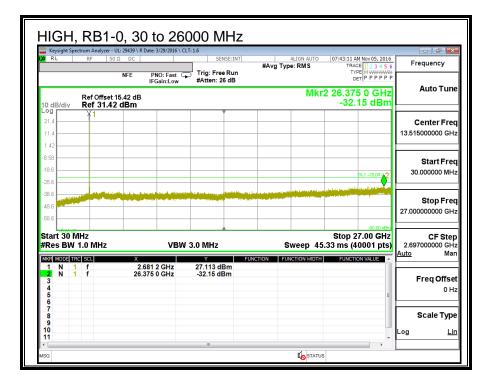
ysight Spectrum Analyzer - UL: 29439 \ R Date: 3/29/2016 \ CLT: 1.6	SENSE:INT ALIGN A	UTO 07:42:39 AM Nov 05, 2016	
NEE PNO East	#Avg Type: RM: rig: Free Run Atten: 26 dB		requency
Ref Offset 15.42 dB B/div Ref 31.42 dBm	1	Mkr2 26.774 1 GHz -31.26 dBm	Auto Tune
V1			Center Fred
			15000000 GHz
			Start Free
		DL1 -25.00 d 3	0.000000 MH:
			Stop Free
		27.00	00000000 GH
rt 30 MHz s BW 1.0 MHz VBW 3.0	MHz Sween	Stop 27.00 GHz 45.33 ms (40001 pts) 2.69	CF Step 97000000 GH
MODE TRC SCL X	Y EUNCTION FUNCTION	Auto	Mar
	1.26 dBm	E	Freq Offse 0 H
			Scale Type
		Log	Lir

LTE BAND 41 16QAM, (10 MHz)



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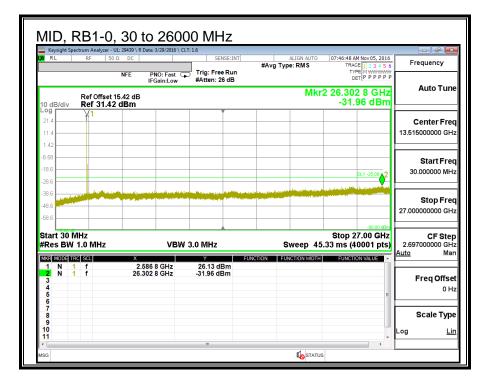
	D, 30 to 260				
X RL RF	50 Ω DC NFE PNO: Fast	SENSE:INT Trig: Free Run #Atten: 26 dB	ALIGN AUTO #Avg Type: RMS	07:42:04 AM Nov 05, 2016 TRACE 1 2 3 4 5 6 TYPE M WWWW DET P P P P P P	Frequency
	IFGain:Low et 15.42 dB 42 dBm	#Atten: 26 dB	Mkr	2 26.035 8 GHz -31.41 dBm	Auto Tune
21.4 11.4					Center Fred 13.515000000 GH;
-8.58				DL1 -25.09 2 1	Start Free 30.000000 MH
-38.6 -48.6 -58.6				-90.00 dBm	Stop Free 27.000000000 GH
Start 30 MHz #Res BW 1.0 MHz		N 3.0 MHz	•	Stop 27.00 GHz .33 ms (40001 pts)	CF Step 2.697000000 GH: <u>Auto</u> Mar
MKR MODE TRC SCL 1 N 1 f 2 N 1 f 3 4 5 5 6	x 2.588 8 GHz 26.035 8 GHz	25.16 dBm -31.41 dBm	FUNCTION WIDTH	FUNCTION VALUE	Freq Offse
7 8 9 10					Scale Type
11 <		III	I A STATUS	*	



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LTE BAND 41 QPSK, (15 MHz)

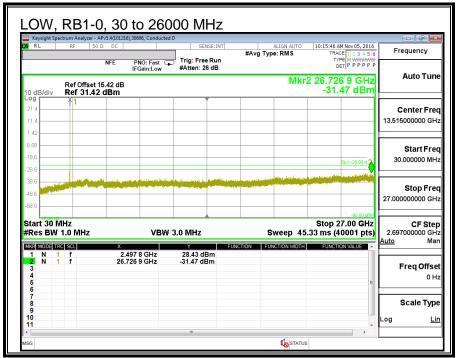
		r - UL: 29439 \ R Date: 3/29/2016 \ C				
RL	RF 5	50 Ω DC	SENSE:INT	ALIGN AUTO #Avg Type: RMS	07:45:40 AM Nov 05, 2016 TRACE 1 2 3 4 5 6	Frequency
		NFE PNO: Fast ⊂ IFGain:Low	 Trig: Free Run #Atten: 26 dB 		TYPE M WWWW DET P P P P P P	
0 dB/div		et 15.42 dB 42 dBm		Mkr	2 24.001 6 GHz -31.78 dBm	Auto Tun
.og						l
21.4			+ + + + + + + + + + + + + + + + + + + +	+ +	+ p	Center Fre
11.4			+	+		13.515000000 GH
1.42			+		└─── / ′	I
8.58					└─── │ ′	Start Fre
18.6					L '	Start Fre 30.000000 MH
28.6					2 .1 -25.00 dBm	30.00000 IVIT
	June 1	ten and the state of the state				
-38.6	And the second s		A DESCRIPTION OF THE OWNER OWNER OF THE OWNER OWNER OF THE OWNER OWNE			Stop Fre
-48.6			+		<u> </u>	27.000000000 GH
-58.6			+			<u> </u>
Start 30	- RALL-7		A		-90.00 dBm Stop 27.00 GHz	CESta
	WHZ	VBM	V 3.0 MHz	Sweep 45	5.33 ms (40001 pts)	CF Ste 2.697000000 GH
	TRC SCL	x		UNCTION FUNCTION WIDTH	· · · ·	Auto Ma
1 N	1 f	2.497 8 GHz	26.45 dBm	JNCTION FUNCTION WOTH	FUNCTION VALUE	
2 N	1 f	24.001 6 GHz	-31.78 dBm		I/	Freq Offs
3 4					/	OF
5					E	· · · ·
7					I/	F
8					/	Scale Typ
						Log L
10 11						



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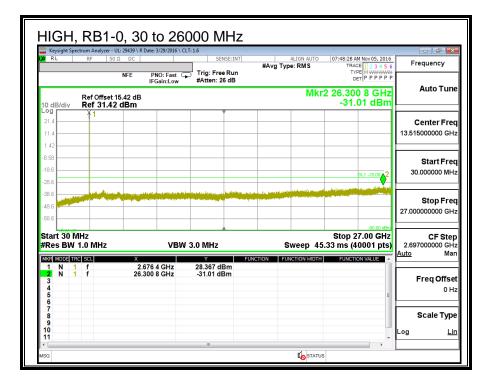
		- UL: 29439 \ R Date:	3/29/2016 \ C						
RL	RF 5	50 Ω DC		SENSE:IN	#Avg Typ	ALIGN AUTO e: RMS	07:47:55 AM Nov 05, 2016 TRACE 1 2 3 4 5 6	Frequ	uency
			NO:Fast ⊂ Gain:Low	Trig: Free Run #Atten: 26 dB			DET P P P P F		
0 dB/div	Ref Offset Ref 31.4					Mkr	2 26.232 7 GHz -31.36 dBm	A	uto Tur
^{og}	¥1								
21.4								Cer 13.51500	nter Fre
11.4								13.51500	10000 GF
.42									
8.6									tartFre
8.6							DL1 -25.00 2	30.00	0000 MH
8.6			and a deside	Here and the second	a da ana ana ana ana ana ana ana ana ana	فرجينا والمقاطع وروادي	and here the state of the second second		
8.6								s	top Fre
8.6								27.00000	0000 Gł
0.0							-90.00 dBm		
tart 30	MHz / 1.0 MHz			3.0 MHz	-		Stop 27.00 GHz		CF Ste
			VBW	3.0 MHZ		•	33 ms (40001 pts)	2.69700 Auto	Ma
KR MODE T 1 N	RC SCL	× 2.676	4 GHz	¥ 26.77 dBm	FUNCTION FUN	ICTION WIDTH	EUNCTION VALUE		
	1 f	26.232	7 GHz	-31.36 dBm				Fre	eq Offs
4									01
5 6							E		
								Sc	ale Typ
7 8									
								Log	L

LTE BAND 41 16QAM, (15 MHz)



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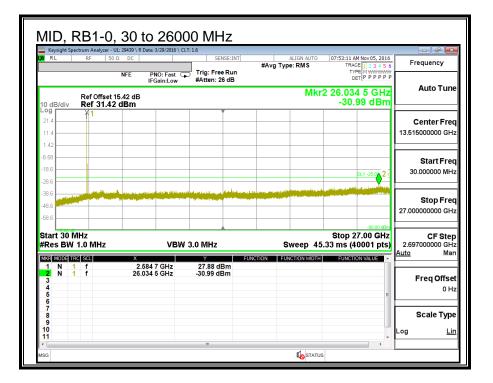
Keysight Spectrum Analyzer), 30 to 260				
(XV) RL RF S	NFE PNO: Fast	Trig: Free Run #Atten: 26 dB	ALIGN AUTO #Avg Type: RMS	07:47:21 AM Nov 05, 2016 TRACE 1 2 3 4 5 6 TYPE M WWWWW DET P P P P P P	Frequency
Ref Offse 10 dB/div Ref 31.4	IFGain:Low t 15.42 dB L2 dBm	#Atten: 26 dB	Mkr	2 26.110 7 GHz -31.67 dBm	Auto Tune
21.4 11.4					Center Free 13.515000000 GH
-8.58				DL1 -25.00; 2 .	Start Free 30.000000 MH
-38.6 -48.6 -58.6				-90.00 dBm	Stop Free 27.000000000 GH
Start 30 MHz #Res BW 1.0 MHz		V 3.0 MHz	•	Stop 27.00 GHz .33 ms (40001 pts)	CF Step 2.697000000 GH: <u>Auto</u> Mar
MKE MODE TRC SCL 1 N 1 f 2 N 1 f 3 4 5 6 6 7 7 7	x 2.587 4 GHz 26.110 7 GHz	25.59 dBm -31.67 dBm	FUNCTION FUNCTION WIDTH	FUNCTION VALUE	Freq Offse
7 8 9 10					Scale Type
11 •		m			



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LTE BAND 41 QPSK, (20 MHz)

		lyzer - UL: 29439 \ R Date:	23/29/2016 \ C			L	- 6 -
RL	RF	50 Ω DC		SENSE:INT	ALIGN AUTO #Avg Type: RMS	07:52:06 AM Nov 05, 2016 TRACE 1 2 3 4 5 6	Frequency
			PNO: Fast G FGain:Low	Trig: Free Run #Atten: 26 dB		TYPE MWWWWW DET P P P P P	
0 dB/div		ffset 15.42 dB 1 1.42 dB m			Mkr	2 26.144 4 GHz -31.66 dBm	Auto Tun
.og	<u>1</u>						l
21.4			+			+p	Center Fre
11.4	-+		+	+		+	13.515000000 GH
1.42	$-\parallel$			+		<u> </u>	t
8.58						<u> </u>	Start Fre
18.6						└───. I'	Start Fre 30.000000 MH
28.6		$-\pm$	+	+		DL1 -25.00 (2)	30.000000 Mil
		ويعدون بالمراجع				a de la constante	
-38.6		And the second second	A CONTRACTOR OF	A Contraction of the local distance of the l			Stop Fre
-48.6			+				27.00000000 GH
-58.6			+	+		<u> </u>	F
Start 30	. RAU-7			A		-90.00 dBm Stop 27.00 GHz	CESte
	W 1.0 MH	17	VBV	V 3.0 MHz	Sweep 45	5.33 ms (40001 pts)	CF Ste 2.69700000 GH
	TRC SCL	x			FUNCTION FUNCTION WIDTH	· · · ·	Auto Ma
1 N	1 f		7 8 GHz	25.84 dBm	UNCTION FONCTION WOTH	FUNCTION VALUE	
2 N	1 f	26.144		-31.66 dBm		· 1/	Freq Offse
3 4						/	
5						=	
7						/	F
8							Scale Typ
10						U /	Log L
11							



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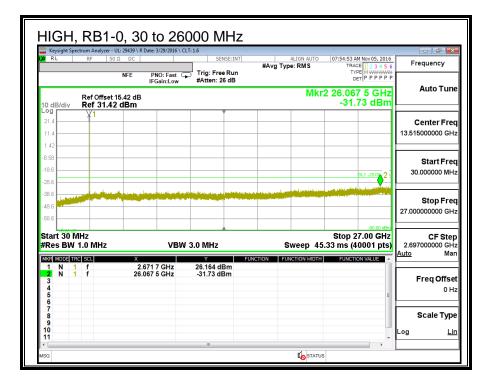
R L RF	er - UL: 29439 \ R Date: 3/29/2016 50 Ω DC	CLT: 1.6 SENSE:INT	ALIGN AUTO	07:54:18 AM Nov 05, 2016	- 7 -
· · · ·	NFE PNO: Fast IFGain:Low	Trig: Free Run #Atten: 26 dB	#Avg Type: RMS	TRACE 1 2 3 4 5 6 TYPE M WWWW DET P P P P P P	Frequency
	et 15.42 dB . 42 dBm		Mkr	2 26.312 9 GHz -31.34 dBm	Auto Tune
og 1					Center Free
11.4					13.515000000 GH
3.58					Start Free
8.6				DL1 -25.00 2	30.000000 MH
8.6					Stop Free
8.6					27.000000000 GH
tart 30 MHz					CF Ster
Res BW 1.0 MHz	VB	W 3.0 MHz	Sweep 45	.33 ms (40001 pts)	2.697000000 GH Auto Mar
KR MODE TRC SCL 1 N 1 f 2 N 1 f	× 2.671 7 GHz	28.57 dBm	JNCTION FUNCTION WIDTH	FUNCTION VALUE	Auto Mai
2 N 1 f 3 4 5 6	26.312 9 GHz	-31.34 dBm		E	Freq Offse 0 H
9					Scale Type
9 0 1					Log <u>Lir</u>

LTE BAND 41 16QAM, (20 MHz)

Keysight Sp		- UL: 29439 \ R Date: 3/29/2016 \ 50 Ω DC	SENSE:INT	ALIGN AUTO	07:52:38 AM Nov 05, 2016	
				#Avg Type: RMS	TRACE 1 2 3 4 5 6 TYPE M WWWWW	Frequency
		NFE PNO: Fast IFGain:Low	Trig: Free Run #Atten: 26 dB		DET PPPPP	
		t 15.42 dB		Mkr	2 25.672 4 GHz	Auto Tun
10 dB/div Log	Ref 31.4	12 dBm			-31.40 dBm	
21.4	I					Center Fre
11.4						13.515000000 GH
1.42						
-8.58						Start Fre
-18.6					DL1 -25 4 2 Bm	30.000000 MH
-28.6						
-38.6		. The second state of the first	And and the second distribution			Stop Fre
-48.6						27.000000000 GH
-58.6						21.00000000000
Start 30	MHz		A		-90.00 dBm Stop 27.00 GHz	CF Ste
	1.0 MHz	VBI	N 3.0 MHz	Sweep 45	.33 ms (40001 pts)	2.697000000 GH
MKR MODE T		X		JNCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Ma
1 N 2 N	1 f 1 f	2.497 8 GHz 25.672 4 GHz	24.725 dBm -31.40 dBm			
3						Freq Offse
5					E	UH
6 7						
8						Scale Typ
10						Log Li

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Keysight Spectrum Analyz	er - UL: 29439 \ R Date: 3/29/2016 \ 50 Ω DC	CLT: 1.6	ALIGN AUTO	07:53:43 AM Nov 05, 2016	
NG RF	NFE PNO: Fast		#Avg Type: RMS	TRACE 1 2 3 4 5 6 TYPE MWWWW DET P P P P P	Frequency
	et 15.42 dB		Mkr	2 26.244 8 GHz -31.96 dBm	Auto Tun
21.4 11.4					Center Free 13.515000000 GH
-1.42				DL1 -25.00 Z	Start Free 30.000000 MH
-38.6 -48.6 -58.6					Stop Fre 27.000000000 GH
Start 30 MHz #Res BW 1.0 MHz		W 3.0 MHz	•	-90.00 dBm Stop 27.00 GHz 5.33 ms (40001 pts)	CF Stej 2.697000000 GH Auto Ma
MKR MODE TRC SCL 1 N 1 f 2 N 1 f 3 4 5	X 2.584 7 GHz 26.244 8 GHz	Y F 24.923 dBm -31.96 dBm	UNCTION FUNCTION WIDTH	FUNCTION VALUE	Freq Offse
5 6 7 8 9					Scale Typ
10 11					Log <u>Lii</u>



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9. FREQUENCY STABILITY

RULE PART(S)

FCC: §2.1055, §22.355, §24.235, §27.54 and §90.213

LIMITS

§22.355

The carrier frequency shall not depart from the reference frequency in excess of ± 2.5 ppm for mobile stations.

§24.235 & §27.54

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

§90.213

The carrier frequency shall not depart from the reference frequency in excess of ± 2.5 ppm for mobile stations

TEST PROCEDURE

Use CMW 500 with Frequency Error measurement capability.

- Temp. = −30° to +50°C
- Voltage = (85% 115%)

Low voltage, 3.23VDC, Normal, 3.8VDC and High voltage, 4.37VDC. End Voltage, 3.2VDC.

Frequency Stability vs Temperature:

The EUT is place inside a temperature chamber. The temperature is set to 20°C and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by 10 degrees, allowed to stabilize and soak, and then the measurement is repeated. This is repeated until +50°C is reached.

Frequency Stability vs Voltage:

The peak frequency error is recorded (worst-case).

MODES TESTED

- LTE Band 2
- LTE Band 4
- LTE Band 5
- LTE Band 7
- LTE Band 12
- LTE Band 13
- LTE Band 17
- LTE Band 25
- LTE Band 26
- LTE Band 41

<u>RESULTS</u>

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9.1. LTE BAND 2

QPSK, (20MHz BANDWIDTH

Limit	Limit		1910		
Condition		F low @ -13dBm	F high @ -13dBm	Delta (Hz)	Frequency Stability
Temperature	Voltage	(MHz)	(MHz)	(112)	(ppm)
Normal (20C)		1851.0681	1908.9268		
Extreme (50C)		1851.0681	1908.9268	-11.60	-0.006
Extreme (40C)		1851.0681	1908.9268	-11.50	-0.006
Extreme (30C)		1851.0681	1908.9268	-13.40	-0.007
Extreme (10C)	Normal	1851.0681	1908.9268	-10.44	-0.006
Extreme (0C)		1851.0681	1908.9268	-6.02	-0.003
Extreme (-10C)		1851.0681	1908.9268	-5.33	-0.003
Extreme (-20C)		1851.0681	1908.9268	-3.33	-0.002
Extreme (-30C)		1851.0681	1908.9268	-2.12	-0.001
			-		
	15%	1851.0681	1908.9268	-9.38	-0.005
20C	-15%	1851.0681	1908.9268	-9.68	-0.005
	End Point	1851.0681	1908.9268	-9.47	-0.005

16QAM, (20MHz BANDWIDTH

Limit		1850	1910		
Condition		F low @ -13dBm	F high @ -13dBm	Delta (Hz)	Frequency Stability
Temperature	Voltage	(MHz)	(MHz)	(112)	(ppm)
Normal (20C)		1851.0671	1908.9271		
Extreme (50C)		1851.0671	1908.9271	-11.13	-0.006
Extreme (40C)	1	1851.0671	1908.9271	-8.71	-0.005
Extreme (30C)		1851.0671	1908.9271	-10.17	-0.005
Extreme (10C)	Normal	1851.0671	1908.9271	-8.44	-0.004
Extreme (0C)	1	1851.0671	1908.9271	-5.44	-0.003
Extreme (-10C)		1851.0671	1908.9271	-5.21	-0.003
Extreme (-20C)		1851.0671	1908.9271	-3.05	-0.002
Extreme (-30C)		1851.0671	1908.9271	-2.12	-0.001
	15%	1851.0671	1908.9271	-8.14	-0.004
20C	-15%	1851.0671	1908.9271	-8.97	-0.005
	End Point	1851.0671	1908.9271	-8.33	-0.004

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9.2. LTE BAND 4

QPSK, (20MHz BANDWIDTH

Limit	Limit		1755		
Condition		F low @ -13dBm	F high @ -13dBm	Delta (Hz)	Frequency Stability
Temperature	Voltage	(MHz)	(MHz)	()	(ppm)
Normal (20C)		1711.0899	1753.9270		
Extreme (50C)		1711.0899	1753.9270	-12.32	-0.007
Extreme (40C)		1711.0899	1753.9270	-9.46	-0.005
Extreme (30C)		1711.0899	1753.9270	-8.33	-0.005
Extreme (10C)	Normal	1711.0899	1753.9270	-7.88	-0.005
Extreme (0C)		1711.0899	1753.9270	-5.44	-0.003
Extreme (-10C)		1711.0899	1753.9270	-2.25	-0.001
Extreme (-20C)		1711.0899	1753.9270	-2.05	-0.001
Extreme (-30C)		1711.0899	1753.9270	-1.25	-0.001
			-		
	15%	1711.0899	1753.9270	-7.68	-0.004
20C	-15%	1711.0899	1753.9270	-8.70	-0.005
	End Point	1711.0899	1753.9270	-8.44	-0.005

16QAM, (20MHz BANDWIDTH)

Limit		1710	1755			
Condition		F low @ -13dBm	F high @ -13dBm	Delta (Hz)	Frequency Stability	
Temperature	Voltage	(MHz)	(MHz)	(112)	(ppm)	
Normal (20C)		1711.0685	1753.9175			
Extreme (50C)		1711.0685	1753.9175	-9.94	-0.006	
Extreme (40C)		1711.0685	1753.9175	-8.17	-0.005	
Extreme (30C)		1711.0685	1753.9175	-10.07	-0.006	
Extreme (10C)	Normal	1711.0685	1753.9175	-8.13	-0.005	
Extreme (0C)		1711.0685	1753.9175	-1.75	-0.001	
Extreme (-10C)		1711.0685	1753.9175	-1.15	-0.001	
Extreme (-20C)		1711.0685	1753.9175	-2.00	-0.001	
Extreme (-30C)		1711.0685	1753.9175	-1.12	-0.001	
	15%	1711.0685	1753.9175	-7.47	-0.004	
20C	-15%	1711.0685	1753.9175	-7.84	-0.005	
	End Point	1711.0685	1753.9175	-8.02	-0.005	

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9.3. LTE BAND 5

QPSK, (10MHz BANDWIDTH)

Limit		824	849		
Condition		F low @ -13dBm	F high @ -13dBm	Delta (Hz)	Frequency Stability
Temperature	Voltage	(MHz)	(MHz)	()	(ppm)
Normal (20C)		824.5280	848.4697		
Extreme (50C)		824.5280	848.4697	-5.42	-0.006
Extreme (40C)		824.5280	848.4697	-6.02	-0.007
Extreme (30C)		824.5280	848.4697	-4.55	-0.005
Extreme (10C)	Normal	824.5280	848.4697	-3.78	-0.005
Extreme (0C)		824.5280	848.4697	-2.16	-0.003
Extreme (-10C)		824.5280	848.4697	-2.00	-0.002
Extreme (-20C)		824.5280	848.4697	-1.77	-0.002
Extreme (-30C)		824.5280	848.4697	-1.34	-0.002
	15%	824.5280	848.4697	-4.85	-0.006
20C	-15%	824.5280	848.4697	-2.89	-0.003
	End Point	824.5280	848.4697	-3.11	-0.004

16QAM, (10MHz BANDWIDTH)

Limit		824	849		
Condition		F low @ -13dBm	F high @ -13dBm	Delta (Hz)	Frequency Stability
Temperature	Voltage	(MHz)	(MHz)	(112)	(ppm)
Normal (20C)		824.5312	848.4612		
Extreme (50C)		824.5312	848.4612	-5.32	-0.006
Extreme (40C)		824.5312	848.4612	-4.84	-0.006
Extreme (30C)		824.5312	848.4612	-4.11	-0.005
Extreme (10C)	Normal	824.5312	848.4612	-4.66	-0.006
Extreme (0C)		824.5312	848.4612	-3.12	-0.004
Extreme (-10C)		824.5312	848.4612	-2.74	-0.003
Extreme (-20C)		824.5312	848.4612	-1.54	-0.002
Extreme (-30C)		824.5312	848.4612	-1.32	-0.002
	15%	824.5312	848.4612	-4.72	-0.006
20C	-15%	824.5312	848.4612	-5.02	-0.006
	End Point	824.5312	848.4612	-4.47	-0.005

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9.4. LTE BAND 7

QPSK, (20MHz BANDWIDTH)

Limit		2500	2570		
Condition		F low @ -13dBm	F high @ -13dBm	Delta (Hz)	Frequency Stability
Temperature	Voltage	(MHz)	(MHz)	(112)	(ppm)
Normal (20C)		2501.07200	2568.92300		
Extreme (50C)		2501.07199	2568.92299	-11.92	-0.005
Extreme (40C)		2501.07201	2568.92301	12.30	0.005
Extreme (30C)		2501.07202	2568.92302	24.93	0.010
Extreme (10C)	Normal	2501.07200	2568.92300	3.25	0.001
Extreme (0C)		2501.07200	2568.92300	1.28	0.001
Extreme (-10C)]	2501.07199	2568.92299	-5.34	-0.002
Extreme (-20C)		2501.07200	2568.92300	-4.25	-0.002
Extreme (-30C)		2501.07200	2568.92300	-2.15	-0.001
	15%	2501.0720	2568.9230	13.15	0.005
20C	-15%	2501.0720	2568.9230	26.34	0.010
	End Point	2501.0720	2568.9230	24.37	0.010

16QAM, (20MHz BANDWIDTH)

Limit		2500	2570		
Condition		F low @ -13dBm	F high @ -13dBm	Delta (Hz)	Frequency Stability
Temperature	Voltage	(MHz)	(MHz)	(112)	(ppm)
Normal (20C)		2501.0876	2568.9141		
Extreme (50C)		2501.0876	2568.9141	-19.86	-0.008
Extreme (40C)		2501.0876	2568.9141	11.23	0.004
Extreme (30C)		2501.0876	2568.9141	12.30	0.005
Extreme (10C)	Normal	2501.0876	2568.9141	-4.12	-0.002
Extreme (0C)		2501.0876	2568.9141	-3.27	-0.001
Extreme (-10C)		2501.0876	2568.9141	-1.32	-0.001
Extreme (-20C)		2501.0876	2568.9141	-1.44	-0.001
Extreme (-30C)		2501.0876	2568.9141	12.55	0.005
	15%	2501.0876	2568.9141	16.45	0.006
20C	-15%	2501.0876	2568.9141	27.62	0.011
	End Point	2501.0876	2568.9141	15.45	0.006

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9.5. LTE BAND 12

QPSK, (10MHz BANDWIDTH)

Limit		699	716		
Condition		F low @ -13dBm	F high @ -13dBm	Delta (Hz)	Frequency Stability
Temperature	Voltage	(MHz)	(MHz)	()	(ppm)
Normal (20C)		699.5193	715.4713		
Extreme (50C)		699.5193	715.4713	-4.43	-0.01
Extreme (40C)		699.5193	715.4713	-4.81	-0.01
Extreme (30C)		699.5193	715.4713	-4.09	-0.01
Extreme (10C)	Normal	699.5193	715.4713	-4.94	-0.01
Extreme (0C)		699.5193	715.4713	-1.87	0.00
Extreme (-10C)		699.5193	715.4713	-0.08	0.00
Extreme (-20C)		699.5193	715.4713	1.05	0.00
Extreme (-30C)		699.5193	715.4713	1.77	0.00
			-		
	15%	699.5193	715.4713	-5.26	-0.01
20C	-15%	699.5193	715.4713	-3.55	-0.01
	End Point	699.5193	715.4713	-4.12	-0.01

16QAM, (10MHz BANDWIDTH)

Limit		699	716		
Condition		F low @ -13dBm	F high @ -13dBm	Delta (Hz)	Frequency Stability
Temperature	Voltage	(MHz)	(MHz)	(112)	(ppm)
Normal (20C)		699.5280	715.4720		
Extreme (50C)		699.5280	715.4720	-6.08	-0.01
Extreme (40C)		699.5280	715.4720	-5.15	-0.01
Extreme (30C)		699.5280	715.4720	-5.52	-0.01
Extreme (10C)	Normal	699.5280	715.4720	3.32	0.00
Extreme (0C)		699.5280	715.4720	-1.05	0.00
Extreme (-10C)		699.5280	715.4720	-0.54	0.00
Extreme (-20C)		699.5280	715.4720	1.11	0.00
Extreme (-30C)		699.5280	715.4720	1.54	0.00
	15%	699.5280	715.4720	-3.48	0.00
20C	-15%	699.5280	715.4720	-4.21	-0.01
	End Point	699.5280	715.4720	-4.56	-0.01

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9.6. LTE BAND 13

QPSK, (10MHz BANDWIDTH)

Limit		777	787		
Condition		F low @ -13dBm	F high @ -13dBm	Delta (Hz)	Frequency Stability
Temperature	Voltage	(MHz)	(MHz)	()	(ppm)
Normal (20C)		777.5369	786.4692		
Extreme (50C)		777.5369	786.4692	-6.69	-0.009
Extreme (40C)		777.5369	786.4692	-4.98	-0.006
Extreme (30C)		777.5369	786.4692	-5.55	-0.007
Extreme (10C)	Normal	777.5369	786.4692	-4.09	-0.005
Extreme (0C)		777.5369	786.4692	-1.55	-0.002
Extreme (-10C)		777.5369	786.4692	-0.65	-0.001
Extreme (-20C)		777.5369	786.4692	1.42	0.002
Extreme (-30C)		777.5369	786.4692	1.98	0.003
	15%	777.5369	786.4692	-4.94	-0.006
20C	-15%	777.5369	786.4692	-3.81	-0.005
	End Point	777.5369	786.4692	-3.98	-0.005

16QAM, (10MHz BANDWIDTH)

Limit		777	787		
Condition		F low @ -13dBm	F high @ -13dBm	Delta (Hz)	Frequency Stability
Temperature	Voltage	(MHz)	(MHz)	(112)	(ppm)
Normal (20C)		777.5342	786.4725		
Extreme (50C)		777.5342	786.4725	-5.58	-0.007
Extreme (40C)		777.5342	786.4725	-4.33	-0.006
Extreme (30C)		777.5342	786.4725	-5.16	-0.007
Extreme (10C)	Normal	777.5342	786.4725	-5.04	-0.006
Extreme (0C)		777.5342	786.4725	-1.02	-0.001
Extreme (-10C)		777.5342	786.4725	-0.21	0.000
Extreme (-20C)		777.5342	786.4725	1.24	0.002
Extreme (-30C)		777.5342	786.4725	1.92	0.002
	15%	777.5342	786.4725	-4.56	-0.006
20C	-15%	777.5342	786.4725	-4.86	-0.006
	End Point	777.5342	786.4725	-4.25	-0.005

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9.7. LTE BAND 17

QPSK, (10MHz BANDWIDTH)

Limit		704	716		
Condition		F low @ -13dBm	F high @ -13dBm	Delta (Hz)	Frequency Stability
Temperature	Voltage	(MHz)	(MHz)	()	(ppm)
Normal (20C)		704.5294	715.4677		
Extreme (50C)		704.5294	715.4677	3.23	0.005
Extreme (40C)		704.5294	715.4677	-4.33	-0.006
Extreme (30C)		704.5294	715.4677	-3.62	-0.005
Extreme (10C)	Normal	704.5294	715.4677	3.76	0.005
Extreme (0C)		704.5294	715.4677	1.34	0.002
Extreme (-10C)		704.5294	715.4677	0.22	0.000
Extreme (-20C)		704.5294	715.4677	-1.32	-0.002
Extreme (-30C)		704.5294	715.4677	-2.14	-0.003
			-		
	15%	704.5294	715.4677	-3.52	-0.005
20C	-15%	704.5294	715.4677	-3.86	-0.005
	End Point	704.5294	715.4677	-3.55	-0.005

16QAM, (10MHz BANDWIDTH)

Limit		704	716		
Condition		F low @ -13dBm	F high @ -13dBm	Delta (Hz)	Frequency Stability
Temperature	Voltage	(MHz)	(MHz)	(112)	(ppm)
Normal (20C)		704.5143	715.4784		
Extreme (50C)		704.5143	715.4784	3.73	0.005
Extreme (40C)		704.5143	715.4784	4.46	0.006
Extreme (30C)		704.5143	715.4784	4.43	0.006
Extreme (10C)	Normal	704.5143	715.4784	3.75	0.005
Extreme (0C)		704.5143	715.4784	2.12	0.003
Extreme (-10C)		704.5143	715.4784	0.55	0.001
Extreme (-20C)		704.5143	715.4784	-1.14	-0.002
Extreme (-30C)		704.5143	715.4784	-2.25	-0.003
			•		
	15%	704.5143	715.4784	-3.92	-0.006
20C	-15%	704.5143	715.4784	-3.98	-0.006
	End Point	704.5143	715.4784	-4.11	-0.006

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9.8. LTE BAND 25

QPSK, (20MHz BANDWIDTH)

Limit		1850	1915		
Condition		F low @ -13dBm	F high @ -13dBm	Delta (Hz)	Frequency Stability
Temperature	Voltage	(MHz)	(MHz)	(112)	(ppm)
Normal (20C)		1851.0910	1913.9193		
Extreme (50C)		1851.0910	1913.9193	11.13	0.006
Extreme (40C)		1851.0910	1913.9193	10.10	0.005
Extreme (30C)		1851.0910	1913.9193	11.44	0.006
Extreme (10C)	Normal	1851.0910	1913.9193	11.84	0.006
Extreme (0C)		1851.0910	1913.9193	7.15	0.004
Extreme (-10C)	1	1851.0910	1913.9193	5.44	0.003
Extreme (-20C)		1851.0910	1913.9193	3.45	0.002
Extreme (-30C)	1	1851.0910	1913.9193	2.17	0.001
		-			
	15%	1851.0910	1913.9193	9.80	0.005
20C	-15%	1851.0910	1913.9193	7.40	0.004
	End Point	1851.0910	1913.9193	8.41	0.004

16QAM, (20MHz BANDWIDTH)

Limit		1850	1915		
Condition		F low @ -13dBm	F high @ -13dBm	Delta (Hz)	Frequency Stability
Temperature	Voltage	(MHz)	(MHz)	(11-)	(ppm)
Normal (20C)		1851.0953	1913.9223		
Extreme (50C)		1851.0953	1913.9223	12.63	0.007
Extreme (40C)		1851.0953	1913.9223	10.40	0.006
Extreme (30C)		1851.0953	1913.9223	9.74	0.005
Extreme (10C)	Normal	1851.0953	1913.9223	12.29	0.007
Extreme (0C)		1851.0953	1913.9223	8.26	0.004
Extreme (-10C)		1851.0953	1913.9223	5.21	0.003
Extreme (-20C)		1851.0953	1913.9223	3.05	0.002
Extreme (-30C)		1851.0953	1913.9223	2.21	0.001
		-			
	15%	1851.0953	1913.9223	9.07	0.005
20C	-15%	1851.0953	1913.9223	9.43	0.005
	End Point	1851.0953	1913.9223	9.25	0.005

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9.9. LTE BAND 26

QPSK, (10MHz BANDWIDTH)

Limit		814	824		
Condition		F low @ -13dBm	F high @ -13dBm	Delta (Hz)	Frequency Stability
Temperature	Voltage	(MHz)	(MHz)	(112)	(ppm)
Normal (20C)		814.257223	823.748432		
Extreme (50C)		814.257220	823.748429	-3.05	-0.004
Extreme (40C)		814.257220	823.748429	-2.98	-0.004
Extreme (30C)		814.257220	823.748429	-2.95	-0.004
Extreme (10C)	Normal	814.257220	823.748429	-2.78	-0.003
Extreme (0C)		814.257221	823.748430	-2.34	-0.003
Extreme (-10C)		814.257221	823.748430	-2.11	-0.003
Extreme (-20C)		814.257221	823.748430	-1.95	-0.002
Extreme (-30C)		814.257221	823.748430	-1.56	-0.002
			•		
	15%	814.257220	823.748429	-2.59	-0.003
20C	-15%	814.257220	823.748429	-2.63	-0.003
	End Point	814.257220	823.748429	-3.17	-0.004

16QAM, (10MHz BANDWIDTH)

Limit		814	824		
Condition		F low @ -13dBm	F high @ -13dBm	Delta (Hz)	Frequency Stability
Temperature	Voltage	(MHz)	(MHz)	(11-)	(ppm)
Normal (20C)		814.261534	823.740292		
Extreme (50C)		814.261530	823.740288	-4.12	-0.005
Extreme (40C)		814.261530	823.740288	-3.78	-0.005
Extreme (30C)		814.261530	823.740288	-3.55	-0.004
Extreme (10C)	Normal	814.261530	823.740288	-3.58	-0.004
Extreme (0C)		814.261532	823.740290	-2.31	-0.003
Extreme (-10C)		814.261532	823.740290	-2.18	-0.003
Extreme (-20C)		814.261532	823.740290	-2.05	-0.003
Extreme (-30C)		814.261532	823.740290	-1.98	-0.002
	15%	814.261531	823.740289	-3.15	-0.004
20C	-15%	814.261531	823.740289	-3.34	-0.004
	End Point	814.261531	823.740289	-3.10	-0.004

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9.10. LTE BAND 41

QPSK, (20MHz BANDWIDTH)

Limit		2496	2690		
Condition		F low @ -13dBm	F high @ -13dBm	Delta (Hz)	Frequency Stability
Temperature	Voltage	(MHz)	(MHz)	(112)	(ppm)
Normal (20C)		2497.0858	2688.9692		
Extreme (50C)		2497.0858	2688.9692	-10.06	-0.004
Extreme (40C)		2497.0858	2688.9692	-15.32	-0.006
Extreme (30C)		2497.0858	2688.9692	-17.15	-0.007
Extreme (10C)	Normal	2497.0858	2688.9692	-9.51	-0.004
Extreme (0C)		2497.0858	2688.9692	-5.44	-0.002
Extreme (-10C)		2497.0858	2688.9692	-2.32	-0.001
Extreme (-20C)		2497.0858	2688.9692	-1.32	-0.001
Extreme (-30C)		2497.0858	2688.9692	1.08	0.000
	15%	2497.0858	2688.9692	14.69	0.006
20C	-15%	2497.0858	2688.9692	-7.32	-0.003
	End Point	2497.0858	2688.9692	-9.38	-0.004

16QAM, (20MHz BANDWIDTH)

Limit		2496	2690		
Condition		F low @ -13dBm	F high @ -13dBm	Delta (Hz)	Frequency Stability
Temperature	Voltage	(MHz)	(MHz)	(112)	(ppm)
Normal (20C)		2497.0701	2688.9635		
Extreme (50C)		2497.0701	2688.9635	-19.94	-0.008
Extreme (40C)		2497.0701	2688.9635	17.64	0.007
Extreme (30C)		2497.0701	2688.9635	16.39	0.006
Extreme (10C)	Normal	2497.0701	2688.9635	-16.54	-0.006
Extreme (0C)		2497.0701	2688.9635	-10.14	-0.004
Extreme (-10C)		2497.0701	2688.9635	-7.44	-0.003
Extreme (-20C)		2497.0701	2688.9635	-2.04	-0.001
Extreme (-30C)		2497.0701	2688.9635	1.12	0.000
			-		
	15%	2497.0701	2688.9635	17.01	0.007
20C	-15%	2497.0701	2688.9635	-9.37	-0.004
	End Point	2497.0701	2688.9635	-10.23	-0.004

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10. PEAK-TO-AVERAGE RATIO

In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13 dB

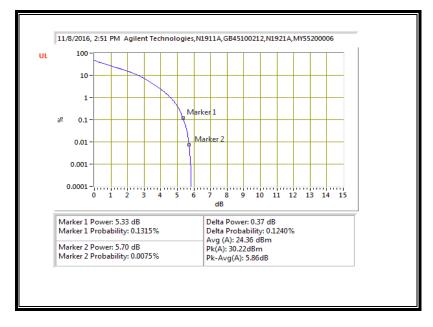
<u>RESULT</u>

The results from all CCDF plots are passed with 13dB peak-to-average ratio criteria.

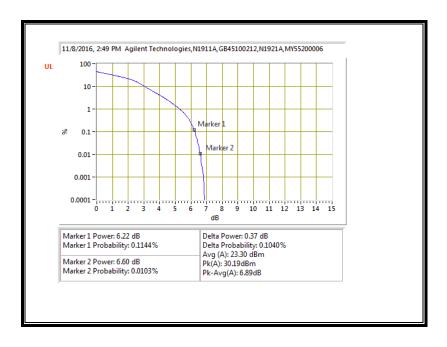
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10.1.1. LTE BAND 2

LTE BAND 2 QPSK, (1.4 MHz)

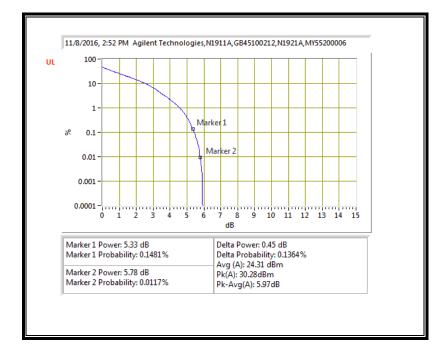


LTE BAND 2 16QAM, (1.4 MHz)

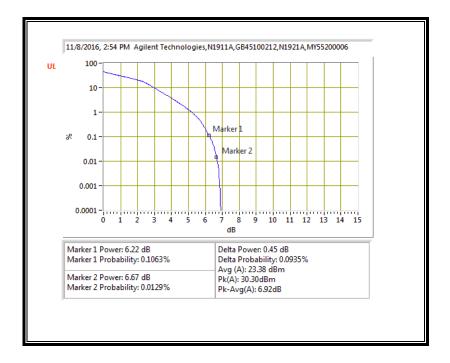


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LTE BAND 2 QPSK, (3 MHz)

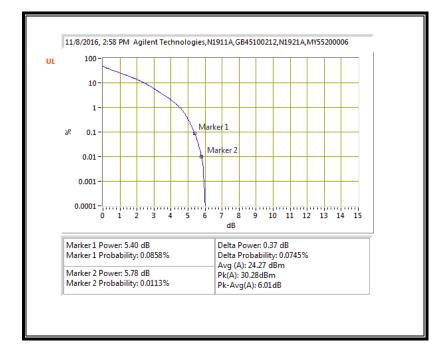


LTE BAND 2 16QAM, (3 MHz)

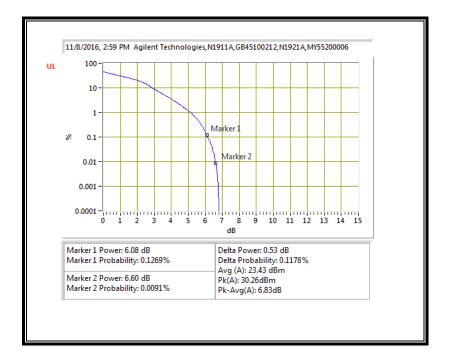


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LTE BAND 2 QPSK, (5 MHz)

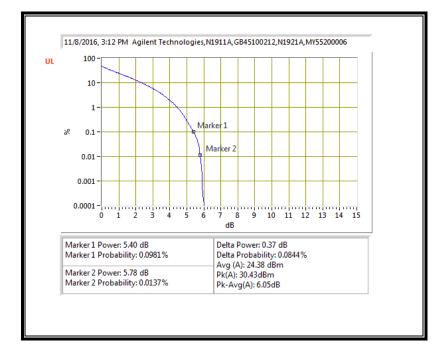


LTE BAND 2 16QAM, (5 MHz)

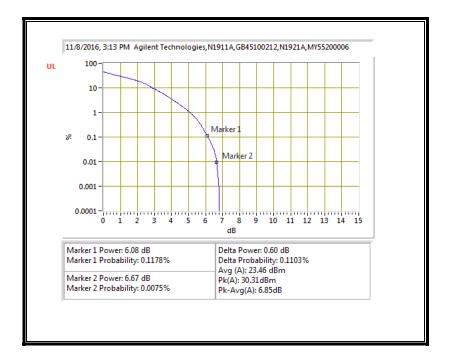


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LTE BAND 2 QPSK, (10 MHz)

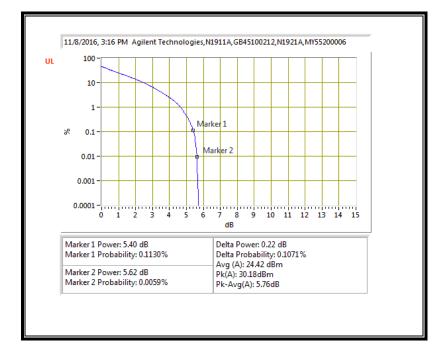


LTE BAND 2 16QAM, (10 MHz)

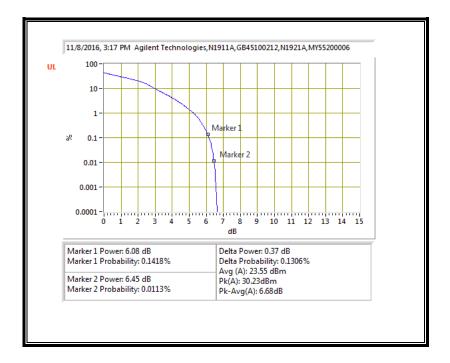


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LTE BAND 2 QPSK, (15 MHz)

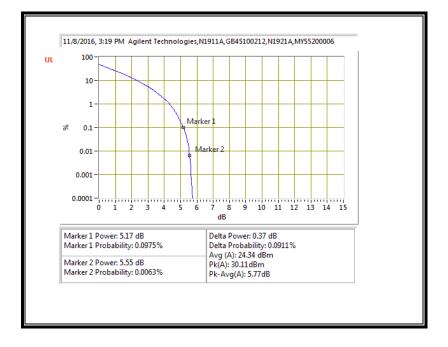


LTE BAND 2 16QAM, (15 MHz)

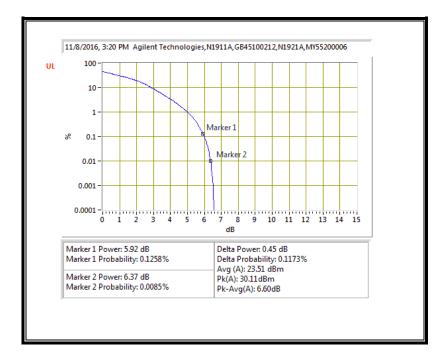


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LTE BAND 2 QPSK, (20 MHz)



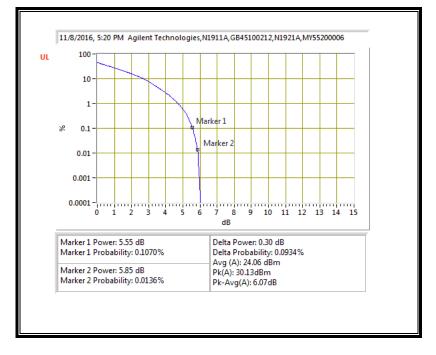
LTE BAND 2 16QAM, (20 MHz)



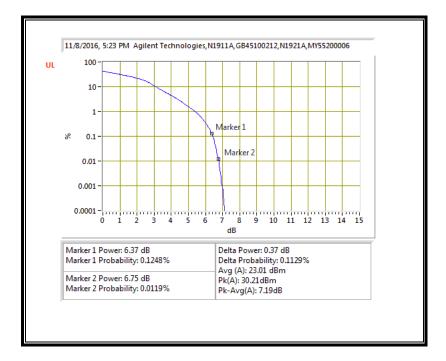
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10.1.2. LTE BAND 4

LTE BAND 4 QPSK, (1.4 MHz)

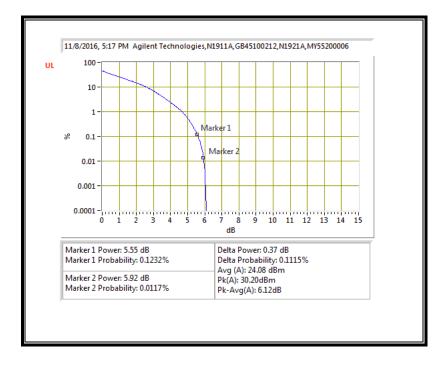


LTE BAND 4 16QAM, (1.4 MHz)

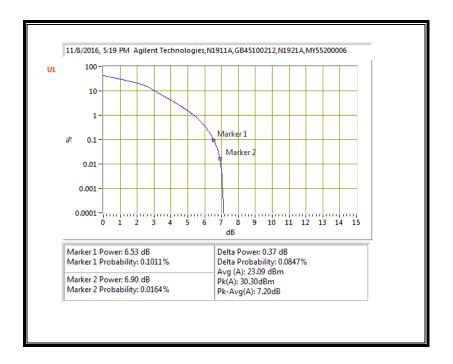


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LTE BAND 4 QPSK, (3 MHz)

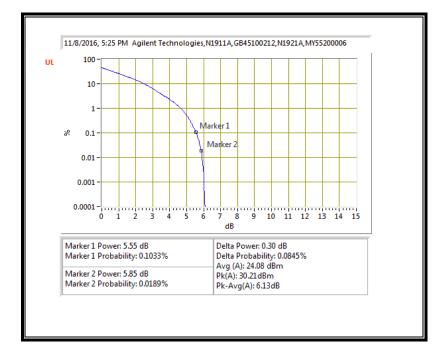


LTE BAND 4 16QAM, (3 MHz)

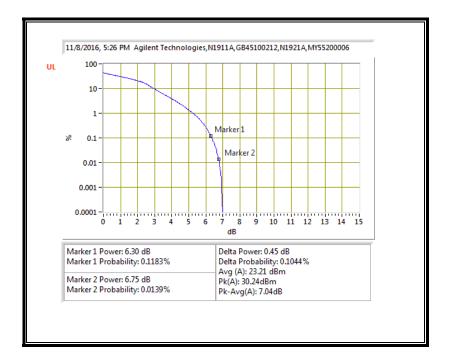


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LTE BAND 4 QPSK, (5 MHz)

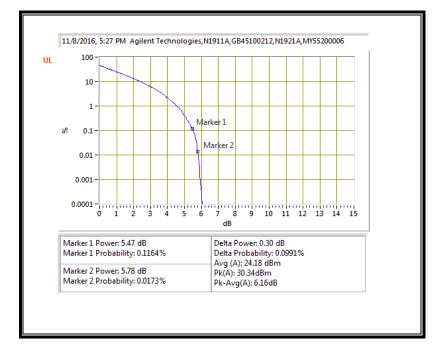


LTE BAND 4 16QAM, (5 MHz)

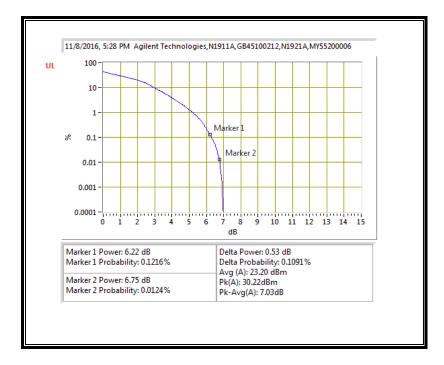


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LTE BAND 4 QPSK, (10 MHz)

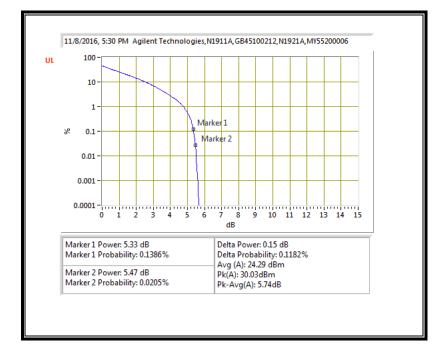


LTE BAND 4 16QAM, (10 MHz)

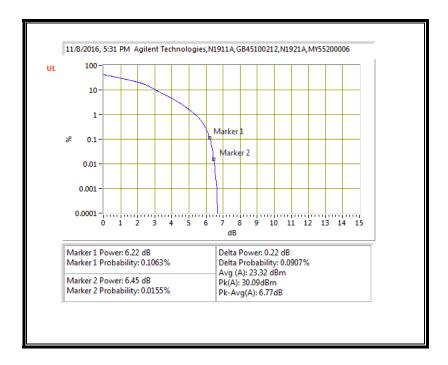


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LTE BAND 4 QPSK, (15 MHz)

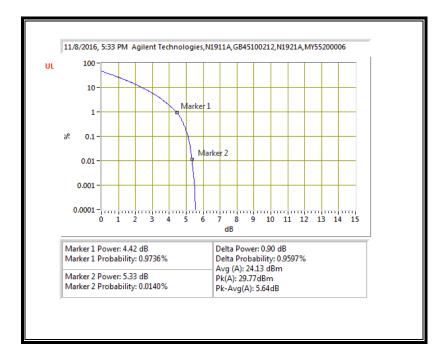


LTE BAND 4 16QAM, (15 MHz)

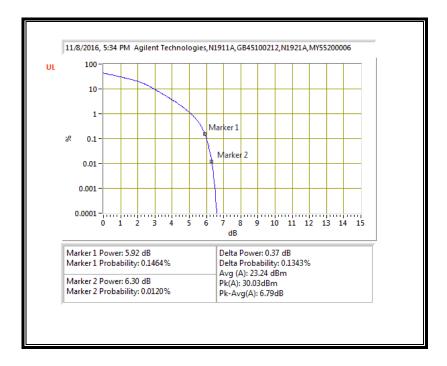


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LTE BAND 4 QPSK, (20 MHz)



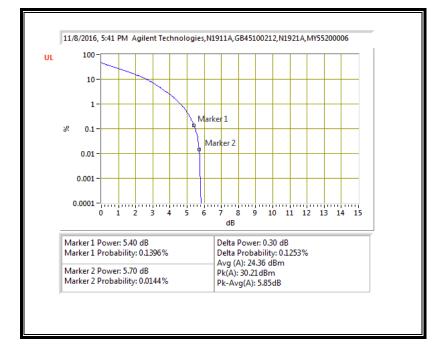
LTE BAND 4 16QAM, (20 MHz)



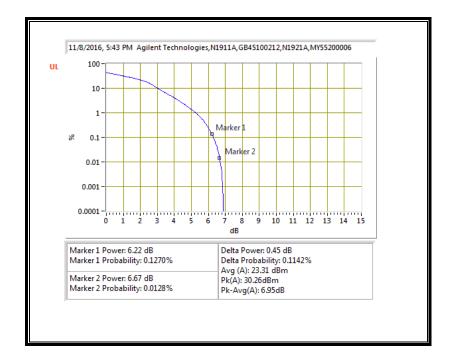
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10.1.3. LTE BAND 5

LTE BAND 5 QPSK, (1.4 MHz)

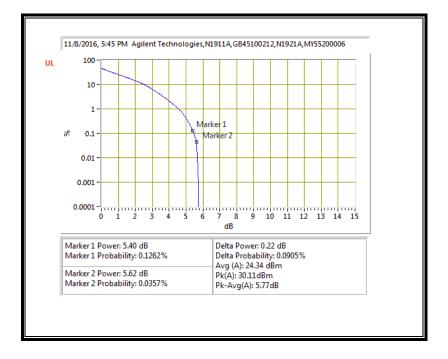


LTE BAND 5 16QAM, (1.4 MHz)

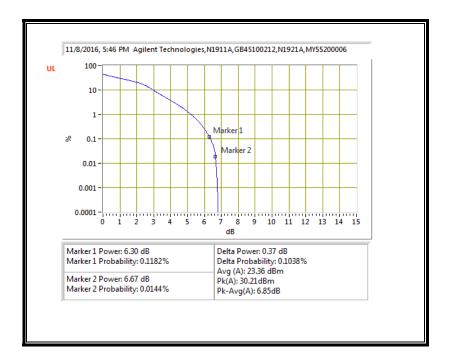


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LTE BAND 5 QPSK, (3 MHz)

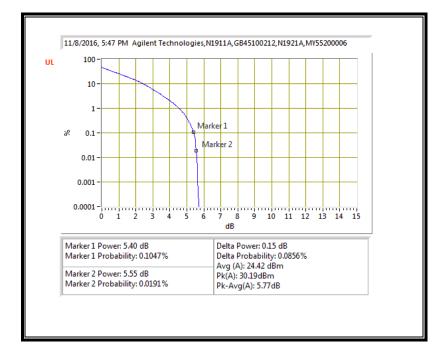


LTE BAND 5 16QAM, (3 MHz)

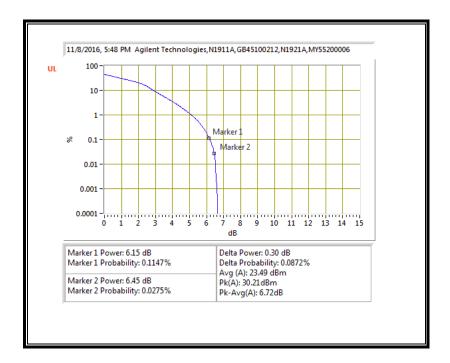


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LTE BAND 5 QPSK, (5 MHz)

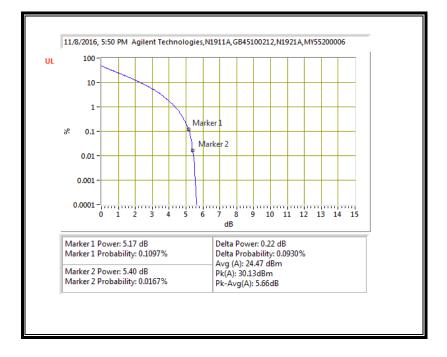


LTE BAND 5 16QAM, (5 MHz)

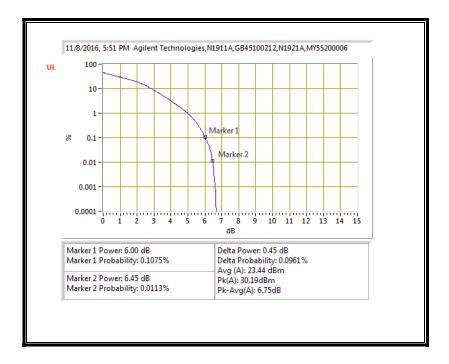


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LTE BAND 5 QPSK, (10 MHz)



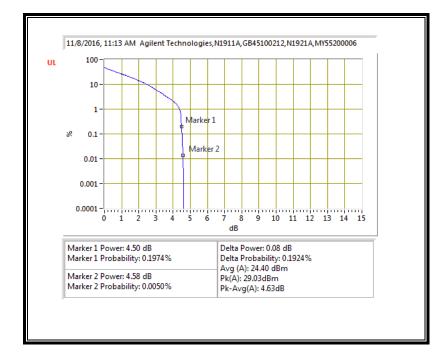
LTE BAND 5 16QAM, (10 MHz)



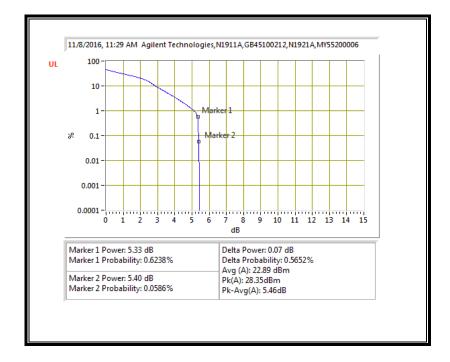
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10.1.4. LTE BAND 7

LTE BAND 7 QPSK, (5 MHz)

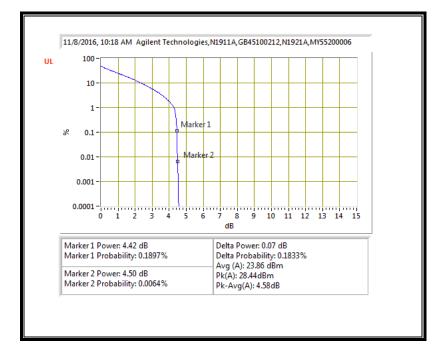


LTE BAND 7 16QAM, (5 MHz)

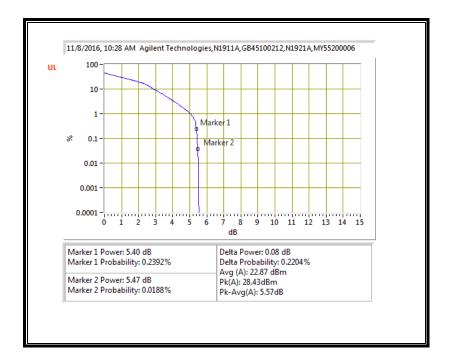


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LTE BAND 7 QPSK, (10 MHz)

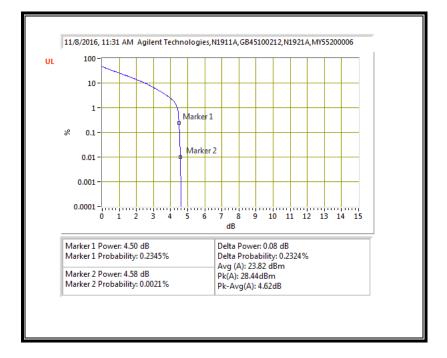


LTE BAND 7 16QAM, (10 MHz)

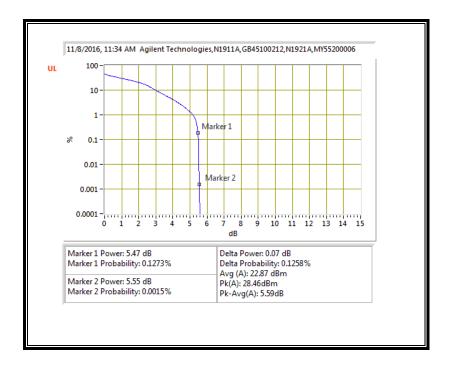


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LTE BAND 7 QPSK, (15 MHz)

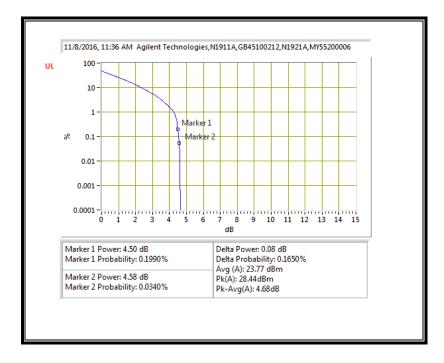


LTE BAND 7 16QAM, (15 MHz)

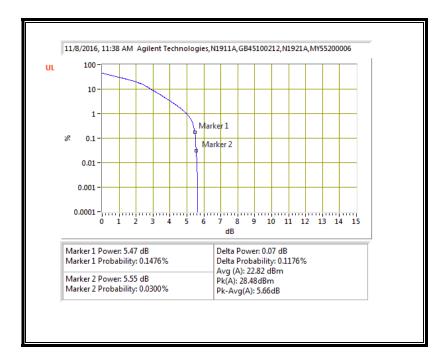


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LTE BAND 7 QPSK, (20 MHz)



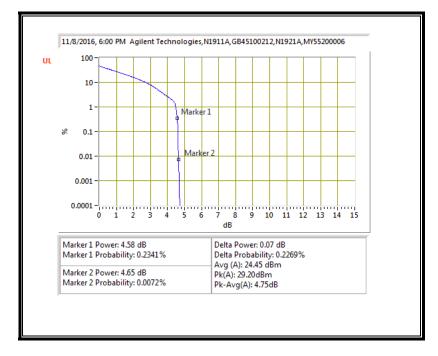
LTE BAND 7 16QAM, (20 MHz)



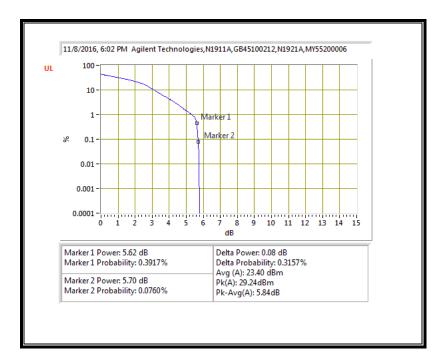
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10.1.5. LTE BAND 12

LTE BAND 12 QPSK, (1.4 MHz)

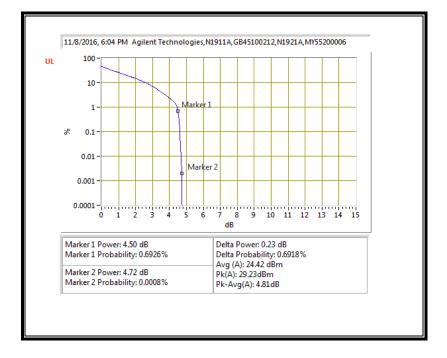


LTE BAND 12 16QAM, (1.4 MHz)

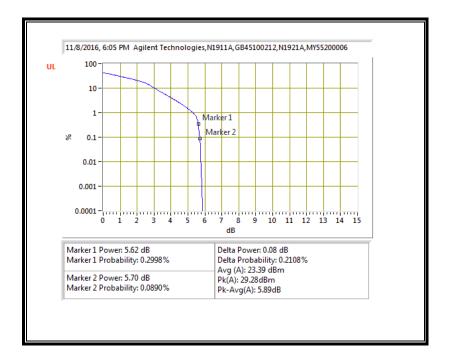


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LTE BAND 12 QPSK, (3 MHz)

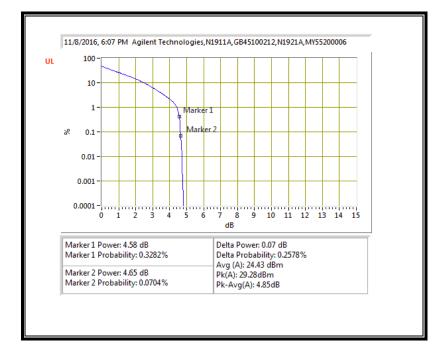


LTE BAND 12 16QAM, (3 MHz)

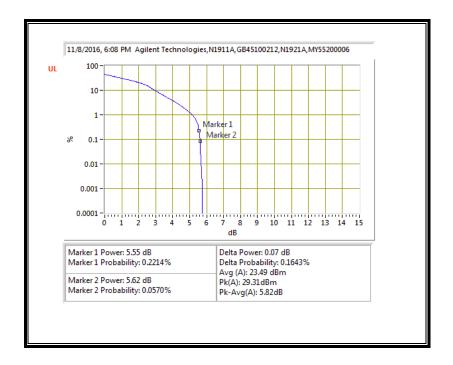


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LTE BAND 12 QPSK, (5 MHz)

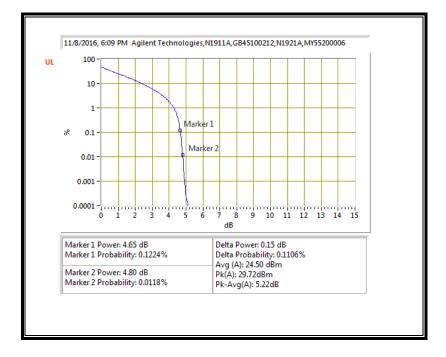


LTE BAND 12 16QAM, (5 MHz)

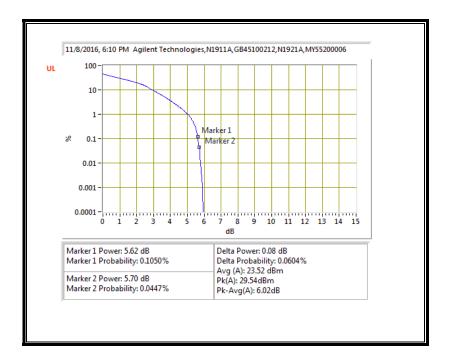


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LTE BAND 12 QPSK, (10 MHz)



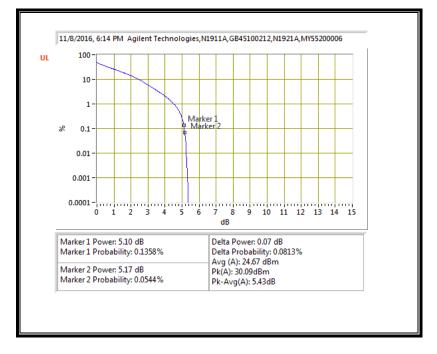
LTE BAND 12 16QAM, (10 MHz)



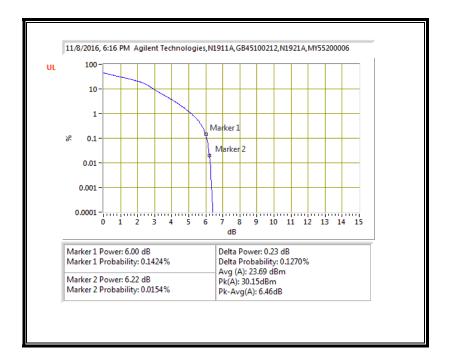
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10.1.6. LTE BAND 13

LTE BAND 13 QPSK, (5 MHz)

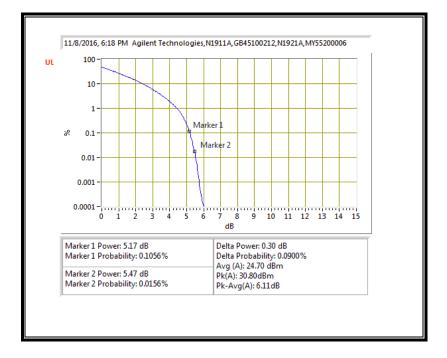


LTE BAND 13 16QAM, (5 MHz)

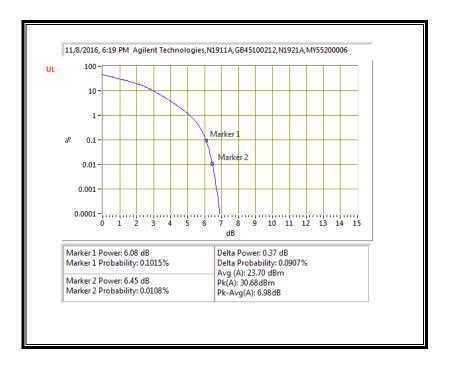


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LTE BAND 13 QPSK, (10 MHz)



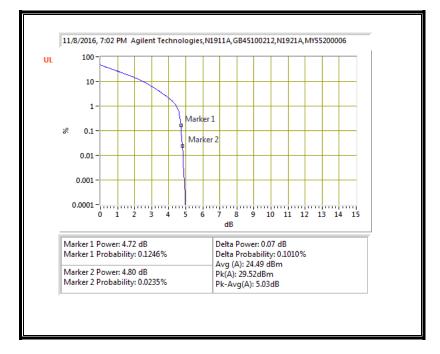
LTE BAND 13 16QAM, (10 MHz)



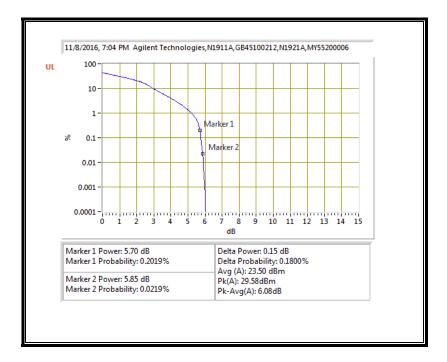
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10.1.7. LTE BAND 17

LTE BAND 17 QPSK, (5 MHz)

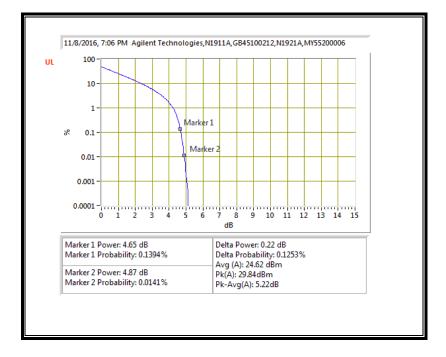


LTE BAND 17 16QAM, (5 MHz)

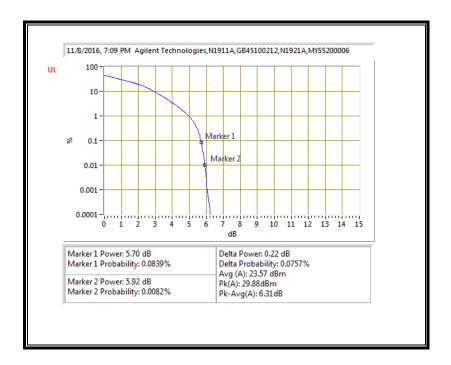


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LTE BAND 17 QPSK, (10 MHz)



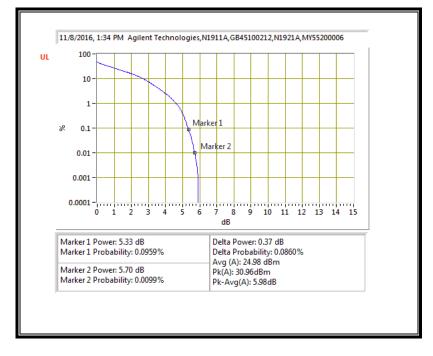
LTE BAND 17 16QAM, (10 MHz)



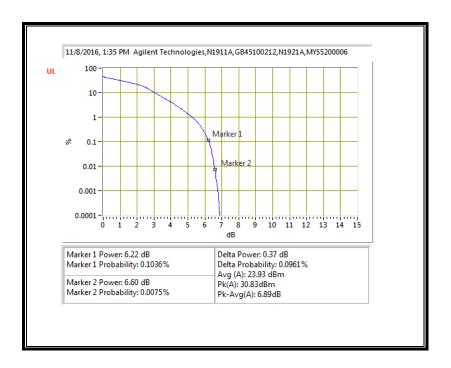
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10.1.8. LTE BAND 25

LTE BAND 25 QPSK, (1.4 MHz)

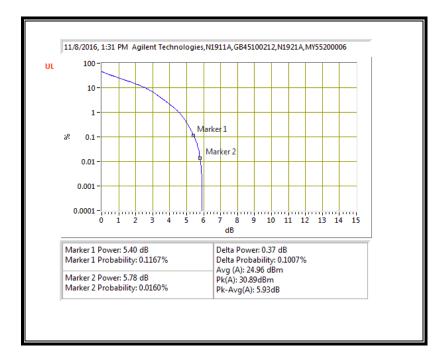


LTE BAND 25 16QAM, (1.4 MHz)

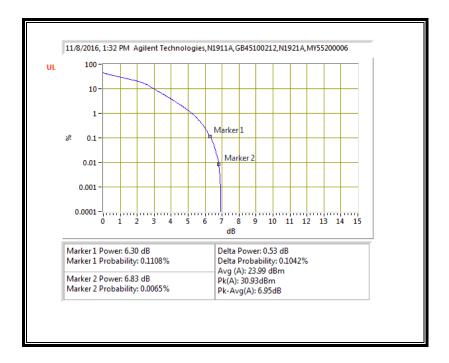


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LTE BAND 25 QPSK, (3 MHz)

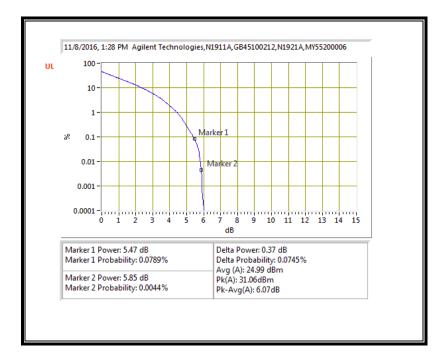


LTE BAND 25 16QAM, (3 MHz)

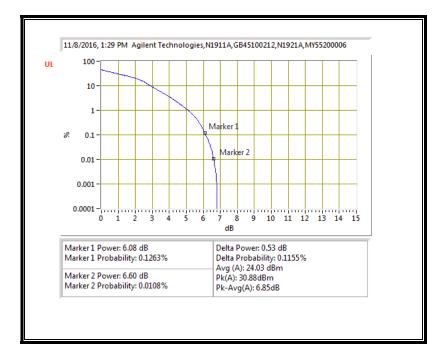


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LTE BAND 25 QPSK, (5 MHz)

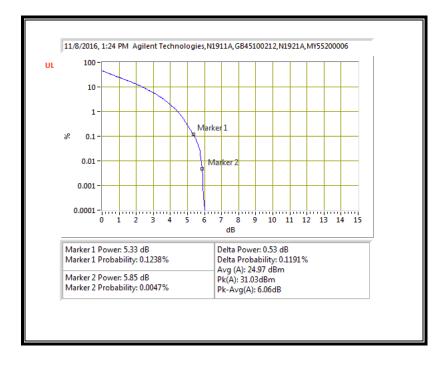


LTE BAND 25 16QAM, (5 MHz)

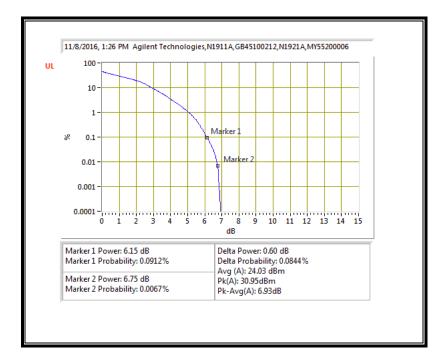


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LTE BAND 25 QPSK, (10 MHz)

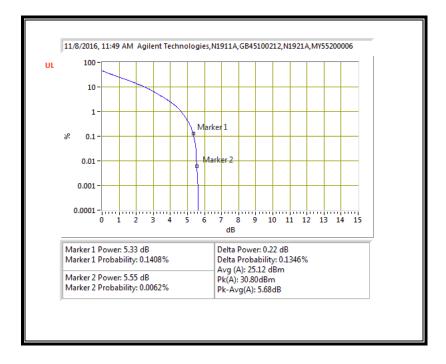


LTE BAND 25 16QAM, (10 MHz)

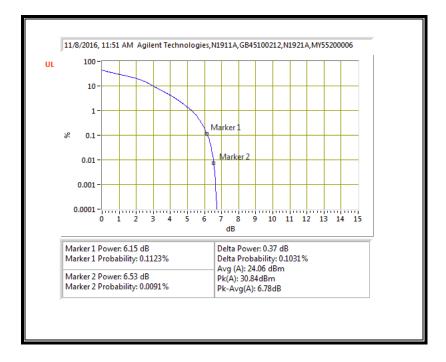


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LTE BAND 25 QPSK, (15 MHz)

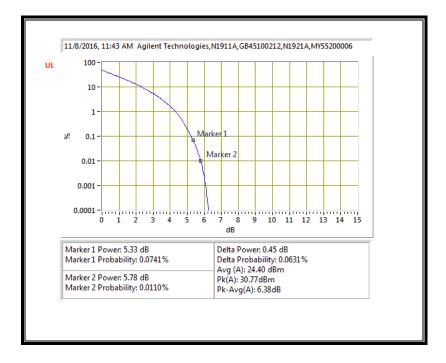


LTE BAND 25 16QAM, (15 MHz)

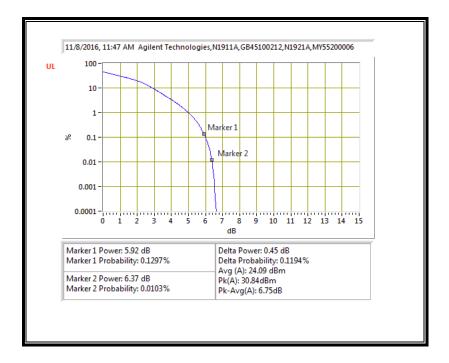


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LTE BAND 25 QPSK, (20 MHz)



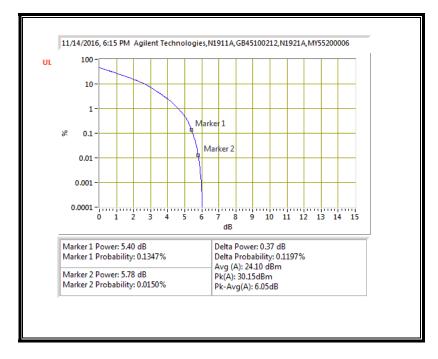
LTE BAND 25 16QAM, (20 MHz)



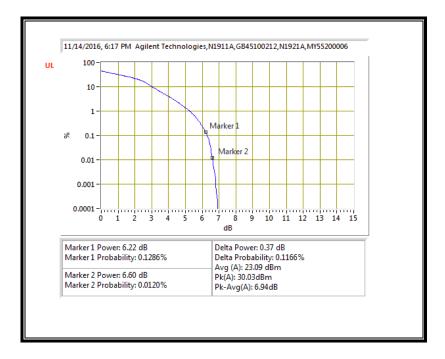
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10.1.9. LTE BAND 26

LTE BAND 26 QPSK, (1.4 MHz)

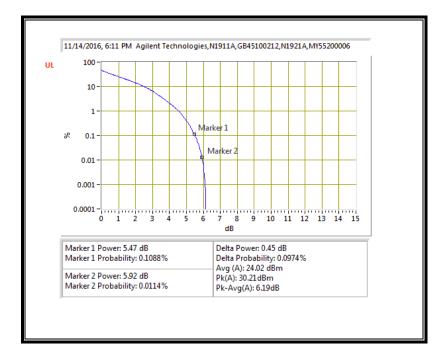


LTE BAND 26 16QAM, (1.4 MHz)

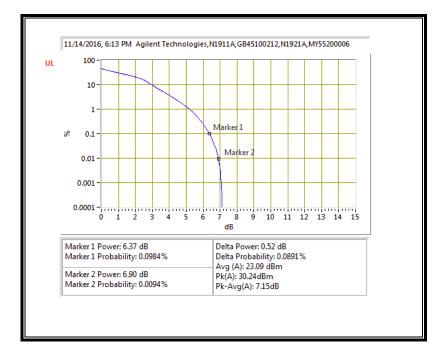


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LTE BAND 26 QPSK, (3 MHz)

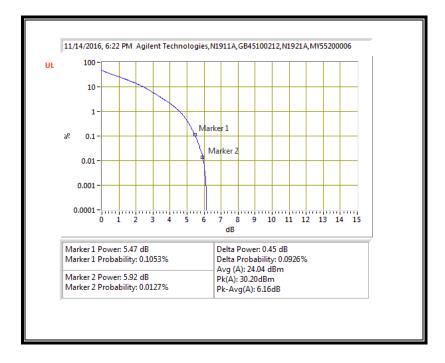


LTE BAND 26 16QAM, (3 MHz)

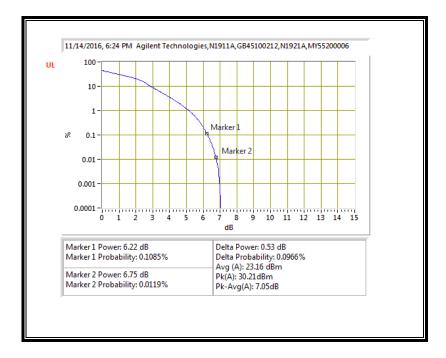


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LTE BAND 26 QPSK, (5 MHz)

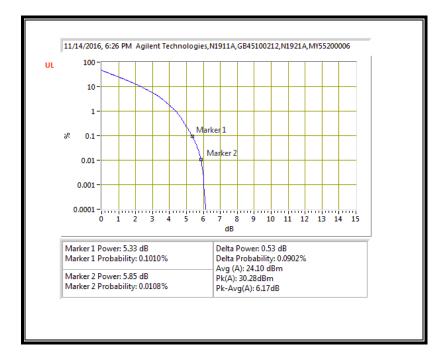


LTE BAND 26 16QAM, (5 MHz)

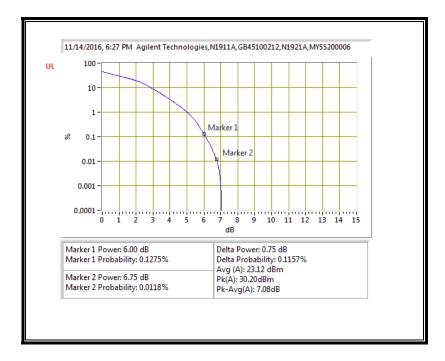


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LTE BAND 26 QPSK, (10 MHz)



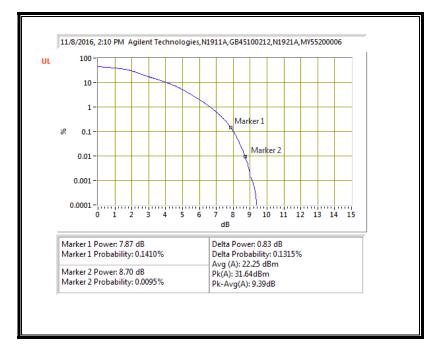
LTE BAND 26 16QAM, (10 MHz)



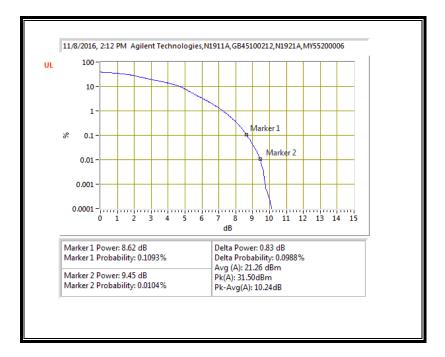
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10.1.10. LTE BAND 41

LTE BAND 41 QPSK, (5 MHz)

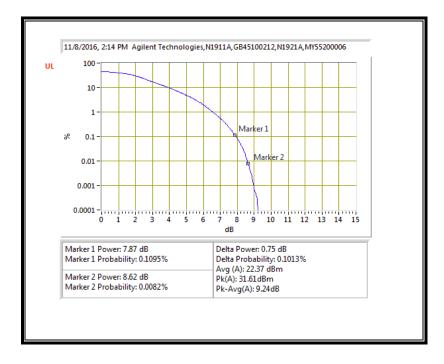


LTE BAND 41 16QAM, (5 MHz)

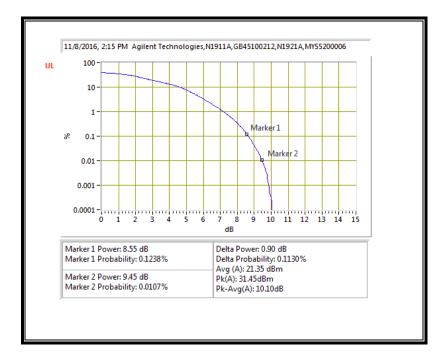


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LTE BAND 41 QPSK, (10 MHz)

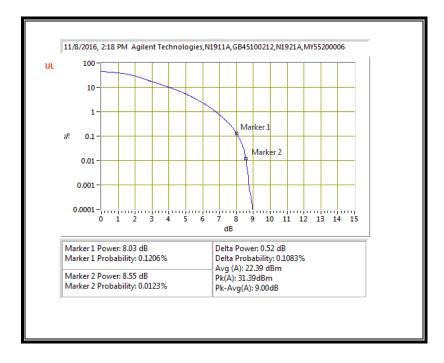


LTE BAND 41 16QAM, (10 MHz)

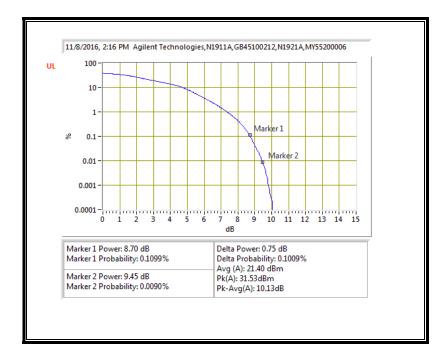


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LTE BAND 41 QPSK, (15 MHz)

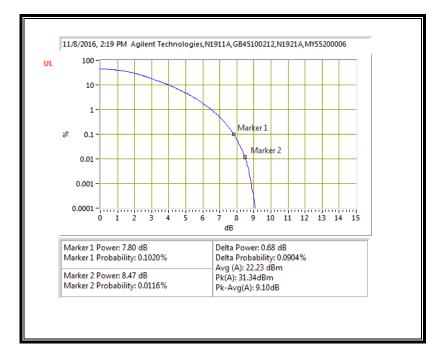


LTE BAND 41 16QAM, (15 MHz)

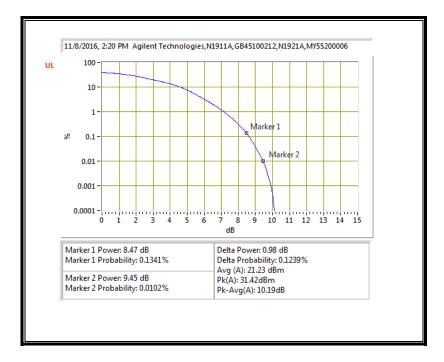


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LTE BAND 41 QPSK, (20 MHz)



LTE BAND 41 16QAM, (20 MHz)



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11. RADIATED TEST RESULTS

11.1. FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

FCC: §2.1053, §22.917, §24.238,§27.53 and §90.691

<u>LIMIT</u>

§22.917 (e) and §24.238 (a): Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

§27.53 (g) For operations in the 698–746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB.

§27.53 (h) For operations in the 1710–1755 MHz and 2110–2155 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 + 10 log10(P) dB.

§90.691 Emission mask requirements for EA-based systems.

(a) Out-of-band emission requirement shall apply only to the "outer" channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:

(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log10 (f/6.1) decibels or 50 + 10 Log10 (P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10Log10 (P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

(b) When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in this section.

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TEST PROCEDURE

For Cellular equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

For PCS equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 MHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

The unwanted emission power shall be measured with a resolution bandwidth of at least 1% of the occupied bandwidth in the 1 MHz band immediately outside and adjacent to the channel edge of the equipment. Beyond the 1 MHz band immediately outside the channel edge of the equipment, a resolution bandwidth of 1 MHz shall be employed. A narrower resolution bandwidth is allowed to be used provided that the measured power is integrated over the full required measurement bandwidth of 1 MHz or 1% of the occupied bandwidth as applicable.

The power of any unwanted emissions measured from the channel edge of the equipment shall be attenuated below the transmitter power, P (dBW), as follows:

a. for base station and subscriber equipment, other than mobile subscriber equipment, the attenuation shall not be less than 43 + 10 Log10 (p), dB; and

b. for mobile subscriber equipment, the attenuation shall not be less than 43 + 10 Log10 (p), dB at the channel edges and 55 + 10 Log10 (p) at 5.5 MHz away and beyond the channel edges where p in (a) and (b) is the transmitter power measured in watts.

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MODES TESTED

- LTE Band 2
- LTE Band 4
- LTE Band 5
- LTE Band 7
- LTE Band 12
- LTE Band 13
- LTE Band 17
- LTE Band 25
- LTE Band 26
- LTE Band 41

RESULTS

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11.1.1. LTE BAND 2

LTE BAND 2 QPSK, (20 MHz)

				titution Measu ated Chambe						
Company: Project #: Date: Test Engir Configurat Mode:	ieer: ion:	16U23814 11/11/16 45250 EUT only LTE Band 2, 20	0MHz QPSK							
<u>Test Equip</u> Substitutio	o <u>ment:</u> on: Horn T59 Sub	stitution, an	d 8ft SMA Ca	ble						
	Chamb	or	Pr	e-amplifer		Filter			Limit	1
ľ	3m Chamber H	ei		Chamber H 🖵	Filte			EIRP	Limit	
	Sm Champer H	•					-		•	
Frequenc	y SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	el (1860MHz)	(⊓/V)		(dbm)						
3.72	-59.7	Н	3.0	-11.7	37.4	1.0	-48.1	-13.0	-35.1	
5.58	-62.3	Н	3.0	-11.3	36.7	1.0	-47.1	-13.0	-34.1	
5.58 7.44	-62.3 -65.0	Н	3.0	-11.2	36.0	1.0	-46.2	-13.0	-33.2	
5.58 7.44 3.72	-62.3 -65.0 -60.6	H V	3.0 3.0	-11.2 -12.9	36.0 37.4	1.0 1.0	-46.2 -49.3	-13.0 -13.0	-33.2 -36.3	
5.58 7.44 3.72 5.58	-62.3 -65.0 -60.6 -62.2	H V V	3.0 3.0 3.0	-11.2 -12.9 -11.1	36.0 37.4 36.7	1.0 1.0 1.0	-46.2 -49.3 -46.8	-13.0 -13.0 -13.0	-33.2 -36.3 -33.8	
5.58 7.44 3.72	-62.3 -65.0 -60.6	H V	3.0 3.0	-11.2 -12.9	36.0 37.4	1.0 1.0	-46.2 -49.3	-13.0 -13.0	-33.2 -36.3	
5.58 7.44 3.72 5.58 7.44 Mid Channe	-62.3 -65.0 -60.6 -62.2	H V V	3.0 3.0 3.0	-11.2 -12.9 -11.1 -10.7	36.0 37.4 36.7 36.0	1.0 1.0 1.0	-46.2 -49.3 -46.8 -45.7	-13.0 -13.0 -13.0 -13.0	-33.2 -36.3 -33.8 -32.7	
5.58 7.44 3.72 5.58 7.44 Mid Channe 3.76	-62.3 -65.0 -60.6 -62.2 -64.3 	H V V V	3.0 3.0 3.0 3.0 3.0	-11.2 -12.9 -11.1 -10.7 -12.8	36.0 37.4 36.7 36.0 37.4	1.0 1.0 1.0 1.0	-46.2 -49.3 -46.8 -45.7 -49.2	-13.0 -13.0 -13.0 -13.0 -13.0	-33.2 -36.3 -33.8 -32.7 	
5.58 7.44 3.72 5.58 7.44 Mid Channe 3.76 5.64	-62.3 -65.0 -60.6 -62.2 -64.3 -61.1 -60.8 -62.4	H V V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.2 -12.9 -11.1 -10.7 -12.8 -11.3	36.0 37.4 36.7 36.0 37.4 36.7	1.0 1.0 1.0 1.0 1.0 1.0	-46.2 -49.3 -46.8 -45.7 -49.2 -47.0	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-33.2 -36.3 -33.8 -32.7 	
5.58 7.44 3.72 5.58 7.44 Mid Channe 3.76 5.64 7.52	-62.3 -65.0 -60.6 -62.2 -64.3 -61.1 -60.8 -62.4 -64.3	H V V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.2 -12.9 -11.1 -10.7 -12.8 -11.3 -10.5	36.0 37.4 36.7 36.0 37.4 36.7 35.9	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	46.2 49.3 46.8 45.7 49.2 47.0 45.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-33.2 -36.3 -33.8 -32.7 	
5.58 7.44 3.72 5.58 7.44 Mid Channe 3.76 5.64 7.52 3.76	.62.3 .65.0 .60.6 .62.2 .64.3 .60.8 .62.4 .64.3 .64.3 .61.3	H V V H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.2 -12.9 -11.1 -10.7 -12.8 -11.3 -10.5 -13.4	36.0 37.4 36.7 36.0 37.4 36.7 35.9 37.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	46.2 49.3 46.8 45.7 49.2 47.0 45.4 49.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-33.2 -36.3 -33.8 -32.7 -36.2 -34.0 -32.4 -36.8	
5.58 7.44 3.72 5.58 7.44 Mid Channe 3.76 5.64 7.52	-62.3 -65.0 -60.6 -62.2 -64.3 -61.1 -60.8 -62.4 -64.3	H V V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.2 -12.9 -11.1 -10.7 -12.8 -11.3 -10.5	36.0 37.4 36.7 36.0 37.4 36.7 35.9	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	46.2 49.3 46.8 45.7 49.2 47.0 45.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-33.2 -36.3 -33.8 -32.7 	
5.58 7.44 3.72 5.58 7.44 Mid Channe 3.76 5.64 7.52 3.76 5.64 7.52	-62.3 -65.0 -60.6 -62.2 -64.3 -64.3 -62.4 -64.3 -62.4 -64.3 -62.4 -64.3 -62.4 -64.3 -62.8 -64.6	H V V V H H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.2 -12.9 -11.1 -10.7 -12.8 -11.3 -10.5 -13.4 -11.7	36.0 37.4 36.7 36.0 37.4 36.7 35.9 37.4 36.7 35.9	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	46.2 49.3 46.8 45.7 49.2 47.0 45.4 49.8 47.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-33.2 -36.3 -33.8 -32.7 	
5.58 7.44 3.72 5.58 7.44 Mid Channe 3.76 5.64 7.52 3.76 5.64 7.52 High Chann	-62.3 -65.0 -60.6 -62.2 -64.3 -64.3 -62.4 -64.3 -62.4 -64.3 -62.4 -64.3 -62.8 -64.6 -64.6 -64.6	H V V H H H V V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.2 -12.9 -11.1 -10.7 -12.8 -11.3 -10.5 -13.4 -11.7 -11.0	36.0 37.4 36.7 36.0 37.4 36.7 35.9 37.4 36.7 35.9 37.4 36.7 35.9	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	46.2 49.3 46.8 45.7 49.2 47.0 45.4 49.8 47.4 45.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-33.2 -36.3 -33.8 -32.7 -36.2 -34.0 -32.4 -36.8 -34.4 -32.9	
5.58 7.44 3.72 5.58 7.44 Mid Channe 3.76 5.64 7.52 3.76 5.64 7.52 High Chann 3.80	-62.3 -65.0 -60.6 -62.2 -64.3 -64.3 -61.3 -62.4 -64.3 -61.3 -62.8 -62.8 -64.6 -64.6 -64.6 -64.6 -64.6 -64.1	H V V H H V V V V H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.2 -12.9 -11.1 -10.7 -12.8 -11.3 -10.5 -13.4 -11.7 -11.0 -13.1	36.0 37.4 36.7 36.0 37.4 36.7 35.9 37.4 36.7 35.9 37.4 36.7 35.9 37.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	46.2 49.3 46.8 45.7 49.2 47.0 45.4 49.8 47.4 45.9 47.4 45.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-33.2 -36.3 -33.8 -32.7 -36.2 -34.0 -32.4 -36.8 -34.4 -32.9 -36.4	
5.58 7.44 3.72 5.58 7.44 Mid Channe 3.76 5.64 7.52 3.76 5.64 7.52 High Chann 3.80 5.70	-62.3 -65.0 -60.6 -62.2 -64.3 -64.3 -62.4 -64.3 -62.4 -64.3 -62.4 -64.3 -62.8 -64.6 -64.6 -64.6 -61.1 -62.7	H V V H H V V V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.2 -12.9 -11.1 -10.7 -12.8 -11.3 -10.5 -13.4 -11.7 -11.0 -13.1 -11.5	36.0 37.4 36.7 36.0 37.4 36.7 35.9 37.4 36.7 35.9 37.3 36.7 35.9	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	46.2 49.3 46.8 45.7 49.2 47.0 45.4 49.8 47.4 45.9 49.4 47.2	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-33.2 -36.3 -36.3 -33.8 -32.7	
5.58 7.44 3.72 5.58 7.44 Mid Channe 3.76 5.64 7.52 3.76 5.64 7.52 High Chann 3.80	-62.3 -65.0 -60.6 -62.2 -64.3 -64.3 -61.3 -62.4 -64.3 -61.3 -62.8 -62.8 -64.6 -64.6 -64.6 -64.6 -64.6 -64.1	H V V H H V V V V H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.2 -12.9 -11.1 -10.7 -12.8 -11.3 -10.5 -13.4 -11.7 -11.0 -13.1	36.0 37.4 36.7 36.0 37.4 36.7 35.9 37.4 36.7 35.9 37.4 36.7 35.9 37.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	46.2 49.3 46.8 45.7 49.2 47.0 45.4 49.8 47.4 45.9 47.4 45.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-33.2 -36.3 -33.8 -32.7 -36.2 -34.0 -32.4 -36.8 -34.4 -32.9 -36.4	
5.58 7.44 3.72 5.58 7.44 Mid Channe 3.76 5.64 7.52 3.76 5.64 7.52 3.76 5.64 7.52 High Chann 3.80 5.70 7.60	-62.3 -65.0 -60.6 -62.2 -64.3 -64.3 -62.4 -64.3 -62.4 -64.3 -62.8 -64.6 -64.6 -62.7 -64.3	H V V H H H V V V H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.2 -12.9 -11.1 -10.7 -12.8 -11.3 -10.5 -13.4 -11.7 -11.0 -13.1 -11.5 -10.4	36.0 37.4 36.7 36.0 37.4 36.7 35.9 37.4 36.7 35.9 37.3 36.7 35.9	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	46.2 49.3 46.8 45.7 49.2 47.0 45.4 49.8 47.4 45.9 49.4 47.2 45.2	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-33.2 -36.3 -33.8 -32.7 -36.2 -34.0 -32.4 -36.8 -34.4 -32.9 -36.4 -34.2 -32.2	

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LTE BAND 2 16QAM, (20 MHz)

			-	titution Measu ated Chambe						
ompany:										
roject #:		16U23814								
)ate:		11/11/16								
fest Engine		45250								
Configuratio Node:		EUT only								
lode:		LTE Band 2, 2	0MHz 16QAM							
est Equipm										
ibstitution	: Horn T59 Sub	stitution, an	id 8ft SMA Ca	ble						
	Chambe	r	Pre	amplifer		Filter			Limit	
30	n Chamber H		3m C	namber H 🚽	Filter			EIRP		
3		•				<u> </u>			•	
Frequency	SA reading	Ant. Pol.	Distance	EIRP @ TX Ant End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	(H/V)	Distance	(dBm)	rreamp	Allendator		LIIIII	Delta	Notes
ow Channel		(17/1/)		(ubiii)					<u> </u>	
3.72	-60.8	Н	3.0	-12.9	37.4	1.0	-49.3	-13.0	-36.3	
	-60.0	H	3.0	-12.5	36.7	1.0	-45.8	-13.0	-30.5	
5.58										
5.58 7.44	-64.5	Н	3.0	-10.7	36.0	1.0	-45.7	-13.0	-32.7	
7.44 3.72	-64.5 -60.8	V	3.0 3.0	-13.0	37.4	1.0	-49.4	-13.0	-36.4	
7.44 3.72 5.58	-64.5 -60.8 -63.0	V V	3.0 3.0	-13.0 -11.9	37.4 36.7	1.0 1.0	-49.4 -47.6	-13.0 -13.0	-36.4 -34.6	
7.44 3.72	-64.5 -60.8	V	3.0	-13.0	37.4	1.0	-49.4	-13.0	-36.4	
7.44 3.72 5.58 7.44	-64.5 -60.8 -63.0 -64.9	V V	3.0 3.0	-13.0 -11.9	37.4 36.7	1.0 1.0	-49.4 -47.6	-13.0 -13.0	-36.4 -34.6	
7.44 3.72 5.58 7.44 Aid Channel	-64.5 -60.8 -63.0 -64.9 1880MHz)	V V V	3.0 3.0 3.0	-13.0 -11.9 -11.4	37.4 36.7 36.0	1.0 1.0 1.0	-49.4 -47.6 -46.4	-13.0 -13.0 -13.0	-36.4 -34.6 -33.4	
7.44 3.72 5.58 7.44	-64.5 -60.8 -63.0 -64.9	V V	3.0 3.0	-13.0 -11.9	37.4 36.7	1.0 1.0	-49.4 -47.6	-13.0 -13.0	-36.4 -34.6	
7.44 3.72 5.58 7.44 Iid Channel 3.76	-64.5 -60.8 -63.0 -64.9 1880MHz) -60.3	V V V H	3.0 3.0 3.0 3.0	-13.0 -11.9 -11.4 -12.3	37.4 36.7 36.0 37.4	1.0 1.0 1.0	-49.4 -47.6 -46.4 -48.6	-13.0 -13.0 -13.0 -13.0	-36.4 -34.6 -33.4 -35.6	
7.44 3.72 5.58 7.44 Aid Channel 3.76 5.64 7.52 3.76	-64.5 -60.8 -63.0 -64.9 1880MHz) -60.3 -63.0 -64.2 -60.9	V V V H H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-13.0 -11.9 -11.4 -12.3 -11.9 -10.4 -13.1	37.4 36.7 36.0 37.4 36.7 35.9 37.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.4 47.6 46.4 48.6 47.7 45.3 49.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.4 -34.6 -33.4 -35.6 -34.7 -32.3 -36.4	
7.44 3.72 5.58 7.44 lid Channel 3.76 5.64 7.52 3.76 5.64	-64.5 -60.8 -63.0 -64.9 1880MHz) -60.3 -63.0 -64.2 -60.9 -62.8	V V V H H H V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-13.0 -11.9 -11.4 -12.3 -11.9 -10.4 -13.1 -11.6	37.4 36.7 36.0 37.4 36.7 35.9 37.4 36.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.4 47.6 46.4 48.6 47.7 45.3 49.4 47.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.4 -34.6 -33.4 -35.6 -34.7 -32.3 -36.4 -34.4	
7.44 3.72 5.58 7.44 lid Channel 3.76 5.64 7.52 3.76	-64.5 -60.8 -63.0 -64.9 1880MHz) -60.3 -63.0 -64.2 -60.9	V V V H H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-13.0 -11.9 -11.4 -12.3 -11.9 -10.4 -13.1	37.4 36.7 36.0 37.4 36.7 35.9 37.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.4 47.6 46.4 48.6 47.7 45.3 49.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.4 -34.6 -33.4 -35.6 -34.7 -32.3 -36.4	
7.44 3.72 5.58 7.44 lid Channel 3.76 5.64 7.52 3.76 5.64 7.52	-64.5 -60.8 -63.0 -64.9 1880MHz) -60.3 -63.0 -64.2 -60.9 -62.8 -64.2	V V V H H H V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-13.0 -11.9 -11.4 -12.3 -11.9 -10.4 -13.1 -11.6	37.4 36.7 36.0 37.4 36.7 35.9 37.4 36.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.4 47.6 46.4 48.6 47.7 45.3 49.4 47.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.4 -34.6 -33.4 -35.6 -34.7 -32.3 -36.4 -34.4	
7.44 3.72 5.58 7.44 id Channel 3.76 5.64 7.52 3.76 5.64 7.52 3.76 5.64 7.52	-64.5 -60.8 -63.0 -64.9 1880MHz) -60.3 -63.0 -64.2 -60.9 -62.8 -64.2 -64.2 -64.2 -64.2	V V V H H H V V V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-13.0 -11.9 -11.4 -12.3 -11.9 -10.4 -13.1 -11.6 -10.5	37.4 36.7 36.0 37.4 36.7 35.9 37.4 36.7 35.9	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.4 47.6 46.4 48.6 47.7 45.3 49.4 47.4 45.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.4 -34.6 -33.4 -35.6 -34.7 -32.3 -36.4 -34.4 -32.5	
7.44 3.72 5.58 7.44 id Channel 3.76 5.64 7.52 3.76 5.64 7.52 3.76 5.64 7.52	-64.5 -60.8 -63.0 -64.9 -64.9 -60.3 -63.0 -64.2 -60.9 -62.8 -64.2 (1900MHz) -60.4	V V V H H V V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-13.0 -11.9 -11.4 -12.3 -11.9 -10.4 -13.1 -11.6 -10.5 -12.4	37.4 36.7 36.0 37.4 36.7 35.9 37.4 36.7 35.9 37.4 36.7 35.9 37.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.4 47.6 46.4 48.6 47.7 45.3 49.4 47.4 45.5 48.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.4 -34.6 -33.4 -35.6 -34.7 -32.3 -36.4 -34.4 -32.5 -35.7	
7.44 3.72 5.58 7.44 3.76 5.64 7.52 3.76 5.64 7.52 3.76 5.64 7.52	-64.5 -60.8 -63.0 -64.9 1880MHz) -60.3 -63.0 -64.2 -60.9 -62.8 -64.2 (1900MHz) -60.4 -62.9	V V V H H H V V V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-13.0 -11.9 -11.4 -12.3 -11.9 -10.4 -13.1 -11.6 -10.5 -12.4 -11.7	37.4 36.7 36.0 37.4 36.7 35.9 37.4 36.7 35.9 37.3 36.7 37.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.4 47.6 46.4 48.6 47.7 45.3 49.4 47.4 45.5 48.7 48.7 47.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.4 -34.6 -33.4 -35.6 -34.7 -32.3 -36.4 -34.4 -32.5 	
7.44 3.72 5.58 7.44 iid Channel 3.76 5.64 7.52 3.76 5.64 7.52 igh Channel 3.80	-64.5 -60.8 -63.0 -64.9 -64.9 -60.3 -63.0 -64.2 -60.9 -62.8 -64.2 (1900MHz) -60.4	V V V H H V V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-13.0 -11.9 -11.4 -12.3 -11.9 -10.4 -13.1 -11.6 -10.5 -12.4	37.4 36.7 36.0 37.4 36.7 35.9 37.4 36.7 35.9 37.4 36.7 35.9 37.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.4 47.6 46.4 48.6 47.7 45.3 49.4 47.4 45.5 48.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.4 -34.6 -33.4 -35.6 -34.7 -32.3 -36.4 -34.4 -32.5 -35.7	
7.44 3.72 5.58 7.44 iid Channel 3.76 5.64 7.52 3.76 5.64 7.52 iigh Channel 3.80 5.70 7.60	-64.5 -60.8 -63.0 -64.9 1880MHz) -60.3 -63.0 -64.2 -60.9 -62.8 -64.2 (1900MHz) -60.4 -62.9 -64.7	V V V H H H V V V V H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-13.0 -11.9 -11.4 -12.3 -11.9 -10.4 -13.1 -11.6 -10.5 	37.4 36.7 36.0 37.4 36.7 35.9 37.4 36.7 35.9 37.4 36.7 35.9 37.3 36.7 35.9	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.4 47.6 46.4 48.6 47.7 45.3 49.4 47.4 45.5 48.7 48.7 48.7 47.4 45.6	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.4 -34.6 -33.4 -35.6 -34.7 -32.3 -36.4 -34.4 -32.5 -35.7 -34.4 -32.6	

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11.1.2. LTE BAND 4

LTE BAND 4 QPSK, (20 MHz)

				titution Measu ated Chamber						
Company: Project #: Date: Test Engine Configuratic Mode:	er: on:	16U23814 11/11/16 45250 EUT only LTE Band 4, 20	MHz QPSK							
<u>Fest Equipm</u> Substitution	: Horn T59 Sub	stitution, and	d 8ft SMA Ca	ble						
	Chamb	ber	P	re-amplifer		Filter			Limit	
	3m Chamber H	•	3m (Chamber H 🗸	Filte	er	•	EIRP	•	-
Frequency		Ant. Pol.	Distance	EIRP @ TX Ant End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
				(-10)				1		
(GHz)	(dBm)	(H/V)		(dBm)						
ow Channel	(1720MHz)		3.0		37.7	10	_49 3	-13.0	-36.3	
		(H/V) н н	3.0 3.0	(dBm) -12.6 -11.3	37.7 36.8	1.0 1.0	_49.3 _47.1	-13.0 -13.0	-36.3 -34.1	
ow Channel 3.44 5.16 6.88	(1720MHz) -60.4 -61.6 -65.0	H H H	3.0 3.0	-12.6 -11.3 -12.0	36.8 36.4	1.0 1.0	-47.1 -47.4	-13.0 -13.0	-34.1 -34.4	
ow Channel 3.44 5.16 6.88 3.44	(1720MHz) -60.4 -61.6 -65.0 -60.1	H H H V	3.0 3.0 3.0	-12.6 -11.3 -12.0 -13.0	36.8 36.4 37.7	1.0 1.0 1.0	-47.1 -47.4 -49.7	-13.0 -13.0 -13.0	-34.1 -34.4 -36.7	
ow Channel 3.44 5.16 6.88 3.44 5.16	(1720MHz) -60.4 -61.6 -65.0 -60.1 -61.1	H H V V	3.0 3.0 3.0 3.0 3.0	-12.6 -11.3 -12.0 -13.0 -10.7	36.8 36.4 37.7 36.8	1.0 1.0 1.0 1.0	-47.1 -47.4 -49.7 -46.5	-13.0 -13.0 -13.0 -13.0	-34.1 -34.4 -36.7 -33.5	
ow Channel 3.44 5.16 6.88 3.44	(1720MHz) -60.4 -61.6 -65.0 -60.1	H H H V	3.0 3.0 3.0	-12.6 -11.3 -12.0 -13.0	36.8 36.4 37.7	1.0 1.0 1.0	-47.1 -47.4 -49.7	-13.0 -13.0 -13.0	-34.1 -34.4 -36.7	
ow Channel 3.44 5.16 6.88 3.44 5.16 6.88	(1720MHz) -60.4 -61.6 -65.0 -60.1 -61.1 -64.3	H H V V	3.0 3.0 3.0 3.0 3.0	-12.6 -11.3 -12.0 -13.0 -10.7	36.8 36.4 37.7 36.8	1.0 1.0 1.0 1.0	-47.1 -47.4 -49.7 -46.5	-13.0 -13.0 -13.0 -13.0	-34.1 -34.4 -36.7 -33.5	
ow Channel 3.44 5.16 6.88 3.44 5.16 6.88 10 Channel 3.47	(1720MHz) -60.4 -61.6 -65.0 -60.1 -61.1 -64.3 (1732-5MHz) -60.9	H H V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0	-12.6 -11.3 -12.0 -13.0 -10.7 -11.4 -13.0	36.8 36.4 37.7 36.8 36.4 37.7	1.0 1.0 1.0 1.0 1.0	47.1 47.4 49.7 46.5 46.8 49.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-34.1 -34.4 -36.7 -33.5 -33.8 -33.8 -36.7	
ow Channel 3.44 5.16 6.88 3.44 5.16 6.88 16 6.88 110 Channel 3.47 5.20	(1720MHz) -60.4 -61.6 -65.0 -60.1 -61.1 -64.3 (1732-5MHz) -60.9 -62.7	H H V V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-12.6 -11.3 -12.0 -13.0 -10.7 -11.4 -13.0 -12.4	36.8 36.4 37.7 36.8 36.4 37.7 36.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0	47.1 47.4 49.7 46.5 46.8 46.8 49.7 49.7 48.2	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-34.1 -34.4 -36.7 -33.5 -33.8 	
ow Channel 3.44 5.16 6.88 3.44 5.16 6.88 Mid Channel 3.47 5.20 6.93	(1720MHz) -60.4 -61.6 -65.0 -60.1 -61.1 -64.3 (1732.5MHz) -60.9 -62.7 -63.8	H H V V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-12.6 -11.3 -12.0 -13.0 -10.7 -11.4 -13.0 -12.4 -10.6	36.8 36.4 37.7 36.8 36.4 37.7 36.8 37.7 36.8 36.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	47.1 47.4 49.7 46.5 46.8 49.7 49.7 48.2 46.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-34.1 -34.4 -36.7 -33.5 -33.8 	
ow Channel 3.44 5.16 6.88 3.44 5.16 6.88 Nid Channel 3.47 5.20 6.93 3.47	(1720MHz) -60.4 -61.6 -65.0 -60.1 -61.1 -64.3 (1732.5MHz) -60.9 -62.7 -63.8 -60.0	H H V V V H H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-12.6 -11.3 -12.0 -13.0 -10.7 -11.4 -13.0 -12.4 -10.6 -12.9	36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	47.1 47.4 49.7 46.5 46.8 49.7 48.2 46.1 49.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-34.1 -34.4 -36.7 -33.5 -33.8 	
ow Channel 3.44 5.16 6.88 3.44 5.16 6.88 Nid Channel 3.47 5.20 6.93 3.47 5.20	(1720MHz) -60.4 -61.6 -65.0 -60.1 -61.1 -64.3 (1732-5MHz) -60.9 -62.7 -63.8 -60.0 -61.8	H H V V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-12.6 -11.3 -12.0 -13.0 -10.7 -11.4 -13.0 -12.4 -10.6 -12.9 -11.2	36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	47.1 47.4 49.7 46.5 46.8 	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-34.1 -34.4 -36.7 -33.5 -33.8 	
ow Channel 3.44 5.16 6.88 3.44 5.16 6.88 11d Channel 3.47 5.20 6.93 3.47 5.20 6.93	(1720MHz) -60.4 -61.6 -65.0 -60.1 -61.1 -64.3 -60.9 -62.7 -63.8 -60.0 -61.8 -64.3	H H V V V H H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-12.6 -11.3 -12.0 -13.0 -10.7 -11.4 -13.0 -12.4 -10.6 -12.9	36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	47.1 47.4 49.7 46.5 46.8 49.7 48.2 46.1 49.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-34.1 -34.4 -36.7 -33.5 -33.8 	
ow Channel 3.44 5.16 6.88 3.44 5.16 6.88 lid Channel 3.47 5.20 6.93 3.47 5.20 6.93 3.47 5.20 6.93 3.47 5.20 6.93 3.47	(1720MHz) -60.4 -61.6 -65.0 -60.1 -61.1 -64.3 (1732.5MHz) -60.9 -62.7 -63.8 -60.0 -61.8 -64.3 (1745MHz)	H H V V V V V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-12.6 -11.3 -12.0 -13.0 -10.7 -11.4 -13.0 -12.4 -11.4 -13.0 -12.4 -10.6 -12.9 -11.2 -11.3	36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	47.1 47.4 49.7 46.5 46.8 49.7 48.2 46.1 49.5 47.0 46.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	34.1 34.4 36.7 33.5 33.8 	
ow Channel 3.44 5.16 6.88 3.44 5.16 6.88 lid Channel 3.47 5.20 6.93 3.49 8.49	(1720MHz) -60.4 -61.6 -65.0 -60.1 -61.1 -64.3 (1732.5MHz) -60.9 -62.7 -63.8 -60.0 -61.8 -64.3 (1745MHz) -60.4	H H V V V V H H H V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-12.6 -11.3 -12.0 -13.0 -10.7 -11.4 -13.0 -12.4 -10.6 -12.9 -11.2 -11.3 -12.5	36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	47.1 47.4 49.7 46.5 46.8 49.7 48.2 46.1 49.5 47.0 46.7 49.2	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-34.1 -34.4 -36.7 -33.5 -33.8 	
ow Channel 3.44 5.16 6.88 3.44 5.16 6.88 iid Channel 3.47 5.20 6.93 3.47 5.20 6.93 igh Channel 3.49 5.24	(1720MHz) -60.4 -61.6 -65.0 -60.1 -61.1 -64.3 (1732.5MHz) -60.9 -62.7 -63.8 -60.0 -61.8 -64.3 (1745MHz) -60.4 -62.2	H H V V V V V H H H H H H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-12.6 -11.3 -12.0 -13.0 -10.7 -11.4 -10.6 -12.4 -10.6 -12.9 -11.2 -11.3 -12.5 -11.7	36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 36.4 37.7 36.8 36.4 37.6 36.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	47.1 47.4 49.7 46.5 46.8 49.7 48.1 49.7 48.1 49.5 47.0 46.7 49.2 47.6	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-34.1 -34.4 -36.7 -33.5 -33.8 -33.8 -35.2 -33.1 -36.5 -34.0 -33.7 -35.2 -34.6	
ow Channel 3.44 5.16 6.88 3.44 5.16 6.88 Mid Channel 3.47 5.20 6.93 3.47 5.20 6.93 3.47 5.20 6.93 1.49 5.24 6.93 1.49 5.24 6.93 1.49 5.24 6.98 1.49 5.24	(1720MHz) -60.4 -61.6 -65.0 -60.1 -61.1 -64.3 (1732.5MHz) -60.9 -62.7 -63.8 -60.0 -61.8 -64.3 (1745MHz) -60.4 -62.2 -64.2	H H V V V V V H H H H H H H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-12.6 -11.3 -12.0 -13.0 -10.7 -11.4 -10.6 -12.9 -11.2 -11.3 -11.2 -11.3 -12.5 -11.7 -11.0	36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.6 36.8 36.4 37.6 36.8 36.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	47.1 47.4 49.7 46.5 46.8 46.8 49.7 49.7 48.2 46.1 49.5 47.0 46.1 49.5 47.0 46.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	34.1 34.4 36.7 33.5 33.8 36.7 35.2 33.1 36.5 34.0 -33.7 -36.2 -34.6 -33.4	
ow Channel 3.44 5.16 6.88 3.44 5.16 6.88 Mid Channel 3.47 5.20 6.93 3.47 5.20 6.93 3.47 5.20 6.93 14gh Channel 3.49 5.24	(1720MHz) -60.4 -61.6 -65.0 -60.1 -61.1 -64.3 (1732.5MHz) -60.9 -62.7 -63.8 -60.0 -61.8 -64.3 (1745MHz) -60.4 -62.2	H H V V V V V H H H H H H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-12.6 -11.3 -12.0 -13.0 -10.7 -11.4 -10.6 -12.4 -10.6 -12.9 -11.2 -11.3 -12.5 -11.7	36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 36.4 37.7 36.8 36.4 37.6 36.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	47.1 47.4 49.7 46.5 46.8 49.7 48.1 49.7 48.1 49.5 47.0 46.7 49.2 47.6	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-34.1 -34.4 -36.7 -33.5 -33.8 -33.8 -35.2 -33.1 -36.5 -34.0 -33.7 -35.2 -34.6	

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LTE BAND 4 16QAM, (20 MHz)

			-	titution Measu ated Chambe						
Company: Project #:		16U23814								
)ate:		11/11/16								
Test Engine	er:	45250								
Configuratio	on:	EUT only								
Node:		LTE Band 4, 2	0MHz 16QAM							
est Equip				hla						
ubstitution	: Horn T59 Sub	stitution, an	d att SIMA Ca	DIE						
							1			
	Chamb	er	Pr	e-amplifer		Filter			Limit	
3	m Chamber H		3m C	hamber H 🖵	Filte	r .		EIRP		-
		·								
	1					1				
				EIRP @ TX						
Frequency		Ant. Pol.	Distance	Ant End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
			:	1		/				110100
(GHz)	(dBm)	(H/V)		(dBm)						
ow Channel	(1720MHz)			(dBm)		<u> </u>				
ow Channel 3.44	(1720MHz) -60.5	H	3.0	(dBm) -12.6	37.7	1.0	-49.3	-13.0	-36.3	
ow Channel 3.44 5.16	(1720MHz) -60.5 -62.1	H	3.0	(dBm) -12.6 -11.8	37.7 36.8	1.0 1.0	-49.3 -47.7	-13.0 -13.0	-36.3 -34.7	
ow Channel 3.44 5.16 6.88	(1720MHz) -60.5 -62.1 -64.9	H	3.0 3.0	(dBm) -12.6 -11.8 -11.8	37.7 36.8 36.4	1.0 1.0 1.0	<u>49.3</u> 47.7 47.2	-13.0 -13.0 -13.0	-36.3 -34.7 -34.2	
ow Channel 3.44 5.16	(1720MHz) -60.5 -62.1	H H H	3.0	(dBm) -12.6 -11.8	37.7 36.8	1.0 1.0	-49.3 -47.7	-13.0 -13.0	-36.3 -34.7	
ow Channel 3.44 5.16 6.88 3.44	(1720MHz) -60.5 -62.1 -64.9 -60.6	H H H V	3.0 3.0 3.0	(dBm) -12.6 -11.8 -11.8 -13.5	37.7 36.8 36.4 37.7	1.0 1.0 1.0 1.0 1.0	_49.3 _47.7 _47.2 _50.2	-13.0 -13.0 -13.0 -13.0	-36.3 -34.7 -34.2 -37.2	
ow Channel 3.44 5.16 6.88 3.44 5.16 6.88	(1720MHz) -60.5 -62.1 -64.9 -60.6 -62.4 -65.1	H H H V V	3.0 3.0 3.0 3.0 3.0	(dBm) -12.6 -11.8 -11.8 -13.5 -11.9	37.7 36.8 36.4 37.7 36.8	1.0 1.0 1.0 1.0 1.0		-13.0 -13.0 -13.0 -13.0 -13.0	-36.3 -34.7 -34.2 -37.2 -34.8	
ow Channel 3.44 5.16 6.88 3.44 5.16 6.88 Mid Channel	(1720MHz) -60.5 -62.1 -64.9 -60.6 -62.4 -65.1 (1732.5MHz)	H H V V V	3.0 3.0 3.0 3.0 3.0	(dBm) -12.6 -11.8 -11.8 -13.5 -11.9 -12.2	37.7 36.8 36.4 37.7 36.8 36.4	1.0 1.0 1.0 1.0 1.0 1.0	49.3 47.7 47.2 -50.2 47.8 47.6	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.3 -34.7 -34.2 -37.2 -34.8 -34.6	
ow Channel 3.44 5.16 6.88 3.44 5.16 6.88 Mid Channel 3.47	(1720MHz) -60.5 -62.1 -64.9 -60.6 -62.4 -65.1 (1732.5MHz) -60.1	H H V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0	(dBm) -12.6 -11.8 -13.5 -11.9 -12.2 -12.3	37.7 36.8 36.4 37.7 36.8 36.4 36.4 37.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.3 47.7 47.2 -50.2 47.8 47.6 -49.0	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.3 -34.7 -34.2 -37.2 -34.8 -34.6 -36.0	
ow Channel 3.44 5.16 6.88 3.44 5.16 6.88 Mid Channel 3.47 5.20	(1720MHz) -60.5 -62.1 -64.9 -60.6 -62.4 -65.1 (1732.5MHz) -60.1 -62.5	H H V V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	(dBm) -12.6 -11.8 -11.8 -13.5 -11.9 -12.2 -12.3 -12.3 -12.2	37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.3 47.7 47.2 -50.2 47.8 47.6 	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	36.3 34.7 34.2 37.2 34.8 34.6 34.6 35.0	
ow Channel 3.44 5.16 6.88 3.44 5.16 6.88 Mid Channel 3.47	(1720MHz) -60.5 -62.1 -64.9 -60.6 -62.4 -65.1 (1732.5MHz) -60.1	H H V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0	(dBm) -12.6 -11.8 -13.5 -11.9 -12.2 -12.3	37.7 36.8 36.4 37.7 36.8 36.4 36.4 37.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.3 47.7 47.2 -50.2 47.8 47.6 -49.0	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.3 -34.7 -34.2 -37.2 -34.8 -34.6 -36.0	
ow Channel 3.44 5.16 6.88 3.44 5.16 6.88 Aid Channel 3.47 5.20 6.93 3.47 5.20	(1720MHz) -60.5 -62.1 -64.9 -60.6 -62.4 -65.1 (1732.5MHz) -60.1 -62.5 -65.1 -60.7 -60.7 -62.5	H H V V V V H H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	(dBm) -12.6 -11.8 -11.8 -13.5 -11.9 -12.2 -12.3 -12.2 -11.9 -13.6 -12.0	37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.3 47.7 47.2 50.2 47.8 47.6 - - - - - - - - - - - - - - - - - - -	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	36.3 34.7 34.2 37.2 34.8 34.6 36.0 35.0 34.3 37.2 34.8	
ow Channel 3.44 5.16 6.88 3.44 5.16 6.88 1id Channel 3.47 5.20 6.93 3.47	(1720MHz) -60.5 -62.1 -64.9 -60.6 -62.4 -65.1 (1732.5MHz) -60.1 -62.5 -65.1 -65.1 -60.7	H H V V V H H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	(dBm) -12.6 -11.8 -11.8 -13.5 -11.9 -12.2 -12.2 -12.3 -12.2 -11.9 -13.6	37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.3 47.7 47.2 -50.2 47.8 47.6 -49.0 -48.0 47.3 -50.2	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	36.3 34.7 34.2 37.2 34.8 34.6 36.0 35.0 34.3 37.2	
ow Channel 3.44 5.16 6.88 3.44 5.16 6.88 lid Channel 3.47 5.20 6.93 3.47 5.20 6.93	(1720MHz) -60.5 -62.1 -64.9 -60.6 -62.4 -65.1 (1732.5MHz) -60.1 -62.5 -65.1 -60.7 -62.5 -64.7	H H V V V V H H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	(dBm) -12.6 -11.8 -11.8 -13.5 -11.9 -12.2 -12.3 -12.2 -11.9 -13.6 -12.0	37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.3 47.7 47.2 50.2 47.8 47.6 - - - - - - - - - - - - - - - - - - -	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	36.3 34.7 34.2 37.2 34.8 34.6 36.0 35.0 34.3 37.2 34.8	
ow Channel 3.44 5.16 6.88 3.44 5.16 6.88 id Channel 3.47 5.20 6.93 3.47 5.20 6.93 3.47 5.20 6.93	(1720MHz) -60.5 -62.1 -64.9 -60.6 -62.4 -65.1 (1732.5MHz) -60.1 -62.5 -65.1 -60.7 -62.5 -64.7 -64.7 -1745MHz)	H H V V V V V V V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	(dBm) -12.6 -11.8 -11.8 -13.5 -11.9 -12.2 -12.2 -12.2 -11.9 -12.3 -12.2 -11.9 -13.6 -12.0 -11.7	37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.3 47.7 47.2 50.2 47.8 47.6 49.0 48.0 47.3 50.2 47.8 47.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	36.3 34.7 34.2 37.2 34.8 34.6 36.0 35.0 34.3 37.2 34.8 37.2 34.8 34.1	
ow Channel 3.44 5.16 6.88 3.44 5.16 6.88 lid Channel 3.47 5.20 6.93 3.49	(1720MHz) -60.5 -62.1 -64.9 -60.6 -62.4 -65.1 (1732.5MHz) -60.1 -62.5 -65.1 -60.7 -62.5 -65.1 -60.7 -62.5 -64.7 (1745MHz) -60.5	H H V V V V V V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	(dBm) -12.6 -11.8 -11.8 -13.5 -11.9 -12.2 -12.3 -12.2 -11.9 -13.6 -12.0 -11.7 -12.6	37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.3 47.7 47.2 50.2 47.8 47.6 49.0 48.0 47.3 50.2 47.8 47.1 49.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	36.3 34.7 34.2 37.2 34.8 34.6 36.0 35.0 34.3 37.2 34.8 37.2 34.8 34.1 37.2 34.8 34.1	
ow Channel 3.44 5.16 6.88 3.44 5.16 6.88 id Channel 3.47 5.20 6.93 6.93	(1720MHz) -60.5 -62.1 -64.9 -60.6 -62.4 -65.1 (1732.5MHz) -60.1 -62.5 -65.1 -60.7 -62.5 -64.7 -64.7 -1745MHz)	H H V V V V V V V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	(dBm) -12.6 -11.8 -11.8 -13.5 -11.9 -12.2 -12.2 -12.2 -11.9 -12.3 -12.2 -11.9 -13.6 -12.0 -11.7	37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.3 47.7 47.2 50.2 47.8 47.6 49.0 48.0 47.3 50.2 47.8 47.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	36.3 34.7 34.2 37.2 34.8 34.6 36.0 35.0 34.3 37.2 34.8 37.2 34.8 34.1	
ow Channel 3.44 5.16 6.88 3.44 5.16 6.88 1id Channel 3.47 5.20 6.93 3.47 5.20 6.93 3.47 5.20 6.93 1id Channel 3.47 5.20 6.93 1id Channel 3.47 5.20 6.93	(1720MHz) -60.5 -62.1 -64.9 -60.6 -62.4 -65.1 -60.1 -62.5 -65.1 -60.1 -62.5 -65.1 -60.7 -62.5 -64.7 (1745MHz) -60.5 -62.8	H H V V V V V H H H H H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	(dBm) -12.6 -11.8 -11.8 -13.5 -11.9 -12.2 -12.3 -12.2 -11.9 -13.6 -12.0 -11.7 -12.6 -12.3	37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.6 36.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.3 47.7 47.2 -50.2 47.8 47.6 - - - - - - - - - - - - - - - - - - -	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	36.3 34.7 34.2 37.2 34.8 34.6 36.0 35.0 34.3 37.2 34.8 34.6 36.0 35.0 34.3 37.2 34.8 34.1 36.3 35.2	
ow Channel 3.44 5.16 6.88 3.44 5.16 6.88 IId Channel 3.47 5.20 6.93 3.47 5.20 6.93 3.47 5.20 6.93 1Id Channel 3.49 5.24 6.98	(1720MHz) -60.5 -62.1 -64.9 -60.6 -62.4 -65.1 (1732.5MHz) -60.1 -62.5 -65.1 -60.7 -62.5 -64.7 I (1745MHz) -60.5 -62.8 -65.6	H H H V V V V V V H H H H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	(dBm) -12.6 -11.8 -11.8 -13.5 -11.9 -12.2 -12.3 -12.2 -11.9 -13.6 -12.0 -11.7 -12.6 -12.3 -12.3 -12.3	37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.7 36.8 36.4 37.6 36.4 37.6 36.8 36.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.3 47.7 50.2 47.8 47.6 49.0 48.0 47.3 -50.2 47.8 47.1 49.3 47.1 49.3 48.2 47.7	13.0 13.0 13.0 13.0 13.0 13.0 13.0 13.0	36.3 34.7 34.2 37.2 34.8 34.6 36.0 35.0 35.0 34.3 37.2 34.8 37.2 34.8 34.1 37.2 34.8 34.1 35.2 35.2 34.7	

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11.1.3. LTE BAND 5

LTE BAND 5 QPSK, (10 MHz)

				titution Meas ated Chambe						
Company: Project #: Date: Test Engi Configura Mode:	neer: ition:	16U23814 11/14/16 40802 EUT Only LTE Band 5, 1	0MHz QPSK							
<u>Fest Equi</u> Substituti	on: Horn T59 Sub	ostitution, an	d 8ft SMA Ca	ble						
	Chamb	er	Pr	e-amplifer		Filter			Limit	
	3m Chamber F	-	3m (Chamber F 🚽	Filte	er 🔤	•	EIRP	•	·
Frequen		Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(abm) nel (829MHz)	(H/V)		(aBm)						
1.66	-74.8	Н	3.0	-33.6	33.7	1.0	-66.3	-13.0	-53.3	
2.49	-76.0	H	3.0	-31.9	34.1	1.0	-65.0	-13.0	-52.0	
3.32	-75.5	Н	3.0	-27.2	34.6	1.0	-60.8	-13.0	-47.8	
1.66	-76.0	V	3.0	-32.6	33.7	1.0	-65.3	-13.0	-52.3	
2.49	-76.6 -77.4	V V	3.0 3.0	-31.8 -28.8	34.1 34.6	1.0 1.0	-64.9 -62.5	-13.0 -13.0	-51.9 -49.5	
J.JZ	-11.4	v	5.0	-20.0	J4.0	1.0	-02.J	-13.0	-43.J	
	el (836.5MHz)			•						
1.67	-76.1	H	3.0	-34.8	33.7	1.0	-67.5	-13.0	-54.5	
2.51	-75.4 -74.9	H	3.0 3.0	-31.2 -26.5	34.1 34.6	1.0 1.0	-64.3 -60.1	-13.0 -13.0	-51.3 -47.1	
2 25	-74.9 -75.5	V N	3.0	-26.5 -32.1	34.6	1.0	-60.1	-13.0	-47.1	
3.35 1.67	-74.9	v	3.0	-30.1	34.1	1.0	-63.2	-13.0	-50.2	
3.35 1.67 2.51	-75.2	V	3.0	-26.6	34.6	1.0	-60.2	-13.0	-47.2	
1.67										
1.67 2.51 3.35	nol (9//MH-)	Н	3.0	-33.2	33.7	1.0	-65.9	-13.0	-52.9	
1.67 2.51 3.35 High Chan	nel (844MHz) -74-6		3.0	-30.9	34.1	1.0	-64.1	-13.0	-52.5	
1.67 2.51 3.35	nel (844MHz) -74.6 -75.3	H	3.0			1.0	-59.9	-13.0	-46.9	
1.67 2.51 3.35 High Chan 1.69 2.53 3.38	-74.6 -75.3 -74.8	H H	3.0	-26.3	34.6					
1.67 2.51 3.35 High Chan 1.69 2.53 3.38 1.69	-74.6 -75.3 -74.8 -74.2	H H V	3.0 3.0	-30.8	33.7	1.0	-63.5	-13.0	-50.5	
1.67 2.51 3.35 High Chan 1.69 2.53 3.38	-74.6 -75.3 -74.8	H H	3.0			1.0 1.0 1.0	-63.5 -62.7 -60.1	-13.0 -13.0 -13.0	-50.5 -49.7 -47.1	

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LTE BAND 5 16QAM, (10 MHz)

			-	titution Measu ated Chamber						
ompany: roject #: ate: est Engine onfiguratio lode: <u>est Equipm</u>	er: n: <u>ent:</u>		0MHz 16QAM	bla.						
ubstitution	Horn T59 Sub			e-amplifer		Filter	1		Limit	
31	n Chamber F	-	3m C	hamber F 🗸	Filte	r ,	r	EIRP		•
Frequency		Ant. Pol.	Distance	EIRP @ TX Ant End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz) ow Channel	(dBm)	(H/V)		(dBm)						
ow Channel 1.66	(829MHZ) -74.8	Н	3.0	-33.4	33.7	1.0	-66.1	-13.0	-53.1	
	-75.9	n H	3.0	-33.4 -32.7	34.1	1.0	-00.1 -65.8	-13.0	-53.1	
2.49	-13.3							-13.0		
2.49	.75.6	Н	3.0	-29.6	34.6	1.0	-633		-50.3	
2.49 3.32 1.66	-75.6 -75.1	H V	3.0 3.0	-29.6 -33.3	34.6 33.7	1.0 1.0	-63.3 -66.0	-13.0	-50.3 -53.0	
3.32										
3.32 1.66	-75.1	V	3.0	-33.3	33.7	1.0	-66.0	-13.0	-53.0	
3.32 1.66 2.49 3.32	-75.1 -75.8 -74.3	V V	3.0 3.0	-33.3 -31.7	33.7 34.1	1.0 1.0	-66.0 -64.8	-13.0 -13.0	-53.0 -51.8	
3.32 1.66 2.49 3.32 Aid Channel (-75.1 -75.8 -74.3 836.5MHz)	V V V	3.0 3.0 3.0	-33.3 -31.7 -28.3	33.7 34.1 34.6	1.0 1.0 1.0	-66.0 -64.8 -62.0	-13.0 -13.0 -13.0	-53.0 -51.8 -49.0	
3.32 1.66 2.49 3.32 Iid Channel (1.67	-75.1 -75.8 -74.3 836.5MHz) -76.1	V V V H	3.0 3.0 3.0 3.0	-33.3 -31.7 -28.3 -34.6	33.7 34.1 34.6 33.7	1.0 1.0 1.0	-66.0 -64.8 -62.0 -67.3	-13.0 -13.0 -13.0 -13.0	-53.0 -51.8 -49.0 -54.3	
3.32 1.66 2.49 3.32 fid Channel (1.67 2.51	-75.1 -75.8 -74.3 836.5MHz) -76.1 -75.3	V V V H H	3.0 3.0 3.0 3.0 3.0 3.0	-33.3 -31.7 -28.3 	33.7 34.1 34.6 33.7 34.1	1.0 1.0 1.0 1.0 1.0	-66.0 -64.8 -62.0 -67.3 -67.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-53.0 -51.8 -49.0 -54.3 -52.2	
3.32 1.66 2.49 3.32 Iid Channel (1.67	-75.1 -75.8 -74.3 836.5MHz) -76.1	V V V H	3.0 3.0 3.0 3.0	-33.3 -31.7 -28.3 -34.6	33.7 34.1 34.6 33.7	1.0 1.0 1.0	-66.0 -64.8 -62.0 -67.3	-13.0 -13.0 -13.0 -13.0	-53.0 -51.8 -49.0 -54.3	
3.32 1.66 2.49 3.32 fid Channel (1.67 2.51 3.35	-75.1 -75.8 -74.3 836.5MHz) -76.1 -75.3 -74.8	V V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	-33.3 -31.7 -28.3 -34.6 -32.1 -28.8	33.7 34.1 34.6 33.7 34.1 34.6	1.0 1.0 1.0 1.0 1.0 1.0	-66.0 -64.8 -62.0 -67.3 -65.2 -62.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-53.0 -51.8 -49.0 -54.3 -52.2 -49.4	
3.32 1.66 2.49 3.32 Aid Channel (1.67 2.51 3.35 1.67	-75.1 -75.8 -74.3 836.5MHz) -76.1 -75.3 -74.8 -75.2	V V V H H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-33.3 -31.7 -28.3 -34.6 -32.1 -28.8 -33.4	33.7 34.1 34.6 33.7 34.1 34.6 33.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-66.0 -64.8 -62.0 -67.3 -65.2 -62.4 -66.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-53.0 -51.8 -49.0 -54.3 -52.2 -49.4 -53.1	
3.32 1.66 2.49 3.32 Iid Channel (1.67 2.51 3.35 1.67 2.51 3.35	-75.1 -75.8 -74.3 836.5MHz) -76.1 -75.3 -74.8 -75.2 -74.9 -74.8	V V V H H H V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-33.3 -31.7 -28.3 -34.6 -32.1 -28.8 -33.4 -30.7	33.7 34.1 34.6 33.7 34.1 34.6 33.7 34.1 34.6 33.7 34.1	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-66.0 -64.8 -62.0 -67.3 -65.2 -62.4 -66.1 -63.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-53.0 -51.8 -49.0 -54.3 -52.2 -49.4 -53.1 -50.8	
3.32 1.66 2.49 3.32 lid Channel (1.67 2.51 3.35 1.67 2.51 3.35 lid Channel	-75.1 -75.8 -74.3 836.5MHz) -76.1 -75.3 -74.8 -75.2 -74.8 -74.9 -74.8 (844MHz)	V V V H H H V V V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-33.3 -31.7 -28.3 -34.6 -32.1 -28.8 -33.4 -30.7 -28.8	33.7 34.1 34.6 33.7 34.1 34.6 33.7 34.1 34.6 33.7 34.1 34.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-66.0 -64.8 -62.0 -67.3 -65.2 -62.4 -66.1 -63.8 -62.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-53.0 -51.8 -49.0 -54.3 -52.2 -49.4 -53.1 -50.8 -49.4	
3.32 1.66 2.49 3.32 1.67 2.51 3.35 1.67 2.51 3.35 1.67 2.51 3.35 1.67 2.51 3.35 1.67 2.51 3.35	-75.1 -75.8 -74.3 836.5MHz) -76.1 -75.3 -74.8 -75.2 -74.9 -74.8 (844MHz) -74.5	V V V H H V V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-33.3 -31.7 -28.3 -34.6 -32.1 -28.8 -33.4 -30.7 -28.8 -33.4 -30.7 -28.8	33.7 34.1 34.6 33.7 34.1 34.6 33.7 34.1 34.6 33.7 34.1 34.6 33.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-66.0 -64.8 -62.0 -67.3 -65.2 -62.4 -66.1 -63.8 -62.4 -62.4 -65.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-53.0 -51.8 -49.0 -54.3 -52.2 -49.4 -53.1 -50.8 -49.4 -53.1 -50.8 -49.4 -52.7	
3.32 1.66 2.49 3.32 lid Channel (1.67 2.51 3.35 1.67 2.51 3.35 ligh Channel 1.69 2.53	-75.1 -75.8 -74.3 836.5MHz) -76.1 -75.3 -74.8 -75.2 -74.8 -74.9 -74.9 -74.8 (844MHz) -74.5 -75.1	V V V H H V V V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-33.3 -31.7 -28.3 -34.6 -32.1 -28.8 -33.4 -30.7 -28.8 -28.8 -33.0 -31.8	33.7 34.1 34.6 33.7 34.1 34.6 33.7 34.1 34.6 33.7 34.1 34.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-66.0 -64.8 -62.0 -67.3 -65.2 -62.4 -66.1 -63.8 -62.4 -62.4 -65.7 -65.7 -64.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-53.0 -51.8 -49.0 -54.3 -52.2 -49.4 -53.1 -50.8 -49.4 	
3.32 1.66 2.49 3.32 Aid Channel (1.67 2.51 3.35 1.67 2.51 3.35 1.67 2.51 3.35 1.67 2.51 3.35 1.67 2.51 3.35 1.69 2.53 3.38	-75.1 -75.8 -74.3 836.5MHz) -76.1 -75.3 -74.8 -75.2 -74.8 -74.9 -74.8 (844MHz) -74.5 -75.1 -74.8	V V V H H V V V V H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-33.3 -31.7 -28.3 -34.6 -32.1 -28.8 -33.4 -30.7 -28.8 	33.7 34.1 34.6 33.7 34.1 34.6 33.7 34.1 34.6 33.7 34.1 34.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-66.0 -64.8 -62.0 -67.3 -65.2 -62.4 -66.1 -66.3 -62.4 -65.7 -64.9 -62.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-53.0 -51.8 -49.0 -54.3 -52.2 -49.4 -53.1 -50.8 -49.4 -52.7 -51.9 -49.3	
3.32 1.66 2.49 3.32 Wid Channel (1.67 2.51 3.35 1.67 2.51 3.35 tigh Channel 1.69 2.53	-75.1 -75.8 -74.3 836.5MHz) -76.1 -75.3 -74.8 -75.2 -74.8 -74.9 -74.9 -74.8 (844MHz) -74.5 -75.1	V V V H H V V V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-33.3 -31.7 -28.3 -34.6 -32.1 -28.8 -33.4 -30.7 -28.8 -28.8 -33.0 -31.8	33.7 34.1 34.6 33.7 34.1 34.6 33.7 34.1 34.6 33.7 34.1 34.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-66.0 -64.8 -62.0 -67.3 -65.2 -62.4 -66.1 -63.8 -62.4 -62.4 -65.7 -65.7 -64.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-53.0 -51.8 -49.0 -54.3 -52.2 -49.4 -53.1 -50.8 -49.4 	

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11.1.4. LTE BAND 7

LTE BAND 7 QPSK, (20 MHz)

			-	titution Measu ated Chambe						
Company: Project #: Date: Cest Engine Configuratio Node:	er: n:	16U23814 11/14/16 40802 EUT only LTE Band 7, 2	0MHz QPSK							
<u>est Equipm</u> ubstitution:	<u>ent:</u> : Horn T59 Sub	stitution, an	ıd 8ft SMA Ca	ble			1			
	Chambe	r	Pre	-amplifer		Filter			Limit	
3m	Chamber F	•	3m Cł	namber F 🖵	Filter	· -	1	LTE B	7 🗸	
			,			:		1		
Frequency	-	Ant. Pol.	Distance	EIRP @ TX Ant End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz) .ow Channel	(dBm)	(H/V)		(dBm)						
5.02	-67.2	Н	3.0	-14.6	34.2	1.0	-47.8	-25.0	-22.8	
7.53	-67.2	H	3.0	-14.6 -12.8	33.5	1.0	-47.0	-25.0	-22.0	
10.04	-72.8	H	3.0	-13.0	31.7	1.0	-43.6	-25.0	-18.6	
5.02	-67.9	V	3.0	-15.1	34.2	1.0	-48.3	-25.0	-23.3	
7.53	-70.1	V	3.0	-13.8	33.5	1.0	-46.3	-25.0	-21.3	
10.04	-71.8	V	3.0	-12.0	31.7	1.0	-42.7	-25.0	-17.7	
Aid Channel (2525MU~)									
	2030MHZ) -67.2	Н	3.0	-14.5	34.2	1.0	-47.7	-25.0	-22.7	
	-69.9	H	3.0	-14.5	33.5	1.0	-41.1	-25.0	-22.1	
5.07	-05.5	H	3.0	-11.2	31.7	1.0	-41.9	-25.0	-16.9	
					34.2		-48.1	-25.0	-23.1	
5.07 7.61	-67.9	V	3.0	-14.9	J4.Z	1.0				
5.07 7.61 10.14 5.07 7.61	-69.1	V	3.0	-12.7	33.5	1.0	-45.2	-25.0	-20.2	
5.07 7.61 10.14 5.07								-25.0 -25.0	-20.2 -16.5	
5.07 7.61 10.14 5.07 7.61 10.14	-69.1 -70.6	V	3.0	-12.7	33.5	1.0	-45.2			
5.07 7.61 10.14 5.07 7.61 10.14 igh Channel	-69.1 -70.6 (2560MHz)	V V	3.0 3.0	-12.7 -10.8	33.5 31.7	1.0 1.0	-45.2 -41.5	-25.0	-16.5	
5.07 7.61 10.14 5.07 7.61 10.14 ligh Channel 5.12	-69.1 -70.6 (2560MHz) -69.4	V V H	3.0 3.0 3.0	-12.7 -10.8 -16.7	33.5 31.7 34.2	1.0 1.0 1.0	-45.2 -41.5 -49.8	-25.0 -25.0	-16.5 -24.8	
5.07 7.61 10.14 5.07 7.61 10.14 ligh Channel 5.12 7.68	-69.1 -70.6 (2560MHz) -69.4 -70.4	V V H H	3.0 3.0 3.0 3.0 3.0	-12.7 -10.8 -16.7 -13.7	33.5 31.7 34.2 33.4	1.0 1.0 1.0 1.0	-45.2 -41.5 -49.8 -46.1	-25.0 -25.0 -25.0	-16.5 -24.8 -21.1	
5.07 7.61 10.14 5.07 7.61 10.14 ligh Channel 5.12 7.68 10.24	-69.1 -70.6 (2560MHz) -69.4 -70.4 -72.5	V V H	3.0 3.0 3.0	-12.7 -10.8 -16.7	33.5 31.7 34.2	1.0 1.0 1.0 1.0 1.0	-45.2 -41.5 -49.8 -46.1 -43.3	-25.0 -25.0 -25.0 -25.0	-16.5 -24.8	
5.07 7.61 10.14 5.07 7.61 10.14 High Channel 5.12 7.68	-69.1 -70.6 (2560MHz) -69.4 -70.4	V V H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	-12.7 -10.8 -16.7 -13.7 -12.5	33.5 31.7 34.2 33.4 31.8	1.0 1.0 1.0 1.0	-45.2 -41.5 -49.8 -46.1	-25.0 -25.0 -25.0	-16.5 -24.8 -21.1 -18.3	

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LTE BAND 7 16QAM, (20 MHz)

			-	titution Meas ated Chambe						
mpany:										
oject #:		16U23814								
ate:		11/14/16								
est Engine		40802								
onfiguratio		EUT only								
lode:		LTE Band 7, 2	0MHz 16QAM							
est Equipn	nent:									
bstitution	: Horn T59 Sub	ostitution, an	d 8ft SMA Ca	ble						
			Pro	-amplifer			1			
_	Chambe	er		•		Filter	4		Limit	
3	m Chamber F	-	3m C	hamber F 🖵	Filter	-	·	LTEB	7	•
				EIRP @ TX						
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
ow Channel		(11/V)		(ubiii)						
5.02	-69.08	Н	3.0	-16.5	34.2	1.0	-49.7	-25.0	-24.7	
7.53	-68.25	H	3.0	-11.8	33.5	1.0	-44.3	-25.0	-19.3	
	-68.45	Н	3.0	-8.6	31.7	1.0	-39.3	-25.0	-14.3	
10.04				42.0	24.2		-47.0	-25.0	-22.0	
5.02	-66.59	V	3.0	-13.8	34.2	1.0				
5.02 7.53	-67.45	V	3.0	-11.1	33.5	1.0	-43.7	-25.0	-18.7	
5.02										
5.02 7.53 10.04	-67.45 -68.26	V	3.0	-11.1	33.5	1.0	-43.7	-25.0	-18.7	
5.02 7.53	-67.45 -68.26	V	3.0	-11.1	33.5	1.0	-43.7	-25.0	-18.7	
5.02 7.53 10.04 Iid Channel 5.07 7.61	-67.45 -68.26 (2535MHz) -65.83 -66.98	V V H H	3.0 3.0 3.0 3.0 3.0	-11.1 -8.5 -13.2 -10.4	33.5 31.7 34.2 33.5	1.0 1.0 1.0 1.0	-43.7 -39.2 -46.4 -42.8	-25.0 -25.0 -25.0 -25.0 -25.0	-18.7 -14.2 -21.4 -77.8	
5.02 7.53 10.04 Iid Channel 5.07 7.61 10.14	-67.45 -68.26 (2535MHz) -65.83 -66.98 -67.75	V V H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.1 -8.5 -13.2 -10.4 -7.9	33.5 31.7 34.2 33.5 31.7	1.0 1.0 1.0 1.0 1.0 1.0	-43.7 -39.2 -46.4 -42.8 -38.6	-25.0 -25.0 -25.0 -25.0 -25.0 -25.0	-18.7 -14.2 -21.4 -17.8 -13.6	
5.02 7.53 10.04 Iid Channel 5.07 7.61 10.14 5.07	-67.45 -68.26 (2535MHz) -65.83 -66.98 -67.75 -65.78	V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.1 -8.5 -13.2 -10.4 -7.9 -12.9	33.5 31.7 34.2 33.5 31.7 34.2	1.0 1.0 1.0 1.0 1.0 1.0 1.0	43.7 -39.2 46.4 42.8 -38.6 46.1	-25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0	-18.7 -14.2 -21.4 -17.8 -13.6 -21.1	
5.02 7.53 10.04 lid Channel 5.07 7.61 10.14 5.07 7.61	-67.45 -68.26 (2535MHz) -65.83 -66.98 -67.75 -65.78 -67.05	V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.1 -8.5 -13.2 -10.4 -7.9 -12.9 -10.6	33.5 31.7 34.2 33.5 31.7 34.2 33.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	43.7 -39.2 -46.4 -42.8 -38.6 -46.1 -43.1	-25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0	-18.7 -14.2 -21.4 -17.8 -13.6 -21.1 -18.1	
5.02 7.53 10.04 Iid Channel 5.07 7.61 10.14 5.07	-67.45 -68.26 (2535MHz) -65.83 -66.98 -67.75 -65.78	V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.1 -8.5 -13.2 -10.4 -7.9 -12.9	33.5 31.7 34.2 33.5 31.7 34.2	1.0 1.0 1.0 1.0 1.0 1.0 1.0	43.7 -39.2 46.4 42.8 -38.6 46.1	-25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0	-18.7 -14.2 -21.4 -17.8 -13.6 -21.1	
5.02 7.53 10.04 lid Channel 5.07 7.61 10.14 5.07 7.61 10.14	-67.45 -68.26 (2535MHz) -65.83 -66.98 -67.75 -65.78 -67.05 -68.17	V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.1 -8.5 -13.2 -10.4 -7.9 -12.9 -10.6	33.5 31.7 34.2 33.5 31.7 34.2 33.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	43.7 -39.2 -46.4 -42.8 -38.6 -46.1 -43.1	-25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0	-18.7 -14.2 -21.4 -17.8 -13.6 -21.1 -18.1	
5.02 7.53 10.04 lid Channel 5.07 7.61 10.14 5.07 7.61 10.14	-67.45 -68.26 (2535MHz) -65.83 -66.98 -67.75 -65.78 -67.05 -68.17	V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.1 -8.5 -13.2 -10.4 -7.9 -12.9 -10.6	33.5 31.7 34.2 33.5 31.7 34.2 33.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	43.7 -39.2 -46.4 -42.8 -38.6 -46.1 -43.1	-25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0	-18.7 -14.2 -21.4 -17.8 -13.6 -21.1 -18.1 -14.1 -14.1 -21.1	
5.02 7.53 10.04 lid Channel 5.07 7.61 10.14 5.07 7.61 10.14 iigh Channe 5.12 7.68	-67.45 -68.26 (2535MHz) -65.83 -66.98 -67.75 -65.78 -67.05 -68.17 (2560MHz) -65.67 -66.25	V V H H V V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.1 -8.5 -13.2 -10.4 -7.9 -12.9 -10.6 -8.3 -12.9 -12.9 -9.6	33.5 31.7 34.2 33.5 31.7 34.2 33.5 31.7 34.2 33.5 31.7 34.2 33.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	43.7 -39.2 -46.4 -42.8 -38.6 -46.1 -43.1 -39.1 	-25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0	-18.7 -14.2 -21.4 -17.8 -13.6 -21.1 -18.1 -14.1 -14.1 -21.1 -17.0	
5.02 7.53 10.04 lid Channel 5.07 7.61 10.14 5.07 7.61 10.14 10.14 ligh Channe 5.12 7.68 10.24	-67.45 -68.26 (2535MHz) -65.83 -66.98 -67.75 -65.78 -67.05 -68.17 (2560MHz) -65.67 -66.25 -67.60	V V H H V V V V H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.1 -8.5 -13.2 -10.4 -7.9 -12.9 -10.6 -8.3 -12.9 -9.6 -7.6	33.5 31.7 34.2 33.5 31.7 34.2 33.5 31.7 34.2 33.5 31.7 34.2 33.4 31.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	43.7 -39.2 -46.4 42.8 -38.6 -46.1 -43.1 -39.1 	-25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0	-18.7 -14.2 -21.4 -7.8 -13.6 -21.1 -18.1 -14.1 -14.1 -21.1 -17.0 -13.5	
5.02 7.53 10.04 Iid Channel 5.07 7.61 10.14 5.07 7.61 10.14 Iigh Channe 5.12 7.68 10.24 5.12	-67.45 -68.26 (2535MHz) -65.83 -67.75 -65.78 -67.05 -68.17 -68.17 -65.67 -65.67 -65.67 -67.60 -65.52	V V H H V V V V V V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.1 -8.5 -13.2 -10.4 -7.9 -12.9 -10.6 -8.3 -12.9 -9.6 -7.6 -7.6 -12.5	33.5 31.7 34.2 33.5 31.7 34.2 33.5 31.7 34.2 33.5 31.7 34.2 33.4 31.8 34.2	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	43.7 -39.2 -46.4 -42.8 -38.6 -46.1 -43.1 -39.1 -46.1 -42.0 -38.5 -45.7	-25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0	-18.7 -14.2 -21.4 -17.8 -13.6 -21.1 -18.1 -14.1 -21.1 -7.0 -13.5 -20.7	
5.02 7.53 10.04 lid Channel 5.07 7.61 10.14 5.07 7.61 10.14 10.14 ligh Channe 5.12 7.68 10.24	-67.45 -68.26 (2535MHz) -65.83 -66.98 -67.75 -65.78 -67.05 -68.17 (2560MHz) -65.67 -66.25 -67.60	V V H H V V V V H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.1 -8.5 -13.2 -10.4 -7.9 -12.9 -10.6 -8.3 -12.9 -9.6 -7.6	33.5 31.7 34.2 33.5 31.7 34.2 33.5 31.7 34.2 33.5 31.7 34.2 33.4 31.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	43.7 -39.2 -46.4 42.8 -38.6 -46.1 -43.1 -39.1 	-25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0	-18.7 -14.2 -21.4 -7.8 -13.6 -21.1 -18.1 -14.1 -14.1 -21.1 -17.0 -13.5	

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11.1.5. LTE BAND 12

LTE BAND 12 QPSK, (10 MHz)

			•	titution Meas iated Chambe						
Company Project # Date: Test Eng Configura Mode: Test Equ	: ineer: ation:	16U23814 11/15/16 40802 EUT only LTE Band 12,	10MHz QPSK							
	tion: Horn T59 Sub Chambe			ıble e-amplifer		Filter			Limit	1
	3m Chamber F	•	3m C	hamber F 🖵	Filte	r	•	EIRP	•	•
Frequer		Ant. Pol.	Distance	EIRP @ TX Ant End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)) (dBm) inel (704MHz)	(H/V)		(dBm)						
1.41	-65.62	Н	3.0	-25.9	34.0	1.0	-58.9	-13.0	-45.9	
2.11	-65.21	H	3.0	-21.6	33.7	1.0	-54.2	-13.0	-41.2	
2.82	-65.85	Н	3.0	-19.8	34.5	1.0	-53.4	-13.0	-40.4	
1.41	-65.94	V	3.0	-23.5	34.0	1.0	-56.5	-13.0	-43.5	
2.11 2.82	-66.21 -66.17	V V	3.0 3.0	-22.3 -19.7	33.7 34.5	1.0 1.0	-55.0 -53.3	-13.0 -13.0	-42.0 -40.3	
2.02	-00.17	v	J.U	-13.1	J4.J	1.0	-55.5	-13.0		
	nel (707.5MHz)					-				
1.42	-65.56	H	3.0	-25.8	34.0	1.0	-58.8	-13.0	-45.8	
2.12	-65.49 -65.82	H	3.0 3.0	-21.8 -19.7	33.7 34.6	1.0 1.0	-54.5 -53.3	-13.0 -13.0	-41.5 -40.3	
1.42	-65.62	п V	3.0	-19.7 -23.9	34.0	1.0	-55.5	-13.0	-40.5	
2.12	-65.76	V	3.0	-21.9	33.7	1.0	-54.5	-13.0	-41.5	
2.83	-66.38	V	3.0	-19.8	34.6	1.0	-53.4	-13.0	-40.4	
	angl (711MHz)									
nuin u nan	nel (711MHz) -65.98	Н	3.0	-26.2	34.0	1.0	-59.2	-13.0	-46.2	
	-66.15	H	3.0	-20.2	33.7	1.0	-55.2	-13.0	-40.2	
1.42 2.13	-64.92	Н	3.0	-18.7	34.6	1.0	-52.3	-13.0	-39.3	
1.42 2.13 2.84		V	3.0	-23.9	34.0	1.0	-56.9	-13.0	-43.9	
1.42 2.13 2.84 1.42	-66.54					1.0	-55.4	-13.0	-42.4	
1.42 2.13 2.84	-66.54 -66.61 -66.55	V V	3.0 3.0	-22.7 -19.9	33.7 34.6	1.0	-53.5	-13.0	-40.5	

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LTE BAND 12 16QAM, (10 MHz)

			-	titution Measu ated Chambe						
ompany:										
Project #:		16U23814								
Date:		11/15/16								
Fest Engine		40802								
Configuratio		EUT only								
Node:			10MHz 16QAM							
lest Equipm	ent:									
ubstitution	Horn T59 Sub	stitution, an	d 8ft SMA Ca	ble						
							1			
	Chambe	er	Pre	e-amplifer		Filter			Limit	
							4			
31	m Chamber F		3m C	hamber F 🚽	Filter	r .	1	EIRP		
		•					•			•
		<u> </u>					•			•
		•					•			
		<u> </u>	ļ							•
Frequency		Ant Pol	Distance	EIRP @ TX			EIRP		Delta	Notes
Frequency	SA reading	Ant. Pol.	Distance	EIRP @ TX Ant End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX			EIRP		Delta	Notes
(GHz)	SA reading (dBm) (704MHz)	(H/V)		EIRP @ TX Ant End (dBm)	Preamp	Attenuator		Limit		Notes
(GHz) ow Channel 1.41	SA reading (dBm) (704MHz) -65.38	(H/V) Н	3.0	EIRP @ TX Ant End (dBm)	Preamp 34.0	Attenuator	-58.7	Limit	-45.7	Notes
(GHz)	SA reading (dBm) (704MHz)	(H/V)		EIRP @ TX Ant End (dBm)	Preamp	Attenuator		Limit		Notes
(GHz) ow Channel 1.41 2.11 2.82 1.41	SA reading (dBm) (704MHz) -65.38 -65.73 -65.19 -66.14	(H/V) H H H V	3.0 3.0 3.0 3.0 3.0	EIRP @ TX Ant End (dBm) -25.7 -22.1 -19.2 -23.7	Preamp 34.0 33.7 34.5 34.0	Attenuator 1.0 1.0 1.0 1.0	-58.7 -54.8 -52.7 -56.7	Limit -13.0 -13.0 -13.0 -13.0	-45.7 -41.8 -39.7 -43.7	Notes
(GHz) ow Channel 1.41 2.11 2.82 1.41 2.11	SA reading (dBm) (704MHz) -65.38 -65.73 -65.19 -66.14 -66.03	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0 3.0	EIRP @ TX Ant End (dBm) -25.7 -22.1 -19.2 -23.7 -22.2	Preamp 34.0 33.7 34.5 34.0 33.7	Attenuator 1.0 1.0 1.0 1.0 1.0	-58.7 -54.8 -52.7 -56.7 -54.8	Limit -13.0 -13.0 -13.0 -13.0 -13.0	45.7 41.8 -39.7 43.7 41.8	Notes
(GHz) ow Channel 1.41 2.11 2.82 1.41	SA reading (dBm) (704MHz) -65.38 -65.73 -65.19 -66.14	(H/V) H H H V	3.0 3.0 3.0 3.0 3.0	EIRP @ TX Ant End (dBm) -25.7 -22.1 -19.2 -23.7	Preamp 34.0 33.7 34.5 34.0	Attenuator 1.0 1.0 1.0 1.0	-58.7 -54.8 -52.7 -56.7	Limit -13.0 -13.0 -13.0 -13.0	-45.7 -41.8 -39.7 -43.7	Notes
(GHz) ow Channel 1.41 2.11 2.82 1.41 2.11 2.11 2.82	SA reading (dBm) (704MHz) -65.38 -65.73 -65.19 -66.14 -66.03 -65.97	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0 3.0	EIRP @ TX Ant End (dBm) -25.7 -22.1 -19.2 -23.7 -22.2	Preamp 34.0 33.7 34.5 34.0 33.7	Attenuator 1.0 1.0 1.0 1.0 1.0	-58.7 -54.8 -52.7 -56.7 -54.8	Limit -13.0 -13.0 -13.0 -13.0 -13.0	45.7 41.8 -39.7 43.7 41.8	Notes
(GHz) ow Channel 1.41 2.11 2.82 1.41 2.11 2.82 Ald Channel (SA reading (dBm) (704MHz) -65.38 -65.73 -65.19 -66.14 -66.03 -65.97 707.5MHz)	(H/V) H H V V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0	EIRP @ TX Ant End (dBm) -25.7 -22.1 -19.2 -23.7 -22.2 -19.5	Preamp 34.0 33.7 34.5 34.0 33.7 34.5	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0	-58.7 -54.8 -52.7 -56.7 -54.8 -53.1	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	45.7 41.8 -39.7 43.7 41.8 40.1	Notes
(GHz) .ow Channel 1.41 2.11 2.82 1.41 2.11 2.82 Alid Channel (1.42	SA reading (dBm) (704MHz) -65.38 -65.73 -65.19 -66.14 -66.03 -65.97 707.5MHz) -65.83	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0 3.0	EIRP @ TX Ant End (dBm) -25.7 -22.1 -19.2 -23.7 -22.2 -19.5 -26.1	34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.5	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-58.7 -54.8 -52.7 -56.7 -54.8 -53.1 -59.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	45.7 41.8 -39.7 43.7 41.8 40.1 	Notes
(GHz) ow Channel 1.41 2.11 2.82 1.41 2.11 2.82 Ald Channel (SA reading (dBm) (704MHz) -65.38 -65.73 -65.19 -66.14 -66.03 -65.97 707.5MHz)	(H/V) H H V V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	EIRP @ TX Ant End (dBm) -25.7 -22.1 -19.2 -23.7 -22.2 -19.5	Preamp 34.0 33.7 34.5 34.0 33.7 34.5	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0	-58.7 -54.8 -52.7 -56.7 -54.8 -53.1	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	45.7 41.8 -39.7 43.7 41.8 40.1	Notes
(GHz) ow Channel 1.41 2.11 2.82 1.41 2.12 2.82 Mid Channel (1.42 2.12 2.83 1.42	SA reading (dBm) (704MHz) -65.38 -65.73 -65.19 -66.14 -66.03 -65.97 - 707.5MHz) -65.83 -65.92 -65.92 -66.07	(H/V) H H V V V V H H H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	EIRP @ TX Ant End (dBm) -25.7 -22.1 -19.2 -23.7 -22.2 -19.5 -26.1 -21.6 -19.8 -23.5	Preamp 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.6 34.0	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-58.7 -54.8 -52.7 -56.7 -54.8 -53.1 -59.1 -54.3 -59.1 -54.3 -53.4 -56.6	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	45.7 41.8 -39.7 43.7 41.8 40.1 -46.1 41.3 40.4 43.6	Notes
(GHz) ow Channel 1.41 2.11 2.82 1.41 2.11 2.82 Mid Channel (1.42 2.12 2.83 1.42 2.12	SA reading (dBm) (704MHz) -65.38 -65.73 -65.19 -66.14 -66.03 -65.97 707.5MHz) -65.83 -65.26 -65.92 -66.07 -65.92	(H/V) H H V V V V H H H V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	EIRP @ TX Ant End (dBm) -25.7 -22.1 -19.2 -23.7 -22.2 -19.5 -26.1 -21.6 -19.8 -23.5 -22.0	34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.6 34.0 33.7	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-58.7 -54.8 -52.7 -56.7 -54.8 -53.1 -59.1 -54.3 -53.4 -56.6 -54.7	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	45.7 41.8 -39.7 43.7 41.8 40.1 	Notes
(GHz) ow Channel 1.41 2.11 2.82 1.41 2.12 2.82 Mid Channel (1.42 2.12 2.83 1.42	SA reading (dBm) (704MHz) -65.38 -65.73 -65.19 -66.14 -66.03 -65.97 - 707.5MHz) -65.83 -65.92 -65.92 -66.07	(H/V) H H V V V V H H H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	EIRP @ TX Ant End (dBm) -25.7 -22.1 -19.2 -23.7 -22.2 -19.5 -26.1 -21.6 -19.8 -23.5	Preamp 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.6 34.0	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-58.7 -54.8 -52.7 -56.7 -54.8 -53.1 -59.1 -54.3 -59.1 -54.3 -53.4 -56.6	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	45.7 41.8 -39.7 43.7 41.8 40.1 -46.1 41.3 40.4 43.6	Notes
(GHz) ow Channel 1.41 2.11 2.82 1.41 2.82 1.41 2.82 Mid Channel (1.42 2.12 2.83 1.42 2.12 2.83	SA reading (dBm) (704MHz) -65.38 -65.73 -65.19 -66.14 -66.03 -65.97 	(H/V) H H V V V V H H H V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	EIRP @ TX Ant End (dBm) -25.7 -22.1 -19.2 -23.7 -22.2 -19.5 -26.1 -21.6 -19.8 -23.5 -22.0	34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.6 34.0 33.7	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-58.7 -54.8 -52.7 -56.7 -54.8 -53.1 -59.1 -54.3 -53.4 -56.6 -54.7	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	45.7 41.8 -39.7 43.7 41.8 40.1 	Notes
(GHz) ow Channel 1.41 2.11 2.82 1.41 2.11 2.82 Mid Channel (1.42 2.12 2.83 1.42 2.12 2.83 1.42 2.12 2.83	SA reading (dBm) (704MHz) -65.38 -65.73 -65.19 -66.14 -66.03 -65.97 707.5MHz) -65.83 -65.26 -65.92 -65.92 -65.97 -711MHz)	(H/V) H H V V V V V V V V V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	EIRP @ TX Ant End (dBm) -25.7 -22.1 -19.2 -23.7 -22.2 -19.5 -26.1 -21.6 -19.8 -23.5 -22.0 -19.4	34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.6 34.0 33.7 34.6 34.0 33.7 34.6 34.6	Attenuator 1.0	-58.7 -54.8 -52.7 -54.8 -53.1 -59.1 -59.1 -59.1 -54.3 -53.4 -56.6 -54.7 -53.0	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	45.7 41.8 -39.7 43.7 41.8 40.1 -46.1 41.3 -40.4 43.6 41.7 40.0	Notes
(GHz) ow Channel 1.41 2.11 2.82 1.41 2.82 1.41 2.82 1.42 2.12 2.83 1.42 2.12 2.83	SA reading (dBm) (704MHz) -65.38 -65.73 -65.19 -66.14 -66.03 -65.97 	(H/V) H H V V V V H H H V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	EIRP @ TX Ant End (dBm) -25.7 -22.1 -19.2 -23.7 -22.2 -19.5 -26.1 -21.6 -19.8 -23.5 -22.0	34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.6 34.0 33.7	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-58.7 -54.8 -52.7 -56.7 -54.8 -53.1 -59.1 -54.3 -53.4 -56.6 -54.7	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	45.7 41.8 -39.7 43.7 41.8 40.1 	Notes
(GHz) ow Channel 1.41 2.11 2.82 1.41 2.11 2.82 Aid Channel (1.42 2.12 2.83 1.42 2.12 2.83 1.42 2.12 2.83 1.42 2.12 2.83 1.42 2.12 2.83	SA reading (dBm) (704MHz) -65.38 -65.73 -65.19 -66.14 -66.03 -65.97 707.5MHz) -65.83 -65.26 -65.92 -65.92 -66.07 -65.92 -65.97 (711MHz) -66.18	(H/V) H H V V V V V V V V V V V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	EIRP @ TX Ant End (dBm) -25.7 -22.1 -19.2 -23.7 -22.2 -19.5 -26.1 -21.6 -19.8 -23.5 -22.0 -19.4 -26.4	Preamp 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.6 34.0 33.7 34.6 34.0 33.7 34.6 34.0 33.7 34.6 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.6 34.0 34.0 33.7 34.6 34.0 33.7 34.6 34.0 33.7 34.6 34.0 33.7 34.6 34.0 33.7 34.6 34.0 33.7 34.6 34.0	Attenuator 1.0 1	-58.7 -54.8 -52.7 -56.7 -54.8 -53.1 -59.1 -54.3 -53.1 -54.3 -53.6 -54.7 -54.7 -53.0 -59.4	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	45.7 41.8 -39.7 43.7 41.8 40.1 -46.1 41.3 -46.1 41.3 -40.4 43.6 41.7 40.0	Notes
(GHz) ow Channel 1.41 2.11 2.82 1.41 2.11 2.82 Aid Channel (1.42 2.12 2.83 1.42 2.12 2.83 1.42 2.12 2.83 1.42 2.12 2.83 1.42 2.13 2.84 1.42	SA reading (dBm) (704MHz) -65.38 -65.73 -65.19 -66.14 -66.03 -65.97 - 707.5MHz) -65.83 -65.26 -65.92 -65.92 -65.97 - (711MHz) -66.18 -65.95 -65.12 -65.98	(H/V) H H V V V V V V V V V V V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	EIRP @ TX Ant End (dBm) -25.7 -22.1 -19.2 -23.7 -22.2 -19.5 	Preamp 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.6 34.0 33.7 34.6 34.0 33.7 34.6 34.0 33.7 34.6 34.0	Attenuator 1.0	-58.7 -54.8 -52.7 -54.8 -53.1 -59.1 -54.3 -53.4 -56.6 -54.7 -53.0 -59.4 -59.4 -55.5 -59.4 -52.5 -56.4	Limit -13.0	45.7 41.8 -39.7 41.8 -40.1 -46.1 40.1 -46.1 41.3 -40.4 43.6 -41.7 -40.0 -46.4 -42.0 -39.5 -43.4	Notes
(GHz) ow Channel 1.41 2.11 2.82 1.41 2.12 2.82 Mid Channel (1.42 2.12 2.83 1.42 2.12 2.83 1.42 2.12 2.83 1.42 2.13 2.84	SA reading (dBm) (704MHz) -65.38 -65.73 -65.19 -66.14 -66.03 -65.97 	(H/V) H H V V V V V V V V V V H H H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	EIRP @ TX Ant End (dBm) -25.7 -22.1 -19.2 -23.7 -22.2 -19.5 -26.1 -21.6 -19.8 -23.5 -22.0 -19.8 -23.5 -22.0 -19.4 -26.4 -22.3 -18.9	Preamp 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.6 34.0 33.7 34.6 34.0 33.7 34.6 34.0 33.7 34.6 34.0 33.7 34.6 34.0 33.7 34.6 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.5 34.0 33.7 34.6 33.7 34.6 33.7 34.6 33.7 34.6 33.7 34.6 33.7 34.6 33.7 34.6 33.7 34.6 33.7 34.6 34.0 33.7 34.6 34.6 33.7 34.6 34.6 33.7 34.6 34.6 33.7 34.6 34.6 33.7 34.6 34.6 34.0 33.7 34.6 34.6 33.7 34.6 34.6 33.7 34.6 34.6 33.7 34.6 34.6 33.7 34.6 34.6 33.7 34.6 34.6 33.7 34.6 34.6 33.7 34.6 33.7 34.6 34.6 33.7 34.6 34.6 33.7 34.6 34.6 33.7 34.6 34.6 34.6 33.7 34.6 34.6 34.6 33.7 34.6 34.6 34.6 33.7 34.6	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-58.7 -54.8 -52.7 -54.8 -53.1 -54.8 -53.1 -54.3 -59.1 -54.3 -53.4 -56.6 -54.7 -53.0 -59.4 -59.4 -55.0 -52.5	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	45.7 41.8 -39.7 43.7 41.8 -40.1 -46.1 -46.1 -41.3 -40.4 -43.6 -41.7 -40.0 -46.4 -42.0 -39.5	Notes

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11.1.6. LTE BAND 13

LTE BAND 13 QPSK, (10 MHz)

			-	titution Measu ated Chambe						
company:										
Project #:		16U23814								
)ate:		11/15/16								
est Engine		40802								
onfiguratio		EUT only								
lode:		LTE Band 13,	10MHz QPSK							
est Equipm	ent:									
ubstitution	Horn T59 Sub	stitution, an	d 8ft SMA Ca	ble						
	Chambe	۶r	Pre	e-amplifer		Filter			Limit	
					Filte	-				
3r	Chambe n Chamber F	er •		e-amplifer hamber F 🖵	Filte	-	•	LTE B		•
3r					Filte	-	-	LTE B		•
3r				hamber F	Filte	-	T			•
	n Chamber F	•	3m C	hamber F					13	• Notes
Frequency	n Chamber F SA reading	• Ant. Pol.		hamber F	Filte	-	EIRP	LTE B		• Notes
Frequency (GHz)	n Chamber F SA reading (dBm)	•	3m C	hamber F					13	• Notes
Frequency (GHz) Iid Channel (n Chamber F SA reading (dBm) 782MHz)	Ant. Pol. (H/V)	3m C Distance	hamber F EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	13 Delta	• Notes
Frequency (GHz) Iid Channel (1.56	n Chamber F SA reading (dBm) 782MHz) -65.31	Ant. Pol. (H/V)	3m C Distance	Hamber F EIRP @ TX Ant End (dBm) -24.7	Preamp 33.8	Attenuator	EIRP -57.5	Limit 40.0	13 Delta	v
Frequency (GHz) Iid Channel (n Chamber F SA reading (dBm) 782MHz)	Ant. Pol. (H/V)	3m C Distance	hamber F EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	13 Delta	Notes
Frequency (GHz) lid Channel (1.56 2.35 3.13 1.56	n Chamber F SA reading (dBm) 782MHz) -65.31 -65.73 -66.12 -65.78	Ant. Pol. (H/V) H H H V	3m C Distance 3.0 3.0 3.0 3.0	EIRP @ TX Ant End (dBm) -24.7 -21.8	Preamp 33.8 34.1 34.8 33.8	Attenuator 1.0 1.0 1.0 1.0	EIRP -57.5 -54.9 -52.3 -55.2	Limit -40.0 -13.0 -13.0 -40.0	13 Delta -17.5 -41.9 -39.3 -15.2	Notes
Frequency (GHz) lid Channel (1.56 2.35 3.13 1.56 2.35	n Chamber F SA reading (dBm) 782MHz) -65.73 -66.12 -65.78 -66.67	Ant. Pol. (H/V) H H H V V	3m C Distance 3.0 3.0 3.0 3.0 3.0	hamber F EIRP @ TX Ant End (dBm) -24.7 -21.8 -18.5 -22.4 -22.4 -22.1	Preamp 33.8 34.1 34.8 33.8 34.1	Attenuator 1.0 1.0 1.0 1.0 1.0	EIRP -57.5 -54.9 -52.3 -55.2 -55.2	Limit 40.0 -13.0 -13.0 -13.0 -13.0	13 Delta .17.5 .41.9 .39.3 .15.2 .42.2	Notes
Frequency (GHz) lid Channel (1.56 2.35 3.13 1.56	n Chamber F SA reading (dBm) 782MHz) -65.31 -65.73 -66.12 -65.78	Ant. Pol. (H/V) H H H V	3m C Distance 3.0 3.0 3.0 3.0	hamber F EIRP @ TX Ant End (dBm) -24.7 -21.8 -18.5 -22.4	Preamp 33.8 34.1 34.8 33.8	Attenuator 1.0 1.0 1.0 1.0	EIRP -57.5 -54.9 -52.3 -55.2	Limit -40.0 -13.0 -13.0 -40.0	13 Delta -17.5 -41.9 -39.3 -15.2	• Notes

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LTE BAND 13 16QAM, (10 MHz)

			-	titution Meas ated Chambe						
Company: Project #: Date: Test Engine: Configuratio Mode: <u>Test Equipm</u> Substitution:	er: n:		10MHz 16QAM Id 8ft SMA Ca							
							1			1
3n	Chambe n Chamber F	er T		e-amplifer hamber F ↓	Filte	Filter	r	LTE B	Limit	
	n Chamber F	·			Filter		EIRP	LTE B		Notes
Frequency (GHz)	n Chamber F SA reading (dBm)	• Ant. Pol.	3m C	hamber F 🖵 EIRP @ TX Ant End		· ·	EIRP	J	13 .	Notes
Frequency (GHz) Iid Channel (1.56	n Chamber F SA reading (dBm) 782MHz) -66.07	Ant. Pol. (H/V)	3m C Distance	Hamber F - EIRP @ TX Ant End (dBm) -25.5	Preamp 33.8	Attenuator	-58.2	Limit _40.0	13	Notes
Frequency (GHz) Mid Channel (1.56 2.35	n Chamber F SA reading (dBm) 782MHz) -66.07 -65.82	Ant. Pol. (H/V)	3m C Distance	EIRP @ TX Ant End (dBm) -25.5 -21.9	Preamp 33.8 34.1	Attenuator	-58.2 -55.0	Limit _40.0 _13.0	13 , Delta	Notes
Frequency (GHz) Aid Channel (1.56 2.35 3.13	A reading (dBm) 782MHz) -66.07 -65.82 -66.47	Ant. Pol. (H/V) H H	3m C Distance	EIRP @ TX Ant End (dBm) -25.5 -21.9 -18.9	Preamp 33.8 34.1 34.8	Attenuator	-58.2 -55.0 -52.6	Limit -40.0 -13.0 -13.0	13 - Delta -18.2 -42.0 -39.6	Notes
Frequency (GHz) /id Channel (1.56 2.35 3.13 1.56	SA reading (dBm) 782MHz) -66.07 -65.82 -66.47 -66.18	т Апt. Pol. (H/V) Н Н Ч	3m C Distance 3.0 3.0 3.0 3.0	Hamber F EIRP @ TX Ant End (dBm) -25.5 -21.9 -18.9 -22.8	Preamp 33.8 34.1 34.8 33.8	Attenuator 1.0 1.0 1.0 1.0	-58.2 -55.0 -52.6 -55.6	Limit 40.0 -13.0 -13.0 40.0	13 • • • • • • • • • • • • • • • • • • •	Notes
Frequency (GHz) 11d Channel (1.56 2.35 3.13 1.56 2.35	A reading (dBm) 782MHz) -66.07 -65.82 -66.47 -66.18 -65.07	Ant. Pol. (H/V) H H H V V	3m C Distance 3.0 3.0 3.0 3.0 3.0	hamber F ↓ EIRP @ TX Ant End (dBm) -25.5 -21.9 -18.9 -22.8 -20.5	Preamp 33.8 34.1 33.8 33.8 34.1	Attenuator 1.0 1.0 1.0 1.0 1.0	-58.2 -55.0 -52.6 -55.6 -53.6	40.0 -13.0 -13.0 -13.0 -13.0	13 Delta -18.2 -42.0 -39.6 -15.6	Notes
Frequency (GHz) /id Channel (1.56 2.35 3.13 1.56	SA reading (dBm) 782MHz) -66.07 -65.82 -66.47 -66.18	т Апt. Pol. (H/V) Н Н Ч	3m C Distance 3.0 3.0 3.0 3.0	Hamber F EIRP @ TX Ant End (dBm) -25.5 -21.9 -18.9 -22.8	Preamp 33.8 34.1 34.8 33.8	Attenuator 1.0 1.0 1.0 1.0	-58.2 -55.0 -52.6 -55.6	Limit 40.0 -13.0 -13.0 40.0	13 • • • • • • • • • • • • • • • • • • •	Notes
Frequency (GHz) Wid Channel (1.56 2.35 3.13 1.56 2.35	A reading (dBm) 782MHz) -66.07 -65.82 -66.47 -66.18 -65.07	Ant. Pol. (H/V) H H H V V	3m C Distance 3.0 3.0 3.0 3.0 3.0	hamber F ↓ EIRP @ TX Ant End (dBm) -25.5 -21.9 -18.9 -22.8 -20.5	Preamp 33.8 34.1 33.8 33.8 34.1	Attenuator 1.0 1.0 1.0 1.0 1.0	-58.2 -55.0 -52.6 -55.6 -53.6	40.0 -13.0 -13.0 -13.0 -13.0	13 Delta -18.2 -42.0 -39.6 -15.6	Notes

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11.1.7. LTE BAND 17

LTE BAND 17 QPSK, (10 MHz)

			-	titution Meas ated Chambe						
Company:										
Project #:		16U23814								
Date: Fest Engine		11/15/16 40802								
Configuration		EUT only								
Johngurati Mode:		LTE Band 17, 1	10MHz OPSK							
		,	d 8ft SMA Ca	bie						
	Chamb		Pr	e-amplifer		Filter			Limit	
3			Pr		Filte		•	EIRP		v
	Chamb m Chamber F		Pr	e-amplifer	Filte		• EIRP	EIRP		• Notes
Frequency (GHz) lid Channel	Chamb im Chamber F SA reading (dBm) (710MHz)	er T Ant. Pol. (H/V)	Pr 3m C Distance	e-amplifer hamber F - EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	• Notes
Frequency (GHz) Aid Channel 1.42	Chamb im Chamber F SA reading (dBm) (710MHz) -66.08	er T Ant. Pol. (H/V) H	Pr 3m C Distance	e-amplifer hamber F • EIRP @ TX Ant End (dBm) -26.3	Preamp 34.0	Attenuator	EIRP -59.3	Limit	Delta _46.3	Notes
Frequency (GHz) Mid Channel 1.42 2.13	Chamb im Chamber F SA reading (dBm) (710MHz) -66.08 -66.23	er Ant. Pol. (H/V) H H	Pr 3m C Distance	e-amplifer hamber F v EIRP @ TX Ant End (dBm) -26.3 -22.6	Preamp 34.0 33.7	Attenuator	EIRP -59.3 -55.3	Limit -13.0 -13.0	Delta _46.3 _42.3	Notes
Frequency (GHz) Mid Channel 1.42 2.13 2.84	Chamb im Chamber F SA reading (dBm) (710MHz) -66.08 -66.23 -66.71	er Ant. Pol. (H/V) H H H	Pr 3m C Distance	e-amplifer thamber F v EIRP @ TX Ant End (dBm) -26.3 -22.6 -20.5	Preamp 34.0 33.7 34.6	Attenuator 1.0 1.0 1.0	EIRP -59.3 -55.3 -54.1	Limit -13.0 -13.0 -13.0	Delta _46.3 _42.3 _41.1	• Notes
Frequency (GHz) Aid Channel 1.42 2.13	Chamb im Chamber F SA reading (dBm) (710MHz) -66.08 -66.23	er Ant. Pol. (H/V) H H	Pr 3m C Distance	e-amplifer hamber F v EIRP @ TX Ant End (dBm) -26.3 -22.6	Preamp 34.0 33.7	Attenuator	EIRP -59.3 -55.3	Limit -13.0 -13.0	Delta _46.3 _42.3	Notes

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LTE BAND 17 16QAM, (10 MHz)

			-	titution Measu ated Chambe						
Company: Project #: Date: Fest Engine Configuratio Mode: <u>Fest Equipm</u> Substitution	er: n:		10MHz 16QAM d 8ft SMA Ca							
	Chambo	er	Pr	e-amplifer		Filter			Limit	
31	Chambo n Chamber F	er •		e-amplifer :hamber F 🚽	Filte		•	EIRP	Limit	•
3) Frequency (GHz)	n Chamber F	Ant. Pol. (H/V)			Filte		EIRP	EIRP	Limit	• Notes
Frequency (GHz) lid Channel	n Chamber F SA reading (dBm) 710MHz)	Ant. Pol. (H/V)	3m C Distance	EIRP @ TX Ant End (dBm)	Preamp	r Attenuator	EIRP	Limit	Delta	• Notes
Frequency (GHz) lid Channel (1.42	n Chamber F SA reading (dBm) 710MHz) -65.99	Ant. Pol. (H/V)	3m C Distance	EIRP @ TX Ant End (dBm)	Preamp 34.0	r Attenuator	EIRP	Limit	Delta -46.2	• Notes
Frequency (GHz) Iid Channel (1.42 2.13	n Chamber F SA reading (dBm) 710MHz) -65.99 -66.44	Ant. Pol. (H/V) H	3m C Distance	EIRP @ TX Ant End (dBm)	Preamp 34.0 33.7	Attenuator	EIRP -59.2 -55.5	Limit -13.0 -13.0	Delta 46.2 42.5	Notes
Frequency (GHz) Iid Channel (1.42 2.13 2.84	n Chamber F SA reading (dBm) 710MHz) -65.99 -66.44 -66.24	Ant. Pol. (H/V) H H	3m C Distance	EIRP @ TX Ant End (dBm) -26.2 -22.8 -20.1	Preamp 34.0 33.7 34.6	Attenuator	EIRP -59.2 -55.5 -53.7	Limit -13.0 -13.0 -13.0	Delta 46.2 42.5 40.7	Notes
Frequency (GHz) Aid Channel (1.42 2.13 2.84 1.42	n Chamber F SA reading (dBm) 710MHz) -65.99 -66.44 -66.24 -65.69	Ant. Pol. (H/V) H H H V	3m C Distance	EIRP @ TX Ant End (dBm) -26.2 -22.8 -20.1 -23.1	Preamp 34.0 33.7 34.6 34.0	Attenuator	EIRP -59.2 -55.5 -53.7 -56.1	Limit -13.0 -13.0 -13.0 -13.0	Delta 46.2 42.5 40.7 43.1	Notes
Frequency (GHz) lid Channel (1.42 2.13 2.84	n Chamber F SA reading (dBm) 710MHz) -65.99 -66.44 -66.24	Ant. Pol. (H/V) H H	3m C Distance	EIRP @ TX Ant End (dBm) -26.2 -22.8 -20.1	Preamp 34.0 33.7 34.6	Attenuator	EIRP -59.2 -55.5 -53.7	Limit -13.0 -13.0 -13.0	Delta 46.2 42.5 40.7	Notes

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11.1.8. LTE BAND 25

LTE BAND 25 QPSK, (20 MHz)

			-	titution Meas iated Chambe						
Company:										
Project #:		16U23814								
Date:		11/16/16								
Test Enginee	er:	37290								
Configuratio	n:	EUT only								
Node:		LTE Band 25, 2	20MHz QPSK							
Test Equipm	ont									
	Horn T59 Sub	stitution, an	d 8ft SMA Ca	ble						
	Chambe	r	Pre	-amplifer		Filter			Limit	
3m	Chamber H	_	3m Cł	namber H 🖵	Filter	r .	-	EIRP		-
			J		ļ	_		I		
				EIRP @ TX						
Frequency	SA reading	Ant. Pol.	Distance	Ant End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	(H/V)		(dBm)						_
Low Channel	• •	• •								
3.72	-63.00	Н	3.0	-15.0	37.4	1.0	-51.4	-13.0	-38.4	
	-62.30	Н	3.0	-11.3	36.7	1.0	-47.0	-13.0	-34.0	
5.58		н	3.0	-10.0	36.0	1.0	-45.0	-13.0	-32.0	
5.58 7.44	-63.73		• -					-13.0	-36.1	
5.58 7.44 3.72	-60.41	V	3.0	-12.7	37.4	1.0	-49.1			
5.58 7.44 3.72 5.58	-60.41 -63.10	V V	3.0	-12.0	36.7	1.0	-47.8	-13.0	-34.8	
5.58 7.44 3.72 5.58 7.44	-60.41 -63.10 -63.67	V								
5.58 7.44 3.72 5.58 7.44 Mid Channel (-60.41 -63.10 -63.67 1882.5MHz)	V V V	3.0 3.0	-12.0 -10.1	36.7 36.0	1.0 1.0	-47.8 -45.1	-13.0 -13.0	-34.8 -32.1	
5.58 7.44 3.72 5.58 7.44	-60.41 -63.10 -63.67	V V	3.0	-12.0	36.7	1.0	-47.8	-13.0	-34.8	
5.58 7.44 3.72 5.58 7.44 Mid Channel (3.77	-60.41 -63.10 -63.67 1882.5MHz) -60.87	V V V H	3.0 3.0 3.0	-12.0 -10.1 -12.9	36.7 36.0 37.3	1.0 1.0 1.0	-47.8 -45.1 -49.2	-13.0 -13.0 -13.0	-34.8 -32.1 -36.2	
5.58 7.44 3.72 5.58 7.44 Mid Channel (3.77 5.65	-60.41 -63.10 -63.67 1882.5MHz) -60.87 -62.75	V V V H H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-12.0 -10.1 -12.9 -11.7	36.7 36.0 37.3 36.7	1.0 1.0 1.0 1.0	-47.8 -45.1 -49.2 -47.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-34.8 -32.1 -36.2 -34.4	
5.58 7.44 3.72 5.58 7.44 Mid Channel (3.77 5.65 7.53 3.77 5.65	-60.41 -63.10 -63.67 1882.5MHz) -60.87 -62.75 -63.70 -61.38 -62.60	V V V H H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-12.0 -10.1 -12.9 -11.7 -9.8 -13.6 -11.4	36.7 36.0 37.3 36.7 35.9 37.3 36.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	47.8 45.1 49.2 47.4 44.8 49.9 47.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	34.8 32.1 36.2 34.4 31.8 36.9 34.1	
5.58 7.44 3.72 5.58 7.44 Mid Channel (3.77 5.65 7.53 3.77	-60.41 -63.10 -63.67 1882.5MHz) -60.87 -62.75 -63.70 -61.38	V V V H H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-12.0 -10.1 -12.9 -11.7 -9.8 -13.6	36.7 36.0 37.3 36.7 35.9 37.3	1.0 1.0 1.0 1.0 1.0 1.0	_47.8 _45.1 _49.2 _47.4 _44.8 _49.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-34.8 -32.1 -36.2 -34.4 -31.8 -36.9	
5.58 7.44 3.72 5.58 7.44 Mid Channel (' 3.77 5.65 7.53 3.77 5.65 7.53	-60.41 -63.10 -63.67 1882.5MHz) -60.87 -62.75 -63.70 -61.38 -62.60 -64.40	V V V H H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-12.0 -10.1 -12.9 -11.7 -9.8 -13.6 -11.4	36.7 36.0 37.3 36.7 35.9 37.3 36.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	47.8 45.1 49.2 47.4 44.8 49.9 47.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	34.8 32.1 36.2 34.4 31.8 36.9 34.1	
5.58 7.44 3.72 5.58 7.44 Mid Channel (3.77 5.65 7.53 3.77 5.65 7.53 3.77 5.65 7.53	-60.41 -63.10 -63.67 1882.5MHz) -60.87 -62.75 -63.70 -61.38 -62.60 -64.40 (1905MHz)	V V V H H V V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-12.0 -10.1 -12.9 -11.7 -9.8 -13.6 -11.4 -10.8	36.7 36.0 37.3 36.7 35.9 37.3 36.7 35.9	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	47.8 45.1 49.2 47.4 44.8 49.9 47.1 45.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	34.8 32.1 36.2 34.4 31.8 36.9 34.1 32.7	
5.58 7.44 3.72 5.58 7.44 Aid Channel (3.77 5.65 7.53 3.77 5.65 7.53 3.77 5.65 7.53	-60.41 -63.10 -63.67 1882.5MHz) -60.87 -62.75 -63.70 -61.38 -62.60 -64.40 (1905MHz) -60.20	V V H H V V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-12.0 -10.1 -12.9 -11.7 -9.8 -13.6 -11.4 -10.8 -12.2	36.7 36.0 37.3 36.7 35.9 37.3 36.7 35.9 37.3 37.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	47.8 45.1 49.2 47.4 44.8 49.9 47.1 45.7 48.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	34.8 32.1 36.2 34.4 31.8 36.9 34.1 32.7 35.5	
5.58 7.44 3.72 5.58 7.44 Mid Channel (3.77 5.65 7.53 3.77 5.65 7.53 4igh Channel 3.81 5.72	-60.41 -63.10 -63.67 1882.5MHz) -60.87 -62.75 -63.70 -61.38 -62.60 -64.40 (1905MHz) -60.20 -62.70	V V V H H V V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-12.0 -10.1 -12.9 -11.7 -9.8 -13.6 -11.4 -10.8 -11.4 -10.8 -11.5	36.7 36.0 37.3 36.7 35.9 37.3 36.7 35.9	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	47.8 45.1 49.2 47.4 44.8 49.9 47.1 45.7 45.7 48.5 47.2	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	34.8 32.1 36.2 34.4 31.8 36.9 34.1 32.7	
5.58 7.44 3.72 5.58 7.44 Aid Channel (3.77 5.65 7.53 3.77 5.65 7.53 3.77 5.65 7.53	-60.41 -63.10 -63.67 1882.5MHz) -60.87 -62.75 -63.70 -61.38 -62.60 -64.40 (1905MHz) -60.20	V V H H V V V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-12.0 -10.1 -12.9 -11.7 -9.8 -13.6 -11.4 -10.8 -12.2	36.7 36.0 37.3 36.7 35.9 37.3 36.7 35.9 37.3 36.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	47.8 45.1 49.2 47.4 44.8 49.9 47.1 45.7 48.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	34.8 32.1 36.2 34.4 31.8 36.9 34.1 32.7 35.5 34.2	
5.58 7.44 3.72 5.58 7.44 Wid Channel (' 3.77 5.65 7.53 3.77 5.65 7.53 4igh Channel 3.81 5.72 7.62	-60.41 -63.10 -63.67 1882.5MHz) -60.87 -62.75 -63.70 -61.38 -62.60 -64.40 (1905MHz) -60.20 -62.70 -64.60	V V H H V V V V H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-12.0 -10.1 -12.9 -11.7 -9.8 -13.6 -13.6 -11.4 -10.8 -12.2 -11.5 -10.6	36.7 36.0 37.3 36.7 35.9 37.3 36.7 35.9 37.3 36.7 36.7 35.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	47.8 45.1 49.2 47.4 44.8 49.9 47.1 45.7 48.5 47.2 45.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	34.8 32.1 36.2 34.4 31.8 36.9 34.1 32.7 35.5 34.2 32.5	

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LTE BAND 25 16QAM, (20 MHz)

			-	titution Measu ated Chamber						
Company:										
Project #:		16U23814								
Date:		11/16/16								
Test Engine		37290								
Configuratio Mode:		EUT only	20MHz 16QAM							
wode:		LIE Band 25, 2								
Test Equipm	ent:									
	Horn T59 Sub	stitution, an	d 8ft SMA Ca	ble						
	Chambe	er	Pr	e-amplifer		Filter			Limit	
30	n Chamber H		3m C	hamber H 🚽	Filte	er		EIRP		
		•		· · · · ·						
				EIRP @ TX						
Frequency	SA reading	Ant. Pol.	Distance	Ant End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	(H/V)	210101100	(dBm)	. roump				D 0104	110103
Low Channel		<u>, ,</u>								
3.72	-63.6	Н	3.0	-15.7	37.4	1.0	-52.1	-13.0	-39.1	
5.58	-62.9	H	3.0	-12.0	36.7	1.0	-47.7	-13.0	-34.7	
7.44 3.72	-64.4	H V	3.0 3.0	-10.6 -13.3	36.0 37.4	1.0 1.0	-45.6 -49.7	-13.0 -13.0	-32.6 -36.7	
3.12	-61.0 -63.5	V	3.0 3.0	-13.3 -12.4	31.4	1.0	-49.7 -48.2	-13.0 -13.0	-36.7 -35.2	
	-64.2	v	3.0	-12.4 -10.7	36.0	1.0	-40.2	-13.0	-32.7	
5.58 7.44		•								
5.58	1002.JMI12)	Н	3.0	-13.2	37.3	1.0	-49.6	-13.0	-36.6	
5.58 7.44 Mid Channel (3.77	-61.2						-47.7	-13.0	-34.7	
5.58 7.44 Mid Channel (3.77 5.65	-61.2 -63.1	Н	3.0	-12.0	36.7	1.0				
5.58 7.44 Mid Channel (3.77 5.65 7.53	-61.2 -63.1 -64.1	H H	3.0	-10.2	35.9	1.0	-45.2	-13.0	-32.2	
5.58 7.44 Mid Channel (3.77 5.65 7.53 3.77	-61.2 -63.1 -64.1 -62.0	H H V	3.0 3.0	-10.2 -14.2	35.9 37.3	1.0 1.0	-45.2 -50.5	-13.0 -13.0	-37.5	
5.58 7.44 Mid Channel (3.77 5.65 7.53 3.77 5.65	-61.2 -63.1 -64.1 -62.0 -63.0	H H V V	3.0 3.0 3.0	-10.2 -14.2 -11.8	35.9 37.3 36.7	1.0 1.0 1.0	-45.2 -50.5 -47.5	-13.0 -13.0 -13.0	-37.5 -34.5	
5.58 7.44 Mid Channel (3.77 5.65 7.53 3.77 5.65 7.53	-61.2 -63.1 -64.1 -62.0 -63.0 -63.8	H H V	3.0 3.0	-10.2 -14.2	35.9 37.3	1.0 1.0	-45.2 -50.5	-13.0 -13.0	-37.5	
5.58 7.44 Mid Channel (3.77 5.65 7.53 3.77 5.65 7.53	-61.2 -63.1 -64.1 -62.0 -63.0 -63.8	H H V V	3.0 3.0 3.0	-10.2 -14.2 -11.8	35.9 37.3 36.7	1.0 1.0 1.0	-45.2 -50.5 -47.5	-13.0 -13.0 -13.0	-37.5 -34.5	
5.58 7.44 Mid Channel (3.77 5.65 7.53 3.77 5.65 7.53 High Channel 3.81 5.72	-61.2 -63.1 -64.1 -62.0 -63.0 -63.8 (1905MH2) -61.2 -63.3	H H V V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	-10.2 -14.2 -11.8 -10.2 -13.2 -12.1	35.9 37.3 36.7 35.9 37.3 36.7	1.0 1.0 1.0 1.0 1.0 1.0	45.2 -50.5 47.5 -45.1 -49.5 -47.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.5 -34.5 -32.1 -36.5 -34.8	
5.58 7.44 Mid Channel (3.77 5.65 7.53 3.77 5.65 7.53 7.53 High Channel 3.81 5.72 7.62	-61.2 -63.1 -64.1 -62.0 -63.0 -63.8 (1905MHz) -61.2 -63.3 -63.8	H H V V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-10.2 -14.2 -11.8 -10.2 -13.2 -12.1 -9.8	35.9 37.3 36.7 35.9 37.3 36.7 35.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0	-45.2 -50.5 -47.5 -45.1 -49.5 -47.8 -47.8 -44.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.5 -34.5 -32.1 -36.5 -34.8 -31.7	
5.58 7.44 Mid Channel (3.77 5.65 7.53 3.77 5.65 7.53 High Channel 3.81 5.72 7.62 3.81	-61.2 -63.1 -64.1 -62.0 -63.0 -63.8 (1905MHz) -61.2 -63.3 -63.8 -63.8 -61.4	H H V V H H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-10.2 -14.2 -11.8 -10.2 -13.2 -12.1 -9.8 -13.5	35.9 37.3 36.7 35.9 37.3 36.7 35.8 37.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	45.2 -50.5 47.5 45.1 	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	37.5 34.5 32.1 36.5 34.8 31.7 36.8	
5.58 7.44 Mid Channel (3.77 5.65 7.53 3.77 5.65 7.53 7.53 High Channel 3.81 5.72 7.62	-61.2 -63.1 -64.1 -62.0 -63.0 -63.8 (1905MHz) -61.2 -63.3 -63.8	H H V V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-10.2 -14.2 -11.8 -10.2 -13.2 -12.1 -9.8	35.9 37.3 36.7 35.9 37.3 36.7 35.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0	-45.2 -50.5 -47.5 -45.1 -49.5 -47.8 -47.8 -44.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.5 -34.5 -32.1 -36.5 -34.8 -31.7	

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11.1.9. LTE BAND 26

LTE BAND 26 QPSK, (10 MHz)

		High Freq	uency Subs	titution Measu	urement					
				ated Chambe						
Company:										
Project #:		16U23814								
Date:		11/16/16								
Test Engine		37290								
Configuratio		EUT only								
Mode:			90S), 10MHz QI							
inouc.		ETE Dana 20 (500), 1000112 Q	on						
Test Equipm	ent [.]									
	Horn T59 Sub	etitution an	d 8ft SMA Ca	ble						
oussitution	110111 100 001	Strutton, un		bic						
	Chamba		Pre	-amplifer		Filter	1		Linait	
	Chambe	er	Pre	e-amplifer		Filter			Limit	
3n	Chambe n Chamber H			e-amplifer hamber H 🖵	Filter			EIRP	Limit	•
3n		er •			Filter		-		Limit	•
3n					Filter		•		Limit	•
31				hamber H 🖵	Filter		,		Limit	•
	n Chamber H	·	3m C	hamber H			EIRP		Limit	• Notes
Frequency	n Chamber H SA reading	• Ant. Pol.		EIRP @ TX Ant End	Filter		EIRP	EIRP		• Notes
Frequency (GHz)	n Chamber H SA reading (dBm)	·	3m C	hamber H			EIRP	EIRP		• Notes
Frequency	n Chamber H SA reading (dBm)	• Ant. Pol.	3m C	EIRP @ TX Ant End			EIRP	EIRP		• Notes
Frequency (GHz) Mid Channel (1.64 2.46	SA reading (dBm) 819MHz) -48.0 -57.4	Ant. Pol. (H/V) H H	3m C Distance	EIRP @ TX Ant End (dBm)	Preamp 37.7 37.0	Attenuator	-44.4 -49.5	EIRP Limit -13.0 -13.0	Delta -31.4 -36.5	Notes
Frequency (GHz) Mid Channel (1.64 2.46 3.28	SA reading (dBm) 819MHz) - 48.0 - 57.4 - 59.6	Ant. Pol. (H/V) H H	3m C Distance 3.0 3.0 3.0	EIRP @ TX Ant End (dBm) -7.7 -13.4 -11.9	Preamp 37.7 37.0 37.9	Attenuator 1.0 1.0 1.0	-44.4 -49.5 -48.7	EIRP Limit	-31.4 -36.5 -35.7	Notes
Frequency (GHz) Mid Channel (1.64 2.46 3.28 1.64	SA reading (dBm) 819MHz) -48.0 -57.4 -59.6 -44.7	Ant. Pol. (H/V) H H H V	3m C Distance 3.0 3.0 3.0 3.0	EIRP @ TX Ant End (dBm) -7.7 -13.4 -11.9 -4.1	Preamp 37.7 37.0 37.9 37.7	Attenuator 1.0 1.0 1.0	-44.4 -49.5 -48.7 -40.8	EIRP Limit -13.0 -13.0 -13.0 -13.0	Delta -31.4 -36.5 -35.7 -27.8	• Notes
Frequency (GHz) Mid Channel (1.64 2.46 3.28	SA reading (dBm) 819MHz) - 48.0 - 57.4 - 59.6	Ant. Pol. (H/V) H H	3m C Distance 3.0 3.0 3.0	EIRP @ TX Ant End (dBm) -7.7 -13.4 -11.9	Preamp 37.7 37.0 37.9	Attenuator 1.0 1.0 1.0	-44.4 -49.5 -48.7	EIRP Limit	-31.4 -36.5 -35.7	• Notes

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LTE BAND 26 16QAM, (10 MHz)

			-	titution Meas ated Chambe						
Company: Project #: Date: Test Engine Configuratio Mode: Test Equipm	er: n: <u>ent:</u>	·	90S), 10MHz 16							
upstitution	Horn T59 Sul	ostitution, an		ble						
	Chambo		Pro	e-amplifer	Filte	Filter		EIRP	Limit	
			Pro	e-amplifer hamber H 🖵	Filte		T	EIRP	Limit	v
3n Frequency (GHz)	Chambo n Chamber H SA reading (dBm)	er •	Pro	e-amplifer	Filte		EIRP	EIRP	Limit Delta	• Notes
3n requency (GHz) id Channel (Chamber n Chamber H SA reading (dBm) 819MHz)	Ant. Pol. (H/V)	Pro 3m C Distance	e-amplifer hamber H - EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	• Notes
3n requency (GHz) id Channel (1.64	Chamber n Chamber H SA reading (dBm) 487	Ant. Pol. (H/V)	Pro 3m C Distance	e-amplifer hamber H EIRP @ TX Ant End (dBm) -8.3	Preamp 37.7	r Attenuator	EIRP -45.1	Limit -13.0	Delta -32.1	• Notes
requency (GHz) id Channel (1.64 2.46	Chamber n Chamber H SA reading (dBm) 819MHz) -48.7 -57.9	er Ant. Pol. (H/V) H H	Pro 3m C Distance	e-amplifer hamber H EIRP @ TX Ant End (dBm) -8.3 -13.9	Preamp 37.7 37.0	Attenuator	EIRP 	Limit -13.0 -13.0	Delta 32.1 -37.0	• Notes
Frequency (GHz) id Channel (1.64 2.46 3.28	Chamber H SA reading (dBm) 819MHz) -48.7 -57.9 -60.8	Ant. Pol. (H/V)	Pro 3m C Distance	e-amplifer hamber H EIRP @ TX Ant End (dBm) -8.3 -13.9 -13.0	Preamp 37.7 37.0 37.9	Attenuator	EIRP 	Limit -13.0 -13.0 -13.0	Delta 	Notes
Frequency (GHz) lid Channel (1.64 2.46	Chamber n Chamber H SA reading (dBm) 819MHz) -48.7 -57.9	er Ant. Pol. (H/V) H H	Pro 3m C Distance	e-amplifer hamber H EIRP @ TX Ant End (dBm) -8.3 -13.9	Preamp 37.7 37.0	Attenuator	EIRP 	Limit -13.0 -13.0	Delta 32.1 -37.0	Notes

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11.1.10. LTE BAND 41

LTE BAND 41 QPSK, (20 MHz)

			-	titution Meas ated Chamb						
Company:										
Project #:		16U23814								
Date:		11/16/16								
Test Engi		37290								
Configura		EUT only								
Sonngura Node:		•	20MHz QPSK							
noue.		CIE Danu 41, A	LOWINZ QFOR							
lest Equi	oment:									
	on: Horn T59 Sub	stitution, an	d 8ft SMA Ca	ble						
	Chambe	er	Pre	e-amplifer		Filter			Limit	1
Г	3m Chamber H		3m C	hamber H 🗸	Filte	er	-	LTE E	341 🗸	
L			1		J			J		
Frequend	cy SA reading	Ant. Pol.	Distance	EIRP @ TX Ant End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	(H/V)		(dBm)						
(GHz)	(dBm) el (2506MHz)	(H/V)		(dBm)						
(GHz) Low Chann 5.01	el (2506MHz) -61.9	H	3.0	-11.9	36.9	1.0	_47.8	-25.0	-22.8	
(GHz) Low Chann 5.01 7.52	el (2506MHz) _61.9 _64.0	H	3.0	-11.9 -10.2	35.9	1.0	-45.1	-25.0	-20.1	
(GHz) Low Chann 5.01 7.52 10.02	el (2506MHz) -61.9 -64.0 -65.3	H H H	3.0 3.0	-11.9 -10.2 -8.8	35.9 33.7	1.0 1.0	-45.1 -41.4	-25.0 -25.0	-20.1 -16.4	
(GHz) Low Chann 5.01 7.52 10.02 5.01	el (2506MHz) -61.9 -64.0 -65.3 -62.3	H H H V	3.0 3.0 3.0	-11.9 -10.2 -8.8 -12.1	35.9 33.7 36.9	1.0 1.0 1.0	_45.1 _41.4 _47.9	-25.0 -25.0 -25.0	-20.1 -16.4 -22.9	
(GHz) -ow Chann 5.01 7.52 10.02 5.01 7.52	el (2506MHz) -61.9 -64.0 -65.3 -62.3 -64.3	H H H V V	3.0 3.0 3.0 3.0 3.0	-11.9 -10.2 -8.8 -12.1 -10.7	35.9 33.7 36.9 35.9	1.0 1.0 1.0 1.0	-45.1 -41.4 -47.9 -45.6	-25.0 -25.0 -25.0 -25.0	-20.1 -16.4 -22.9 -20.6	
(GHz) Low Chann 5.01 7.52 10.02 5.01 7.52 10.02	el (2506MHz) -61.9 -64.0 -65.3 -62.3 -64.3 -65.7	H H H V	3.0 3.0 3.0	-11.9 -10.2 -8.8 -12.1	35.9 33.7 36.9	1.0 1.0 1.0	_45.1 _41.4 _47.9	-25.0 -25.0 -25.0	-20.1 -16.4 -22.9	
(GHz) ow Chann 5.01 7.52 10.02 5.01 7.52 10.02	el (2506MHz) -61.9 -64.0 -65.3 -62.3 -64.3	H H H V V	3.0 3.0 3.0 3.0 3.0	-11.9 -10.2 -8.8 -12.1 -10.7	35.9 33.7 36.9 35.9	1.0 1.0 1.0 1.0	-45.1 -41.4 -47.9 -45.6	-25.0 -25.0 -25.0 -25.0	-20.1 -16.4 -22.9 -20.6	
(GHz) ow Chann 5.01 7.52 10.02 5.01 7.52 10.02 Mid Channe 5.19 7.78	el (2506MHz) -61.9 -64.0 -65.3 -62.3 -64.3 -65.7 el (2593MHz) -62.0 -64.3	H H V V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.9 -10.2 -8.8 -12.1 -10.7 -9.5 -11.6 -10.2	35.9 33.7 36.9 35.9 33.7 36.8 35.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0	45.1 41.4 47.9 45.6 42.2 47.4 44.9	-25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0	-20.1 -16.4 -22.9 -20.6 -17.2 -22.4 -19.9	
(GHz) ow Chann 5.01 7.52 10.02 5.01 7.52 10.02 Mid Channe 5.19 7.78 10.37	el (2506MHz) -61.9 -64.0 -65.3 -62.3 -64.3 -65.7 el (2593MHz) -62.0 -64.3 -65.7	H H V V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.9 -10.2 -8.8 -12.1 -10.7 -9.5 -11.6 -10.2 -8.9	35.9 33.7 36.9 35.9 33.7 36.8 35.7 33.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	45.1 41.4 47.9 45.6 42.2 47.4 44.9 41.6	-25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0	-20.1 -16.4 -22.9 -20.6 -17.2 -22.4 -19.9 -16.6	
(GHz) ow Chann 5.01 7.52 10.02 5.01 7.52 10.02 Mid Channe 5.19 7.78 10.37 5.19	el (2506MHz) -61.9 -64.0 -65.3 -62.3 -62.3 -64.3 -65.7 -62.0 -64.3 -65.7 -62.2	H H V V V H H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.9 -10.2 -8.8 -12.1 -10.7 -9.5 -11.6 -10.2 -8.9 -11.7	35.9 33.7 36.9 35.9 33.7 36.8 35.7 33.7 36.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	45.1 41.4 47.9 45.6 42.2 47.4 44.9 41.6 47.5	-25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0	-20.1 -16.4 -22.9 -20.6 -17.2 -22.4 -19.9 -16.6 -22.5	
(GHz) Low Chann 5.01 7.52 10.02 5.01 7.52 10.02 Mid Channe 5.19 7.78 10.37 5.19 7.78	el (2506MHz) -61.9 -64.0 -65.3 -62.3 -64.3 -65.7 -62.0 -64.3 -65.7 -62.0 -64.3 -65.7 -62.2 -63.5	H H V V V H H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.9 -10.2 -10.2 -10.2 -10.7 -9.5 -11.6 -10.2 -11.6 -10.2 -8.9 -11.7 -9.6	35.9 33.7 36.9 35.9 33.7 36.8 35.7 33.7 36.8 35.7 36.8 35.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	45.1 41.4 47.9 45.6 42.2 47.4 44.9 41.6 47.5 44.3	-25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0	-20.1 -16.4 -22.9 -20.6 -17.2 -22.4 -19.9 -16.6 -22.5 -19.3	
(GHz) Low Chann 5.01 7.52 10.02 5.01 7.52 10.02 5.01 7.52 10.02 5.19 7.78 10.37 5.19 7.78 10.37	el (2506MHz) -61.9 -64.0 -65.3 -62.3 -64.3 -65.7 el (2593MHz) -62.0 -64.3 -65.7 -62.2 -63.5 -65.3	H H V V V H H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.9 -10.2 -8.8 -12.1 -10.7 -9.5 -11.6 -10.2 -8.9 -11.7	35.9 33.7 36.9 35.9 33.7 36.8 35.7 33.7 36.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	45.1 41.4 47.9 45.6 42.2 47.4 44.9 41.6 47.5	-25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0	-20.1 -16.4 -22.9 -20.6 -17.2 -22.4 -19.9 -16.6 -22.5	
(GHz) ow Chann 5.01 7.52 10.02 5.01 7.52 10.02 Mid Chann 5.19 7.78 10.37 5.19 7.78 10.37 1.78	el (2506MHz) -61.9 -64.0 -65.3 -62.3 -64.3 -65.7 el (2593MHz) -62.0 -64.3 -65.7 -62.2 -63.5 -65.3 rel (2680MHz)	H H V V V V H H H V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.9 -10.2 -8.8 -12.1 -10.7 -9.5 -11.6 -10.2 -8.9 -11.7 -9.6 -9.0	35.9 33.7 36.9 35.9 33.7 36.8 35.7 33.7 36.8 35.7 33.7 36.8 35.7 33.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	45.1 41.4 47.9 45.6 42.2 47.4 44.9 41.6 47.5 44.3 41.7	-25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0	-20.1 -16.4 -22.9 -20.6 -17.2 -22.4 -19.9 -16.6 -22.5 -19.3 -16.7	
(GHz) .ow Chann 5.01 7.52 10.02 5.01 7.52 10.02 Mid Channe 5.19 7.78 10.37 5.19 7.78 10.37 figh Chann 5.36	el (2506MHz) -61.9 -64.0 -65.3 -62.3 -64.3 -65.7 el (2593MHz) -62.0 -64.3 -65.7 -62.2 -63.5 -65.3 el (2680MHz) -63.1	H H V V V H H H V V V H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.9 -10.2 -8.8 -12.1 -10.7 -9.5 -11.6 -10.2 -8.9 -11.7 -9.6 -9.0 -12.4	35.9 33.7 36.9 35.9 33.7 36.8 35.7 33.7 36.8 35.7 33.7 36.8 35.7 33.7 36.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	45.1 41.4 47.9 45.6 42.2 47.4 44.9 41.6 47.5 44.3 41.7 48.2	-25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0	-20.1 -16.4 -22.9 -20.6 -17.2 -22.4 -19.9 -16.6 -22.5 -19.3 -16.7 -23.2	
(GHz) .ow Chann 5.01 7.52 10.02 5.01 7.52 10.02 Mid Chann 5.19 7.78 10.37 5.19 7.78 10.37 figh Chanr 5.36 8.04	el (2506MHz) -61.9 -64.0 -65.3 -62.3 -62.3 -64.3 -65.7 el (2593MHz) -62.0 -64.3 -65.7 -65.3 -65.3 -65.3 -65.3 -65.3 -65.3 -65.3 -64.3 -64.3	H H V V V V V V V V V V H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.9 -10.2 -10.2 -10.2 -10.7 -9.5 -11.6 -10.2 -11.6 -10.2 -11.7 -9.6 -9.0 -11.2 -9.9	35.9 33.7 36.9 35.9 33.7 36.8 35.7 33.7 36.8 35.7 33.7 36.8 35.7 33.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	45.1 41.4 47.9 45.6 42.2 47.4 44.9 41.6 47.5 44.3 41.7 41.7 48.2 44.3	-25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0	-20.1 -16.4 -22.9 -20.6 -17.2 -22.4 -19.9 -16.6 -22.5 -19.3 -16.7 -23.2 -19.3	
(GHz) ow Chann 5.01 7.52 10.02 5.01 7.52 10.02 Wid Chann 5.19 7.78 10.37 5.19 7.78 10.37 10.37 10.37 10.37 8.04 10.37	el (2506MHz) -61.9 -64.0 -65.3 -62.3 -64.3 -65.7 el (2593MHz) -62.0 -64.3 -65.7 -62.2 -63.5 -65.3 el (2680MHz) -63.1 -64.3 -64.3 -66.2	H H V V V V V V H H H H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.9 -10.2 -8.8 -12.1 -10.7 -9.5 -11.6 -10.2 -8.9 -11.7 -9.6 -9.0 -12.4 -9.9 -9.3	35.9 33.7 36.9 35.9 33.7 36.8 35.7 33.7 36.8 35.7 33.7 36.8 35.7 33.7 36.8 35.7 33.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	45.1 41.4 47.9 45.6 42.2 47.4 44.9 41.6 47.5 44.3 41.7 48.2 44.3 42.0	-25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0	-20.1 -16.4 -22.9 -20.6 -17.2 -22.4 -19.9 -16.6 -22.5 -19.3 -16.7 -23.2 -19.3 -17.0	
(GHz) .ow Chann 5.01 7.52 10.02 5.01 7.52 10.02 Mid Chann 5.19 7.78 10.37 5.19 7.78 10.37 7.78 10.37 7.19 8.04	el (2506MHz) -61.9 -64.0 -65.3 -62.3 -62.3 -64.3 -65.7 el (2593MHz) -62.0 -64.3 -65.7 -65.3 -65.3 -65.3 -65.3 -65.3 -65.3 -65.3 -64.3 -64.3	H H V V V V V V V V V V H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-11.9 -10.2 -10.2 -10.2 -10.7 -9.5 -11.6 -10.2 -11.6 -10.2 -11.7 -9.6 -9.0 -11.2 -9.9	35.9 33.7 36.9 35.9 33.7 36.8 35.7 33.7 36.8 35.7 33.7 36.8 35.7 33.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	45.1 41.4 47.9 45.6 42.2 47.4 44.9 41.6 47.5 44.3 41.7 41.7 48.2 44.3	-25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0	-20.1 -16.4 -22.9 -20.6 -17.2 -22.4 -19.9 -16.6 -22.5 -19.3 -16.7 -23.2 -19.3	

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LTE BAND 41 16QAM, (20 MHz)

			-	titution Measu ated Chambe						
Company: Project #: Date: Test Engine Configuratic Configuratic Mode: <u>Test Equipm</u> Substitution	er: m:		20MHz 16QAM d 8ft SMA Ca							
	Chambe	r	Pre	-amplifer		Filter		I	Limit	
	Chamber H	•		EIRP @ TX	Filter			LTE B4		•
Frequency (GHz)	SA reading (dBm)	▼ Ant. Pol. (H/V)	3m Cł Distance		Filter Preamp	• Attenuator	EIRP	LTE B4	Delta	Notes
Frequency (GHz) Low Channel	SA reading (dBm) (2506MHz)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp			Limit	Delta	Notes
Frequency (GHz) Low Channel 5.01	SA reading (dBm) (2506MHz) -62.3	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp 36.9	1.0	-48.2	Limit	Delta	Notes
Frequency (GHz) Low Channel 5.01 7.52	SA reading (dBm) (2506MHz) -62.3 -65.0	Ant. Pol. (H/V) H	Distance 3.0 3.0	EIRP @ TX Ant End (dBm) -12.3 -11.2	Preamp 36.9 35.9	1.0 1.0	_48.2 _46.1	Limit -25.0 -25.0	Delta -23.2 -21.1	Notes
Frequency (GHz) Low Channel 5.01	SA reading (dBm) (2506MHz) -62.3	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp 36.9	1.0	-48.2	Limit	Delta	Notes
Frequency (GHz) Low Channel 5.01 7.52 10.02	SA reading (dBm) (2506MHz) -62.3 -65.0 -65.5	Ant. Pol. (H/V) H H H	Distance	EIRP @ TX Ant End (dBm) -12.3 -11.2 -9.0	Preamp 36.9 35.9 33.7	1.0 1.0 1.0		Limit -25.0 -25.0 -25.0	Delta -23.2 -21.1 -16.6	Notes
Frequency (GHz) Low Channel 5.01 7.52 10.02 5.01 7.52 10.02	SA reading (dBm) (2506MHz) -62.3 -65.0 -65.5 -62.7 -64.6 -64.8	Ant. Pol. (H/V) H H H V	Distance 3.0 3.0 3.0 3.0	EIRP @ TX Ant End (dBm) -12.3 -11.2 -9.0 -12.5	Preamp 36.9 35.9 33.7 36.9	1.0 1.0 1.0 1.0 1.0	-48.2 -46.1 -41.6 -48.4	Limit -25.0 -25.0 -25.0 -25.0	Delta -23.2 -21.1 -16.6 -23.4	Notes
Frequency (GHz) Low Channel 5.01 7.52 10.02 5.01 7.52 10.02 Mid Channel	SA reading (dBm) (2506MHz) -62.3 -65.0 -65.5 -62.7 -64.6 -64.8 (2593MHz)	Ant. Pol. (H/V) H H H V V V V V	Distance	EIRP @ TX Ant End (dBm) -12.3 -11.2 -9.0 -12.5 -11.0 -8.6	Preamp 36.9 35.9 33.7 36.9 35.9 35.9 33.7	1.0 1.0 1.0 1.0 1.0 1.0	48.2 46.1 41.6 48.4 45.9 41.3	Limit -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0	Delta -23.2 -21.1 -16.6 -23.4 -20.9 -16.3	Notes
Frequency (GHz) Low Channel 5.01 7.52 10.02 5.01 7.52 10.02 Mid Channel 5.19	SA reading (dBm) (2506MHz) -62.3 -65.0 -65.5 -62.7 -64.6 -64.8 (2593MHz) -62.8	Ant. Pol. (H/V) H H H V V V V H	Distance	EIRP @ TX Ant End (dBm) -12.3 -11.2 -9.0 -12.5 -11.0 -8.6 -12.4	Preamp 36.9 35.9 33.7 36.9 35.9 33.7 36.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0	48.2 46.1 41.6 48.4 45.9 41.3 48.2	Limit -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0	Delta -23.2 -21.1 -16.6 -23.4 -20.9 -16.3 -23.2	Notes
Frequency (GHz) -ow Channel 5.01 7.52 10.02 5.01 7.52 10.02 Wid Channel 5.19 7.78	SA reading (dBm) (2506MHz) -62.3 -65.0 -65.5 -62.7 -64.6 -64.8 (2593MHz) -62.8 -64.0	Ant. Pol. (H/V) H H H V V V V V H H H	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	EIRP @ TX Ant End (dBm) -12.3 -11.2 -9.0 -12.5 -11.0 -12.5 -11.0 -8.6 -12.4 -9.9	Preamp 36.9 35.9 33.7 36.9 33.7 36.9 33.7 36.8 35.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	48.2 46.1 41.6 48.4 45.9 41.3 48.2 44.6	Limit -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0	Delta -23.2 -21.1 -16.6 -23.4 -20.9 -16.3 -23.2 -19.6	Notes
Frequency (GHz) Low Channel 5.01 7.52 10.02 5.01 7.52 10.02 Mid Channel 5.19 7.78 10.37	SA reading (dBm) (2506MHz) 62.3 65.0 65.5 62.7 64.6 64.8 (2593MHz) 62.8 64.0 65.0	Ant. Pol. (H/V) H H H V V V V H H H H	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	EIRP @ TX Ant End (dBm) -12.3 -11.2 -9.0 -12.5 -11.0 -8.6 -12.4 -9.9 -8.3	Preamp 36.9 35.9 33.7 36.9 35.9 33.7 36.8 35.7 33.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	48.2 46.1 41.6 48.4 45.9 41.3 48.2 44.6 41.0	-25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0	Delta -23.2 -21.1 -16.6 -23.4 -20.9 -16.3 -23.2 -19.6 -16.0	Notes
Frequency (GHz) Low Channel 5.01 7.52 10.02 5.01 7.52 10.02 Mid Channel 5.19 7.78 10.37 5.19	SA reading (dBm) (2506MHz) -62.3 -65.5 -65.5 -62.7 -64.6 -64.8 2593MHz) -62.8 -64.0 -65.0 -65.0 -62.4	Ant. Pol. (H/V) H H H V V V V V H H H	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	EIRP @ TX Ant End (dBm) -12.3 -11.2 9.0 -12.5 -11.0 -8.6 -12.4 -9.9 8.3 -11.9	Preamp 36.9 35.9 33.7 36.9 35.9 33.7 36.8 35.7 36.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	48.2 46.1 41.6 48.4 45.9 41.3 48.2 44.6 41.0 47.7	Limit -25.0 -2	Delta -23.2 -21.1 -16.6 -23.4 -20.9 -16.3 -23.2 -19.6 -16.0 -22.7	Notes
Frequency (GHz) Low Channel 5.01 7.52 10.02 5.01 7.52 10.02 Mid Channel 5.19 7.78 10.37	SA reading (dBm) (2506MHz) 62.3 65.0 65.5 62.7 64.6 64.8 (2593MHz) 62.8 64.0 65.0	Ant. Pol. (H/V) H H H V V V V V H H H H V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	EIRP @ TX Ant End (dBm) -12.3 -11.2 -9.0 -12.5 -11.0 -8.6 -12.4 -9.9 -8.3	Preamp 36.9 35.9 33.7 36.9 35.9 33.7 36.8 35.7 33.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	48.2 46.1 41.6 48.4 45.9 41.3 48.2 44.6 41.0	-25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0	Delta -23.2 -21.1 -16.6 -23.4 -20.9 -16.3 -23.2 -19.6 -16.0	Notes
Frequency (GHz) ow Channel 5.01 7.52 10.02 5.01 7.52 10.02 Wid Channel 5.19 7.78 10.37 5.19 7.78 10.37	SA reading (dBm) (2506MHz) -62.3 -65.0 -65.5 -62.7 -64.6 -64.8 (2593MHz) -62.8 -64.0 -65.0 -62.4 -64.0 -65.2	Ant. Pol. (H/V) H H H V V V V V U U U V V V V V V V V V	Distance	EIRP @ TX Ant End (dBm) -12.3 -11.2 -9.0 -12.5 -11.0 -8.6 -12.4 -9.9 -8.3 -11.9 -10.1	Preamp 36.9 35.9 35.9 35.9 35.9 35.7 36.8 35.7 36.8 35.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	48.2 46.1 41.6 48.4 45.9 41.3 48.2 44.6 41.0 47.7 44.8	-25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0	Delta -23.2 -21.1 -16.6 -23.4 -20.9 -16.3 -19.6 -16.0 -22.7 -19.8 -16.6	Notes
Frequency (GHz) ow Channel 5.01 7.52 10.02 5.01 7.52 10.02 did Channel 5.19 7.78 10.37 5.19 7.78 10.37 15.36	SA reading (dBm) (2506MHz) -62.3 -65.0 -65.5 -62.7 -64.6 -64.6 -64.8 (2593MHz) -62.8 -64.0 -65.0 -62.4 -65.0 -65.2 (2680MHz) -61.7	Ant. Pol. (H/V) H H V V V V V H H H H V V V V V H H	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	EIRP @ TX Ant End (dBm) -12.3 -11.2 -9.0 -12.5 -11.0 -8.6 -12.4 -9.9 -8.3 -11.9 -10.1 -8.9 -11.1	Preamp 36.9 35.9 33.7 36.9 35.9 33.7 36.8 35.7 33.7 36.8 35.7 33.7 36.8 35.7 33.7 36.8 35.7 33.7 36.8 35.7 33.7 36.8 35.7 35.9 36.8 35.9 35.7 35.9 35.7 35.9 35.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	48.2 46.1 41.6 48.4 45.9 41.3 48.2 44.6 41.0 47.7 44.8 41.6 46.9	Limit -25.0 -2	Delta -23.2 -21.1 -16.6 -23.4 -20.9 -16.3 -23.2 -19.6 -16.0 -22.7 -19.8 -16.6 -22.7 -19.8 -16.6 -21.9	Notes
Frequency (GHz) ow Channel 5.01 7.52 10.02 5.01 7.52 10.02 Wid Channel 5.19 7.78 10.37 5.19 7.78 10.37 10.37 10.37 6.19 7.78 10.37 8.04	SA reading (dBm) (2506MHz) -62.3 -65.0 -65.5 -62.7 -64.6 -64.8 -64.8 -64.8 -64.8 -64.0 -65.2 (2680MHz) -65.2 (2680MHz) -61.7 -65.5	Ant. Pol. (H/V) H H H V V V V V H H H V V V V V V H H H H	Distance	EIRP @ TX Ant End (dBm) -12.3 -11.2 -9.0 -12.5 -11.0 -8.6 -12.4 -9.9 -8.3 -11.9 -10.1 -8.9 -11.1 -11.1	Preamp 36.9 35.9 35.9 35.9 35.9 35.7 36.8 35.7 33.7 36.8 35.7 33.7 36.8 35.7 33.7 36.8 35.7 33.7 36.8 35.7 33.7 36.8 35.7 33.7 36.8 35.7 35.9 35.7 35.9 35.7 35.9 35.7 35.9 35.7 35.9 35.7 35.9 35.7 35.9 35.7 35.7 35.7 35.9 35.7 35.7 35.9 35.7 35.7 35.7 35.9 35.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	48.2 46.1 41.6 48.4 45.9 41.3 48.2 44.6 41.0 47.7 44.8 41.6 46.9 45.5	Limit -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0	Delta -23.2 -21.1 -16.6 -23.4 -20.9 -16.3 -23.2 -19.6 -16.0 -22.7 -19.8 -16.6 -21.9 -20.5	Notes
Frequency (GHz) .ow Channel 5.01 7.52 10.02 5.01 7.52 10.02 Wid Channel 5.19 7.78 10.37 5.19 7.78 10.37 10.37 10.37 10.37 10.37 10.37 10.37 10.37 10.37	SA reading (dBm) (2506MHz) -62.3 -65.0 -65.5 -62.7 -64.6 -64.8 (2593MHz) -62.8 -64.0 -65.0 -62.4 -64.0 -65.2 (2680MHz) -65.5 -65.5 -65.6	Ant. Pol. (H/V) H H H V V V V V H H H H H H H H H	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	EIRP @ TX Ant End (dBm) -12.3 -11.2 -9.0 -12.5 -11.0 -12.5 -11.0 -12.5 -11.0 -12.4 -9.9 -12.4 -9.9 -12.4 -9.9 -11.1 -8.9 -11.1 -11.1 -8.7	Preamp 36.9 35.9 33.7 36.9 33.7 36.8 35.7 35.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	48.2 46.1 41.6 48.4 45.9 41.3 48.2 44.6 41.0 47.7 44.8 41.6 46.9 45.5 41.4	Limit -25.0 -2	Delta -23.2 -21.1 -16.6 -23.4 -20.9 -16.3 -23.2 -19.6 -16.0 -22.7 -19.8 -16.6 -21.9 -20.5 -16.4	Notes
Frequency (GHz) Low Channel 5.01 7.52 10.02 5.01 7.52 10.02 Mid Channel 5.19 7.78 10.37 7.78 10.37 7.78 10.37 10.37 8.04	SA reading (dBm) (2506MHz) -62.3 -65.0 -65.5 -62.7 -64.6 -64.8 -64.8 -64.8 -64.8 -64.0 -65.2 (2680MHz) -65.2 (2680MHz) -61.7 -65.5	Ant. Pol. (H/V) H H H V V V V V H H H V V V V V V H H H H	Distance	EIRP @ TX Ant End (dBm) -12.3 -11.2 -9.0 -12.5 -11.0 -8.6 -12.4 -9.9 -8.3 -11.9 -10.1 -8.9 -11.1 -11.1	Preamp 36.9 35.9 35.9 35.9 35.9 35.7 36.8 35.7 33.7 36.8 35.7 33.7 36.8 35.7 33.7 36.8 35.7 33.7 36.8 35.7 33.7 36.8 35.7 33.7 36.8 35.7 35.9 35.7 35.9 35.7 35.9 35.7 35.9 35.7 35.9 35.7 35.9 35.7 35.9 35.7 35.7 35.7 35.9 35.7 35.7 35.9 35.7 35.7 35.7 35.9 35.7	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	48.2 46.1 41.6 48.4 45.9 41.3 48.2 44.6 41.0 47.7 44.8 41.6 46.9 45.5	Limit -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0 -25.0	Delta -23.2 -21.1 -16.6 -23.4 -20.9 -16.3 -23.2 -19.6 -16.0 -22.7 -19.8 -16.6 -21.9 -20.5	Notes

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