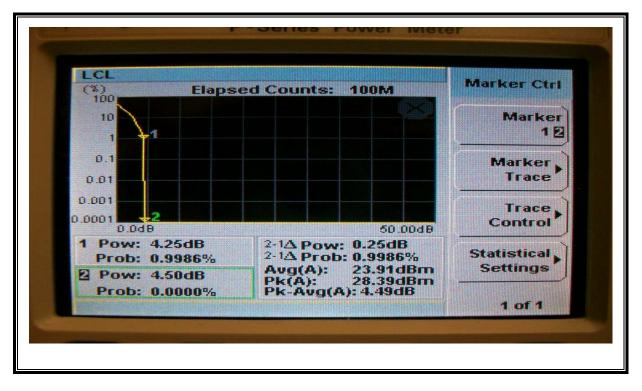
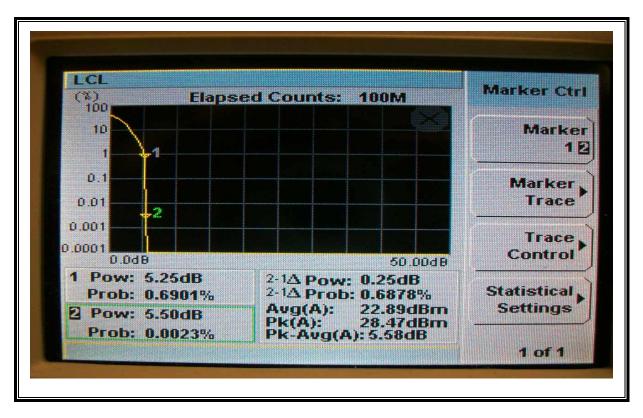
# LTE QPSK Band 17 (5.0 MHz BAND WIDTH)

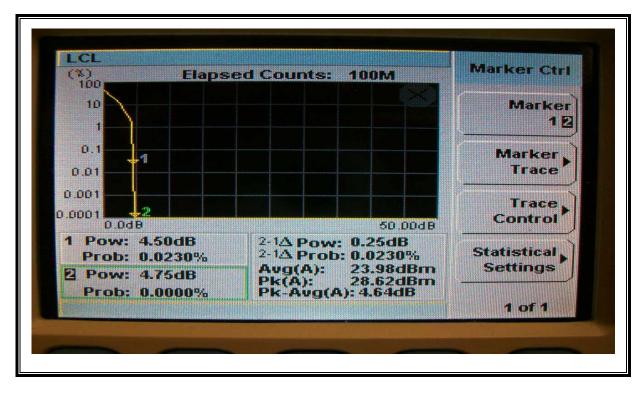


### LTE 16QAM Band 17 (5.0 MHz BAND WIDTH)

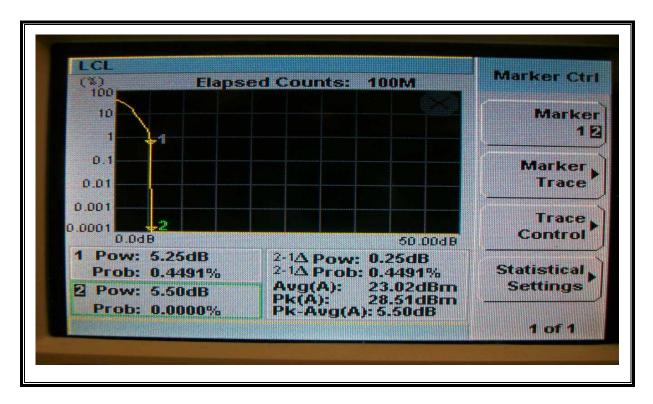


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### LTE QPSK Band 17 (10.0 MHz BAND WIDTH)

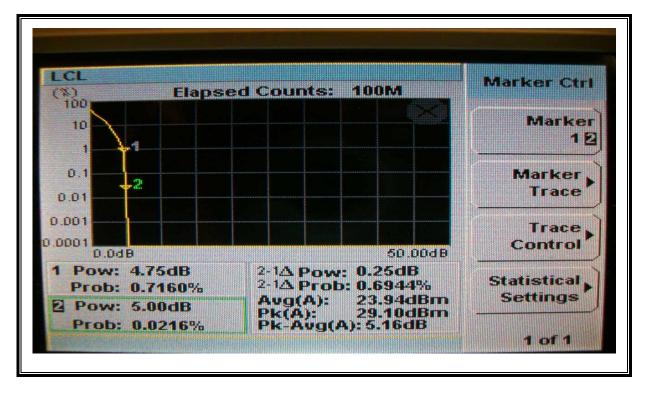


### LTE 16QAM Band 17 (10.0 MHz BAND WIDTH)

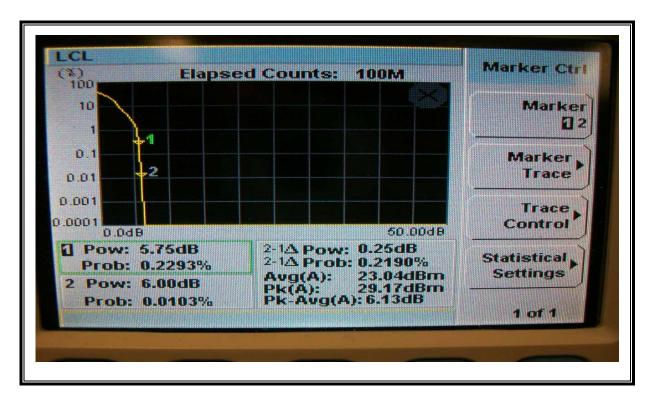


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### QPSK Band 25 (1.4 MHz BAND WIDTH)

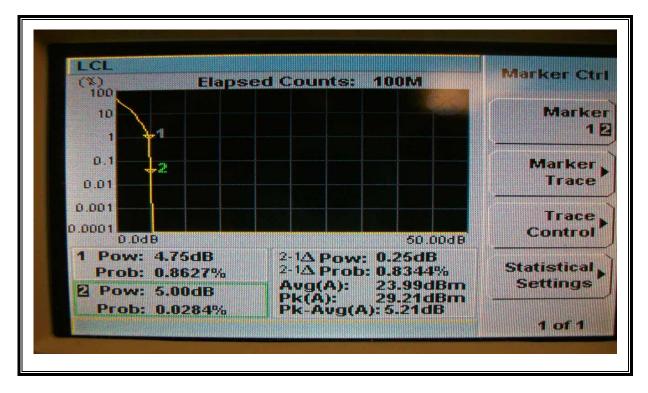


### 16QAM Band 25 (1.4 MHz BAND WIDTH)

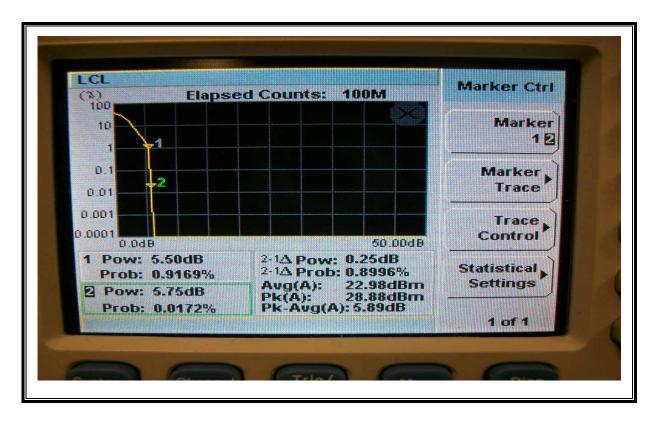


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### LTE QPSK Band 25 (3.0 MHz BAND WIDTH)



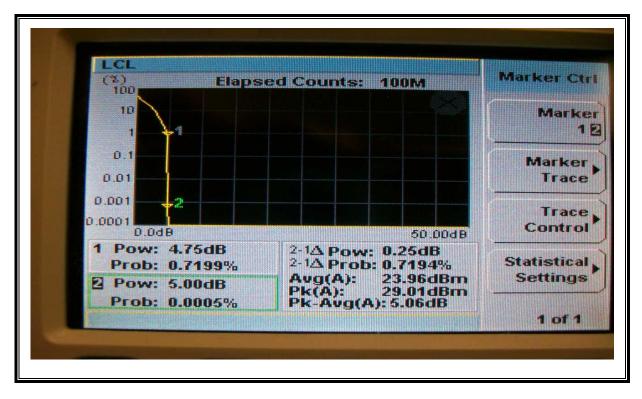
### LTE 16QAM Band 25 (3.0 MHz BAND WIDTH)



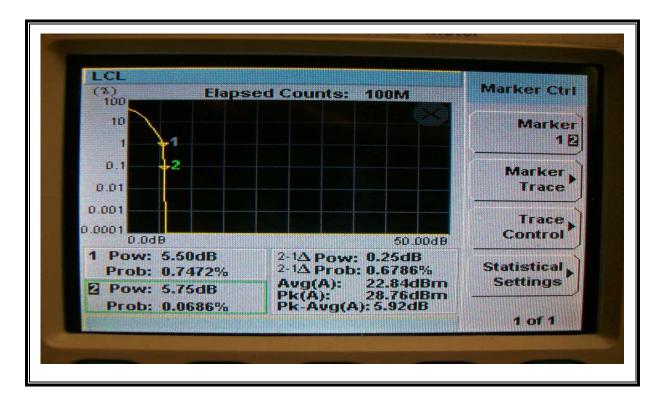
#### Page 664 of 747

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### LTE QPSK Band 25 (5.0 MHz BAND WIDTH)

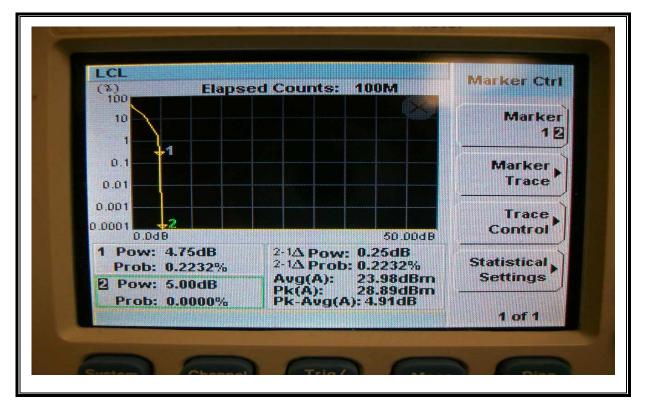


LTE 16QAM Band 25 (5.0 MHz BAND WIDTH)

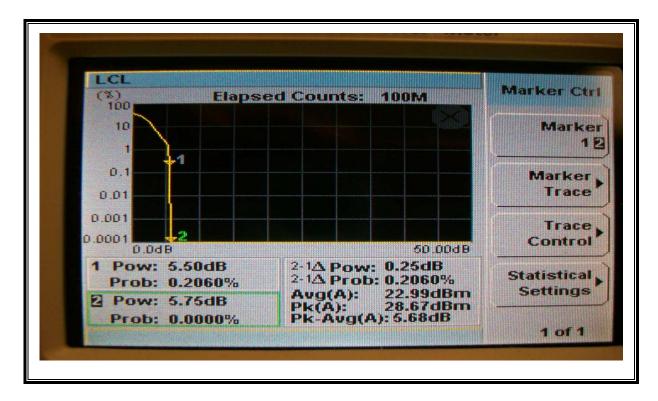


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### LTE QPSK Band 25 (10.0 MHz BAND WIDTH)



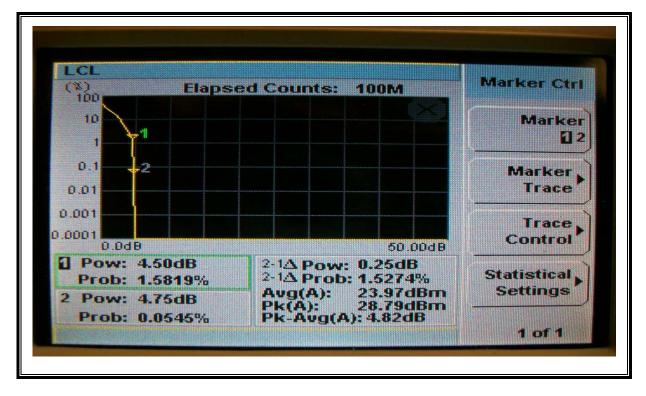
# LTE 16QAM Band 25 (10.0 MHz BAND WIDTH)



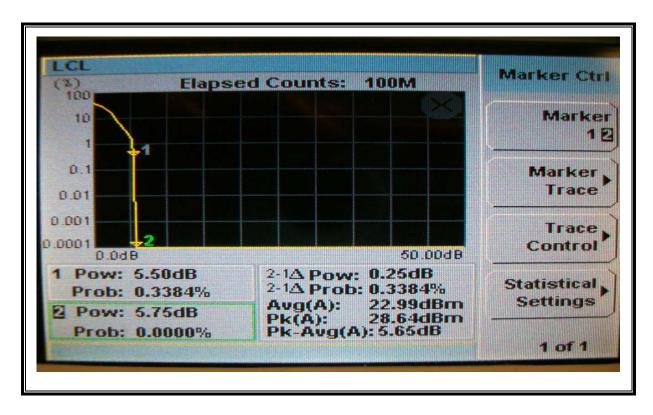
#### Page 666 of 747

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# LTE QPSK Band 25 (15.0 MHz BAND WIDTH)

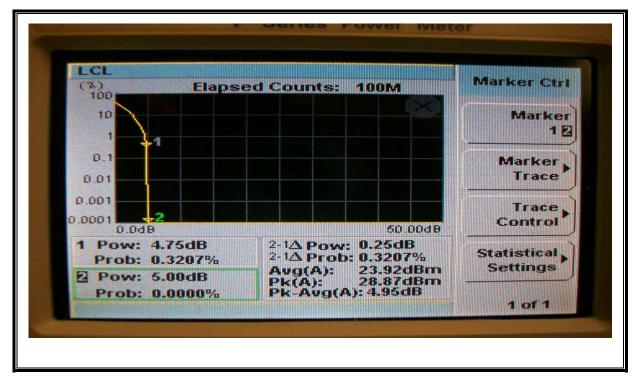


### LTE 16QAM Band 25 (15.0 MHz BAND WIDTH)

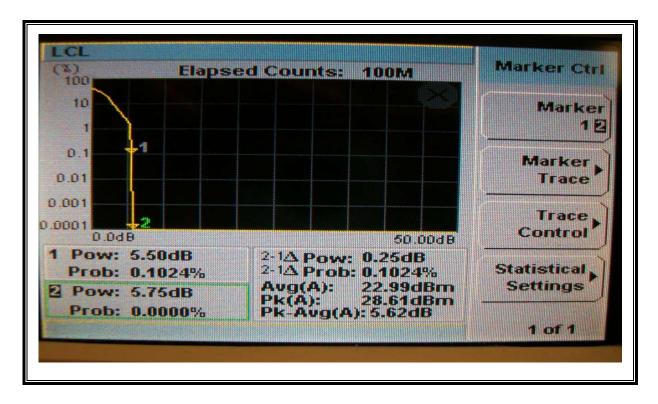


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### LTE QPSK Band 25 (20.0 MHz BAND WIDTH)

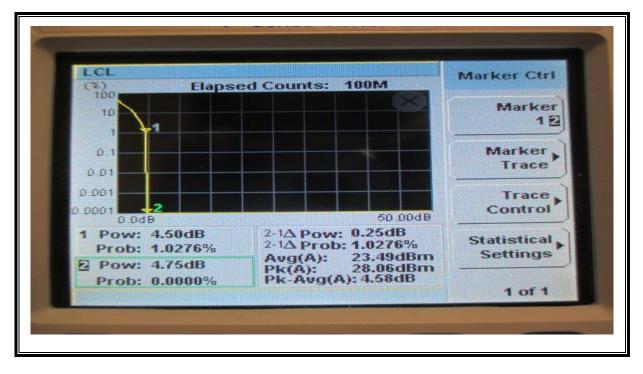


### LTE 16QAM Band 25 (20.0 MHz BAND WIDTH)

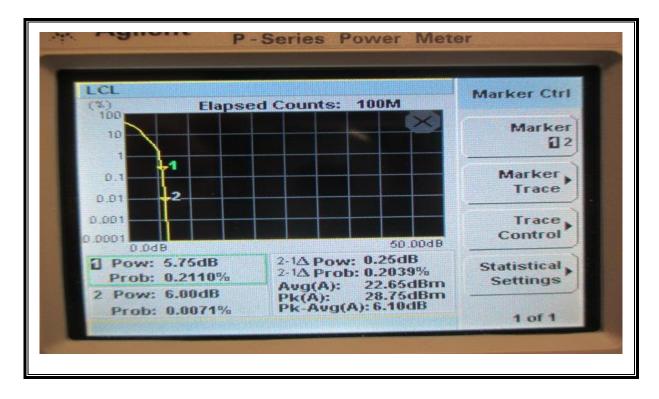


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### LTE QPSK Band 26 (1.4 MHz BAND WIDTH)

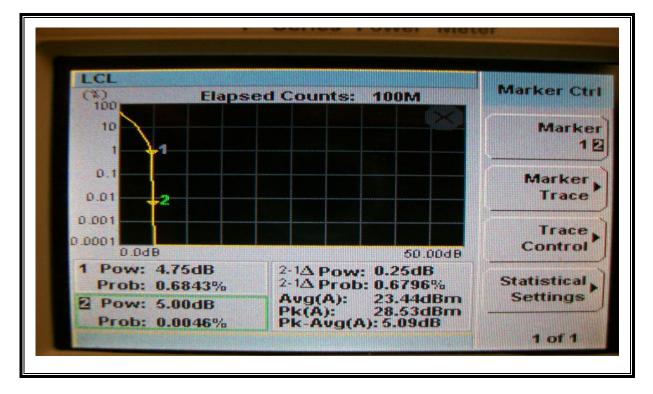


### LTE 16QAM Band 26 (1.4 MHz BAND WIDTH)

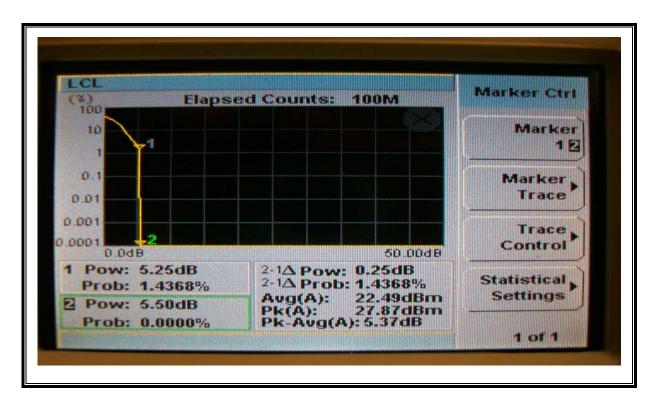


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### LTE QPSK Band 26 (3.0 MHz BAND WIDTH)

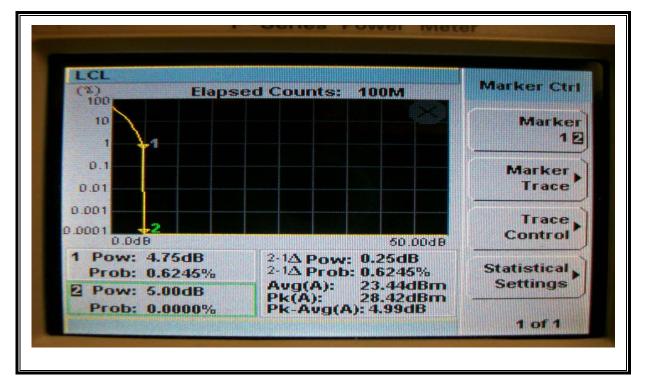


### LTE 16QAM Band 26 (3.0 MHz BAND WIDTH)

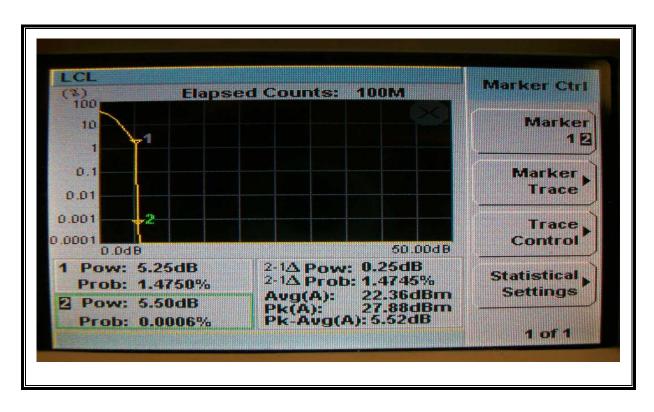


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### LTE QPSK Band 26 (5.0 MHz BAND WIDTH)

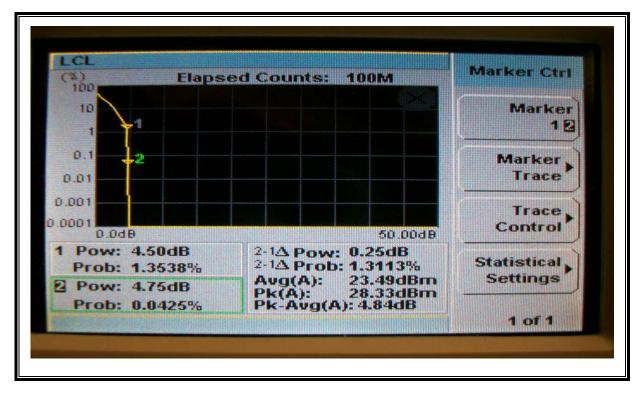


#### LTE 16QAM Band 26 (5.0 MHz BAND WIDTH)

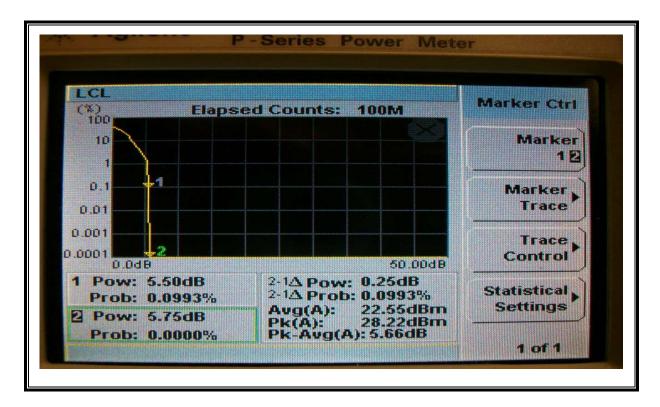


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### LTE QPSK Band 26 (10.0 MHz BAND WIDTH)



### LTE 16QAM Band 26 (10.0 MHz BAND WIDTH)



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# 9.3. FIELD STRENGTH OF SPURIOUS RADIATION

# RULE PART(S)

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

# LIMIT

§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.

# 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.

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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.

# MODES TESTED

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

### **RESULTS**

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# 9.3.1. LTE BAND 2

#### **QPSK EIRP POWER FOR LTE BAND 2 (1.4MHZ BANDWIDTH)**

<b>C</b>										
Company:		44140407								
Project #:		14U19187								
Date:		02/17/15								
Test Engine		F. Guarnero								
Configuratio		EUT Only								
Mode:		LTE Band 2, 1.	.4MHz QPSK							
<u>Test Equipn</u> Substitution	<u>ient:</u> : Horn T59 Sub	ostitution, an	d 8ft SMA Ca	ble						
	Cham	ıber		Pre-amplifer		Filter			Limit	
T	3m Chamber	-	3r	n Chamber F	- Filte	r .	-	Part 2	4	
	on onanoer i									
				Path Loss						
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	@ SG End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
	(dBm)		Distance	@ SG End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)		Distance	@ SG End	Preamp 34.5	Attenuator	EIRP -50.9	Limit -13.0	Delta	Notes
(GHz) Low Channel	(dBm) (1850.7MHz)	(H/V)		@ SG End (dBm)	•					Notes
(GHz) Low Channel 3.70	(dBm) (1850.7MHz) _67.7	(H/V) H	3.0	@ SG End (dBm) -17.4	34.5	1.0	-50.9	-13.0	-37.9	Notes
(GHz) Low Channel 3.70 5.55	(dBm) (1850.7MHz) -67.7 -67.5	(H/V) H H	3.0 3.0	@ SG End (dBm) -17.4 -14.6	34.5 33.7	1.0 1.0	-50.9 -47.3	-13.0 -13.0	-37.9 -34.3	Notes
(GHz) Low Channel 3.70 5.55 3.70 5.55	(dBm) (1850.7MHz) -67.7 -67.5 -68.2 -68.5	(H/V) H H V	3.0 3.0 3.0	@ SG End (dBm) -17.4 -14.6 -17.6	34.5 33.7 34.5	1.0 1.0 1.0	-50.9 -47.3 -51.1	-13.0 -13.0 -13.0	-37.9 -34.3 -38.1	Notes
(GHz) Low Channel 3.70 5.55 3.70 5.55 Mid Channel	(dBm) (1850.7MHz) -67.7 -67.5 -68.2 -68.5 (1880MHz)	(H/V) H H V V	3.0 3.0 3.0 3.0	@ SG End (dBm) -17.4 -14.6 -17.6 -15.4	34.5 33.7 34.5 33.7	1.0 1.0 1.0 1.0	-50.9 -47.3 -51.1 -48.1	-13.0 -13.0 -13.0 -13.0	-37.9 -34.3 -38.1 -35.1	Notes
(GHz) Low Channel 3.70 5.55 3.70 5.55 Mid Channel 3.76	(dBm) (1850.7MHz) -67.7 -67.5 -68.2 -68.5 (1880MHz) -69.1	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -17.4 -14.6 -17.6 -15.4 -15.4 - -18.7	34.5 33.7 34.5 33.7 34.5	1.0 1.0 1.0 1.0 1.0	-50.9 -47.3 -51.1 -48.1 -52.2	-13.0 -13.0 -13.0 -13.0 -13.0	37.9 34.3 38.1 35.1 39.2	Notes
(GHz) Low Channel 3.70 5.55 3.70 5.55 Mid Channel 3.76 5.64	(dBm) (1850.7MHz) -67.7 -67.5 -68.2 -68.5 (1880MHz) -69.1 -68.1	(H/V) H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -17.4 -14.6 -17.6 -15.4 -15.4 -18.7 -15.1	34.5 33.7 34.5 33.7 34.5 33.6	1.0 1.0 1.0 1.0 1.0 1.0	-50.9 -47.3 -51.1 -48.1 -52.2 -47.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.9 -34.3 -38.1 -35.1 	Notes
(GHz) Low Channel 3.70 5.55 3.70 5.55 Mid Channel 3.76 5.64 3.76	(dBm) (1850.7MHz) -67.7 -67.5 -68.2 -68.5 (1880MHz) -69.1 -68.1 -69.3	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -17.4 -14.6 -17.6 -15.4 -15.4 -18.7 -15.1 -18.7	34.5 33.7 34.5 33.7 34.5 33.6 34.5 34.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.9 -47.3 -51.1 -48.1 -52.2 -47.7 -52.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.9 -34.3 -38.1 -35.1 	Notes
(GHz) Low Channel 3.70 5.55 3.70 5.55 Mid Channel 3.76 5.64	(dBm) (1850.7MHz) -67.7 -67.5 -68.2 -68.5 (1880MHz) -69.1 -68.1	(H/V) H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -17.4 -14.6 -17.6 -15.4 -15.4 -18.7 -15.1	34.5 33.7 34.5 33.7 34.5 33.6	1.0 1.0 1.0 1.0 1.0 1.0	-50.9 -47.3 -51.1 -48.1 -52.2 -47.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.9 -34.3 -38.1 -35.1 	Notes
(GHz) Low Channel 3.70 5.55 3.70 5.55 Mid Channel 3.76 5.64 3.76 5.64	(dBm) (1850.7MHz) -67.7 -67.5 -68.2 -68.5 	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -17.4 -14.6 -17.6 -15.4 -15.4 -18.7 -15.1 -18.7	34.5 33.7 34.5 33.7 34.5 33.6 34.5 34.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.9 -47.3 -51.1 -48.1 -52.2 -47.7 -52.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.9 -34.3 -38.1 -35.1 	Notes
(GHz) Low Channel 3.70 5.55 3.70 5.55 Mid Channel 3.76 5.64 3.76 5.64 4.76 5.64	(dBm) (1850.7MHz) -67.5 -68.2 -68.5 - 1880MHz) -69.1 -69.1 -69.3 -69.3 -69.3 - 1909.3MHz)	(H/V) H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -17.4 -14.6 -17.6 -15.4 -15.4 -18.7 -15.1 -18.7 -16.1	34.5 33.7 34.5 33.7 34.5 33.6 34.5 33.6 34.5 33.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.9 47.3 -51.1 48.1 -52.2 47.7 -52.1 -48.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	37.9 34.3 38.1 35.1 39.2 34.7 39.1 35.8	Notes
(GHz) Low Channel 3.70 5.55 3.70 5.55 Mid Channel 3.76 5.64 3.76 5.64	(dBm) (1850.7MHz) -67.7 -67.5 -68.2 -68.5 	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -17.4 -14.6 -17.6 -15.4 -15.4 -18.7 -15.1 -18.7	34.5 33.7 34.5 33.7 34.5 33.6 34.5 34.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.9 -47.3 -51.1 -48.1 -52.2 -47.7 -52.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.9 -34.3 -38.1 -35.1 	Notes
(GHz) Low Channel 3.70 5.55 3.70 5.55 Mid Channel 3.76 5.64 3.76 5.64 4 3.76 5.64 High Channel 3.81	(dBm) (1850.7MHz) -67.7 -67.5 -68.2 -68.5 - -68.5 - -69.1 -69.1 -69.3 -69.3 -69.3 -69.3 -69.3 -69.3 -69.3	(H/V) H V V 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	@ SG End (dBm) -17.4 -14.6 -17.6 -17.6 -15.4 - - - - - - - - - - - - - - - - - - -	34.5 33.7 34.5 33.7 34.5 33.6 34.5 33.6 34.5 33.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.9 47.3 -51.1 48.1 -52.2 47.7 -52.1 48.8 -51.4			Notes

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# 16QAM EIRP POWER FOR LTE BAND 2 (1.4MHZ BANDWIDTH)

Company:										
Project #:		14U19187								
Date:		02/17/15								
Test Engir		F. Guarnero								
Configurat		EUT Only								
Mode:			.4MHz 16QAM							
Test Equip										
Substitutio	on: Horn T59 Sub	stitution, an	nd 8ft SMA Ca	able						
	Chamb	er	Pro	e-amplifer		Filter			Limit	
_							ļ			
	3m Chamber F	-	3m C	hamber F 🚽	Filte	r -		Part 24	-	•
I.					. ,			1		-
L				Deth Less				1	-	-
Fraguana	N SA roading	Ant Pol	Distance	Path Loss	Broomp	Attenuetor	EIDB	limit	Delte	Notas
-		Ant. Pol.	Distance	@ SG End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Frequence (GHz)	(dBm)	Ant. Pol. (H/V)	Distance		Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz) Low Chann	(dBm) el (1850.7MHz)	(H/V)		@ SG End (dBm)						Notes
(GHz) Low Chann 3.70	(dBm) el (1850.7MHz) _68.0	(H/V) Н	3.0	@ SG End (dBm) -18.3	33.1	1.0	-50.4	-13.0	-37.4	Notes
(GHz) Low Chann 3.70 5.55	(dBm) el (1850.7MHz) -68.0 -68.0	(H/V) Н Н	3.0 3.0	@ SG End (dBm) -18.3 -15.5	33.1 32.6	1.0 1.0	-50.4 -47.2	-13.0 -13.0	-37.4 -34.2	Notes
(GHz) Low Chann 3.70	(dBm) el (1850.7MHz) _68.0	(H/V) Н	3.0	@ SG End (dBm) -18.3	33.1	1.0	-50.4	-13.0	-37.4	Notes
(GHz) Low Chann 3.70 5.55 3.70	(dBm) el (1850.7MHz) -68.0 -68.0 -69.0	(H/V) H H V	3.0 3.0 3.0	@ SG End (dBm) -18.3 -15.5 -19.3	33.1 32.6 33.1	1.0 1.0 1.0	-50.4 -47.2 -51.4	-13.0 -13.0 -13.0	-37.4 -34.2 -38.4	Notes
(GHz) Low Chann 3.70 5.55 3.70 5.55	(dBm) el (1850.7MHz) -68.0 -68.0 -69.0	(H/V) H H V	3.0 3.0 3.0	@ SG End (dBm) -18.3 -15.5 -19.3	33.1 32.6 33.1	1.0 1.0 1.0	-50.4 -47.2 -51.4	-13.0 -13.0 -13.0	-37.4 -34.2 -38.4	Notes
(GHz) Low Chann 3.70 5.55 3.70 5.55	(dBm) el (1850.7MHz) -68.0 -68.0 -69.0 -68.7	(H/V) H H V	3.0 3.0 3.0	@ SG End (dBm) -18.3 -15.5 -19.3	33.1 32.6 33.1	1.0 1.0 1.0	-50.4 -47.2 -51.4	-13.0 -13.0 -13.0	-37.4 -34.2 -38.4	Notes
(GHz) Low Chann 3.70 5.55 3.70 5.55 Mid Channe	(dBm) el (1850.7MHz) -68.0 -68.0 -69.0 -68.7 -68.7	(H/V) H V V H H	3.0 3.0 3.0 3.0	@ SG End (dBm) -18.3 -15.5 -19.3 -16.2 	33.1 32.6 33.1 32.6	1.0 1.0 1.0 1.0	-50.4 -47.2 -51.4 -47.9	-13.0 -13.0 -13.0 -13.0		Notes
(GHz) Low Chann 3.70 5.55 3.70 5.55 Mid Channe 3.76 5.64 3.76	(dBm) el (1850.7MHz) -68.0 -68.0 -69.0 -68.7 -68.7 -68.7 -68.9 -69.9	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.3 -15.5 -19.3 -16.2 	33.1 32.6 33.1 32.6 33.1 32.6 33.1 32.6 33.1	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.4 -47.2 -51.4 -47.9 -52.0 -47.9 -52.2	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	37.4 34.2 38.4 34.9 39.0 39.0 34.9 39.2	Notes
(GHz) Low Channe 3.70 5.55 3.70 5.55 Mid Channe 3.76 5.64	(dBm) el (1850.7MHz) -68.0 -68.0 -69.0 -68.7 -68.7 -69.7 -69.7 -68.9	(H/V) H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.3 -15.5 -19.3 -16.2 	33.1 32.6 33.1 32.6 33.1 32.6	1.0 1.0 1.0 1.0 1.0 1.0	-50.4 -47.2 -51.4 -47.9 -52.0 -47.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0		Notes
(GHz) Low Channe 3.70 5.55 3.70 5.55 Mid Channe 3.76 5.64 3.76 5.64	(dBm) el (1850.7MHz) 68.0 69.0 68.7 68.7 68.7 69.7 68.9 69.9 69.9 69.9	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.3 -15.5 -19.3 -16.2 	33.1 32.6 33.1 32.6 33.1 32.6 33.1 32.6 33.1	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.4 -47.2 -51.4 -47.9 -52.0 -47.9 -52.2	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	37.4 34.2 38.4 34.9 39.0 39.0 34.9 39.2	Notes
(GHz) Low Channe 3.70 5.55 3.70 5.55 Mid Channe 3.76 5.64 3.76 5.64 4.64 4.64 4.64 4.64 5.64	(dBm) el (1850.7MHz) 68.0 68.0 68.7 68.7 68.7 69.7 69.7 69.9 69.9 69.9 69.9 el (1909.3MHz)	(H/V) H H V V V 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	@ SG End (dBm) -18.3 -15.5 -19.3 -16.2 	33.1 32.6 33.1 32.6 33.1 32.6 33.1 32.6 33.1 32.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.4 -47.2 -51.4 -47.9 -52.0 -47.9 -52.2 -48.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	37.4 34.2 38.4 34.9 39.0 39.0 34.9 39.2 35.9	Notes
(GHz) ow Chann 3.70 5.55 3.70 5.55 Mid Channe 3.76 5.64 3.76 5.64	(dBm) el (1850.7MHz) 68.0 69.0 68.7 68.7 68.7 69.7 68.9 69.9 69.9 69.9	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.3 -15.5 -19.3 -16.2 	33.1 32.6 33.1 32.6 33.1 32.6 33.1 32.6 33.1	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.4 -47.2 -51.4 -47.9 -52.0 -47.9 -52.2	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	37.4 34.2 38.4 34.9 39.0 39.0 34.9 39.2	Notes
(GHz) Low Chann 3.70 5.55 3.70 5.55 Mid Channe 3.76 5.64 3.76 5.64 3.76 5.64 4 1gh Chann 3.81	(dBm) el (1850.7MHz) -68.0 -69.0 -69.0 -68.7 -69.7 -69.7 -68.9 -69.9 -69.9 -69.9 -69.9 -69.9 -69.9	(H/V) H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.3 -15.5 -19.3 -16.2 -19.9 -16.3 -20.1 -17.3 -19.1	33.1 32.6 33.1 32.6 33.1 32.6 33.1 32.6 33.1 32.6 33.1 32.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.4 -47.2 -51.4 -47.9 -52.0 -47.9 -52.2 -48.9 -51.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	37.4 34.2 38.4 34.9 39.0 34.9 39.2 35.9 38.1	Notes

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# **QPSK EIRP POWER FOR LTE BAND 2 (3.0MHZ BANDWIDTH)**

Company:										
Project #:		14U19187								
Date:		02/17/15								
Test Engiı		F. Guarnero								
Configura		EUT Only								
Mode:		LTE Band 2, 3	MHz QPSK							
Test Equip	oment: on: Horn T59 Sub	stitution an	d 8ft SMA Ca	ble						
Substituti		Stitution, an		bie						
	Chambe	er	Pre	-amplifer		Filter			Limit	
Γ	3m Chamber F	-	3m C	hamber F 📮	Filte	r .	-	Part 2	4	•
				Path Loss						
			1							
Frequence	cy SA reading	Ant. Pol.	Distance	@ SG End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Frequence (GHz)	cy SA reading (dBm)	Ant. Pol. (H/V)	Distance		Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)			Distance	@ SG End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz) Low Chann 3.70	(dBm) el (1851.5MHz) _68.9	(H/V) Н	3.0	@ SG End (dBm) -18.6	34.5	1.0	-52.1	-13.0	-39.1	Notes
(GHz) Low Chann 3.70 5.55	(dBm) el (1851.5MHz) -68.9 -69.1	(H/V) Н Н	3.0 3.0	@ SG End (dBm) -18.6 -16.3	34.5 33.7	1.0 1.0	-52.1 -48.9	-13.0 -13.0	-39.1 -35.9	Notes
(GHz) Low Chann 3.70 5.55 3.70	el (1851.5MHz) -68.9 -69.1 -68.0	(H/V) H H V	3.0 3.0 3.0	@ SG End (dBm) -18.6 -16.3 -17.4	34.5 33.7 34.5	1.0 1.0 1.0	-52.1 -48.9 -50.9	-13.0 -13.0 -13.0	-39.1 -35.9 -37.9	Notes
(GHz) Low Chann 3.70 5.55	(dBm) el (1851.5MHz) -68.9 -69.1	(H/V) Н Н	3.0 3.0	@ SG End (dBm) -18.6 -16.3	34.5 33.7	1.0 1.0	-52.1 -48.9	-13.0 -13.0	-39.1 -35.9	Notes
(GHz) Low Chann 3.70 5.55 3.70 5.55	(dBm) el (1851.5MHz) -68.9 -69.1 -68.0 -69.8	(H/V) H H V	3.0 3.0 3.0	@ SG End (dBm) -18.6 -16.3 -17.4	34.5 33.7 34.5	1.0 1.0 1.0	-52.1 -48.9 -50.9	-13.0 -13.0 -13.0	-39.1 -35.9 -37.9	Notes
(GHz) Low Chann 3.70 5.55 3.70 5.55 Mid Channe	(dBm) el (1851.5MHz) -68.9 -69.1 -68.0 -69.8 el (1880MHz)	(H/V) H H V V	3.0 3.0 3.0 3.0	@ SG End (dBm) -18.6 -16.3 -17.4 -16.7	34.5 33.7 34.5 33.7	1.0 1.0 1.0 1.0	-52.1 -48.9 -50.9 -49.4	-13.0 -13.0 -13.0 -13.0		Notes
(GHz) Low Chann 3.70 5.55 3.70 5.55 Mid Channe 3.76	(dBm) el (1851.5MHz) 68.9 69.1 68.0 69.8 	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.6 -16.3 -17.4 -16.7 -16.7 -17.8	34.5 33.7 34.5 33.7 34.5	1.0 1.0 1.0 1.0 1.0	-52.1 -48.9 -50.9 -49.4 -51.3	-13.0 -13.0 -13.0 -13.0 -13.0		Notes
Low Chann 3.70 5.55 3.70 5.55 Mid Channe 3.76 5.64	(dBm) el (1851.5MHz) -68.9 -69.1 -68.0 -69.8 -69.8 -69.8 -69.8 -69.8	(H/V) H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.6 -16.3 -17.4 -16.7 -17.8 -17.8 -16.7	34.5 33.7 34.5 33.7 34.5 33.7	1.0 1.0 1.0 1.0 1.0 1.0	-52.1 -48.9 -50.9 -49.4 -51.3 -51.3 -49.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-39.1 -35.9 -37.9 -36.4 -38.3 -36.4	Notes
(GHz) Low Chann 3.70 5.55 3.70 5.55 Mid Channe 3.76 5.64 3.76	(dBm) el (1851.5MHz) -68.9 -69.1 -68.0 -69.8 el (1880MHz) -68.1 -69.8 -67.8	(H/V) 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	@ SG End (dBm) -18.6 -16.3 -16.3 -16.7 -16.7 -17.8 -16.7 -17.2	34.5 33.7 34.5 33.7 34.5 33.6 34.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-52.1 -48.9 -50.9 -49.4 -51.3 -51.3 -49.4 -50.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-39.1 -35.9 -37.9 -36.4 	Notes
(GHz) Low Chann 3.70 5.55 3.70 5.55 Mid Channe 3.76 5.64	(dBm) el (1851.5MHz) -68.9 -69.1 -68.0 -69.8 -69.8 -69.8 -69.8 -69.8	(H/V) H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.6 -16.3 -17.4 -16.7 -17.8 -17.8 -16.7	34.5 33.7 34.5 33.7 34.5 33.7	1.0 1.0 1.0 1.0 1.0 1.0	-52.1 -48.9 -50.9 -49.4 -51.3 -51.3 -49.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-39.1 -35.9 -37.9 -36.4 -38.3 -36.4	Notes
(GHz) Low Chann 3.70 5.55 3.70 5.55 Mid Channe 3.76 5.64 3.76 5.64	(dBm) el (1851.5MHz) -68.9 -69.1 -68.0 -69.8 el (1880MHz) -68.1 -69.8 -67.8	(H/V) H V V 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	@ SG End (dBm) -18.6 -16.3 -17.4 -16.7 -17.8 -16.7 -17.2 -16.7	34.5 33.7 34.5 33.7 34.5 33.6 34.5 33.6 33.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-52.1 -48.9 -50.9 -49.4 -51.3 -49.4 -50.7 -49.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-39.1 -35.9 -37.9 -36.4 	Notes
(GHz) Low Chann 3.70 5.55 3.70 5.55 Mid Channe 3.76 5.64 3.76 5.64 3.76 5.64 High Chann 3.82	(dBm) el (1851.5MHz) -68.9 -69.1 -68.0 -69.8 -69.8 -69.8 -67.8 -69.9 -67.8 -69.9 -67.9 -69.9 -67.9	(H/V) H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.6 -16.3 -17.4 -16.7 -17.8 -16.7 -17.2 -16.7 -17.2 -16.7	34.5 33.7 34.5 33.7 34.5 33.6 34.5 33.6 34.5 33.6 34.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-52.1 -48.9 -50.9 -49.4 -51.3 -49.4 -50.7 -49.4 -50.7 -50.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-39.1 -35.9 -37.9 -36.4 -38.3 -36.4 -37.7 -36.4 -37.9	Notes
(GHz) Low Chann 3.70 5.55 3.70 5.55 Mid Channe 3.76 5.64 3.76 5.64 3.76 5.64 High Chann 3.82 5.72	(dBm) el (1851.5MHz) 68.9 69.1 68.0 69.8 69.8 67.8 67.8 69.9 67.9 67.9 67.9 69.5	(H/V) H H V V H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.6 -16.3 -17.4 -16.3 -17.4 -16.7 -17.2 -17.2 -17.4 -16.3	34.5 33.7 34.5 33.7 34.5 33.6 34.5 33.6 34.4 33.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-52.1 -48.9 -50.9 -49.4 -51.3 -49.4 -50.7 -49.4 -50.7 -49.4 -50.9 -48.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	39.1 35.9 37.9 36.4 38.3 36.4 37.7 36.4 37.7 36.4 37.9 35.9	Notes
(GHz) Low Chann 3.70 5.55 3.70 5.55 Mid Channe 3.76 5.64 3.76 5.64 4.76 5.64 High Chann 3.82	(dBm) el (1851.5MHz) -68.9 -69.1 -68.0 -69.8 -69.8 -69.8 -67.8 -69.9 -67.8 -69.9 -67.9 -69.9 -67.9	(H/V) H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.6 -16.3 -17.4 -16.7 -17.8 -16.7 -17.2 -16.7 -17.2 -16.7	34.5 33.7 34.5 33.7 34.5 33.6 34.5 33.6 34.5 33.6 34.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-52.1 -48.9 -50.9 -49.4 -51.3 -49.4 -50.7 -49.4 -50.7 -50.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-39.1 -35.9 -37.9 -36.4 -38.3 -36.4 -37.7 -36.4 -37.9	Notes

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#### REPORT NO: 14U19187-E9C EUT MODEL: A1550

### 16QAM EIRP POWER FOR LTE BAND 2 (3.0MHZ BANDWIDTH)

r: :	14U19187 02/17/15 F. Guarnero								
r: :	02/17/15								
r: :									
:									
	EUT Only								
	LTE Band 2, 3	MHz 16QAM							
	stitution, an	d 8ft SMA Ca	ble						
Chamb	er (	Pro	e-amplifer		Filter			Limit	1
				_		1			_
n Chamber F	-	3m C	hamber F 🚽	Filter	r _		Part 24	-	·
		1			1				
				_					
-		Distance	<b>-</b>	Preamp	Attenuator	EIRP	Limit	Delta	Notes
<u>, , ,</u>	(H/V)		(dBm)						
								ļ	
·····								·•••••••••••••••••••••••••••••••••••••	
·····			••••••••••••••••••••••••••••••••••••					······	
-70.1	V	3.0	-17.7	32.6	1.0	-49.3	-13.0	-36.3	
880MHz)									
		3.0	-19.1	33.1	4.0	-51.2	-13.0	-38.2	
······	н							-00.2	
-68.9	H				1.0 1.0			-36.0	
-68.9 -70.0	H	3.0	-17.4	32.6	1.0	-49.0	-13.0	-36.0 -37.8	
-68.9								-36.0 -37.8 -36.5	
-68.9 -70.0 -68.5 -70.5	H V	3.0 3.0	-17.4 -18.8	32.6 33.1	1.0 1.0	-49.0 -50.8	-13.0 -13.0	-37.8	
-68.9 -70.0 -68.5 -70.5 1908.5MHz)	H V V	3.0 3.0 3.0	-17.4 -18.8 -17.9	32.6 33.1 32.6	1.0 1.0 1.0	-49.0 -50.8 -49.5	-13.0 -13.0 -13.0	-37.8 -36.5	
-68.9 -70.0 -68.5 -70.5 1908.5MHz) -68.5	H V V	3.0 3.0 3.0 3.0	-17.4 -18.8 -17.9 -18.6	32.6 33.1 32.6 33.0	1.0 1.0 1.0	-49.0 -50.8 -49.5 -50.7	-13.0 -13.0 -13.0 -13.0	-37.8 -36.5 -37.7	
-68.9 -70.0 -68.5 -70.5 1908.5MHz)	H V V	3.0 3.0 3.0	-17.4 -18.8 -17.9	32.6 33.1 32.6	1.0 1.0 1.0	-49.0 -50.8 -49.5	-13.0 -13.0 -13.0	-37.8 -36.5	
	Chamber F Chamber F SA reading (dBm) 851.5MHz) -69.5 -69.9 -68.5 -70.1	Ann T59 Substitution, an   Chamber   Chamber F •   Chamber F •   SA reading (dBm) Ant. Pol. (H/V)   851.5MHz) -69.5   -69.9 H   -68.5 V   -70.1 V	Arror T59 Substitution, and 8ft SMA Ca       Chamber     Pre       Chamber F     3m C       SA reading (dBm)     Ant. Pol. (H/V)       851.5MHz)     0       -69.5     H     3.0       -68.5     V     3.0       -70.1     V     3.0	Annow     Annow     Annow     Pre-amplifer       Chamber     -     3m Chamber F     -       Chamber F     -     3m Chamber F     -       SA reading (dBm)     Ant. Pol. (H/V)     Distance     Path Loss @ SG End (dBm)       851.5MHz)     -     -     -       -69.5     H     3.0     -19.8       -69.9     H     3.0     -17.4       -68.5     V     3.0     -18.8       -70.1     V     3.0     -17.7	Annow     Ant. Pol.     Distance     Path Loss @ SG End (dBm)     Pre-amplifer       55.5     H     3.0     -19.8     33.1       -69.5     H     3.0     -17.4     32.6       -68.5     V     3.0     -18.8     33.1       -70.1     V     3.0     -17.7     32.6	Ann T59 Substitution, and 8ft SMA Cable       Chamber     Pre-amplifer     Filter       Chamber F     3m Chamber F     Filter       SA reading (dBm)     Ant. Pol. (H/V)     Distance     @ SG End (dBm)     Preamp     Attenuator       851.5MHz)     -     -     -     -     -       69.5     H     3.0     -19.8     33.1     1.0       -68.5     V     3.0     -18.8     33.1     1.0       -70.1     V     3.0     -17.7     32.6     1.0	Ann 759 Substitution, and 8ft SMA Cable       Pre-amplifer     Filter       SA reading (dBm)     Path Loss @ SG End (dBm)     Filter       SA reading (dBm)     Ant. Pol.     Distance     Path Loss @ SG End (dBm)     Preamp     Attenuator     EIRP       59.5     H     3.0     -19.8     33.1     1.0     -51.9       -69.5     H     3.0     -17.4     32.6     1.0     49.1       -68.5     V     3.0     -18.8     33.1     1.0     -50.9       -70.1     V     3.0     -17.7     32.6     1.0     49.3	Arreading Ant. Pol. (H/V)   Path Loss @ SG End (dBm)   Filter   Preamp Attenuator   EIRP   Limit     569.9   H   3.0   -19.8   33.1   1.0   -51.9   -13.0     69.9   H   3.0   -17.4   32.6   1.0   49.1   13.0     -68.5   V   3.0   -17.7   32.6   1.0   49.3   -13.0     -70.1   V   3.0   -17.7   32.6   1.0   49.3   -13.0	Torn T59 Substitution, and 8ft SMA Cable     Pre-amplifer   Filter   Limit     Ochamber F   Filter   Limit     Ochamber F   Filter   Limit     SA reading Ant. Pol. (H/V)   Distance   Path Loss @ SG End (dBm)   Preamp   Attenuator   EIRP   Limit   Delta     851.5MHz)       69.5   H   3.0   .19.8   33.1   1.0   .51.9   .13.0   .38.9     69.9   H   3.0   .17.4   32.6   1.0   .49.1   .13.0   .36.1     .68.5   V   3.0   .18.8   33.1   1.0   .50.9   .13.0   .37.9     .70.1   V   3.0   .17.7   32.6   1.0   .49.3   .13.0   .36.3

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#### REPORT NO: 14U19187-E9C EUT MODEL: A1550

# **QPSK EIRP POWER FOR LTE BAND 2 (5.0MHZ BANDWIDTH)**

Company: Project #:		14U19187								
Date:		02/17/15								
Test Engine		F. Guarnero								
Configuratio		EUT Only								
Mode:		LTE Band 2, 5	MHz QPSK							
<u>Test Equipr</u> Substitutior	<u>nent:</u> n: Horn T59 Sut	ostitution, an	d 8ft SMA Ca	ble						
	Chamb	er	Pr	e-amplifer		Filter			Limit	1
<b>;</b>	3m Chamber F	-	3m C	hamber F 🚽	Filte	r .	-	Part 24	4 .	•
				Path Loss	_					
Frequency (GHz)	/ SA reading (dBm)	Ant. Pol. (H/V)	Distance	@ SG End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channe	l (1852.5MHz)									
3.70	-67.8	Н	3.0	-17.6	34.5	1.0	-51.1	-13.0	-38.1	
5.55	-68.6	Н	3.0	-15.7	33.7	1.0	-48.3	-13.0	-35.3	
3.70	-68.4	V	3.0	-17.8	34.5	1.0	-51.3	-13.0	-38.3	
	-68.6	V	3.0	-15.5	33.7	1.0	-48.2	-13.0	-35.2	
5.55										
5.55	(1880MHz)		3.0	-18.0	34.5	1.0	-51.4	-13.0	-38.4	
5.55 Mid Channel		H						-13.0	-35.3	
5.55	(1880MHz) -68.3 -68.7	H	3.0	-15.7	33.6	1.0	-48.3			
5.55 Mid Channel 3.76	-68.3		÷			1.0 1.0	-48.3 -51.2	-13.0	-38.2	
5.55 Mid Channel 3.76 5.64	-68.3 -68.7	Н	3.0	-15.7	33.6	¢			······	
5.55 Mid Channel 3.76 5.64 3.76 5.64	-68.3 -68.7 -68.4 -69.5	H V	3.0 3.0	-15.7 -17.8	33.6 34.5	1.0	-51.2	-13.0	-38.2	
5.55 Mid Channel 3.76 5.64 3.76 5.64	-68.3 -68.7 -68.4	H V	3.0 3.0	-15.7 -17.8	33.6 34.5	1.0	-51.2	-13.0	-38.2	
5.55 Mid Channel 3.76 5.64 3.76 5.64 High Channe 3.81 5.72	-68.3 -68.7 -68.4 -69.5 	H V V H	3.0 3.0 3.0 3.0 3.0 3.0	-15.7 -17.8 -16.3 -16.0 -15.0	33.6 34.5 33.6 34.4 33.6	1.0 1.0 1.0 1.0	-51.2 -48.9 -49.4 -47.5	-13.0 -13.0 -13.0 -13.0 -13.0	-38.2 -35.9 -36.4 -34.5	
5.55 Mid Channel 3.76 5.64 3.76 5.64 High Channe 3.81	-68.3 -68.7 -68.4 -69.5 -69.5 -69.5 -69.5 -69.5 -69.5 -69.5 -69.5 -69.5 -69.5 -69.5 -69.5 -69.5 -69.5 -69.5 -69.5 -69.5 -69.5 -69.7 -69.5 -69.7 -69.5 -69.7 -69.5 -69.7 -69.5 -69.7 -69.5	H V V	3.0 3.0 3.0 3.0	-15.7 -17.8 -16.3 -16.0	33.6 34.5 33.6 34.4	1.0 1.0 1.0	-51.2 -48.9 -49.4	-13.0 -13.0 -13.0	-38.2 -35.9 -36.4	

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# 16QAM EIRP POWER FOR LTE BAND 2 (5.0MHZ BANDWIDTH)

Company: Project #: Date:		14U19187 02/17/15								
Test Engine		F. Guarnero								
Configuratio		EUT Only								
Node:		LTE Band 2, 5	MHz 16QAM							
Test Equipm	ent:									
	Horn T59 Sub	stitution, an	d 8ft SMA Ca	ble						
	Chamb	er	Pr	e-amplifer		Filter			Limit	
3	m Chamber F	•	3m (	hamber F 🖵	Filte	r .	-	Part 2	.4	•
Frequency	SA reading	Ant. Pol.	Distance	Path Loss @ SG End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	(H/V)		(dBm)	•					
ow Channel	(1852.5MHz)									
3.70	-68.2	Н	3.0	-17.9	34.5	1.0	-51.4	-13.0	-38.4	
5.55	-69.0	H	3.0	-16.1	33.7	1.0	-48.7	-13.0	-35.7	
3.70	-68.8	V	3.0	-18.2	34.5	1.0	-51.7	-13.0	-38.7	
5.55	-68.9	V	3.0	-15.8	33.7	1.0	-48.5	-13.0	-35.5	
lid Channel	1880MHz)									
ma channel	-68.9	Н	3.0	-18.6	34.5	1.0	-52.0	-13.0	-39.0	
	-69.1	H	3.0	-16.1	33.6	1.0	-48.7	-13.0	-35.7	
3.76	-68.8	V	3.0	-18.2	34.5	1.0	-51.7	-13.0	-38.7	
3.76 5.64	-69.9	v	3.0	-16.7	33.6	1.0	-49.3	-13.0	-36.3	
3.76										
3.76 5.64 3.76 5.64	(1007 5MH-)		l	-16.5	34.4	1.0	-49.9	-13.0	-36.9	
3.76 5.64 3.76 5.64 ligh Channel		U	2.0		34.4			-13.0 -13.0	-36.9 -35.1	
3.76 5.64 3.76 5.64 ligh Channel 3.81	-66.9	H	3.0	÷÷	33 C	10				
3.76 5.64 3.76 5.64 ligh Channel 3.81 5.72	-66.9 -68.7	Н	3.0	-15.6	33.6	1.0	-48.1			
3.76 5.64 3.76 5.64 ligh Channel 3.81	-66.9			÷÷	33.6 34.4 33.6	1.0 1.0 1.0	-48.1 -52.7 -48.2	-13.0 -13.0	-39.7 -35.2	

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# **QPSK EIRP POWER FOR LTE BAND 2 (10.0MHZ BANDWIDTH)**

Company:										
Project #:		14U19187								
Date:		02/17/15								
Test Engin	eer:	F. Guarnero								
Configurat	on:	EUT Only								
Mode:		LTE Band 2, 1	0MHz QPSK							
Test Equip Substitutio	<u>ment:</u> n: Horn T59 Sub	ostitution, an	d 8ft SMA Ca	ble						
	Chamb	er	Pr	e-amplifer		Filter			Limit	
Г	3m Chamber F	-	3m C	hamber F 🖵	Filte	r ,		Part 24	4	-
		_	I		1 1		_			
				Path Loss						
Frequenc	v SA reading	Ant. Pol.	Distance	Path Loss @ SG End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
•			Distance	@ SG End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	Ant. Pol. (H/V)	Distance		Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)		Distance	@ SG End	Preamp 34.5	Attenuator	EIRP -49.1	Limit	Delta	Notes
(GHz) Low Channe	(dBm)	(H/V)		@ SG End (dBm)	•					Notes
(GHz) Low Channe 3.70	(dBm) II (1855MHz) -65.9	(H/V) н	3.0	@ SG End (dBm) -15.6	34.5	1.0	-49.1	-13.0	-36.1	Notes
Low Channe 3.70 5.16	(dBm) (1855MHz) -65.9 -67.8	(H/V) H H	3.0 3.0	@ SG End (dBm) -15.6 -15.5	34.5 33.8	1.0 1.0	-49.1 -48.3	-13.0 -13.0	-36.1 -35.3	Notes
(GHz) Low Channe 3.70 5.16 3.70 5.16	(dBm) (1855MHz) -65.9 -67.8 -67.4 -68.3	(H/V) H H V	3.0 3.0 3.0	@ SG End (dBm) -15.6 -15.5 -16.8	34.5 33.8 34.5	1.0 1.0 1.0	-49.1 -48.3 -50.3	-13.0 -13.0 -13.0	-36.1 -35.3 -37.3	Notes
(GHz) Low Channe 3.70 5.16 3.70 5.16 Mid Channe	(dBm) H (1855MHz) -65.9 -67.8 -67.4 -68.3 H (1880MHz)	(H/V) H H V V	3.0 3.0 3.0 3.0	@ SG End (dBm) -15.6 -15.5 -16.8 -15.7	34.5 33.8 34.5 33.8	1.0 1.0 1.0 1.0	_49.1 _48.3 _50.3 _48.6	-13.0 -13.0 -13.0 -13.0		Notes
(GHz) Low Channe 3.70 5.16 3.70 5.16 Mid Channe 3.75	(dBm) (dBm) (1855MHz) (65.9 -67.8 -67.4 -68.3 (1880MHz) -67.3	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -15.6 -15.5 -16.8 -15.7 -15.7 -17.0	34.5 33.8 34.5 33.8 33.8	1.0 1.0 1.0 1.0	_49.1 _48.3 _50.3 _48.6 	-13.0 -13.0 -13.0 -13.0 -13.0	-36.1 -35.3 -37.3 -35.6 -37.5	Notes
(GHz) Low Channe 3.70 5.16 3.70 5.16 Mid Channe 3.75 5.63	(dBm) (1855MHz) -65.9 -67.8 -67.4 -68.3 (1880MHz) -67.3 -69.1	(H/V) H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -15.6 -15.5 -16.8 -15.7 -15.7 -17.0 -16.1	34.5 33.8 34.5 33.8 34.5 33.8	1.0 1.0 1.0 1.0 1.0 1.0	_49.1 _48.3 _50.3 _48.6 _50.5 _48.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.1 -35.3 -37.3 -35.6 -37.5 -35.8	Notes
(GHz) Low Channe 3.70 5.16 3.70 5.16 Mid Channe 3.75 5.63 3.75	(dBm) -1 (1855MHz) -65.9 -67.8 -67.4 -68.3 -67.3 -69.1 -68.4	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -15.6 -15.5 -16.8 -15.7 -15.7 -17.0 -16.1 -17.8	34.5 33.8 34.5 33.8 34.5 33.6 34.5 34.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	_49.1 _48.3 _50.3 _48.6 _50.5 _48.8 _51.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.1 -35.3 -37.3 -35.6 -37.5 -37.5 -35.8 -38.3	Notes
(GHz) Low Channe 3.70 5.16 3.70 5.16 Mid Channe 3.75 5.63	(dBm) (1855MHz) -65.9 -67.8 -67.4 -68.3 (1880MHz) -67.3 -69.1	(H/V) H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -15.6 -15.5 -16.8 -15.7 -15.7 -17.0 -16.1	34.5 33.8 34.5 33.8 34.5 33.8	1.0 1.0 1.0 1.0 1.0 1.0	_49.1 _48.3 _50.3 _48.6 _50.5 _48.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.1 -35.3 -37.3 -35.6 -37.5 -35.8	Notes
(GHz) Low Channe 3.70 5.16 3.70 5.16 3.75 5.63 3.75 5.63 3.75 6.63	(dBm) (dBm) (1855MHz) (65.9 -67.8 -67.4 -68.3 (1880MHz) -67.3 -69.1 -68.4 -68.8	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -15.6 -15.5 -16.8 -15.7 -16.8 -15.7 -17.0 -16.1 -17.8	34.5 33.8 34.5 33.8 34.5 33.6 34.5 34.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	_49.1 _48.3 _50.3 _48.6 _50.5 _48.8 _51.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.1 -35.3 -37.3 -35.6 -37.5 -37.5 -35.8 -38.3	Notes
(GHz) Low Channe 3.70 5.16 3.70 5.16 Mid Channe 3.75 5.63 3.75 6.63	(dBm) -1 (1855MHz) -65.9 -67.8 -67.4 -68.3 -67.3 -69.1 -68.4	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -15.6 -15.5 -16.8 -15.7 -16.8 -15.7 -17.0 -16.1 -17.8 -14.2 -18.2	34.5 33.8 34.5 33.8 34.5 33.6 34.5 34.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	_49.1 _48.3 _50.3 _48.6 _50.5 _48.8 _51.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.1 -35.3 -37.3 -35.6 -37.5 -35.8 -38.3 -33.4 -38.6	Notes
(GHz) Low Channe 3.70 5.16 3.70 5.16 Mid Channe 3.75 5.63 3.75 6.63 High Chann 3.80 5.70	(dBm) (dBm) (1855MHz) -65.9 -67.8 -67.4 -68.3 -67.3 -69.1 -68.4 -68.8 -1 (1905MHz) -68.6 -70.1	(H/V) H H 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	@ SG End (dBm) -15.6 -15.5 -16.8 -15.7 -16.8 -15.7 -17.0 -16.1 -17.8 -17.8 -14.2 -17.0 -18.2 -17.0	34.5 33.8 34.5 33.8 34.5 33.6 34.5 33.2 34.5 33.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	.49.1 48.3 -50.3 48.6 -50.5 48.8 -51.3 46.4 -51.6 49.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.1 -35.3 -37.3 -35.6 -37.5 -35.8 -38.3 -33.4 -38.6 -36.5	Notes
(GHz) Low Channe 3.70 5.16 3.70 5.16 Mid Channe 3.75 5.63 3.75 6.63 High Channe 3.80	(dBm) -1 (1855MHz) -65.9 -67.8 -67.4 -68.3 -68.3 -69.1 -68.4 -68.4 -68.8 -68.8 -68.4 -68.8 -68.8 -68.4 -68.8 -68.4 -68.6 -68.4 -68.6 -67.6 -6	(H/V) H V V H H V V H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -15.6 -15.5 -16.8 -15.7 -16.8 -15.7 -17.0 -16.1 -17.8 -14.2 -18.2	34.5 33.8 34.5 33.8 34.5 33.6 34.5 33.2 34.5 33.2	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.1 48.3 -50.3 48.6 -50.5 48.8 -51.3 46.4 -51.6	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.1 -35.3 -37.3 -35.6 -37.5 -35.8 -38.3 -33.4 -38.6	Notes

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## 16QAM EIRP POWER FOR LTE BAND 2 (10.0MHZ BANDWIDTH)

Company										
Project #:		14U19187								
Date:		02/17/15								
Test Engi		F. Guarnero								
Configura Mode:		EUT Only LTE Band 2, 1								
woue.		LIE Dariu Z, I	UNITZ TOQAN							
Test Equi	pment:									
	ion: Horn T59 Sub	stitution, an	d 8ft SMA Ca	ble						
	Chambe	r	Pre-	amplifer		Filter		L	_imit	
Γ	3m Chamber F	•	3m Ch	amber F 🚽	Filter	•		Part 24	•	
1								,		
				Path Loss						
Frequen	cy SA reading	Ant. Pol.	Distance	@ SG End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	(H/V)		(dBm)						
Low Chani	nel (1855MHz)									
0.70	-67.4	Н	3.0	-17.2	34.5	1.0	-50.7	-13.0	-37.7	
3.70	-68.5	Н	3.0	-16.1	33.8	1.0	-49.0	-13.0	-36.0	
3.70 5.16	-00.J		3.0	-17.4	34.5	1.0	-50.9	-13.0	-37.9	
	-68.0	V					10.1	-13.0	20.4	
5.16	······	v	3.0	-16.3	33.8	1.0	-49.1	-13.0	-36.1	
5.16 3.70 5.16	-68.0 -68.9			-16.3	33.8	1.0	-49.1	-13.0	-30.1	
5.16 3.70 5.16 Mid Chann	-68.0 -68.9 el (1880MHz)	V	3.0							
5.16 3.70 5.16 Mid Chann 3.75	-68.0 -68.9 rel (1880MHz) -68.0	V H	3.0 3.0	-17.7	34.5	1.0	-51.1	-13.0	-38.1	
5.16 3.70 5.16 Mid Chann	-68.0 -68.9 el (1880MHz)	V	3.0							
5.16 3.70 5.16 Mid Chann 3.75 5.63	-68.0 -68.9 el (1880MHz) -68.0 -69.6	V H H	3.0 3.0 3.0	-17.7 -16.6	34.5 33.6	1.0 1.0	-51.1 -49.3	-13.0 -13.0	-38.1 -36.3	
5.16 3.70 5.16 Mid Chann 3.75 5.63 3.75 6.63	-68.0 -68.9 -68.0 -68.0 -69.6 -68.9 -69.0	V H H V	3.0 3.0 3.0 3.0 3.0	-17.7 -16.6 -18.3	34.5 33.6 34.5	1.0 1.0 1.0	-51.1 -49.3 -51.7	-13.0 -13.0 -13.0	-38.1 -36.3 -38.7	
5.16 3.70 5.16 Mid Chann 3.75 5.63 3.75 6.63 High Chan	-68.0 -68.9 -68.0 -69.6 -69.6 -69.0 -69.0 nel (1905MHz)	V H H V V	3.0 3.0 3.0 3.0 3.0	-17.7 -16.6 -18.3 -14.5	34.5 33.6 34.5 33.2	1.0 1.0 1.0 1.0	-51.1 -49.3 -51.7 -46.6	-13.0 -13.0 -13.0 -13.0	-38.1 -36.3 -38.7 -33.6	
5.16 3.70 5.16 Mid Chann 3.75 5.63 3.75 6.63 High Chan 3.80	-68.0 -68.9 -68.0 -69.6 -69.6 -69.0 -69.0 -69.0 -69.0 -69.0 -69.0 -69.0 -69.0 -69.0 -69.0 -69.0	V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0	-17.7 -16.6 -18.3 -14.5 -18.3	34.5 33.6 34.5 33.2 34.5	1.0 1.0 1.0 1.0 1.0	-51.1 -49.3 -51.7 -46.6 -51.8	-13.0 -13.0 -13.0 -13.0 -13.0	-38.1 -36.3 -38.7 -33.6 -38.8	
5.16 3.70 5.16 Mid Chann 3.75 5.63 3.75 6.63 High Chan 3.80 5.70	-68.0 -68.9 -68.0 -69.6 -69.6 -69.0 -69.0 -69.0 -69.0 -69.0 -69.0 -69.0 -69.0 -69.0 -69.0 -69.0 -69.0	V H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-17.7 -16.6 -18.3 -14.5 -18.3 -18.3 -17.5	34.5 33.6 34.5 33.2 34.5 33.6	1.0 1.0 1.0 1.0 1.0 1.0	-51.1 -49.3 -51.7 -46.6 -51.8 -51.8 -50.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-38.1 -36.3 -38.7 -33.6 -38.8 -37.1	
5.16 3.70 5.16 Mid Chann 3.75 5.63 3.75 6.63 High Chan 3.80	-68.0 -68.9 -68.0 -69.6 -69.6 -69.0 -69.0 -69.0 -69.0 -69.0 -69.0 -69.0 -69.0 -69.0 -69.0 -69.0	V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0	-17.7 -16.6 -18.3 -14.5 -18.3	34.5 33.6 34.5 33.2 34.5	1.0 1.0 1.0 1.0 1.0	-51.1 -49.3 -51.7 -46.6 -51.8	-13.0 -13.0 -13.0 -13.0 -13.0	-38.1 -36.3 -38.7 -33.6 -38.8	

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### **QPSK EIRP POWER FOR LTE BAND 2 (15.0MHZ BANDWIDTH)**

Company: Project #: Date:		14U19187 02/17/15								
est Engi		F. Guarnero								
Configura		EUT Only								
Mode:		LTE Band 2, 1	5MHz QPSK							
Test Equi	ment:									
	on: Horn T59 Sub	stitution, an	d 8ft SMA Ca	ble						
	Chambe	r	Pre	-amplifer		Filter			Limit	
_		•		-	Filter					
	3m Chamber F	•	3m Cr	namber F 🗸	Filter	•		Part 24		•
						1			1	
									1	
				Path Loss						
		Ant. Pol.	Distance	@ SG End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	Ant. Pol. (H/V)	Distance		Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz) Low Chann	(dBm) el (1857.5MHz)	(H/V)		@ SG End (dBm)						Notes
(GHz) Low Chann 3.69	(dBm) el (1857.5MHz) _67.7	(H/V) Н	3.0	@ SG End (dBm) -17.4	34.5	1.0	-50.9	-13.0	-37.9	Notes
(GHz) Low Chann 3.69 5.58	(dBm) el (1857.5MHz) -67.7 -67.6	(H/V) Н Н	3.0 3.0	@ SG End (dBm) -17.4 -14.7	34.5 33.6	1.0 1.0	-50.9 -47.3	-13.0 -13.0	-37.9 -34.3	Notes
(GHz) Low Chann 3.69 5.58 3.70	(dBm) el (1857.5MHz) -67.7 -67.6 -68.9	(H/V) H H V	3.0 3.0 3.0	@ SG End (dBm) -17.4 -14.7 -18.4	34.5 33.6 34.5	1.0 1.0 1.0	-50.9 -47.3 -51.9	-13.0 -13.0 -13.0	-37.9 -34.3 -38.9	Notes
(GHz) Low Chann 3.69 5.58	(dBm) el (1857.5MHz) -67.7 -67.6	(H/V) Н Н	3.0 3.0	@ SG End (dBm) -17.4 -14.7	34.5 33.6	1.0 1.0	-50.9 -47.3	-13.0 -13.0	-37.9 -34.3	Notes
Low Chann 3.69 5.58 3.70 5.55	(dBm) el (1857.5MHz) -67.7 -67.6 -68.9 -69.8	(H/V) H H V	3.0 3.0 3.0	@ SG End (dBm) -17.4 -14.7 -18.4	34.5 33.6 34.5	1.0 1.0 1.0	-50.9 -47.3 -51.9	-13.0 -13.0 -13.0	-37.9 -34.3 -38.9	Notes
(GHz) Low Chann 3.69 5.58 3.70 5.55 Mid Channe	(dBm) el (1857.5MHz) -67.7 -67.6 -68.9 -69.8 el (1880MHz)	(H/V) H H V V	3.0 3.0 3.0 3.0	@ SG End (dBm) -17.4 -14.7 -18.4 -16.7	34.5 33.6 34.5 33.7	1.0 1.0 1.0 1.0	-50.9 47.3 -51.9 -49.4	-13.0 -13.0 -13.0 -13.0		Notes
(GHz) Low Chann 3.69 5.58 3.70 5.55	(dBm) el (1857.5MHz) -67.7 -67.6 -68.9 -69.8	(H/V) H H V	3.0 3.0 3.0	@ SG End (dBm) -17.4 -14.7 -18.4	34.5 33.6 34.5	1.0 1.0 1.0	-50.9 -47.3 -51.9	-13.0 -13.0 -13.0	-37.9 -34.3 -38.9	Notes
(GHz) Low Chann 3.69 5.58 3.70 5.55 Mid Channe 3.75	(dBm) el (1857.5MHz) 67.6 68.9 69.8 69.8 	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -17.4 -14.7 -18.4 -16.7 -17.9	34.5 33.6 34.5 33.7 34.5	1.0 1.0 1.0 1.0 1.0	-50.9 47.3 -51.9 49.4 -51.4	-13.0 -13.0 -13.0 -13.0 -13.0	-37.9 -34.3 -38.9 -36.4 -38.4	Notes
(GHz) Low Chann 3.69 5.58 3.70 5.55 Mid Channe 3.75 5.63	(dBm) el (1857.5MHz) .67.7 .67.6 .68.9 .69.8	(H/V) H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -17.4 -14.7 -18.4 -16.7 -17.9 -16.3	34.5 33.6 34.5 33.7 34.5 33.6	1.0 1.0 1.0 1.0 1.0 1.0	-50.9 47.3 -51.9 49.4 -51.4 -48.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.9 -34.3 -38.9 -36.4 -38.4 -38.4 -35.9	Notes
(GHz) Low Chann 3.69 5.58 3.70 5.55 Mid Channe 3.75 5.63 3.77 5.63	(dBm) el (1857.5MHz) -67.7 -67.6 -68.9 -69.8 -69.8 -69.8 -69.8 -69.3 -69.3 -69.3 -68.0 -69.3 -69.3	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -17.4 -14.7 -18.4 -16.7 -16.7 -17.9 -16.3 -17.3	34.5 33.6 34.5 33.7 34.5 33.6 34.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.9 47.3 -51.9 49.4 -51.4 -48.9 -50.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.9 -34.3 -38.9 -36.4 -38.4 -35.9 -37.8	Notes
(GHz) ow Chann 3.69 5.58 3.70 5.55 Mid Channe 3.75 5.63 3.77 5.63	(dBm) el (1857.5MHz) -67.7 -67.6 -68.9 -69.8 el (1880MHz) -68.3 -69.3 -69.3 -68.0	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -17.4 -14.7 -18.4 -16.7 -16.7 -17.9 -16.3 -17.3	34.5 33.6 34.5 33.7 34.5 33.6 34.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.9 47.3 -51.9 49.4 -51.4 -48.9 -50.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.9 -34.3 -38.9 -36.4 -38.4 -35.9 -37.8	Notes
(GHz) Low Chann 3.69 5.58 3.70 5.55 Mid Channe 3.75 5.63 3.77 5.63 4.77 5.63	(dBm) el (1857.5MHz) -67.7 -67.6 -68.9 -69.8 el (1880MHz) -68.3 -69.3 -69.3 -69.3 -69.3 -69.3 -69.7 -68.0 -69.7 -69.7	(H/V) H H V V V 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	@ SG End (dBm) -17.4 -14.7 -18.4 -16.7 -17.9 -16.3 -17.3 -17.3 -16.5	34.5 33.6 34.5 33.7 34.5 33.6 34.5 33.6 34.5 33.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.9 -47.3 -51.9 -49.4 -51.4 -48.9 -50.8 -49.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.9 -34.3 -38.9 -36.4 -38.4 -35.9 -37.8 -36.1	Notes
(GHz) Low Chann 3.69 5.58 3.70 5.55 Mid Channe 3.75 5.63 3.77 5.63 4.77 5.63 High Channe 3.79	(dBm) el (1857.5MHz) -67.7 -67.6 -68.9 -69.8 -69.8 -69.3 -68.3 -69.3 -68.0 -69.7 -69.7 -68.0 -69.7 -68.8	(H/V) H V V H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	© SG End (dBm) -17.4 -14.7 -18.4 -16.7 -16.7 -16.3 -17.3 -16.3 -17.3 -16.5 -18.4	34.5 33.6 34.5 33.7 34.5 33.6 34.5 33.6 34.5 33.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.9 -47.3 -51.9 -49.4 -51.4 -48.9 -50.8 -49.1 -51.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0		Notes

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# 16QAM EIRP POWER FOR LTE BAND 2 (15.0MHZ BANDWIDTH)

Company:										
Project #:		14U19187								
Date:		02/17/15								
Test Engir		F. Guarnero								
Configurat		EUT Only								
Mode:			5MHz 16QAM							
		ETE Bund E, T								
Test Equip										
Substitutio	on: Horn T59 Sub	stitution, an	id 8ft SMA Ca	ble						
	Chambe	r	Pre	-amplifer		Filter			Limit	
_							T			_
	3m Chamber F	-	3m C	hamber F 🚽	Filter	-		Part 24	• •	-
		_						1	_	-
				Path Loss	,			,		_
Frequenc	v SA reading	Ant Pol	Distance	Path Loss @ SG End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Frequence (GHz)		Ant. Pol. (H/V)	Distance	@ SG End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	Ant. Pol. (H/V)	Distance		Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz) Low Chann	(dBm) el (1857.5MHz)	(H/V)		@ SG End (dBm)						Notes
(GHz) Low Chann 3.69	(dBm) el (1857.5MHz) _67.9	(H/V) Н	3.0	@ SG End (dBm) -18.3	33.1	1.0	-50.3	-13.0	-37.3	Notes
(GHz) Low Chann 3.69 5.58	(dBm) el (1857.5MHz) _67.9 _67.9	(H/V) Н Н	3.0 3.0	@ SG End (dBm) -18.3 -15.4	33.1 32.6	1.0 1.0	-50.3 -47.0	-13.0 -13.0	-37.3 -34.0	Notes
(GHz) Low Chann 3.69 5.58 3.70	(dBm) el (1857.5MHz) _67.9	(H/V) H H V	3.0 3.0 3.0	@ SG End (dBm) -18.3 -15.4 -19.7	33.1 32.6 33.1	1.0	-50.3 -47.0 -51.8	-13.0 -13.0 -13.0	-37.3 -34.0 -38.8	Notes
(GHz) Low Chann 3.69 5.58	(dBm) el (1857.5MHz) -67.9 -67.9 -69.4	(H/V) Н Н	3.0 3.0	@ SG End (dBm) -18.3 -15.4	33.1 32.6	1.0 1.0 1.0	-50.3 -47.0	-13.0 -13.0	-37.3 -34.0	Notes
(GHz) Low Chann 3.69 5.58 3.70 5.55	(dBm) el (1857.5MHz) -67.9 -67.9 -69.4	(H/V) H H V	3.0 3.0 3.0	@ SG End (dBm) -18.3 -15.4 -19.7	33.1 32.6 33.1	1.0 1.0 1.0	-50.3 -47.0 -51.8	-13.0 -13.0 -13.0	-37.3 -34.0 -38.8	Notes
(GHz) Low Chann 3.69 5.58 3.70 5.55	(dBm) el (1857.5MHz) -67.9 -67.9 -69.4 -70.1	(H/V) H H V	3.0 3.0 3.0	@ SG End (dBm) -18.3 -15.4 -19.7	33.1 32.6 33.1	1.0 1.0 1.0	-50.3 -47.0 -51.8	-13.0 -13.0 -13.0	-37.3 -34.0 -38.8	Notes
(GHz) Low Chann 3.69 5.58 3.70 5.55 Mid Channe	(dBm) el (1857.5MHz) -67.9 -67.9 -69.4 -70.1 el (1880MHz)	(H/V) H H V V	3.0 3.0 3.0 3.0	@ SG End (dBm) -18.3 -15.4 -19.7 -17.7	33.1 32.6 33.1 32.6	1.0 1.0 1.0 1.0	-50.3 47.0 -51.8 49.3	-13.0 -13.0 -13.0 -13.0	-37.3 -34.0 -38.8 -36.3	Notes
(GHz) Low Chann 3.69 5.58 3.70 5.55 Mid Channe 3.75	(dBm) el (1857.5MHz) -67.9 -69.4 -70.1 -1(1880MHz) -68.8	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.3 -15.4 -19.7 -17.7 -17.7 -19.1	33.1 32.6 33.1 32.6 33.1 32.6	1.0 1.0 1.0 1.0	-50.3 47.0 -51.8 49.3 -51.1	-13.0 -13.0 -13.0 -13.0 -13.0	-37.3 -34.0 -38.8 -36.3 -38.1	Notes
(GHz) Low Chann 3.69 5.58 3.70 5.55 Mid Channe 3.75 5.63	(dBm) el (1857.5MHz) -67.9 -67.9 -69.4 -70.1 -70.1 -1(1880MHz) -68.8 -69.6	(H/V) H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.3 -15.4 -19.7 -17.7 -17.7 -19.1 -17.0	33.1 32.6 33.1 32.6 33.1 32.6	1.0 1.0 1.0 1.0 1.0 1.0	-50.3 47.0 -51.8 49.3 -51.1 -48.6	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	37.3 34.0 38.8 36.3 38.1 35.6	Notes
(GHz) Low Chann 3.69 5.58 3.70 5.55 Mid Channe 3.75 5.63 3.77 5.63	(dBm) el (1857.5MHz) .67.9 .69.4 .70.1 el (1880MHz) .68.8 .69.6 .68.4 .70.0	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.3 -15.4 -19.7 -17.7 -17.7 -19.1 -17.0 -18.6	33.1 32.6 33.1 32.6 33.1 32.6 33.1 32.6 33.0	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.3 47.0 -51.8 49.3 -51.1 48.6 -50.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	37.3 34.0 38.8 36.3 38.1 35.6 37.7	Notes
(GHz) Low Chann 3.69 5.58 3.70 5.55 Mid Channe 3.75 5.63 3.77 5.63 High Chann	(dBm) el (1857.5MHz) .67.9 .69.4 .70.1 el (1880MHz) .68.8 .69.6 .68.4 .70.0 .70.0 	(H/V) H H V V 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	@ SG End (dBm) -18.3 -15.4 -19.7 -17.7 -17.7 -19.1 -17.0 -18.6 -17.4	33.1 32.6 33.1 32.6 33.1 32.6 33.0 32.6 33.0 32.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.3 -47.0 -51.8 -49.3 -51.1 -48.6 -50.7 -49.0	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	37.3 34.0 38.8 36.3 38.1 35.6 37.7 36.0	Notes
(GHz) Low Chann 3.69 5.58 3.70 5.55 Mid Channe 3.75 5.63 3.77 5.63 High Chann 3.79	(dBm) el (1857.5MHz) -67.9 -69.4 -70.1 -88.8 -69.6 -68.4 -70.0 el (1902.5MHz) -69.5	(H/V) H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.3 -15.4 -19.7 -19.7 -19.1 -17.0 -18.6 -17.4 -19.7	33.1 32.6 33.1 32.6 33.1 32.6 33.0 32.6 33.0 32.6 33.0	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.3 -47.0 -51.8 -49.3 -51.1 -48.6 -50.7 -49.0 -51.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	37.3 34.0 38.8 36.3 36.3 35.6 37.7 36.0 38.7	Notes
(GHz) Low Chann 3.69 5.58 3.70 5.55 Mid Channe 3.75 5.63 3.77 5.63 High Chann	(dBm) el (1857.5MHz) .67.9 .69.4 .70.1 el (1880MHz) .68.8 .69.6 .68.4 .70.0 .70.0 	(H/V) H H V V 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	@ SG End (dBm) -18.3 -15.4 -19.7 -17.7 -17.7 -19.1 -17.0 -18.6 -17.4	33.1 32.6 33.1 32.6 33.1 32.6 33.0 32.6 33.0 32.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.3 -47.0 -51.8 -49.3 -51.1 -48.6 -50.7 -49.0	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	37.3 34.0 38.8 36.3 38.1 35.6 37.7 36.0	Notes

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# **QPSK EIRP POWER FOR LTE BAND 2 (20.0MHZ BANDWIDTH)**

Company:										
Project #:		14U19187								
Date:		02/17/15								
Test Engir	eer:	F. Guarnero								
Configurat	ion:	EUT Only								
Mode:		LTE Band 2, 2	0MHz QPSK							
Test Equip Substitutio	o <u>ment:</u> on: Horn T59 Sub	ostitution, an	d 8ft SMA Ca	ble						
	Chamb	er	Pr	e-amplifer		Filter	1		Limit	
ſ	3m Chamber F	-	3m (	hamber F 🖵	Filte	er -	•	Part 2	.4	•
Frequenc (GHz)	y SA reading (dBm)	Ant. Pol. (H/V)	Distance	Path Loss @ SG End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
	-1 (40COMUL-)									
Low Channe			\$							
Low Chann 3.68	-68.2	Н	3.0	-17.9	34.5	1.0	-51.5	-13.0	-38.5	
		H H	3.0 3.0	-17.9 -15.5	34.5 33.6	1.0 1.0	-51.5 -48.1	-13.0 -13.0	-38.5 -35.1	
	-68.2						\$		· · · · · · · · · · · · · · · · · · ·	
3.68 5.56	-68.2 -68.4	Н	3.0	-15.5	33.6	1.0	-48.1	-13.0	-35.1	
3.68 5.56 3.70 5.56	-68.2 -68.4 -69.0	H V	3.0 3.0	-15.5 -18.4	33.6 34.5	1.0 1.0	-48.1 -51.9	-13.0 -13.0	-35.1 -38.9	
3.68 5.56 3.70 5.56 Mid Channe 3.74	-68.2 -68.4 -69.0 -69.2	H V V H	3.0 3.0 3.0 3.0	-15.5 -18.4 -16.1 -18.4	33.6 34.5 33.6 34.5	1.0 1.0 1.0 1.0	_48.1 _51.9 _48.8 	-13.0 -13.0 -13.0 -13.0	-35.1 -38.9 -35.8 -38.8	
3.68 5.56 3.70 5.56 Mid Channe 3.74 5.65	-68.2 -68.4 -69.0 -69.2 I (1880MHz) -68.7 -68.3	H V V H	3.0 3.0 3.0 3.0 3.0 3.0	-15.5 -18.4 -16.1 -18.4 -15.2	33.6 34.5 33.6 34.5 34.5 33.6	1.0 1.0 1.0 1.0 1.0	_48.1 _51.9 _48.8 	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.1 -38.9 -35.8 -35.8 -38.8 -38.8 -34.8	
3.68 5.56 3.70 5.56 Mid Channe 3.74 5.65 3.74	.68.2 .68.4 .69.0 .69.2 .68.7 .68.3 .68.7	H V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0	-15.5 -18.4 -16.1 -18.4 -18.4 -15.2 -18.1	33.6 34.5 33.6 34.5 33.6 34.5 34.5	1.0 1.0 1.0 1.0 1.0 1.0	-48.1 -51.9 -48.8 -51.8 -51.8 -51.6	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.1 -38.9 -35.8 -38.8 -38.8 -34.8 -38.6	
3.68 5.56 3.70 5.56 Mid Channe 3.74 5.65	-68.2 -68.4 -69.0 -69.2 I (1880MHz) -68.7 -68.3	H V V H	3.0 3.0 3.0 3.0 3.0 3.0	-15.5 -18.4 -16.1 -18.4 -15.2	33.6 34.5 33.6 34.5 34.5 33.6	1.0 1.0 1.0 1.0 1.0	_48.1 _51.9 _48.8 	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.1 -38.9 -35.8 -35.8 -38.8 -38.8 -34.8	
3.68 5.56 3.70 5.56 Mid Channe 3.74 5.65 3.74 5.65	.68.2 .68.4 .69.0 .69.2 .68.7 .68.3 .68.7	H V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0	-15.5 -18.4 -16.1 -18.4 -15.2 -18.1 -15.7	33.6 34.5 33.6 34.5 33.6 34.5 34.5	1.0 1.0 1.0 1.0 1.0 1.0	48.1 -51.9 48.8 -51.8 47.8 -51.6 48.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.1 -38.9 -35.8 -38.8 -34.8 -38.6 -35.3	
3.68 5.56 3.70 5.56 Mid Channe 3.74 5.65 3.74 5.65 High Chann 3.73	-68.2 -68.4 -69.0 -69.2 -69.2 -68.7 -68.3 -68.7 -68.3 -68.7 -68.9 -68.9 -68.9 -67.8	H V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-15.5 -18.4 -16.1 -18.4 -15.2 -18.1 -15.7 -17.5	33.6 34.5 33.6 34.5 33.6 34.5 33.6 34.5 33.6 34.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	48.1 -51.9 48.8 -51.8 47.8 -51.6 48.3 -51.6	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.1 -38.9 -35.8 	
3.68 5.56 3.70 5.56 Mid Channe 3.74 5.65 3.74 5.65 High Chann 3.73 5.67	-68.2 -68.4 -69.0 -69.2 -69.2 -68.7 -68.3 -68.7 -68.3 -68.7 -68.9 -68.9 -67.8 -69.7	H V V 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	-15.5 -18.4 -16.1 -18.4 -15.2 -18.1 -15.7 -15.7 -15.7 -16.7	33.6 34.5 33.6 34.5 33.6 34.5 33.6 34.5 33.6 34.5 33.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	_48.1 _51.9 _48.8 	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	35.1 38.9 35.8 38.8 34.8 38.6 35.3 38.0 38.0 36.3	
3.68 5.56 3.70 5.56 Mid Channe 3.74 5.65 3.74 5.65 High Chann 3.73	-68.2 -68.4 -69.0 -69.2 -69.2 -68.7 -68.3 -68.7 -68.3 -68.7 -68.9 -68.9 -68.9 -67.8	H V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-15.5 -18.4 -16.1 -18.4 -15.2 -18.1 -15.7 -17.5	33.6 34.5 33.6 34.5 33.6 34.5 33.6 34.5 33.6 34.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	48.1 -51.9 48.8 -51.8 47.8 -51.6 48.3 -51.6	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.1 -38.9 -35.8 	

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## 16QAM EIRP POWER FOR LTE BAND 2 (20.0MHZ BANDWIDTH)

Company: Project #: Date: Test Engine Configuratio Mode:	er: n:	14U19187 02/17/15 F. Guarnero EUT Only LTE Band 2, 2	0MHz 16QAM							
Test Equipn Substitution	<u>ient:</u> : Horn T59 Sub	ostitution, an	id 8ft SMA Ca	ble						
	Chambe	r	Pre	-amplifer		Filter			Limit	
3r	n Chamber F	-	3m Ch	namber F 🖵	Filter	-		Part 24	· -	•
		4-4 D-1	Distance	Path Loss @ SG End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	Ant. Pol. (H/V)	Distance	(dBm)	Freamp	Altenuator	EIRF			Notes
(GHz) Low Channel	(dBm) (1860MHz)	(H/V)		(dBm)						NULES
(GHz)	(dBm)		3.0 3.0	-	34.5 33.6	1.0 1.0	-52.0 -48.7	-13.0 -13.0	-39.0 -35.7	
(GHz) Low Channel 3.68	(dBm) (1860MHz) _68.7	(H/V) Н	3.0	(dBm) -18.5	34.5	1.0	-52.0	-13.0	-39.0	Notes
(GHz) ow Channel 3.68 5.56	(dBm) (1860MHz) -68.7 -69.0	(H/V) H H	3.0 3.0	(dBm) -18.5 -16.1	34.5 33.6	1.0 1.0	-52.0 -48.7	-13.0 -13.0	-39.0 -35.7	
(GHz) ow Channel 3.68 5.56 3.70 5.56	(dBm) (1860MHz) -68.7 -69.0 -69.1 -69.6	(H/V) H H V	3.0 3.0 3.0	(dBm) -18.5 -16.1 -18.6	34.5 33.6 34.5	1.0 1.0 1.0	-52.0 -48.7 -52.1	-13.0 -13.0 -13.0	-39.0 -35.7 -39.1	
(GHz) ow Channel 3.68 5.56 3.70 5.56 Mid Channel	(dBm) (1860MHz) 68.7 69.0 69.1 69.6 1880MHz)	(H/V) H H V V	3.0 3.0 3.0 3.0	(dBm) -18.5 -16.1 -18.6 -16.5	34.5 33.6 34.5 33.6	1.0 1.0 1.0 1.0	-52.0 -48.7 -52.1 -49.1	-13.0 -13.0 -13.0 -13.0		
(GHz) Low Channel 3.68 5.56 3.70 5.56	(dBm) (1860MHz) -68.7 -69.0 -69.1 -69.6	(H/V) H H V	3.0 3.0 3.0	(dBm) -18.5 -16.1 -18.6	34.5 33.6 34.5	1.0 1.0 1.0	-52.0 -48.7 -52.1	-13.0 -13.0 -13.0	-39.0 -35.7 -39.1	
Low Channel 3.68 5.56 3.70 5.56 Mid Channel 3.74	(dBm) (1860MHz) - 68.7 - 69.0 - 69.1 - 69.6 18800MHz) - 69.0	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0	(dBm) -18.5 -16.1 -18.6 -16.5 -16.5	34.5 33.6 34.5 33.6 33.6	1.0 1.0 1.0 1.0 1.0	-52.0 48.7 -52.1 49.1 -52.2	-13.0 -13.0 -13.0 -13.0 -13.0	-39.0 -35.7 -39.1 -36.1 -39.2	
(GHz) Low Channel 3.68 5.56 3.70 5.56 Mid Channel 3.74 5.65	(dBm) (1860MHz) 68.7 69.0 69.1 69.6 69.6 68.6	(H/V) H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	(dBm) -18.5 -16.1 -18.6 -16.5 - -18.7 -18.7 -15.5	34.5 33.6 34.5 33.6 34.5 33.6	1.0 1.0 1.0 1.0 1.0 1.0	-52.0 -48.7 -52.1 -49.1 -52.2 -52.2 -48.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	39.0 35.7 39.1 36.1 39.2 35.1	
(GHz) ow Channel 3.68 5.56 3.70 5.56 Mid Channel 3.74 5.65 3.74 5.65	(dBm) (1860MHz) -68.7 -69.0 -69.1 -69.6 1880MHz) -69.0 -68.6 -68.9 -69.4	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	(dBm) -18.5 -16.1 -18.6 -16.5 -18.7 -15.5 -18.3	34.5 33.6 34.5 33.6 34.5 33.6 34.5 33.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-52.0 48.7 -52.1 49.1 -52.2 48.1 -51.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	39.0 35.7 39.1 36.1 39.2 35.1 38.8	
(GHz) ow Channel 3.68 5.56 3.70 5.56 Aid Channel 3.74 5.65 3.74 5.65 3.74 5.65	(dBm) (1860MHz) -68.7 -69.0 -69.1 -69.6 -69.6 -69.0 -68.6 -68.9 -69.4 (1900MHz)	(H/V) H H V V 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	(dBm) -18.5 -16.1 -18.6 -16.5 -18.7 -15.5 -18.3 -16.2	34.5 33.6 34.5 33.6 34.5 33.6 34.5 33.6 34.5 33.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-52.0 -48.7 -52.1 -49.1 -52.2 -48.1 -51.8 -48.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	39.0 35.7 39.1 36.1 39.2 35.1 38.8 35.8	
(GHz) ow Channel 3.68 5.56 3.70 5.56 Mid Channel 3.74 5.65 3.74 5.65 3.74 5.65	(dBm) (1860MHz) -68.7 -69.0 -69.1 -69.6 -1880MHz) -69.0 -68.6 -68.9 -69.4 -69.4 (1900MHz) -68.0	(H/V) H 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	(dBm) -18.5 -16.1 -18.6 -16.5 -16.5 -18.7 -15.5 -18.3 -16.2 -17.7	34.5 33.6 34.5 33.6 34.5 33.6 34.5 33.6 34.5 33.6 34.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-52.0 -48.7 -52.1 -49.1 -52.2 -48.1 -51.8 -48.8 -51.2	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	39.0 35.7 39.1 36.1 39.2 35.1 38.8 35.8 38.2	
(GHz) ow Channel 3.68 5.56 3.70 5.56 Mid Channel 3.74 5.65 3.74 5.65 11gh Channel	(dBm) (1860MHz) -68.7 -69.0 -69.1 -69.6 -69.6 -69.0 -68.6 -68.9 -69.4 (1900MHz)	(H/V) H H V V 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	(dBm) -18.5 -16.1 -18.6 -16.5 -18.7 -15.5 -18.3 -16.2	34.5 33.6 34.5 33.6 34.5 33.6 34.5 33.6 34.5 33.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-52.0 -48.7 -52.1 -49.1 -52.2 -48.1 -51.8 -48.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	39.0 35.7 39.1 36.1 39.2 35.1 38.8 35.8	

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# 9.3.2. LTE BAND 4

#### **QPSK EIRP POWER FOR LTE BAND 4 (1.4MHZ BANDWIDTH)**

Company										
D		44140407								
Project #		14U19187								
Date:		02/18/15								
Test Eng		T Wang								
Configura Mode:		EUT Only								
wode:		LTE Band 4, 1	4MINZ QPSK							
<u>Test Equ</u> Substitut	<u>ipment:</u> ion: Horn T59 Sub	ostitution, ar	id 8ft SMA Ca	ble						
	Chambe	r	Pre	-amplifer		Filter		1	Limit	
Ĩ	3m Chamber F	•	3m Cł	namber F 🖵	Filter	-	[	Part 27	•	•
Frequer	icy SA reading	Ant. Pol.	Distance	Path Loss @ SG End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	(H/V)		(dBm)						
Low Chan	nel (1710.7MHz)									
3.421	-63.5	Н	3.0	-13.6	34.6	1.0	-47.3	-13.0	-34.3	
5.132	-65.6	Н	3.0	-13.3	33.8	1.0	-46.2	-13.0	-33.2	
3.421	-59.8	V	3.0	-9.6	34.6	1.0	-43.2	-13.0	-30.2	
	-67.0	V	3.0	-14.5	33.8	1.0	-47.3	-13.0	-34.3	
5.132	1									
	nel (1732 5MHz)		3.0	-18.4	34.6	1.0	-52.0	-13.0	-39.0	
	rel (1732.5MHz) -68.3	н				1.0	-47.9	-13.0	-34.9	
Mid Chanı		H	3.0	-15.1	33.8	1.0				
Mid Chanı 3.465	-68.3		3.0 3.0	-15.1 -16.7	33.0 34.6	1.0	-50.3	-13.0	-37.3	
Mid Chanı 3.465 5.198	-68.3 -67.5	Н		\$				-13.0 -13.0	-37.3 -34.2	
Mid Chanı 3.465 5.198 3.465 5.198	-68.3 -67.5 -66.9 -67.0	H V	3.0	-16.7	34.6	1.0	-50.3			
Mid Chanı 3.465 5.198 3.465 5.198	-68.3 -67.5 -66.9	H V	3.0	-16.7	34.6	1.0	-50.3			
Mid Chanı 3.465 5.198 3.465 5.198 High Chan	-68.3 -67.5 -66.9 -67.0 inel (1754.3MHz)	H V V	3.0 3.0	-16.7 -14.4	34.6 33.8	1.0 1.0	-50.3 -47.2	-13.0	-34.2	
Mid Chanr 3.465 5.198 3.465 5.198 High Chan 3.509	-68.3 -67.5 -66.9 -67.0 mel (1754.3MHz) -66.7	H V V	3.0 3.0 3.0	-16.7 -14.4 -16.7	34.6 33.8 34.6	1.0 1.0 1.0	-50.3 -47.2 -50.3	-13.0 -13.0	-34.2 -37.3	

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# 16QAM EIRP POWER FOR LTE BAND 4 (1.4MHZ BANDWIDTH)

Company: Project #: Date: Fest Engine Configuratio Mode:	eer: on:	14U19187 02/18/15 T Wang EUT Only LTE Band 4, 1.	.4MHz 16QAM							
Test Equipr Substitutior	<u>ment:</u> n: Horn T59 Sub	stitution, an	d 8ft SMA Ca	ble						
	Chamb	er	Pr	e-amplifer		Filter			Limit	
Γ	3m Chamber F	•	3m C	Chamber F 🚽	Filte	er -	•	Part 2	27	•
Frequency	/ SA reading	Ant. Pol.	Distance	Path Loss @ SG End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	Ant. Pol. (H/V)	Distance	1	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)		(H/V)	Distance	@ SG End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz) ow Channe 3.421	(dBm) I (1710.7MHz) -64.6	(H/V) Н	3.0	@ SG End (dBm) -14.7	34.6	1.0	-48.4	-13.0	-35.4	Notes
(GHz) ow Channe 3.421 5.132	(dBm) I (1710.7MHz) -64.6 -66.6	(H/V) H H	3.0	@ SG End (dBm) -14.7 -14.3	34.6 33.8	1.0 1.0	-48.4 -47.2	-13.0 -13.0	-35.4 -34.2	Notes
(GHz) ow Channe 3.421 5.132 3.421	(dBm) I (1710.7MHz) -64.6 -66.6 -61.7	(H/V) H H V	3.0 3.0 3.0	@ SG End (dBm) -14.7 -14.3 -11.5	34.6 33.8 34.6	1.0 1.0 1.0	-48.4 -47.2 -45.1	-13.0 -13.0 -13.0	-35.4 -34.2 -32.1	Notes
(GHz) ow Channe 3.421 5.132	(dBm) I (1710.7MHz) -64.6 -66.6	(H/V) H H	3.0	@ SG End (dBm) -14.7 -14.3	34.6 33.8	1.0 1.0	-48.4 -47.2	-13.0 -13.0	-35.4 -34.2	Notes
(GHz) ow Channe 3.421 5.132 3.421 5.132	(dBm) I (1710.7MHz) 64.6 66.6 61.7 67.8	(H/V) H H V	3.0 3.0 3.0	@ SG End (dBm) -14.7 -14.3 -11.5	34.6 33.8 34.6	1.0 1.0 1.0	-48.4 -47.2 -45.1	-13.0 -13.0 -13.0	-35.4 -34.2 -32.1	Notes
(GHz) ow Channe 3.421 5.132 3.421 5.132 Aid Channel	(dBm) I (1710.7MHz) -64.6 -66.6 -61.7 -67.8 (1732.5MHz)	(H/V) H H V V	3.0 3.0 3.0 3.0	@ SG End (dBm) -14.7 -14.3 -11.5 -15.3	34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0	48.4 47.2 45.1 48.1	-13.0 -13.0 -13.0 -13.0	-35.4 -34.2 -32.1 -35.1	Notes
(GHz) ow Channe 3.421 5.132 3.421 5.132	(dBm) I (1710.7MHz) 64.6 66.6 61.7 67.8	(H/V) H H V	3.0 3.0 3.0	@ SG End (dBm) -14.7 -14.3 -11.5	34.6 33.8 34.6	1.0 1.0 1.0	-48.4 -47.2 -45.1	-13.0 -13.0 -13.0	-35.4 -34.2 -32.1	Notes
(GHz) ow Channe 3.421 5.132 3.421 5.132 Jid Channel 3.465	(dBm) 1 (1710.7MHz) -64.6 -66.6 -61.7 -67.8 (1732.5MHz) -69.2	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -14.7 -14.3 -11.5 -15.3 - -15.3	34.6 33.8 34.6 33.8 33.8	1.0 1.0 1.0 1.0 1.0	<u>48.4</u> <u>47.2</u> <u>45.1</u> <u>48.1</u> <u>-52.9</u>	-13.0 -13.0 -13.0 -13.0 -13.0	-35.4 -34.2 -32.1 -35.1 -39.9	Notes
(GHz) .ow Channe 3.421 5.132 3.421 5.132 Aid Channel 3.465 5.198	(dBm) 1 (1710.7MHz) -64.6 -66.6 -61.7 -67.8 (1732.5MHz) -69.2 -68.3	(H/V) H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -14.7 -14.3 -11.5 -15.3 - -15.3 - - -19.3 -15.9	34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0	<u>48.4</u> 47.2 45.1 48.1 -52.9 48.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.4 -34.2 -32.1 -35.1 -39.9 -35.7	Notes
(GHz) ow Channe 3.421 5.132 3.421 5.132 Alid Channel 3.465 5.198 3.465 5.198	(dBm) 1 (1710.7MHz) -64.6 -66.6 -61.7 -67.8 (1732.5MHz) -69.2 -68.3 -67.8 -67.8 -67.9	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -14.7 -14.3 -11.5 -15.3 -15.3 -19.3 -15.9 -17.6	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0		-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.4 -34.2 -32.1 -35.1 -39.9 -35.7 -38.2	Notes
(GHz) ow Channe 3.421 5.132 3.421 5.132 Aid Channel 3.465 5.198 3.465 5.198 ilgh Channe	(dBm) 1 (1710.7MHz) -64.6 -66.6 -61.7 -67.8 (1732.5MHz) -69.2 -68.3 -67.8 -67.8 -67.9 -1(1754.3MHz)	(H/V) H H V V V 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	@ SG End (dBm) -14.7 -14.3 -11.5 -15.3 -15.3 -19.3 -15.9 -17.6 -15.3	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-48.4 -47.2 -45.1 -48.1 -52.9 -48.7 -51.2 -48.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.4 -34.2 -32.1 -35.1 -39.9 -35.7 -38.2 -35.1	Notes
(GHz) ow Channe 3.421 5.132 3.421 5.132 Aid Channel 3.465 5.198 3.465 5.198 4igh Channe 3.509	(dBm) I (1710.7MHz) -64.6 -66.6 -61.7 -67.8 (1732.5MHz) -69.2 -68.3 -67.8 -67.9 I (1754.3MHz) -67.7	(H/V) H H 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	@ SG End (dBm) -14.7 -14.3 -11.5 -15.3 -15.3 -15.9 -17.6 -15.3 	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-48.4 -47.2 -45.1 -48.1 -52.9 -48.7 -51.2 -48.1 -51.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.4 -34.2 -32.1 -35.1 -39.9 -35.7 -38.2 -35.1 -38.2 -35.1	Notes
(GHz) ow Channe 3.421 5.132 3.421 5.132 Aid Channel 3.465 5.198 3.465 5.198 ilgh Channe	(dBm) 1 (1710.7MHz) -64.6 -66.6 -61.7 -67.8 (1732.5MHz) -69.2 -68.3 -67.8 -67.8 -67.9 -1(1754.3MHz)	(H/V) H H V V V 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	@ SG End (dBm) -14.7 -14.3 -11.5 -15.3 -15.3 -19.3 -15.9 -17.6 -15.3	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-48.4 -47.2 -45.1 -48.1 -52.9 -48.7 -51.2 -48.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.4 -34.2 -32.1 -35.1 -39.9 -35.7 -38.2 -35.1	Notes

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# **QPSK EIRP POWER FOR LTE BAND 4 (3.0MHZ BANDWIDTH)**

Company: Project #: Date:		14U19187 02/18/15								
Fest Engine		T Wang								
Configurati		EUT Only								
/lode:		LTE Band 4, 3	MHz QPSK							
Fest Equipr	nent:									
	n: Horn T59 Sub	ostitution, an	d 8ft SMA Ca	ble						
			Dr	e-amplifer			1			
	Chamb	er		e-ampiner		Filter			Limit	
	3m Chamber F	•	3m C	hamber F 🚽	Filte	r .	-	Part 2	7	•
			1		I I	_	_	1		
				Path Loss						
Frequency	SA reading	Ant. Pol.	Distance	@ SG End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	(H/V)		(dBm)						
	l (1711.5MHz)									
ow Channe.		н	3.0	-15.6	34.6	1.0	-49.3	-13.0	-36.3	
ow Channe 3.423	-65.5									
3.423 5.135	-66.8	Н	3.0	-14.5	33.8	1.0	-47.3	-13.0	-34.3	
3.423		H V	3.0	-14.5 -15.1	33.8 34.6	1.0 1.0	-47.3 -48.7		-35.7	
3.423 5.135	-66.8	Н	å	•••••••••				-13.0		
3.423 5.135 3.423 5.135	-66.8 -65.3 -66.1	H V	3.0	-15.1	34.6	1.0	-48.7	-13.0 -13.0	-35.7	
3.423 5.135 3.423 5.135 Aid Channel	-66.8 -65.3 -66.1 (1732.5MHz)	H V V	3.0 3.0	-15.1 -13.6	34.6 33.8	1.0 1.0	-48.7 -46.4	-13.0 -13.0 -13.0	-35.7 -33.4	
3.423 5.135 3.423 5.135	-66.8 -65.3 -66.1	H V	3.0	-15.1	34.6	1.0	-48.7	-13.0 -13.0	-35.7	
3.423 5.135 3.423 5.135 Aid Channel 3.465 5.198	-66.8 -65.3 -66.1 (1732.5MHz) -66.0 -64.7	H V V H	3.0 3.0 3.0	-15.1 -13.6 -16.1 -12.3	34.6 33.8 34.6 33.8	1.0 1.0 1.0	<u>-48.7</u> <u>-46.4</u> <u>-49.7</u>	-13.0 -13.0 -13.0 -13.0	-35.7 -33.4 -36.7 -32.1	
3.423 5.135 3.423 5.135 7.135 Aid Channel 3.465	-66.8 -65.3 -66.1 (1732.5MHz) -66.0	H V V H	3.0 3.0 3.0 3.0 3.0	-15.1 -13.6 -16.1	34.6 33.8 34.6	1.0 1.0 1.0 1.0	_48.7 _46.4 _49.7 _45.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.7 -33.4 -36.7	
3.423 5.135 3.423 5.135 Aid Channel 3.465 5.198 3.465 5.198	-66.8 -65.3 -66.1 (1732.5MHz) -66.0 -64.7 -65.4 -65.8	H V V H H V	3.0 3.0 3.0 3.0 3.0 3.0	-15.1 -13.6 -16.1 -12.3 -15.2	34.6 33.8 34.6 33.8 34.6	1.0 1.0 1.0 1.0 1.0 1.0	48.7 -46.4 	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	35.7 -33.4 	
3.423 5.135 3.423 5.135 Mid Channel 3.465 5.198 3.465 5.198 iligh Channe	-66.8 -65.3 -66.1 (1732.5MHz) -66.0 -64.7 -65.4 -65.8 -1 (1753.5MHz)	H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0	-15.1 -13.6 -16.1 -12.3 -15.2 -13.2	34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0	<u>48.7</u> <u>46.4</u> <u>49.7</u> <u>45.1</u> <u>48.8</u> <u>46.0</u>	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	35.7 33.4 36.7 32.1 35.8 33.0	
3.423 5.135 3.423 5.135 Mid Channel 3.465 5.198 3.465 5.198 iigh Channe 3.507	-66.8 -65.3 -66.1 (1732.5MHz) -66.0 -64.7 -65.4 -65.8 I (1753.5MHz) -64.5	H V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-15.1 -13.6 -16.1 -12.3 -15.2 -13.2 -14.5	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0	48.7 46.4 49.7 45.1 48.8 46.0 	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	35.7 33.4 36.7 32.1 35.8 33.0 35.1	
3.423 5.135 3.423 5.135 Aid Channel 3.465 5.198 3.465 5.198 iigh Channe 3.507 5.261	-66.8 -65.3 -66.1 (1732.5MHz) -66.0 -64.7 -65.4 -65.4 -65.8 (1753.5MHz) -64.5 -65.0	H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-15.1 -13.6 -16.1 -12.3 -15.2 -13.2 -13.2 -14.5 -12.5	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	48.7 46.4 49.7 45.1 48.8 46.0 	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	35.7 33.4 36.7 32.1 35.8 33.0 35.1 32.3	
3.423 5.135 3.423 5.135 Mid Channel 3.465 5.198 3.465 5.198 iigh Channe 3.507	-66.8 -65.3 -66.1 (1732.5MHz) -66.0 -64.7 -65.4 -65.8 I (1753.5MHz) -64.5	H V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-15.1 -13.6 -16.1 -12.3 -15.2 -13.2 -14.5	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0	48.7 46.4 49.7 45.1 48.8 46.0 	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	35.7 33.4 36.7 32.1 35.8 33.0 35.1	

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#### REPORT NO: 14U19187-E9C EUT MODEL: A1550

# 16QAM EIRP POWER FOR LTE BAND 4 (3.0MHZ BANDWIDTH)

Project #:		14U19187								
Date:		02/18/15								
Test Engin Configurati		T Wang								
Sonngurati Mode:		EUT Only LTE Band 4, 3	MH-7 160 AM							
vioue.		LTE Danu 4, Ji	VITIZ TOQAW							
Test Equip	ment:									
Substitutio	n: Horn T59 Sub	stitution, an	d 8ft SMA Ca	ble						
	Chamb	er	Pr	e-amplifer		Filter			Limit	
_							4			
	3m Chamber F	•	3m C	hamber F	Filte	er	•	Part 2	27	•
-										
				Path Loss						
Frequency	y SA reading	Ant. Pol.	Distance	@ SG End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	(H/V)		(dBm)						
Low Channe	el (1711.5MHz)									
3.423	-66.4	Н	3.0	-16.5	34.6	1.0	-50.2	-13.0	-37.2	
5.135	-67.7	H	3.0	-15.4	33.8	1.0	-48.2	-13.0	-35.2	
3.423	-66.3	<u>v</u>	3.0	-16.1	34.6	1.0	-49.7	-13.0	-36.7	
	-67.5	V	3.0	-15.0	33.8	1.0	-47.8	-13.0	-34.8	
5.135	(1732.5MHz)									
	-66.9	Н	3.0	-17.0	34.6	1.0	-50.6	-13.0	-37.6	
5.135 Mid Channe 3.465	-00.9	Н	3.0	-13.4	33.8	1.0	-46.2	-13.0	-33.2	
Mid Channe	-65.8		3.0	-16.2	34.6	1.0	-49.8	-13.0	-36.8	
Mid Channel 3.465		v	J.V		<b>11 0</b>	1.0	-46.9	-13.0	-33.9	
Mid Channe 3.465 5.198	-65.8		3.0	-14.1	33.8	1.0				
Mid Channel 3.465 5.198 3.465 5.198	-65.8 -66.4 -66.7	V		-14.1	33.8	1.0				
Aid Channel 3.465 5.198 3.465 5.198 1igh Channe	-65.8 -66.4 -66.7 el (1753.5MHz)	v v	3.0				-49.1	-13.0	-36.1	
Mid Channel 3.465 5.198 3.465 5.198 High Channel 3.507	-65.8 -66.4 -66.7 el (1753.5MHz) -65.5	V V H	3.0 3.0	-15.5	34.6	1.0	-49.1 -46.4	-13.0 -13.0	-36.1 -33.4	
Aid Channel 3.465 5.198 3.465 5.198 1igh Channe	-65.8 -66.4 -66.7 el (1753.5MHz)	v v	3.0				-49.1 -46.4 -45.6	-13.0 -13.0 -13.0	-36.1 -33.4 -32.6	
Aid Channe 3.465 5.198 3.465 5.198 1igh Channe 3.507 5.261	-65.8 -66.4 -66.7 ≥I (1753.5MHz) -65.5 -66.1	V V H H	3.0 3.0 3.0	-15.5 -13.6	34.6 33.8	1.0 1.0	-46.4	-13.0	-33.4	

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#### REPORT NO: 14U19187-E9C EUT MODEL: A1550

## **QPSK EIRP POWER FOR LTE BAND 4 (5.0MHZ BANDWIDTH)**

Company:										
Project #:		14U19187								
Date:		02/18/15								
Test Engine	er:	T Wang								
Configuratio	n:	EUT Only								
Mode:		LTE Band 4, 5	MHz QPSK							
<u>Fest Equipm</u> Substitution	<u>ent:</u> : Horn T59 Sub	ostitution, an	d 8ft SMA Ca	ble						
	Chamber		Pre-ar	nplifer	Fil	ter		Lim	nit	
3m C	namber F	•	3m Cham	ıber F 🗸	Filter	•	Г	Part 27	-	
				Path Loss						
Frequency	SA reading	Ant. Pol.	Distance	Path Loss @ SG End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance		Preamp	Attenuator	EIRP	Limit	Delta	Notes
Frequency (GHz) .ow Channel	(dBm)		Distance	@ SG End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz) Low Channel 3.425	(dBm) (1712.5MHz) -65.9	(H/V) Н	3.0	@ SG End (dBm) -16.0	34.6	1.0	-49.7	-13.0	-36.7	Notes
(GHz) Low Channel 3.425 5.138	(dBm) (1712.5MHz) -65.9 -65.5	(H/V) H H	3.0 3.0	@ SG End (dBm) -16.0 -13.2	34.6 33.8	1.0 1.0	-49.7 -46.0	-13.0 -13.0	-36.7 -33.0	Notes
(GHz) ow Channel 3.425 5.138 3.425	(dBm) (1712.5MHz) -65.9 -65.5 -65.6	(H/V) H H V	3.0 3.0 3.0	@ SG End (dBm) -16.0 -13.2 -15.4	34.6 33.8 34.6	1.0 1.0 1.0	-49.7 -46.0 -49.0	-13.0 -13.0 -13.0	-36.7 -33.0 -36.0	Notes
(GHz) Low Channel 3.425 5.138	(dBm) (1712.5MHz) -65.9 -65.5	(H/V) H H	3.0 3.0	@ SG End (dBm) -16.0 -13.2	34.6 33.8	1.0 1.0	-49.7 -46.0	-13.0 -13.0	-36.7 -33.0	Notes
(GHz) ow Channel 3.425 5.138 3.425 5.138	(dBm) (1712.5MHz) -65.9 -65.5 -65.6 -65.7	(H/V) H H V	3.0 3.0 3.0	@ SG End (dBm) -16.0 -13.2 -15.4	34.6 33.8 34.6	1.0 1.0 1.0	-49.7 -46.0 -49.0	-13.0 -13.0 -13.0	-36.7 -33.0 -36.0	Notes
(GHz) ow Channel 3.425 5.138 3.425 5.138 Vid Channel	(dBm) (1712.5MHz) -65.9 -65.5 -65.6 -65.7 1732.5MHz)	(H/V) H H V V	3.0 3.0 3.0 3.0	@ SG End (dBm) -16.0 -13.2 -15.4 -13.2	34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0	_49.7 _46.0 _49.0 _46.0	-13.0 -13.0 -13.0 -13.0	-36.7 -33.0 -36.0 -33.0	Notes
(GHz) ow Channel 3.425 5.138 3.425 5.138	(dBm) (1712.5MHz) -65.9 -65.5 -65.6 -65.7	(H/V) H H V	3.0 3.0 3.0	@ SG End (dBm) -16.0 -13.2 -15.4	34.6 33.8 34.6	1.0 1.0 1.0	-49.7 -46.0 -49.0	-13.0 -13.0 -13.0	-36.7 -33.0 -36.0	Notes
(GHz) ow Channel 3.425 5.138 3.425 5.138 5.138 Mid Channel 3.465	(dBm) (1712.5MHz) -65.9 -65.5 -65.6 -65.7 1732.5MHz) -65.7	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0	© SG End (dBm) -16.0 -13.2 -15.4 -13.2 -15.8	34.6 33.8 34.6 33.8 34.6	1.0 1.0 1.0 1.0	49.7 46.0 49.0 46.0 49.4	-13.0 -13.0 -13.0 -13.0 -13.0	-36.7 -33.0 -36.0 -33.0 -36.4	Notes
(GHz) ow Channel 3.425 5.138 3.425 5.138 Vid Channel 3.465 5.198	(dBm) (1712.5MHz) -65.9 -65.5 -65.6 -65.7 1732.5MHz) -65.7 -66.0	(H/V) H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	© SG End (dBm) -16.0 -13.2 -15.4 -13.2 -15.8 -13.6	34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0	-49.7 -46.0 -49.0 -46.0 -49.4 -49.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.7 -33.0 -36.0 -33.0 -36.4 -33.4	Notes
(GHz) ow Channel 3.425 5.138 3.425 5.138 Wid Channel 3.465 5.198 3.465 5.198	(dBm) (1712.5MHz) -65.9 -65.5 -65.6 -65.7 -65.7 -65.7 -66.0 -65.2 -66.2	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -16.0 -13.2 -15.4 -13.2 -15.8 -13.6 -15.0	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0	-49.7 -46.0 -49.0 -46.0 -49.4 -46.4 -48.6	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.7 -33.0 -36.0 -33.0 -36.4 -33.4 -35.6	Notes
(GHz) ow Channel 3.425 5.138 3.425 5.138 Mid Channel 3.465 5.198 3.465 5.198 4ligh Channel	(dBm) (1712.5MHz) -65.9 -65.5 -65.6 -65.7 -66.7 -66.7 -66.0 -65.2 -66.2 (1752.5MHz)	(H/V) H H V V 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	@ SG End (dBm) -16.0 -13.2 -15.4 -13.2 -15.8 -13.6 -15.0 -13.6	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.7 46.0 49.0 46.0 49.4 49.4 46.4 48.6 46.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.7 -33.0 -36.0 -33.0 -36.4 -33.4 -35.6 -33.4	Notes
(GHz) ow Channel 3.425 5.138 3.425 5.138 Mid Channel 3.465 5.198 3.465 5.198 3.465 5.198 100 Channel 3.505	(dBm) (1712.5MHz) -65.9 -65.5 -65.6 -65.7 -65.7 -66.0 -65.2 -66.2 (1752.5MHz) -66.1	(H/V) H V V H H V V H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	© SG End (dBm) -16.0 -13.2 -15.4 -15.4 -15.8 -15.8 -15.0 -13.6 -15.0 -13.6 -15.0 -13.6	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.7 46.0 49.0 46.0 49.4 46.4 46.4 48.6 46.4 49.7	13.0 13.0 13.0 13.0 13.0 13.0 13.0 13.0	-36.7 -33.0 -36.0 -33.0 -36.4 -33.4 -35.6 -33.4 -35.6 -33.4 -35.6	Notes
(GHz) ow Channel 3.425 5.138 3.425 5.138 Wid Channel 3.465 5.198 3.465 5.198 High Channel	(dBm) (1712.5MHz) -65.9 -65.5 -65.6 -65.7 -66.7 -66.7 -66.0 -65.2 -66.2 (1752.5MHz)	(H/V) H H V V 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	@ SG End (dBm) -16.0 -13.2 -15.4 -13.2 -15.8 -13.6 -15.0 -13.6	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.7 46.0 49.0 46.0 49.4 49.4 46.4 48.6 46.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.7 -33.0 -36.0 -33.0 -36.4 -33.4 -35.6 -33.4	Notes

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# 16QAM EIRP POWER FOR LTE BAND 4 (5.0MHZ BANDWIDTH)

	44110107								
	•								
	LTE Dand 4, 56								
nent:									
	stitution, an	d 8ft SMA Ca	ble						
						_			
Chamb	ber	Pr	re-amplifer		Filter			Limit	
2m Chamber E		3m (	Chamber F	Filte	ar .		Part (	97	
Sill Chamber P	•					•	Fait	21	•
			Path Loss						
		-	Faultuss		1				
	Ant Bol	Distance	@ SC End	Dreamp	Attonuctor		Limit	Delte	Notos
/ SA reading	Ant. Pol.	Distance	@ SG End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(dBm)	Ant. Pol. (H/V)	Distance	@ SG End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(dBm)	(H/V)		(dBm)						Notes
(dBm) I (1712.5MHz) -66.7	(H/V) H	3.0	(dBm) -16.8	34.6	1.0	-50.5	-13.0	-37.5	Notes
(dBm) I (1712.5MHz) -66.7 -66.5	(H/V) H H	3.0 3.0	(dBm) -16.8 -14.2	34.6 33.8	1.0 1.0	-50.5 -47.0	-13.0 -13.0	-37.5 -34.0	Notes
(dBm) I (1712.5MHz) -66.7 -66.5 -66.6	(H/V) H	3.0 3.0 3.0	(dBm) -16.8 -14.2 -16.4	34.6 33.8 34.6	1.0 1.0 1.0	-50.5 -47.0 -50.0	-13.0 -13.0 -13.0	-37.5 -34.0 -37.0	Notes
(dBm) I (1712.5MHz) -66.7 -66.5	(H/V) H H V	3.0 3.0	(dBm) -16.8 -14.2	34.6 33.8	1.0 1.0	-50.5 -47.0	-13.0 -13.0	-37.5 -34.0	Notes
(dBm) I (1712.5MHz) -66.7 -66.5 -66.6	(H/V) H H V	3.0 3.0 3.0	(dBm) -16.8 -14.2 -16.4	34.6 33.8 34.6	1.0 1.0 1.0	-50.5 -47.0 -50.0	-13.0 -13.0 -13.0	-37.5 -34.0 -37.0	Notes
(dBm) I (1712.5MHz) -66.7 -66.5 -66.6 -66.8	(H/V) H H V	3.0 3.0 3.0	(dBm) -16.8 -14.2 -16.4	34.6 33.8 34.6	1.0 1.0 1.0	-50.5 -47.0 -50.0	-13.0 -13.0 -13.0	-37.5 -34.0 -37.0	Notes
(dBm) 1 (1712.5MHz) - 66.7 - 66.5 - 66.6 - 66.8 (1732.5MHz) - 66.7 - 67.0	(H/V) H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	(dBm) -16.8 -14.2 -16.4 -14.3 -16.8 -16.8 -14.6	34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0	-50.5 -47.0 -50.0 -47.1 -50.4 -47.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.5 -34.0 -37.0 -34.1 	Notes
(dBm) 1 (1712.5MHz) -66.7 -66.5 -66.6 -66.8 (1732.5MHz) -66.7 -67.0 -66.3	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	(dBm) -16.8 -14.2 -16.4 -14.3 -16.8 -14.6 -16.1	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.5 -47.0 -50.0 -47.1 -50.4 -50.4 -47.4 -49.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	37.5 34.0 37.0 34.1 37.4 34.4 36.7	Notes
(dBm) 1 (1712.5MHz) - 66.7 - 66.5 - 66.6 - 66.8 (1732.5MHz) - 66.7 - 67.0	(H/V) H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	(dBm) -16.8 -14.2 -16.4 -14.3 -16.8 -16.8 -14.6	34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0	-50.5 -47.0 -50.0 -47.1 -50.4 -47.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.5 -34.0 -37.0 -34.1 	Notes
(dBm) 1 (1712.5MHz) -66.7 -66.5 -66.6 -66.8 (1732.5MHz) -66.7 -67.0 -66.3 -67.1	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	(dBm) -16.8 -14.2 -16.4 -14.3 -16.8 -14.6 -16.1	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.5 -47.0 -50.0 -47.1 -50.4 -50.4 -47.4 -49.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	37.5 34.0 37.0 34.1 37.4 34.4 36.7	Notes
(dBm) 1 (1712.5MHz) -66.7 -66.5 -66.6 -66.8 (1732.5MHz) -66.7 -67.0 -66.3 -67.1 -67.1 1 (1752.5MHz)	(H/V) H H 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	(dBm) -16.8 -14.2 -16.4 -14.3 -16.8 -14.6 -16.1 -14.5	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.5 -47.0 -50.0 -47.1 -50.4 -47.4 -49.7 -47.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	37.5 34.0 37.0 34.1 37.4 34.4 36.7 34.3	Notes
(dBm) 1 (1712.5MHz) - 66.7 - 66.5 - 66.6 - 66.8 (1732.5MHz) - 66.7 - 67.0 - 66.3 - 67.1 - 67.1 - 67.0 - 67.0 - 66.3 - 67.1 - 66.3 - 67.1 - 67.1 - 67.0 - 66.3 - 67.0 - 66.3 - 67.0 - 70.0 - 7	(H/V) H H V V V 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	(dBm) -16.8 -14.2 -16.4 -14.3 -16.8 -14.6 -16.1 -14.5 -14.5	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.5 -47.0 -50.0 -47.1 -50.4 -47.4 -49.7 -47.3 -50.6	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	37.5 -34.0 -37.0 -34.1 	Notes
(dBm) 1 (1712.5MHz) -66.7 -66.5 -66.6 -66.8 (1732.5MHz) -66.7 -67.0 -66.3 -67.1 -67.1 1 (1752.5MHz)	(H/V) H H 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	(dBm) -16.8 -14.2 -16.4 -14.3 -16.8 -14.6 -16.1 -14.5	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.5 -47.0 -50.0 -47.1 -50.4 -47.4 -49.7 -47.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	37.5 34.0 37.0 34.1 37.4 34.4 36.7 34.3	Notes
	eer: on: <u>ment:</u> n: Horn T59 Sub Chamt	on: EUT Only LTE Band 4, 51 ment:	02/18/15 eer: T Wang on: EUT Only LTE Band 4, 5MHz 16QAM ment: n: Horn T59 Substitution, and 8ft SMA Ca Chamber	02/18/15 eer: T Wang on: EUT Only LTE Band 4, 5MHz 16QAM ment: n: Horn T59 Substitution, and 8ft SMA Cable Chamber 3m Chamber F	02/18/15 eer: T Wang on: EUT Only LTE Band 4, 5MHz 16QAM ment: n: Horn T59 Substitution, and 8ft SMA Cable Chamber 3m Chamber F v Filte	02/18/15 eer: T Wang on: EUT Only LTE Band 4, 5MHz 16QAM ment: n: Horn T59 Substitution, and 8ft SMA Cable Chamber 3m Chamber F v Filter Filter	02/18/15 eer: T Wang on: EUT Only LTE Band 4, 5MHz 16QAM ment: n: Horn T59 Substitution, and 8ft SMA Cable Chamber 3m Chamber F T Filter 3m Chamber F T	02/18/15 eer: T Wang on: EUT Only LTE Band 4, 5MHz 16QAM ment: n: Horn T59 Substitution, and 8ft SMA Cable Chamber Pre-amplifer Filter Part 3 3m Chamber F Pre-amplifer Filter Part 3	02/18/15     Deer:   T Wang     on:   EUT Only LTE Band 4, 5MHz 16QAM     ment:     n: Horn T59 Substitution, and 8ft SMA Cable     Chamber   Pre-amplifer     3m Chamber F   3m Chamber F     Image: Section of the section of

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# **QPSK EIRP POWER FOR LTE BAND 4 (10.0MHZ BANDWIDTH)**

	IHz QPSK							
nt: Horn T59 Substitution, and 8			1 💼					
Chamber		e-amplifer		Filter			Limit	
m Chamber F 🗸 🗸	3m C	Chamber F 🚽	, Filte	er	•	Part 2	27 🗸	
	,				-	1		
		Path Loss @ SG End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(dBm) (H/V) 1715MHz)		(dBm)	. <u> </u>	<u> </u>	<u> </u>		<u> </u>	
-65.1 H	3.0	-15.2	34.6	1.0	-48.8	-13.0	-35.8	
-65.8 H	3.0	-13.5	33.8	1.0	-46.3	-13.0	-33.3	
-65.7 V	3.0	-15.5	34.6	1.0	-49.1	-13.0	-36.1	
-66.2 V	3.0	-13.7	33.8	1.0	-46.5	-13.0	-33.5	
732.5MHz)					ļļ			
-65.2 H	3.0	-15.3	34.6	1.0	-48.9	-13.0	-35.9	
-66.2 H -65.1 V	3.0 3.0	-13.8 -14.9	33.8	1.0 1.0	-46.6	-13.0 -13.0	-33.6 -35.5	
-65.4 V	3.0	-14.9 -12.8	34.6 33.8	1.0	-48.5 -45.6	-13.0 -13.0	-30.0	
-0J.4 V	3.0	-12.0	33.0	1.0	-43.0	-13.0	-32.0	
1750MHz)								
		3.0 3.0 3.0 3.0 3.0	3.0 -16.3 3.0 -14.1 3.0 -15.9	3.0     -16.3     34.6       3.0     -14.1     33.8       3.0     -15.9     34.6	3.0     -16.3     34.6     1.0       3.0     -14.1     33.8     1.0       3.0     -15.9     34.6     1.0	3.0     -16.3     34.6     1.0     49.9       3.0     .14.1     33.8     1.0     .46.9       3.0     .15.9     34.6     1.0     .49.5	3.0     -16.3     34.6     1.0     -49.9     -13.0       3.0     -14.1     33.8     1.0     -46.9     -13.0       3.0     -15.9     34.6     1.0     -49.5     -13.0	3.0     -16.3     34.6     1.0     49.9     -13.0     -36.9       3.0     -14.1     33.8     1.0     46.9     -13.0     -33.9       3.0     -15.9     34.6     1.0     49.5     -13.0     -36.5

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## 16QAM EIRP POWER FOR LTE BAND 4 (10.0MHZ BANDWIDTH)

Company: Project #: Date: Fest Engin Configurat Mode:	eer: ion:	14U19187 02/18/15 T Wang EUT Only LTE Band 4, 1	0MHz 16QAM							
<u>Test Equip</u> Substitutio	<u>ment:</u> n: Horn T59 Sub	stitution, an	d 8ft SMA Ca	ble						
	Chambe	er	Pre	e-amplifer		Filter			Limit	
Γ	3m Chamber F	•	3m C	hamber F 🖵	Filter	•	ĺ	Part 27	1	•
							1	I		
Frequenc		Ant. Pol.	Distance	Path Loss @ SG End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	Ant. Pol. (H/V)	Distance		Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz) Low Channe	(dBm)	(H/V)		@ SG End (dBm)						Notes
(GHz)	(dBm)		Distance 3.0 3.0	@ SG End	Preamp 34.6 33.8	Attenuator	EIRP -49.7 -47.2	Limit -13.0 -13.0	Delta -36.7 -34.2	Notes
(GHz) Low Channe 3.430	(dBm) el (1715MHz) _66.0	(H/V) Н	3.0	@ SG End (dBm) -16.1	34.6	1.0	-49.7	-13.0	-36.7	Notes
(GHz) Low Channe 3.430 5.145	(dBm) el (1715MHz) -66.0 -66.7	(H/V) H H	3.0 3.0	@ SG End (dBm) -16.1 -14.4	34.6 33.8	1.0 1.0	-49.7 -47.2	-13.0 -13.0	-36.7 -34.2	Notes
(GHz) Low Channe 3.430 5.145 3.430 5.145	(dBm) (1715MHz) -66.0 -66.7 -66.6 -67.0	(H/V) H H V	3.0 3.0 3.0	@ SG End (dBm) -16.1 -14.4 -16.4	34.6 33.8 34.6	1.0 1.0 1.0	-49.7 -47.2 -50.0	-13.0 -13.0 -13.0	-36.7 -34.2 -37.0	Notes
(GHz) Low Channe 3.430 5.145 3.430 5.145 Mid Channe	(dBm) el (1715MHz) -66.0 -66.7 -66.7 -66.6 -67.0 - I (1732.5MHz)	(H/V) H H V V	3.0 3.0 3.0 3.0	@ SG End (dBm) -16.1 -14.4 -16.4 -14.5	34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0	49.7 47.2 -50.0 47.3	-13.0 -13.0 -13.0 -13.0	-36.7 -34.2 -37.0 -34.3	Notes
(GHz) Low Channe 3.430 5.145 3.430 5.145 Mid Channe 3.465	(dBm) el (1715MHz) -66.0 -66.7 -66.6 -67.0 - -67.0 - - - - - - - - - - - - - - - - - - -	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -16.1 -14.4 -16.4 -14.5 -16.4	34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0	-49.7 -47.2 -50.0 -47.3 -50.0	-13.0 -13.0 -13.0 -13.0 -13.0	-36.7 -34.2 -37.0 -34.3 -37.0	Notes
(GHz) Low Channe 3.430 5.145 3.430 5.145 Mid Channe 3.465 5.198	(dBm) el (1715MHz) -66.0 -66.7 -66.6 -67.0 I (1732.5MHz) -66.3 -67.1	(H/V) H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -16.1 -14.4 -16.4 -14.5 	34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0	49.7 47.2 -50.0 47.3 -50.0 47.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.7 -34.2 -37.0 -34.3 	Notes
(GHz) Low Channe 3.430 5.145 3.430 5.145 Mid Channe 3.465 5.198 3.465	(dBm) el (1715MHz) -66.0 -66.7 -66.6 -67.0 I (1732.5MHz) -66.3 -67.1 -66.1	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -16.1 -14.4 -14.5 -16.4 -14.5 -16.4 -14.7 -15.9	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.7 47.2 -50.0 47.3 -50.0 47.5 49.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	36.7 34.2 37.0 34.3 37.0 34.3 37.0 34.5 36.5	Notes
(GHz) Low Channe 3.430 5.145 3.430 5.145 Mid Channe 3.465 5.198	(dBm) el (1715MHz) -66.0 -66.7 -66.6 -67.0 I (1732.5MHz) -66.3 -67.1	(H/V) H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -16.1 -14.4 -16.4 -14.5 	34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0	49.7 47.2 -50.0 47.3 -50.0 47.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.7 -34.2 -37.0 -34.3 	Notes
(GHz) Low Channe 3.430 5.145 3.430 5.145 Mid Channe 3.465 5.198 3.465 5.198	(dBm) el (1715MHz) -66.0 -66.7 -66.6 -67.0 I (1732.5MHz) -66.3 -67.1 -66.1	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -16.1 -14.4 -14.5 -16.4 -14.5 -16.4 -14.7 -15.9	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.7 47.2 -50.0 47.3 -50.0 47.5 49.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	36.7 34.2 37.0 34.3 37.0 34.3 37.0 34.5 36.5	Notes
(GHz) ow Channe 3.430 5.145 3.430 5.145 Mid Channe 3.465 5.198 3.465 5.198	(dBm) el (1715MHz) -66.0 -66.7 -66.6 -67.0 -66.3 -67.1 -66.3 -67.1 -66.1 -66.5	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -16.1 -14.4 -14.5 -16.4 -14.5 -16.4 -14.7 -15.9	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.7 47.2 -50.0 47.3 -50.0 47.5 49.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	36.7 34.2 37.0 34.3 37.0 34.3 37.0 34.5 36.5	Notes
(GHz) Low Channe 3.430 5.145 3.430 5.145 Mid Channe 3.465 5.198 3.465 5.198 High Channe	(dBm) el (1715MHz) 	(H/V) H H V V 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	© SG End (dBm) -16.1 -14.4 -16.4 -14.5 -16.4 -14.7 -15.9 -13.9	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.7 47.2 -50.0 47.3 -50.0 47.5 49.5 49.5 49.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	36.7 34.2 37.0 34.3 -37.0 34.5 36.5 -33.7	Notes
(GHz) Low Channe 3.430 5.145 3.430 5.145 5.145 Mid Channe 3.465 5.198 3.465 5.198 4.65 5.198	(dBm) el (1715MHz) -66.0 -66.7 -66.6 -67.0 - -67.0 - -67.1 -66.3 -67.1 -66.1 -66.1 -66.5 - -67.1 -66.5 - -67.1 -66.5 - -67.1 -66.5 - -66.7 -66.3 -67.1 -66.3 -67.1 -66.3 -67.1 -66.3 -67.1 -66.3 -67.1 -66.3 -67.1 -66.3 -67.1 -66.3 -67.1 -66.3 -67.1 -66.3 -67.1 -66.3 -67.1 -66.3 -67.1 -66.3 -67.1 -66.3 -67.1 -66.3 -67.1 -66.3 -67.1 -66.3 -67.1 -66.3 -67.1 -66.3 -67.1 -66.5 -67.1 -67.1 -67.1	(H/V) H 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	© SG End (dBm) -16.1 -14.4 -14.5 -16.4 -14.5 -16.4 -14.7 -15.9 -13.9 -13.9 -17.1	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.7 47.2 -50.0 47.3 -50.0 47.5 -49.5 49.5 46.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	36.7 34.2 37.0 34.3 37.0 34.3 37.0 34.5 36.5 33.7 37.7	Notes

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# **QPSK EIRP POWER FOR LTE BAND 4 (15.0MHZ BANDWIDTH)**

Company: Project #: Date: Test Engine Configuratio Mode:	er: n:	14U19187 02/18/15 T Wang EUT Only LTE Band 4, 19	5MHz QPSK							
Test Equipm Substitution	<u>ent:</u> : Horn T59 Sub	stitution, an	id 8ft SMA Ca	ble						
							1			
	Chambe	ər	Pre	e-amplifer		Filter			Limit	
3	m Chamber F	-	3m Cl	hamber F 🚽	Filter	r -	1	Part 27	7	•
	-	Ant. Pol.	Distance	Path Loss @ SG End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	Ant. Pol. (H/V)	Distance		Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm) (1717.5MHz)	(H/V)		@ SG End (dBm)						Notes
(GHz) Low Channel 3.435	(dBm) (1717.5MHz) _66.5	(H/V) н	3.0	@ SG End (dBm) -16.6	34.6	1.0	-50.2	-13.0	-37.2	Notes
(GHz) Low Channel 3.435 5.153	(dBm) (1717.5MHz) -66.5 -67.5	(H/V) H H	3.0 3.0	@ SG End (dBm) -16.6 -15.2	34.6 33.8	1.0 1.0	-50.2 -48.0	-13.0 -13.0	-37.2 -35.0	Notes
Low Channel 3.435 5.153 3.435	(dBm) (1717.5MHz) _66.5	(H/V) н	3.0	@ SG End (dBm) -16.6 -15.2 -16.4	34.6 33.8 34.6	1.0	-50.2	-13.0	-37.2	Notes
(GHz) Low Channel 3.435 5.153	(dBm) (1717.5MHz) -66.5 -67.5 -66.6	(H/V) H H V	3.0 3.0 3.0	@ SG End (dBm) -16.6 -15.2	34.6 33.8	1.0 1.0 1.0	-50.2 -48.0 -50.0	-13.0 -13.0 -13.0	-37.2 -35.0 -37.0	Notes
(GHz) Low Channel 3.435 5.153 3.435 5.153	(dBm) (1717.5MHz) -66.5 -67.5 -66.6 -68.1	(H/V) H H V	3.0 3.0 3.0	@ SG End (dBm) -16.6 -15.2 -16.4	34.6 33.8 34.6	1.0 1.0 1.0	-50.2 -48.0 -50.0	-13.0 -13.0 -13.0	-37.2 -35.0 -37.0	Notes
(GHz) Low Channel 3.435 5.153 3.435	(dBm) (1717.5MHz) -66.5 -67.5 -66.6 -68.1	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -16.6 -15.2 -16.4	34.6 33.8 34.6	1.0 1.0 1.0	-50.2 -48.0 -50.0	-13.0 -13.0 -13.0	-37.2 -35.0 -37.0 -35.4 -37.1	Notes
(GHz) Low Channel 3.435 5.153 3.435 5.153 Mid Channel 3.465 5.198	(dBm) (1717.5MHz) -66.5 -67.5 -66.6 -68.1 1732.5MHz) -66.4 -67.5	(H/V) H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -16.6 -15.2 -16.4 -15.6 - -16.5 -15.1	34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0	-50.2 -48.0 -50.0 -48.4 -50.1 -50.1 -47.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.2 -35.0 -37.0 -35.4 -37.1 -34.9	Notes
(GHz) Low Channel 3.435 5.153 3.435 5.153 Mid Channel 3.465 5.198 3.465	(dBm) (1717.5MHz) -66.5 -67.5 -66.6 -68.1 1732.5MHz) -66.4 -67.5 -66.5	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -16.6 -15.2 -16.4 -15.6 - -16.5 -15.1 -16.3	34.6 33.8 34.6 33.8 34.6 33.8 34.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.2 -48.0 -50.0 -48.4 -50.1 -50.1 -47.9 -49.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.2 -35.0 -37.0 -35.4 -37.1 -34.9 -36.9	Notes
(GHz) Low Channel 3.435 5.153 3.435 5.153 Mid Channel 3.465 5.198	(dBm) (1717.5MHz) -66.5 -67.5 -66.6 -68.1 1732.5MHz) -66.4 -67.5	(H/V) H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -16.6 -15.2 -16.4 -15.6 - -16.5 -15.1	34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0	-50.2 -48.0 -50.0 -48.4 -50.1 -50.1 -47.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.2 -35.0 -37.0 -35.4 -37.1 -34.9	Notes
(GHz) Low Channel 3.435 5.153 3.435 5.153 Mid Channel 3.465 5.198 3.465 5.198	(dBm) (1717.5MHz) -66.5 -67.5 -66.6 -68.1 1732.5MHz) -66.4 -67.5 -66.5 -67.6	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -16.6 -15.2 -16.4 -15.6 - -16.5 -15.1 -16.3	34.6 33.8 34.6 33.8 34.6 33.8 34.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.2 -48.0 -50.0 -48.4 -50.1 -50.1 -47.9 -49.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.2 -35.0 -37.0 -35.4 -37.1 -34.9 -36.9	Notes
(GHz) ow Channel 3.435 5.153 3.435 5.153 Mid Channel 3.465 5.198 3.465 5.198 4ligh Channel	(dBm) (1717.5MHz) -66.5 -67.5 -66.6 -68.1 1732.5MHz) -66.4 -67.5 -66.5 -67.6 (1747.5MHz)	(H/V) H H V V V 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	@ SG End (dBm) -16.6 -15.2 -16.4 -15.6 -16.5 -15.1 -16.3 -15.0	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.2 -48.0 -50.0 -48.4 -50.1 -47.9 -49.9 -47.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.2 -35.0 -37.0 -35.4 -37.1 -34.9 -36.9 -34.8	Notes
(GHz) Low Channel 3.435 5.153 3.435 5.153 Mid Channel 3.465 5.198 3.465 5.198	(dBm) (1717.5MHz) -66.5 -67.5 -66.6 -68.1 1732.5MHz) -66.4 -67.5 -66.5 -67.6	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -16.6 -15.2 -16.4 -15.6 - -16.5 -15.1 -16.3	34.6 33.8 34.6 33.8 34.6 33.8 34.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.2 -48.0 -50.0 -48.4 -50.1 -50.1 -47.9 -49.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.2 -35.0 -37.0 -35.4 -37.1 -34.9 -36.9	Notes
(GHz) Low Channel 3.435 5.153 3.435 5.153 Mid Channel 3.465 5.198 3.465 5.198 High Channel 3.495	(dBm) (1717.5MHz) -66.5 -67.5 -66.6 -68.1 1732.5MHz) -66.4 -67.5 -66.5 -67.6 (1747.5MHz) -67.4	(H/V) H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -16.6 -15.2 -16.4 -15.6 -15.6 -15.1 -16.3 -15.0 -17.4	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.2 -48.0 -50.0 -48.4 -50.1 -47.9 -49.9 -47.8 -51.0	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.2 -35.0 -37.0 -35.4 -37.1 -34.9 -36.9 -34.8 -38.0	Notes

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# 16QAM EIRP POWER FOR LTE BAND 4 (15.0MHZ BANDWIDTH)

Company: Project #: Date: Test Engii Configura Mode:	neer: tion:	14U19187 02/18/15 T Wang EUT Only LTE Band 4, 19	5MHz 16QAM							
Test Equij Substitutio	oment:_ on: Horn T59 Sub	ostitution, an	d 8ft SMA Ca	ble						
	Chamb	er	Pr	e-amplifer		Filter			Limit	
Ĩ	3m Chamber F	•	3m C	hamber F 🖵	Filte	r .	·	Part 2	7 .	
,			I			1				
Frequend (GHz)	cy SA reading (dBm)	Ant. Pol. (H/V)	Distance	Path Loss @ SG End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
<u>, ,</u>	el (1717.5MHz)	()		()						
									20.2	
3.435	-67.6	н	3.0	-17.7	34.6	1.0	-51.3	-13.0	-38.3	
		H H	3.0 3.0	-17.7 -16.1	34.6 33.8	1.0 1.0	-51.3 -48.9	-13.0 -13.0	-38.3 -35.9	
3.435	-67.6								÷	
3.435 5.153	-67.6 -68.4	Н	3.0	-16.1	33.8	1.0	-48.9	-13.0	-35.9	
3.435 5.153 3.435 5.153	-67.6 -68.4 -67.7 -69.2	H V	3.0 3.0	-16.1 -17.5	33.8 34.6	1.0 1.0	-48.9 -51.1	-13.0 -13.0	-35.9 -38.1	
3.435 5.153 3.435 5.153 Mid Channe	-67.6 -68.4 -67.7 -69.2 el (1732.5MHz)	H V V	3.0 3.0 3.0	-16.1 -17.5 -16.7	33.8 34.6 33.8	1.0 1.0 1.0	-48.9 -51.1 -49.5	-13.0 -13.0 -13.0	-35.9 -38.1 -36.5	
3.435 5.153 3.435 5.153 Mid Channe 3.465	-67.6 -68.4 -67.7 -69.2 el (1732.5MHz) -67.5	H V V	3.0 3.0 3.0 3.0	-16.1 -17.5 -16.7 -17.6	33.8 34.6 33.8 34.6	1.0 1.0 1.0	_48.9 _51.1 _49.5 _51.2	-13.0 -13.0 -13.0 -13.0	-35.9 -38.1 -36.5 -38.2	
3.435 5.153 3.435 5.153 Mid Channe 3.465 5.198	-67.6 -68.4 -67.7 -69.2 el (1732.5MHz) -67.5 -68.4	H V V H	3.0 3.0 3.0 3.0 3.0 3.0	-16.1 -17.5 -16.7 -17.6 -17.6 -16.0	33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0	-48.9 -51.1 -49.5 -51.2 -48.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.9 -38.1 -36.5 	
3.435 5.153 3.435 5.153 Mid Channe 3.465 5.198 3.465	-67.6 -68.4 -67.7 -69.2 el (1732.5MHz) -67.5	H V V	3.0 3.0 3.0 3.0	-16.1 -17.5 -16.7 -17.6 -17.6 -16.0 -17.4	33.8 34.6 33.8 34.6 33.8 34.6	1.0 1.0 1.0	_48.9 _51.1 _49.5 _51.2	-13.0 -13.0 -13.0 -13.0	-35.9 -38.1 -36.5 -38.2	
3.435 5.153 3.435 5.153 Mid Channe 3.465 5.198 3.465 5.198	-67.6 -68.4 -67.7 -69.2 -67.5 -67.5 -68.4 -67.6 -68.7	H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-16.1 -17.5 -16.7 -17.6 -17.6 -16.0	33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0	48.9 -51.1 49.5 -51.2 48.8 -51.0	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.9 -38.1 -36.5 -38.2 -35.8 -38.0	
3.435 5.153 3.435 5.153 Mid Channe 3.465 5.198 3.465 5.198 High Chann	-67.6 -68.4 -67.7 -69.2 -69.2 -67.5 -68.4 -67.6 -68.7 -68.7 -68.7 -68.7	H V V H H V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-16.1 -17.5 -16.7 -17.6 -16.0 -17.4 -16.1	33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	48.9 -51.1 49.5 -51.2 48.8 -51.0 48.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.9 -38.1 -36.5 -38.2 -35.8 -38.0 -35.9	
3.435 5.153 3.435 5.153 Mid Channe 3.465 5.198 3.465 5.198 High Chanr 3.495	-67.6 -68.4 -67.7 -69.2 -67.5 -68.4 -67.6 -68.4 -67.6 -68.7 -68.7 -68.5	H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-16.1 -17.5 -16.7 -17.6 -16.0 -17.4 -16.1 -18.5	33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	48.9 -51.1 49.5 -51.2 48.8 -51.0 48.9 -52.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	.35.9 .38.1 .36.5 .38.2 .35.8 .38.0 .35.9 .39.1	
3.435 5.153 3.435 5.153 Mid Channe 3.465 5.198 3.465 5.198 High Chann	-67.6 -68.4 -67.7 -69.2 -69.2 -67.5 -68.4 -67.6 -68.7 -68.7 -68.7 -68.7	H V V H H V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-16.1 -17.5 -16.7 -17.6 -16.0 -17.4 -16.1	33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	48.9 -51.1 49.5 -51.2 48.8 -51.0 48.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.9 -38.1 -36.5 -38.2 -35.8 -38.0 -35.9	

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# **QPSK EIRP POWER FOR LTE BAND 4 (20.0MHZ BANDWIDTH)**

		UL Fr	emont Radi	iated Chamb	er					
Company: Project #:		14U19187								
Date:		02/18/15								
Test Engine		T Wang								
Configuratio		EUT Only								
Mode:		LTE Band 4, 20	0MHz QPSK							
Test Equipn										
Substitution	n: Horn T59 Sub	stitution, and	d 8ft SMA Ca	ıble						
	Chamb	her	Pi	re-amplifer		Filter			Limit	
_					-					
	3m Chamber F	-	3m (	Chamber F	- Filt	er	-	Part	27	•
I								,		
				Path Loss						
	-	Ant. Pol.	Distance	@ SG End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	Ant. Pol. (H/V)	Distance	1 1	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel	(dBm) (1720MHz)	(H/V)		@ SG End	Preamp		EIRP			Notes
(GHz) Low Channel 3.440	(dBm) (1720MHz) _67.9	(H/V) H	3.0	@ SG End (dBm) -18.0	34.6	1.0	-51.6	-13.0	-38.6	Notes
(GHz) Low Channel 3.440 5.160	(dBm) (1720MHz) _67.9 _67.9	(H/V) Н Н	3.0 3.0	@ SG End (dBm) -18.0 -15.6	34.6 33.8	1.0 1.0	-51.6 -48.4	-13.0 -13.0	-38.6 -35.4	Notes
(GHz) Low Channel 3.440 5.160 3.440	(dBm) (1720MHz) -67.9 -67.9 -66.9	(H/V) H H V	3.0 3.0 3.0	@ SG End (dBm) -18.0 -15.6 -16.7	34.6 33.8 34.6	1.0 1.0 1.0	-51.6 -48.4 -50.3	-13.0 -13.0 -13.0	-38.6 -35.4 -37.3	Notes
(GHz) Low Channel 3.440 5.160	(dBm) (1720MHz) _67.9 _67.9	(H/V) Н Н	3.0 3.0	@ SG End (dBm) -18.0 -15.6	34.6 33.8	1.0 1.0	-51.6 -48.4	-13.0 -13.0	-38.6 -35.4	Notes
(GHz) Low Channel 3.440 5.160 3.440 5.160	(dBm) (1720MHz) -67.9 -67.9 -66.9 -68.0	(H/V) H H V	3.0 3.0 3.0	@ SG End (dBm) -18.0 -15.6 -16.7	34.6 33.8 34.6	1.0 1.0 1.0	-51.6 -48.4 -50.3	-13.0 -13.0 -13.0	-38.6 -35.4 -37.3	Notes
(GHz) Low Channel 3.440 5.160 3.440 5.160 Mid Channel	(dBm) (1720MHz) 67.9 66.9 68.0 (1732.5MHz)	(H/V) H H V V	3.0 3.0 3.0 3.0	@ SG End (dBm) -18.0 -15.6 -16.7 -15.5	34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0	-51.6 -48.4 -50.3 -48.3	-13.0 -13.0 -13.0 -13.0	-38.6 -35.4 -37.3 -35.3	Notes
(GHz) Low Channel 3.440 5.160 3.440 5.160 Mid Channel 3.465	(dBm) (1720MHz) -67.9 -66.9 -68.0 (1732.5MHz) -66.7	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.0 -15.6 -16.7 -15.5 - -16.8	34.6 33.8 34.6 33.8 34.6	1.0 1.0 1.0 1.0	-51.6 -48.4 -50.3 -48.3 -50.4	-13.0 -13.0 -13.0 -13.0 -13.0	-38.6 -35.4 -37.3 -35.3 -37.4	Notes
(GHz) Low Channel 3.440 5.160 3.440 5.160 Mid Channel 3.465 5.198	(dBm) (1720MHz) -67.9 -66.9 -68.0 (1732.5MHz) -66.7 -67.2	(H/V) H H V V H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.0 -15.6 -16.7 -15.5 - - - - - - - - - - - - - - - - - -	34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0	-51.6 -48.4 -50.3 -48.3 -50.4 -50.4 -47.6	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-38.6 -35.4 -37.3 -35.3 -37.4 -34.6	Notes
(GHz) Low Channel 3.440 5.160 3.440 5.160 Mid Channel 3.465 5.198 3.465	(dBm) (1720MHz) -67.9 -66.9 -68.0 (1732.5MHz) -66.7 -67.2 -67.0	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.0 -15.6 -16.7 -15.5 	34.6 33.8 34.6 33.8 	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-51.6 -48.4 -50.3 -48.3 -50.4 -50.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-38.6 -35.4 -37.3 -35.3 -37.4 -34.6 -37.4	Notes
(GHz) Low Channel 3.440 5.160 3.440 5.160 Mid Channel 3.465 5.198	(dBm) (1720MHz) -67.9 -66.9 -68.0 (1732.5MHz) -66.7 -67.2	(H/V) H H V V V H H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.0 -15.6 -16.7 -15.5 - - - - - - - - - - - - - - - - - -	34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0	-51.6 -48.4 -50.3 -48.3 -50.4 -50.4 -47.6	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-38.6 -35.4 -37.3 -35.3 -37.4 -34.6	Notes
(GHz) Low Channel 3.440 5.160 3.440 5.160 Mid Channel 3.465 5.198 3.465 5.198 High Channe	(dBm) (1720MHz) -67.9 -66.9 -66.0 (1732.5MHz) -66.7 -67.2 -67.0 -67.5 -67.5	(H/V) H H V V V 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	@ SG End (dBm) -18.0 -15.6 -15.5 -16.7 -15.5 - -16.8 -14.8 -16.8 -14.9	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-51.6 -48.4 -50.3 -48.3 -50.4 -50.4 -47.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-38.6 -35.4 -37.3 -35.3 -37.4 -34.6 -37.4 -34.7	Notes
(GHz) Low Channel 3.440 5.160 3.440 5.160 Mid Channel 3.465 5.198 3.465 5.198 High Channe 3.490	(dBm) (1720MHz) -67.9 -67.9 -66.9 -68.0 (1732.5MHz) -66.7 -67.2 -67.0 -67.5 (1745MHz) -67.8	(H/V) H H V V H H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.0 -15.6 -16.7 -16.7 -15.5 - - - - - 16.8 - 14.8 - 16.8 - 14.9 - 17.8	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-51.6 48.4 -50.3 48.3 -50.4 47.6 -50.4 47.7 -51.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-38.6 -35.4 -37.3 -35.3 -37.4 -34.6 -37.4 -34.7 -38.4	Notes
(GHz) Low Channel 3.440 5.160 3.440 5.160 Mid Channel 3.465 5.198 High Channe 3.490 5.235	(dBm) (1720MHz) -67.9 -66.9 -66.0 (1732.5MHz) -66.7 -67.2 -67.5 (1745MHz) -67.8 -67.9	(H/V) H H 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	@ SG End (dBm) -18.0 -15.6 -16.7 -15.5 -16.8 -14.8 -16.8 -14.9 -17.8 -15.5	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-51.6 -48.4 -50.3 -48.3 -50.4 -50.4 -50.4 -50.4 -47.7 -51.4 -48.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-38.6 -35.4 -37.3 -35.3 -37.4 -34.6 -37.4 -34.7 -38.4 -35.3	Notes
(GHz) Low Channel 3.440 5.160 3.440 5.160 Mid Channel 3.465 5.198 3.465 5.198 High Channe 3.490	(dBm) (1720MHz) -67.9 -67.9 -66.9 -68.0 (1732.5MHz) -66.7 -67.2 -67.0 -67.5 (1745MHz) -67.8	(H/V) H H V V H H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.0 -15.6 -16.7 -16.7 -15.5 - - - - - 16.8 - 14.8 - 16.8 - 14.9 - 17.8	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-51.6 48.4 -50.3 48.3 -50.4 47.6 -50.4 47.7 -51.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-38.6 -35.4 -37.3 -35.3 -37.4 -34.6 -37.4 -34.7 -38.4	Notes

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# 16QAM EIRP POWER FOR LTE BAND 4 (20.0MHZ BANDWIDTH)

		ULFI	emont Radi	ated Chambe	ſ					
Company:										
Project #:		14U19187								
Date:		02/18/15								
Test Engine	er:	T Wang								
Configuratio	n:	EUT Only								
Node:		LTE Band 4, 2	0MHz 16QAM							
<u>Fest Equipm</u> Substitution:	<u>ent:</u> Horn T59 Sub	ostitution, an	d 8ft SMA Ca	ble						
	Chamb	er	Pr	e-amplifer		Filter			Limit	
3	n Chamber F	-	3m C	hamber F 🖵	Filter	r 🗸	ł	Part 27	7	•
							1			
				Path Loss						
Frequency	SA reading	Ant Pol	Distance	Path Loss @ SG End	Preamp	Attenuator	FIRP	l imit	Delta	Notes
	-	Ant. Pol.	Distance	@ SG End	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	Ant. Pol. (H/V)	Distance		Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz) Low Channel	(dBm) (1720MHz)	(H/V)		@ SG End (dBm)	-					Notes
(GHz) Low Channel 3.440	(dBm) (1720MHz) _68.8	(H/V) Н	3.0	@ SG End (dBm) -18.9	34.6	1.0	-52.5	-13.0	-39.5	Notes
(GHz) Low Channel 3.440 5.160	(dBm) (1720MHz) -68.8 -68.9	(H/V) H H	3.0 3.0	@ SG End (dBm) -18.9 -16.6	34.6 33.8	1.0 1.0	-52.5 -49.4	-13.0 -13.0	-39.5 -36.4	Notes
Low Channel 3.440 5.160 3.440	(dBm) (1720MHz) _68.8	(H/V) Н	3.0	@ SG End (dBm) -18.9 -16.6 -17.7	34.6 33.8 34.6	1.0	-52.5 -49.4 -51.3	-13.0 -13.0 -13.0	-39.5 -36.4 -38.3	Notes
(GHz) Low Channel 3.440 5.160	(dBm) (1720MHz) -68.8 -68.9 -67.9	(H/V) H H V	3.0 3.0 3.0	@ SG End (dBm) -18.9 -16.6	34.6 33.8	1.0 1.0 1.0	-52.5 -49.4	-13.0 -13.0	-39.5 -36.4	Notes
(GHz) ow Channel 3.440 5.160 3.440 5.160	(dBm) (1720MHz) -68.8 -68.9 -67.9 -69.1	(H/V) H H V	3.0 3.0 3.0	@ SG End (dBm) -18.9 -16.6 -17.7	34.6 33.8 34.6	1.0 1.0 1.0	-52.5 -49.4 -51.3	-13.0 -13.0 -13.0	-39.5 -36.4 -38.3	Notes
(GHz) ow Channel 3.440 5.160 3.440 5.160	(dBm) (1720MHz) -68.8 -68.9 -67.9 -69.1	(H/V) H H V	3.0 3.0 3.0	@ SG End (dBm) -18.9 -16.6 -17.7	34.6 33.8 34.6	1.0 1.0 1.0	-52.5 -49.4 -51.3	-13.0 -13.0 -13.0	-39.5 -36.4 -38.3	Notes
(GHz) Low Channel 3.440 5.160 3.440 5.160 Mid Channel (	(dBm) (1720MHz) -68.8 -68.9 -67.9 -69.1 1732.5MHz)	(H/V) H H V V	3.0 3.0 3.0 3.0	@ SG End (dBm) -18.9 -16.6 -17.7 -16.6	34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0	-52.5 49.4 -51.3 49.4	-13.0 -13.0 -13.0 -13.0	-39.5 -36.4 -38.3 -36.4	Notes
(GHz) Low Channel 3.440 5.160 3.440 5.160 Mid Channel ( 3.465	(dBm) (1720MHz) -68.8 -67.9 -67.9 -69.1 1732.5MHz) -67.6	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.9 -16.6 -17.7 -16.6 - -17.7	34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0	-52.5 49.4 -51.3 49.4 -51.3	-13.0 -13.0 -13.0 -13.0 -13.0	-39.5 -36.4 -38.3 -36.4 -38.3	Notes
(GHz) Low Channel 3.440 5.160 3.440 5.160 Mid Channel ( 3.465 5.198	(dBm) (1720MHz) -68.8 -68.9 -67.9 -69.1 1732.5MHz) -67.6 -67.3	(H/V) H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.9 -16.6 -17.7 -16.6 - - -17.7 -14.9	34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0	-52.5 49.4 -51.3 49.4 -51.3 -51.3 47.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-39.5 -36.4 -38.3 -36.4 -38.3 -36.4 -38.3 -34.7	Notes
(GHz) Low Channel 3.440 5.160 3.440 5.160 Mid Channel ( 3.465 5.198 3.465 5.198	(dBm) (1720MHz) -68.8 -68.9 -67.9 -67.9 -67.6 -67.3 -67.3 -67.9 -68.5	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.9 -16.6 -17.7 -16.6 - - -17.7 -14.9 -17.7	34.6 33.8 34.6 33.8 34.6 33.8 34.6 34.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0	-52.5 49.4 -51.3 49.4 -51.3 -51.3 47.7 -51.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-39.5 -36.4 -38.3 -36.4 -38.3 -38.3 -34.7 -38.3	Notes
(GHz) ow Channel 3.440 5.160 3.440 5.160 Wid Channel ( 3.465 5.198 3.465 5.198 41gh Channel	(dBm) (1720MHz) -68.8 -68.9 -67.9 -67.9 -67.9 -67.6 -67.3 -67.3 -67.9 -68.5 -67.3 -67.9 -68.5 -67.3 -67.9 -68.5 -67.9 -68.5	(H/V) H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.9 -16.6 -17.7 -16.6 -17.7 -14.9 -17.7 -15.9	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-52.5 -49.4 -51.3 -49.4 -51.3 -49.4 -51.3 -47.7 -51.3 -48.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-39.5 -36.4 -38.3 -36.4 -38.3 -34.7 -38.3 -34.7 -38.3 -35.7	Notes
(GHz) ow Channel 3.440 5.160 3.440 5.160 Wid Channel ( 3.465 5.198 3.465 5.198 3.465 5.198	(dBm) (1720MHz) -68.8 -68.9 -67.9 -67.9 -69.1 -732.5MHz) -67.6 -67.3 -67.3 -67.9 -68.5 (1745MHz) -68.8	(H/V) H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.9 -16.6 -17.7 -16.6 - - -17.7 -14.9 -17.7 -15.9 - - 18.8	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-52.5 49.4 -51.3 49.4 -51.3 49.4 -51.3 47.7 -51.3 48.7 -52.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-39.5 -36.4 -38.3 -36.4 -38.3 -34.7 -38.3 -35.7 -39.4	Notes
(GHz) Low Channel 3.440 5.160 3.440 5.160 Mid Channel ( 3.465 5.198 3.465 5.198 3.465 5.198 High Channel 3.490 5.235	(dBm) (1720MHz) -68.8 -68.9 -67.9 -67.9 -67.6 -67.3 -67.3 -67.9 -68.5 (1745MHz) -68.8 -68.8 -68.9	(H/V) H H V V V H H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.9 -16.6 -17.7 -16.6 - - -17.7 -14.9 -17.7 -14.9 -17.7 -15.9 - - - 18.8 -16.5	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-52.5 -49.4 -51.3 -49.4 -51.3 -49.4 -51.3 -41.7 -51.3 -48.7 -52.4 -49.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-39.5 -36.4 -38.3 -36.4 -38.3 -34.7 -38.3 -35.7 -39.4 -36.3	Notes
(GHz) Low Channel 3.440 5.160 3.440 5.160 Mid Channel ( 3.465 5.198 3.465 5.198 4.455 5.198 4.455 5.198	(dBm) (1720MHz) -68.8 -68.9 -67.9 -67.9 -69.1 -732.5MHz) -67.6 -67.3 -67.3 -67.9 -68.5 (1745MHz) -68.8	(H/V) H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	@ SG End (dBm) -18.9 -16.6 -17.7 -16.6 - - -17.7 -14.9 -17.7 -15.9 - - 18.8	34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6 33.8 34.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-52.5 49.4 -51.3 49.4 -51.3 49.4 -51.3 47.7 -51.3 48.7 -52.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-39.5 -36.4 -38.3 -36.4 -38.3 -34.7 -38.3 -35.7 -39.4	Notes

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# 9.3.3. LTE BAND 5

#### **QPSK EIRP POWER FOR LTE BAND 5 (1.4MHZ BANDWIDTH)**

Date: 0 Test Engineer: F Configuration: E		14U19187 02/19/15 F. Guarnero EUT Only LTE Band 5,	12/19/15 F. Guamero								
<u>Fest Equip</u> Substitutio	<u>ment:</u> n: Horn T59 Sul	ostitution, a	nd 8ft SMA C	able							
	Chambe	er	Pr	e-amplifer		Filter		Limit			
Γ	Im Chamber F		3m C	hamber F 🖵	Filte	r -		Part 22		•	
Frequenc (GHz)	y SA reading (dBm)	Ant. Pol. (H/V)	Distance	Path Loss @ SG End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes	
	el (824.7MHz)	·									
1.65	-57.1	H	3.0	-13.4	33.7	1.0	-46.1	-13.0	-33.1		
1.72 2.51	-57.4	H	3.0 3.0	-13.0 -18.7	33.7 34.1	1.0 1.0	-45.7 -51.8	-13.0 -13.0	-32.7 -38.8		
2.51	-66.9	п Н	3.0	-16.7 -19.5	34.1	1.0	-31.6 -52.6	-13.0	-30.0 -39.6		
1.65	-57.1	v	3.0	-11.1	33.7	1.0	-43.8	-13.0	-30.8		
1.72	-56.9	V	3.0	-10.7	33.7	1.0	-43.4	-13.0	-30.4		
2.44	-63.6	V	3.0	-15.6	34.0	1.0	-48.7	-13.0	-35.7		
2.47	-66.4	V	3.0	-18.4	34.1	1.0	-51.5	-13.0	-38.5		
lid Channe	I (836.5MHz)	<u>l</u>		-							
1.67	-60.9	Н	3.0	-16.9	33.7	1.0	-49.6	-13.0	-36.6		
1.72	-57.7	H	3.0	-13.3	33.7	1.0	-45.9	-13.0	-32.9		
2.51	-66.7	Н	3.0	-19.1	34.1	1.0	-52.3	-13.0	-39.3		
1.67	-67.8	V	3.0	-21.7	33.7	1.0	-54.4	-13.0	-41.4		
1.73 2.44	-61.2 -63.6	V V	3.0 3.0	-15.0 -15.7	33.7 34.0	1.0 1.0	-47.7 -48.7	-13.0 -13.0	-34.7 -35.7		
2.51	-68.3	V	3.0	-13.7 -20.2	34.0	1.0	-40.7	-13.0	-55.7 -40.3		
		v									
ligh Chann	el (848.3MHz)	L		-							
1.70	-62.7	Н	3.0	-18.5	33.7	1.0	-51.2	-13.0	-38.2		
1.73	-58.4	H	3.0	-14.0	33.7	1.0	-46.6	-13.0	-33.6		
2.55 1.70	-67.3 -62.7	H V	3.0 3.0	-19.7 -16.6	34.2 33.7	1.0 1.0	-52.8 -49.2	-13.0 -13.0	-39.8 -36.2		
1.72	-57.8	V	3.0	-10.0	33.7	1.0	-45.2	-13.0	-30.2 -31.2		
	-63.3	V	3.0	-15.4	34.0	1.0	-48.4	-13.0	-35.4		
2.44 2.54	-62.3	V	3.0	-14.1	34.1	1.0	-47.2	-13.0	-34.2		

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#### REPORT NO: 14U19187-E9C EUT MODEL: A1550

# 16QAM EIRP POWER FOR LTE BAND 5 (1.4MHZ BANDWIDTH)

Company:										
Project #: 14U19187		14U19187								
Date: 02/19/15										
Configuration: EUT Only		F. Guarnero								
		EUT Only LTE Band 5, 1.4MHz 16QAM								
Node:		LTE Band 5, 1	.4MHz 16QAM							
Test Equip										
Substitutio	n: Horn T59 Sul	bstitution, ar	id 8ft SMA Ca	ble						
	Chamber		Pre-amplifer Filter							
	3m Chamber F	•	3m C	Chamber F 🚽	Filte	r	•	Part 2	2	•
				<b>B</b>						
Frequenc (GHz)	y SA reading (dBm)	Ant. Pol. (H/V)	Distance	Path Loss @ SG End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
	el (824.7MHz)			(ubiii)						
1.65	-58.3	Н	3.0	-14.6	33.7	1.0	-47.3	-13.0	-34.3	
1.72	-57.9	Н	3.0	-13.5	33.7	1.0	-46.2	-13.0	-33.2	
2.51	-66.9	Н	3.0	-19.4	34.1	1.0	-52.5	-13.0	-39.5	
2.47	-67.7	Н	3.0	-20.3	34.0	1.0	-53.4	-13.0	-40.4	
1.65	-57.8	V	3.0	-11.8	33.7	1.0	-44.5	-13.0	-31.5	
1.72 2.44	-57.5 -64.9	v v	3.0 3.0	-11.3 -16.9	33.7 34.0	1.0 1.0	-44.0 -50.0	-13.0 -13.0	-31.0 -37.0	
2.44	-64.9	V	3.0	-10.9	34.0	1.0	-50.0	-13.0	-39.2	
		1								
	l (836.5MHz)	· · ·								
1.67 1.72	-61.7	H	3.0	-17.7 -15.1	33.7 33.7	1.0	-50.4	-13.0	-37.4 -34.8	
2.51	-59.5 -67.0	H H	3.0 3.0	-10.1 -19.4	33.7	1.0 1.0	-47.8 -52.6	-13.0 -13.0	-34.8 -39.6	
1.67	-68.6	v	3.0	-22.6	33.7	1.0	-52.0	-13.0	-42.3	
1.73	-61.6	v	3.0	-15.4	33.7	1.0	-48.0	-13.0	-35.0	
2.44	-64.0	V	3.0	-16.0	34.0	1.0	-49.1	-13.0	-36.1	
2.51	-68.6	V	3.0	-20.5	34.1	1.0	-53.6	-13.0	-40.6	
ligh Chann	el (848.3MHz)	l								
1.70	-63.5	Н	3.0	-19.3	33.7	1.0	-52.0	-13.0	-39.0	
	-58.9	H	3.0	-14.5	33.7	1.0	-47.1	-13.0	-34.1	
1.73	-67.8 -63.9	H V	3.0 3.0	-20.2 -17.8	34.2 33.7	1.0 1.0	-53.3 -50.4	-13.0 -13.0	-40.3 -37.4	
2.55	-58.9	V	3.0	-17.8 -12.7	33.7	1.0	-30.4 -45.3	-13.0 -13.0	-37.4 -32.3	
2.55 1.70		V	3.0	-15.9	34.0	1.0	-48.9	-13.0	-35.9	
2.55	-63.9 -63.0	V	3.0	-14.8	34.1	1.0	-47.9	-13.0	-34.9	

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