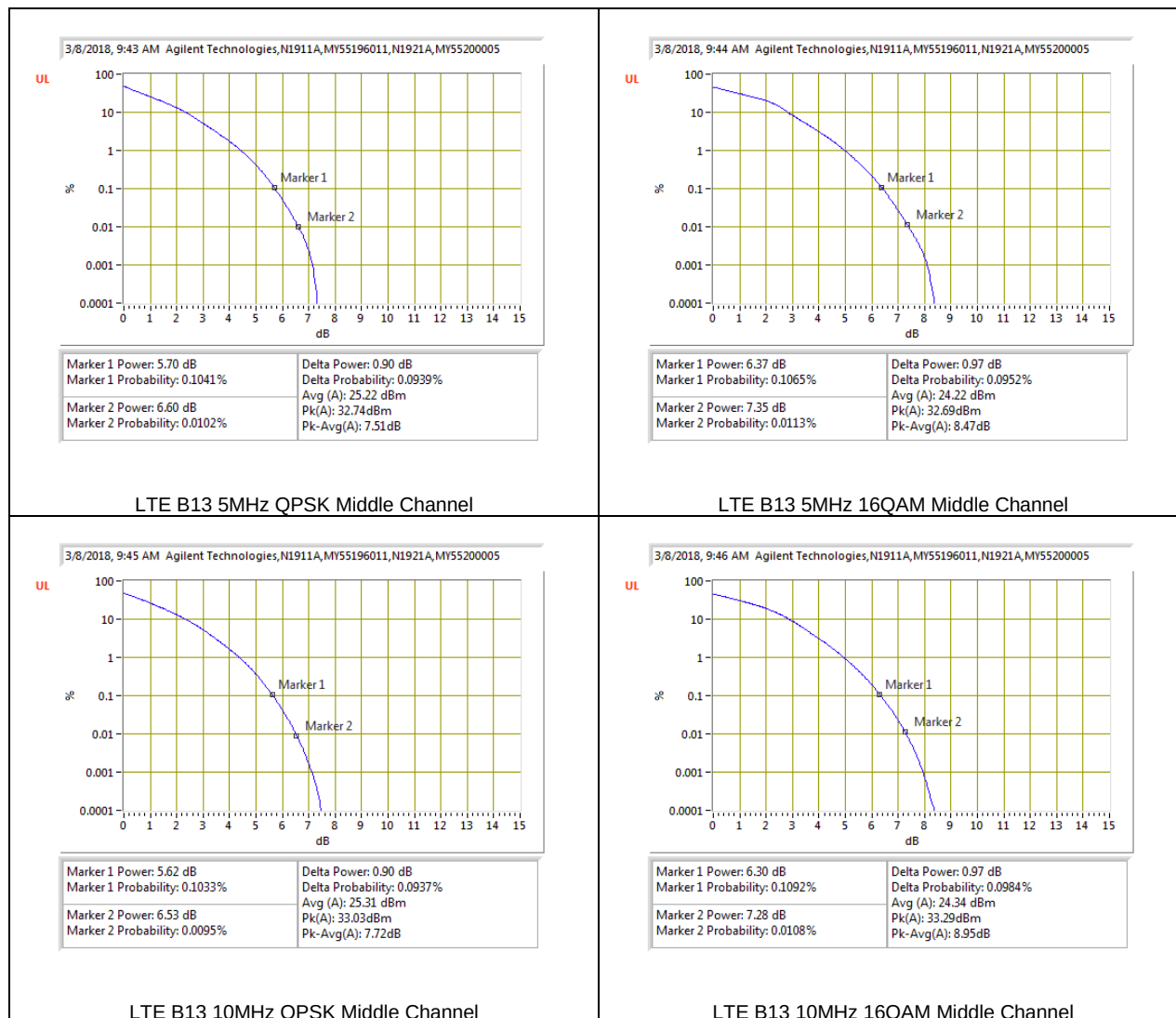
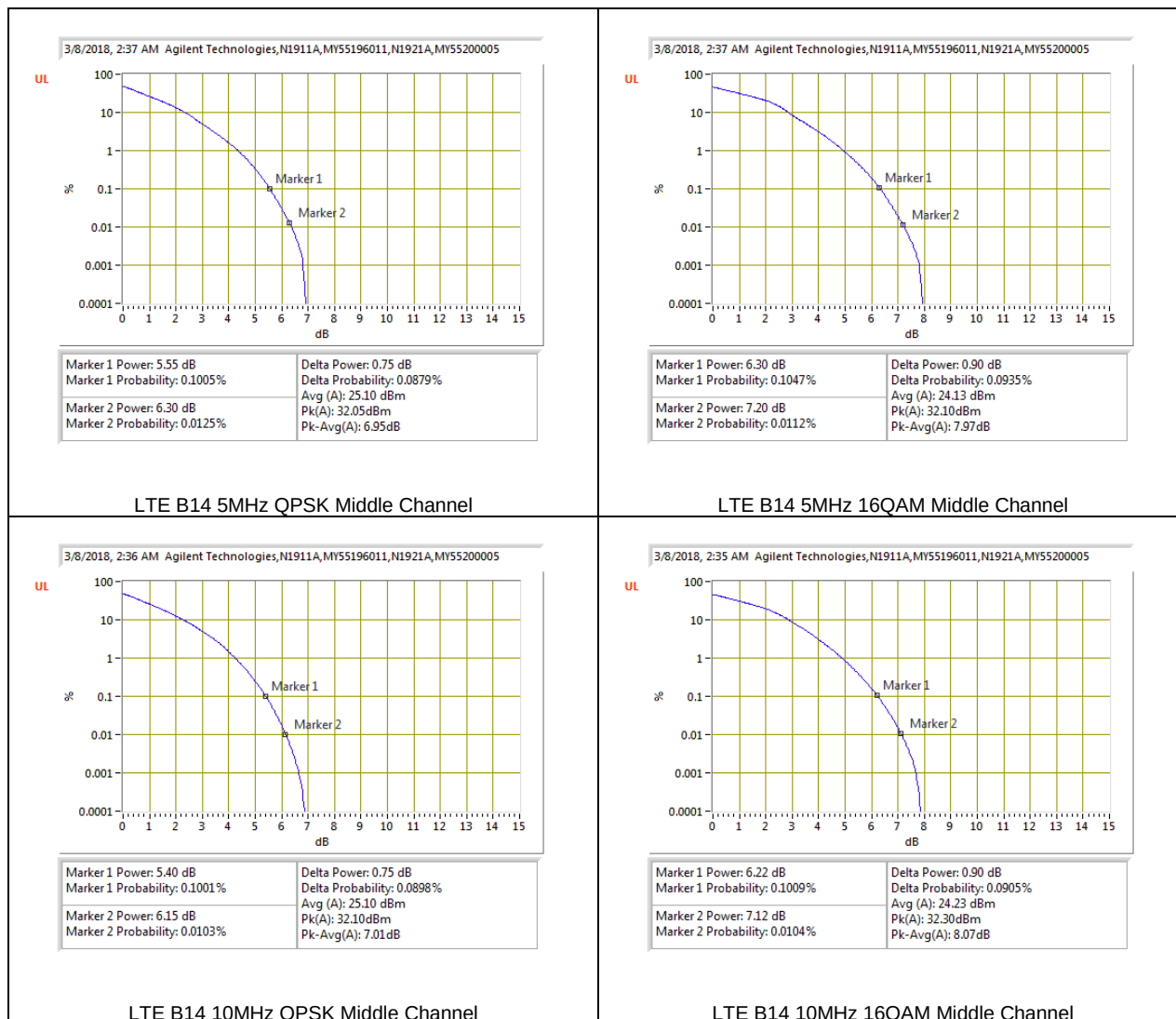


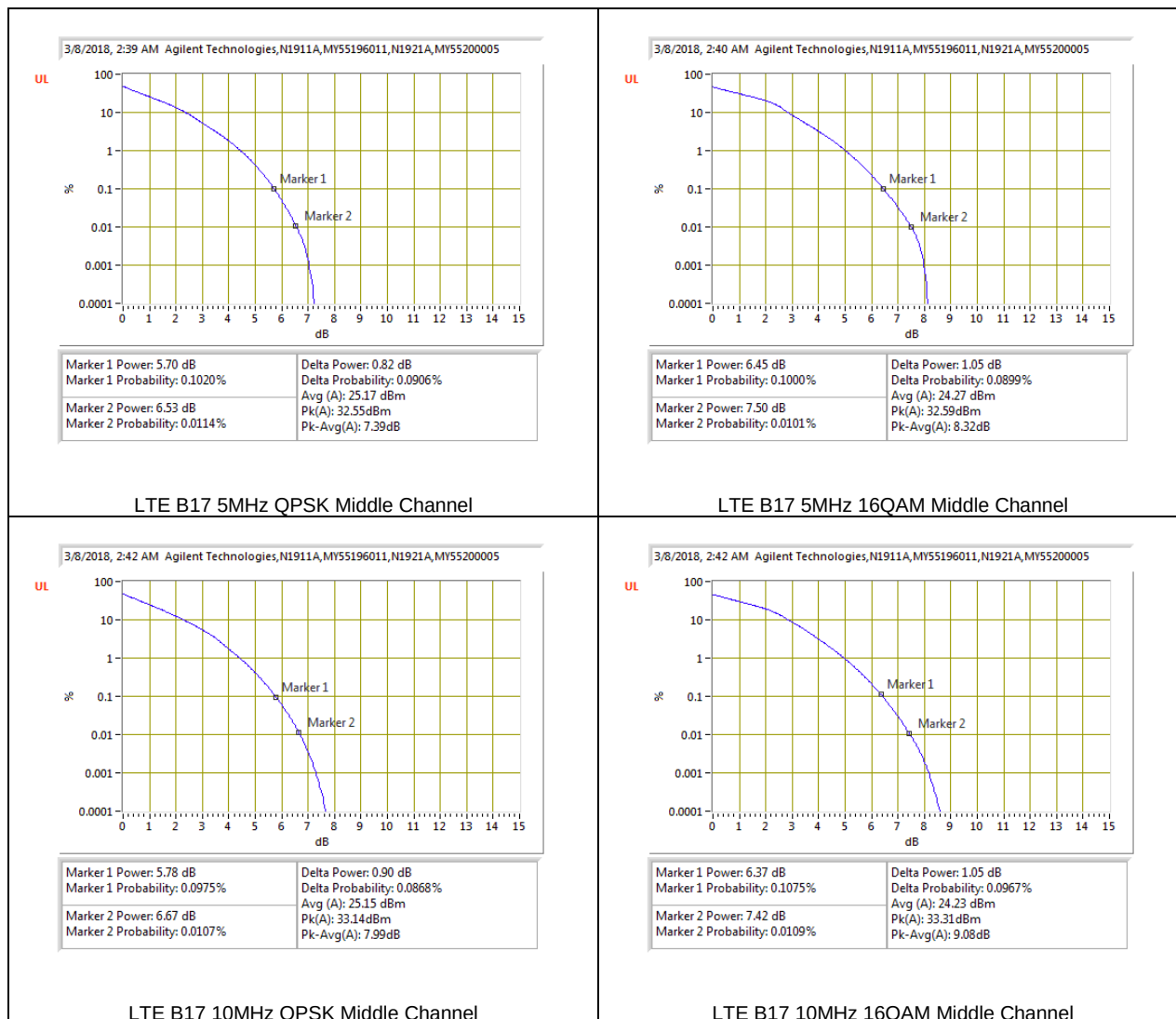
8.5.5. LTE BAND 13



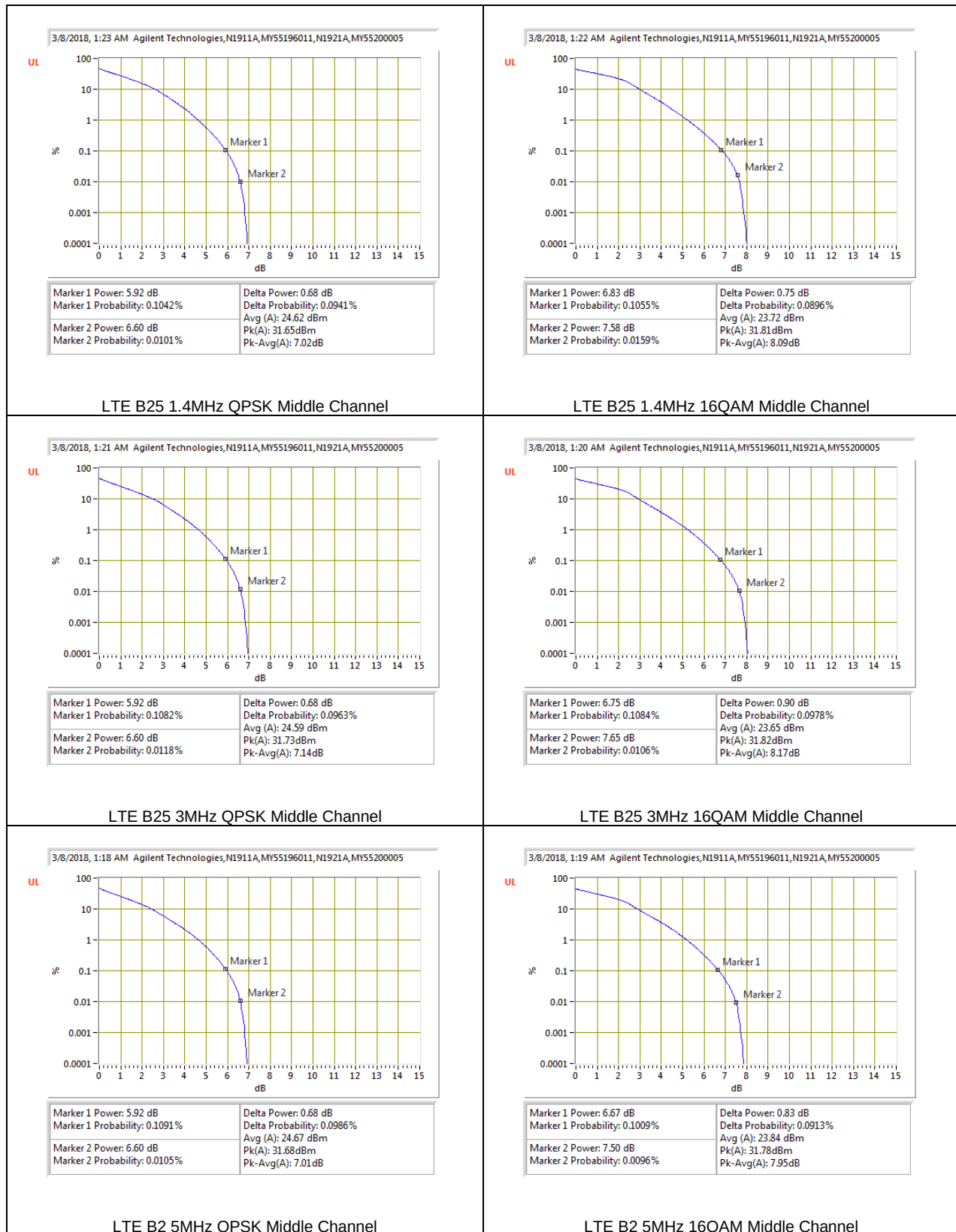
8.5.6. LTE BAND 14



8.5.7. LTE BAND 17

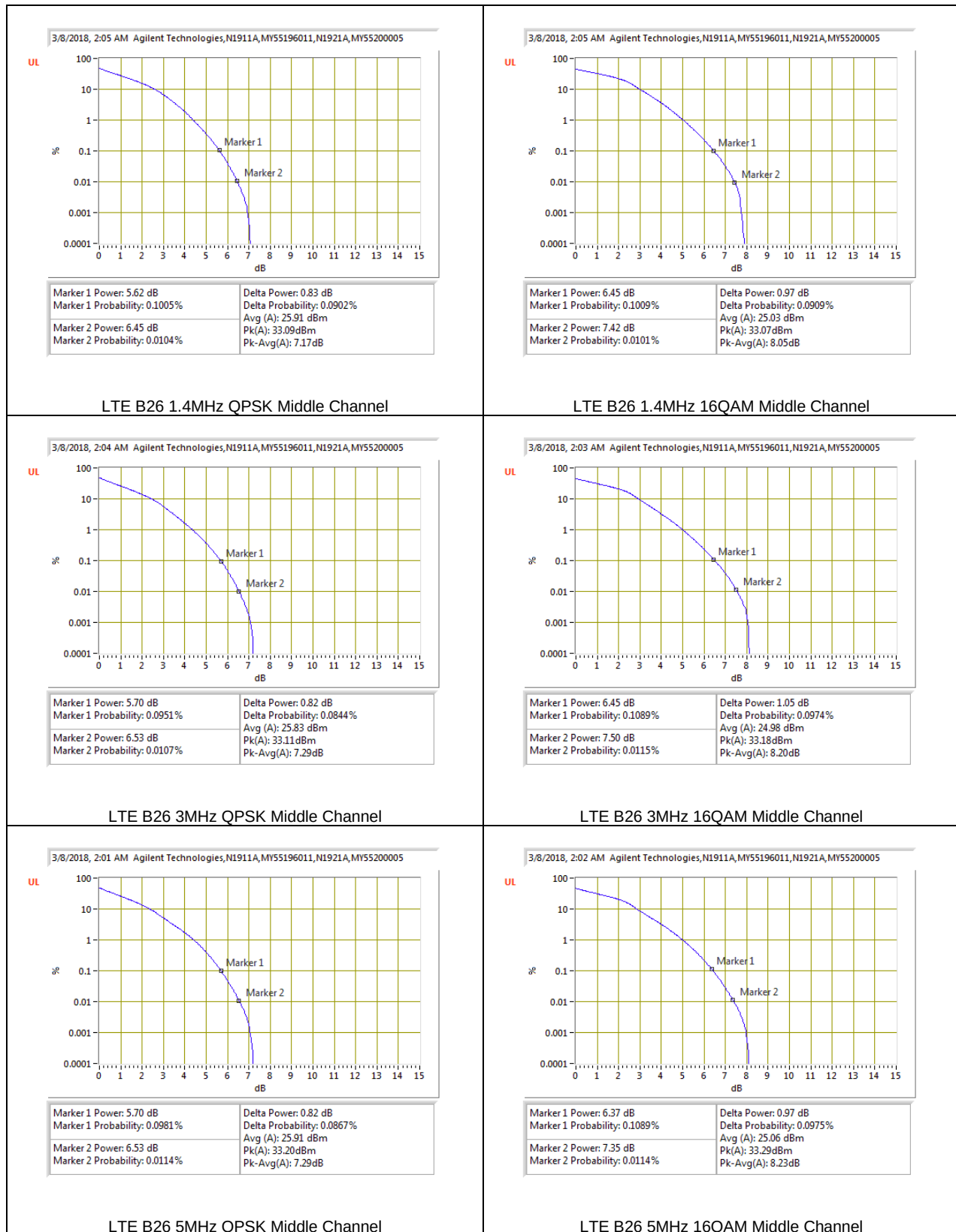


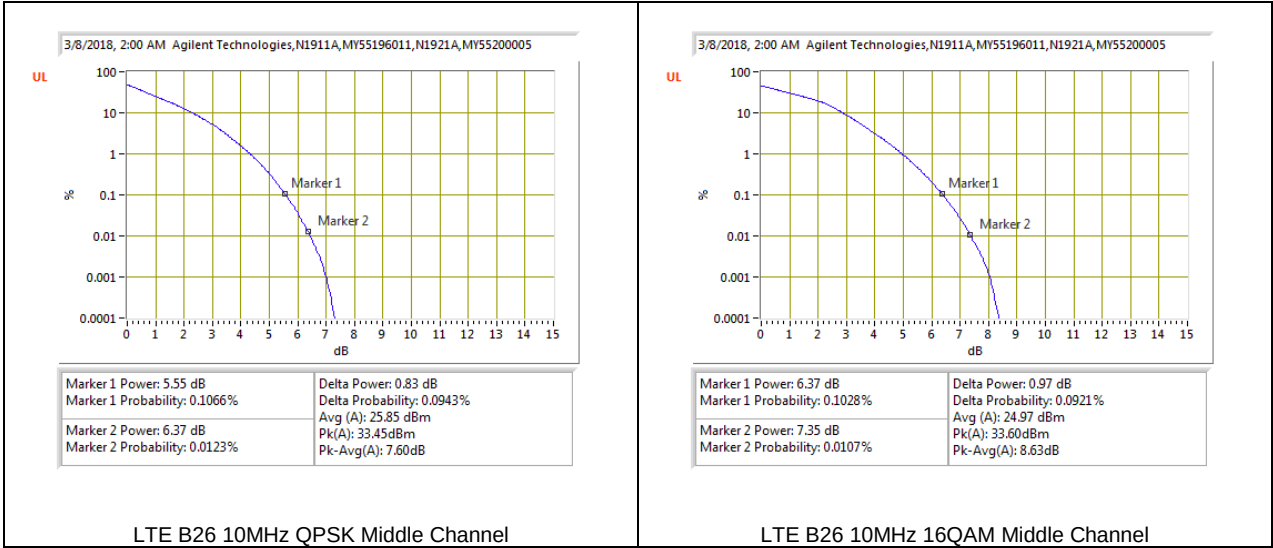
8.5.8. LTE BAND 25



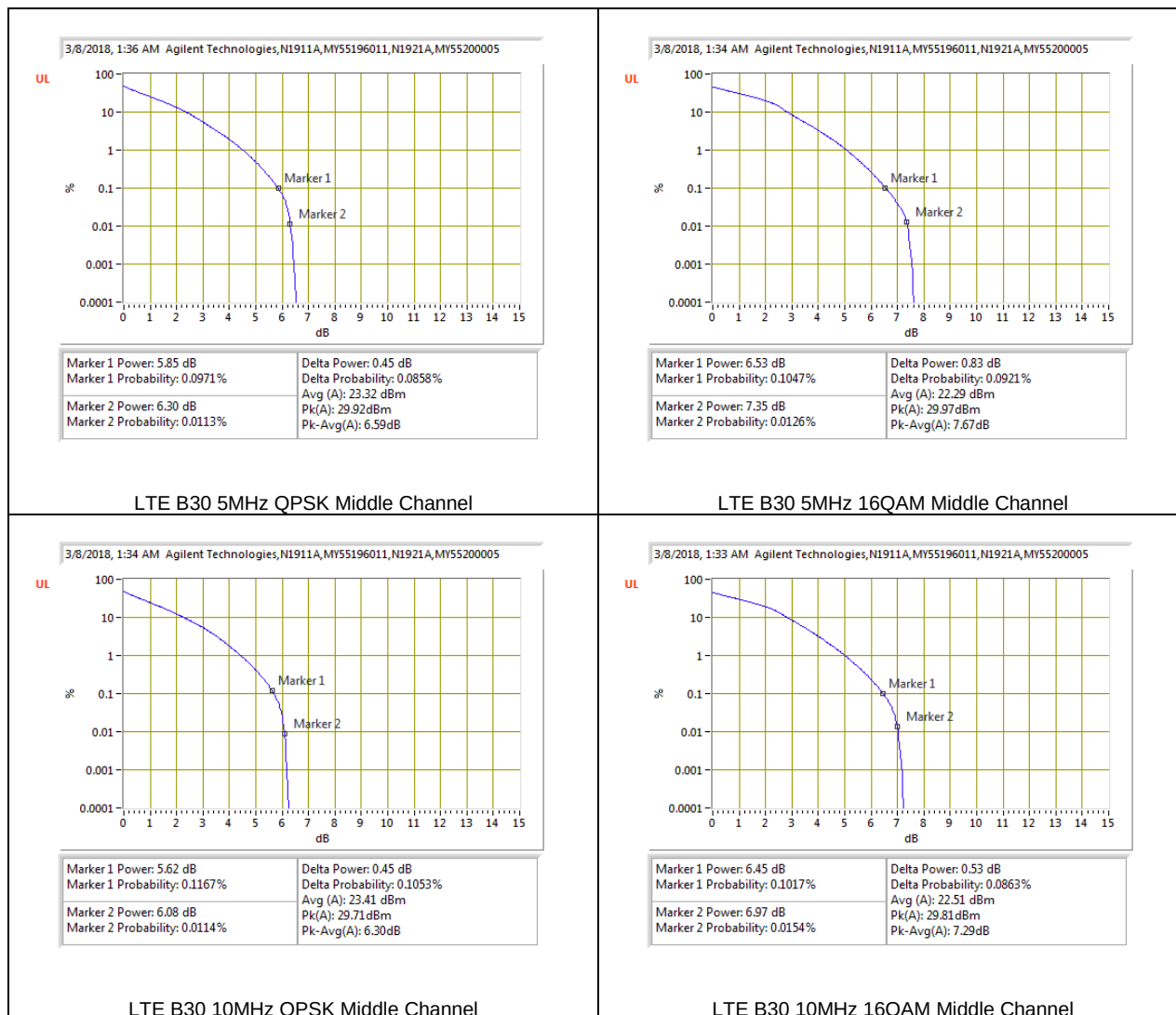


8.5.9. LTE BAND 26 (FCC PART 90S)





8.5.10. LTE BAND 30

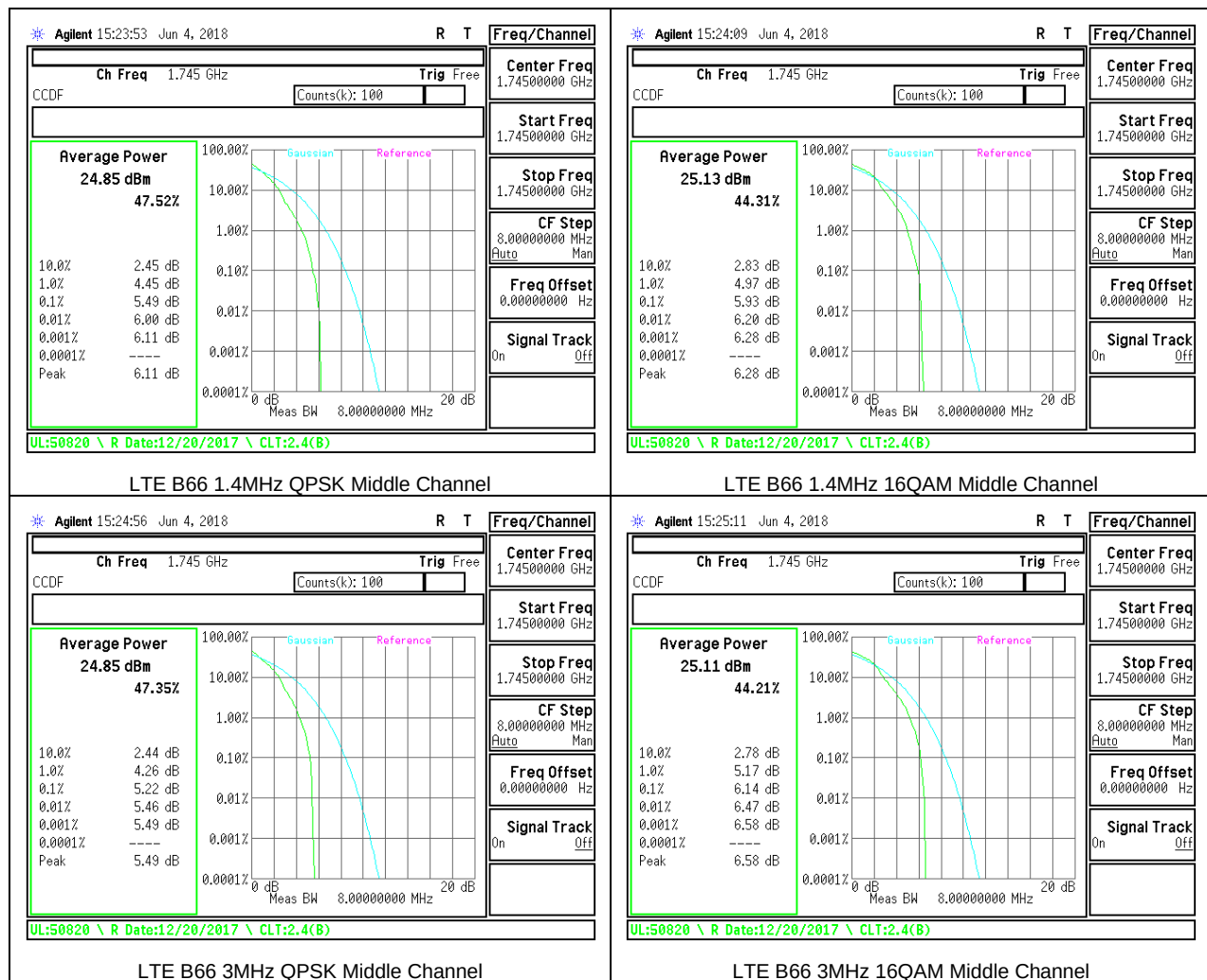


8.5.11. LTE BAND 41

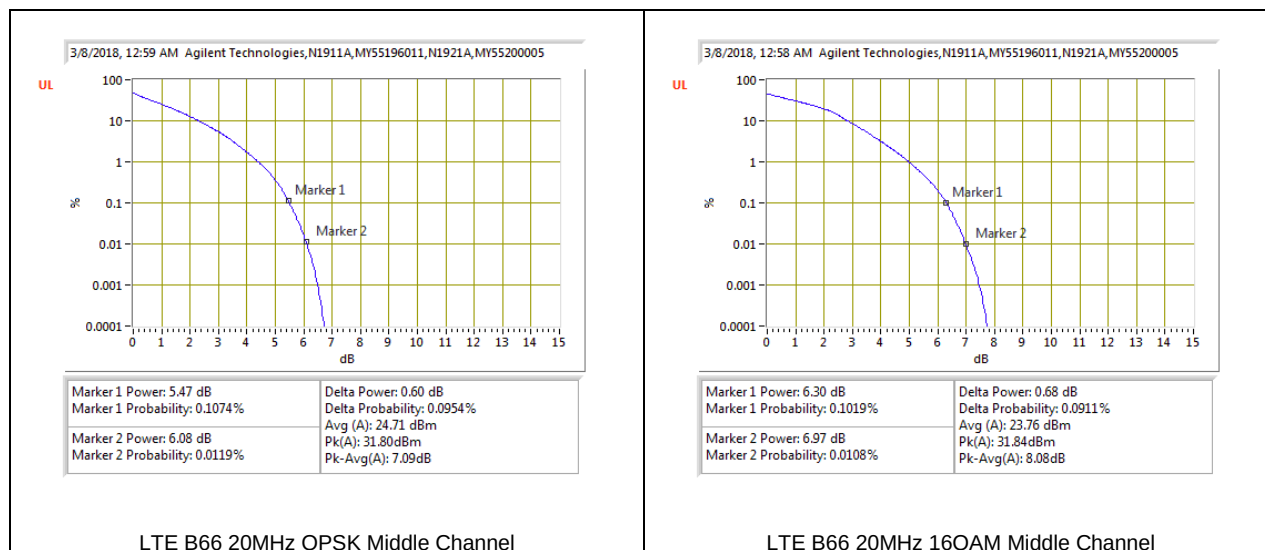
ID:	39004	Date:	3/8/18
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Band	Bandwidth (MHz)	Frequency (MHz)	RB Allocation	RB OffSet	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
						Peak	Average	
Band 41	5MHz	2593.0	25	0	QPSK	32.12	22.01	3.07
					16QAM	32.17	21.01	4.12
	10MHz		50	0	QPSK	32.14	22.03	3.07
					16QAM	32.20	21.14	4.02
	15MHz		75	0	QPSK	32.32	22.01	3.27
					16QAM	32.33	21.11	4.18
	20MHz		100	0	QPSK	32.48	21.12	4.32
					16QAM	32.46	21.12	4.30
Duty Cycle Correction Factor (dB) =			7.04					
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor								

8.5.12. LTE BAND 66







9. RADIATED TEST RESULTS

RULE PART(S)

FCC: §2.1053, §22.917, §24.238, §27.53, §90.691 and §90.543

LIMIT

§22.917(a), §24.238(a), §27.53 (g), (h), §90.691

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 (Band 13)

(c) 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.

(f) Emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals. (-70 dBW/MHz = -40 dBm/MHz).

§90.543(Band 14)

(e) (3) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log (P)$ dB.

(f) For operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

§27.53 (a) (Band 30, Band 40)

For mobile and portable stations operating in the 2305-2315 MHz: by a factor of not less than $43 + 10 \log (P)$ dB on all frequencies between 2360 and 2365 MHz, and not less than $70 + 10 \log (P)$ dB above 2365 MHz.

§27.53 (m) (Band 7, 41)

At least $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

TEST PROCEDURE

KDB 971168 D01 v03r01/D02 v01

MODES TESTED

- LTE Band 2
- LTE Band 5
- LTE Band 7
- LTE Band 12
- LTE Band 13
- LTE Band 14
- LTE Band 17
- LTE Band 25
- LTE Band 26
- LTE Band 30
- LTE Band 41
- LTE Band 66

RESULTS

9.1.3. LTE BAND 7

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 02/23/18 Test Engineer: 36648 Configuration: EUT only Mode: LTE Band 7, 20MHz QPSK										
Test Equipment: Substitution: Horn T59 Substitution, and 8R SMA Cable										
Chamber 3m Chamber C		Pre-amplifier 3m Chamber C		Filter Filter		Limit LTE B7				
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2510MHz)										
5.02	-66.9	H	3.0	-14.0	33.4	1.0	-46.4	-25.0	-21.4	
7.53	-67.6	H	3.0	-10.3	33.0	1.0	-42.4	-25.0	-17.4	
10.04	-67.6	H	3.0	-6.8	32.6	1.0	-38.5	-25.0	-13.5	
5.02	-68.0	V	3.0	-15.1	33.4	1.0	-47.5	-25.0	-22.5	
7.53	-69.2	V	3.0	-11.6	33.0	1.0	-43.7	-25.0	-18.7	
10.04	-69.2	V	3.0	-8.1	32.6	1.0	-39.8	-25.0	-14.8	
Mid Channel (2535MHz)										
5.07	-66.8	H	3.0	-13.8	33.4	1.0	-46.2	-25.0	-21.2	
7.61	-67.6	H	3.0	-6.9	33.0	1.0	-42.0	-25.0	-17.0	
10.14	-68.6	H	3.0	-7.7	32.6	1.0	-39.3	-25.0	-14.3	
5.07	-66.7	V	3.0	-13.8	33.4	1.0	-46.2	-25.0	-21.2	
7.61	-66.7	V	3.0	-8.9	33.0	1.0	-41.0	-25.0	-16.0	
10.14	-68.1	V	3.0	-6.9	32.6	1.0	-38.5	-25.0	-13.5	
High Channel (2560MHz)										
5.12	-69.8	H	3.0	-16.7	33.4	1.0	-49.1	-25.0	-24.1	
7.68	-67.7	H	3.0	-8.9	33.0	1.0	-41.9	-25.0	-16.9	
10.24	-67.5	H	3.0	-6.5	32.5	1.0	-38.0	-25.0	-13.0	
5.12	-66.7	V	3.0	-13.6	33.4	1.0	-46.0	-25.0	-21.0	
7.68	-67.8	V	3.0	-10.0	33.0	1.0	-42.0	-25.0	-17.0	
10.24	-67.7	V	3.0	-6.4	32.5	1.0	-38.0	-25.0	-13.0	
Rev. 05.21.15										

LTE B7 20MHz QPSK

9.1.4. LTE BAND 12

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 02/22/18 Test Engineer: 38602 Configuration: EUT only Mode: LTE Band 12, 10MHz QPSK Test Equipment: Substitution: Horn T59 Substitution, and 8ft SMA Cable										
Chamber	Pre-amplifier	Filter	Limit							
3m Chamber C	3m Chamber C	Filter	EIRP							
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (724MHz)										
1.41	-65.5	H	3.0	-25.3	36.7	1.0	-61.0	-13.0	-48.0	
2.11	-65.9	H	3.0	-21.0	35.8	1.0	-55.8	-13.0	-42.8	
2.82	-66.3	H	3.0	-19.1	35.0	1.0	-51.1	-13.0	-40.1	
1.41	-65.9	V	3.0	-24.3	36.7	1.0	-60.0	-13.0	-47.0	
2.11	-66.2	V	3.0	-20.5	35.8	1.0	-55.2	-13.0	-42.2	
2.82	-66.1	V	3.0	-18.3	35.0	1.0	-52.4	-13.0	-39.4	
Mid Channel (757.5MHz)										
1.42	-65.3	H	3.0	-25.1	36.7	1.0	-60.7	-13.0	-47.7	
2.12	-65.0	H	3.0	-20.1	35.7	1.0	-54.8	-13.0	-41.8	
2.83	-66.4	H	3.0	-19.1	35.0	1.0	-53.2	-13.0	-40.2	
1.42	-64.5	V	3.0	-23.8	36.7	1.0	-59.4	-13.0	-46.4	
2.12	-66.1	V	3.0	-20.9	35.7	1.0	-55.6	-13.0	-42.6	
2.83	-65.7	V	3.0	-17.9	35.0	1.0	-51.9	-13.0	-38.9	
High Channel (711MHz)										
1.42	-65.5	H	3.0	-25.2	36.7	1.0	-60.9	-13.0	-47.9	
2.13	-65.6	H	3.0	-20.7	35.7	1.0	-55.4	-13.0	-42.4	
2.84	-66.3	H	3.0	-19.0	35.0	1.0	-53.0	-13.0	-40.0	
1.42	-65.1	V	3.0	-24.5	36.7	1.0	-60.0	-13.0	-47.0	
2.13	-66.2	V	3.0	-20.5	35.7	1.0	-55.2	-13.0	-42.2	
2.84	-66.0	V	3.0	-18.1	35.0	1.0	-52.1	-13.0	-39.1	

Rev. 05.21.15

LTE B12 10MHz QPSK

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 02/22/18 Test Engineer: 38602 Configuration: EUT only Mode: LTE Band 12, 10MHz 16QAM Test Equipment: Substitution: Horn T59 Substitution, and 8ft SMA Cable										
Chamber	Pre-amplifier	Filter	Limit							
3m Chamber C	3m Chamber C	Filter	EIRP							
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (724MHz)										
1.41	-65.8	H	3.0	-25.8	36.7	1.0	-61.3	-13.0	-48.3	
2.11	-66.0	H	3.0	-21.1	35.8	1.0	-55.9	-13.0	-42.9	
2.82	-66.4	H	3.0	-19.2	35.0	1.0	-51.2	-13.0	-40.2	
1.41	-65.6	V	3.0	-24.9	36.7	1.0	-60.6	-13.0	-47.6	
2.11	-65.5	V	3.0	-19.8	35.8	1.0	-54.5	-13.0	-41.5	
2.82	-66.2	V	3.0	-18.4	35.0	1.0	-52.5	-13.0	-39.5	
Mid Channel (757.5MHz)										
1.42	-65.5	H	3.0	-25.3	36.7	1.0	-60.9	-13.0	-47.9	
2.12	-66.1	H	3.0	-21.2	35.7	1.0	-55.9	-13.0	-42.9	
2.83	-66.3	H	3.0	-19.0	35.0	1.0	-51.1	-13.0	-40.1	
1.42	-65.9	V	3.0	-25.2	36.7	1.0	-60.8	-13.0	-47.8	
2.12	-65.7	V	3.0	-20.0	35.7	1.0	-54.7	-13.0	-41.7	
2.83	-66.1	V	3.0	-18.3	35.0	1.0	-52.3	-13.0	-39.3	
High Channel (711MHz)										
1.42	-65.7	H	3.0	-25.4	36.7	1.0	-61.1	-13.0	-48.1	
2.13	-66.2	H	3.0	-21.3	35.7	1.0	-56.0	-13.0	-43.0	
2.84	-65.9	H	3.0	-18.6	35.0	1.0	-52.6	-13.0	-39.6	
1.42	-66.0	V	3.0	-25.2	36.7	1.0	-60.9	-13.0	-47.9	
2.13	-65.8	V	3.0	-20.1	35.7	1.0	-54.8	-13.0	-41.8	
2.84	-65.9	V	3.0	-18.0	35.0	1.0	-52.0	-13.0	-39.0	

Rev. 05.21.15

LTE B12 10MHz 16QAM

9.1.5. LTE BAND 13

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 02/22/18 Test Engineer: 38602 Configuration: EUT only Mode: LTE Band 13, 10MHz QPSK Test Equipment: Substitution: Horn T59 Substitution, and 8ft SMA Cable										
Chamber	Pre-amplifier	Filter	Limit							
3m Chamber C	3m Chamber C	Filter	LTE B13							
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (726MHz)										
1.56	-66.6	H	3.0	-24.9	36.6	1.0	-60.0	-40.0	-20.0	
2.35	-65.8	H	3.0	-20.5	35.3	1.0	-54.8	-13.0	-41.8	
3.13	-66.2	H	3.0	-17.8	34.8	1.0	-51.7	-13.0	-38.7	
1.56	-64.7	V	3.0	-22.9	36.6	1.0	-58.5	-40.0	-18.5	
2.35	-65.5	V	3.0	-19.9	35.3	1.0	-54.2	-13.0	-41.2	
3.13	-65.4	V	3.0	-16.3	34.8	1.0	-50.1	-13.0	-37.1	

Rev. 05.21.15

LTE B13 10MHz QPSK

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 02/22/18 Test Engineer: 38602 Configuration: EUT only Mode: LTE Band 13, 10MHz 16QAM Test Equipment: Substitution: Horn T59 Substitution, and 8ft SMA Cable										
Chamber	Pre-amplifier	Filter	Limit							
3m Chamber C	3m Chamber C	Filter	LTE B13							
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (726MHz)										
1.56	-65.8	H	3.0	-24.7	36.6	1.0	-60.4	-40.0	-20.4	
2.35	-66.1	H	3.0	-20.8	35.3	1.0	-55.1	-13.0	-42.1	
3.13	-65.9	H	3.0	-17.5	34.8	1.0	-51.4	-13.0	-38.4	
1.56	-66.1	V	3.0	-24.3	36.6	1.0	-58.9	-40.0	-18.9	
2.35	-65.2	V	3.0	-19.6	35.3	1.0	-53.9	-13.0	-40.9	
3.13	-66.0	V	3.0	-16.9	34.8	1.0	-50.7	-13.0	-37.7	

Rev. 05.21.15

LTE B13 10MHz 16QAM

9.1.6. LTE BAND 14

High Frequency Substitution Measurement UL Fremont Radiated Chamber Company: Project #: Date: 02/26/18 Test Engineer: 39004 Configuration: EUT only Mode: LTE Band 14, 10MHz QPSK Test Equipment: Substitution: Horn T59 Substitution, and 8ft SMA Cable Chamber 3m Chamber C Pre-amplifier 3m Chamber C Filter Filter Limit EIRP <table><tr><th>Frequency (GHz)</th><th>SA reading (dBm)</th><th>Ant. Pol. (H/V)</th><th>Distance</th><th>EIRP @ TX Ant End (dBm)</th><th>Preamp</th><th>Attenuator</th><th>EIRP</th><th>Limit</th><th>Delta</th><th>Notes</th></tr><tr><td colspan="11">Mid Channel (703MHz)</td></tr><tr><td>1.59</td><td>-62.7</td><td>H</td><td>3.0</td><td>-23.0</td><td>39.3</td><td>1.0</td><td>-61.4</td><td>-40.0</td><td>-21.4</td><td></td></tr><tr><td>2.38</td><td>-63.8</td><td>H</td><td>3.0</td><td>-17.8</td><td>38.7</td><td>1.0</td><td>-55.5</td><td>-13.0</td><td>-42.5</td><td></td></tr><tr><td>3.17</td><td>-61.8</td><td>H</td><td>3.0</td><td>-12.0</td><td>38.1</td><td>1.0</td><td>-48.1</td><td>-13.0</td><td>-35.1</td><td></td></tr><tr><td>1.59</td><td>-65.5</td><td>V</td><td>3.0</td><td>-22.5</td><td>38.5</td><td>1.0</td><td>-60.6</td><td>-40.0</td><td>-20.6</td><td></td></tr><tr><td>2.38</td><td>-65.7</td><td>V</td><td>3.0</td><td>-19.5</td><td>38.7</td><td>1.0</td><td>-67.2</td><td>-13.0</td><td>-44.2</td><td></td></tr><tr><td>3.17</td><td>-64.2</td><td>V</td><td>3.0</td><td>-14.7</td><td>38.1</td><td>1.0</td><td>-51.8</td><td>-13.0</td><td>-38.8</td><td></td></tr></table> Rev. 05.21.15 LTE B14 10MHz QPSK											Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes	Mid Channel (703MHz)											1.59	-62.7	H	3.0	-23.0	39.3	1.0	-61.4	-40.0	-21.4		2.38	-63.8	H	3.0	-17.8	38.7	1.0	-55.5	-13.0	-42.5		3.17	-61.8	H	3.0	-12.0	38.1	1.0	-48.1	-13.0	-35.1		1.59	-65.5	V	3.0	-22.5	38.5	1.0	-60.6	-40.0	-20.6		2.38	-65.7	V	3.0	-19.5	38.7	1.0	-67.2	-13.0	-44.2		3.17	-64.2	V	3.0	-14.7	38.1	1.0	-51.8	-13.0	-38.8	
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes																																																																																								
Mid Channel (703MHz)																																																																																																		
1.59	-62.7	H	3.0	-23.0	39.3	1.0	-61.4	-40.0	-21.4																																																																																									
2.38	-63.8	H	3.0	-17.8	38.7	1.0	-55.5	-13.0	-42.5																																																																																									
3.17	-61.8	H	3.0	-12.0	38.1	1.0	-48.1	-13.0	-35.1																																																																																									
1.59	-65.5	V	3.0	-22.5	38.5	1.0	-60.6	-40.0	-20.6																																																																																									
2.38	-65.7	V	3.0	-19.5	38.7	1.0	-67.2	-13.0	-44.2																																																																																									
3.17	-64.2	V	3.0	-14.7	38.1	1.0	-51.8	-13.0	-38.8																																																																																									
High Frequency Substitution Measurement UL Fremont Radiated Chamber Company: Project #: Date: 02/26/18 Test Engineer: 39004 Configuration: EUT only Mode: LTE Band 14, 10MHz 16QAM Test Equipment: Substitution: Horn T59 Substitution, and 8ft SMA Cable Chamber 3m Chamber C Pre-amplifier 3m Chamber C Filter Filter Limit EIRP <table><tr><th>Frequency (GHz)</th><th>SA reading (dBm)</th><th>Ant. Pol. (H/V)</th><th>Distance</th><th>EIRP @ TX Ant End (dBm)</th><th>Preamp</th><th>Attenuator</th><th>EIRP</th><th>Limit</th><th>Delta</th><th>Notes</th></tr><tr><td colspan="11">Mid Channel (703MHz)</td></tr><tr><td>1.59</td><td>-68.3</td><td>H</td><td>3.0</td><td>-17.6</td><td>37.9</td><td>1.0</td><td>-54.5</td><td>-40.0</td><td>-14.5</td><td></td></tr><tr><td>2.38</td><td>-68.9</td><td>H</td><td>3.0</td><td>-12.2</td><td>36.5</td><td>1.0</td><td>-47.7</td><td>-13.0</td><td>-34.7</td><td></td></tr><tr><td>3.17</td><td>-63.6</td><td>H</td><td>3.0</td><td>-6.3</td><td>34.9</td><td>1.0</td><td>-40.2</td><td>-13.0</td><td>-27.2</td><td></td></tr><tr><td>1.59</td><td>-67.3</td><td>V</td><td>3.0</td><td>-16.7</td><td>37.9</td><td>1.0</td><td>-53.7</td><td>-40.0</td><td>-13.7</td><td></td></tr><tr><td>2.38</td><td>-65.1</td><td>V</td><td>3.0</td><td>-19.5</td><td>38.5</td><td>1.0</td><td>-65.9</td><td>-13.0</td><td>-52.9</td><td></td></tr><tr><td>3.17</td><td>-63.9</td><td>V</td><td>3.0</td><td>-8.4</td><td>34.9</td><td>1.0</td><td>-40.2</td><td>-13.0</td><td>-27.2</td><td></td></tr></table> Rev. 05.21.15 LTE B14 10MHz 16QAM											Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes	Mid Channel (703MHz)											1.59	-68.3	H	3.0	-17.6	37.9	1.0	-54.5	-40.0	-14.5		2.38	-68.9	H	3.0	-12.2	36.5	1.0	-47.7	-13.0	-34.7		3.17	-63.6	H	3.0	-6.3	34.9	1.0	-40.2	-13.0	-27.2		1.59	-67.3	V	3.0	-16.7	37.9	1.0	-53.7	-40.0	-13.7		2.38	-65.1	V	3.0	-19.5	38.5	1.0	-65.9	-13.0	-52.9		3.17	-63.9	V	3.0	-8.4	34.9	1.0	-40.2	-13.0	-27.2	
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes																																																																																								
Mid Channel (703MHz)																																																																																																		
1.59	-68.3	H	3.0	-17.6	37.9	1.0	-54.5	-40.0	-14.5																																																																																									
2.38	-68.9	H	3.0	-12.2	36.5	1.0	-47.7	-13.0	-34.7																																																																																									
3.17	-63.6	H	3.0	-6.3	34.9	1.0	-40.2	-13.0	-27.2																																																																																									
1.59	-67.3	V	3.0	-16.7	37.9	1.0	-53.7	-40.0	-13.7																																																																																									
2.38	-65.1	V	3.0	-19.5	38.5	1.0	-65.9	-13.0	-52.9																																																																																									
3.17	-63.9	V	3.0	-8.4	34.9	1.0	-40.2	-13.0	-27.2																																																																																									

9.1.7. LTE BAND 17

High Frequency Substitution Measurement UL Fremont Radiated Chamber Company: Project #: Date: 02/22/18 Test Engineer: 39002 Configuration: EUT only Mode: LTE Band 17, 10MHz QPSK Test Equipment: Substitution: Horn T59 Substitution, and 8ft SMA Cable Chamber 3m Chamber C Pre-amplifier 3m Chamber C Filter Filter Limit EIRP <table><tr><th>Frequency (GHz)</th><th>SA reading (dBm)</th><th>Ant. Pol. (H/V)</th><th>Distance</th><th>EIRP @ TX Ant End (dBm)</th><th>Preamp</th><th>Attenuator</th><th>EIRP</th><th>Limit</th><th>Delta</th><th>Notes</th></tr><tr><td colspan="11">Mid Channel (710MHz)</td></tr><tr><td>1.42</td><td>-66.2</td><td>H</td><td>3.0</td><td>-25.9</td><td>36.7</td><td>1.0</td><td>-61.6</td><td>-13.0</td><td>-48.6</td><td></td></tr><tr><td>2.13</td><td>-65.8</td><td>H</td><td>3.0</td><td>-20.9</td><td>35.7</td><td>1.0</td><td>-55.6</td><td>-13.0</td><td>-42.6</td><td></td></tr><tr><td>2.84</td><td>-66.3</td><td>H</td><td>3.0</td><td>-19.0</td><td>35.8</td><td>1.0</td><td>-53.0</td><td>-13.0</td><td>-40.0</td><td></td></tr><tr><td>1.42</td><td>-65.2</td><td>V</td><td>3.0</td><td>-24.4</td><td>36.7</td><td>1.0</td><td>-60.1</td><td>-13.0</td><td>-47.1</td><td></td></tr><tr><td>2.13</td><td>-65.5</td><td>V</td><td>3.0</td><td>-19.8</td><td>35.7</td><td>1.0</td><td>-54.5</td><td>-13.0</td><td>-41.5</td><td></td></tr><tr><td>2.84</td><td>-65.8</td><td>V</td><td>3.0</td><td>-18.0</td><td>35.8</td><td>1.0</td><td>-52.0</td><td>-13.0</td><td>-39.0</td><td></td></tr></table> Rev. 05.21.15 LTE B17 10MHz QPSK											Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes	Mid Channel (710MHz)											1.42	-66.2	H	3.0	-25.9	36.7	1.0	-61.6	-13.0	-48.6		2.13	-65.8	H	3.0	-20.9	35.7	1.0	-55.6	-13.0	-42.6		2.84	-66.3	H	3.0	-19.0	35.8	1.0	-53.0	-13.0	-40.0		1.42	-65.2	V	3.0	-24.4	36.7	1.0	-60.1	-13.0	-47.1		2.13	-65.5	V	3.0	-19.8	35.7	1.0	-54.5	-13.0	-41.5		2.84	-65.8	V	3.0	-18.0	35.8	1.0	-52.0	-13.0	-39.0	
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes																																																																																								
Mid Channel (710MHz)																																																																																																		
1.42	-66.2	H	3.0	-25.9	36.7	1.0	-61.6	-13.0	-48.6																																																																																									
2.13	-65.8	H	3.0	-20.9	35.7	1.0	-55.6	-13.0	-42.6																																																																																									
2.84	-66.3	H	3.0	-19.0	35.8	1.0	-53.0	-13.0	-40.0																																																																																									
1.42	-65.2	V	3.0	-24.4	36.7	1.0	-60.1	-13.0	-47.1																																																																																									
2.13	-65.5	V	3.0	-19.8	35.7	1.0	-54.5	-13.0	-41.5																																																																																									
2.84	-65.8	V	3.0	-18.0	35.8	1.0	-52.0	-13.0	-39.0																																																																																									
High Frequency Substitution Measurement UL Fremont Radiated Chamber Company: Project #: Date: 02/22/18 Test Engineer: 39002 Configuration: EUT only Mode: LTE Band 17, 10MHz 16QAM Test Equipment: Substitution: Horn T59 Substitution, and 8ft SMA Cable Chamber 3m Chamber C Pre-amplifier 3m Chamber C Filter Filter Limit EIRP <table><tr><th>Frequency (GHz)</th><th>SA reading (dBm)</th><th>Ant. Pol. (H/V)</th><th>Distance</th><th>EIRP @ TX Ant End (dBm)</th><th>Preamp</th><th>Attenuator</th><th>EIRP</th><th>Limit</th><th>Delta</th><th>Notes</th></tr><tr><td colspan="11">Mid Channel (710MHz)</td></tr><tr><td>1.42</td><td>-65.5</td><td>H</td><td>3.0</td><td>-25.2</td><td>36.7</td><td>1.0</td><td>-60.9</td><td>-13.0</td><td>-47.9</td><td></td></tr><tr><td>2.13</td><td>-66.1</td><td>H</td><td>3.0</td><td>-21.2</td><td>35.7</td><td>1.0</td><td>-55.9</td><td>-13.0</td><td>-42.9</td><td></td></tr><tr><td>2.84</td><td>-66.9</td><td>H</td><td>3.0</td><td>-18.7</td><td>35.9</td><td>1.0</td><td>-52.7</td><td>-13.0</td><td>-39.7</td><td></td></tr><tr><td>1.42</td><td>-66.8</td><td>V</td><td>3.0</td><td>-25.2</td><td>36.7</td><td>1.0</td><td>-60.9</td><td>-13.0</td><td>-47.9</td><td></td></tr><tr><td>2.13</td><td>-65.7</td><td>V</td><td>3.0</td><td>-20.8</td><td>35.7</td><td>1.0</td><td>-54.7</td><td>-13.0</td><td>-41.7</td><td></td></tr><tr><td>2.84</td><td>-65.5</td><td>V</td><td>3.0</td><td>-17.8</td><td>35.8</td><td>1.0</td><td>-51.8</td><td>-13.0</td><td>-38.8</td><td></td></tr></table> Rev. 05.21.15 LTE B17 10MHz 16QAM											Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes	Mid Channel (710MHz)											1.42	-65.5	H	3.0	-25.2	36.7	1.0	-60.9	-13.0	-47.9		2.13	-66.1	H	3.0	-21.2	35.7	1.0	-55.9	-13.0	-42.9		2.84	-66.9	H	3.0	-18.7	35.9	1.0	-52.7	-13.0	-39.7		1.42	-66.8	V	3.0	-25.2	36.7	1.0	-60.9	-13.0	-47.9		2.13	-65.7	V	3.0	-20.8	35.7	1.0	-54.7	-13.0	-41.7		2.84	-65.5	V	3.0	-17.8	35.8	1.0	-51.8	-13.0	-38.8	
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes																																																																																								
Mid Channel (710MHz)																																																																																																		
1.42	-65.5	H	3.0	-25.2	36.7	1.0	-60.9	-13.0	-47.9																																																																																									
2.13	-66.1	H	3.0	-21.2	35.7	1.0	-55.9	-13.0	-42.9																																																																																									
2.84	-66.9	H	3.0	-18.7	35.9	1.0	-52.7	-13.0	-39.7																																																																																									
1.42	-66.8	V	3.0	-25.2	36.7	1.0	-60.9	-13.0	-47.9																																																																																									
2.13	-65.7	V	3.0	-20.8	35.7	1.0	-54.7	-13.0	-41.7																																																																																									
2.84	-65.5	V	3.0	-17.8	35.8	1.0	-51.8	-13.0	-38.8																																																																																									

9.1.8. LTE BAND 25

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date:
Test Engineer:
Configuration:
Mode:

02/23/18
38602
EUT
LTE Band 25, 20MHz QPSK

Test Equipment:

Chamber

Pre-amplifier

Filter

Limit

3m Chamber C

3m Chamber C

Filter

EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1860MHz)										
3.72	-63.7	H	3.0	-13.7	34.1	1.0	-48.8	-13.0	-33.8	
5.58	-64.8	H	3.0	-10.8	33.3	1.0	-42.9	-13.0	-29.9	
7.44	-65.1	H	3.0	-7.6	33.1	1.0	-39.7	-13.0	-26.7	
3.72	-63.4	V	3.0	-13.0	34.1	1.0	-48.2	-13.0	-33.2	
5.58	-64.3	V	3.0	-10.3	33.3	1.0	-45.6	-13.0	-28.6	
7.44	-65.0	V	3.0	-7.5	33.1	1.0	-39.6	-13.0	-26.6	
Mid Channel (1882.5MHz)										
3.77	-62.4	H	3.0	-12.3	34.1	1.0	-45.3	-13.0	-32.3	
5.65	-64.4	H	3.0	-10.2	33.3	1.0	-42.5	-13.0	-29.5	
7.53	-64.5	H	3.0	-9.9	33.0	1.0	-38.9	-13.0	-25.9	
3.77	-62.7	V	3.0	-12.2	34.1	1.0	-45.3	-13.0	-32.3	
5.65	-64.6	V	3.0	-9.9	33.3	1.0	-42.2	-13.0	-29.2	
7.53	-64.1	V	3.0	-8.5	33.0	1.0	-38.5	-13.0	-25.5	
High Channel (1905MHz)										
3.81	-63.5	H	3.0	-13.2	34.0	1.0	-46.3	-13.0	-33.3	
5.72	-64.5	H	3.0	-10.2	33.3	1.0	-42.5	-13.0	-29.5	
7.62	-64.4	H	3.0	-8.7	33.0	1.0	-38.7	-13.0	-25.7	
3.81	-63.5	V	3.0	-13.0	34.0	1.0	-46.0	-13.0	-33.0	
5.72	-64.3	V	3.0	-10.1	33.3	1.0	-42.3	-13.0	-29.3	
7.62	-64.8	V	3.0	-8.9	33.0	1.0	-38.9	-13.0	-25.9	

Rev. 05.21.15

LTE B25 20MHz QPSK

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date:
Test Engineer:
Configuration:
Mode:

02/23/18
38602
EUT
LTE Band 25, 20MHz 16QAM

Test Equipment:

Chamber

Pre-amplifier

Filter

Limit

3m Chamber C

3m Chamber C

Filter

EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1860MHz)										
3.72	-63.3	H	3.0	-13.3	34.1	1.0	-46.4	-13.0	-33.4	
5.58	-64.8	H	3.0	-10.8	33.3	1.0	-42.9	-13.0	-29.9	
7.44	-64.7	H	3.0	-7.2	33.1	1.0	-38.3	-13.0	-25.3	
3.72	-63.0	V	3.0	-12.8	34.1	1.0	-45.8	-13.0	-32.8	
5.58	-65.1	V	3.0	-11.1	33.3	1.0	-43.4	-13.0	-30.4	
7.44	-64.2	V	3.0	-6.7	33.1	1.0	-38.8	-13.0	-25.8	
Mid Channel (1882.5MHz)										
3.77	-62.6	H	3.0	-12.5	34.1	1.0	-45.5	-13.0	-32.5	
5.65	-64.3	H	3.0	-10.1	33.3	1.0	-42.4	-13.0	-29.4	
7.53	-64.5	H	3.0	-9.9	33.0	1.0	-38.9	-13.0	-25.9	
3.77	-62.7	V	3.0	-12.2	34.1	1.0	-45.3	-13.0	-32.3	
5.65	-64.5	V	3.0	-10.4	33.3	1.0	-42.7	-13.0	-29.7	
7.53	-63.5	V	3.0	-5.9	33.0	1.0	-37.9	-13.0	-24.9	
High Channel (1905MHz)										
3.81	-63.4	H	3.0	-13.1	34.0	1.0	-46.2	-13.0	-33.2	
5.72	-64.8	H	3.0	-10.5	33.3	1.0	-42.8	-13.0	-29.8	
7.62	-65.0	H	3.0	-7.3	33.0	1.0	-39.3	-13.0	-26.3	
3.81	-63.2	V	3.0	-12.7	34.0	1.0	-45.7	-13.0	-32.7	
5.72	-64.9	V	3.0	-10.7	33.3	1.0	-42.9	-13.0	-29.9	
7.62	-64.4	V	3.0	-8.7	33.0	1.0	-38.7	-13.0	-25.7	

Rev. 05.21.15

LTE B25 20MHz 16QAM

9.1.9. LTE BAND 26 (FCC PART 90S)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date:
Test Engineer:
Configuration:
Mode:

02/23/18
38602
EUT only
LTE Band 26 (90S), 10MHz QPSK

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber

3m Chamber C

Pre-amplifier

3m Chamber C

Filter

Filter

Limit

EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (819MHz)										
1.64	-65.2	H	3.0	-23.5	36.5	1.0	-59.0	-13.0	-46.0	
2.46	-65.3	H	3.0	-19.6	35.2	1.0	-53.8	-13.0	-40.8	
3.28	-66.1	H	3.0	-17.3	34.7	1.0	-51.0	-13.0	-38.0	
1.64	-65.8	V	3.0	-23.3	36.5	1.0	-58.8	-13.0	-45.8	
2.46	-64.7	V	3.0	-19.9	35.2	1.0	-53.2	-13.0	-40.2	
3.28	-65.6	V	3.0	-16.2	34.7	1.0	-49.8	-13.0	-36.8	

Rev. 05.21.15

LTE B26 10MHz QPSK

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date:
Test Engineer:
Configuration:
Mode:

02/23/18
38602
EUT only
LTE Band 26 (90S), 10MHz 16QAM

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber

3m Chamber C

Pre-amplifier

3m Chamber C

Filter

Filter

Limit

EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (819MHz)										
1.64	-65.5	H	3.0	-23.8	36.5	1.0	-59.3	-13.0	-46.3	
2.46	-65.8	H	3.0	-20.1	35.2	1.0	-54.3	-13.0	-41.3	
3.28	-66.0	H	3.0	-17.2	34.7	1.0	-50.9	-13.0	-37.9	
1.64	-65.5	V	3.0	-23.0	36.5	1.0	-58.5	-13.0	-45.5	
2.46	-64.6	V	3.0	-18.7	35.2	1.0	-52.9	-13.0	-39.9	
3.28	-66.8	V	3.0	-16.6	34.7	1.0	-50.2	-13.0	-37.2	

Rev. 05.21.15

LTE B26 10MHz 16QAM

9.1.10. LTE BAND 30

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 03/01/18 Test Engineer: 12491 Configuration: EUT Mode: LTE Band 30, 10MHz QPSK Test Equipment: Substitution: Horn T59 Substitution, and 8R SMA Cable										
Chamber	Pre-amplifier	Filter	Limit							
3m Chamber C	3m Chamber C	Filter	LTE B30							
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (2310MHz)										
4.62	-69.1	H	3.0	-15.3	37.9	1.0	-52.2	-40.0	-12.2	
6.93	-67.5	H	3.0	-8.9	36.5	1.0	-44.4	-40.0	-4.4	
8.60	-69.6	H	3.0	-9.0	35.4	1.0	-43.3	-40.0	-3.3	
4.62	-68.9	V	3.0	-13.2	37.9	1.0	-40.1	-40.0	-0.1	
6.93	-68.1	V	3.0	-6.6	36.5	1.0	-42.1	-40.0	-2.1	
8.60	-70.6	V	3.0	-9.4	35.4	1.0	-43.8	-40.0	-3.8	
Rev: 05.21.15										
LTE B30 10MHz QPSK										

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 03/01/18 Test Engineer: 12491 Configuration: EUT Mode: LTE Band 30, 10MHz 16QAM Test Equipment: Substitution: Horn T59 Substitution, and 8R SMA Cable										
Chamber	Pre-amplifier	Filter	Limit							
3m Chamber C	3m Chamber C	Filter	LTE B30							
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (2310MHz)										
4.62	-69.3	H	3.0	-14.5	37.9	1.0	-51.5	-40.0	-11.5	
6.93	-67.3	H	3.0	-8.7	36.5	1.0	-44.2	-40.0	-4.2	
8.60	-69.8	H	3.0	-8.5	34.9	1.0	-42.4	-40.0	-2.4	
4.62	-67.3	V	3.0	-13.6	37.9	1.0	-50.6	-40.0	-10.6	
6.93	-67.4	V	3.0	-8.0	36.5	1.0	-42.4	-40.0	-2.4	
8.60	-69.7	V	3.0	-8.2	34.9	1.0	-42.1	-40.0	-2.1	
Rev: 05.21.15										
LTE B30 10MHz 16QAM										

9.1.11. LTE BAND 41

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 02/26/18 Test Engineer: 39004 Configuration: EUT only Mode: LTE Band 41, 20MHz QPSK Test Equipment: Substitution: Horn T59 Substitution, and 8R SMA Cable										
Chamber	Pre-amplifier	Filter	Limit							
3m Chamber C	3m Chamber C	Filter	LTE B41							
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2500MHz)										
5.91	-64.1	H	3.0	-11.2	33.4	1.0	-43.6	-25.0	-18.6	
7.52	-65.3	H	3.0	-7.7	33.0	1.0	-39.8	-25.0	-14.8	
10.02	-66.8	H	3.0	-6.0	32.7	1.0	-37.7	-25.0	-12.7	
5.91	-64.5	V	3.0	-11.7	33.4	1.0	-44.1	-25.0	-19.1	
7.52	-65.7	V	3.0	-8.1	33.0	1.0	-40.1	-25.0	-15.1	
10.02	-66.2	V	3.0	-5.1	32.7	1.0	-36.8	-25.0	-11.8	
Mid Channel (2593MHz)										
5.19	-64.5	H	3.0	-11.3	33.4	1.0	-43.6	-25.0	-18.6	
7.78	-66.3	H	3.0	-8.4	33.0	1.0	-40.4	-25.0	-15.4	
10.37	-67.2	H	3.0	-6.1	32.4	1.0	-37.5	-25.0	-12.5	
5.19	-64.8	V	3.0	-11.6	33.4	1.0	-44.0	-25.0	-19.0	
7.78	-66.9	V	3.0	-8.9	33.0	1.0	-40.9	-25.0	-15.9	
10.37	-67.7	V	3.0	-6.4	32.4	1.0	-37.8	-25.0	-12.8	
High Channel (2600MHz)										
5.36	-64.6	H	3.0	-11.0	33.3	1.0	-43.3	-25.0	-18.3	
8.04	-65.8	H	3.0	-7.5	33.0	1.0	-39.5	-25.0	-14.5	
10.72	-67.0	H	3.0	-5.5	32.2	1.0	-36.7	-25.0	-11.7	
5.36	-62.1	V	3.0	-8.6	33.3	1.0	-40.9	-25.0	-15.9	
8.04	-64.3	V	3.0	-6.0	33.0	1.0	-37.9	-25.0	-12.9	
10.72	-66.1	V	3.0	-4.6	32.2	1.0	-35.8	-25.0	-10.8	
Rev: 05.21.15										
LTE B41 20MHz QPSK										

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 02/26/18 Test Engineer: 39004 Configuration: EUT only Mode: LTE Band 41, 20MHz 16QAM Test Equipment: Substitution: Horn T59 Substitution, and 8R SMA Cable										
Chamber	Pre-amplifier	Filter	Limit							
3m Chamber C	3m Chamber C	Filter	LTE B41							
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2500MHz)										
5.91	-62.8	H	3.0	-10.0	33.4	1.0	-42.5	-25.0	-17.5	
7.52	-65.2	H	3.0	-7.9	33.0	1.0	-39.6	-25.0	-14.6	
10.02	-67.2	H	3.0	-6.4	32.7	1.0	-38.1	-25.0	-13.1	
5.91	-64.8	V	3.0	-11.6	33.4	1.0	-44.3	-25.0	-19.3	
7.52	-64.5	V	3.0	-6.9	33.0	1.0	-39.0	-25.0	-14.0	
10.02	-66.8	V	3.0	-5.8	32.7	1.0	-37.5	-25.0	-12.5	
Mid Channel (2593MHz)										
5.19	-65.2	H	3.0	-11.9	33.4	1.0	-44.3	-25.0	-19.3	
7.78	-66.6	H	3.0	-8.7	33.0	1.0	-40.7	-25.0	-15.7	
10.37	-67.0	H	3.0	-6.8	32.4	1.0	-37.3	-25.0	-12.3	
5.19	-65.1	V	3.0	-11.9	33.4	1.0	-44.3	-25.0	-19.3	
7.78	-65.3	V	3.0	-7.8	33.0	1.0	-39.8	-25.0	-14.8	
10.37	-67.3	V	3.0	-6.0	32.4	1.0	-37.5	-25.0	-12.5	
High Channel (2600MHz)										
5.36	-65.4	H	3.0	-11.8	33.3	1.0	-44.2	-25.0	-19.2	
8.04	-66.4	H	3.0	-8.1	33.0	1.0	-40.1	-25.0	-15.1	
10.72	-66.5	H	3.0	-5.0	32.2	1.0	-36.3	-25.0	-11.3	
5.36	-62.5	V	3.0	-8.0	33.3	1.0	-41.3	-25.0	-16.3	
8.04	-66.4	V	3.0	-8.1	33.0	1.0	-40.0	-25.0	-15.0	
10.72	-66.5	V	3.0	-5.0	32.2	1.0	-36.2	-25.0	-11.2	
Rev: 05.21.15										
LTE B41 20MHz 16QAM										

9.1.12. LTE BAND 66

High Frequency Substitution Measurement

UL Fremont Radiated Chamber

Company:

Project #:

Date: 02/23/18

Test Engineer: 38602

Configuration: EUT only

Mode: LTE Band 66, 20MHz QPSK

Test Equipment:

Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber

3m Chamber C

Pre-amplifier

3m Chamber C

Filter

Filter

Limit

EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1720MHz)										
3.42	64.7	H	3.0	-15.4	38.5	1.0	-52.9	-13.0	-39.9	
5.13	63.3	H	3.0	-9.1	38.7	1.0	-47.8	-13.0	-34.8	
6.84	64.0	H	3.0	-7.1	38.1	1.0	-44.2	-13.0	-31.2	
3.42	64.4	V	3.0	-15.3	38.5	1.0	-52.8	-13.0	-39.8	
5.13	64.2	V	3.0	-11.3	38.7	1.0	-49.9	-13.0	-36.9	
6.84	65.1	V	3.0	-8.4	38.1	1.0	-45.5	-13.0	-32.5	
Mid Channel (1745MHz)										
3.49	64.9	H	3.0	-15.5	38.5	1.0	-53.1	-13.0	-40.1	
5.24	63.6	H	3.0	-19.3	38.7	1.0	-48.9	-13.0	-35.9	
6.98	64.3	H	3.0	-7.3	38.1	1.0	-44.4	-13.0	-31.4	
3.49	65.0	V	3.0	-15.8	38.5	1.0	-53.2	-13.0	-40.2	
5.24	63.5	V	3.0	-10.6	38.7	1.0	-48.2	-13.0	-35.2	
6.98	64.6	V	3.0	-7.8	38.1	1.0	-44.9	-13.0	-31.9	
High Channel (1770MHz)										
3.56	65.3	H	3.0	-15.9	38.5	1.0	-53.4	-13.0	-40.4	
5.34	64.7	H	3.0	-11.3	38.7	1.0	-49.9	-13.0	-36.9	
7.12	64.6	H	3.0	-7.3	38.1	1.0	-44.3	-13.0	-31.3	
3.56	65.5	V	3.0	-16.2	38.5	1.0	-53.8	-13.0	-40.8	
5.34	65.1	V	3.0	-12.1	38.7	1.0	-49.7	-13.0	-36.7	
7.12	65.0	V	3.0	-8.1	38.1	1.0	-45.2	-13.0	-32.2	

Rev: 05.21.15

High Frequency Substitution Measurement

UL Fremont Radiated Chamber

Company:

Project #:

Date: 02/23/18

Test Engineer: 38602

Configuration: EUT

Mode: LTE Band 66, 20MHz 16QAM

Test Equipment:

Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber

3m Chamber C

Pre-amplifier

3m Chamber C

Filter

Filter

Limit

EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1720MHz)										
3.42	64.8	H	3.0	-15.6	34.5	1.0	-49.1	-13.0	-36.1	
5.13	64.1	H	3.0	-11.9	33.4	1.0	-43.4	-13.0	-30.4	
6.84	64.3	H	3.0	-7.7	33.1	1.0	-39.8	-13.0	-26.8	
3.42	65.0	V	3.0	-15.3	34.5	1.0	-48.7	-13.0	-35.7	
5.13	64.8	V	3.0	-19.9	33.4	1.0	-43.3	-13.0	-30.3	
6.84	64.4	V	3.0	-7.8	33.1	1.0	-40.9	-13.0	-27.9	
Mid Channel (1745MHz)										
3.49	65.5	H	3.0	-16.1	34.4	1.0	-49.5	-13.0	-36.5	
5.24	63.9	H	3.0	-19.5	33.2	1.0	-42.9	-13.0	-29.9	
6.98	64.5	H	3.0	-7.6	33.1	1.0	-39.7	-13.0	-26.7	
3.49	65.3	V	3.0	-15.4	34.4	1.0	-48.9	-13.0	-35.9	
5.24	63.4	V	3.0	-19.1	33.3	1.0	-42.5	-13.0	-29.5	
6.98	64.2	V	3.0	-7.4	33.1	1.0	-39.5	-13.0	-26.5	
High Channel (1770MHz)										
3.56	65.8	H	3.0	-16.8	34.3	1.0	-49.3	-13.0	-36.3	
5.34	63.2	H	3.0	-8.6	33.3	1.0	-42.9	-13.0	-29.9	
7.12	64.3	H	3.0	-7.2	33.1	1.0	-39.3	-13.0	-26.3	
3.56	65.1	V	3.0	-15.1	34.3	1.0	-48.4	-13.0	-35.4	
5.34	64.9	V	3.0	-11.4	33.3	1.0	-43.8	-13.0	-30.8	
7.12	65.8	V	3.0	-8.8	33.1	1.0	-40.1	-13.0	-27.1	

Rev: 05.21.15

LTE B66 20MHz QPSK

LTE B66 20MHz 16QAM

9.2. FIELD STRENGTH OF SPURIOUS RADIATION, Ant 2

9.2.1. LTE BAND 2

High Frequency Substitution Measurement

UL Fremont Radiated Chamber

Company:

Project #:

Date:

Test Engineer:

Configuration:

Mode:

02/15/18

36649

2/20/2018

36648.0

EUT Only

LTE Band 2, 20MHz QPSK

Test Equipment:

Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber

Pre-amplifier

Filter

Limit

3m Chamber C

3m Chamber C

Filter

ERP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1800MHz)										
3.72	-42.4	H	3.0	-12.4	34.1	1.0	-45.5	-13.0	-32.5	
5.58	-45.1	H	3.0	-11.9	33.3	1.0	-43.3	-13.0	-30.3	
7.44	-46.6	H	3.0	-8.1	33.1	1.0	-41.2	-13.0	-28.2	
3.72	-43.6	V	3.0	-13.2	34.1	1.0	-46.3	-13.0	-33.3	
5.58	-45.4	V	3.0	-11.4	33.3	1.0	-43.7	-13.0	-30.7	
7.44	-44.6	V	3.0	-7.1	33.1	1.0	-39.1	-13.0	-26.1	
Mid Channel (1800MHz)										
3.76	-43.6	H	3.0	-13.5	34.1	1.0	-46.6	-13.0	-33.6	
5.64	-44.8	H	3.0	-10.7	33.3	1.0	-43.0	-13.0	-30.0	
7.52	-45.3	H	3.0	-7.7	33.0	1.0	-39.8	-13.0	-26.8	
3.76	-43.7	V	3.0	-13.2	34.1	1.0	-46.3	-13.0	-33.3	
5.64	-45.1	V	3.0	-11.1	33.3	1.0	-43.3	-13.0	-30.3	
7.52	-44.6	V	3.0	-7.8	33.0	1.0	-39.8	-13.0	-26.8	
High Channel (1900MHz)										
3.80	-42.6	H	3.0	-12.3	34.0	1.0	-45.4	-13.0	-32.4	
5.70	-45.0	H	3.0	-10.7	33.3	1.0	-43.0	-13.0	-30.0	
7.60	-45.7	H	3.0	-8.6	33.0	1.0	-40.0	-13.0	-27.0	
3.80	-42.7	V	3.0	-12.2	34.0	1.0	-45.2	-13.0	-32.2	
5.70	-44.8	V	3.0	-10.6	33.3	1.0	-42.8	-13.0	-29.8	
7.60	-45.6	V	3.0	-7.8	33.0	1.0	-39.8	-13.0	-26.8	

Rev. 05.21.15

High Frequency Substitution Measurement

UL Fremont Radiated Chamber

Company:

Project #:

Date:

Test Engineer:

Configuration:

Mode:

2/20/2018

36648.0

EUT only

LTE Band 2, 20MHz 16QAM

Test Equipment:

Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber

Pre-amplifier

Filter

Limit

3m Chamber C

3m Chamber C

Filter

ERP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1800MHz)										
3.72	-44.9	H	3.0	-14.9	34.1	1.0	-47.1	-13.0	-34.1	
5.58	-45.5	H	3.0	-11.5	33.3	1.0	-43.8	-13.0	-30.8	
7.44	-45.5	H	3.0	-8.1	33.1	1.0	-40.1	-13.0	-27.1	
3.72	-44.3	V	3.0	-13.9	34.1	1.0	-47.0	-13.0	-34.0	
5.58	-45.8	V	3.0	-11.6	33.3	1.0	-43.9	-13.0	-30.9	
7.44	-44.8	V	3.0	-7.1	33.1	1.0	-39.1	-13.0	-26.1	
Mid Channel (1800MHz)										
3.76	-43.9	H	3.0	-12.8	34.1	1.0	-45.8	-13.0	-32.8	
5.64	-44.9	H	3.0	-10.8	33.3	1.0	-43.1	-13.0	-30.1	
7.52	-45.3	H	3.0	-7.7	33.0	1.0	-39.7	-13.0	-26.7	
3.76	-44.3	V	3.0	-13.8	34.1	1.0	-46.9	-13.0	-33.9	
5.64	-44.4	V	3.0	-10.3	33.3	1.0	-42.6	-13.0	-29.6	
7.52	-44.9	V	3.0	-7.3	33.0	1.0	-39.3	-13.0	-26.3	
High Channel (1900MHz)										
3.80	-43.6	H	3.0	-13.4	34.0	1.0	-46.4	-13.0	-33.4	
5.70	-45.1	H	3.0	-10.8	33.3	1.0	-43.1	-13.0	-30.1	
7.60	-44.7	H	3.0	-7.1	33.0	1.0	-39.1	-13.0	-26.1	
3.80	-44.0	V	3.0	-13.5	34.0	1.0	-46.5	-13.0	-33.5	
5.70	-44.9	V	3.0	-10.7	33.3	1.0	-42.9	-13.0	-29.9	
7.60	-45.8	V	3.0	-8.6	33.0	1.0	-40.1	-13.0	-27.1	

Rev. 05.21.15

LTE B2 20MHz QPSK

LTE B2 20MHz 16QAM

9.2.2. LTE BAND 5

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date:
Test Engineer:
Configuration:
Mode:

02/20/18
36602
EUT only
LTE Band 5, 10MHz QPSK

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber

Pre-amplifier

Filter

Limit

3m Chamber C

3m Chamber C

Filter

ERP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (825MHz)										
1.68	-45.5	H	3.0	-23.6	36.5	1.0	-58.1	-13.0	-45.1	
2.49	-45.7	H	3.0	-19.9	35.2	1.0	-54.1	-13.0	-41.1	
3.32	-46.0	H	3.0	-17.1	34.6	1.0	-50.7	-13.0	-37.7	
1.68	-44.9	V	3.0	-22.2	36.5	1.0	-57.7	-13.0	-44.7	
2.49	-45.2	V	3.0	-18.4	35.2	1.0	-53.5	-13.0	-40.5	
3.32	-45.2	V	3.0	-15.7	34.6	1.0	-49.3	-13.0	-36.3	
Mid Channel (836.5MHz)										
1.67	-46.1	H	3.0	-24.1	36.5	1.0	-58.6	-13.0	-45.6	
2.51	-45.4	H	3.0	-19.5	35.1	1.0	-53.0	-13.0	-40.0	
3.35	-46.6	H	3.0	-17.6	34.6	1.0	-51.2	-13.0	-38.2	
1.67	-46.7	V	3.0	-23.9	36.5	1.0	-59.4	-13.0	-46.4	
2.51	-45.1	V	3.0	-18.2	35.1	1.0	-53.3	-13.0	-40.3	
3.35	-46.2	V	3.0	-16.8	34.6	1.0	-50.2	-13.0	-37.2	
High Channel (846MHz)										
1.69	-44.8	H	3.0	-22.7	36.4	1.0	-58.1	-13.0	-45.1	
2.53	-45.5	H	3.0	-19.5	35.1	1.0	-53.6	-13.0	-40.6	
3.38	-46.1	H	3.0	-17.0	34.5	1.0	-50.6	-13.0	-37.6	
1.69	-46.3	V	3.0	-23.4	36.4	1.0	-58.8	-13.0	-45.8	
2.53	-45.4	V	3.0	-20.0	35.1	1.0	-54.2	-13.0	-41.2	
3.38	-46.4	V	3.0	-16.8	34.5	1.0	-50.3	-13.0	-37.3	

Rev. 05.21.15

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date:
Test Engineer:
Configuration:
Mode:

02/20/18
36602
EUT only
LTE Band 5, 10MHz 16QAM

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber

Pre-amplifier

Filter

Limit

3m Chamber C

3m Chamber C

Filter

ERP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (825MHz)										
1.68	-46.6	H	3.0	-25.0	36.5	1.0	-60.5	-13.0	-47.5	
2.49	-46.6	H	3.0	-23.4	35.2	1.0	-57.6	-13.0	-44.6	
3.32	-45.5	H	3.0	-19.5	34.6	1.0	-53.1	-13.0	-40.1	
1.68	-45.9	V	3.0	-24.1	36.5	1.0	-59.6	-13.0	-46.6	
2.49	-45.7	V	3.0	-21.6	35.2	1.0	-55.7	-13.0	-42.7	
3.32	-45.7	V	3.0	-19.7	34.6	1.0	-53.4	-13.0	-40.4	
Mid Channel (836.5MHz)										
1.67	-46.0	H	3.0	-24.5	36.5	1.0	-60.0	-13.0	-47.0	
2.51	-44.9	H	3.0	-21.7	35.1	1.0	-55.8	-13.0	-42.8	
3.35	-45.7	H	3.0	-18.7	34.6	1.0	-53.2	-13.0	-40.2	
1.67	-45.2	V	3.0	-23.4	36.5	1.0	-58.9	-13.0	-45.9	
2.51	-44.9	V	3.0	-20.7	35.1	1.0	-54.8	-13.0	-41.8	
3.35	-45.6	V	3.0	-19.0	34.6	1.0	-52.5	-13.0	-39.5	
High Channel (846MHz)										
1.69	-44.8	H	3.0	-24.1	36.4	1.0	-59.5	-13.0	-46.5	
2.53	-45.8	H	3.0	-22.5	35.1	1.0	-56.6	-13.0	-43.6	
3.38	-46.1	H	3.0	-20.0	34.5	1.0	-53.5	-13.0	-40.5	
1.69	-46.6	V	3.0	-24.8	36.4	1.0	-60.3	-13.0	-47.3	
2.53	-45.2	V	3.0	-20.9	35.1	1.0	-55.1	-13.0	-42.1	
3.38	-46.8	V	3.0	-20.7	34.5	1.0	-54.2	-13.0	-41.2	

Rev. 05.21.15

LTE B5 10MHz QPSK

LTE B5 10MHz 16QAM

9.2.3. LTE BAND 7

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 02/20/18 Test Engineer: 38602 Configuration: EUT only Mode: LTE Band 7, 20MHz QPSK										
Test Equipment: Substitution: Horn T59 Substitution, and 8R SMA Cable										
Chamber		Pre-amplifier		Filter		Limit				
3m Chamber C		3m Chamber C		Filter		LTE B7				
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2510MHz)										
5.02	-63.3	H	3.0	-10.4	33.4	1.0	-42.8	-25.0	-17.8	
7.53	-64.6	H	3.0	-7.9	33.0	1.0	-39.0	-25.0	-14.0	
10.04	-65.4	H	3.0	-4.6	32.6	1.0	-36.2	-25.0	-11.2	
5.02	-63.5	V	3.0	-10.6	33.4	1.0	-43.1	-25.0	-18.1	
7.53	-64.4	V	3.0	-6.8	33.0	1.0	-38.8	-25.0	-13.8	
10.04	-64.9	V	3.0	-3.8	32.6	1.0	-35.5	-25.0	-10.5	
Mid Channel (2535MHz)										
5.07	-64.0	H	3.0	-11.0	33.4	1.0	-43.4	-25.0	-18.4	
7.61	-64.5	H	3.0	-6.9	33.0	1.0	-38.9	-25.0	-13.9	
10.14	-65.4	H	3.0	-4.5	32.6	1.0	-36.1	-25.0	-11.1	
5.07	-64.2	V	3.0	-11.3	33.4	1.0	-43.7	-25.0	-18.7	
7.61	-63.9	V	3.0	-6.2	33.0	1.0	-38.2	-25.0	-13.2	
10.14	-64.1	V	3.0	-2.9	32.6	1.0	-34.5	-25.0	-9.5	
High Channel (2560MHz)										
5.12	-63.3	H	3.0	-10.3	33.4	1.0	-42.6	-25.0	-17.6	
7.68	-64.2	H	3.0	-6.4	33.0	1.0	-38.4	-25.0	-13.4	
10.24	-64.3	H	3.0	-3.3	32.5	1.0	-34.8	-25.0	-9.8	
5.12	-64.0	V	3.0	-11.0	33.4	1.0	-43.3	-25.0	-18.3	
7.68	-65.1	V	3.0	-7.3	33.0	1.0	-39.3	-25.0	-14.3	
10.24	-65.3	V	3.0	-4.1	32.5	1.0	-35.6	-25.0	-10.6	
Rev. 05.21.15										
LTE B7 20MHz QPSK										
High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 02/20/18 Test Engineer: 38602 Configuration: EUT only Mode: LTE Band 7, 20MHz 16QAM										
Test Equipment: Substitution: Horn T59 Substitution, and 8R SMA Cable										
Chamber		Pre-amplifier		Filter		Limit				
3m Chamber C		3m Chamber C		Filter		LTE B7				
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2510MHz)										
5.02	-63.1	H	3.0	-10.2	33.4	1.0	-42.6	-25.0	-17.6	
7.53	-64.4	H	3.0	-4.8	33.0	1.0	-38.8	-25.0	-13.8	
10.04	-64.4	H	3.0	-3.6	32.6	1.0	-35.2	-25.0	-10.2	
5.02	-63.3	V	3.0	-10.4	33.4	1.0	-42.9	-25.0	-17.9	
7.53	-64.6	V	3.0	-7.0	33.0	1.0	-39.0	-25.0	-14.0	
10.04	-64.4	V	3.0	-3.3	32.6	1.0	-35.0	-25.0	-10.0	
Mid Channel (2535MHz)										
5.07	-63.5	H	3.0	-10.5	33.4	1.0	-42.9	-25.0	-17.9	
7.61	-65.0	H	3.0	-7.3	33.0	1.0	-39.3	-25.0	-14.3	
10.14	-65.3	H	3.0	-4.4	32.6	1.0	-36.0	-25.0	-11.0	
5.07	-64.3	V	3.0	-11.4	33.4	1.0	-43.8	-25.0	-18.8	
7.61	-65.1	V	3.0	-7.4	33.0	1.0	-39.4	-25.0	-14.4	
10.14	-65.3	V	3.0	-4.1	32.6	1.0	-35.7	-25.0	-10.7	
High Channel (2560MHz)										
5.12	-64.0	H	3.0	-10.9	33.4	1.0	-43.3	-25.0	-18.3	
7.68	-65.4	H	3.0	-7.6	33.0	1.0	-39.6	-25.0	-14.6	
10.24	-64.8	H	3.0	-3.8	32.5	1.0	-35.3	-25.0	-10.3	
5.12	-64.4	V	3.0	-11.4	33.4	1.0	-43.7	-25.0	-18.7	
7.68	-65.0	V	3.0	-7.2	33.0	1.0	-39.2	-25.0	-14.2	
10.24	-65.2	V	3.0	-4.0	32.5	1.0	-35.5	-25.0	-10.5	
Rev. 05.21.15										
LTE B7 20MHz 16QAM										

9.2.6. LTE BAND 14

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 03/30/18 Test Engineer: 36648 Configuration: EUT ONLY Mode: LTE Band 14, 10MHz QPSK Test Equipment: Substitution: Horn T59 Substitution, and 8ft SMA Cable										
Chamber	Pre-amplifier	Filter	Limit							
3mChamber E	3mChamber E	Filter	ERP							
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (7330Hz) BW 100kHz										
1.59	-70.5	H	3.0	-27.7	37.8	1.0	-44.5	-40.0	-34.5	
2.38	-69.9	H	3.0	-25.4	38.2	1.0	-42.6	-13.0	-49.6	
3.17	-71.8	H	3.0	-23.2	38.4	1.0	-40.6	-13.0	-47.6	
1.59	-70.2	V	3.0	-28.3	37.8	1.0	-45.2	-40.0	-35.2	
2.38	-67.7	V	3.0	-23.0	38.2	1.0	-40.1	-13.0	-47.1	
3.17	-71.3	V	3.0	-23.0	38.4	1.0	-40.5	-13.0	-47.5	
Rev: 05.21.15										

9.2.7. LTE BAND 17

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 02/20/18 Test Engineer: 38602 Configuration: EUT only Mode: LTE Band 17, 10MHz QPSK Test Equipment: Substitution: Horn T59 Substitution, and 8ft SMA Cable										
Chamber	Pre-amplifier	Filter	Limit							
3m Chamber C	3m Chamber C	Filter	ERP							
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (7100Hz)										
1.42	-66.2	H	3.0	-25.9	36.7	1.0	-41.6	-13.0	-48.6	
2.13	-65.8	H	3.0	-20.9	35.7	1.0	-55.8	-13.0	-42.8	
2.84	-65.6	H	3.0	-18.3	35.0	1.0	-52.3	-13.0	-39.3	
1.42	-65.5	V	3.0	-24.7	36.7	1.0	-40.4	-13.0	-47.4	
2.13	-65.1	V	3.0	-19.4	35.7	1.0	-54.1	-13.0	-41.1	
2.84	-65.5	V	3.0	-17.6	35.0	1.0	-51.6	-13.0	-38.6	
Rev: 05.21.15										

LTE B17 10MHz QPSK

LTE B17 10MHz 16QAM

9.2.8. LTE BAND 25

Company:

Project #:

Date:

Test Engineer:

Configuration:

Mode:

02/15/18

36648

EUT

LTE Band 25, 20MHz QPSK

Test Equipment:

Chamber

3m Chamber C

Pre-amplifier

3m Chamber C

Filter

Filter

Limit

ERP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1860MHz)										
3.72	-64.5	H	3.0	-14.5	34.1	1.0	-47.7	-13.0	-34.7	
5.58	-65.5	H	3.0	-11.4	33.3	1.0	-43.7	-13.0	-30.7	
7.44	-65.5	H	3.0	-8.0	33.1	1.0	-40.0	-13.0	-27.0	
3.72	-63.7	V	3.0	-13.3	34.1	1.0	-46.4	-13.0	-33.4	
5.58	-62.8	V	3.0	-8.8	33.3	1.0	-41.1	-13.0	-28.1	
7.44	-65.3	V	3.0	-7.8	33.1	1.0	-39.9	-13.0	-26.9	
Mid Channel (1882.5MHz)										
3.77	-62.5	H	3.0	-12.4	34.1	1.0	-45.5	-13.0	-32.5	
5.65	-64.4	H	3.0	-10.2	33.3	1.0	-42.5	-13.0	-29.5	
7.53	-64.1	H	3.0	-6.5	33.0	1.0	-38.5	-13.0	-25.5	
3.77	-62.8	V	3.0	-12.2	34.1	1.0	-45.3	-13.0	-32.3	
5.65	-64.6	V	3.0	-11.5	33.3	1.0	-43.7	-13.0	-30.7	
7.53	-64.7	V	3.0	-7.1	33.0	1.0	-39.1	-13.0	-26.1	
High Channel (1905MHz)										
3.81	-63.0	H	3.0	-12.8	34.0	1.0	-45.8	-13.0	-32.8	
5.72	-64.2	H	3.0	-9.9	33.3	1.0	-42.1	-13.0	-29.1	
7.62	-64.4	H	3.0	-8.8	33.0	1.0	-38.9	-13.0	-25.9	
3.81	-63.2	V	3.0	-12.6	34.0	1.0	-45.6	-13.0	-32.6	
5.72	-65.8	V	3.0	-11.3	33.3	1.0	-43.6	-13.0	-30.6	
7.62	-64.3	V	3.0	-6.6	33.0	1.0	-38.6	-13.0	-25.6	

Rev. 05.21.15

Chamber

3m Chamber C

Pre-amplifier

3m Chamber C

Filter

Filter

Limit

ERP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1860MHz)										
3.72	-63.6	H	3.0	-13.6	34.1	1.0	-46.7	-13.0	-33.7	
5.58	-64.4	H	3.0	-10.4	33.3	1.0	-42.7	-13.0	-29.7	
7.44	-64.7	H	3.0	-7.3	33.1	1.0	-38.3	-13.0	-25.3	
3.72	-63.3	V	3.0	-12.9	34.1	1.0	-46.1	-13.0	-33.1	
5.58	-65.3	V	3.0	-11.3	33.3	1.0	-43.6	-13.0	-30.6	
7.44	-64.8	V	3.0	-7.3	33.1	1.0	-39.4	-13.0	-26.4	
Mid Channel (1882.5MHz)										
3.77	-63.1	H	3.0	-13.0	34.1	1.0	-46.1	-13.0	-33.1	
5.65	-64.8	H	3.0	-10.7	33.3	1.0	-42.9	-13.0	-29.9	
7.53	-64.7	H	3.0	-7.1	33.0	1.0	-39.1	-13.0	-26.1	
3.77	-62.8	V	3.0	-12.4	34.1	1.0	-45.5	-13.0	-32.5	
5.65	-64.6	V	3.0	-10.5	33.3	1.0	-42.8	-13.0	-29.8	
7.53	-63.7	V	3.0	-6.1	33.0	1.0	-38.1	-13.0	-25.1	
High Channel (1905MHz)										
3.81	-63.5	H	3.0	-13.2	34.0	1.0	-46.3	-13.0	-33.3	
5.72	-65.4	H	3.0	-11.1	33.3	1.0	-43.4	-13.0	-30.4	
7.62	-64.9	H	3.0	-7.2	33.0	1.0	-39.2	-13.0	-26.2	
3.81	-63.0	V	3.0	-12.4	34.0	1.0	-45.4	-13.0	-32.4	
5.72	-64.9	V	3.0	-10.7	33.3	1.0	-43.0	-13.0	-30.0	
7.62	-63.9	V	3.0	-6.2	33.0	1.0	-38.2	-13.0	-25.2	

Rev. 05.21.15

LTE B25 20MHz QPSK

LTE B25 20MHz 16QAM

9.2.9. LTE BAND 26 (FCC PART 90S)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date:
Test Engineer:
Configuration:
Mode:

02/20/18
38602
EUT only
LTE Band 26 (90S), 10MHz QPSK

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber

3m Chamber C

Pre-amplifier

3m Chamber C

Filter

Filter

Limit

ERP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (819MHz)										
1.64	-64.8	H	3.0	-23.1	36.5	1.0	-58.6	-13.0	-45.6	
2.46	-64.1	H	3.0	-18.4	35.2	1.0	-52.6	-13.0	-39.6	
3.28	-64.8	H	3.0	-15.8	34.7	1.0	-49.5	-13.0	-36.5	
1.64	-65.0	V	3.0	-22.5	36.5	1.0	-58.0	-13.0	-45.0	
2.46	-65.4	V	3.0	-19.7	35.2	1.0	-53.9	-13.0	-40.9	
3.28	-65.1	V	3.0	-15.7	34.7	1.0	-49.3	-13.0	-36.3	

Rev. 05.21.15

LTE B26 10MHz QPSK

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date:
Test Engineer:
Configuration:
Mode:

02/20/18
38602
EUT only
LTE Band 26 (90S), 10MHz 16QAM

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber

3m Chamber C

Pre-amplifier

3m Chamber C

Filter

Filter

Limit

ERP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (819MHz)										
1.64	-65.4	H	3.0	-23.7	36.5	1.0	-59.2	-13.0	-46.2	
2.46	-65.0	H	3.0	-19.3	35.2	1.0	-53.5	-13.0	-40.5	
3.28	-65.8	H	3.0	-17.0	34.7	1.0	-50.7	-13.0	-37.7	
1.64	-64.7	V	3.0	-22.2	36.5	1.0	-57.7	-13.0	-44.7	
2.46	-64.6	V	3.0	-18.9	35.2	1.0	-53.1	-13.0	-40.1	
3.28	-66.0	V	3.0	-16.6	34.7	1.0	-50.2	-13.0	-37.2	

Rev. 05.21.15

LTE B26 10MHz 16QAM

9.2.10. LTE BAND 30

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 02/22/18 Test Engineer: 10649 Configuration: EUT Mode: LTE Band 30, 10MHz QPSK Test Equipment: Substitution: Horn T59 Substitution, and 8T SMA Cable										
Chamber	Pre-amplifier	Filter	Limit							
3m Chamber C	3m Chamber C	Filter	LTE B30							
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	ERP @ TX Ant End (dBm)	Preamp	Attenuator	ERP	Limit	Delta	Notes
Mid Channel (2310MHz)										
4.62	-47.2	H	3.0	-13.4	37.9	1.0	-50.3	-40.0	-10.3	
6.93	-48.1	H	3.0	-8.5	36.5	1.0	-44.9	-40.0	-4.9	
8.15	-48.1	H	3.0	-7.9	35.6	1.0	-42.5	-40.0	-2.5	
4.62	-47.3	V	3.0	-13.6	37.9	1.0	-50.5	-40.0	-10.5	
6.93	-48.3	V	3.0	-8.8	36.5	1.0	-44.3	-40.0	-4.3	
8.15	-49.1	V	3.0	-8.3	35.6	1.0	-42.9	-40.0	-2.9	
Rev: 05.21.15										
LTE B30 10MHz QPSK										

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 02/22/18 Test Engineer: 10649 Configuration: EUT Mode: LTE Band 30, 10MHz 16QAM Test Equipment: Substitution: Horn T59 Substitution, and 8T SMA Cable										
Chamber	Pre-amplifier	Filter	Limit							
3m Chamber C	3m Chamber C	Filter	LTE B30							
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	ERP @ TX Ant End (dBm)	Preamp	Attenuator	ERP	Limit	Delta	Notes
Mid Channel (2310MHz)										
4.62	-46.9	H	3.0	-12.2	37.9	1.0	-49.1	-40.0	-9.1	
6.93	-47.3	H	3.0	-8.7	36.5	1.0	-44.1	-40.0	-4.1	
8.15	-49.0	H	3.0	-8.8	35.6	1.0	-43.4	-40.0	-3.4	
4.62	-46.6	V	3.0	-11.8	37.9	1.0	-48.7	-40.0	-8.7	
6.93	-48.0	V	3.0	-8.9	36.5	1.0	-44.0	-40.0	-4.0	
8.15	-49.9	V	3.0	-9.1	35.6	1.0	-43.8	-40.0	-3.8	
Rev: 05.21.15										
LTE B30 10MHz 16QAM										

9.2.11. LTE BAND 41

High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 02/21/18 Test Engineer: 36648 Configuration: EUT only Mode: LTE Band 41, 20MHz QPSK Test Equipment: Substitution: Horn T59 Substitution, and 8T SMA Cable										
Chamber	Pre-amplifier	Filter	Limit							
3m Chamber C	3m Chamber C	Filter	LTE B41							
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	ERP @ TX Ant End (dBm)	Preamp	Attenuator	ERP	Limit	Delta	Notes
Low Channel (2506MHz)										
5.91	-44.5	H	3.0	-11.6	33.4	1.0	-44.0	-25.0	-19.0	
7.52	-44.2	H	3.0	-6.6	33.0	1.0	-38.6	-25.0	-13.6	
10.02	-45.0	H	3.0	-4.3	32.7	1.0	-35.9	-25.0	-10.9	
5.91	-43.2	V	3.0	-10.4	33.4	1.0	-42.8	-25.0	-17.8	
7.52	-44.9	V	3.0	-7.3	33.0	1.0	-39.4	-25.0	-14.4	
10.02	-45.6	V	3.0	-3.9	32.7	1.0	-35.5	-25.0	-10.5	
Mid Channel (2593MHz)										
5.19	-44.0	H	3.0	-10.7	33.4	1.0	-43.1	-25.0	-18.1	
7.78	-44.3	H	3.0	-4.4	33.0	1.0	-38.4	-25.0	-13.4	
10.37	-44.1	H	3.0	-3.0	32.4	1.0	-34.4	-25.0	-9.4	
5.19	-44.7	V	3.0	-11.6	33.4	1.0	-43.9	-25.0	-18.9	
7.78	-46.4	V	3.0	-7.5	33.0	1.0	-39.5	-25.0	-14.5	
10.37	-45.2	V	3.0	-3.9	32.4	1.0	-35.3	-25.0	-10.3	
High Channel (2688MHz)										
5.36	-44.1	H	3.0	-10.5	33.3	1.0	-42.9	-25.0	-17.9	
8.04	-44.9	H	3.0	-8.6	33.0	1.0	-38.6	-25.0	-13.6	
10.72	-46.8	H	3.0	-3.4	32.2	1.0	-34.7	-25.0	-9.7	
5.36	-43.5	V	3.0	-10.0	33.3	1.0	-42.3	-25.0	-17.3	
8.04	-43.7	V	3.0	-5.3	33.0	1.0	-37.3	-25.0	-12.3	
10.72	-45.9	V	3.0	-4.4	32.2	1.0	-35.6	-25.0	-10.6	
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High Frequency Substitution Measurement UL Fremont Radiated Chamber										
Company: Project #: Date: 02/21/18 Test Engineer: 36648 Configuration: EUT only Mode: LTE Band 41, 20MHz 16QAM Test Equipment: Substitution: Horn T59 Substitution, and 8T SMA Cable										
Chamber	Pre-amplifier	Filter	Limit							
3m Chamber C	3m Chamber C	Filter	LTE B41							
Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	ERP @ TX Ant End (dBm)	Preamp	Attenuator	ERP	Limit	Delta	Notes
Low Channel (2506MHz)										
5.91	-43.3	H	3.0	-10.5	33.4	1.0	-42.9	-25.0	-17.9	
7.52	-45.1	H	3.0	-7.5	33.0	1.0	-39.5	-25.0	-14.5	
10.02	-44.9	H	3.0	-4.1	32.7	1.0	-35.8	-25.0	-10.8	
5.91	-43.3	V	3.0	-10.5	33.4	1.0	-42.9	-25.0	-17.9	
7.52	-44.5	V	3.0	-6.9	33.0	1.0	-38.9	-25.0	-13.9	
10.02	-44.9	V	3.0	-3.8	32.7	1.0	-35.5	-25.0	-10.5	
Mid Channel (2593MHz)										
5.19	-44.2	H	3.0	-11.0	33.4	1.0	-43.3	-25.0	-18.3	
7.78	-45.7	H	3.0	-7.8	33.0	1.0	-39.8	-25.0	-14.8	
10.37	-46.2	H	3.0	-5.1	32.4	1.0	-36.5	-25.0	-11.5	
5.19	-44.9	V	3.0	-11.7	33.4	1.0	-44.1	-25.0	-19.1	
7.78	-46.9	V	3.0	-8.0	33.0	1.0	-40.0	-25.0	-15.0	
10.37	-46.8	V	3.0	-5.5	32.4	1.0	-36.9	-25.0	-11.9	
High Channel (2688MHz)										
5.36	-44.3	H	3.0	-10.7	33.3	1.0	-43.1	-25.0	-18.1	
8.04	-44.9	H	3.0	-8.7	33.0	1.0	-38.6	-25.0	-13.6	
10.72	-46.5	H	3.0	-4.0	32.2	1.0	-35.2	-25.0	-10.2	
5.36	-44.1	V	3.0	-10.5	33.3	1.0	-42.9	-25.0	-17.9	
8.04	-44.4	V	3.0	-4.1	33.0	1.0	-38.1	-25.0	-13.1	
10.72	-44.8	V	3.0	-3.3	32.2	1.0	-34.5	-25.0	-9.5	
Rev: 05.21.15										
LTE B41 20MHz 16QAM										