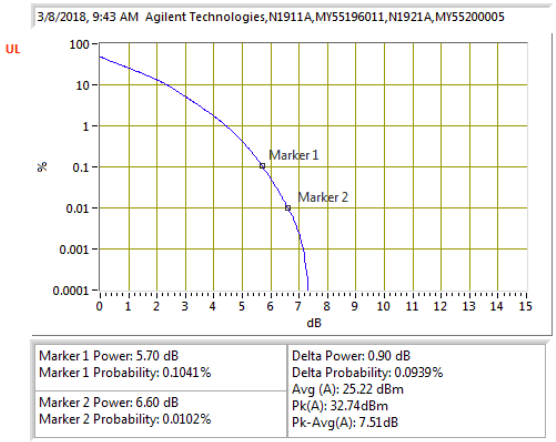
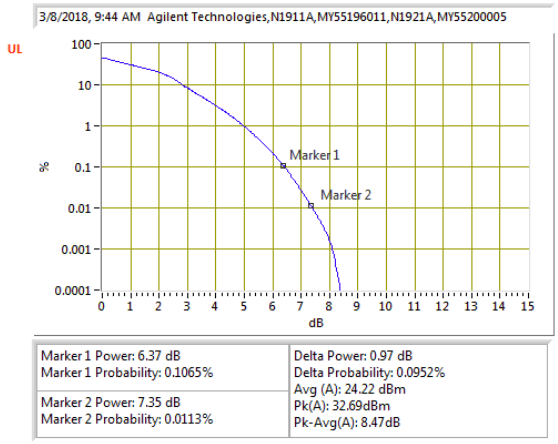
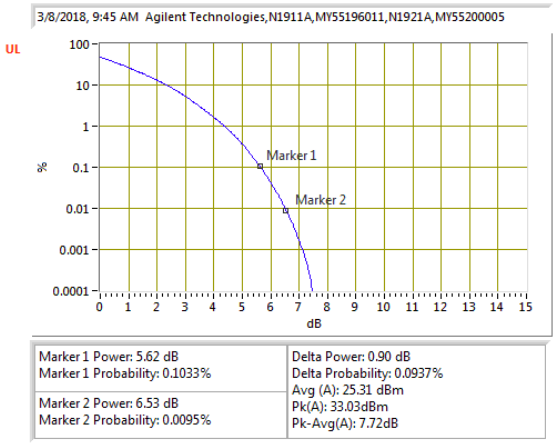
8.5.5. LTE BAND 13



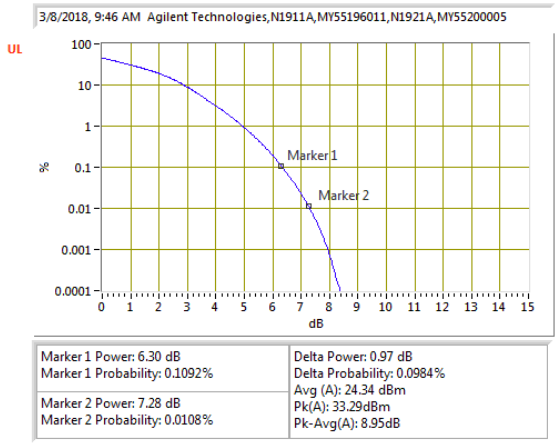
LTE B13 5MHz QPSK Middle Channel



LTE B13 5MHz 16QAM Middle Channel



LTE B13 10MHz QPSK Middle Channel



LTE B13 10MHz 16QAM Middle Channel

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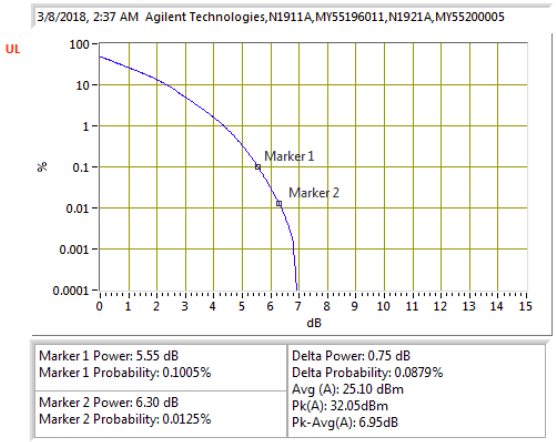
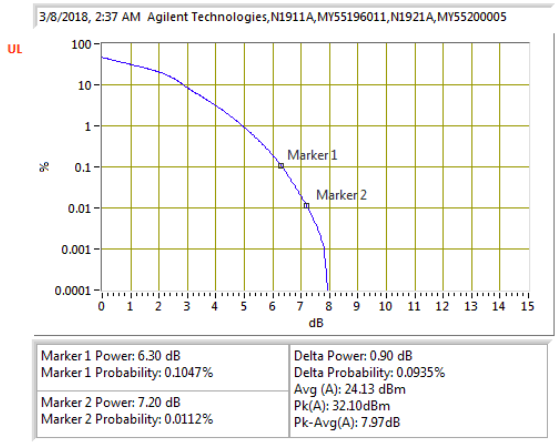
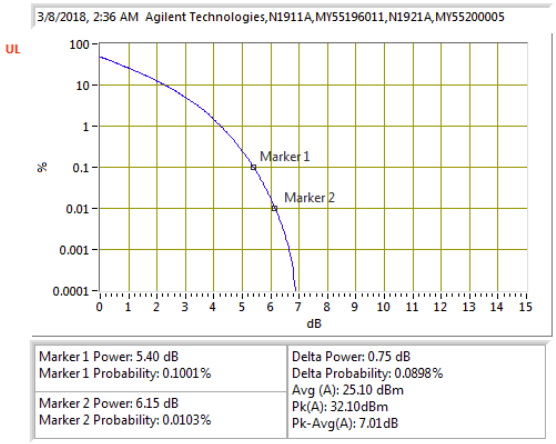
8.5.6. LTE BAND 14



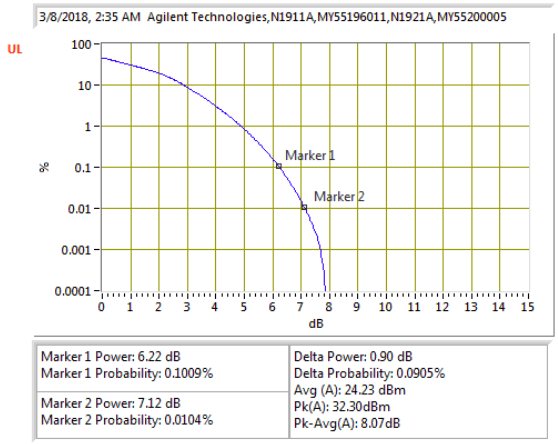
LTE B14 5MHz QPSK Middle Channel



LTE B14 5MHz 16QAM Middle Channel



LTE B14 10MHz QPSK Middle Channel



LTE B14 10MHz 16QAM Middle Channel

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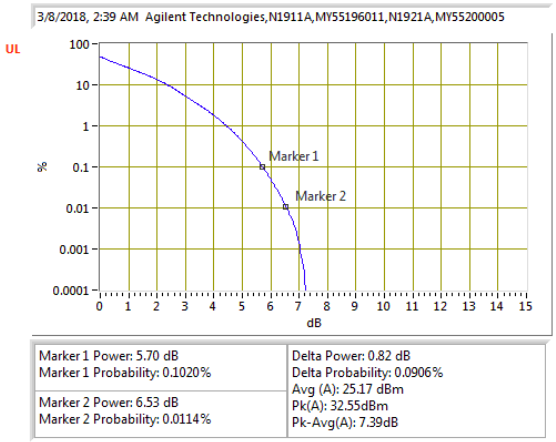
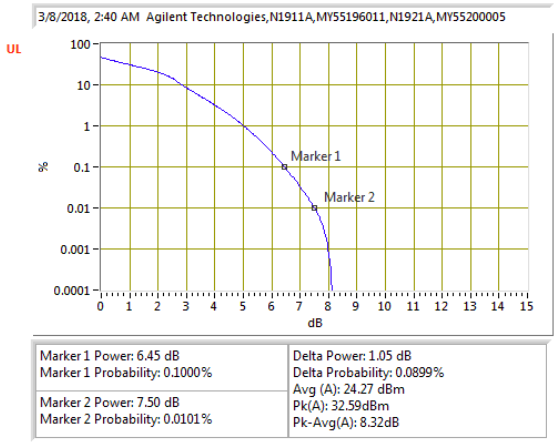
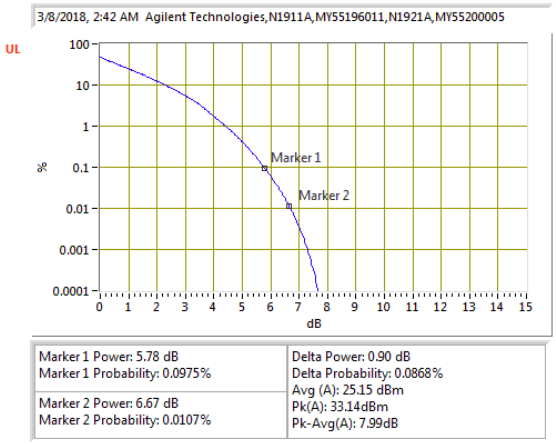
8.5.7. LTE BAND 17



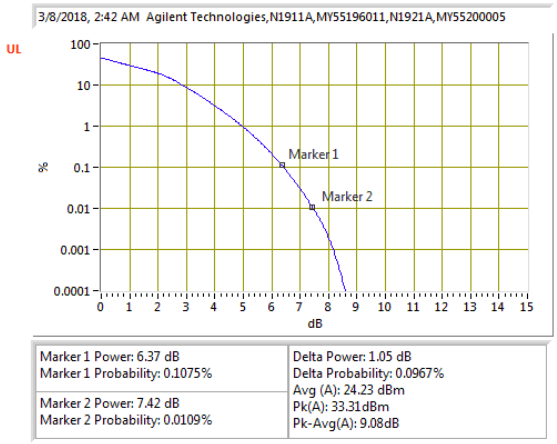
LTE B17 5MHz QPSK Middle Channel



LTE B17 5MHz 16QAM Middle Channel



LTE B17 10MHz QPSK Middle Channel



LTE B17 10MHz 16QAM Middle Channel

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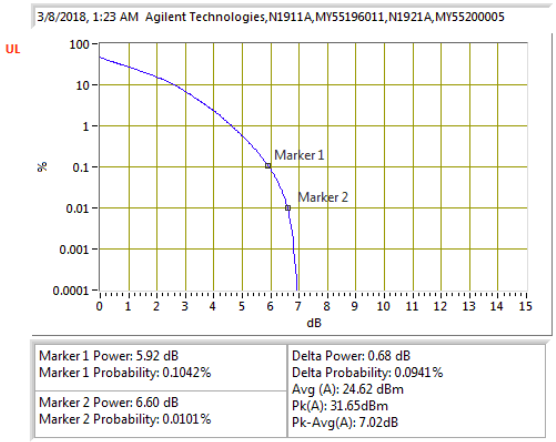
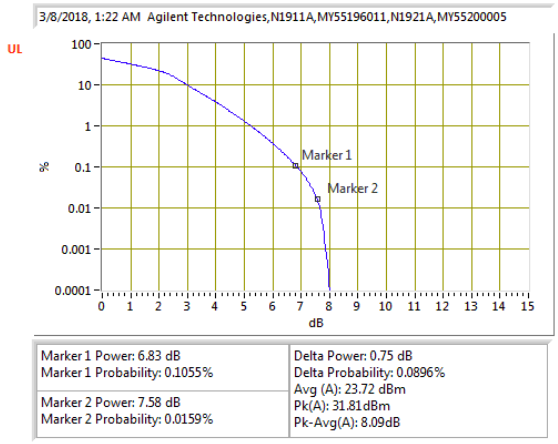
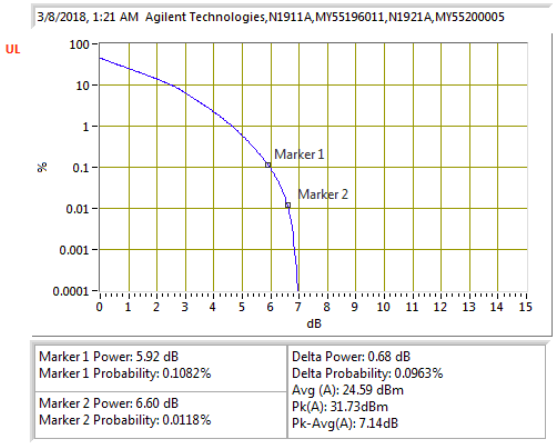
8.5.8. LTE BAND 25



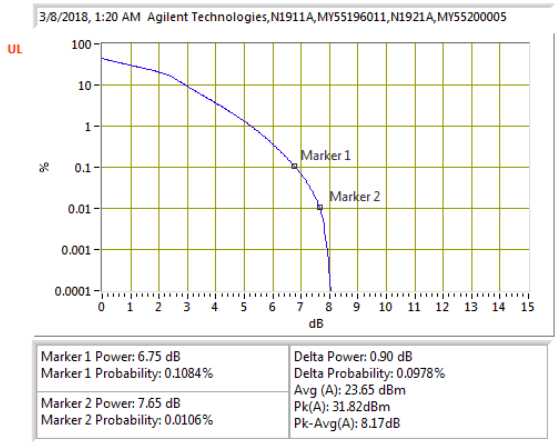
LTE B25 1.4MHz QPSK Middle Channel



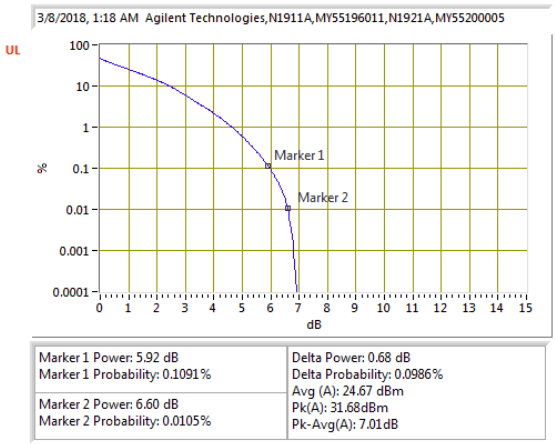
LTE B25 1.4MHz 16QAM Middle Channel



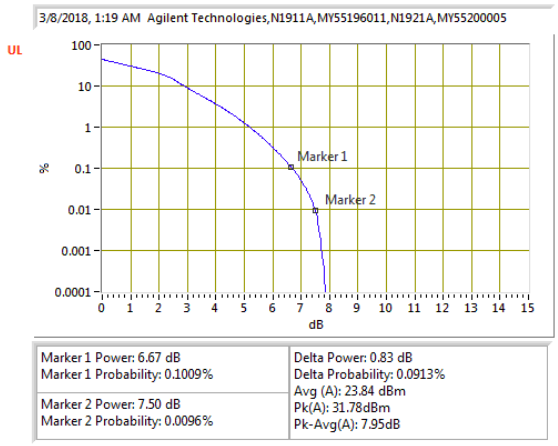
LTE B25 3MHz QPSK Middle Channel



LTE B25 3MHz 16QAM Middle Channel



LTE B2 5MHz QPSK Middle Channel



LTE B2 5MHz 16QAM Middle Channel

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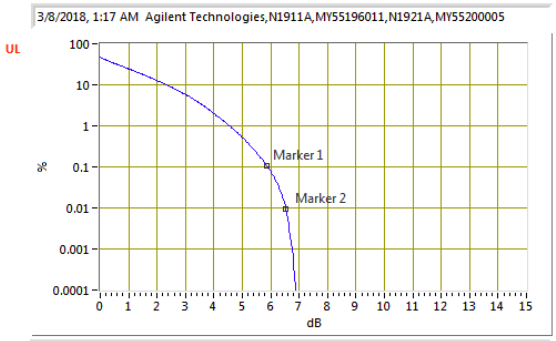
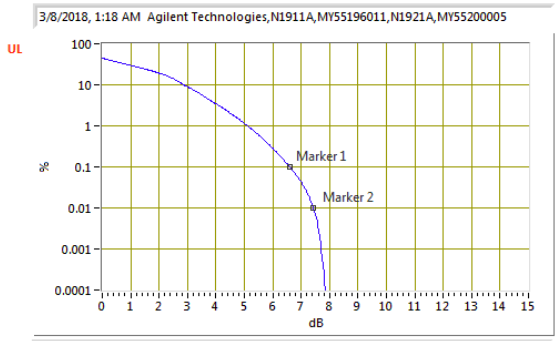


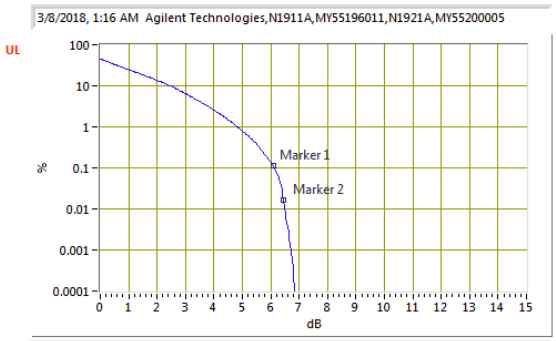
Marker 1 Power: 5.85 dB Marker 1 Probability: 0.1094%	Delta Power: 0.67 dB Delta Probability: 0.0992% Avg (A): 24.60 dBm Pk(A): 31.58dBm Pk-Avg(A): 6.98dB
Marker 2 Power: 6.53 dB Marker 2 Probability: 0.0102%	

LTE B25 10MHz QPSK Middle Channel



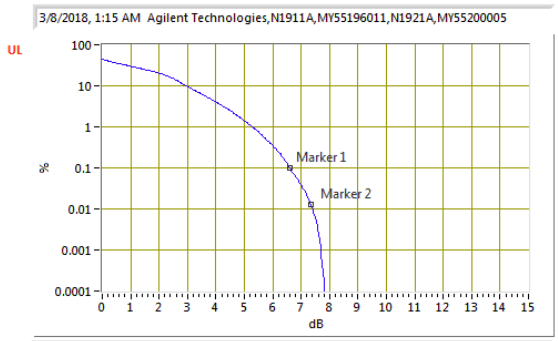
Marker 1 Power: 6.60 dB Marker 1 Probability: 0.0991%	Delta Power: 0.82 dB Delta Probability: 0.0886% Avg (A): 23.68 dBm Pk(A): 31.69dBm Pk-Avg(A): 8.01dB
Marker 2 Power: 7.42 dB Marker 2 Probability: 0.0105%	

LTE B25 10MHz 16QAM Middle Channel



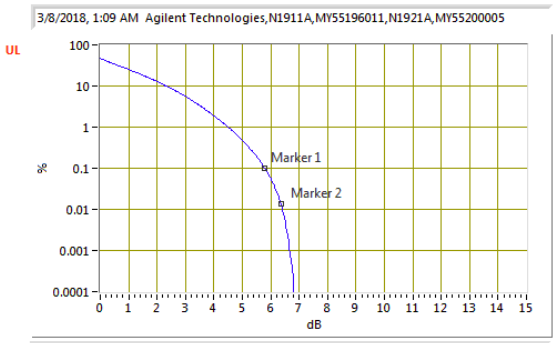
Marker 1 Power: 6.08 dB Marker 1 Probability: 0.1154%	Delta Power: 0.37 dB Delta Probability: 0.0990% Avg (A): 24.61 dBm Pk(A): 31.59dBm Pk-Avg(A): 6.98dB
Marker 2 Power: 6.45 dB Marker 2 Probability: 0.0163%	

LTE B25 15MHz QPSK Middle Channel



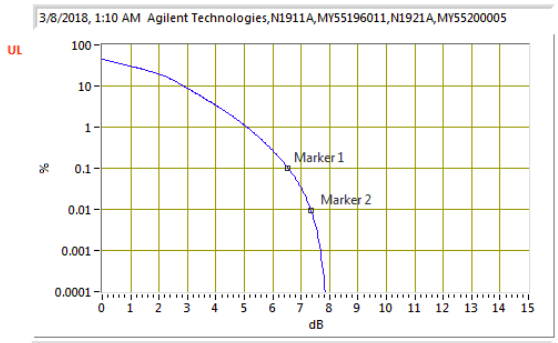
Marker 1 Power: 6.60 dB Marker 1 Probability: 0.1000%	Delta Power: 0.75 dB Delta Probability: 0.0874% Avg (A): 23.67 dBm Pk(A): 31.70dBm Pk-Avg(A): 8.04dB
Marker 2 Power: 7.35 dB Marker 2 Probability: 0.0125%	

LTE B25 15MHz 16QAM Middle Channel



Marker 1 Power: 5.78 dB Marker 1 Probability: 0.1039%	Delta Power: 0.60 dB Delta Probability: 0.0915% Avg (A): 24.58 dBm Pk(A): 31.62dBm Pk-Avg(A): 7.04dB
Marker 2 Power: 6.37 dB Marker 2 Probability: 0.0124%	

LTE B25 20MHz QPSK Middle Channel



Marker 1 Power: 6.53 dB Marker 1 Probability: 0.1038%	Delta Power: 0.83 dB Delta Probability: 0.0942% Avg (A): 23.67 dBm Pk(A): 31.70dBm Pk-Avg(A): 8.03dB
Marker 2 Power: 7.35 dB Marker 2 Probability: 0.0095%	

LTE B25 20MHz 16QAM Middle Channel

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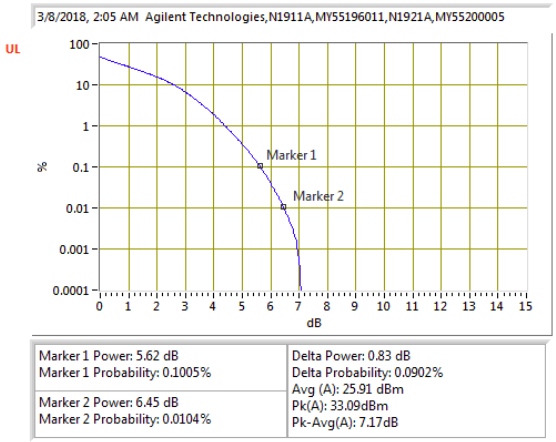
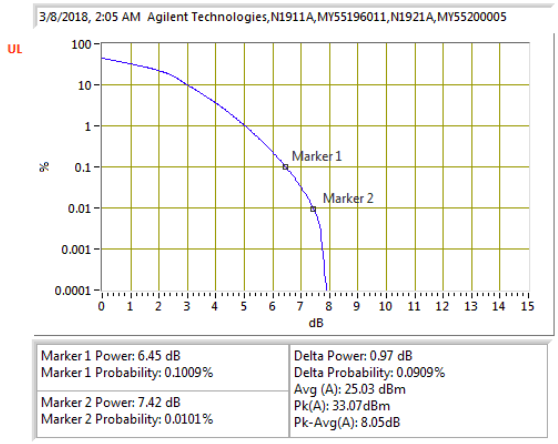
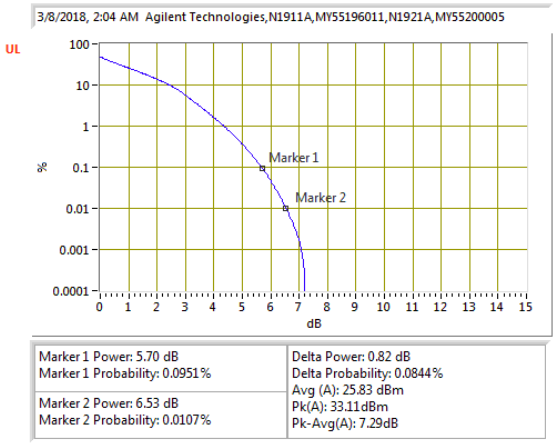
8.5.9. LTE BAND 26 (FCC PART 90S)



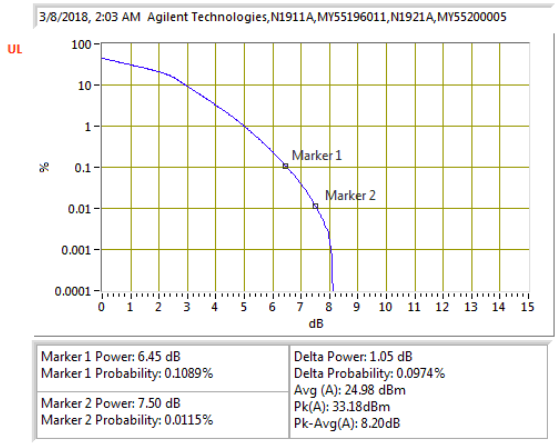
LTE B26 1.4MHz QPSK Middle Channel



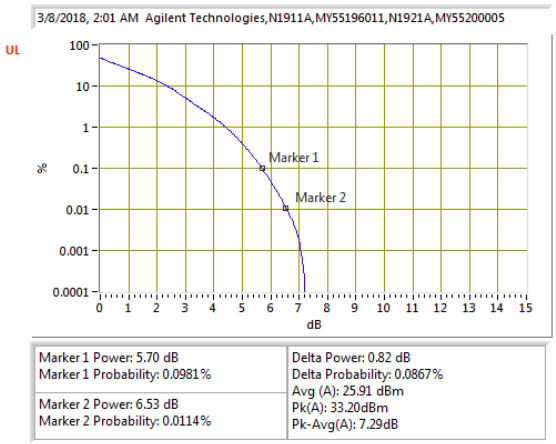
LTE B26 1.4MHz 16QAM Middle Channel



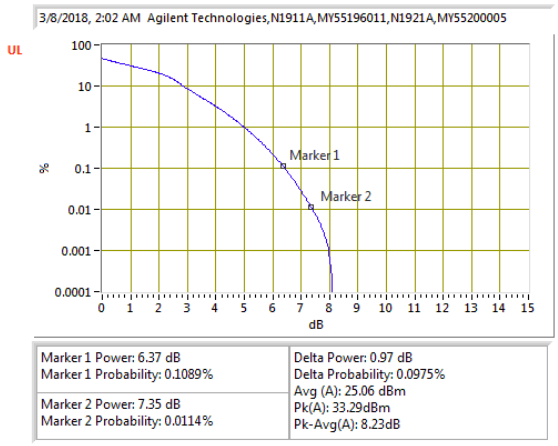
LTE B26 3MHz QPSK Middle Channel



LTE B26 3MHz 16QAM Middle Channel



LTE B26 5MHz QPSK Middle Channel



LTE B26 5MHz 16QAM Middle Channel

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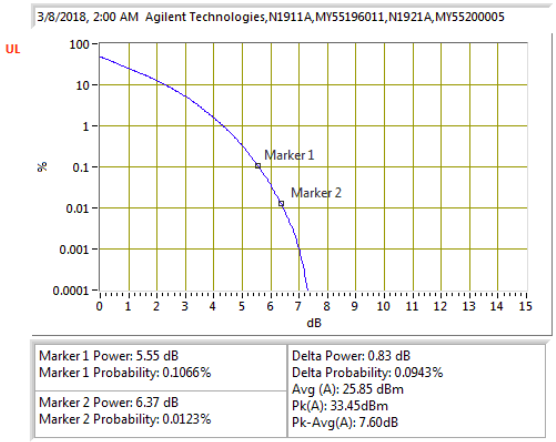
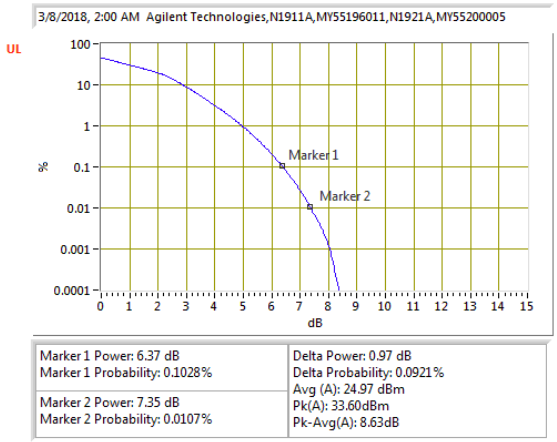


LTE B26 10MHz QPSK Middle Channel



LTE B26 10MHz 16QAM Middle Channel

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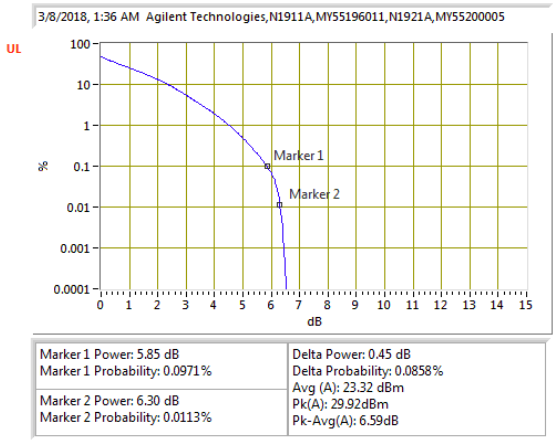
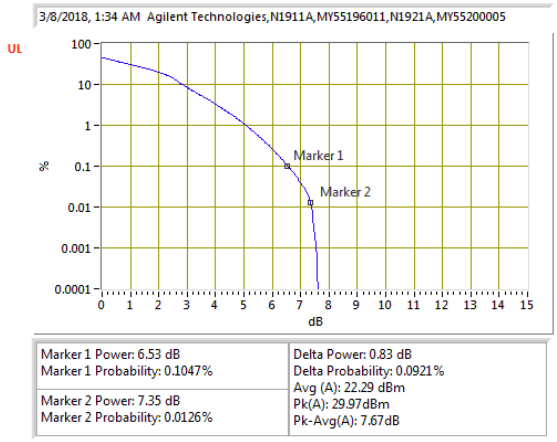
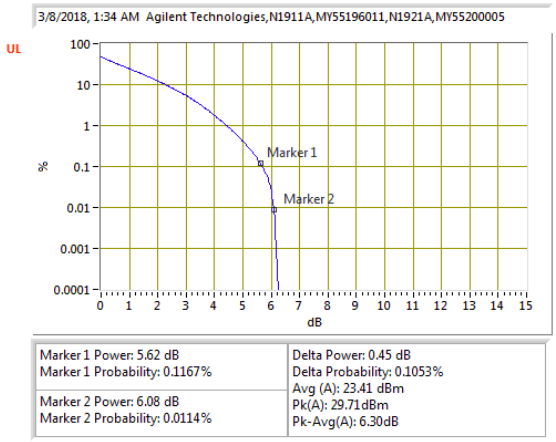
8.5.10. LTE BAND 30



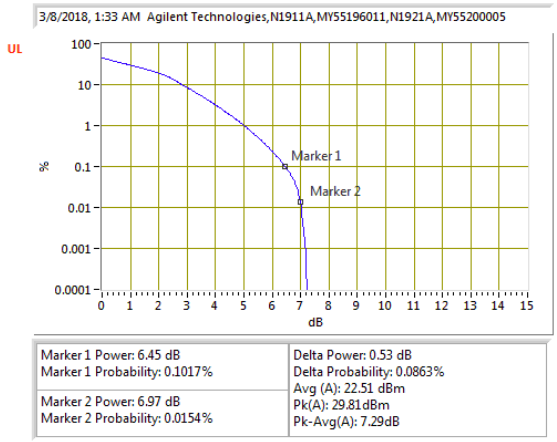
LTE B30 5MHz QPSK Middle Channel



LTE B30 5MHz 16QAM Middle Channel



LTE B30 10MHz QPSK Middle Channel



LTE B30 10MHz 16QAM Middle Channel

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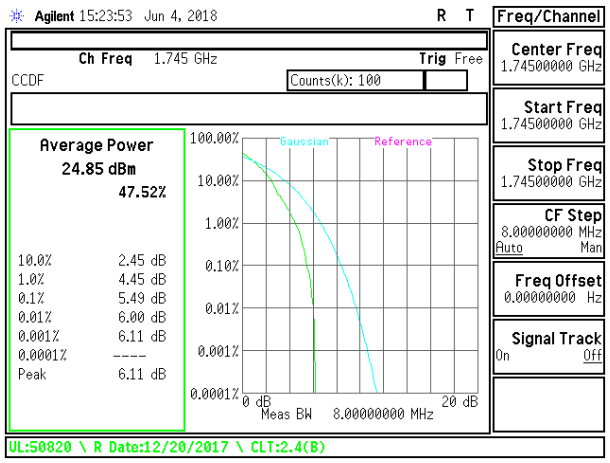
8.5.11. LTE BAND 41

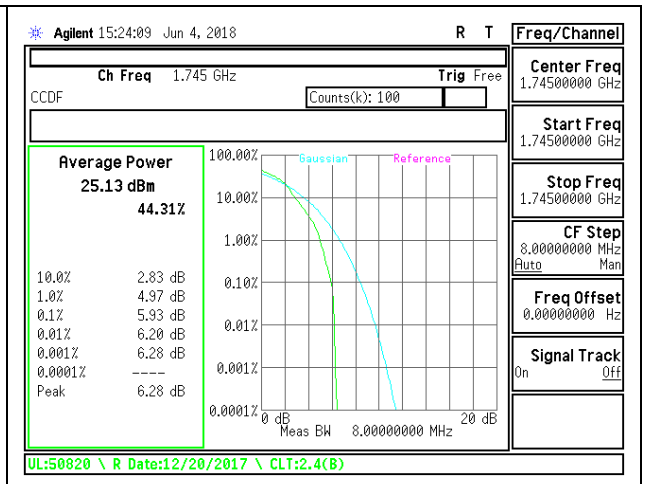
ID:	39004	Date:	3/8/18

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								

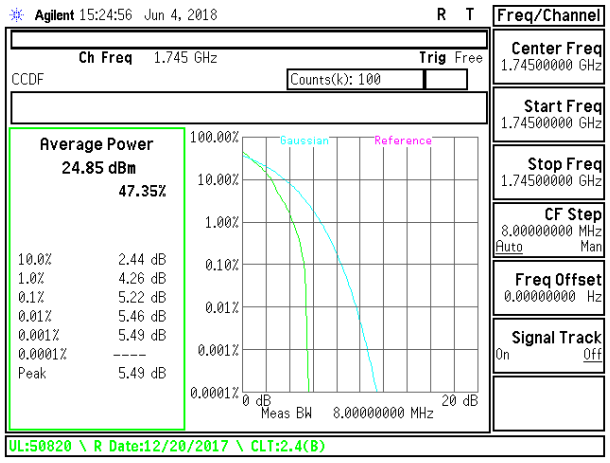
8.5.12. LTE BAND 66



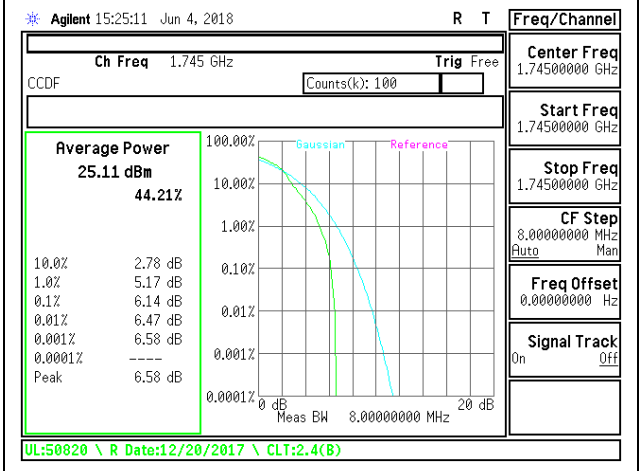
LTE B66 1.4MHz QPSK Middle Channel



LTE B66 1.4MHz 16QAM Middle Channel



LTE B66 3MHz QPSK Middle Channel



LTE B66 3MHz 16QAM Middle Channel

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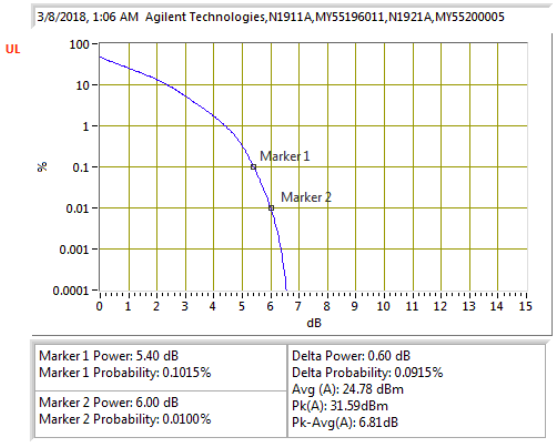
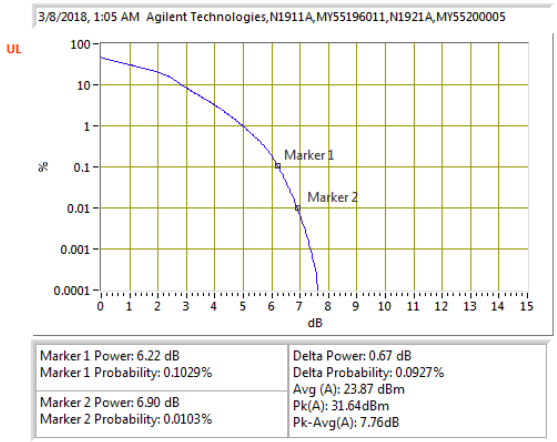
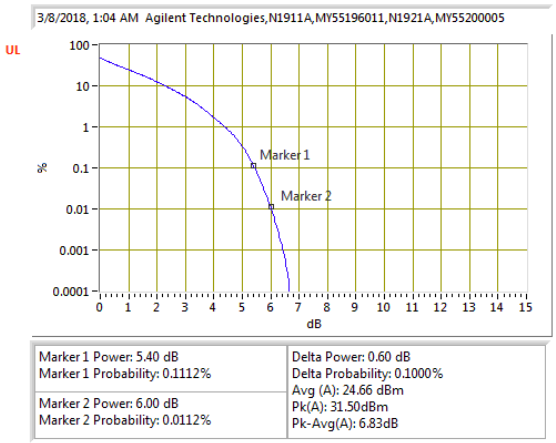


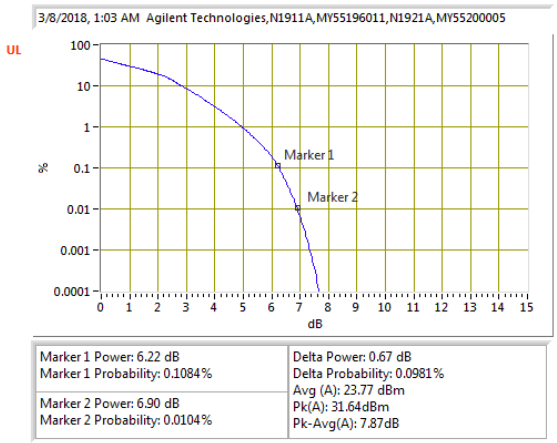
LTE B66 5MHz QPSK Middle Channel



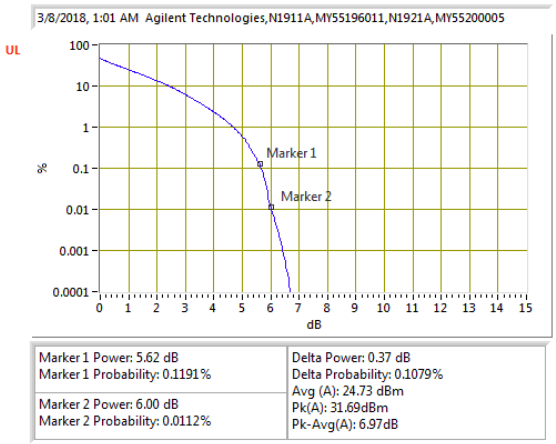
LTE B66 5MHz 16QAM Middle Channel



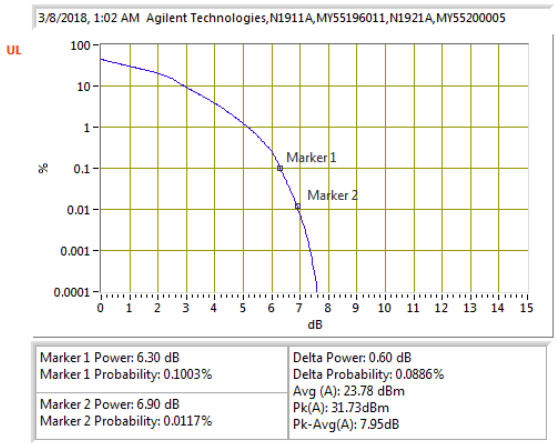
LTE B66 10MHz QPSK Middle Channel



LTE B66 10MHz 16QAM Middle Channel



LTE B66 15MHz QPSK Middle Channel



LTE B66 15MHz 16QAM Middle Channel

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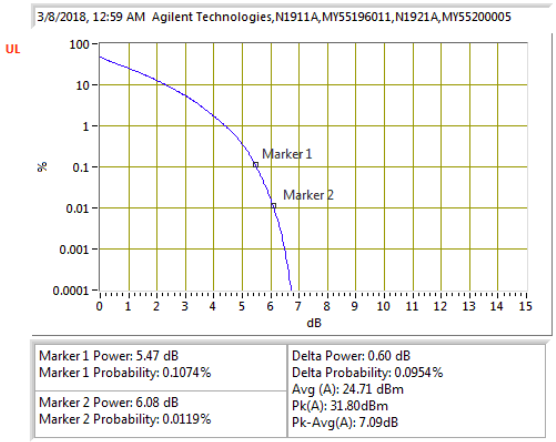
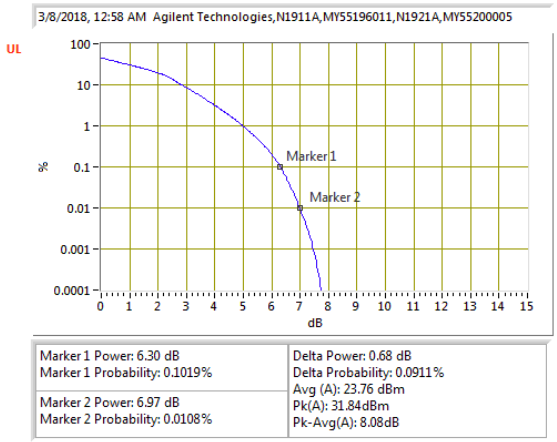


LTE B66 20MHz QPSK Middle Channel



LTE B66 20MHz 16QAM Middle Channel

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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 = -40dBm/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

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9.1. FIELD STRENGTH OF SPURIOUS RADIATION, Ant 1

9.1.1. LTE BAND 2

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

:ompany:
:roject #:
:ate: 02/22/18
:est Engineer: 38602
:onfiguration: EUT Only
:ode: LTE Band 2, 20MHz QPSK

:est Equipment:
:ubstitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	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
.ow Channel (1860MHz)										
3.72	-64.8	H	3.0	-14.8	34.1	1.0	-47.9	-13.0	-34.9	
5.58	-68.0	H	3.0	-13.9	33.3	1.0	-46.2	-13.0	-33.2	
7.44	-69.0	H	3.0	-11.6	33.1	1.0	-43.6	-13.0	-30.6	
3.72	-64.2	V	3.0	-13.9	34.1	1.0	-47.0	-13.0	-34.0	
5.58	-68.4	V	3.0	-14.5	33.3	1.0	-46.8	-13.0	-33.8	
7.44	-68.1	V	3.0	-10.6	33.1	1.0	-42.7	-13.0	-29.7	
fid Channel (1880MHz)										
3.76	-65.9	H	3.0	-15.8	34.1	1.0	-48.9	-13.0	-35.9	
5.64	-68.7	H	3.0	-14.6	33.3	1.0	-46.8	-13.0	-33.8	
7.52	-68.3	H	3.0	-10.7	33.0	1.0	-42.7	-13.0	-29.7	
3.76	-64.4	V	3.0	-14.0	34.1	1.0	-47.1	-13.0	-34.1	
5.64	-69.0	V	3.0	-14.9	33.3	1.0	-47.2	-13.0	-34.2	
7.52	-68.8	V	3.0	-11.2	33.0	1.0	-43.2	-13.0	-30.2	
igh Channel (1900MHz)										
3.80	-65.2	H	3.0	-15.0	34.0	1.0	-48.0	-13.0	-35.0	
5.70	-67.2	H	3.0	-12.9	33.3	1.0	-45.2	-13.0	-32.2	
7.60	-67.5	H	3.0	-9.8	33.0	1.0	-41.9	-13.0	-28.9	
3.80	-65.8	V	3.0	-15.3	34.0	1.0	-48.3	-13.0	-35.3	
5.70	-67.6	V	3.0	-13.4	33.3	1.0	-45.7	-13.0	-32.7	
7.60	-68.5	V	3.0	-10.8	33.0	1.0	-42.9	-13.0	-29.9	

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LTE B2 20MHz QPSK

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 02/22/18
Test Engineer: 38602
Configuration: flatbed EUT only
Mode: LTE Band 2, 20MHz 16QAM
EUT only

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

Chamber	Pre-amplifer	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	-65.0	H	3.0	-15.0	34.1	1.0	-48.1	-13.0	-35.1	
5.58	-68.5	H	3.0	-14.4	33.3	1.0	-46.7	-13.0	-33.7	
7.44	-67.9	H	3.0	-10.4	33.1	1.0	-42.5	-13.0	-29.5	
3.72	-66.1	V	3.0	-15.7	34.1	1.0	-48.9	-13.0	-35.9	
5.58	-68.0	V	3.0	-14.0	33.3	1.0	-46.3	-13.0	-33.3	
7.44	-68.0	V	3.0	-10.5	33.1	1.0	-42.5	-13.0	-29.5	
Mid Channel (1880MHz)										
3.76	-66.2	H	3.0	-16.1	34.1	1.0	-49.2	-13.0	-36.2	
5.64	-68.6	H	3.0	-14.4	33.3	1.0	-46.7	-13.0	-33.7	
7.52	-68.1	H	3.0	-10.6	33.0	1.0	-42.6	-13.0	-29.6	
3.76	-66.6	V	3.0	-16.1	34.1	1.0	-49.2	-13.0	-36.2	
5.64	-69.1	V	3.0	-15.1	33.3	1.0	-47.3	-13.0	-34.3	
7.52	-67.3	V	3.0	-9.7	33.0	1.0	-41.8	-13.0	-28.8	
High Channel (1900MHz)										
3.80	-65.7	H	3.0	-15.5	34.0	1.0	-48.5	-13.0	-35.5	
5.70	-67.0	H	3.0	-12.7	33.3	1.0	-45.0	-13.0	-32.0	
7.60	-68.4	H	3.0	-10.7	33.0	1.0	-42.7	-13.0	-29.7	
3.80	-65.7	V	3.0	-15.1	34.0	1.0	-48.2	-13.0	-35.2	
5.70	-67.3	V	3.0	-13.1	33.3	1.0	-45.4	-13.0	-32.4	
7.60	-68.3	V	3.0	-10.6	33.0	1.0	-42.6	-13.0	-29.6	

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LTE B2 20MHz 16QAM

9.1.2. LTE BAND 5

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 02/22/18
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 5, 10MHz QPSK

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

Chamber	Pre-amplifer	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 (829MHz)										
1.66	-65.0	H	3.0	-23.1	36.5	1.0	-58.6	-13.0	-45.6	
2.49	-66.1	H	3.0	-20.3	35.2	1.0	-54.5	-13.0	-41.5	
3.32	-65.9	H	3.0	-17.0	34.6	1.0	-50.6	-13.0	-37.6	
1.66	-65.7	V	3.0	-23.0	36.5	1.0	-58.5	-13.0	-45.5	
2.49	-66.1	V	3.0	-20.3	35.2	1.0	-54.4	-13.0	-41.4	
3.32	-66.3	V	3.0	-16.8	34.6	1.0	-50.4	-13.0	-37.4	
Mid Channel (836.5MHz)										
1.67	-64.8	H	3.0	-22.8	36.5	1.0	-58.3	-13.0	-45.3	
2.51	-65.7	H	3.0	-19.8	35.1	1.0	-53.9	-13.0	-40.9	
3.35	-66.2	H	3.0	-17.2	34.6	1.0	-50.8	-13.0	-37.8	
1.67	-66.1	V	3.0	-23.3	36.5	1.0	-58.8	-13.0	-45.8	
2.51	-66.3	V	3.0	-20.4	35.1	1.0	-54.5	-13.0	-41.5	
3.35	-66.2	V	3.0	-16.6	34.6	1.0	-50.2	-13.0	-37.2	
High Channel (844MHz)										
1.69	-65.1	H	3.0	-23.0	36.4	1.0	-58.4	-13.0	-45.4	
2.53	-65.6	H	3.0	-19.6	35.1	1.0	-53.7	-13.0	-40.7	
3.38	-66.0	H	3.0	-16.9	34.5	1.0	-50.5	-13.0	-37.5	
1.69	-65.8	V	3.0	-22.9	36.4	1.0	-58.3	-13.0	-45.3	
2.53	-66.0	V	3.0	-19.9	35.1	1.0	-54.1	-13.0	-41.1	
3.38	-66.3	V	3.0	-16.7	34.5	1.0	-50.2	-13.0	-37.2	

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LTE B5 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 5, 10MHz 16QAM

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

Chamber	Pre-amplifer	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 (829MHz)										
1.66	-65.9	H	3.0	-24.4	36.5	1.0	-59.9	-13.0	-46.9	
2.49	-66.0	H	3.0	-22.8	35.2	1.0	-57.0	-13.0	-44.0	
3.32	-66.2	H	3.0	-20.2	34.6	1.0	-53.8	-13.0	-40.8	
1.66	-65.5	V	3.0	-23.7	36.5	1.0	-59.2	-13.0	-46.2	
2.49	-65.8	V	3.0	-21.7	35.2	1.0	-55.8	-13.0	-42.8	
3.32	-66.1	V	3.0	-20.1	34.6	1.0	-53.8	-13.0	-40.8	
Mid Channel (836.5MHz)										
1.67	-66.3	H	3.0	-24.8	36.5	1.0	-60.3	-13.0	-47.3	
2.51	-65.5	H	3.0	-22.3	35.1	1.0	-56.4	-13.0	-43.4	
3.35	-66.4	H	3.0	-20.4	34.6	1.0	-53.9	-13.0	-40.9	
1.67	-65.8	V	3.0	-24.0	36.5	1.0	-59.5	-13.0	-46.5	
2.51	-66.1	V	3.0	-21.9	35.1	1.0	-56.0	-13.0	-43.0	
3.35	-66.3	V	3.0	-20.3	34.6	1.0	-53.8	-13.0	-40.8	
High Channel (844MHz)										
1.69	-65.6	H	3.0	-24.1	36.4	1.0	-59.5	-13.0	-46.5	
2.53	-66.1	H	3.0	-22.8	35.1	1.0	-56.9	-13.0	-43.9	
3.38	-66.3	H	3.0	-20.2	34.5	1.0	-53.7	-13.0	-40.7	
1.69	-65.7	V	3.0	-23.9	36.4	1.0	-59.4	-13.0	-46.4	
2.53	-65.9	V	3.0	-21.6	35.1	1.0	-55.8	-13.0	-42.8	
3.38	-66.1	V	3.0	-20.0	34.5	1.0	-53.5	-13.0	-40.5	

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LTE B5 10MHz 16QAM

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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 8ft SMA Cable

Chamber	Pre-amplifer	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	-66.9	H	3.0	-14.0	33.4	1.0	-46.4	-25.0	-21.4	
7.53	-67.9	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	-9.9	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	-9.9	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	

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LTE B7 20MHz QPSK

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 16QAM

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

Chamber	Pre-amplifer	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	-68.5	H	3.0	-15.6	33.4	1.0	-48.0	-25.0	-23.0	
7.53	-67.4	H	3.0	-9.8	33.0	1.0	-41.8	-25.0	-16.8	
10.04	-69.2	H	3.0	-8.4	32.6	1.0	-40.1	-25.0	-15.1	
5.02	-68.1	V	3.0	-15.3	33.4	1.0	-47.7	-25.0	-22.7	
7.53	-68.1	V	3.0	-10.4	33.0	1.0	-42.5	-25.0	-17.5	
10.04	-68.9	V	3.0	-7.8	32.6	1.0	-39.5	-25.0	-14.5	
Mid Channel (2535MHz)										
5.07	-66.8	H	3.0	-13.8	33.4	1.0	-46.2	-25.0	-21.2	
7.61	-67.2	H	3.0	-9.6	33.0	1.0	-41.6	-25.0	-16.6	
10.14	-68.6	H	3.0	-7.6	32.6	1.0	-39.2	-25.0	-14.2	
5.07	-66.9	V	3.0	-13.9	33.4	1.0	-46.3	-25.0	-21.3	
7.61	-67.0	V	3.0	-9.2	33.0	1.0	-41.3	-25.0	-16.3	
10.14	-67.4	V	3.0	-6.2	32.6	1.0	-37.8	-25.0	-12.8	
High Channel (2560MHz)										
5.12	-67.9	H	3.0	-14.8	33.4	1.0	-47.2	-25.0	-22.2	
7.68	-69.1	H	3.0	-11.3	33.0	1.0	-43.3	-25.0	-18.3	
10.24	-69.3	H	3.0	-8.3	32.5	1.0	-39.8	-25.0	-14.8	
5.12	-68.7	V	3.0	-15.7	33.4	1.0	-48.1	-25.0	-23.1	
7.68	-68.7	V	3.0	-11.9	33.0	1.0	-43.9	-25.0	-18.9	
10.24	-68.9	V	3.0	-7.6	32.5	1.0	-39.2	-25.0	-14.2	

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LTE B7 20MHz 16QAM

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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-amplifer	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 (704MHz)										
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	-53.1	-13.0	-40.1	
1.41	-65.0	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 (707.5MHz)										
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	-66.6	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	-24.3	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	

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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-amplifer	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 (704MHz)										
1.41	-65.8	H	3.0	-25.6	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	-53.2	-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 (707.5MHz)										
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	-53.1	-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	

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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-amplifer	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 (782MHz)										
1.56	-66.0	H	3.0	-24.9	36.6	1.0	-60.6	-40.0	-20.6	
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	

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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-amplifer	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 (782MHz)										
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	-59.9	-40.0	-19.9	
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	

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LTE B13 10MHz 16QAM

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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	Pre-amplifer	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
Mid Channel (793MHz)										
1.59	-65.7	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	-49.1	-13.0	-36.1	
1.59	-65.5	V	3.0	-22.3	39.3	1.0	-60.6	-40.0	-20.6	
2.38	-65.7	V	3.0	-19.5	38.7	1.0	-57.2	-13.0	-44.2	
3.17	-64.2	V	3.0	-14.7	38.1	1.0	-51.8	-13.0	-38.8	

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LTE B14 10MHz QPSK

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	Pre-amplifer	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
Mid Channel (793MHz)										
1.59	-68.3	H	3.0	-17.6	37.9	1.0	-54.5	-40.0	-14.5	
2.38	-66.0	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	-10.5	36.5	1.0	-45.9	-13.0	-32.9	
3.17	-63.9	V	3.0	-8.4	34.9	1.0	-40.2	-13.0	-27.2	

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LTE B14 10MHz 16QAM

9.1.7. LTE BAND 17

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 02/22/18
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 17, 10MHz QPSK

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

Chamber	Pre-amplifer	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
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	35.0	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	-65.9	V	3.0	-18.0	35.0	1.0	-52.0	-13.0	-39.0	

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LTE B17 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 17, 10MHz 16QAM

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

Chamber	Pre-amplifer	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
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	-66.0	H	3.0	-18.7	35.0	1.0	-52.7	-13.0	-39.7	
1.42	-66.0	V	3.0	-25.2	36.7	1.0	-60.9	-13.0	-47.9	
2.13	-65.7	V	3.0	-20.0	35.7	1.0	-54.7	-13.0	-41.7	
2.84	-65.5	V	3.0	-17.6	35.0	1.0	-51.6	-13.0	-38.6	

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LTE B17 10MHz 16QAM

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9.1.8. LTE BAND 25

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 02/23/18
Test Engineer: 38602
Configuration: EUT
Mode: LTE Band 25, 20MHz QPSK

Test Equipment:

Chamber	Pre-amplifer	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	-46.8	-13.0	-33.8	
5.58	-64.6	H	3.0	-10.6	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	-46.2	-13.0	-33.2	
5.58	-64.3	V	3.0	-10.3	33.3	1.0	-42.6	-13.0	-29.6	
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	-6.9	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	-64.0	V	3.0	-9.9	33.3	1.0	-42.2	-13.0	-29.2	
7.53	-64.1	V	3.0	-6.5	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	-6.7	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	-64.6	V	3.0	-6.9	33.0	1.0	-38.9	-13.0	-25.9	

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LTE B25 20MHz QPSK

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 02/23/18
Test Engineer: 38602
Configuration: Flatbed EUT
Mode: LTE Band 25, 20MHz 16QAM

Test Equipment:

Chamber	Pre-amplifer	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	-64.6	H	3.0	-10.6	33.3	1.0	-42.9	-13.0	-29.9	
7.44	-64.7	H	3.0	-7.2	33.1	1.0	-39.3	-13.0	-26.3	
3.72	-63.0	V	3.0	-12.6	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	-6.9	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	-6.7	33.0	1.0	-38.7	-13.0	-25.7	

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LTE B25 20MHz 16QAM

9.1.9. LTE BAND 26 (FCC PART 90S)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 02/22/18
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 26 (90S), 10MHz QPSK

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

Chamber	Pre-amplifer	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
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	-19.0	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	

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LTE B26 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 26 (90S), 10MHz 16QAM

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

Chamber	Pre-amplifer	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
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	-64.4	V	3.0	-18.7	35.2	1.0	-52.9	-13.0	-39.9	
3.28	-66.0	V	3.0	-16.6	34.7	1.0	-50.2	-13.0	-37.2	

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LTE B26 10MHz 16QAM

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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 8ft SMA Cable

Chamber	Pre-amplifer	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	
8.50	-69.6	H	3.0	-9.0	35.4	1.0	-43.3	-40.0	-3.3	
4.62	-66.9	V	3.0	-13.2	37.9	1.0	-50.1	-40.0	-10.1	
6.93	-66.1	V	3.0	-6.6	36.5	1.0	-42.1	-40.0	-2.1	
8.50	-70.5	V	3.0	-9.4	35.4	1.0	-43.8	-40.0	-3.8	

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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 8ft SMA Cable

Chamber	Pre-amplifer	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	-68.3	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	
8.50	-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	-50.5	-40.0	-10.5	
6.93	-67.4	V	3.0	-8.0	36.5	1.0	-43.4	-40.0	-3.4	
8.50	-69.7	V	3.0	-8.2	34.9	1.0	-42.1	-40.0	-2.1	

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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: EUTonly
Mode: LTE Band 41, 20MHz QPSK

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

Chamber	Pre-amplifer	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 (2506MHz)										
5.01	-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	
5.01	-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 (2680MHz)										
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	

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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 8ft SMA Cable

Chamber	Pre-amplifer	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 (2506MHz)										
5.01	-62.9	H	3.0	-10.0	33.4	1.0	-42.5	-25.0	-17.5	
7.52	-65.2	H	3.0	-7.6	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	
5.01	-64.8	V	3.0	-11.9	33.4	1.0	-44.3	-25.0	-19.3	
7.52	-64.5	V	3.0	-8.9	33.0	1.0	-39.0	-25.0	-14.0	
10.02	-66.9	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	-5.8	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	-65.8	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 (2680MHz)										
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	-9.0	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	

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LTE B41 20MHz 16QAM

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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 T89 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	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 (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	-10.1	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	-49.0	-13.0	-36.0	
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	-10.3	38.7	1.0	-48.0	-13.0	-35.0	
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	-53.3	-13.0	-40.3	
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	-49.0	-13.0	-36.0	
7.12	-64.4	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	

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LTE B66 20MHz QPSK

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 02/23/18
Test Engineer: 38602
Configuratio Ifarbed EUT
Mode: LTE Band 66, 20MHz 16QAM

Test Equipment:

Chamber	Pre-amplifer	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 (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	-11.0	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	-64.0	V	3.0	-10.9	33.4	1.0	-43.3	-13.0	-30.3	
6.84	-64.4	V	3.0	-7.8	33.1	1.0	-40.0	-13.0	-27.0	
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	-10.5	33.3	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	-48.8	-13.0	-35.8	
5.24	-63.4	V	3.0	-10.1	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	-65.6	H	3.0	-16.0	34.3	1.0	-49.3	-13.0	-36.3	
5.34	-63.2	H	3.0	-9.6	33.3	1.0	-42.0	-13.0	-29.0	
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	-65.0	V	3.0	-8.0	33.1	1.0	-40.1	-13.0	-27.1	

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LTE B66 20MHz 16QAM

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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: 02/15/18
Test Engineer: 36648
Configuration: EUT Only
Mode: LTE Band 2, 20MHz QPSK

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

Chamber	Pre-amplifer	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	-62.4	H	3.0	-12.4	34.1	1.0	-45.5	-13.0	-32.5	
5.58	-65.1	H	3.0	-11.0	33.3	1.0	-43.3	-13.0	-30.3	
7.44	-66.6	H	3.0	-9.1	33.1	1.0	-41.2	-13.0	-28.2	
3.72	-63.6	V	3.0	-13.2	34.1	1.0	-46.3	-13.0	-33.3	
5.58	-65.4	V	3.0	-11.4	33.3	1.0	-43.7	-13.0	-30.7	
7.44	-64.6	V	3.0	-7.1	33.1	1.0	-39.1	-13.0	-26.1	
Mid Channel (1880MHz)										
3.76	-63.6	H	3.0	-13.5	34.1	1.0	-46.6	-13.0	-33.6	
5.64	-64.8	H	3.0	-10.7	33.3	1.0	-43.0	-13.0	-30.0	
7.52	-65.3	H	3.0	-7.7	33.0	1.0	-39.8	-13.0	-26.8	
3.76	-63.7	V	3.0	-13.2	34.1	1.0	-46.3	-13.0	-33.3	
5.64	-65.1	V	3.0	-11.1	33.3	1.0	-43.3	-13.0	-30.3	
7.52	-64.6	V	3.0	-7.0	33.0	1.0	-39.0	-13.0	-26.0	
High Channel (1900MHz)										
3.80	-62.6	H	3.0	-12.3	34.0	1.0	-45.4	-13.0	-32.4	
5.70	-65.0	H	3.0	-10.7	33.3	1.0	-43.0	-13.0	-30.0	
7.60	-65.7	H	3.0	-8.0	33.0	1.0	-40.0	-13.0	-27.0	
3.80	-62.7	V	3.0	-12.2	34.0	1.0	-45.2	-13.0	-32.2	
5.70	-64.8	V	3.0	-10.6	33.3	1.0	-42.8	-13.0	-29.8	
7.60	-65.6	V	3.0	-7.9	33.0	1.0	-39.9	-13.0	-26.9	

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LTE B2 20MHz QPSK

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 2.20/2018
Test Engineer 36648.0
Configuration: flatbed
Mode: LTE Band 2, 20MHz 16QAM
EUT only

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

Chamber	Pre-amplifer	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	-64.0	H	3.0	-14.0	34.1	1.0	-47.1	-13.0	-34.1	
5.58	-65.5	H	3.0	-11.5	33.3	1.0	-43.8	-13.0	-30.8	
7.44	-65.5	H	3.0	-8.1	33.1	1.0	-40.1	-13.0	-27.1	
3.72	-64.3	V	3.0	-13.9	34.1	1.0	-47.0	-13.0	-34.0	
5.58	-65.6	V	3.0	-11.6	33.3	1.0	-43.9	-13.0	-30.9	
7.44	-64.6	V	3.0	-7.1	33.1	1.0	-39.1	-13.0	-26.1	
Mid Channel (1880MHz)										
3.76	-62.9	H	3.0	-12.8	34.1	1.0	-45.8	-13.0	-32.8	
5.64	-64.9	H	3.0	-10.8	33.3	1.0	-43.1	-13.0	-30.1	
7.52	-65.3	H	3.0	-7.7	33.0	1.0	-39.7	-13.0	-26.7	
3.76	-64.3	V	3.0	-13.8	34.1	1.0	-46.9	-13.0	-33.9	
5.64	-64.4	V	3.0	-10.3	33.3	1.0	-42.6	-13.0	-29.6	
7.52	-64.9	V	3.0	-7.3	33.0	1.0	-39.3	-13.0	-26.3	
High Channel (1900MHz)										
3.80	-63.6	H	3.0	-13.4	34.0	1.0	-46.4	-13.0	-33.4	
5.70	-65.1	H	3.0	-10.8	33.3	1.0	-43.1	-13.0	-30.1	
7.60	-64.7	H	3.0	-7.1	33.0	1.0	-39.1	-13.0	-26.1	
3.80	-64.0	V	3.0	-13.5	34.0	1.0	-46.5	-13.0	-33.5	
5.70	-64.9	V	3.0	-10.7	33.3	1.0	-42.9	-13.0	-29.9	
7.60	-63.8	V	3.0	-6.0	33.0	1.0	-38.1	-13.0	-25.1	

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LTE B2 20MHz 16QAM

9.2.2. LTE BAND 5

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 02/20/18
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 5, 10MHz QPSK

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

Chamber	Pre-amplifer	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 (829MHz)										
1.66	-65.5	H	3.0	-23.6	36.5	1.0	-59.1	-13.0	-46.1	
2.49	-65.7	H	3.0	-19.9	35.2	1.0	-54.1	-13.0	-41.1	
3.32	-66.0	H	3.0	-17.1	34.6	1.0	-50.7	-13.0	-37.7	
1.66	-64.9	V	3.0	-22.2	36.5	1.0	-57.7	-13.0	-44.7	
2.49	-65.2	V	3.0	-19.4	35.2	1.0	-53.5	-13.0	-40.5	
3.32	-65.2	V	3.0	-15.7	34.6	1.0	-49.3	-13.0	-36.3	
Mid Channel (836.5MHz)										
1.67	-66.1	H	3.0	-24.1	36.5	1.0	-59.6	-13.0	-46.6	
2.51	-65.4	H	3.0	-19.5	35.1	1.0	-53.6	-13.0	-40.6	
3.35	-66.6	H	3.0	-17.6	34.6	1.0	-51.2	-13.0	-38.2	
1.67	-66.7	V	3.0	-23.9	36.5	1.0	-59.4	-13.0	-46.4	
2.51	-65.1	V	3.0	-19.2	35.1	1.0	-53.3	-13.0	-40.3	
3.35	-66.2	V	3.0	-16.6	34.6	1.0	-50.2	-13.0	-37.2	
High Channel (844MHz)										
1.69	-64.8	H	3.0	-22.7	36.4	1.0	-58.1	-13.0	-45.1	
2.53	-65.5	H	3.0	-19.5	35.1	1.0	-53.6	-13.0	-40.6	
3.38	-66.1	H	3.0	-17.0	34.5	1.0	-50.6	-13.0	-37.6	
1.69	-66.3	V	3.0	-23.4	36.4	1.0	-58.8	-13.0	-45.8	
2.53	-66.1	V	3.0	-20.0	35.1	1.0	-54.2	-13.0	-41.2	
3.38	-66.4	V	3.0	-16.8	34.5	1.0	-50.3	-13.0	-37.3	

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LTE B5 10MHz QPSK

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 02/20/18
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 5, 10MHz 16QAM

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

Chamber	Pre-amplifer	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 (829MHz)										
1.66	-66.5	H	3.0	-25.0	36.5	1.0	-60.5	-13.0	-47.5	
2.49	-66.6	H	3.0	-23.4	35.2	1.0	-57.6	-13.0	-44.6	
3.32	-65.5	H	3.0	-19.5	34.6	1.0	-53.1	-13.0	-40.1	
1.66	-65.9	V	3.0	-24.1	36.5	1.0	-59.6	-13.0	-46.6	
2.49	-65.7	V	3.0	-21.6	35.2	1.0	-55.7	-13.0	-42.7	
3.32	-65.7	V	3.0	-19.7	34.6	1.0	-53.4	-13.0	-40.4	
Mid Channel (836.5MHz)										
1.67	-66.0	H	3.0	-24.5	36.5	1.0	-60.0	-13.0	-47.0	
2.51	-64.9	H	3.0	-21.7	35.1	1.0	-55.8	-13.0	-42.8	
3.35	-65.7	H	3.0	-19.7	34.6	1.0	-53.2	-13.0	-40.2	
1.67	-65.2	V	3.0	-23.4	36.5	1.0	-58.9	-13.0	-45.9	
2.51	-64.9	V	3.0	-20.7	35.1	1.0	-54.8	-13.0	-41.8	
3.35	-65.0	V	3.0	-19.0	34.6	1.0	-52.5	-13.0	-39.5	
High Channel (844MHz)										
1.69	-65.6	H	3.0	-24.1	36.4	1.0	-59.5	-13.0	-46.5	
2.53	-65.8	H	3.0	-22.5	35.1	1.0	-56.6	-13.0	-43.6	
3.38	-66.1	H	3.0	-20.0	34.5	1.0	-53.5	-13.0	-40.5	
1.69	-66.6	V	3.0	-24.8	36.4	1.0	-60.3	-13.0	-47.3	
2.53	-65.2	V	3.0	-20.9	35.1	1.0	-55.1	-13.0	-42.1	
3.38	-66.8	V	3.0	-20.7	34.5	1.0	-54.2	-13.0	-41.2	

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LTE B5 10MHz 16QAM

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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 8ft SMA Cable

Chamber	Pre-amplifer	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	-7.0	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	-6.8	33.0	1.0	-38.8	-25.0	-13.8	
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	-10.2	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	

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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 8ft SMA Cable

Chamber	Pre-amplifer	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	-6.8	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	

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LTE B7 20MHz 16QAM

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9.2.4. LTE BAND 12

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 02/20/18
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 12, 10MHz QPSK

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

Chamber	Pre-amplifer	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 (704MHz)										
1.41	-65.7	H	3.0	-25.5	36.7	1.0	-61.2	-13.0	-48.2	
2.11	-66.0	H	3.0	-21.1	35.8	1.0	-55.9	-13.0	-42.9	
2.82	-66.2	H	3.0	-19.0	35.0	1.0	-53.0	-13.0	-40.0	
1.41	-65.8	V	3.0	-25.1	36.7	1.0	-60.8	-13.0	-47.8	
2.11	-65.7	V	3.0	-20.0	35.8	1.0	-54.7	-13.0	-41.7	
2.82	-65.8	V	3.0	-18.0	35.0	1.0	-52.1	-13.0	-39.1	
Mid Channel (707.5MHz)										
1.42	-65.9	H	3.0	-25.7	36.7	1.0	-61.3	-13.0	-48.3	
2.12	-65.4	H	3.0	-20.5	35.7	1.0	-55.2	-13.0	-42.2	
2.83	-66.0	H	3.0	-18.7	35.0	1.0	-52.8	-13.0	-39.8	
1.42	-65.4	V	3.0	-24.7	36.7	1.0	-60.3	-13.0	-47.3	
2.12	-66.0	V	3.0	-20.3	35.7	1.0	-55.0	-13.0	-42.0	
2.83	-66.0	V	3.0	-18.2	35.0	1.0	-52.2	-13.0	-39.2	
High Channel (711MHz)										
1.42	-65.4	H	3.0	-25.1	36.7	1.0	-60.8	-13.0	-47.8	
2.13	-64.6	H	3.0	-19.7	35.7	1.0	-54.4	-13.0	-41.4	
2.84	-65.7	H	3.0	-18.4	35.0	1.0	-52.4	-13.0	-39.4	
1.42	-66.2	V	3.0	-25.4	36.7	1.0	-61.1	-13.0	-48.1	
2.13	-65.8	V	3.0	-20.1	35.7	1.0	-54.8	-13.0	-41.8	
2.84	-65.5	V	3.0	-17.6	35.0	1.0	-51.6	-13.0	-38.6	

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LTE B12 10MHz QPSK

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 02/20/18
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 12, 10MHz 16QAM

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

Chamber	Pre-amplifer	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 (704MHz)										
1.41	-66.0	H	3.0	-25.8	36.7	1.0	-61.5	-13.0	-48.5	
2.11	-65.5	H	3.0	-20.6	35.8	1.0	-55.4	-13.0	-42.4	
2.82	-65.7	H	3.0	-18.5	35.0	1.0	-52.5	-13.0	-39.5	
1.41	-66.1	V	3.0	-25.4	36.7	1.0	-61.1	-13.0	-48.1	
2.11	-66.3	V	3.0	-20.6	35.8	1.0	-55.3	-13.0	-42.3	
2.82	-66.0	V	3.0	-18.2	35.0	1.0	-52.3	-13.0	-39.3	
Mid Channel (707.5MHz)										
1.42	-66.4	H	3.0	-26.2	36.7	1.0	-61.8	-13.0	-48.8	
2.12	-66.2	H	3.0	-21.3	35.7	1.0	-56.0	-13.0	-43.0	
2.83	-66.0	H	3.0	-18.7	35.0	1.0	-52.8	-13.0	-39.8	
1.42	-65.1	V	3.0	-24.4	36.7	1.0	-60.0	-13.0	-47.0	
2.12	-65.7	V	3.0	-20.0	35.7	1.0	-54.7	-13.0	-41.7	
2.83	-65.1	V	3.0	-17.3	35.0	1.0	-51.3	-13.0	-38.3	
High Channel (711MHz)										
1.42	-65.5	H	3.0	-25.2	36.7	1.0	-60.9	-13.0	-47.9	
2.13	-65.3	H	3.0	-20.4	35.7	1.0	-55.1	-13.0	-42.1	
2.84	-65.1	H	3.0	-17.8	35.0	1.0	-51.8	-13.0	-38.8	
1.42	-66.3	V	3.0	-25.5	36.7	1.0	-61.2	-13.0	-48.2	
2.13	-65.8	V	3.0	-20.1	35.7	1.0	-54.8	-13.0	-41.8	
2.84	-66.2	V	3.0	-18.3	35.0	1.0	-52.3	-13.0	-39.3	

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9.2.5. LTE BAND 13

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 02/20/18
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 13, 10MHz QPSK

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

Chamber	Pre-amplifer	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 (782MHz)										
1.56	-65.5	H	3.0	-24.4	36.6	1.0	-60.1	-40.0	-20.1	
2.35	-65.4	H	3.0	-20.1	35.3	1.0	-54.4	-13.0	-41.4	
3.13	-64.8	H	3.0	-16.4	34.8	1.0	-50.3	-13.0	-37.3	
1.56	-65.1	V	3.0	-23.3	36.6	1.0	-58.9	-40.0	-18.9	
2.35	-65.6	V	3.0	-20.0	35.3	1.0	-54.3	-13.0	-41.3	
3.13	-65.3	V	3.0	-16.2	34.8	1.0	-50.0	-13.0	-37.0	

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LTE B13 10MHz QPSK

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 02/20/18
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 13, 10MHz 16QAM

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

Chamber	Pre-amplifer	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 (782MHz)										
1.56	-66.0	H	3.0	-24.9	36.6	1.0	-60.6	-40.0	-20.6	
2.35	-65.3	H	3.0	-20.0	35.3	1.0	-54.3	-13.0	-41.3	
3.13	-64.6	H	3.0	-16.2	34.8	1.0	-50.1	-13.0	-37.1	
1.56	-65.9	V	3.0	-24.1	36.6	1.0	-59.7	-40.0	-19.7	
2.35	-65.7	V	3.0	-20.1	35.3	1.0	-54.4	-13.0	-41.4	
3.13	-65.2	V	3.0	-16.1	34.8	1.0	-49.9	-13.0	-36.9	

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LTE B13 10MHz 16QAM

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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-amplifer	Filter	Limit
3mChamber E	3mChamber E	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (793MHz) [BW 10MHz]										
1.59	-70.0	H	3.0	-27.7	37.8	1.0	-64.5	-40.0	-24.5	
2.38	-69.9	H	3.0	-25.4	38.2	1.0	-62.6	-13.0	-49.6	
3.17	-71.8	H	3.0	-23.2	38.4	1.0	-60.6	-13.0	-47.6	
1.59	-70.2	V	3.0	-28.3	37.8	1.0	-65.2	-40.0	-25.2	
2.38	-67.7	V	3.0	-23.0	38.2	1.0	-60.1	-13.0	-47.1	
3.17	-71.3	V	3.0	-23.0	38.4	1.0	-60.5	-13.0	-47.5	

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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 16QAM

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

Chamber	Pre-amplifer	Filter	Limit
3mChamber G	3mChamber G	Filter	EIRP

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (793MHz) [BW 10MHz]										
1.59	-70.5	H	3.0	-29.2	37.9	1.0	-66.0	-40.0	-26.0	
2.38	-69.5	H	3.0	-26.5	37.1	1.0	-62.6	-13.0	-49.6	
3.17	-71.8	H	3.0	-26.2	36.6	1.0	-61.8	-13.0	-48.8	
1.59	-68.0	V	3.0	-26.3	37.9	1.0	-63.1	-40.0	-23.1	
2.38	-68.1	V	3.0	-24.7	37.1	1.0	-60.8	-13.0	-47.8	
3.17	-69.6	V	3.0	-24.1	36.6	1.0	-59.7	-13.0	-46.7	

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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-amplifer	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
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	-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	-60.4	-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	

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LTE B17 10MHz QPSK

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 16QAM

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

Chamber	Pre-amplifer	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
Mid Channel (710MHz)										
1.42	-65.0	H	3.0	-24.7	36.7	1.0	-60.4	-13.0	-47.4	
2.13	-64.8	H	3.0	-19.9	35.7	1.0	-54.6	-13.0	-41.6	
2.84	-66.1	H	3.0	-18.8	35.0	1.0	-52.8	-13.0	-39.8	
1.42	-65.7	V	3.0	-24.9	36.7	1.0	-60.6	-13.0	-47.6	
2.13	-65.9	V	3.0	-20.2	35.7	1.0	-54.9	-13.0	-41.9	
2.84	-65.5	V	3.0	-17.6	35.0	1.0	-51.6	-13.0	-38.6	

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LTE B17 10MHz 16QAM

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9.2.8. LTE BAND 25

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 02/15/18
Test Engineer: 38648
Configuration: EUT
Mode: LTE Band 25, 20MHz QPSK

Test Equipment:

Chamber	Pre-amplifer	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	-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	-62.6	V	3.0	-12.2	34.1	1.0	-45.3	-13.0	-32.3	
5.65	-65.6	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	-64.6	H	3.0	-6.8	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	-65.6	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	

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LTE B25 20MHz QPSK

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 02/15/18
Test Engineer: 38648
Configuration: EUT Only
Mode: LTE Band 25, 20MHz 16QAM

Test Equipment:

Chamber	Pre-amplifer	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	-63.6	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	-39.3	-13.0	-26.3	
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	

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LTE B25 20MHz 16QAM

9.2.9. LTE BAND 26 (FCC PART 90S)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 02/20/18
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 26 (90S), 10MHz QPSK

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

Chamber	Pre-amplifer	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
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	-64.6	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	

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LTE B26 10MHz QPSK

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 02/20/18
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 26 (90S), 10MHz 16QAM

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

Chamber	Pre-amplifer	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
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	

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LTE B26 10MHz 16QAM

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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 8ft SMA Cable

Chamber	Pre-amplifer	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 (23100MHz)										
4.62	-67.2	H	3.0	-13.4	37.9	1.0	-50.3	-40.0	-10.3	
6.93	-68.1	H	3.0	-9.5	36.5	1.0	-44.9	-40.0	-4.9	
8.15	-68.1	H	3.0	-7.9	35.6	1.0	-42.5	-40.0	-2.5	
4.62	-67.3	V	3.0	-13.8	37.9	1.0	-50.5	-40.0	-10.5	
6.93	-68.3	V	3.0	-8.8	36.5	1.0	-44.3	-40.0	-4.3	
8.15	-69.1	V	3.0	-8.3	35.6	1.0	-42.9	-40.0	-2.9	

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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 8ft SMA Cable

Chamber	Pre-amplifer	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 (23100MHz)										
4.62	-66.0	H	3.0	-12.2	37.9	1.0	-49.1	-40.0	-9.1	
6.93	-67.3	H	3.0	-8.7	36.5	1.0	-44.1	-40.0	-4.1	
8.15	-69.0	H	3.0	-8.8	35.6	1.0	-43.4	-40.0	-3.4	
4.62	-65.5	V	3.0	-11.8	37.9	1.0	-48.7	-40.0	-8.7	
6.93	-68.0	V	3.0	-8.5	36.5	1.0	-44.0	-40.0	-4.0	
8.15	-69.9	V	3.0	-9.1	35.6	1.0	-43.8	-40.0	-3.8	

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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: EUTonly
Mode: LTE Band 41, 20MHz QPSK

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

Chamber	Pre-amplifer	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 (25068MHz)										
5.01	-64.5	H	3.0	-11.6	33.4	1.0	-44.0	-25.0	-19.0	
7.52	-64.2	H	3.0	-6.6	33.0	1.0	-38.6	-25.0	-13.6	
10.02	-65.0	H	3.0	-4.3	32.7	1.0	-35.9	-25.0	-10.9	
5.01	-63.2	V	3.0	-10.4	33.4	1.0	-42.8	-25.0	-17.8	
7.52	-64.9	V	3.0	-7.3	33.0	1.0	-39.4	-25.0	-14.4	
10.02	-65.0	V	3.0	-3.9	32.7	1.0	-35.5	-25.0	-10.5	
Mid Channel (2593MHz)										
5.19	-64.0	H	3.0	-10.7	33.4	1.0	-43.1	-25.0	-18.1	
7.78	-64.3	H	3.0	-6.4	33.0	1.0	-38.4	-25.0	-13.4	
10.37	-64.1	H	3.0	-3.0	32.4	1.0	-34.4	-25.0	-9.4	
5.19	-64.7	V	3.0	-11.6	33.4	1.0	-43.9	-25.0	-18.9	
7.78	-65.4	V	3.0	-7.5	33.0	1.0	-39.5	-25.0	-14.5	
10.37	-65.2	V	3.0	-3.9	32.4	1.0	-35.3	-25.0	-10.3	
High Channel (2680MHz)										
5.36	-64.1	H	3.0	-10.5	33.3	1.0	-42.9	-25.0	-17.9	
8.04	-64.9	H	3.0	-6.6	33.0	1.0	-38.6	-25.0	-13.6	
10.72	-64.9	H	3.0	-3.4	32.2	1.0	-34.7	-25.0	-9.7	
5.36	-63.5	V	3.0	-10.0	33.3	1.0	-42.3	-25.0	-17.3	
8.04	-63.7	V	3.0	-5.3	33.0	1.0	-37.3	-25.0	-12.3	
10.72	-65.9	V	3.0	-4.4	32.2	1.0	-35.6	-25.0	-10.6	

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LTE B41 20MHz QPSK

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 02/21/18
Test Engineer: 36648
Configuration: EUTonly
Mode: LTE Band 41, 20MHz 16QAM

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

Chamber	Pre-amplifer	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 (25068MHz)										
5.01	-63.3	H	3.0	-10.5	33.4	1.0	-42.9	-25.0	-17.9	
7.52	-65.1	H	3.0	-7.5	33.0	1.0	-39.5	-25.0	-14.5	
10.02	-64.9	H	3.0	-4.1	32.7	1.0	-35.8	-25.0	-10.8	
5.01	-63.3	V	3.0	-10.5	33.4	1.0	-42.9	-25.0	-17.9	
7.52	-64.5	V	3.0	-6.9	33.0	1.0	-38.9	-25.0	-13.9	
10.02	-64.9	V	3.0	-3.8	32.7	1.0	-35.5	-25.0	-10.5	
Mid Channel (2593MHz)										
5.19	-64.2	H	3.0	-11.0	33.4	1.0	-43.3	-25.0	-18.3	
7.78	-65.7	H	3.0	-7.8	33.0	1.0	-39.8	-25.0	-14.8	
10.37	-66.2	H	3.0	-5.1	32.4	1.0	-36.5	-25.0	-11.5	
5.19	-64.9	V	3.0	-11.7	33.4	1.0	-44.1	-25.0	-19.1	
7.78	-65.9	V	3.0	-8.0	33.0	1.0	-40.0	-25.0	-15.0	
10.37	-66.8	V	3.0	-5.5	32.4	1.0	-36.9	-25.0	-11.9	
High Channel (2680MHz)										
5.36	-64.3	H	3.0	-10.7	33.3	1.0	-43.1	-25.0	-18.1	
8.04	-64.9	H	3.0	-6.7	33.0	1.0	-38.6	-25.0	-13.6	
10.72	-65.5	H	3.0	-4.0	32.2	1.0	-35.2	-25.0	-10.2	
5.36	-64.1	V	3.0	-10.5	33.3	1.0	-42.9	-25.0	-17.9	
8.04	-64.4	V	3.0	-6.1	33.0	1.0	-38.1	-25.0	-13.1	
10.72	-64.8	V	3.0	-3.3	32.2	1.0	-34.5	-25.0	-9.5	

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