

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
 Project #: 14U17673
 Date: 06/03/14
 Test Engineer: T. Chu
 Configuration: EUT only
 Mode: LTE Band 2, 5MHz QPSK

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

Chamber

3m Chamber F

Pre-amplifier

3m Chamber F

Filter

Limit

Part 24

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1852.5MHz)									
3.71	-4.2	H	3.0	36.3	1.0	-39.5	-13.0	-26.5	
3.71	-3.7	V	3.0	36.3	1.0	-39.0	-13.0	-26.0	
Mid Channel (1880MHz)									
3.76	-5.3	H	3.0	36.3	1.0	-40.6	-13.0	-27.6	
3.76	-4.9	V	3.0	36.3	1.0	-40.2	-13.0	-27.2	
High Channel (1907.5MHz)									
3.82	-4.6	H	3.0	36.3	1.0	-39.9	-13.0	-26.9	
3.82	-4.8	V	3.0	36.3	1.0	-40.1	-13.0	-27.1	

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
 Project #: 14U17673
 Date: 06/03/14
 Test Engineer: T. Chu
 Configuration: EUT Only
 Mode: LTE Band 2, 5MHz 16QAM

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

Chamber

Pre-amplifier

Filter

Limit

3m Chamber F

3m Chamber F

Part 24

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1852.5MHz)									
3.71	-10.1	H	3.0	36.3	1.0	-45.4	-13.0	-32.4	
5.56	-6.3	H	3.0	35.6	1.0	-40.8	-13.0	-27.8	
3.71	-14.3	V	3.0	36.3	1.0	-49.6	-13.0	-36.6	
5.56	-7.6	V	3.0	35.6	1.0	-42.1	-13.0	-29.1	
Mid Channel (1880MHz)									
3.76	-4.3	H	3.0	36.3	1.0	-39.6	-13.0	-26.6	
5.64	-8.4	H	3.0	35.6	1.0	-43.0	-13.0	-30.0	
3.76	-9.7	V	3.0	36.3	1.0	-45.0	-13.0	-32.0	
5.64	-11.6	V	3.0	35.6	1.0	-46.1	-13.0	-33.1	
High Channel (1907.5MHz)									
3.82	-2.3	H	3.0	36.3	1.0	-37.6	-13.0	-24.6	
3.82	-4.4	V	3.0	36.3	1.0	-39.7	-13.0	-26.7	

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 06/03/14
Test Engineer: T. Chu
Configuration: EUT only
Mode: LTE Band 2, 10MHz QPSK

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

Chamber

3m Chamber F

Pre-amplifier

3m Chamber F

Filter

Limit

Part 24

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1855MHz)									
3.71	-15.6	H	3.0	36.3	1.0	-50.9	-13.0	-37.9	
3.71	-13.9	V	3.0	36.3	1.0	-49.2	-13.0	-36.2	
Mid Channel (1880MHz)									
3.76	-10.3	H	3.0	36.3	1.0	-45.6	-13.0	-32.6	
3.76	-10.9	V	3.0	36.3	1.0	-46.2	-13.0	-33.2	
High Channel (1905MHz)									
3.78	-8.5	H	3.0	36.3	1.0	-43.8	-13.0	-30.8	
3.78	-6.5	V	3.0	36.3	1.0	-41.8	-13.0	-28.8	

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
 Project #: 14U17673
 Date: 06/03/14
 Test Engineer: T. Chu
 Configuration: EUT only
 Mode: LTE Band 2, 10MHz 16QAM

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

Chamber

Pre-amplifier

Filter

Limit

3m Chamber F

3m Chamber F

Part 24

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1855MHz)									
3.71	-15.2	H	3.0	36.3	1.0	-50.5	-13.0	-37.5	
3.71	-13.9	V	3.0	36.3	1.0	-49.2	-13.0	-36.2	
Mid Channel (1880MHz)									
3.76	-11.4	H	3.0	36.3	1.0	-46.7	-13.0	-33.7	
3.76	-12.6	V	3.0	36.3	1.0	-47.8	-13.0	-34.8	
High Channel (1905MHz)									
3.78	-9.5	H	3.0	36.3	1.0	-44.8	-13.0	-31.8	
3.78	-5.9	V	3.0	36.3	1.0	-41.2	-13.0	-28.2	

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

**3m Radiated Emissions Chamber
 Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 06/04/14
Test Engineer: T. Chu
Configuration: EUT only
Mode: LTE Band 2, 15MHz QPSK

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

Chamber

3m Chamber F

Pre-amplifier

3m Chamber F

Filter

Limit

Part 24

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1857.5MHz)									
3.72	-4.4	H	3.0	36.3	1.0	-39.7	-13.0	-26.7	
5.57	-1.8	H	3.0	35.6	1.0	-36.4	-13.0	-23.4	
3.72	-6.5	V	3.0	36.3	1.0	-41.8	-13.0	-28.8	
5.57	-4.8	V	3.0	35.6	1.0	-39.4	-13.0	-26.4	
Mid Channel (1880MHz)									
3.76	-3.5	H	3.0	36.3	1.0	-38.8	-13.0	-25.8	
5.64	-8.4	H	3.0	35.6	1.0	-43.0	-13.0	-30.0	
3.76	-6.9	V	3.0	36.3	1.0	-42.2	-13.0	-29.2	
5.64	-11.3	V	3.0	35.6	1.0	-45.9	-13.0	-32.9	
High Channel (1902.5MHz)									
3.81	-1.0	H	3.0	36.3	1.0	-36.3	-13.0	-23.3	
5.71	-3.0	H	3.0	35.6	1.0	-37.6	-13.0	-24.6	
3.81	-2.1	V	3.0	36.3	1.0	-37.4	-13.0	-24.4	
5.71	-5.2	V	3.0	35.6	1.0	-39.8	-13.0	-26.8	

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
 Project #: 14U17673
 Date: 06/04/14
 Test Engineer: T. Chu
 Configuration: EUT only
 Mode: LTE Band 2, 15MHz 16QAM

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

Chamber

Pre-amplifier

Filter

Limit

3m Chamber F

3m Chamber F

Part 24

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1857.5MHz)									
3.72	-5.2	H	3.0	36.3	1.0	-40.5	-13.0	-27.5	
5.57	-2.2	H	3.0	35.6	1.0	-36.8	-13.0	-23.8	
3.72	-6.9	V	3.0	36.3	1.0	-42.2	-13.0	-29.2	
5.57	-5.1	V	3.0	35.6	1.0	-39.6	-13.0	-26.6	
Mid Channel (1880MHz)									
3.76	-4.2	H	3.0	36.3	1.0	-39.4	-13.0	-26.4	
5.64	-8.9	H	3.0	35.6	1.0	-43.5	-13.0	-30.5	
3.76	-6.7	V	3.0	36.3	1.0	-42.0	-13.0	-29.0	
5.64	-11.1	V	3.0	35.6	1.0	-45.7	-13.0	-32.7	
High Channel (1902.5MHz)									
3.81	-0.3	H	3.0	36.3	1.0	-35.6	-13.0	-22.6	
5.71	-3.0	H	3.0	35.6	1.0	-37.6	-13.0	-24.6	
3.81	-3.0	V	3.0	36.3	1.0	-38.3	-13.0	-25.3	
5.71	-4.8	V	3.0	35.6	1.0	-39.4	-13.0	-26.4	

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 06/04/14
Test Engineer: T. Chu
Configuration: EUT only
Mode: LTE Band 2, 20MHz QPSK

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

Chamber

3m Chamber F

Pre-amplifier

3m Chamber F

Filter

Limit

Part 24

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1860MHz)									
3.72	-3.2	H	3.0	36.3	1.0	-38.5	-13.0	-25.5	
5.58	-1.6	H	3.0	35.6	1.0	-36.2	-13.0	-23.2	
3.72	-6.5	V	3.0	36.3	1.0	-41.8	-13.0	-28.8	
5.58	-3.7	V	3.0	35.6	1.0	-38.2	-13.0	-25.2	
Mid Channel (1880MHz)									
3.76	-0.9	H	3.0	36.3	1.0	-36.2	-13.0	-23.2	
5.64	-1.1	H	3.0	35.6	1.0	-35.7	-13.0	-22.7	
3.76	-2.5	V	3.0	36.3	1.0	-37.8	-13.0	-24.8	
5.64	-5.0	V	3.0	35.6	1.0	-39.6	-13.0	-26.6	
High Channel (1900MHz)									
3.80	-4.5	H	3.0	36.3	1.0	-39.7	-13.0	-26.7	
5.70	-1.9	H	3.0	35.6	1.0	-36.4	-13.0	-23.4	
3.80	-5.6	V	3.0	36.3	1.0	-40.9	-13.0	-27.9	
5.70	-6.0	V	3.0	35.6	1.0	-40.6	-13.0	-27.6	

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
 Project #: 14U17673
 Date: 06/04/14
 Test Engineer: T. Chu
 Configuration: EUTonly
 Mode: LTE Band 2, 20MHz 16QAM

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

Chamber

Pre-amplifier

Filter

Limit

3m Chamber F

3m Chamber F

Part 24

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1860MHz)									
3.72	-3.0	H	3.0	36.3	1.0	-38.3	-13.0	-25.3	
5.58	-1.4	H	3.0	35.6	1.0	-36.0	-13.0	-23.0	
3.72	-6.2	V	3.0	36.3	1.0	-41.5	-13.0	-28.5	
5.58	-3.7	V	3.0	35.6	1.0	-38.2	-13.0	-25.2	
Mid Channel (1880MHz)									
3.76	0.4	H	3.0	36.3	1.0	-34.9	-13.0	-21.9	
5.64	-0.8	H	3.0	35.6	1.0	-35.4	-13.0	-22.4	
3.76	-2.3	V	3.0	36.3	1.0	-37.6	-13.0	-24.6	
5.64	-4.6	V	3.0	35.6	1.0	-39.2	-13.0	-26.2	
High Channel (1900MHz)									
3.80	-3.9	H	3.0	36.3	1.0	-39.1	-13.0	-26.1	
5.70	-2.2	H	3.0	35.6	1.0	-36.8	-13.0	-23.8	
3.80	-5.4	V	3.0	36.3	1.0	-40.7	-13.0	-27.7	
5.70	-5.9	V	3.0	35.6	1.0	-40.5	-13.0	-27.5	

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 06/10/14
Test Engineer: Macie
Configuration: EUT Only
Mode: LTE Band 2, 1.4MHz QPSK

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

Chamber

Pre-amplifier

Filter

Limit

3m Chamber F

3m Chamber F

2.5G HP Filter

Part 24

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1850.7MHz)									
3.701	-14.8	H	3.0	36.3	1.0	-50.1	-13.0	-37.1	
5.083	-14.4	H	3.0	35.6	1.0	-48.9	-13.0	-35.9	
3.701	-14.9	V	3.0	36.3	1.0	-50.2	-13.0	-37.2	
5.083	-14.1	V	3.0	35.6	1.0	-48.7	-13.0	-35.7	
Mid Channel (1880MHz)									
3.760	-15.6	H	3.0	36.3	1.0	-50.8	-13.0	-37.8	
5.053	-14.6	H	3.0	35.6	1.0	-49.2	-13.0	-36.2	
3.760	-14.7	V	3.0	36.3	1.0	-50.0	-13.0	-37.0	
5.053	-14.1	V	3.0	35.6	1.0	-48.7	-13.0	-35.7	
High Channel (1909.3MHz)									
3.819	-14.2	H	3.0	36.3	1.0	-49.5	-13.0	-36.5	
5.726	-12.7	H	3.0	35.6	1.0	-47.3	-13.0	-34.3	
3.819	-14.3	V	3.0	36.3	1.0	-49.6	-13.0	-36.6	
5.726	-13.2	V	3.0	35.6	1.0	-47.8	-13.0	-34.8	

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

**3m Radiated Emissions Chamber
 Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 06/10/14
Test Engineer: Macie
Configuration: EUT Only
Mode: LTE Band 2, 1.4MHz 16QAM

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

Chamber

3m Chamber F

Pre-amplifier

3m Chamber F

Filter

2.5G HP Filter

Limit

Part 24

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1850.7MHz)									
3.701	-14.6	H	3.0	36.3	1.0	-49.9	-13.0	-36.9	
5.083	-13.7	H	3.0	35.6	1.0	-48.3	-13.0	-35.3	
3.701	-14.6	V	3.0	36.3	1.0	-49.9	-13.0	-36.9	
5.083	-14.2	V	3.0	35.6	1.0	-48.8	-13.0	-35.8	
Mid Channel (1880MHz)									
3.760	-14.0	H	3.0	36.3	1.0	-49.3	-13.0	-36.3	
5.053	-14.0	H	3.0	35.6	1.0	-48.6	-13.0	-35.6	
3.760	-14.5	V	3.0	36.3	1.0	-49.8	-13.0	-36.8	
5.053	-14.4	V	3.0	35.6	1.0	-49.0	-13.0	-36.0	
High Channel (1909.3MHz)									
3.819	-14.5	H	3.0	36.3	1.0	-49.8	-13.0	-36.8	
5.726	-12.9	H	3.0	35.6	1.0	-47.5	-13.0	-34.5	
3.819	-14.5	V	3.0	36.3	1.0	-49.8	-13.0	-36.8	
5.726	-13.3	V	3.0	35.6	1.0	-47.9	-13.0	-34.9	

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 06/10/14
Test Engineer: Macie
Configuration: EUT Only
Mode: LTE Band 2, 3MHz QPSK

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

Chamber

3m Chamber F

Pre-amplifier

3m Chamber F

Filter

2.5G HP Filter

Limit

Part 24

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1851.5MHz)									
3.703	-14.3	H	3.0	36.3	1.0	-49.6	-13.0	-36.6	
5.083	-13.8	H	3.0	35.6	1.0	-48.3	-13.0	-35.3	
3.703	-14.0	V	3.0	36.3	1.0	-49.3	-13.0	-36.3	
5.083	-13.7	V	3.0	35.6	1.0	-48.2	-13.0	-35.2	
Mid Channel (1880MHz)									
3.760	-13.7	H	3.0	36.3	1.0	-49.0	-13.0	-36.0	
5.028	-12.9	H	3.0	35.6	1.0	-47.5	-13.0	-34.5	
3.760	-13.5	V	3.0	36.3	1.0	-48.8	-13.0	-35.8	
5.028	-13.3	V	3.0	35.6	1.0	-47.9	-13.0	-34.9	
High Channel (1908.5MHz)									
3.817	-14.0	H	3.0	36.3	1.0	-49.3	-13.0	-36.3	
5.726	-12.6	H	3.0	35.6	1.0	-47.2	-13.0	-34.2	
3.817	-14.2	V	3.0	36.3	1.0	-49.4	-13.0	-36.4	
5.726	-13.1	V	3.0	35.6	1.0	-47.7	-13.0	-34.7	

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
 Project #: 14U17673
 Date: 06/10/14
 Test Engineer: Macie
 Configuration: EUT Only
 Mode: LTE Band 2, 3MHz 16QAM

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

Chamber

Pre-amplifier

Filter

Limit

3m Chamber F

3m Chamber F

2.5G HP Filter

Part 24

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1851.5MHz)									
3.703	-14.8	H	3.0	36.3	1.0	-50.1	-13.0	-37.1	
5.083	-13.7	H	3.0	35.6	1.0	-48.3	-13.0	-35.3	
3.703	-14.6	V	3.0	36.3	1.0	-49.9	-13.0	-36.9	
5.083	-14.3	V	3.0	35.6	1.0	-48.8	-13.0	-35.8	
Mid Channel (1880MHz)									
3.760	-14.8	H	3.0	36.3	1.0	-50.0	-13.0	-37.0	
5.028	-13.8	H	3.0	35.6	1.0	-48.3	-13.0	-35.3	
3.760	-14.5	V	3.0	36.3	1.0	-49.8	-13.0	-36.8	
5.028	-13.6	V	3.0	35.6	1.0	-48.2	-13.0	-35.2	
High Channel (1908.5MHz)									
3.817	-14.2	H	3.0	36.3	1.0	-49.5	-13.0	-36.5	
5.726	-12.7	H	3.0	35.6	1.0	-47.3	-13.0	-34.3	
3.817	-14.2	V	3.0	36.3	1.0	-49.5	-13.0	-36.5	
5.726	-12.7	V	3.0	35.6	1.0	-47.3	-13.0	-34.3	

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

**3m Radiated Emissions Chamber
 Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 06/10/14
Test Engineer: Macie
Configuration: EUT Only
Mode: LTE Band 2, 5MHz QPSK

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

Chamber

3m Chamber F

Pre-amplifier

3m Chamber F

Filter

2.5G HP Filter

Limit

Part 24

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1851.5MHz)									
3.703	-14.3	H	3.0	36.3	1.0	-49.6	-13.0	-36.6	
5.083	-13.9	H	3.0	35.6	1.0	-48.5	-13.0	-35.5	
3.703	-14.4	V	3.0	36.3	1.0	-49.7	-13.0	-36.7	
5.083	-13.9	V	3.0	35.6	1.0	-48.4	-13.0	-35.4	
Mid Channel (1880MHz)									
3.760	-14.0	H	3.0	36.3	1.0	-49.2	-13.0	-36.2	
5.028	-13.5	H	3.0	35.6	1.0	-48.1	-13.0	-35.1	
3.760	-14.1	V	3.0	36.3	1.0	-49.4	-13.0	-36.4	
5.028	-13.3	V	3.0	35.6	1.0	-47.8	-13.0	-34.8	
High Channel (1908.5MHz)									
3.817	-14.1	H	3.0	36.3	1.0	-49.4	-13.0	-36.4	
5.726	-13.0	H	3.0	35.6	1.0	-47.6	-13.0	-34.6	
3.817	-14.0	V	3.0	36.3	1.0	-49.3	-13.0	-36.3	
5.726	-13.4	V	3.0	35.6	1.0	-48.0	-13.0	-35.0	

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
 Project #: 14U17673
 Date: 06/10/14
 Test Engineer: Macie
 Configuration: EUT Only
 Mode: LTE Band 2, 5MHz 16QAM

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

Chamber

3m Chamber F

Pre-amplifier

3m Chamber F

Filter

2.5G HP Filter

Limit

Part 24

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1852.5MHz)									
3.705	-14.3	H	3.0	36.3	1.0	-49.6	-13.0	-36.6	
5.083	-14.4	H	3.0	35.6	1.0	-48.9	-13.0	-35.9	
3.705	-14.1	V	3.0	36.3	1.0	-49.4	-13.0	-36.4	
5.083	-14.3	V	3.0	35.6	1.0	-48.9	-13.0	-35.9	
Mid Channel (1880MHz)									
3.760	-14.0	H	3.0	36.3	1.0	-49.3	-13.0	-36.3	
5.774	-12.9	H	3.0	35.6	1.0	-47.5	-13.0	-34.5	
3.760	-14.4	V	3.0	36.3	1.0	-49.7	-13.0	-36.7	
5.774	-13.1	V	3.0	35.6	1.0	-47.7	-13.0	-34.7	
High Channel (1907.5MHz)									
3.815	-14.2	H	3.0	36.3	1.0	-49.4	-13.0	-36.4	
5.088	-14.6	H	3.0	35.5	1.0	-49.1	-13.0	-36.1	
3.815	-13.8	V	3.0	36.3	1.0	-49.1	-13.0	-36.1	
5.088	-14.4	V	3.0	35.5	1.0	-48.9	-13.0	-35.9	

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

**3m Radiated Emissions Chamber
 Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 06/10/14
Test Engineer: Macie
Configuration: EUT Only
Mode: LTE Band 2, 10MHz QPSK

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

Chamber

3m Chamber F

Pre-amplifier

3m Chamber F

Filter

2.5G HP Filter

Limit

Part 24

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1855MHz)									
3.710	-14.3	H	3.0	36.3	1.0	-49.6	-13.0	-36.6	
4.969	-13.9	H	3.0	35.6	1.0	-48.5	-13.0	-35.5	
3.710	-14.0	V	3.0	36.3	1.0	-49.3	-13.0	-36.3	
4.969	-13.5	V	3.0	35.6	1.0	-48.2	-13.0	-35.2	
Mid Channel (1880MHz)									
3.760	-13.6	H	3.0	36.3	1.0	-48.9	-13.0	-35.9	
5.058	-14.1	H	3.0	35.6	1.0	-48.7	-13.0	-35.7	
3.760	-13.9	V	3.0	36.3	1.0	-49.2	-13.0	-36.2	
5.058	-14.1	V	3.0	35.6	1.0	-48.6	-13.0	-35.6	
High Channel (1905MHz)									
3.810	-13.6	H	3.0	36.3	1.0	-48.9	-13.0	-35.9	
4.998	-14.0	H	3.0	35.6	1.0	-48.6	-13.0	-35.6	
3.810	-13.3	V	3.0	36.3	1.0	-48.6	-13.0	-35.6	
4.998	-13.7	V	3.0	35.6	1.0	-48.3	-13.0	-35.3	

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
 Project #: 14U17673
 Date: 06/10/14
 Test Engineer: Macie
 Configuration: EUT Only
 Mode: LTE Band 2, 10MHz 16QAM

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

Chamber

Pre-amplifier

Filter

Limit

3m Chamber F

3m Chamber F

2.5G HP Filter

Part 24

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1855MHz)									
3.710	-14.7	H	3.0	36.3	1.0	-50.0	-13.0	-37.0	
4.969	-14.6	H	3.0	35.6	1.0	-49.2	-13.0	-36.2	
3.710	-14.3	V	3.0	36.3	1.0	-49.6	-13.0	-36.6	
4.969	-14.1	V	3.0	35.6	1.0	-48.7	-13.0	-35.7	
Mid Channel (1880MHz)									
3.760	-14.0	H	3.0	36.3	1.0	-49.3	-13.0	-36.3	
5.058	-13.9	H	3.0	35.6	1.0	-48.5	-13.0	-35.5	
3.760	-14.0	V	3.0	36.3	1.0	-49.3	-13.0	-36.3	
5.058	-13.6	V	3.0	35.6	1.0	-48.2	-13.0	-35.2	
High Channel (1905MHz)									
3.810	-14.1	H	3.0	36.3	1.0	-49.4	-13.0	-36.4	
4.998	-14.4	H	3.0	35.6	1.0	-49.0	-13.0	-36.0	
3.810	-13.9	V	3.0	36.3	1.0	-49.1	-13.0	-36.1	
4.998	-14.1	V	3.0	35.6	1.0	-48.7	-13.0	-35.7	

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 06/10/14
Test Engineer: Macie
Configuration: EUT Only
Mode: LTE Band 2, 15MHz QPSK

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

Chamber
 3m Chamber F

Pre-amplifier
 3m Chamber F

Filter
 2.5G HP Filter

Limit
 Part 24

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1857.5MHz)									
3.715	-13.5	H	3.0	36.3	1.0	-48.8	-13.0	-35.8	
4.998	-14.0	H	3.0	35.6	1.0	-48.6	-13.0	-35.6	
3.715	-13.7	V	3.0	36.3	1.0	-49.0	-13.0	-36.0	
4.998	-13.5	V	3.0	35.6	1.0	-48.1	-13.0	-35.1	
Mid Channel (1880MHz)									
3.760	-14.7	H	3.0	36.3	1.0	-50.0	-13.0	-37.0	
5.058	-14.2	H	3.0	35.6	1.0	-48.8	-13.0	-35.8	
3.760	-12.8	V	3.0	36.3	1.0	-48.0	-13.0	-35.0	
5.058	-14.8	V	3.0	35.6	1.0	-49.4	-13.0	-36.4	
High Channel (1902.5MHz)									
3.805	-15.1	H	3.0	36.3	1.0	-50.3	-13.0	-37.3	
4.998	-14.7	H	3.0	35.6	1.0	-49.3	-13.0	-36.3	
3.805	-14.4	V	3.0	36.3	1.0	-49.7	-13.0	-36.7	
4.998	-14.3	V	3.0	35.6	1.0	-48.9	-13.0	-35.9	

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
 Project #: 14U17673
 Date: 06/10/14
 Test Engineer: Macie
 Configuration: EUT Only
 Mode: LTE Band 2, 15MHz 16QAM

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

Chamber

Pre-amplifier

Filter

Limit

3m Chamber F

3m Chamber F

2.5G HP Filter

Part 24

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1857.5MHz)									
3.715	-14.2	H	3.0	36.3	1.0	-49.5	-13.0	-36.5	
4.998	-13.8	H	3.0	35.6	1.0	-48.4	-13.0	-35.4	
3.715	-14.2	V	3.0	36.3	1.0	-49.5	-13.0	-36.5	
4.998	-13.7	V	3.0	35.6	1.0	-48.3	-13.0	-35.3	
Mid Channel (1880MHz)									
3.760	-14.6	H	3.0	36.3	1.0	-49.9	-13.0	-36.9	
5.058	-13.8	H	3.0	35.6	1.0	-48.4	-13.0	-35.4	
3.760	-14.7	V	3.0	36.3	1.0	-50.0	-13.0	-37.0	
5.058	-14.1	V	3.0	35.6	1.0	-48.7	-13.0	-35.7	
High Channel (1902.5MHz)									
3.805	-14.7	H	3.0	36.3	1.0	-50.0	-13.0	-37.0	
4.998	-14.2	H	3.0	35.6	1.0	-48.8	-13.0	-35.8	
3.805	-14.5	V	3.0	36.3	1.0	-49.8	-13.0	-36.8	
4.998	-14.3	V	3.0	35.6	1.0	-48.9	-13.0	-35.9	

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

**3m Radiated Emissions Chamber
 Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 06/10/14
Test Engineer: Macie
Configuration: EUT Only
Mode: LTE Band 2, 20MHz QPSK

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

Chamber

3m Chamber F

Pre-amplifier

3m Chamber F

Filter

2.5G HP Filter

Limit

Part 24

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1860MHz)									
3.720	-14.9	H	3.0	36.3	1.0	-50.2	-13.0	-37.2	
5.058	-14.4	H	3.0	35.6	1.0	-49.0	-13.0	-36.0	
3.720	-14.2	V	3.0	36.3	1.0	-49.5	-13.0	-36.5	
5.058	-14.7	V	3.0	35.6	1.0	-49.2	-13.0	-36.2	
Mid Channel (1880MHz)									
3.760	-13.9	H	3.0	36.3	1.0	-49.2	-13.0	-36.2	
5.088	-13.6	H	3.0	35.5	1.0	-48.2	-13.0	-35.2	
3.760	-13.8	V	3.0	36.3	1.0	-49.1	-13.0	-36.1	
5.088	-14.8	V	3.0	35.5	1.0	-49.3	-13.0	-36.3	
High Channel (1900MHz)									
3.800	-14.5	H	3.0	36.3	1.0	-49.8	-13.0	-36.8	
4.998	-14.9	H	3.0	35.6	1.0	-49.5	-13.0	-36.5	
3.800	-13.6	V	3.0	36.3	1.0	-48.9	-13.0	-35.9	
4.998	-14.3	V	3.0	35.6	1.0	-48.9	-13.0	-35.9	

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
 Project #: 14U17673
 Date: 06/10/14
 Test Engineer: Macie
 Configuration: EUT Only
 Mode: LTE Band 2, 20MHz 16QAM

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

Chamber

Pre-amplifier

Filter

Limit

3m Chamber F

3m Chamber F

2.5G HP Filter

Part 24

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1860MHz)									
3.720	-14.7	H	3.0	36.3	1.0	-50.0	-13.0	-37.0	
4.998	-14.4	H	3.0	35.6	1.0	-49.0	-13.0	-36.0	
3.720	-14.8	V	3.0	36.3	1.0	-50.1	-13.0	-37.1	
4.998	-14.5	V	3.0	35.6	1.0	-49.1	-13.0	-36.1	
Mid Channel (1880MHz)									
3.760	-14.1	H	3.0	36.3	1.0	-49.4	-13.0	-36.4	
5.088	-14.1	H	3.0	35.5	1.0	-48.6	-13.0	-35.6	
3.760	-14.1	V	3.0	36.3	1.0	-49.4	-13.0	-36.4	
5.088	-14.3	V	3.0	35.5	1.0	-48.9	-13.0	-35.9	
High Channel (1900MHz)									
3.800	-14.6	H	3.0	36.3	1.0	-49.9	-13.0	-36.9	
4.998	-14.4	H	3.0	35.6	1.0	-49.0	-13.0	-36.0	
3.800	-14.3	V	3.0	36.3	1.0	-49.6	-13.0	-36.6	
4.998	-14.4	V	3.0	35.6	1.0	-49.0	-13.0	-36.0	

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9.3.2. LTE BAND 4

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

3m Radiated Emissions Chamber Above 1GHz Substitution Measurement									
Company:		Apple							
Project #:		14U17673							
Date:		06/07/14							
Test Engineer:		Ali Poushnejad							
Configuration:		EUT only							
Mode:		LTE Band 4, 1.4MHz QPSK							
Test Equipment:									
Substitution: Horn T59 Substitution, and 8ft SMA Cable									
Chamber		Pre-amplifer		Filter		Limit			
3m Chamber F		3m Chamber F		2.5G HP Filter		Part 27			
Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1710.7MHz)									
3.42	-13.5	H	3.0	36.4	1.0	-48.9	-13.0	-35.9	
5.13	-5.2	H	3.0	35.5	1.0	-39.7	-13.0	-26.7	
3.42	-13.3	V	3.0	36.4	1.0	-48.7	-13.0	-35.7	
5.13	-9.9	V	3.0	35.5	1.0	-44.4	-13.0	-31.4	
Mid Channel (1732.5MHz)									
3.47	-13.4	H	3.0	36.4	1.0	-48.8	-13.0	-35.8	
5.20	-4.7	H	3.0	35.5	1.0	-39.2	-13.0	-26.2	
3.47	-12.1	V	3.0	36.4	1.0	-47.5	-13.0	-34.5	
5.20	-8.9	V	3.0	35.5	1.0	-43.4	-13.0	-30.4	
High Channel (1754.3MHz)									
3.51	-11.8	H	3.0	36.4	1.0	-47.2	-13.0	-34.2	
5.26	-7.2	H	3.0	35.5	1.0	-41.7	-13.0	-28.7	
3.51	-12.5	V	3.0	36.4	1.0	-47.9	-13.0	-34.9	
5.26	-9.6	V	3.0	35.5	1.0	-44.1	-13.0	-31.1	
Rev. 03.03.14									

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 06/07/14
Test Engineer: Ali Poushnejad
Configuration: EUT only
Mode: LTE Band 4, 1.4MHz 16QAM

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

Chamber

Pre-amplifier

Filter

Limit

3m Chamber F

3m Chamber F

2.5G HP Filter

Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1710.7MHz)									
3.42	-14.0	H	3.0	36.4	1.0	-49.4	-13.0	-36.4	
5.13	-5.1	H	3.0	35.5	1.0	-39.7	-13.0	-26.7	
3.42	-14.4	V	3.0	36.4	1.0	-49.8	-13.0	-36.8	
5.13	-9.4	V	3.0	35.5	1.0	-43.9	-13.0	-30.9	
Mid Channel (1732.5MHz)									
3.47	-11.9	H	3.0	36.4	1.0	-47.2	-13.0	-34.2	
5.20	-5.6	H	3.0	35.5	1.0	-40.0	-13.0	-27.0	
3.47	-12.6	V	3.0	36.4	1.0	-48.0	-13.0	-35.0	
5.20	-9.7	V	3.0	35.5	1.0	-44.2	-13.0	-31.2	
High Channel (1754.3MHz)									
3.51	-12.3	H	3.0	36.4	1.0	-47.6	-13.0	-34.6	
5.26	-7.9	H	3.0	35.5	1.0	-42.3	-13.0	-29.3	
3.51	-13.4	V	3.0	36.4	1.0	-48.7	-13.0	-35.7	
5.26	-10.6	V	3.0	35.5	1.0	-45.1	-13.0	-32.1	

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

**3m Radiated Emissions Chamber
 Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 06/06/14
Test Engineer: Ali poushnejad
Configuration: EUT only
Mode: LTE Band 4, 3MHz QPSK

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

Chamber

3m Chamber F

Pre-amplifier

3m Chamber F

Filter

2.5G HP Filter

Limit

Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1711.5MHz)									
3.42	-14.2	H	3.0	36.4	1.0	-49.6	-13.0	-36.6	
5.13	-4.9	H	3.0	35.5	1.0	-39.5	-13.0	-26.5	
3.42	-15.2	V	3.0	36.4	1.0	-50.6	-13.0	-37.6	
5.13	-9.0	V	3.0	35.5	1.0	-43.6	-13.0	-30.6	
Mid Channel (1732.5MHz)									
3.47	-13.1	H	3.0	36.4	1.0	-48.5	-13.0	-35.5	
5.20	-5.8	H	3.0	35.5	1.0	-40.3	-13.0	-27.3	
3.47	-12.5	V	3.0	36.4	1.0	-47.9	-13.0	-34.9	
5.20	-10.6	V	3.0	35.5	1.0	-45.1	-13.0	-32.1	
High Channel (1753.5MHz)									
3.51	-11.9	H	3.0	36.4	1.0	-47.3	-13.0	-34.3	
5.26	-6.8	H	3.0	35.5	1.0	-41.2	-13.0	-28.2	
3.51	-13.6	V	3.0	36.4	1.0	-49.0	-13.0	-36.0	
5.26	-8.5	V	3.0	35.5	1.0	-43.0	-13.0	-30.0	

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
 Project #: 14U17673
 Date: 06/06/14
 Test Engineer: Ali poushnejad
 Configuration: EUT only
 Mode: LTE Band 4, 3MHz 16QAM

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

Chamber

Pre-amplifier

Filter

Limit

3m Chamber F

3m Chamber F

2.5G HP Filter

Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1711.5MHz)									
3.42	-14.7	H	3.0	36.4	1.0	-50.1	-13.0	-37.1	
5.13	-5.4	H	3.0	35.5	1.0	-40.0	-13.0	-27.0	
3.42	-14.0	V	3.0	36.4	1.0	-49.4	-13.0	-36.4	
5.13	-8.9	V	3.0	35.5	1.0	-43.4	-13.0	-30.4	
Mid Channel (1732.5MHz)									
3.47	-13.1	H	3.0	36.4	1.0	-48.5	-13.0	-35.5	
5.20	-6.5	H	3.0	35.5	1.0	-41.0	-13.0	-28.0	
3.47	-12.1	V	3.0	36.4	1.0	-47.5	-13.0	-34.5	
5.20	-9.7	V	3.0	35.5	1.0	-44.2	-13.0	-31.2	
High Channel (1753.5MHz)									
3.51	-12.4	H	3.0	36.4	1.0	-47.7	-13.0	-34.7	
5.26	-7.5	H	3.0	35.5	1.0	-41.9	-13.0	-28.9	
3.51	-13.6	V	3.0	36.4	1.0	-48.9	-13.0	-35.9	
5.26	-10.3	V	3.0	35.5	1.0	-44.8	-13.0	-31.8	

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

**3m Radiated Emissions Chamber
 Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 06/06/14
Test Engineer: Ali Poushnejad
Configuration: EUT only
Mode: LTE Band 4, 5MHz QPSK

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

Chamber

3m Chamber F

Pre-amplifier

3m Chamber F

Filter

2.5G HP Filter

Limit

Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1712.5MHz)									
3.43	-3.5	H	3.0	36.4	1.0	-38.9	-13.0	-25.9	
5.14	-3.4	H	3.0	35.5	1.0	-38.0	-13.0	-25.0	
3.43	-3.3	V	3.0	36.4	1.0	-38.7	-13.0	-25.7	
5.14	-5.5	V	3.0	35.5	1.0	-40.1	-13.0	-27.1	
Mid Channel (1732.5MHz)									
3.47	-3.9	H	3.0	36.4	1.0	-39.3	-13.0	-26.3	
5.20	-3.4	H	3.0	35.5	1.0	-37.9	-13.0	-24.9	
3.47	-3.3	V	3.0	36.4	1.0	-38.6	-13.0	-25.6	
5.20	-3.4	V	3.0	35.5	1.0	-37.9	-13.0	-24.9	
High Channel (1752.5MHz)									
3.51	-5.0	H	3.0	36.4	1.0	-40.4	-13.0	-27.4	
5.26	-2.9	H	3.0	35.5	1.0	-37.4	-13.0	-24.4	
3.51	-5.9	V	3.0	36.4	1.0	-41.3	-13.0	-28.3	
5.26	-5.6	V	3.0	35.5	1.0	-40.1	-13.0	-27.1	

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 6/6/14
Test Engineer: Ali Poushnejad
Configuration: EUT only
Mode: LTE Band 4, 5MHz 16QAM

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

Chamber

3m Chamber F

Pre-amplifier

3m Chamber F

Filter

2.5G HP Filter

Limit

Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1712.5MHz)									
3.43	-3.3	H	3.0	36.4	1.0	-38.7	-13.0	-25.7	
5.14	-3.5	H	3.0	35.5	1.0	-38.0	-13.0	-25.0	
3.43	-3.3	V	3.0	36.4	1.0	-38.7	-13.0	-25.7	
5.14	-5.8	V	3.0	35.5	1.0	-40.4	-13.0	-27.4	
Mid Channel (1732.5MHz)									
3.47	-3.3	H	3.0	36.4	1.0	-38.7	-13.0	-25.7	
5.20	-3.8	H	3.0	35.5	1.0	-38.3	-13.0	-25.3	
3.47	-2.9	V	3.0	36.4	1.0	-38.3	-13.0	-25.3	
5.20	-3.3	V	3.0	35.5	1.0	-37.8	-13.0	-24.8	
High Channel (1752.5MHz)									
3.51	-5.7	H	3.0	36.4	1.0	-41.1	-13.0	-28.1	
5.26	-3.2	H	3.0	35.5	1.0	-37.7	-13.0	-24.7	
3.51	-6.4	V	3.0	36.4	1.0	-41.7	-13.0	-28.7	
5.26	-5.6	V	3.0	35.5	1.0	-40.1	-13.0	-27.1	

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

3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement

Company: Apple
Project #: 14U17673
Date: 06/05/14
Test Engineer: A. Poushnejad
Configuration: EUT only
Mode: LTE Band 4, 10MHz QPSK

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

Chamber

3m Chamber D

Pre-amplifer

3m Chamber D

Filter

2.5G HP Filter

Limit

Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1715MHz)									
3.43	-5.3	H	3.0	38.3	1.0	-42.6	-13.0	-29.6	
5.15	-3.3	H	3.0	37.5	1.0	-39.8	-13.0	-26.8	
3.43	-6.8	V	3.0	38.3	1.0	-44.1	-13.0	-31.1	
5.15	-4.8	V	3.0	37.5	1.0	-41.3	-13.0	-28.3	
Mid Channel (1732.5MHz)									
3.47	-3.7	H	3.0	38.3	1.0	-41.0	-13.0	-28.0	
5.20	-3.4	H	3.0	37.5	1.0	-39.9	-13.0	-26.9	
3.47	-5.6	V	3.0	38.3	1.0	-42.9	-13.0	-29.9	
5.20	-3.7	V	3.0	37.5	1.0	-40.1	-13.0	-27.1	
High Channel (1750MHz)									
3.50	-5.2	H	3.0	38.2	1.0	-42.5	-13.0	-29.5	
5.25	-5.3	H	3.0	37.4	1.0	-41.7	-13.0	-28.7	
3.50	-6.7	V	3.0	38.2	1.0	-43.9	-13.0	-30.9	
5.25	-4.3	V	3.0	37.4	1.0	-40.8	-13.0	-27.8	

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 06/05/14
Test Engineer: A. Poushnejad
Configuration: EUT only
Mode: LTE Band 4, 10MHz 16QAM

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

Chamber

3m Chamber D

Pre-amplifier

3m Chamber D

Filter

2.5G HP Filter

Limit

Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1715MHz)									
3.43	-5.7	H	3.0	38.3	1.0	-43.0	-13.0	-30.0	
5.15	-2.7	H	3.0	37.5	1.0	-39.2	-13.0	-26.2	
3.43	-6.7	V	3.0	38.3	1.0	-44.0	-13.0	-31.0	
5.15	-4.5	V	3.0	37.5	1.0	-41.0	-13.0	-28.0	
Mid Channel (1732.5MHz)									
3.47	-3.3	H	3.0	38.3	1.0	-40.5	-13.0	-27.5	
5.20	-3.1	H	3.0	37.5	1.0	-39.6	-13.0	-26.6	
3.47	-5.4	V	3.0	38.3	1.0	-42.7	-13.0	-29.7	
5.20	-3.5	V	3.0	37.5	1.0	-40.0	-13.0	-27.0	
High Channel (1750MHz)									
3.50	-5.1	H	3.0	38.2	1.0	-42.3	-13.0	-29.3	
5.25	-5.4	H	3.0	37.4	1.0	-41.9	-13.0	-28.9	
3.50	-6.8	V	3.0	38.2	1.0	-44.1	-13.0	-31.1	
5.25	-5.1	V	3.0	37.4	1.0	-41.5	-13.0	-28.5	

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 06/05/14
Test Engineer: A. Poushnejad
Configuration: EUT only
Mode: LTE Band 4, 15MHz QPSK

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

Chamber

3m Chamber D

Pre-amplifer

3m Chamber D

Filter

2.5G HP Filter

Limit

Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1717.5MHz)									
3.44	-4.1	H	3.0	38.3	1.0	-41.4	-13.0	-28.4	
5.15	-2.3	H	3.0	37.5	1.0	-38.8	-13.0	-25.8	
3.44	-7.1	V	3.0	38.3	1.0	-44.4	-13.0	-31.4	
5.15	-1.7	V	3.0	37.5	1.0	-38.2	-13.0	-25.2	
Mid Channel (1732.5MHz)									
3.47	-2.7	H	3.0	38.3	1.0	-40.0	-13.0	-27.0	
5.20	0.8	H	3.0	37.5	1.0	-35.7	-13.0	-22.7	
3.47	-2.2	V	3.0	38.3	1.0	-39.5	-13.0	-26.5	
5.20	-0.8	V	3.0	37.5	1.0	-37.3	-13.0	-24.3	
High Channel (1747.5MHz)									
3.50	-3.9	H	3.0	38.2	1.0	-41.1	-13.0	-28.1	
5.24	-4.1	H	3.0	37.4	1.0	-40.5	-13.0	-27.5	
3.50	-7.1	V	3.0	38.2	1.0	-44.3	-13.0	-31.3	
5.24	-3.2	V	3.0	37.4	1.0	-39.7	-13.0	-26.7	

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 06/05/14
Test Engineer: A. Poushnejad
Configuration: EUT only
Mode: LTE Band 4, 15MHz 16QAM

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

Chamber

3m Chamber D

Pre-amplifier

3m Chamber D

Filter

2.5G HP Filter

Limit

Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1717.5MHz)									
3.44	-4.0	H	3.0	38.3	1.0	-41.3	-13.0	-28.3	
5.15	-3.4	H	3.0	37.5	1.0	-39.9	-13.0	-26.9	
3.44	-7.3	V	3.0	38.3	1.0	-44.6	-13.0	-31.6	
5.15	-5.8	V	3.0	37.5	1.0	-42.3	-13.0	-29.3	
Mid Channel (1732.5MHz)									
3.47	-2.8	H	3.0	38.3	1.0	-40.0	-13.0	-27.0	
5.20	1.0	H	3.0	37.5	1.0	-35.5	-13.0	-22.5	
3.47	-2.3	V	3.0	38.3	1.0	-39.5	-13.0	-26.5	
5.20	-0.3	V	3.0	37.5	1.0	-36.7	-13.0	-23.7	
High Channel (1747.5MHz)									
3.50	-4.1	H	3.0	38.2	1.0	-41.3	-13.0	-28.3	
5.24	-4.5	H	3.0	37.4	1.0	-40.9	-13.0	-27.9	
3.50	-7.5	V	3.0	38.2	1.0	-44.8	-13.0	-31.8	
5.24	-2.8	V	3.0	37.4	1.0	-39.3	-13.0	-26.3	

Rev. 03.03.14

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 06/05/14
Test Engineer: A. Poushnejad
Configuration: EUT only
Mode: LTE Band 4, 20MHz QPSK

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

Chamber

Pre-amplifier

Filter

Limit

3m Chamber D

3m Chamber D

2.5G HP Filter

Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1720MHz)									
3.44	-2.6	H	3.0	38.3	1.0	-39.9	-13.0	-26.9	
5.16	-2.9	H	3.0	37.5	1.0	-39.4	-13.0	-26.4	
3.44	-4.5	V	3.0	38.3	1.0	-41.8	-13.0	-28.8	
5.16	-2.7	V	3.0	37.5	1.0	-39.2	-13.0	-26.2	
Mid Channel (1732.5MHz)									
3.47	-1.8	H	3.0	38.3	1.0	-39.0	-13.0	-26.0	
5.20	0.1	H	3.0	37.5	1.0	-36.3	-13.0	-23.3	
3.47	-2.8	V	3.0	38.3	1.0	-40.1	-13.0	-27.1	
5.20	-0.7	V	3.0	37.5	1.0	-37.1	-13.0	-24.1	
High Channel (1745MHz)									
3.49	-0.9	H	3.0	38.2	1.0	-38.1	-13.0	-25.1	
5.24	1.5	H	3.0	37.4	1.0	-35.0	-13.0	-22.0	
3.49	-2.4	V	3.0	38.2	1.0	-39.6	-13.0	-26.6	
5.24	-1.5	V	3.0	37.4	1.0	-37.9	-13.0	-24.9	

Rev. 03.03.14

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 06/05/14
Test Engineer: A. Poushnejad
Configuration: EUT only
Mode: LTE Band 4, 20MHz 16QAM

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

Chamber

3m Chamber D

Pre-amplifier

3m Chamber D

Filter

2.5G HP Filter

Limit

Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1720MHz)									
3.44	-2.5	H	3.0	38.3	1.0	-39.8	-13.0	-26.8	
5.16	-2.5	H	3.0	37.5	1.0	-39.0	-13.0	-26.0	
3.44	-4.4	V	3.0	38.3	1.0	-41.7	-13.0	-28.7	
5.16	-3.2	V	3.0	37.5	1.0	-39.7	-13.0	-26.7	
Mid Channel (1732.5MHz)									
3.47	-1.8	H	3.0	38.3	1.0	-39.1	-13.0	-26.1	
5.20	0.0	H	3.0	37.5	1.0	-36.5	-13.0	-23.5	
3.47	-3.0	V	3.0	38.3	1.0	-40.3	-13.0	-27.3	
5.20	-0.6	V	3.0	37.5	1.0	-37.1	-13.0	-24.1	
High Channel (1745MHz)									
3.49	-2.4	H	3.0	38.2	1.0	-39.6	-13.0	-26.6	
5.24	-0.1	H	3.0	37.4	1.0	-36.6	-13.0	-23.6	
3.49	-3.5	V	3.0	38.2	1.0	-40.7	-13.0	-27.7	
5.24	-2.6	V	3.0	37.4	1.0	-39.1	-13.0	-26.1	

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 06/10/14
Test Engineer: T Wang
Configuration: EUT only
Mode: LTE Band 4, 1.4MHz QPSK

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

Chamber

3m Chamber F

Pre-amplifier

3m Chamber F

Filter

2.5G HP Filter

Limit

Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1710.7MHz)									
3.421	-5.3	H	3.0	36.4	1.0	-40.7	-13.0	-27.7	
5.132	-2.8	H	3.0	35.5	1.0	-37.4	-13.0	-24.4	
3.421	-5.3	V	3.0	36.4	1.0	-40.7	-13.0	-27.7	
5.132	-3.3	V	3.0	35.5	1.0	-37.8	-13.0	-24.8	
Mid Channel (1732.5MHz)									
3.465	-4.1	H	3.0	36.4	1.0	-39.4	-13.0	-26.4	
5.198	-4.1	H	3.0	35.5	1.0	-38.6	-13.0	-25.6	
3.465	-3.9	V	3.0	36.4	1.0	-39.3	-13.0	-26.3	
5.198	-3.4	V	3.0	35.5	1.0	-37.9	-13.0	-24.9	
High Channel (1754.3MHz)									
3.509	-3.9	H	3.0	36.4	1.0	-39.3	-13.0	-26.3	
5.263	-3.0	H	3.0	35.5	1.0	-37.5	-13.0	-24.5	
3.509	-3.6	V	3.0	36.4	1.0	-39.0	-13.0	-26.0	
5.263	-2.5	V	3.0	35.5	1.0	-37.0	-13.0	-24.0	

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
 Project #: 14U17673
 Date: 06/10/14
 Test Engineer: T Wang
 Configuration: EUT only
 Mode: LTE Band 4, 1.4MHz 16QAM

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

Chamber

Pre-amplifier

Filter

Limit

3m Chamber F

3m Chamber F

2.5G HP Filter

Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1710.7MHz)									
3.421	-6.0	H	3.0	36.4	1.0	-41.4	-13.0	-28.4	
5.132	-3.5	H	3.0	35.5	1.0	-38.1	-13.0	-25.1	
3.421	-6.1	V	3.0	36.4	1.0	-41.5	-13.0	-28.5	
5.132	-4.1	V	3.0	35.5	1.0	-38.6	-13.0	-25.6	
Mid Channel (1732.5MHz)									
3.465	-5.0	H	3.0	36.4	1.0	-40.3	-13.0	-27.3	
5.198	-4.7	H	3.0	35.5	1.0	-39.2	-13.0	-26.2	
3.465	-4.7	V	3.0	36.4	1.0	-40.1	-13.0	-27.1	
5.198	-4.2	V	3.0	35.5	1.0	-38.7	-13.0	-25.7	
High Channel (1754.3MHz)									
3.509	-4.8	H	3.0	36.4	1.0	-40.2	-13.0	-27.2	
5.263	-3.9	H	3.0	35.5	1.0	-38.4	-13.0	-25.4	
3.509	-4.5	V	3.0	36.4	1.0	-39.9	-13.0	-26.9	
5.263	-3.4	V	3.0	35.5	1.0	-37.9	-13.0	-24.9	

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

**3m Radiated Emissions Chamber
 Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 06/10/14
Test Engineer: T Wang
Configuration: EUT only
Mode: LTE Band 4, 3MHz QPSK

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

Chamber

3m Chamber F

Pre-amplifier

3m Chamber F

Filter

2.5G HP Filter

Limit

Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1711.5MHz)									
3.423	-4.7	H	3.0	36.4	1.0	-40.1	-13.0	-27.1	
5.135	-4.4	H	3.0	35.5	1.0	-39.0	-13.0	-26.0	
3.423	-5.2	V	3.0	36.4	1.0	-40.6	-13.0	-27.6	
5.135	-3.9	V	3.0	35.5	1.0	-38.4	-13.0	-25.4	
Mid Channel (1732.5MHz)									
3.465	-5.0	H	3.0	36.4	1.0	-40.3	-13.0	-27.3	
5.198	-3.8	H	3.0	35.5	1.0	-38.3	-13.0	-25.3	
3.465	-5.2	V	3.0	36.4	1.0	-40.6	-13.0	-27.6	
5.198	-4.1	V	3.0	35.5	1.0	-38.6	-13.0	-25.6	
High Channel (1753.5MHz)									
3.507	-6.9	H	3.0	36.4	1.0	-42.3	-13.0	-29.3	
5.261	-4.9	H	3.0	35.5	1.0	-39.4	-13.0	-26.4	
3.507	-5.6	V	3.0	36.4	1.0	-41.0	-13.0	-28.0	
5.261	-3.4	V	3.0	35.5	1.0	-37.9	-13.0	-24.9	

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
 Project #: 14U17673
 Date: 06/10/14
 Test Engineer: T Wang
 Configuration: EUT only
 Mode: LTE Band 4, 3MHz 16QAM

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

Chamber

Pre-amplifier

Filter

Limit

3m Chamber F

3m Chamber F

2.5G HP Filter

Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1711.5MHz)									
3.423	-5.6	H	3.0	36.4	1.0	-41.0	-13.0	-28.0	
5.135	-5.1	H	3.0	35.5	1.0	-39.7	-13.0	-26.7	
3.423	-6.1	V	3.0	36.4	1.0	-41.5	-13.0	-28.5	
5.135	-4.7	V	3.0	35.5	1.0	-39.2	-13.0	-26.2	
Mid Channel (1732.5MHz)									
3.465	-5.9	H	3.0	36.4	1.0	-41.2	-13.0	-28.2	
5.198	-4.6	H	3.0	35.5	1.0	-39.1	-13.0	-26.1	
3.465	-6.1	V	3.0	36.4	1.0	-41.5	-13.0	-28.5	
5.198	-4.9	V	3.0	35.5	1.0	-39.4	-13.0	-26.4	
High Channel (1753.5MHz)									
3.507	-7.8	H	3.0	36.4	1.0	-43.2	-13.0	-30.2	
5.261	-5.8	H	3.0	35.5	1.0	-40.3	-13.0	-27.3	
3.507	-6.3	V	3.0	36.4	1.0	-41.7	-13.0	-28.7	
5.261	-4.3	V	3.0	35.5	1.0	-38.8	-13.0	-25.8	

Rev. 03.03.14

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

**3m Radiated Emissions Chamber
 Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 06/10/14
Test Engineer: T Wang
Configuration: EUT only
Mode: LTE Band 4, 5MHz QPSK

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

Chamber

3m Chamber F

Pre-amplifier

3m Chamber F

Filter

2.5G HP Filter

Limit

Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1712.5MHz)									
3.425	-6.6	H	3.0	36.4	1.0	-42.0	-13.0	-29.0	
5.138	-3.7	H	3.0	35.5	1.0	-38.3	-13.0	-25.3	
3.425	-6.3	V	3.0	36.4	1.0	-41.7	-13.0	-28.7	
5.138	-3.4	V	3.0	35.5	1.0	-37.9	-13.0	-24.9	
Mid Channel (1732.5MHz)									
3.465	-7.4	H	3.0	36.4	1.0	-42.7	-13.0	-29.7	
5.198	-5.5	H	3.0	35.5	1.0	-40.0	-13.0	-27.0	
3.465	-6.6	V	3.0	36.4	1.0	-42.0	-13.0	-29.0	
5.198	-4.8	V	3.0	35.5	1.0	-39.3	-13.0	-26.3	
High Channel (1752.5MHz)									
3.505	-6.9	H	3.0	36.4	1.0	-42.3	-13.0	-29.3	
5.258	-5.8	H	3.0	35.5	1.0	-40.3	-13.0	-27.3	
3.505	-6.8	V	3.0	36.4	1.0	-42.2	-13.0	-29.2	
5.258	-4.6	V	3.0	35.5	1.0	-39.1	-13.0	-26.1	

Rev. 03.03.14

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
 Project #: 14U17673
 Date: 06/10/14
 Test Engineer: T Wang
 Configuration: EUT only
 Mode: LTE Band 4, 5MHz 16QAM

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

Chamber

3m Chamber F

Pre-amplifier

3m Chamber F

Filter

2.5G HP Filter

Limit

Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1712.5MHz)									
3.425	-7.4	H	3.0	36.4	1.0	-42.8	-13.0	-29.8	
5.138	-4.5	H	3.0	35.5	1.0	-39.1	-13.0	-26.1	
3.425	-7.1	V	3.0	36.4	1.0	-42.5	-13.0	-29.5	
5.138	-4.5	V	3.0	35.5	1.0	-39.0	-13.0	-26.0	
Mid Channel (1732.5MHz)									
3.465	-8.2	H	3.0	36.4	1.0	-43.5	-13.0	-30.5	
5.198	-7.2	H	3.0	35.5	1.0	-41.7	-13.0	-28.7	
3.465	-7.3	V	3.0	36.4	1.0	-42.7	-13.0	-29.7	
5.198	-5.5	V	3.0	35.5	1.0	-40.0	-13.0	-27.0	
High Channel (1752.5MHz)									
3.505	-7.9	H	3.0	36.4	1.0	-43.3	-13.0	-30.3	
5.258	-6.6	H	3.0	35.5	1.0	-41.1	-13.0	-28.1	
3.505	-7.7	V	3.0	36.4	1.0	-43.1	-13.0	-30.1	
5.258	-5.7	V	3.0	35.5	1.0	-40.2	-13.0	-27.2	

Rev. 03.03.14

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
 Project #: 14U17673
 Date: 06/10/14
 Test Engineer: T Wang
 Configuration: EUT only
 Mode: LTE Band 4, 10MHz QPSK

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

Chamber

Pre-amplifer

Filter

Limit

3m Chamber F

3m Chamber F

2.5G HP Filter

Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1715MHz)									
3.430	-8.1	H	3.0	36.4	1.0	-43.5	-13.0	-30.5	
5.145	-5.3	H	3.0	35.5	1.0	-39.8	-13.0	-26.8	
3.430	-8.2	V	3.0	36.4	1.0	-43.6	-13.0	-30.6	
5.145	-5.7	V	3.0	35.5	1.0	-40.2	-13.0	-27.2	
Mid Channel (1732.5MHz)									
3.465	-5.8	H	3.0	36.4	1.0	-41.1	-13.0	-28.1	
5.198	-4.6	H	3.0	35.5	1.0	-39.1	-13.0	-26.1	
3.465	-6.8	V	3.0	36.4	1.0	-42.2	-13.0	-29.2	
5.198	-4.6	V	3.0	35.5	1.0	-39.1	-13.0	-26.1	
High Channel (1750MHz)									
3.500	-7.0	H	3.0	36.4	1.0	-42.4	-13.0	-29.4	
5.250	-5.5	H	3.0	35.5	1.0	-40.0	-13.0	-27.0	
3.500	-7.3	V	3.0	36.4	1.0	-42.7	-13.0	-29.7	
5.250	-5.1	V	3.0	35.5	1.0	-39.6	-13.0	-26.6	

Rev. 03.03.14

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
 Project #: 14U17673
 Date: 06/10/14
 Test Engineer: T Wang
 Configuration: EUT only
 Mode: LTE Band 4, 10MHz 16QAM

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

Chamber

Pre-amplifier

Filter

Limit

3m Chamber F

3m Chamber F

2.5G HP Filter

Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1715MHz)									
3.430	-8.9	H	3.0	36.4	1.0	-44.3	-13.0	-31.3	
5.145	-6.1	H	3.0	35.5	1.0	-40.6	-13.0	-27.6	
3.430	-9.5	V	3.0	36.4	1.0	-44.9	-13.0	-31.9	
5.145	-6.4	V	3.0	35.5	1.0	-40.9	-13.0	-27.9	
Mid Channel (1732.5MHz)									
3.465	-6.9	H	3.0	36.4	1.0	-42.2	-13.0	-29.2	
5.198	-5.5	H	3.0	35.5	1.0	-40.0	-13.0	-27.0	
3.465	-7.8	V	3.0	36.4	1.0	-43.2	-13.0	-30.2	
5.198	-5.3	V	3.0	35.5	1.0	-39.8	-13.0	-26.8	
High Channel (1750MHz)									
3.500	-7.9	H	3.0	36.4	1.0	-43.3	-13.0	-30.3	
5.250	-6.4	H	3.0	35.5	1.0	-40.9	-13.0	-27.9	
3.500	-8.2	V	3.0	36.4	1.0	-43.6	-13.0	-30.6	
5.250	-5.9	V	3.0	35.5	1.0	-40.4	-13.0	-27.4	

Rev. 03.03.14

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 06/10/14
Test Engineer: T Wang
Configuration: EUT only
Mode: LTE Band 4, 15MHz QPSK

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

Chamber

3m Chamber F

Pre-amplifier

3m Chamber F

Filter

2.5G HP Filter

Limit

Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1717.5MHz)									
3.435	-9.0	H	3.0	36.4	1.0	-44.4	-13.0	-31.4	
5.153	-4.9	H	3.0	35.5	1.0	-39.4	-13.0	-26.4	
3.435	-8.3	V	3.0	36.4	1.0	-43.7	-13.0	-30.7	
5.153	-4.8	V	3.0	35.5	1.0	-39.4	-13.0	-26.4	
Mid Channel (1732.5MHz)									
3.465	-8.4	H	3.0	36.4	1.0	-43.7	-13.0	-30.7	
5.198	-5.8	H	3.0	35.5	1.0	-40.3	-13.0	-27.3	
3.470	-7.7	V	3.0	36.4	1.0	-43.1	-13.0	-30.1	
5.198	-5.6	V	3.0	35.5	1.0	-40.1	-13.0	-27.1	
High Channel (1747.5MHz)									
3.495	-7.4	H	3.0	36.4	1.0	-42.8	-13.0	-29.8	
5.243	-5.9	H	3.0	35.5	1.0	-40.4	-13.0	-27.4	
3.495	-7.7	V	3.0	36.4	1.0	-43.1	-13.0	-30.1	
5.243	-5.0	V	3.0	35.5	1.0	-39.4	-13.0	-26.4	

Rev. 03.03.14

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
 Project #: 14U17673
 Date: 06/10/14
 Test Engineer: T Wang
 Configuration: EUT only
 Mode: LTE Band 4, 15MHz 16QAM

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

Chamber

3m Chamber F

Pre-amplifier

3m Chamber F

Filter

2.5G HP Filter

Limit

Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1717.5MHz)									
3.435	-9.8	H	3.0	36.4	1.0	-45.2	-13.0	-32.2	
5.153	-6.1	H	3.0	35.5	1.0	-40.6	-13.0	-27.6	
3.435	-9.1	V	3.0	36.4	1.0	-44.5	-13.0	-31.5	
5.153	-5.8	V	3.0	35.5	1.0	-40.4	-13.0	-27.4	
Mid Channel (1732.5MHz)									
3.465	-9.2	H	3.0	36.4	1.0	-44.5	-13.0	-31.5	
5.198	-6.7	H	3.0	35.5	1.0	-41.2	-13.0	-28.2	
3.470	-8.5	V	3.0	36.4	1.0	-43.9	-13.0	-30.9	
5.198	-6.5	V	3.0	35.5	1.0	-41.0	-13.0	-28.0	
High Channel (1747.5MHz)									
3.495	-8.3	H	3.0	36.4	1.0	-43.7	-13.0	-30.7	
5.243	-6.7	H	3.0	35.5	1.0	-41.2	-13.0	-28.2	
3.495	-8.7	V	3.0	36.4	1.0	-44.1	-13.0	-31.1	
5.243	-6.0	V	3.0	35.5	1.0	-40.4	-13.0	-27.4	

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 06/10/14
Test Engineer: T Wang
Configuration: EUT only
Mode: LTE Band 4, 20MHz QPSK

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

Chamber

3m Chamber F

Pre-amplifier

3m Chamber F

Filter

2.5G HP Filter

Limit

Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1720MHz)									
3.440	-8.5	H	3.0	36.4	1.0	-43.9	-13.0	-30.9	
5.160	-5.7	H	3.0	35.5	1.0	-40.2	-13.0	-27.2	
3.440	-7.9	V	3.0	36.4	1.0	-43.3	-13.0	-30.3	
5.160	-5.0	V	3.0	35.5	1.0	-39.5	-13.0	-26.5	
Mid Channel (1732.5MHz)									
3.465	-8.2	H	3.0	36.4	1.0	-43.5	-13.0	-30.5	
5.198	-4.9	H	3.0	35.5	1.0	-39.4	-13.0	-26.4	
3.465	-8.0	V	3.0	36.4	1.0	-43.4	-13.0	-30.4	
5.198	-5.0	V	3.0	35.5	1.0	-39.5	-13.0	-26.5	
High Channel (1745MHz)									
3.490	-8.9	H	3.0	36.4	1.0	-44.3	-13.0	-31.3	
5.235	-5.9	H	3.0	35.5	1.0	-40.4	-13.0	-27.4	
3.490	-8.3	V	3.0	36.4	1.0	-43.7	-13.0	-30.7	
5.235	-5.2	V	3.0	35.5	1.0	-39.6	-13.0	-26.6	

Rev. 03.03.14

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
 Project #: 14U17673
 Date: 06/10/14
 Test Engineer: T Wang
 Configuration: EUT only
 Mode: LTE Band 4, 20MHz 16QAM

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

Chamber

Pre-amplifier

Filter

Limit

3m Chamber F

3m Chamber F

2.5G HP Filter

Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1720MHz)									
3.440	-9.3	H	3.0	36.4	1.0	-44.7	-13.0	-31.7	
5.160	-6.7	H	3.0	35.5	1.0	-41.2	-13.0	-28.2	
3.440	-8.8	V	3.0	36.4	1.0	-44.2	-13.0	-31.2	
5.160	-5.8	V	3.0	35.5	1.0	-40.3	-13.0	-27.3	
Mid Channel (1732.5MHz)									
3.465	-9.0	H	3.0	36.4	1.0	-44.3	-13.0	-31.3	
5.198	-5.8	H	3.0	35.5	1.0	-40.3	-13.0	-27.3	
3.465	-8.8	V	3.0	36.4	1.0	-44.2	-13.0	-31.2	
5.198	-5.7	V	3.0	35.5	1.0	-40.2	-13.0	-27.2	
High Channel (1745MHz)									
3.490	-9.7	H	3.0	36.4	1.0	-45.1	-13.0	-32.1	
5.235	-6.8	H	3.0	35.5	1.0	-41.3	-13.0	-28.3	
3.490	-9.2	V	3.0	36.4	1.0	-44.6	-13.0	-31.6	
5.235	-6.1	V	3.0	35.5	1.0	-40.5	-13.0	-27.5	

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9.3.3. LTE BAND 5

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

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 06/03/14
Test Engineer: E. Yu/ O.Su
Configuration: EUT only
Mode: TX, LTE band 2, 1.4MHz, QPSK

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

Chamber
 3m Chamber F

Pre-amplifer
 3m Chamber F

Filter
 Filter 01

Limit
 Part 22

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (824.7MHz)									
1.65	-21.8	H	3.0	34.9	1.0	-55.7	-13.0	-42.7	
2.47	-11.2	H	3.0	35.4	1.0	-45.5	-13.0	-32.5	
1.65	-18.8	V	3.0	34.9	1.0	-52.7	-13.0	-39.7	
2.47	-8.5	V	3.0	35.4	1.0	-42.9	-13.0	-29.9	
Mid Channel (836.5MHz)									
1.67	-16.4	H	3.0	34.9	1.0	-50.2	-13.0	-37.2	
2.51	-13.3	H	3.0	35.3	1.0	-47.6	-13.0	-34.6	
1.67	-16.2	V	3.0	34.9	1.0	-50.1	-13.0	-37.1	
2.51	-10.8	V	3.0	35.3	1.0	-45.1	-13.0	-32.1	
High Channel (848.3MHz)									
1.70	-18.0	H	3.0	34.9	1.0	-51.9	-13.0	-38.9	
2.54	-16.1	H	3.0	35.4	1.0	-50.5	-13.0	-37.5	
1.70	-17.5	V	3.0	34.9	1.0	-51.3	-13.0	-38.3	
2.54	-15.0	V	3.0	35.4	1.0	-49.4	-13.0	-36.4	

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

**3m Radiated Emissions Chamber
 Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 06/04/14
Test Engineer: E. Yu
Configuration: EUT only
Mode: LTE Band 5, 1.4MHz 16QAM

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

Chamber

3m Chamber F

Pre-amplifier

3m Chamber F

Filter

Filter 01

Limit

Part 22

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (824.7MHz)									
1.65	-22.7	H	3.0	34.9	1.0	-56.6	-13.0	-43.6	
2.47	-11.8	H	3.0	35.4	1.0	-46.1	-13.0	-33.1	
1.65	-21.0	V	3.0	34.9	1.0	-54.9	-13.0	-41.9	
2.47	-10.0	V	3.0	35.4	1.0	-44.4	-13.0	-31.4	
Mid Channel (836.5MHz)									
1.67	-16.4	H	3.0	34.9	1.0	-50.2	-13.0	-37.2	
2.51	-13.6	H	3.0	35.3	1.0	-47.9	-13.0	-34.9	
1.67	-18.3	V	3.0	34.9	1.0	-52.2	-13.0	-39.2	
2.51	-11.8	V	3.0	35.3	1.0	-46.1	-13.0	-33.1	
High Channel (848.3MHz)									
1.70	-17.4	H	3.0	34.9	1.0	-51.3	-13.0	-38.3	
2.54	-16.5	H	3.0	35.4	1.0	-50.9	-13.0	-37.9	
1.70	-19.2	V	3.0	34.9	1.0	-53.0	-13.0	-40.0	
2.54	-16.0	V	3.0	35.4	1.0	-50.4	-13.0	-37.4	

Rev. 03.03.14

LAT QPSK EIRP POWER FOR LTE BAND 5 (3.0MHZ BANDWIDTH)

**3m Radiated Emissions Chamber
 Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 06/05/14
Test Engineer: E. Yu/ O.Su
Configuration: EUT Only
Mode: LTE Band 5, 3MHz QPSK

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

Chamber

3m Chamber F

Pre-amplifier

3m Chamber F

Filter

Filter 01

Limit

Part 22

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (825.5MHz)									
1.65	-13.2	H	3.0	34.9	1.0	-47.1	-13.0	-34.1	
2.48	-19.2	H	3.0	35.4	1.0	-53.5	-13.0	-40.5	
1.65	-16.7	V	3.0	34.9	1.0	-50.6	-13.0	-37.6	
2.48	-18.5	V	3.0	35.4	1.0	-52.9	-13.0	-39.9	
Mid Channel (836.5MHz)									
1.67	-9.1	H	3.0	34.9	1.0	-43.0	-13.0	-30.0	
2.51	-19.1	H	3.0	35.3	1.0	-53.4	-13.0	-40.4	
1.67	-11.7	V	3.0	34.9	1.0	-45.6	-13.0	-32.6	
2.51	-16.7	V	3.0	35.3	1.0	-51.0	-13.0	-38.0	
High Channel (847.5MHz)									
1.70	-18.1	H	3.0	34.9	1.0	-51.9	-13.0	-38.9	
2.54	-17.8	H	3.0	35.4	1.0	-52.1	-13.0	-39.1	
1.70	-15.9	V	3.0	34.9	1.0	-49.8	-13.0	-36.8	
2.54	-16.8	V	3.0	35.4	1.0	-51.1	-13.0	-38.1	

Rev. 03.03.14

LAT 16QAM EIRP POWER FOR LTE BAND 5 (3.0MHZ BANDWIDTH)

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
 Project #: 14U17673
 Date: 06/05/14
 Test Engineer: E. Yu / O. Su
 Configuration: EUT Only
 Mode: LTE Band 5, 3MHz 16QAM

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

Chamber

Pre-amplifier

Filter

Limit

3m Chamber F

3m Chamber F

Filter 01

Part 22

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (825.5MHz)									
1.65	-12.9	H	3.0	34.9	1.0	-46.8	-13.0	-33.8	
2.48	-18.2	H	3.0	35.4	1.0	-52.6	-13.0	-39.6	
1.65	-16.1	V	3.0	34.9	1.0	-50.0	-13.0	-37.0	
2.48	-17.9	V	3.0	35.4	1.0	-52.3	-13.0	-39.3	
Mid Channel (836.5MHz)									
1.67	-9.0	H	3.0	34.9	1.0	-42.9	-13.0	-29.9	
2.51	-19.6	H	3.0	35.3	1.0	-53.9	-13.0	-40.9	
1.67	-12.2	V	3.0	34.9	1.0	-46.1	-13.0	-33.1	
2.51	-17.6	V	3.0	35.3	1.0	-51.9	-13.0	-38.9	
High Channel (847.5MHz)									
1.70	-17.6	H	3.0	34.9	1.0	-51.4	-13.0	-38.4	
2.54	-16.9	H	3.0	35.4	1.0	-51.3	-13.0	-38.3	
1.70	-17.1	V	3.0	34.9	1.0	-51.0	-13.0	-38.0	
2.54	-17.3	V	3.0	35.4	1.0	-51.7	-13.0	-38.7	

Rev. 03.03.14

LAT QPSK EIRP POWER FOR LTE BAND 5 (5.0MHZ BANDWIDTH)

**3m Radiated Emissions Chamber
 Above 1GHz Substitution Measurement**

Company: Apple
 Project #: 14U17673
 Date: 06/05/14
 Test Engineer: E. Yu/ O.Su
 Configuration: EUT Only
 Mode: LTE Band 5, 5MHz QPSK

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

Chamber

3m Chamber F

Pre-amplifier

3m Chamber F

Filter

Filter 01

Limit

Part 22

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (826.5MHz)									
1.65	-11.5	H	3.0	34.9	1.0	-45.4	-13.0	-32.4	
2.48	-20.2	H	3.0	35.4	1.0	-54.6	-13.0	-41.6	
1.65	-16.4	V	3.0	34.9	1.0	-50.3	-13.0	-37.3	
2.48	-18.4	V	3.0	35.4	1.0	-52.7	-13.0	-39.7	
Mid Channel (836.5MHz)									
1.67	-14.2	H	3.0	34.9	1.0	-48.1	-13.0	-35.1	
1.67	-8.8	V	3.0	34.9	1.0	-42.7	-13.0	-29.7	
High Channel (846.5MHz)									
1.69	-21.2	H	3.0	34.9	1.0	-55.1	-13.0	-42.1	
2.54	-15.0	H	3.0	35.4	1.0	-49.4	-13.0	-36.4	
1.69	-19.9	V	3.0	34.9	1.0	-53.8	-13.0	-40.8	
2.54	-16.8	V	3.0	35.4	1.0	-51.1	-13.0	-38.1	

Rev. 03.03.14

LAT 16QAM EIRP POWER FOR LTE BAND 5 (5.0MHZ BANDWIDTH)

**3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement**

Company: Apple
Project #: 14U17673
Date: 06/05/14
Test Engineer: E. Yu/ O.Su
Configuration: EUT Only
Mode: LTE Band 5, 5MHz 16QAM

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

Chamber

3m Chamber F

Pre-amplifier

3m Chamber F

Filter

Filter 01

Limit

Part 22

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (826.5MHz)									
1.65	-11.8	H	3.0	34.9	1.0	-45.7	-13.0	-32.7	
2.48	-18.9	H	3.0	35.4	1.0	-53.2	-13.0	-40.2	
1.65	-17.1	V	3.0	34.9	1.0	-51.0	-13.0	-38.0	
2.48	-18.7	V	3.0	35.4	1.0	-53.0	-13.0	-40.0	
Mid Channel (836.5MHz)									
1.67	-12.9	H	3.0	34.9	1.0	-46.8	-13.0	-33.8	
1.67	-8.8	V	3.0	34.9	1.0	-42.7	-13.0	-29.7	
High Channel (846.5MHz)									
1.69	-21.6	H	3.0	34.9	1.0	-55.5	-13.0	-42.5	
2.54	-15.4	H	3.0	35.4	1.0	-49.8	-13.0	-36.8	
1.69	-18.5	V	3.0	34.9	1.0	-52.4	-13.0	-39.4	
2.54	-15.5	V	3.0	35.4	1.0	-49.9	-13.0	-36.9	

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