

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	

Rev. 03.03.14

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	

Rev. 03.03.14

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
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	-14.8	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	

Rev. 03.03.14

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	

Rev. 03.03.14

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	

Rev. 03.03.14

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	

Rev. 03.03.14

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
 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	-14.7	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	

Rev. 03.03.14

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		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	-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	
Rev. 03.03.14									

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
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	-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	

Rev. 03.03.14

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	

Rev. 03.03.14

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
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	-14.7	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	

Rev. 03.03.14

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
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)									
3.42	-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	
Rev. 03.03.14									

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	

Rev. 03.03.14

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

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	-14.7	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	

Rev. 03.03.14

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		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 (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	
Rev. 03.03.14									

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		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 (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	
Rev. 03.03.14									

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

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

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

Apple
 14U17673
 06/05/14
 A. Poushnejad
 EUT only
 LTE Band 4, 10MHz QPSK

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	-5.3	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	

Rev. 03.03.14

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		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 (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	
Rev. 03.03.14									

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-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	-4.1	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	

Rev. 03.03.14

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		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 (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
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	-2.6	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		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	-2.5	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	
Rev. 03.03.14									

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	

Rev. 03.03.14

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
 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	-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	

Rev. 03.03.14

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	

Rev. 03.03.14

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
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	-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
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 (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
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 (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	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 (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	

Rev. 03.03.14

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
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	-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	

Rev. 03.03.14

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		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 (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	
Rev. 03.03.14									

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		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	-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		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 (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		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 (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	
Rev. 03.03.14									

LAT QPSK EIRP POWER FOR LTE BAND 5 (10.0MHZ 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, 10MHz 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 (829MHz)									
1.66	-15.4	H	3.0	34.9	1.0	-49.3	-13.0	-36.3	
2.49	-13.7	H	3.0	35.3	1.0	-48.1	-13.0	-35.1	
1.66	-13.0	V	3.0	34.9	1.0	-46.9	-13.0	-33.9	
2.49	-12.1	V	3.0	35.3	1.0	-46.4	-13.0	-33.4	
Mid Channel (836.5MHz)									
1.67	-14.3	H	3.0	34.9	1.0	-48.2	-13.0	-35.2	
2.51	-8.7	H	3.0	35.3	1.0	-43.0	-13.0	-30.0	
1.67	-14.8	V	3.0	34.9	1.0	-48.7	-13.0	-35.7	
2.51	-14.9	V	3.0	35.3	1.0	-49.2	-13.0	-36.2	
High Channel (844MHz)									
1.69	-14.6	H	3.0	34.9	1.0	-48.4	-13.0	-35.4	
2.53	-15.8	H	3.0	35.4	1.0	-50.2	-13.0	-37.2	
1.69	-15.0	V	3.0	34.9	1.0	-48.8	-13.0	-35.8	
2.53	-13.6	V	3.0	35.4	1.0	-47.9	-13.0	-34.9	

Rev. 03.03.14

LAT 16QAM EIRP POWER FOR LTE BAND 5 (10.0MHZ 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, 10MHz 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 (829MHz)									
1.66	-15.8	H	3.0	34.9	1.0	-49.7	-13.0	-36.7	
2.49	-12.2	H	3.0	35.3	1.0	-46.6	-13.0	-33.6	
1.66	-12.2	V	3.0	34.9	1.0	-46.1	-13.0	-33.1	
2.49	-13.6	V	3.0	35.3	1.0	-47.9	-13.0	-34.9	
Mid Channel (836.5MHz)									
1.67	-14.8	H	3.0	34.9	1.0	-48.7	-13.0	-35.7	
2.51	-8.8	H	3.0	35.3	1.0	-43.1	-13.0	-30.1	
1.67	-15.3	V	3.0	34.9	1.0	-49.2	-13.0	-36.2	
2.51	-15.0	V	3.0	35.3	1.0	-49.3	-13.0	-36.3	
High Channel (844MHz)									
1.69	-15.4	H	3.0	34.9	1.0	-49.2	-13.0	-36.2	
2.53	-14.5	H	3.0	35.4	1.0	-48.9	-13.0	-35.9	
1.69	-15.5	V	3.0	34.9	1.0	-49.3	-13.0	-36.3	
2.53	-14.2	V	3.0	35.4	1.0	-48.5	-13.0	-35.5	
Rev. 03.03.14									

UAT QPSK EIRP POWER FOR LTE BAND 5 (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 5, 1.4MHz QPSK

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

Chamber
 3m Chamber F

Pre-amplifier
 3m Chamber F

Filter
 1G HP Filter

Limit
 Part 22

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (824.7MHz)									
1.650	-18.8	H	3.0	34.9	1.0	-52.7	-13.0	-39.7	
2.473	-12.7	H	3.0	35.4	1.0	-47.0	-13.0	-34.0	
1.650	-18.4	V	3.0	34.9	1.0	-52.3	-13.0	-39.3	
2.473	-11.2	V	3.0	35.4	1.0	-45.6	-13.0	-32.6	
Mid Channel (836.5MHz)									
1.670	-18.5	H	3.0	34.9	1.0	-52.3	-13.0	-39.3	
2.510	-11.0	H	3.0	35.3	1.0	-45.3	-13.0	-32.3	
1.670	-16.5	V	3.0	34.9	1.0	-50.4	-13.0	-37.4	
2.510	-10.8	V	3.0	35.3	1.0	-45.1	-13.0	-32.1	
High Channel (848.3MHz)									
1.697	-17.6	H	3.0	34.9	1.0	-51.4	-13.0	-38.4	
2.545	-12.1	H	3.0	35.4	1.0	-46.5	-13.0	-33.5	
1.697	-17.0	V	3.0	34.9	1.0	-50.8	-13.0	-37.8	
2.545	-10.1	V	3.0	35.4	1.0	-44.5	-13.0	-31.5	

Rev. 03.03.14

UAT 16QAM EIRP POWER FOR LTE BAND 5 (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 5, 1.4MHz 16QAM

Test Equipment:

Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber
3m Chamber F

Pre-amplifier
3m Chamber F

Filter
1G HP Filter

Limit
Part 22

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (824.7MHz)									
1.650	-19.9	H	3.0	34.9	1.0	-53.8	-13.0	-40.8	
2.473	-13.6	H	3.0	35.4	1.0	-47.9	-13.0	-34.9	
1.650	-19.2	V	3.0	34.9	1.0	-53.1	-13.0	-40.1	
2.473	-12.1	V	3.0	35.4	1.0	-46.5	-13.0	-33.5	
Mid Channel (836.5MHz)									
1.670	-18.4	H	3.0	34.9	1.0	-52.2	-13.0	-39.2	
2.510	-11.9	H	3.0	35.3	1.0	-46.2	-13.0	-33.2	
1.670	-17.4	V	3.0	34.9	1.0	-51.3	-13.0	-38.3	
2.510	-11.7	V	3.0	35.3	1.0	-46.0	-13.0	-33.0	
High Channel (848.3MHz)									
1.697	-18.5	H	3.0	34.9	1.0	-52.3	-13.0	-39.3	
2.545	-13.0	H	3.0	35.4	1.0	-47.4	-13.0	-34.4	
1.697	-17.8	V	3.0	34.9	1.0	-51.6	-13.0	-38.6	
2.545	-11.0	V	3.0	35.4	1.0	-45.4	-13.0	-32.4	

Rev. 03.03.14

UAT QPSK EIRP POWER FOR LTE BAND 5 (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 5, 3MHz QPSK

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

Chamber
3m Chamber F

Pre-amplifier
3m Chamber F

Filter
1G HP Filter

Limit
Part 22

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (825.5MHz)									
1.651	-24.6	H	3.0	34.9	1.0	-58.5	-13.0	-45.5	
2.477	-18.2	H	3.0	35.4	1.0	-52.6	-13.0	-39.6	
1.651	-23.5	V	3.0	34.9	1.0	-57.4	-13.0	-44.4	
2.477	-16.4	V	3.0	35.4	1.0	-50.8	-13.0	-37.8	
Mid Channel (836.5MHz)									
1.673	-24.1	H	3.0	34.9	1.0	-58.0	-13.0	-45.0	
2.509	-18.9	H	3.0	35.3	1.0	-53.2	-13.0	-40.2	
1.673	-22.9	V	3.0	34.9	1.0	-56.8	-13.0	-43.8	
2.509	-16.8	V	3.0	35.3	1.0	-51.1	-13.0	-38.1	
High Channel (847.5MHz)									
1.695	-23.6	H	3.0	34.9	1.0	-57.5	-13.0	-44.5	
2.542	-18.4	H	3.0	35.4	1.0	-52.8	-13.0	-39.8	
1.695	-22.1	V	3.0	34.9	1.0	-56.0	-13.0	-43.0	
2.542	-16.7	V	3.0	35.4	1.0	-51.1	-13.0	-38.1	

Rev. 03.03.14

UAT 16QAM EIRP POWER FOR LTE BAND 5 (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 5, 3MHz 16QAM

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

Chamber
3m Chamber F

Pre-amplifier
3m Chamber F

Filter
1G HP Filter

Limit
Part 22

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (825.5MHz)									
1.651	-25.4	H	3.0	34.9	1.0	-59.3	-13.0	-46.3	
2.477	-18.9	H	3.0	35.4	1.0	-53.3	-13.0	-40.3	
1.651	-24.2	V	3.0	34.9	1.0	-58.1	-13.0	-45.1	
2.477	-17.4	V	3.0	35.4	1.0	-51.8	-13.0	-38.8	
Mid Channel (836.5MHz)									
1.673	-25.0	H	3.0	34.9	1.0	-58.9	-13.0	-45.9	
2.509	-19.7	H	3.0	35.3	1.0	-54.0	-13.0	-41.0	
1.673	-23.8	V	3.0	34.9	1.0	-57.7	-13.0	-44.7	
2.509	-17.7	V	3.0	35.3	1.0	-52.0	-13.0	-39.0	
High Channel (847.5MHz)									
1.695	-24.3	H	3.0	34.9	1.0	-58.2	-13.0	-45.2	
2.542	-19.3	H	3.0	35.4	1.0	-53.7	-13.0	-40.7	
1.695	-23.0	V	3.0	34.9	1.0	-56.9	-13.0	-43.9	
2.542	-17.7	V	3.0	35.4	1.0	-52.1	-13.0	-39.1	

Rev. 03.03.14

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

3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement

Company: Apple

Project #: 14U17673

Date: 6/10/2014

Test Engineer: Ali Poushnejad

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
1G HP Filter

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	5.3	H	3.0	34.9	1.0	-28.6	-13.0	-15.6	
2.48	-7.2	H	3.0	35.4	1.0	-41.5	-13.0	-28.5	
1.65	-11.2	V	3.0	34.9	1.0	-45.1	-13.0	-32.1	
2.48	-6.2	V	3.0	35.4	1.0	-40.6	-13.0	-27.6	
Mid Channel (836.5MHz)									
1.7	7.6	H	3.0	34.9	1.0	-26.3	-13.0	-13.3	
2.5	-6.4	H	3.0	35.3	1.0	-40.7	-13.0	-27.7	
1.7	-10.6	V	3.0	34.9	1.0	-44.5	-13.0	-31.5	
2.5	-3.7	V	3.0	35.3	1.0	-38.0	-13.0	-25.0	
High Channel (846.5MHz)									
1.69	0.2	H	3.0	34.9	1.0	-33.7	-13.0	-20.7	
2.54	-5.4	H	3.0	35.4	1.0	-39.8	-13.0	-26.8	
1.69	-10.5	V	3.0	34.9	1.0	-44.3	-13.0	-31.3	
2.54	-1.3	V	3.0	35.4	1.0	-35.6	-13.0	-22.6	

Rev. 03.03.14

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

3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement

Company: Apple

Project #: 14U17673

Date: 6/10/2014

Test Engineer: Ali Poushnejad

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
1G HP Filter

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	4.9	H	3.0	34.9	1.0	-29.0	-13.0	-16.0	
2.48	-6.9	H	3.0	35.4	1.0	-41.3	-13.0	-28.3	
1.65	-11.2	V	3.0	34.9	1.0	-45.1	-13.0	-32.1	
2.48	-6.2	V	3.0	35.4	1.0	-40.6	-13.0	-27.6	
Mid Channel (836.5MHz)									
1.67	7.3	H	3.0	34.9	1.0	-26.6	-13.0	-13.6	
2.51	-7.2	H	3.0	35.3	1.0	-41.5	-13.0	-28.5	
1.67	-11.0	V	3.0	34.9	1.0	-44.9	-13.0	-31.9	
2.51	-4.5	V	3.0	35.3	1.0	-38.8	-13.0	-25.8	
High Channel (846.5MHz)									
1.69	0.2	H	3.0	34.9	1.0	-33.7	-13.0	-20.7	
2.54	-5.4	H	3.0	35.4	1.0	-39.8	-13.0	-26.8	
1.69	-10.0	V	3.0	34.9	1.0	-43.9	-13.0	-30.9	
2.54	-1.5	V	3.0	35.4	1.0	-35.8	-13.0	-22.8	

Rev. 03.03.14

UAT QPSK EIRP POWER FOR LTE BAND 5 (10.0MHZ BANDWIDTH)

3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement

Company: Apple

Project #: 14U17673

Date: 6/10/2014

Test Engineer: Ali Poushnejad

Configuration: EUT only

Mode: LTE Band 5, 10MHz QPSK

Test Equipment:

Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber
3m Chamber F

Pre-amplifier
3m Chamber F

Filter
1G HP Filter

Limit
Part 22

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (829MHz)									
1.69	6.4	H	3.0	34.9	1.0	-27.5	-13.0	-14.5	
2.49	-10.2	H	3.0	35.3	1.0	-44.6	-13.0	-31.6	
1.69	-11.1	V	3.0	34.9	1.0	-45.0	-13.0	-32.0	
2.49	-5.4	V	3.0	35.3	1.0	-39.7	-13.0	-26.7	
Mid Channel (836.5MHz)									
1.73	-5.4	H	3.0	34.8	1.0	-39.2	-13.0	-26.2	
2.51	-6.9	H	3.0	35.3	1.0	-41.2	-13.0	-28.2	
1.73	-10.9	V	3.0	34.8	1.0	-44.7	-13.0	-31.7	
2.51	0.2	V	3.0	35.3	1.0	-34.1	-13.0	-21.1	
High Channel (844MHz)									
1.69	5.3	H	3.0	34.9	1.0	-28.6	-13.0	-15.6	
2.53	-9.1	H	3.0	35.4	1.0	-43.4	-13.0	-30.4	
1.69	-13.0	V	3.0	34.9	1.0	-46.8	-13.0	-33.8	
2.53	-6.9	V	3.0	35.4	1.0	-41.2	-13.0	-28.2	

Rev. 03.03.14

UAT 16QAM EIRP POWER FOR LTE BAND 5 (10.0MHZ BANDWIDTH)

3m Radiated Emissions Chamber Above 1GHz Substitution Measurement									
Company:		Apple							
Project #:		14U17673							
Date:		6/10/2014							
Test Engineer:		Ali Poushnejad							
Configuration:		EUT only							
Mode:		LTE Band 5, 10MHz 16QAM							
Test Equipment:									
Substitution: Horn T59 Substitution, and 8ft SMA Cable									
Chamber		Pre-amplifier		Filter		Limit			
3m Chamber F		3m Chamber F		1G HP Filter		Part 22			
Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (829MHz)									
1.69	6.2	H	3.0	34.9	1.0	-27.6	-13.0	-14.6	
2.49	-10.4	H	3.0	35.3	1.0	-44.7	-13.0	-31.7	
1.69	-13.7	V	3.0	34.9	1.0	-47.6	-13.0	-34.6	
2.49	-5.4	V	3.0	35.3	1.0	-39.7	-13.0	-26.7	
Mid Channel (836.5MHz)									
1.73	-5.8	H	3.0	34.8	1.0	-39.6	-13.0	-26.6	
2.51	-6.9	H	3.0	35.3	1.0	-41.2	-13.0	-28.2	
1.73	-11.0	V	3.0	34.8	1.0	-44.8	-13.0	-31.8	
2.51	-0.2	V	3.0	35.3	1.0	-34.5	-13.0	-21.5	
High Channel (844MHz)									
1.69	5.1	H	3.0	34.9	1.0	-28.8	-13.0	-15.8	
2.53	-9.1	H	3.0	35.4	1.0	-43.4	-13.0	-30.4	
1.69	-13.2	V	3.0	34.9	1.0	-47.0	-13.0	-34.0	
2.53	-6.8	V	3.0	35.4	1.0	-41.2	-13.0	-28.2	
Rev. 03.03.14									

9.3.4. LTE BAND 13

LAT QPSK EIRP POWER FOR LTE BAND 13 (5.0MHZ BANDWIDTH)

3m Radiated Emissions Chamber Above 1GHz Substitution Measurement									
Company:	Apple								
Project #:	14U17673								
Date:	06/06/14								
Test Engineer:	Macie								
Configuration:	EUT only								
Mode:	LTE Band 13, 5MHz QPSK								
<u>Test Equipment:</u>									
Substitution: Horn T59 Substitution, and 8ft SMA Cable									
Chamber	Pre-amplifier	Filter	Limit						
3m Chamber F	3m Chamber F	Filter 01	Part 27						
Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (779.5MHz)									
1.559	-16.3	V	3.0	35.0	1.0	-50.3	-40.0	-10.3	1559-1610 MHz
2.395	-1.1	V	3.0	35.7	1.0	-33.6	-13.0	-20.6	
2.431	-10.0	V	3.0	35.6	1.0	-44.6	-13.0	-31.6	
1.594	-15.0	H	3.0	35.0	1.0	-48.9	-40.0	-8.9	1559-1610 MHz
2.395	-0.1	H	3.0	35.7	1.0	-34.7	-13.0	-21.7	
2.431	-11.7	H	3.0	35.6	1.0	-46.3	-13.0	-33.3	
Mid Channel (782MHz)									
1.564	-16.5	V	3.0	35.0	1.0	-50.4	-40.0	-10.4	1559-1610 MHz
2.341	-1.0	V	3.0	35.5	1.0	-35.5	-13.0	-22.5	
2.440	-10.6	V	3.0	35.5	1.0	-45.1	-13.0	-32.1	
1.564	-16.2	H	3.0	35.0	1.0	-50.2	-40.0	-10.2	1559-1610 MHz
2.341	4.0	H	3.0	35.5	1.0	-30.5	-13.0	-17.5	
2.440	-11.9	H	3.0	35.5	1.0	-46.4	-13.0	-33.4	
High Channel (784.5MHz)									
1.569	-16.0	V	3.0	35.0	1.0	-50.0	-40.0	-10.0	1559-1610 MHz
2.346	-3.9	V	3.0	35.5	1.0	-38.4	-13.0	-25.4	
2.440	-10.5	V	3.0	35.5	1.0	-45.0	-13.0	-32.0	
1.564	-16.9	H	3.0	35.0	1.0	-50.9	-40.0	-10.9	1559-1610 MHz
2.346	0.8	H	3.0	35.5	1.0	-33.7	-13.0	-20.7	
2.431	-11.9	H	3.0	35.6	1.0	-46.5	-13.0	-33.5	
Rev. 03.03.14									

LAT 16QAM EIRP POWER FOR LTE BAND 13 (5.0MHZ BANDWIDTH)

3m Radiated Emissions Chamber Above 1GHz Substitution Measurement									
Company:		Apple							
Project #:		14U17673							
Date:		06/06/14							
Test Engineer:		Macie							
Configuration:		EUT only							
Mode:		LTE Band 13, 5MHz 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 27			
Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (779.5MHz)									
1.559	-17.5	V	3.0	35.0	1.0	-51.5	-40.0	-11.5	1559-1610 MHz
2.395	2.9	V	3.0	35.7	1.0	-31.8	-13.0	-18.8	
2.404	-10.3	V	3.0	35.7	1.0	-44.9	-13.0	-31.9	
1.594	-17.7	H	3.0	35.0	1.0	-51.6	-40.0	-11.6	1559-1610 MHz
2.395	3.0	H	3.0	35.7	1.0	-31.6	-13.0	-18.6	
2.404	-10.0	H	3.0	35.7	1.0	-44.7	-13.0	-31.7	
Mid Channel (782MHz)									
1.564	-19.0	V	3.0	35.0	1.0	-53.0	-40.0	-13.0	1559-1610 MHz
2.341	-2.2	V	3.0	35.5	1.0	-36.7	-13.0	-23.7	
2.404	-10.8	V	3.0	35.7	1.0	-45.4	-13.0	-32.4	
1.564	-17.0	H	3.0	35.0	1.0	-51.0	-40.0	-11.0	1559-1610 MHz
2.341	0.8	H	3.0	35.5	1.0	-33.7	-13.0	-20.7	
2.404	-12.2	H	3.0	35.7	1.0	-46.8	-13.0	-33.8	
High Channel (784.5MHz)									
1.569	-17.7	V	3.0	35.0	1.0	-51.7	-40.0	-11.7	1559-1610 MHz
2.346	-6.4	V	3.0	35.5	1.0	-41.0	-13.0	-28.0	
2.404	-11.5	V	3.0	35.7	1.0	-46.1	-13.0	-33.1	
1.564	-17.0	H	3.0	35.0	1.0	-51.0	-40.0	-11.0	1559-1610 MHz
2.346	-2.0	H	3.0	35.5	1.0	-36.6	-13.0	-23.6	
2.404	-12.6	H	3.0	35.7	1.0	-47.3	-13.0	-34.3	
Rev. 03.03.14									

LAT QPSK EIRP POWER FOR LTE BAND 13 (10.0MHZ BANDWIDTH)

3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement

Company: Apple
Project #: 14U17673
Date: 06/06/14
Test Engineer: E. Yu/ O.Su
Configuration: EUT only
Mode: LTE Band 13, 10MHz 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 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (782MHz)									
1.56	-22.7	H	3.0	35.0	1.0	-56.7	-13.0	-43.7	
2.35	-20.4	H	3.0	35.5	1.0	-54.9	-13.0	-41.9	
1.56	-17.8	V	3.0	35.0	1.0	-51.7	-13.0	-38.7	
2.35	-18.6	V	3.0	35.5	1.0	-53.1	-13.0	-40.1	

Rev. 03.03.14

Page 854 of 922

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4031B
 47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888
 This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LAT 16QAM EIRP POWER FOR LTE BAND 13 (10.0MHZ BANDWIDTH)

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

Company: Apple
Project #: 14U17673
Date: 06/06/14
Test Engineer: E. Yu/ O.Su
Configuration: EUT only
Mode: LTE Band 13, 10MHz 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 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (782MHz)									
1.56	-23.6	H	3.0	35.0	1.0	-57.5	-13.0	-44.5	
2.35	-21.1	H	3.0	35.5	1.0	-55.6	-13.0	-42.6	
1.56	-19.0	V	3.0	35.0	1.0	-52.9	-13.0	-39.9	
2.35	-20.0	V	3.0	35.5	1.0	-54.5	-13.0	-41.5	

Rev. 03.03.14

UAT QPSK EIRP POWER FOR LTE BAND 13 (5.0MHZ BANDWIDTH)

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

Company: Apple

Project #: 14U17673

Date: 06/12/14

Test Engineer: E.Yu

Configuration: EUT only

Mode: LTE Band 13, 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 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (779.5MHz)									
1.559	-23.4	H	3.0	35.0	1.0	-57.3	-40.0	-17.3	1559-1610 MHz
2.339	-18.3	H	3.0	35.5	1.0	-52.8	-13.0	-39.8	
1.559	-21.3	V	3.0	35.0	1.0	-55.2	-40.0	-15.2	1559-1610 MHz
2.339	-15.3	V	3.0	35.5	1.0	-49.8	-13.0	-36.8	
Mid Channel (782MHz)									
1.56	-22.5	H	3.0	35.0	1.0	-56.5	-40.0	-16.5	1559-1610 MHz
2.35	-17.6	H	3.0	35.5	1.0	-52.2	-13.0	-39.2	
1.56	-21.6	V	3.0	35.0	1.0	-55.5	-40.0	-15.5	1559-1610 MHz
2.35	-16.0	V	3.0	35.5	1.0	-50.6	-13.0	-37.6	
High Channel (784.5MHz)									
1.569	-22.1	H	3.0	35.0	1.0	-56.1	-40.0	-16.1	1559-1610 MHz
2.354	-18.2	H	3.0	35.6	1.0	-52.7	-13.0	-39.7	
1.569	-22.4	V	3.0	35.0	1.0	-56.4	-40.0	-16.4	1559-1610 MHz
2.354	-16.8	V	3.0	35.6	1.0	-51.3	-13.0	-38.3	

Rev. 03.03.14

UAT 16QAM EIRP POWER FOR LTE BAND 13 (5.0MHZ BANDWIDTH)

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

Company: Apple
Project #: 14U17673
Date: 06/12/14
Test Engineer: E.Yu
Configuration: EUT only
Mode: LTE Band 13, 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 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (779.5MHz)									
1.559	-22.1	H	3.0	35.0	1.0	-56.1	-40.0	-16.1	1559-1610 MHz
2.339	-18.5	H	3.0	35.5	1.0	-53.0	-13.0	-40.0	
1.559	-21.3	V	3.0	35.0	1.0	-55.2	-40.0	-15.2	1559-1610 MHz
2.339	-16.6	V	3.0	35.5	1.0	-51.1	-13.0	-38.1	
Mid Channel (782MHz)									
1.56	-22.7	H	3.0	35.0	1.0	-56.7	-40.0	-16.7	1559-1610 MHz
2.35	-18.5	H	3.0	35.5	1.0	-53.1	-13.0	-40.1	
1.56	-22.0	V	3.0	35.0	1.0	-55.9	-40.0	-15.9	1559-1610 MHz
2.35	-16.7	V	3.0	35.5	1.0	-51.2	-13.0	-38.2	
High Channel (784.5MHz)									
1.569	-23.3	H	3.0	35.0	1.0	-57.2	-40.0	-17.2	1559-1610 MHz
2.354	-18.2	H	3.0	35.6	1.0	-52.7	-13.0	-39.7	
1.569	-22.0	V	3.0	35.0	1.0	-55.9	-40.0	-15.9	1559-1610 MHz
2.354	-16.7	V	3.0	35.6	1.0	-51.2	-13.0	-38.2	

Rev. 03.03.14

UAT QPSK EIRP POWER FOR LTE BAND 13 (10.0MHZ BANDWIDTH)

3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement

Company: Apple
Project #: 14U17673
Date: 06/11/14
Test Engineer: T Wang
Configuration: EUT only
Mode: LTE Band 13, 10MHz 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 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (782MHz)									
1.564	-24.8	H	3.0	35.0	1.0	-58.8	-40.0	-18.8	1559-1610 MHz
2.346	-19.6	H	3.0	35.5	1.0	-54.1	-13.0	-41.1	
1.564	-24.0	V	3.0	35.0	1.0	-57.9	-40.0	-17.9	1559-1610 MHz
2.346	-18.6	V	3.0	35.5	1.0	-53.1	-13.0	-40.1	

Rev. 03.03.14

UAT 16QAM EIRP POWER FOR LTE BAND 13 (10.0MHZ BANDWIDTH)

3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement

Company:

Apple

Project #:

14U17673

Date:

06/11/14

Test Engineer:

T Wang

Configuration:

EUT only

Mode:

LTE Band 13, 10MHz 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 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (782MHz)									
1.564	-25.6	H	3.0	35.0	1.0	-59.6	-40.0	-19.6	1559-1610 MHz
2.346	-20.5	H	3.0	35.5	1.0	-55.0	-13.0	-42.0	
1.564	-24.9	V	3.0	35.0	1.0	-58.8	-40.0	-18.8	1559-1610 MHz
2.346	-19.5	V	3.0	35.5	1.0	-54.0	-13.0	-41.0	

Rev. 03.03.14

9.3.5. LTE BAND 17

LAT QPSK EIRP POWER FOR LTE BAND 17 (5.0MHZ BANDWIDTH)

3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement

Company: Apple
Project #: 14U17673
Date: 06/09/14
Test Engineer: T Wang
Configuration: EUT only
Mode: LTE Band 17, 5MHz QPSK

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

Chamber
3m Chamber F

Pre-amplifier
3m Chamber F

Filter
1G HP Filter

Limit
Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (706.5MHz)									
1.413	-21.1	H	3.0	35.3	1.0	-55.4	-13.0	-42.4	
2.119	-18.1	H	3.0	34.9	1.0	-52.0	-13.0	-39.0	
1.413	-22.6	V	3.0	35.3	1.0	-57.0	-13.0	-44.0	
2.119	-14.3	V	3.0	34.9	1.0	-48.3	-13.0	-35.3	
Mid Channel (710MHz)									
1.420	-23.5	H	3.0	35.3	1.0	-57.8	-13.0	-44.8	
2.130	-16.6	H	3.0	35.0	1.0	-50.6	-13.0	-37.6	
1.420	-20.3	V	3.0	35.3	1.0	-54.6	-13.0	-41.6	
2.130	-16.3	V	3.0	35.0	1.0	-50.3	-13.0	-37.3	
High Channel (713.5MHz)									
1.427	-23.1	H	3.0	35.3	1.0	-57.4	-13.0	-44.4	
2.133	-17.3	H	3.0	35.0	1.0	-51.3	-13.0	-38.3	
1.427	-22.6	V	3.0	35.3	1.0	-56.9	-13.0	-43.9	
2.133	-17.0	V	3.0	35.0	1.0	-51.0	-13.0	-38.0	

Rev. 03.03.14

LAT 16QAM EIRP POWER FOR LTE BAND 17 (5.0MHZ BANDWIDTH)

3m Radiated Emissions Chamber Above 1GHz Substitution Measurement									
Company: Apple									
Project #: 14U17673									
Date: 06/09/14									
Test Engineer: T Wang									
Configuration: EUT only									
Mode: LTE Band 17, 5MHz 16QAM									
Test Equipment:									
Substitution: Horn T59 Substitution, and 8ft SMA Cable									
Chamber		Pre-amplifier		Filter		Limit			
3m Chamber F		3m Chamber F		1G HP Filter		Part 27			
Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (706.5MHz)									
1.413	-22.3	H	3.0	35.3	1.0	-56.6	-13.0	-43.6	
2.119	-18.8	H	3.0	34.9	1.0	-52.7	-13.0	-39.7	
1.413	-23.5	V	3.0	35.3	1.0	-57.9	-13.0	-44.9	
2.119	-15.2	V	3.0	34.9	1.0	-49.2	-13.0	-36.2	
Mid Channel (710MHz)									
1.420	-24.0	H	3.0	35.3	1.0	-58.3	-13.0	-45.3	
2.130	-17.5	H	3.0	35.0	1.0	-51.5	-13.0	-38.5	
1.420	-21.4	V	3.0	35.3	1.0	-55.7	-13.0	-42.7	
2.130	-17.1	V	3.0	35.0	1.0	-51.1	-13.0	-38.1	
High Channel (713.5MHz)									
1.427	-23.9	H	3.0	35.3	1.0	-58.2	-13.0	-45.2	
2.133	-18.2	H	3.0	35.0	1.0	-52.2	-13.0	-39.2	
1.427	-23.3	V	3.0	35.3	1.0	-57.6	-13.0	-44.6	
2.133	-17.7	V	3.0	35.0	1.0	-51.7	-13.0	-38.7	
Rev. 03.03.14									

LAT QPSK EIRP POWER FOR LTE BAND 17 (10.0MHZ BANDWIDTH)

3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement

Company: Apple

Project #: 14U17673

Date: 06/09/14

Test Engineer: T Wang

Configuration: EUT only

Mode: LTE Band 17, 10MHz 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 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (709MHz)									
1.418	-23.4	H	3.0	35.3	1.0	-57.7	-13.0	-44.7	
2.127	-18.1	H	3.0	34.9	1.0	-52.1	-13.0	-39.1	
1.418	-22.3	V	3.0	35.3	1.0	-56.6	-13.0	-43.6	
2.127	-16.4	V	3.0	34.9	1.0	-50.4	-13.0	-37.4	
Mid Channel (710MHz)									
1.420	-19.7	H	3.0	35.3	1.0	-54.0	-13.0	-41.0	
2.130	-15.9	H	3.0	35.0	1.0	-49.9	-13.0	-36.9	
1.420	-21.8	V	3.0	35.3	1.0	-56.1	-13.0	-43.1	
2.130	-15.9	V	3.0	35.0	1.0	-49.9	-13.0	-36.9	
High Channel (711MHz)									
1.422	-23.3	H	3.0	35.3	1.0	-57.6	-13.0	-44.6	
2.133	-16.9	H	3.0	35.0	1.0	-50.9	-13.0	-37.9	
1.422	-21.8	V	3.0	35.3	1.0	-56.1	-13.0	-43.1	
2.133	-15.5	V	3.0	35.0	1.0	-49.5	-13.0	-36.5	

Rev. 03.03.14

LAT 16QAM EIRP POWER FOR LTE BAND 17 (10.0MHZ BANDWIDTH)

3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement

Company: Apple
Project #: 14U17673
Date: 06/09/14
Test Engineer: T Wang
Configuration: EUT only
Mode: LTE Band 17, 10MHz 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 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (709MHz)									
1.418	-24.6	H	3.0	35.3	1.0	-58.9	-13.0	-45.9	
2.127	-19.2	H	3.0	34.9	1.0	-53.2	-13.0	-40.2	
1.418	-23.3	V	3.0	35.3	1.0	-57.6	-13.0	-44.6	
2.127	-17.0	V	3.0	34.9	1.0	-51.0	-13.0	-38.0	
Mid Channel (710MHz)									
1.420	-20.2	H	3.0	35.3	1.0	-54.5	-13.0	-41.5	
2.130	-17.0	H	3.0	35.0	1.0	-50.9	-13.0	-37.9	
1.420	-23.0	V	3.0	35.3	1.0	-57.3	-13.0	-44.3	
2.130	-16.8	V	3.0	35.0	1.0	-50.8	-13.0	-37.8	
High Channel (711MHz)									
1.422	-23.9	H	3.0	35.3	1.0	-58.2	-13.0	-45.2	
2.133	-17.8	H	3.0	35.0	1.0	-51.8	-13.0	-38.8	
1.422	-22.7	V	3.0	35.3	1.0	-57.0	-13.0	-44.0	
2.133	-16.5	V	3.0	35.0	1.0	-50.5	-13.0	-37.5	

Rev. 03.03.14

UAT QPSK EIRP POWER FOR LTE BAND 17 (5.0MHZ BANDWIDTH)

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

Company: Apple

Project #: 14U17673

Date: 06/11/14

Test Engineer: E.Yu

Configuration: EUT Only

Mode: LTE Band 17, 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 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (706.5MHz)									
1.41	-21.2	H	3.0	35.3	1.0	-55.6	-13.0	-42.6	
2.12	-16.9	H	3.0	34.9	1.0	-50.8	-13.0	-37.8	
1.41	-22.2	V	3.0	35.3	1.0	-56.6	-13.0	-43.6	
2.12	-17.6	V	3.0	34.9	1.0	-51.5	-13.0	-38.5	
Mid Channel (710MHz)									
1.42	-18.5	H	3.0	35.3	1.0	-52.8	-13.0	-39.8	
2.13	-16.5	H	3.0	35.0	1.0	-50.5	-13.0	-37.5	
1.42	-19.2	V	3.0	35.3	1.0	-53.5	-13.0	-40.5	
2.13	-18.0	V	3.0	35.0	1.0	-52.0	-13.0	-39.0	
High Channel (713.5MHz)									
1.43	-20.5	H	3.0	35.3	1.0	-54.7	-13.0	-41.7	
2.14	-19.9	H	3.0	35.0	1.0	-53.8	-13.0	-40.8	
1.43	-22.1	V	3.0	35.3	1.0	-56.4	-13.0	-43.4	
2.14	-18.0	V	3.0	35.0	1.0	-52.0	-13.0	-39.0	

Rev. 03.03.14

UAT 16QAM EIRP POWER FOR LTE BAND 17 (5.0MHZ BANDWIDTH)

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

Company: Apple
Project #: 14U17673
Date: 06/11/14
Test Engineer: E.Yu
Configuration: EUT Only
Mode: LTE Band 17, 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 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (706.5MHz)									
1.413	-22.0	H	3.0	35.3	1.0	-56.3	-13.0	-43.3	
2.119	-17.3	H	3.0	34.9	1.0	-51.2	-13.0	-38.2	
1.413	-23.0	V	3.0	35.3	1.0	-57.3	-13.0	-44.3	
2.119	-17.5	V	3.0	34.9	1.0	-51.5	-13.0	-38.5	
Mid Channel (710MHz)									
1.420	-20.3	H	3.0	35.3	1.0	-54.6	-13.0	-41.6	
2.130	-19.0	H	3.0	35.0	1.0	-52.9	-13.0	-39.9	
1.420	-19.2	V	3.0	35.3	1.0	-53.5	-13.0	-40.5	
2.130	-18.7	V	3.0	35.0	1.0	-52.6	-13.0	-39.6	
High Channel (713.5MHz)									
1.427	-22.3	H	3.0	35.3	1.0	-56.6	-13.0	-43.6	
2.141	-18.5	H	3.0	35.0	1.0	-52.5	-13.0	-39.5	
1.427	-22.1	V	3.0	35.3	1.0	-56.4	-13.0	-43.4	
2.141	-18.3	V	3.0	35.0	1.0	-52.2	-13.0	-39.2	

Rev. 03.03.14

UAT QPSK EIRP POWER FOR LTE BAND 17 (10.0MHZ BANDWIDTH)

3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement

Company: Apple

Project #: 14U17673

Date: 06/11/14

Test Engineer: E. Yu

Configuration: EUT Only

Mode: LTE Band 17, 10MHz 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 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (709MHz)									
1.418	-17.4	H	3.0	35.3	1.0	-51.7	-13.0	-38.7	
2.127	-17.8	H	3.0	34.9	1.0	-51.7	-13.0	-38.7	
1.418	-18.7	V	3.0	35.3	1.0	-53.0	-13.0	-40.0	
2.127	-15.7	V	3.0	34.9	1.0	-49.6	-13.0	-36.6	
Mid Channel (710MHz)									
1.420	-19.2	H	3.0	35.3	1.0	-53.5	-13.0	-40.5	
2.130	-17.8	H	3.0	35.0	1.0	-51.8	-13.0	-38.8	
1.420	-16.1	V	3.0	35.3	1.0	-50.4	-13.0	-37.4	
2.130	-11.3	V	3.0	35.0	1.0	-45.2	-13.0	-32.2	
High Channel (711MHz)									
1.422	-18.2	H	3.0	35.3	1.0	-52.5	-13.0	-39.5	
2.133	-18.8	H	3.0	35.0	1.0	-52.8	-13.0	-39.8	
1.422	-19.3	V	3.0	35.3	1.0	-53.6	-13.0	-40.6	
2.133	-17.5	V	3.0	35.0	1.0	-51.4	-13.0	-38.4	

Rev. 03.03.14

UAT 16QAM EIRP POWER FOR LTE BAND 17 (10.0MHZ BANDWIDTH)

3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement

Company: Apple
Project #: 14U17673
Date: 06/11/14
Test Engineer: E. Yu
Configuration: EUT Only
Mode: LTE Band 17, 10MHz 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 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (709MHz)									
1.418	-18.4	H	3.0	35.3	1.0	-52.7	-13.0	-39.7	
2.127	-18.1	H	3.0	34.9	1.0	-52.0	-13.0	-39.0	
1.418	-19.1	V	3.0	35.3	1.0	-53.4	-13.0	-40.4	
2.127	-18.1	V	3.0	34.9	1.0	-52.0	-13.0	-39.0	
Mid Channel (710MHz)									
1.420	-18.4	H	3.0	35.3	1.0	-52.7	-13.0	-39.7	
2.130	-18.2	H	3.0	35.0	1.0	-52.1	-13.0	-39.1	
1.420	-16.3	V	3.0	35.3	1.0	-50.6	-13.0	-37.6	
2.130	-12.1	V	3.0	35.0	1.0	-46.1	-13.0	-33.1	
High Channel (711MHz)									
1.422	-18.4	H	3.0	35.3	1.0	-52.7	-13.0	-39.7	
2.133	-19.0	H	3.0	35.0	1.0	-52.9	-13.0	-39.9	
1.422	-19.4	V	3.0	35.3	1.0	-53.7	-13.0	-40.7	
2.133	-17.8	V	3.0	35.0	1.0	-51.8	-13.0	-38.8	

Rev. 03.03.14

9.3.6. LTE BAND 25

LAT QPSK EIRP POWER FOR LTE BAND 25 (1.4MHZ BANDWIDTH)

3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement

Company: Apple

Project #: 14U17673

Date: 06/09/14

Test Engineer: T Wang

Configuration: EUT only

Mode: LTE Band 25, 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 24

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1850.7MHz)									
3.701	-13.6	H	3.0	36.3	1.0	-48.9	-13.0	-35.9	
5.552	-13.7	H	3.0	35.6	1.0	-48.2	-13.0	-35.2	
3.701	-13.4	V	3.0	36.3	1.0	-48.7	-13.0	-35.7	
5.552	-13.2	V	3.0	35.6	1.0	-47.7	-13.0	-34.7	
Mid Channel (1882.5MHz)									
3.765	-13.3	H	3.0	36.3	1.0	-48.6	-13.0	-35.6	
5.648	-13.3	H	3.0	35.6	1.0	-47.9	-13.0	-34.9	
3.765	-13.2	V	3.0	36.3	1.0	-48.5	-13.0	-35.5	
5.648	-13.2	V	3.0	35.6	1.0	-47.8	-13.0	-34.8	
High Channel (1914.3MHz)									
3.829	-13.0	H	3.0	36.3	1.0	-48.3	-13.0	-35.3	
5.743	-13.5	H	3.0	35.6	1.0	-48.1	-13.0	-35.1	
3.829	-13.4	V	3.0	36.3	1.0	-48.7	-13.0	-35.7	
5.743	-13.2	V	3.0	35.6	1.0	-47.8	-13.0	-34.8	

Rev. 03.03.14

LAT 16QAM EIRP POWER FOR LTE BAND 25 (1.4MHZ BANDWIDTH)

3m Radiated Emissions Chamber Above 1GHz Substitution Measurement									
Company: Apple									
Project #: 14U17673									
Date: 06/09/14									
Test Engineer: T Wang									
Configuration: EUT only									
Mode: LTE Band 25, 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 24			
Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1850.7MHz)									
3.701	-14.3	H	3.0	36.3	1.0	-49.6	-13.0	-36.6	
5.552	-14.4	H	3.0	35.6	1.0	-48.9	-13.0	-35.9	
3.701	-14.3	V	3.0	36.3	1.0	-49.6	-13.0	-36.6	
5.552	-14.1	V	3.0	35.6	1.0	-48.6	-13.0	-35.6	
Mid Channel (1882.5MHz)									
3.765	-14.2	H	3.0	36.3	1.0	-49.5	-13.0	-36.5	
5.648	-14.3	H	3.0	35.6	1.0	-48.9	-13.0	-35.9	
3.765	-14.1	V	3.0	36.3	1.0	-49.4	-13.0	-36.4	
5.648	-14.3	V	3.0	35.6	1.0	-48.9	-13.0	-35.9	
High Channel (1914.3MHz)									
3.829	-14.0	H	3.0	36.3	1.0	-49.3	-13.0	-36.3	
5.743	-14.2	H	3.0	35.6	1.0	-48.8	-13.0	-35.8	
3.829	-14.3	V	3.0	36.3	1.0	-49.6	-13.0	-36.6	
5.743	-14.1	V	3.0	35.6	1.0	-48.7	-13.0	-35.7	
Rev. 03.03.14									

LAT QPSK EIRP POWER FOR LTE BAND 25 (3.0MHZ BANDWIDTH)

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

Company: Apple
Project #: 14U17673
Date: 06/09/14
Test Engineer: T Wang
Configuration: EUT only
Mode: LTE Band 25, 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	-13.3	H	3.0	36.3	1.0	-48.6	-13.0	-35.6	
5.555	-14.6	H	3.0	35.6	1.0	-49.1	-13.0	-36.1	
3.703	-12.7	V	3.0	36.3	1.0	-48.0	-13.0	-35.0	
5.555	-13.1	V	3.0	35.6	1.0	-47.7	-13.0	-34.7	
Mid Channel (1882.5MHz)									
3.765	-13.6	H	3.0	36.3	1.0	-48.9	-13.0	-35.9	
5.648	-14.0	H	3.0	35.6	1.0	-48.6	-13.0	-35.6	
3.765	-13.0	V	3.0	36.3	1.0	-48.3	-13.0	-35.3	
5.648	-13.6	V	3.0	35.6	1.0	-48.2	-13.0	-35.2	
High Channel (1913.5MHz)									
3.827	-13.6	H	3.0	36.3	1.0	-48.9	-13.0	-35.9	
5.741	-13.7	H	3.0	35.6	1.0	-48.3	-13.0	-35.3	
3.827	-12.7	V	3.0	36.3	1.0	-48.0	-13.0	-35.0	
5.741	-13.2	V	3.0	35.6	1.0	-47.8	-13.0	-34.8	

Rev. 03.03.14

LAT 16QAM EIRP POWER FOR LTE BAND 25 (3.0MHZ BANDWIDTH)

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

Company: Apple

Project #: 14U17673

Date: 06/09/14

Test Engineer: T Wang

Configuration: EUT only

Mode: LTE Band 25, 3MHz 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 (1851.5MHz)									
3.703	-14.2	H	3.0	36.3	1.0	-49.5	-13.0	-36.5	
5.555	-15.0	H	3.0	35.6	1.0	-49.5	-13.0	-36.5	
3.703	-13.7	V	3.0	36.3	1.0	-49.0	-13.0	-36.0	
5.555	-14.0	V	3.0	35.6	1.0	-48.6	-13.0	-35.6	
Mid Channel (1882.5MHz)									
3.765	-14.4	H	3.0	36.3	1.0	-49.7	-13.0	-36.7	
5.648	-14.7	H	3.0	35.6	1.0	-49.3	-13.0	-36.3	
3.765	-13.9	V	3.0	36.3	1.0	-49.2	-13.0	-36.2	
5.648	-14.3	V	3.0	35.6	1.0	-48.9	-13.0	-35.9	
High Channel (1913.5MHz)									
3.827	-14.4	H	3.0	36.3	1.0	-49.7	-13.0	-36.7	
5.741	-14.4	H	3.0	35.6	1.0	-49.0	-13.0	-36.0	
3.827	-13.7	V	3.0	36.3	1.0	-49.0	-13.0	-36.0	
5.741	-14.0	V	3.0	35.6	1.0	-48.6	-13.0	-35.6	

Rev. 03.03.14

LAT QPSK EIRP POWER FOR LTE BAND 25 (5.0MHZ BANDWIDTH)

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

Company: Apple
Project #: 14U17673
Date: 06/09/14
Test Engineer: T Wang
Configuration: EUT only
Mode: LTE Band 25, 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 (1852.5MHz)									
3.705	-13.1	H	3.0	36.3	1.0	-48.4	-13.0	-35.4	
5.065	-15.4	H	3.0	35.6	1.0	-50.0	-13.0	-37.0	
3.705	-12.6	V	3.0	36.3	1.0	-47.9	-13.0	-34.9	
5.065	-14.5	V	3.0	35.6	1.0	-49.1	-13.0	-36.1	
Mid Channel (1882.5MHz)									
3.765	-13.4	H	3.0	36.3	1.0	-48.7	-13.0	-35.7	
5.648	-13.5	H	3.0	35.6	1.0	-48.1	-13.0	-35.1	
3.765	-13.7	V	3.0	36.3	1.0	-49.0	-13.0	-36.0	
5.648	-14.2	V	3.0	35.6	1.0	-48.8	-13.0	-35.8	
High Channel (1912.5MHz)									
3.825	-13.0	H	3.0	36.3	1.0	-48.3	-13.0	-35.3	
5.738	-13.9	H	3.0	35.6	1.0	-48.5	-13.0	-35.5	
3.825	-13.1	V	3.0	36.3	1.0	-48.4	-13.0	-35.4	
5.738	-13.9	V	3.0	35.6	1.0	-48.5	-13.0	-35.5	

Rev. 03.03.14

LAT 16QAM EIRP POWER FOR LTE BAND 25 (5.0MHZ BANDWIDTH)

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

Company: Apple
Project #: 14U17673
Date: 06/09/14
Test Engineer: T Wang
Configuration: EUT only
Mode: LTE Band 25, 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	-14.0	H	3.0	36.3	1.0	-49.3	-13.0	-36.3	
5.065	-16.2	H	3.0	35.6	1.0	-50.8	-13.0	-37.8	
3.705	-13.5	V	3.0	36.3	1.0	-48.8	-13.0	-35.8	
5.065	-15.3	V	3.0	35.6	1.0	-49.9	-13.0	-36.9	
Mid Channel (1882.5MHz)									
3.765	-14.3	H	3.0	36.3	1.0	-49.6	-13.0	-36.6	
5.648	-14.4	H	3.0	35.6	1.0	-49.0	-13.0	-36.0	
3.765	-14.6	V	3.0	36.3	1.0	-49.9	-13.0	-36.9	
5.648	-15.1	V	3.0	35.6	1.0	-49.7	-13.0	-36.7	
High Channel (1912.5MHz)									
3.825	-14.1	H	3.0	36.3	1.0	-49.4	-13.0	-36.4	
5.738	-14.8	H	3.0	35.6	1.0	-49.4	-13.0	-36.4	
3.825	-13.9	V	3.0	36.3	1.0	-49.2	-13.0	-36.2	
5.738	-14.8	V	3.0	35.6	1.0	-49.4	-13.0	-36.4	

Rev. 03.03.14

LAT QPSK EIRP POWER FOR LTE BAND 25 (10.0MHZ BANDWIDTH)

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

Company: Apple

Project #: 14U17673

Date: 6/10/2014

Test Engineer: Ali Poushnejad

Configuration: EUT only

Mode: LTE Band 25, 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	Preamplifier	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1855MHz)									
3.71	-14.5	H	3.0	36.3	1.0	-49.8	-13.0	-36.8	
5.57	-13.4	H	3.0	35.6	1.0	-48.0	-13.0	-35.0	
3.71	-13.7	V	3.0	36.3	1.0	-49.0	-13.0	-36.0	
5.57	-13.0	V	3.0	35.6	1.0	-47.6	-13.0	-34.6	
Mid Channel (1882.5MHz)									
3.77	-13.4	H	3.0	36.3	1.0	-48.7	-13.0	-35.7	
5.65	-13.2	H	3.0	35.6	1.0	-47.8	-13.0	-34.8	
3.77	-13.3	V	3.0	36.3	1.0	-48.6	-13.0	-35.6	
5.65	-13.1	V	3.0	35.6	1.0	-47.7	-13.0	-34.7	
High Channel (1910MHz)									
3.82	-12.3	H	3.0	36.3	1.0	-47.5	-13.0	-34.5	
5.73	-12.6	H	3.0	35.6	1.0	-47.2	-13.0	-34.2	
3.82	-11.5	V	3.0	36.3	1.0	-46.8	-13.0	-33.8	
5.73	-12.4	V	3.0	35.6	1.0	-47.0	-13.0	-34.0	

Rev. 03.03.14

LAT 16QAM EIRP POWER FOR LTE BAND 25 (10.0MHZ BANDWIDTH)

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

Company: Apple
Project #: 14U17673
Date: 6/10/2014
Test Engineer: Ali Poushnejad
Configuration: EUT only
Mode: LTE Band 25, 10MHz 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 (1855MHz)									
3.71	-15.5	H	3.0	36.3	1.0	-50.8	-13.0	-37.8	
5.57	-12.1	H	3.0	35.6	1.0	-46.6	-13.0	-33.6	
3.71	-13.6	V	3.0	36.3	1.0	-48.9	-13.0	-35.9	
5.57	-12.2	V	3.0	35.6	1.0	-46.8	-13.0	-33.8	
Mid Channel (1882.5MHz)									
3.77	-13.7	H	3.0	36.3	1.0	-49.0	-13.0	-36.0	
5.65	-13.8	H	3.0	35.6	1.0	-48.3	-13.0	-35.3	
3.77	-13.4	V	3.0	36.3	1.0	-48.7	-13.0	-35.7	
5.65	-12.2	V	3.0	35.6	1.0	-46.8	-13.0	-33.8	
High Channel (1910MHz)									
3.82	-12.4	H	3.0	36.3	1.0	-47.7	-13.0	-34.7	
5.73	-13.0	H	3.0	35.6	1.0	-47.6	-13.0	-34.6	
3.82	-11.2	V	3.0	36.3	1.0	-46.5	-13.0	-33.5	
5.73	-12.6	V	3.0	35.6	1.0	-47.2	-13.0	-34.2	

Rev. 03.03.14

LAT QPSK EIRP POWER FOR LTE BAND 25 (15.0MHZ BANDWIDTH)

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

Company: Apple
Project #: 14U17673
Date: 06/09/14
Test Engineer: Ali Poushnejad
Configuration: EUT only
Mode: LTE Band 25, 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)									
3.72	-10.4	H	3.0	36.3	1.0	-45.7	-13.0	-32.7	
5.57	-13.3	H	3.0	35.6	1.0	-47.9	-13.0	-34.9	
3.72	-10.8	V	3.0	36.3	1.0	-46.1	-13.0	-33.1	
5.57	-11.9	V	3.0	35.6	1.0	-46.5	-13.0	-33.5	
Mid Channel (1882.5MHz)									
3.77	-12.3	H	3.0	36.3	1.0	-47.5	-13.0	-34.5	
5.65	-12.8	H	3.0	35.6	1.0	-47.4	-13.0	-34.4	
3.77	-14.5	V	3.0	36.3	1.0	-49.8	-13.0	-36.8	
5.65	-12.6	V	3.0	35.6	1.0	-47.2	-13.0	-34.2	
High Channel (1907.5MHz)									
3.82	-11.8	H	3.0	36.3	1.0	-47.0	-13.0	-34.0	
5.72	-13.1	H	3.0	35.6	1.0	-47.7	-13.0	-34.7	
3.82	-12.9	V	3.0	36.3	1.0	-48.2	-13.0	-35.2	
5.72	-12.6	V	3.0	35.6	1.0	-47.2	-13.0	-34.2	

Rev. 03.03.14

LAT 16QAM EIRP POWER FOR LTE BAND 25 (15.0MHZ BANDWIDTH)

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

Company: Apple
Project #: 14U17673
Date: 06/09/14
Test Engineer: Ali Poushnejad
Configuration: EUT only
Mode: LTE Band 25, 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 24

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1857.5MHz)									
3.72	-10.9	H	3.0	36.3	1.0	-46.2	-13.0	-33.2	
5.57	-13.1	H	3.0	35.6	1.0	-47.7	-13.0	-34.7	
3.72	-11.7	V	3.0	36.3	1.0	-47.0	-13.0	-34.0	
5.57	-11.4	V	3.0	35.6	1.0	-46.0	-13.0	-33.0	
Mid Channel (1882.5MHz)									
3.77	-12.3	H	3.0	36.3	1.0	-47.6	-13.0	-34.6	
5.65	-12.7	H	3.0	35.6	1.0	-47.2	-13.0	-34.2	
3.77	-12.7	V	3.0	36.3	1.0	-48.0	-13.0	-35.0	
5.65	-12.3	V	3.0	35.6	1.0	-46.9	-13.0	-33.9	
High Channel (1907.5MHz)									
3.82	-12.0	H	3.0	36.3	1.0	-47.2	-13.0	-34.2	
5.72	-13.1	H	3.0	35.6	1.0	-47.7	-13.0	-34.7	
3.82	-13.0	V	3.0	36.3	1.0	-48.3	-13.0	-35.3	
5.72	-11.7	V	3.0	35.6	1.0	-46.3	-13.0	-33.3	

Rev. 03.03.14

LAT QPSK EIRP POWER FOR LTE BAND 25 (20.0MHZ BANDWIDTH)

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

Company: Apple
Project #: 14U17673
Date: 06/09/14
Test Engineer: Ali Poushnejad
Configuration: EUT only
Mode: LTE Band 25, 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)									
3.72	-12.9	H	3.0	36.3	1.0	-48.2	-13.0	-35.2	
5.58	-13.2	H	3.0	35.6	1.0	-47.8	-13.0	-34.8	
3.72	-14.6	V	3.0	36.3	1.0	-49.9	-13.0	-36.9	
5.58	-13.7	V	3.0	35.6	1.0	-48.3	-13.0	-35.3	
Mid Channel (1882.5MHz)									
3.77	-14.4	H	3.0	36.3	1.0	-49.7	-13.0	-36.7	
5.65	-13.0	H	3.0	35.6	1.0	-47.6	-13.0	-34.6	
3.77	-14.2	V	3.0	36.3	1.0	-49.4	-13.0	-36.4	
5.65	-12.1	V	3.0	35.6	1.0	-46.7	-13.0	-33.7	
High Channel (1905MHz)									
3.81	-13.7	H	3.0	36.3	1.0	-49.0	-13.0	-36.0	
5.72	-13.2	H	3.0	35.6	1.0	-47.8	-13.0	-34.8	
3.81	-13.2	V	3.0	36.3	1.0	-48.5	-13.0	-35.5	
5.72	-12.5	V	3.0	35.6	1.0	-47.1	-13.0	-34.1	

Rev. 03.03.14

LAT 16QAM EIRP POWER FOR LTE BAND 25 (20.0MHZ BANDWIDTH)

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

Company: Apple
Project #: 14U17673
Date: 06/09/14
Test Engineer: Ali Poushnejad
Configuration: EUT only
Mode: LTE Band 25, 20MHz 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 (1860MHz)									
3.72	-13.9	H	3.0	36.3	1.0	-49.2	-13.0	-36.2	
5.58	-13.3	H	3.0	35.6	1.0	-47.9	-13.0	-34.9	
3.72	-14.2	V	3.0	36.3	1.0	-49.5	-13.0	-36.5	
5.58	-13.4	V	3.0	35.6	1.0	-48.0	-13.0	-35.0	
Mid Channel (1882.5MHz)									
3.77	-14.7	H	3.0	36.3	1.0	-50.0	-13.0	-37.0	
5.65	-13.1	H	3.0	35.6	1.0	-47.7	-13.0	-34.7	
3.77	-14.3	V	3.0	36.3	1.0	-49.6	-13.0	-36.6	
5.65	-12.7	V	3.0	35.6	1.0	-47.3	-13.0	-34.3	
High Channel (1905MHz)									
3.81	-14.2	H	3.0	36.3	1.0	-49.5	-13.0	-36.5	
5.72	-13.1	H	3.0	35.6	1.0	-47.7	-13.0	-34.7	
3.81	-14.1	V	3.0	36.3	1.0	-49.3	-13.0	-36.3	
5.72	-13.5	V	3.0	35.6	1.0	-48.1	-13.0	-35.1	

Rev. 03.03.14

UAT QPSK EIRP POWER FOR LTE BAND 25 (1.4MHZ BANDWIDTH)

3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement

Company: Apple

Project #: 14U17673

Date: 06/12/14

Test Engineer: Ali Poushnejad

Configuration: EUT Only

Mode: LTE Band 25, 1.4MHz QPSK

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 24

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1850.7MHz)									
3.70	-16.1	H	3.0	38.0	1.0	-53.2	-13.0	-40.2	
5.55	-17.6	H	3.0	37.4	1.0	-54.0	-13.0	-41.0	
3.70	-16.7	V	3.0	38.0	1.0	-53.7	-13.0	-40.7	
5.55	-18.0	V	3.0	37.4	1.0	-54.3	-13.0	-41.3	
Mid Channel (1882.5MHz)									
3.77	-13.8	H	3.0	38.0	1.0	-50.8	-13.0	-37.8	
5.65	-17.7	H	3.0	37.3	1.0	-54.1	-13.0	-41.1	
3.77	-15.9	V	3.0	38.0	1.0	-52.9	-13.0	-39.9	
5.65	-17.6	V	3.0	37.3	1.0	-54.0	-13.0	-41.0	
High Channel (1914.3MHz)									
3.83	-18.1	H	3.0	37.9	1.0	-55.0	-13.0	-42.0	
5.74	-17.3	H	3.0	37.3	1.0	-53.6	-13.0	-40.6	
3.83	-14.7	V	3.0	37.9	1.0	-51.6	-13.0	-38.6	
5.74	-16.6	V	3.0	37.3	1.0	-52.9	-13.0	-39.9	

Rev. 03.03.14

UAT 16QAM EIRP POWER FOR LTE BAND 25 (1.4MHZ BANDWIDTH)

3m Radiated Emissions Chamber Above 1GHz Substitution Measurement									
Company: Apple									
Project #: 14U17673									
Date: 06/12/14									
Test Engineer: Ali Poushnejad									
Configuration: EUT Only									
Mode: LTE Band 25, 1.4MHz 16QAM									
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 24			
Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1850.7MHz)									
3.70	-15.8	H	3.0	38.0	1.0	-52.8	-13.0	-39.8	
5.55	-17.3	H	3.0	37.4	1.0	-53.7	-13.0	-40.7	
3.70	-16.6	V	3.0	38.0	1.0	-53.6	-13.0	-40.6	
5.55	-18.2	V	3.0	37.4	1.0	-54.6	-13.0	-41.6	
Mid Channel (1882.5MHz)									
3.77	-13.9	H	3.0	38.0	1.0	-50.9	-13.0	-37.9	
5.65	-17.0	H	3.0	37.3	1.0	-53.4	-13.0	-40.4	
3.77	-14.9	V	3.0	38.0	1.0	-51.9	-13.0	-38.9	
5.65	-16.8	V	3.0	37.3	1.0	-53.1	-13.0	-40.1	
High Channel (1914.3MHz)									
3.83	-17.7	H	3.0	37.9	1.0	-54.6	-13.0	-41.6	
5.74	-17.7	H	3.0	37.3	1.0	-54.0	-13.0	-41.0	
3.83	-14.2	V	3.0	37.9	1.0	-51.1	-13.0	-38.1	
5.74	-16.9	V	3.0	37.3	1.0	-53.2	-13.0	-40.2	
Rev. 03.03.14									

UAT QPSK EIRP POWER FOR LTE BAND 25 (3.0MHZ BANDWIDTH)

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

Company: Apple
Project #: 14U17673
Date: 06/12/14
Test Engineer: Ali Poushnejad
Configuration: EUT Only
Mode: LTE Band 25, 3MHz QPSK

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 24

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1851.5MHz)									
3.70	-16.0	H	3.0	38.0	1.0	-53.1	-13.0	-40.1	
5.55	-16.5	H	3.0	37.4	1.0	-52.9	-13.0	-39.9	
3.70	-16.7	V	3.0	38.0	1.0	-53.8	-13.0	-40.8	
5.55	-15.8	V	3.0	37.4	1.0	-52.2	-13.0	-39.2	
Mid Channel (1882.5MHz)									
3.77	-13.2	H	3.0	38.0	1.0	-50.2	-13.0	-37.2	
5.65	-13.3	H	3.0	37.3	1.0	-49.6	-13.0	-36.6	
3.77	-13.1	V	3.0	38.0	1.0	-50.1	-13.0	-37.1	
5.65	-12.6	V	3.0	37.3	1.0	-49.0	-13.0	-36.0	
High Channel (1913.5MHz)									
3.83	-17.6	H	3.0	37.9	1.0	-54.5	-13.0	-41.5	
5.74	-16.1	H	3.0	37.3	1.0	-52.4	-13.0	-39.4	
3.83	-17.0	V	3.0	37.9	1.0	-54.0	-13.0	-41.0	
5.74	-17.0	V	3.0	37.3	1.0	-53.3	-13.0	-40.3	

Rev. 03.03.14

UAT 16QAM EIRP POWER FOR LTE BAND 25 (3.0MHZ BANDWIDTH)

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

Company: Apple

Project #: 14U17673

Date: 06/12/14

Test Engineer: Ali Poushnejad

Configuration: EUT Only

Mode: LTE Band 25, 3MHz 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 24

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1851.5MHz)									
3.70	-16.1	H	3.0	38.0	1.0	-53.1	-13.0	-40.1	
5.55	-17.1	H	3.0	37.4	1.0	-53.5	-13.0	-40.5	
3.70	-16.6	V	3.0	38.0	1.0	-53.7	-13.0	-40.7	
5.55	-16.8	V	3.0	37.4	1.0	-53.1	-13.0	-40.1	
Mid Channel (1882.5MHz)									
3.77	-13.6	H	3.0	38.0	1.0	-50.6	-13.0	-37.6	
5.65	-13.6	H	3.0	37.3	1.0	-49.9	-13.0	-36.9	
3.77	-11.8	V	3.0	38.0	1.0	-48.8	-13.0	-35.8	
5.65	-13.8	V	3.0	37.3	1.0	-50.1	-13.0	-37.1	
High Channel (1913.5MHz)									
3.83	-17.7	H	3.0	37.9	1.0	-54.6	-13.0	-41.6	
5.74	-16.7	H	3.0	37.3	1.0	-53.0	-13.0	-40.0	
3.83	-17.1	V	3.0	37.9	1.0	-54.0	-13.0	-41.0	
5.74	-16.7	V	3.0	37.3	1.0	-53.1	-13.0	-40.1	

Rev. 03.03.14

UAT QPSK EIRP POWER FOR LTE BAND 25 (5.0MHZ BANDWIDTH)

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

Company: Apple

Project #: 14U17673

Date: 06/12/14

Test Engineer: Ali Poushnejad

Configuration: EUT Only

Mode: LTE Band 25, 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 (1852.5MHz)									
3.71	-17.5	H	3.0	36.3	1.0	-52.8	-13.0	-39.8	
5.56	-16.1	H	3.0	35.6	1.0	-50.7	-13.0	-37.7	
3.71	-18.0	V	3.0	36.3	1.0	-53.3	-13.0	-40.3	
5.56	-16.5	V	3.0	35.6	1.0	-51.1	-13.0	-38.1	
Mid Channel (1882.5MHz)									
3.77	-13.4	H	3.0	36.3	1.0	-48.7	-13.0	-35.7	
5.65	-15.2	H	3.0	35.6	1.0	-49.8	-13.0	-36.8	
3.77	-16.2	V	3.0	36.3	1.0	-51.5	-13.0	-38.5	
5.65	-16.5	V	3.0	35.6	1.0	-51.1	-13.0	-38.1	
High Channel (1912.5MHz)									
3.83	-16.8	H	3.0	36.3	1.0	-52.1	-13.0	-39.1	
5.74	-16.2	H	3.0	35.6	1.0	-50.8	-13.0	-37.8	
3.83	-17.0	V	3.0	36.3	1.0	-52.3	-13.0	-39.3	
5.74	-16.9	V	3.0	35.6	1.0	-51.5	-13.0	-38.5	

Rev. 03.03.14

UAT 16QAM EIRP POWER FOR LTE BAND 25 (5.0MHZ BANDWIDTH)

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

Company: Apple

Project #: 14U17673

Date: 06/12/14

Test Engineer: Ali Poushnejad

Configuration: EUT Only

Mode: LTE Band 25, 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)									
3.71	-16.9	H	3.0	36.3	1.0	-52.2	-13.0	-39.2	
5.56	-16.1	H	3.0	35.6	1.0	-50.7	-13.0	-37.7	
3.71	-17.9	V	3.0	36.3	1.0	-53.2	-13.0	-40.2	
5.56	-16.6	V	3.0	35.6	1.0	-51.1	-13.0	-38.1	
Mid Channel (1882.5MHz)									
3.77	-12.8	H	3.0	36.3	1.0	-48.1	-13.0	-35.1	
5.65	-15.4	H	3.0	35.6	1.0	-50.0	-13.0	-37.0	
3.77	-16.4	V	3.0	36.3	1.0	-51.6	-13.0	-38.6	
5.65	-16.7	V	3.0	35.6	1.0	-51.3	-13.0	-38.3	
High Channel (1912.5MHz)									
3.83	-17.6	H	3.0	36.3	1.0	-52.9	-13.0	-39.9	
5.74	-16.7	H	3.0	35.6	1.0	-51.3	-13.0	-38.3	
3.83	-17.1	V	3.0	36.3	1.0	-52.4	-13.0	-39.4	
5.74	-16.8	V	3.0	35.6	1.0	-51.4	-13.0	-38.4	

Rev. 03.03.14

UAT QPSK EIRP POWER FOR LTE BAND 25 (10.0MHZ BANDWIDTH)

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

Company: Apple
Project #: 14U17673
Date: 06/12/14
Test Engineer: Ali Poushnejad
Configuration: EUT Only
Mode: LTE Band 25, 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)									
3.71	-12.6	H	3.0	36.3	1.0	-47.9	-13.0	-34.9	
5.57	-12.3	H	3.0	35.6	1.0	-46.8	-13.0	-33.8	
3.71	-12.1	V	3.0	36.3	1.0	-47.4	-13.0	-34.4	
5.57	-11.2	V	3.0	35.6	1.0	-45.7	-13.0	-32.7	
Mid Channel (1882.5MHz)									
3.77	-11.9	H	3.0	36.3	1.0	-47.2	-13.0	-34.2	
5.65	-11.4	H	3.0	35.6	1.0	-46.0	-13.0	-33.0	
3.77	-11.9	V	3.0	36.3	1.0	-47.2	-13.0	-34.2	
5.65	-12.0	V	3.0	35.6	1.0	-46.6	-13.0	-33.6	
High Channel (1910MHz)									
3.82	-12.5	H	3.0	36.3	1.0	-47.7	-13.0	-34.7	
5.73	-11.3	H	3.0	35.6	1.0	-45.9	-13.0	-32.9	
3.82	-12.6	V	3.0	36.3	1.0	-47.8	-13.0	-34.8	
5.73	-12.0	V	3.0	35.6	1.0	-46.6	-13.0	-33.6	

Rev. 03.03.14

UAT 16QAM EIRP POWER FOR LTE BAND 25 (10.0MHZ BANDWIDTH)

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

Company:

Apple

Project #:

14U17673

Date:

06/12/14

Test Engineer:

Ali Poushnejad

Configuration:

EUT Only

Mode:

LTE Band 25, 10MHz 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 (1855MHz)									
3.71	-13.3	H	3.0	36.3	1.0	-48.6	-13.0	-35.6	
5.57	-12.3	H	3.0	35.6	1.0	-46.8	-13.0	-33.8	
3.71	-12.4	V	3.0	36.3	1.0	-47.7	-13.0	-34.7	
5.57	-12.6	V	3.0	35.6	1.0	-47.1	-13.0	-34.1	
Mid Channel (1882.5MHz)									
3.77	-11.9	H	3.0	36.3	1.0	-47.2	-13.0	-34.2	
5.65	-12.1	H	3.0	35.6	1.0	-46.7	-13.0	-33.7	
3.77	-11.5	V	3.0	36.3	1.0	-46.8	-13.0	-33.8	
5.65	-11.9	V	3.0	35.6	1.0	-46.5	-13.0	-33.5	
High Channel (1910MHz)									
3.82	-12.1	H	3.0	36.3	1.0	-47.3	-13.0	-34.3	
5.73	-11.8	H	3.0	35.6	1.0	-46.4	-13.0	-33.4	
3.82	-12.4	V	3.0	36.3	1.0	-47.7	-13.0	-34.7	
5.73	-12.1	V	3.0	35.6	1.0	-46.7	-13.0	-33.7	

Rev. 03.03.14

UAT QPSK EIRP POWER FOR LTE BAND 25 (15.0MHZ BANDWIDTH)

3m Radiated Emissions Chamber Above 1GHz Substitution Measurement									
Company:		Apple							
Project #:		14U17673							
Date:		06/12/14							
Test Engineer:		Ali Poushnejad							
Configuration:		EUT Only							
Mode:		LTE Band 25, 15MHz 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 (1857.5MHz)									
3.72	-16.0	H	3.0	36.3	1.0	-51.3	-13.0	-38.3	
5.57	-15.7	H	3.0	35.6	1.0	-50.3	-13.0	-37.3	
3.72	-17.3	V	3.0	36.3	1.0	-52.6	-13.0	-39.6	
5.57	-16.4	V	3.0	35.6	1.0	-51.0	-13.0	-38.0	
Mid Channel (1882.5MHz)									
3.77	-14.7	H	3.0	36.3	1.0	-50.0	-13.0	-37.0	
5.65	-16.6	H	3.0	35.6	1.0	-51.2	-13.0	-38.2	
3.77	-11.9	V	3.0	36.3	1.0	-47.2	-13.0	-34.2	
5.65	-12.4	V	3.0	35.6	1.0	-47.0	-13.0	-34.0	
High Channel (1907.5MHz)									
3.82	-17.2	H	3.0	36.3	1.0	-52.5	-13.0	-39.5	
5.72	-16.6	H	3.0	35.6	1.0	-51.2	-13.0	-38.2	
3.82	-16.8	V	3.0	36.3	1.0	-52.1	-13.0	-39.1	
5.72	-15.9	V	3.0	35.6	1.0	-50.5	-13.0	-37.5	
Rev. 03.03.14									

UAT 16QAM EIRP POWER FOR LTE BAND 25 (15.0MHZ BANDWIDTH)

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

Company: Apple

Project #: 14U17673

Date: 06/12/14

Test Engineer: Ali Poushnejad

Configuration: EUT Only

Mode: LTE Band 25, 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
RSS 133

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamplifier	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (1857.5MHz)									
3.72	-13.9	H	3.0	36.3	1.0	-49.2	-13.0	-36.2	
5.57	-16.4	H	3.0	35.6	1.0	-50.9	-13.0	-37.9	
3.72	-17.0	V	3.0	36.3	1.0	-52.3	-13.0	-39.3	
5.57	-16.4	V	3.0	35.6	1.0	-50.9	-13.0	-37.9	
Mid Channel (1882.5MHz)									
3.77	-16.1	H	3.0	36.3	1.0	-51.4	-13.0	-38.4	
5.65	-15.7	H	3.0	35.6	1.0	-50.3	-13.0	-37.3	
3.77	-12.0	V	3.0	36.3	1.0	-47.3	-13.0	-34.3	
5.65	-12.5	V	3.0	35.6	1.0	-47.1	-13.0	-34.1	
High Channel (1907.5MHz)									
3.82	-17.5	H	3.0	36.3	1.0	-52.7	-13.0	-39.7	
5.72	-16.6	H	3.0	35.6	1.0	-51.2	-13.0	-38.2	
3.82	-17.4	V	3.0	36.3	1.0	-52.7	-13.0	-39.7	
5.72	-17.2	V	3.0	35.6	1.0	-51.8	-13.0	-38.8	

Rev. 03.03.14

UAT QPSK EIRP POWER FOR LTE BAND 25 (20.0MHZ BANDWIDTH)

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

Company: Apple
Project #: 14U17673
Date: 06/12/14
Test Engineer: Ali Poushnejad
Configuration: EUT Only
Mode: LTE Band 25, 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)									
3.72	-16.2	H	3.0	36.3	1.0	-51.5	-13.0	-38.5	
5.58	-15.6	H	3.0	35.6	1.0	-50.2	-13.0	-37.2	
3.72	-15.4	V	3.0	36.3	1.0	-50.7	-13.0	-37.7	
5.58	-15.4	V	3.0	35.6	1.0	-50.0	-13.0	-37.0	
Mid Channel (1882.5MHz)									
3.77	-8.9	H	3.0	36.3	1.0	-44.2	-13.0	-31.2	
5.65	-9.3	H	3.0	35.6	1.0	-43.9	-13.0	-30.9	
3.77	-17.3	V	3.0	36.3	1.0	-52.6	-13.0	-39.6	
5.65	-9.5	V	3.0	35.6	1.0	-44.1	-13.0	-31.1	
High Channel (1905MHz)									
3.81	-15.7	H	3.0	36.3	1.0	-51.0	-13.0	-38.0	
5.72	-15.3	H	3.0	35.6	1.0	-49.9	-13.0	-36.9	
3.81	-15.8	V	3.0	36.3	1.0	-51.1	-13.0	-38.1	
5.72	-15.5	V	3.0	35.6	1.0	-50.1	-13.0	-37.1	

Rev. 03.03.14

UAT 16QAM EIRP POWER FOR LTE BAND 25 (20.0MHZ BANDWIDTH)

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

Company: Apple
Project #: 14U17673
Date: 06/12/14
Test Engineer: Ali Poushnejad
Configuration: EUT Only
Mode: LTE Band 25, 20MHz 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 (1860MHz)									
3.72	-17.0	H	3.0	36.3	1.0	-52.3	-13.0	-39.3	
5.58	-15.2	H	3.0	35.6	1.0	-49.8	-13.0	-36.8	
3.72	-16.6	V	3.0	36.3	1.0	-51.9	-13.0	-38.9	
5.58	-16.2	V	3.0	35.6	1.0	-50.8	-13.0	-37.8	
Mid Channel (1882.5MHz)									
3.77	-10.0	H	3.0	36.3	1.0	-45.3	-13.0	-32.3	
5.65	-9.3	H	3.0	35.6	1.0	-43.9	-13.0	-30.9	
3.77	-17.6	V	3.0	36.3	1.0	-52.9	-13.0	-39.9	
5.65	-9.6	V	3.0	35.6	1.0	-44.2	-13.0	-31.2	
High Channel (1905MHz)									
3.81	-16.0	H	3.0	36.3	1.0	-51.3	-13.0	-38.3	
5.72	-15.4	H	3.0	35.6	1.0	-50.0	-13.0	-37.0	
3.81	-15.5	V	3.0	36.3	1.0	-50.8	-13.0	-37.8	
5.72	-15.8	V	3.0	35.6	1.0	-50.4	-13.0	-37.4	

Rev. 03.03.14

9.3.7. LTE BAND 26

LAT QPSK EIRP POWER FOR LTE BAND 26 (3.0MHZ BANDWIDTH)

3m Radiated Emissions Chamber Above 1GHz Substitution Measurement									
Company:		Apple							
Project #:		14U17673							
Date:		06/13/14							
Test Engineer:		E. Yu							
Configuration:		EUT Only							
Mode:		LTE Band 26, 3MHz QPSK,							
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 (820.3MHz)									
1.641	-8.3	H	3.0	34.9	1.0	-42.2	-13.0	-29.2	
2.461	-16.4	H	3.0	35.4	1.0	-50.9	-13.0	-37.9	
1.641	-11.6	V	3.0	34.9	1.0	-45.5	-13.0	-32.5	
2.461	-15.8	V	3.0	35.4	1.0	-50.2	-13.0	-37.2	
Mid Channel (821.3MHz)									
1.643	-9.2	H	3.0	34.9	1.0	-43.2	-13.0	-30.2	
2.464	-15.2	H	3.0	35.4	1.0	-49.6	-13.0	-36.6	
1.643	-18.0	V	3.0	34.9	1.0	-51.9	-13.0	-38.9	
2.464	-16.2	V	3.0	35.4	1.0	-50.6	-13.0	-37.6	
High Channel (822.3MHz)									
1.645	-13.3	H	3.0	34.9	1.0	-47.2	-13.0	-34.2	
2.467	-16.4	H	3.0	35.4	1.0	-50.8	-13.0	-37.8	
1.645	-18.6	V	3.0	34.9	1.0	-52.5	-13.0	-39.5	
2.467	-18.0	V	3.0	35.4	1.0	-52.5	-13.0	-39.5	
Rev. 03.03.14									

LAT 16QAM EIRP POWER FOR LTE BAND 26 (3.0MHZ BANDWIDTH)

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

Company: Apple
Project #: 14U17673
Date: 06/13/14
Test Engineer: E. Yu
Configuration: EUT Only
Mode: LTE Band 26, 3MHz 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 (820.3MHz)									
1.641	-8.6	H	3.0	34.9	1.0	-42.5	-13.0	-29.5	
2.461	-16.5	H	3.0	35.4	1.0	-51.0	-13.0	-38.0	
1.641	-12.2	V	3.0	34.9	1.0	-46.1	-13.0	-33.1	
2.461	-16.3	V	3.0	35.4	1.0	-50.7	-13.0	-37.7	
Mid Channel (821.3MHz)									
1.643	-9.4	H	3.0	34.9	1.0	-43.4	-13.0	-30.4	
2.464	-15.1	H	3.0	35.4	1.0	-49.5	-13.0	-36.5	
1.643	-18.6	V	3.0	34.9	1.0	-52.5	-13.0	-39.5	
2.464	-16.7	V	3.0	35.4	1.0	-51.1	-13.0	-38.1	
High Channel (822.3MHz)									
1.645	-13.2	H	3.0	34.9	1.0	-47.1	-13.0	-34.1	
2.467	-16.9	H	3.0	35.4	1.0	-51.3	-13.0	-38.3	
1.645	-17.9	V	3.0	34.9	1.0	-51.8	-13.0	-38.8	
2.467	-18.3	V	3.0	35.4	1.0	-52.7	-13.0	-39.7	

Rev. 03.03.14

LAT QPSK EIRP POWER FOR LTE BAND 26 (5.0MHZ BANDWIDTH)

3m Radiated Emissions Chamber Above 1GHz Substitution Measurement									
Company:		Apple							
Project #:		14U17673							
Date:		06/06/14							
Test Engineer:		E. Yu							
Configuration:		EUT Only							
Mode:		LTE Band 26, 5MHz QPSK							
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
Mid Channel (821.3MHz)									
1.643	-18.0	H	3.0	34.9	1.0	-51.9	-13.0	-38.9	
2.464	-16.5	H	3.0	35.4	1.0	-50.9	-13.0	-37.9	
1.643	-17.3	V	3.0	34.9	1.0	-51.2	-13.0	-38.2	
2.464	-17.6	V	3.0	35.4	1.0	-52.1	-13.0	-39.1	
Rev. 03.03.14									

LAT 16QAM EIRP POWER FOR LTE BAND 26 (5.0MHZ BANDWIDTH)

3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement

Company: Apple
Project #: 14U17673
Date: 06/13/14
Test Engineer: E. Yu
Configuration: EUT Only
Mode: LTE Band 26, 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
Mid Channel (821.3MHz)									
1.643	-17.9	H	3.0	34.9	1.0	-51.8	-13.0	-38.8	
2.464	-16.2	H	3.0	35.4	1.0	-50.6	-13.0	-37.6	
1.643	-18.1	V	3.0	34.9	1.0	-52.0	-13.0	-39.0	
2.464	-17.4	V	3.0	35.4	1.0	-51.8	-13.0	-38.8	

Rev. 03.03.14

LAT QPSK EIRP POWER FOR LTE BAND 26 (10.0MHZ BANDWIDTH)

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

Company: Apple

Project #: 14U17673

Date: 06/20/14

Test Engineer: Macie

Configuration: EUT Only

Mode: LTE Band 26, 10MHz QPSK

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

Chamber

3m Chamber E

Pre-amplifier

3m Chamber E

Filter

Filter 01

Limit

Part 22

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (819MHz)									
1.638	-18.6	H	3.0	37.6	1.0	-55.2	-13.0	-42.2	
2.457	-15.1	H	3.0	38.0	1.0	-52.1	-13.0	-39.1	
1.638	-18.1	V	3.0	37.6	1.0	-54.7	-13.0	-41.7	
2.457	-17.9	V	3.0	38.0	1.0	-54.9	-13.0	-41.9	

Rev. 03.03.14

LAT 16QAM EIRP POWER FOR LTE BAND 26 (10.0MHZ BANDWIDTH)

3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement

Company: Apple
Project #: 14U17673
Date: 06/20/14
Test Engineer: Macie
Configuration: EUT Only
Mode: LTE Band 26, 10MHz 16QAM

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

Chamber
 3m Chamber E

Pre-amplifier
 3m Chamber E

Filter
 Filter 01

Limit
 Part 22

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (819MHz)									
1.638	-19.4	H	3.0	37.6	1.0	-56.0	-13.0	-43.0	
2.457	-15.6	H	3.0	38.0	1.0	-52.6	-13.0	-39.6	
1.638	-18.5	V	3.0	37.6	1.0	-55.1	-13.0	-42.1	
2.457	-19.1	V	3.0	38.0	1.0	-56.1	-13.0	-43.1	

Rev. 03.03.14

Page 897 of 922

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4031B
 47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

UAT QPSK EIRP POWER FOR LTE BAND 26 (3.0MHZ BANDWIDTH)

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

Company: Apple
Project #: 14U17673
Date: 06/14/14
Test Engineer: Ali Poushnejad
Configuration: EUT only
Mode: LTE Band 26, 3MHz QPSK

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

Chamber
3m Chamber F

Pre-amplifier
3m Chamber F

Filter
1G HP Filter

Limit
Part 22

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (820.3MHz)									
1.64	-9.1	H	3.0	34.9	1.0	-43.0	-13.0	-30.0	
2.46	-15.9	H	3.0	35.4	1.0	-50.3	-13.0	-37.3	
1.64	-2.4	V	3.0	34.9	1.0	-36.3	-13.0	-23.3	
2.46	-10.9	V	3.0	35.4	1.0	-45.3	-13.0	-32.3	
Mid Channel (821.3MHz)									
1.64	-10.0	H	3.0	34.9	1.0	-43.9	-13.0	-30.9	
2.46	-17.2	H	3.0	35.4	1.0	-51.6	-13.0	-38.6	
1.64	1.7	V	3.0	34.9	1.0	-32.2	-13.0	-19.2	
2.46	-12.5	V	3.0	35.4	1.0	-46.9	-13.0	-33.9	
High Channel (822.3MHz)									
1.64	-9.3	H	3.0	34.9	1.0	-43.2	-13.0	-30.2	
2.47	-15.1	H	3.0	35.4	1.0	-49.5	-13.0	-36.5	
1.64	1.8	V	3.0	34.9	1.0	-32.1	-13.0	-19.1	
2.47	-12.8	V	3.0	35.4	1.0	-47.2	-13.0	-34.2	

Rev. 03.03.14

UAT 16QAM EIRP POWER FOR LTE BAND 26 (3.0MHZ BANDWIDTH)

3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement

Company: Apple

Project #: 14U17673

Date: 06/14/14

Test Engineer: Ali Poushnejad

Configuration: EUT only

Mode: LTE Band 26, 3MHz 16QAM

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

Chamber
3m Chamber F

Pre-amplifier
3m Chamber F

Filter
1G HP Filter

Limit
Part 22

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (820.3MHz)									
1.64	-6.5	H	3.0	34.9	1.0	-40.4	-13.0	-27.4	
2.46	-15.7	H	3.0	35.4	1.0	-50.1	-13.0	-37.1	
1.64	-2.5	V	3.0	34.9	1.0	-36.4	-13.0	-23.4	
2.46	-10.9	V	3.0	35.4	1.0	-45.3	-13.0	-32.3	
Mid Channel (821.3MHz)									
1.64	-10.0	H	3.0	34.9	1.0	-43.9	-13.0	-30.9	
2.46	-18.1	H	3.0	35.4	1.0	-52.5	-13.0	-39.5	
1.64	1.8	V	3.0	34.9	1.0	-32.1	-13.0	-19.1	
2.46	-13.0	V	3.0	35.4	1.0	-47.5	-13.0	-34.5	
High Channel (822.3MHz)									
1.64	-9.4	H	3.0	34.9	1.0	-43.4	-13.0	-30.4	
2.47	-16.1	H	3.0	35.4	1.0	-50.5	-13.0	-37.5	
1.64	1.8	V	3.0	34.9	1.0	-32.2	-13.0	-19.2	
2.47	-11.7	V	3.0	35.4	1.0	-46.1	-13.0	-33.1	

Rev. 03.03.14

UAT QPSK EIRP POWER FOR LTE BAND 26 (5.0MHZ BANDWIDTH)

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

Company: Apple

Project #: 14U17673

Date: 06/14/14

Test Engineer: Ali Poushnejad

Configuration: EUT only

Mode: LTE Band 26, 5MHz QPSK

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

Chamber

3m Chamber F

Pre-amplifier

3m Chamber F

Filter

1G HP Filter

Limit

Part 22

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (821.3MHz)									
1.64	-10.3	H	3.0	34.9	1.0	-44.2	-13.0	-31.2	
2.46	-17.9	H	3.0	35.4	1.0	-52.3	-13.0	-39.3	
1.64	1.9	V	3.0	34.9	1.0	-32.0	-13.0	-19.0	
2.46	-13.0	V	3.0	35.4	1.0	-47.4	-13.0	-34.4	

Rev. 03.03.14

UAT 16QAM EIRP POWER FOR LTE BAND 26 (5.0MHZ BANDWIDTH)

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

Company: Apple

Project #: 14U17673

Date: 06/14/14

Test Engineer: Ali Poushnejad

Configuration: EUT only

Mode: LTE Band 26, 5MHz 16QAM

Test Equipment:

Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber
3m Chamber F

Pre-amplifier
3m Chamber F

Filter
1G HP Filter

Limit
Part 22

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (821.3MHz)									
1.64	-9.4	H	3.0	34.9	1.0	-43.3	-13.0	-30.3	
2.46	-18.0	H	3.0	35.4	1.0	-52.4	-13.0	-39.4	
1.64	-1.9	V	3.0	34.9	1.0	-32.0	-13.0	-19.0	
2.46	-12.9	V	3.0	35.4	1.0	-47.4	-13.0	-34.4	

Rev. 03.03.14

UAT QPSK EIRP POWER FOR LTE BAND 26 (10.0MHZ BANDWIDTH)

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

Company: Apple

Project #: 14U17673

Date: 06/20/14

Test Engineer: Macie

Configuration: EUT only

Mode: LTE Band 26, 10MHz QPSK

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

Chamber

3m Chamber E

Pre-amplifier

3m Chamber E

Filter

Limit

Part 22

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (819MHz)									
1.638	-19.2	H	3.0	37.6	1.0	-55.7	-13.0	-42.7	
2.457	-15.2	H	3.0	38.0	1.0	-52.2	-13.0	-39.2	
1.638	-18.5	V	3.0	37.6	1.0	-55.1	-13.0	-42.1	
2.457	-16.5	V	3.0	38.0	1.0	-53.5	-13.0	-40.5	

Rev. 03.03.14

UAT 16QAM EIRP POWER FOR LTE BAND 26 (10.0MHZ BANDWIDTH)

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

Company: Apple
Project #: 14U17673
Date: 06/20/14
Test Engineer: Macie
Configuration: EUT only
Mode: LTE Band 26,10MHz 16QAM

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

Chamber

3m Chamber E

Pre-amplifier

3m Chamber E

Filter

Limit

Part 22

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamplifier	Attenuator	EIRP	Limit	Delta	Notes
Mid Channel (819MHz)									
1.638	-19.7	H	3.0	37.6	1.0	-56.3	-13.0	-43.3	
2.457	-15.8	H	3.0	38.0	1.0	-52.8	-13.0	-39.8	
1.638	-19.0	V	3.0	37.6	1.0	-55.6	-13.0	-42.6	
2.457	-17.6	V	3.0	38.0	1.0	-54.6	-13.0	-41.6	

Rev. 03.03.14

9.3.8. LTE BAND 41

LAT QPSK EIRP POWER FOR LTE BAND 41 (5.0MHZ BANDWIDTH)

3m Radiated Emissions Chamber
Above 1GHz Substitution Measurement

Company: Apple

Project #: 14U17673

Date: 06/11/14

Test Engineer: T Wang

Configuration: EUT only

Mode: LTE Band 41, 5MHz QPSK

Test Equipment:

Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber
3m Chamber F

Pre-amplifier
3m Chamber F

Filter

Limit
Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2498.5MHz)									
4.997	-13.0	H	3.0	35.6	1.0	-47.6	-13.0	-34.6	
7.496	-11.4	H	3.0	35.4	1.0	-45.8	-13.0	-32.8	
4.997	-12.1	V	3.0	35.6	1.0	-46.7	-13.0	-33.7	
7.496	-12.1	V	3.0	35.4	1.0	-46.6	-13.0	-33.6	
Mid Channel (2593MHz)									
5.186	-13.6	H	3.0	35.5	1.0	-48.1	-13.0	-35.1	
7.779	-10.7	H	3.0	35.2	1.0	-44.8	-13.0	-31.8	
5.186	-13.6	V	3.0	35.5	1.0	-48.1	-13.0	-35.1	
7.779	-10.6	V	3.0	35.2	1.0	-44.8	-13.0	-31.8	
High Channel (2687.5MHz)									
5.375	-14.3	H	3.0	35.5	1.0	-48.8	-13.0	-35.8	
8.063	-10.7	H	3.0	34.9	1.0	-44.6	-13.0	-31.6	
5.375	-13.4	V	3.0	35.5	1.0	-47.9	-13.0	-34.9	
8.063	-11.1	V	3.0	34.9	1.0	-45.0	-13.0	-32.0	

Rev. 03.03.14

LAT 16QAM EIRP POWER FOR LTE BAND 41 (5.0MHZ BANDWIDTH)

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

Company: Apple
Project #: 14U17673
Date: 06/11/14
Test Engineer: T Wang
Configuration: EUT only
Mode: LTE Band 41, 5MHz 16QAM

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

Chamber
 3m Chamber F

Pre-amplifier
 3m Chamber F

Filter

Limit
 Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2498.5MHz)									
4.997	-13.6	H	3.0	35.6	1.0	-48.2	-13.0	-35.2	
7.496	-11.8	H	3.0	35.4	1.0	-46.2	-13.0	-33.2	
4.997	-12.8	V	3.0	35.6	1.0	-47.4	-13.0	-34.4	
7.496	-12.6	V	3.0	35.4	1.0	-47.1	-13.0	-34.1	
Mid Channel (2593MHz)									
5.186	-14.2	H	3.0	35.5	1.0	-48.7	-13.0	-35.7	
7.779	-11.3	H	3.0	35.2	1.0	-45.4	-13.0	-32.4	
5.186	-14.1	V	3.0	35.5	1.0	-48.6	-13.0	-35.6	
7.779	-11.1	V	3.0	35.2	1.0	-45.3	-13.0	-32.3	
High Channel (2687.5MHz)									
5.375	-14.9	H	3.0	35.5	1.0	-49.4	-13.0	-36.4	
8.063	-11.1	H	3.0	34.9	1.0	-45.0	-13.0	-32.0	
5.375	-13.9	V	3.0	35.5	1.0	-48.4	-13.0	-35.4	
8.063	-11.4	V	3.0	34.9	1.0	-45.3	-13.0	-32.3	

Rev. 03.03.14

LAT QPSK EIRP POWER FOR LTE BAND 41 (10.0MHZ BANDWIDTH)

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

Company: Apple

Project #: 14U17673

Date: 6/11/2014

Test Engineer: T Wang

Configuration: EUT Only

Mode: LTE Band 41, 10MHz QPSK

Test Equipment:

Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber
3m Chamber F

Pre-amplifier
3m Chamber F

Filter

Limit
Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2501MHz)									
5.002	-12.4	H	3.0	35.6	1.0	-47.0	-13.0	-34.0	
7.503	-11.5	H	3.0	35.4	1.0	-45.9	-13.0	-32.9	
5.002	-12.6	V	3.0	35.6	1.0	-47.2	-13.0	-34.2	
7.503	-11.8	V	3.0	35.4	1.0	-46.3	-13.0	-33.3	
Mid Channel (2593MHz)									
5.186	-14.5	H	3.0	35.5	1.0	-49.0	-13.0	-36.0	
7.779	-10.4	H	3.0	35.2	1.0	-44.5	-13.0	-31.5	
5.186	-14.5	V	3.0	35.5	1.0	-49.0	-13.0	-36.0	
7.779	-10.2	V	3.0	35.2	1.0	-44.4	-13.0	-31.4	
High Channel (2685MHz)									
5.370	-13.6	H	3.0	35.5	1.0	-48.1	-13.0	-35.1	
8.055	-10.4	H	3.0	34.9	1.0	-44.3	-13.0	-31.3	
5.370	-13.1	V	3.0	35.5	1.0	-47.6	-13.0	-34.6	
8.055	-10.5	V	3.0	34.9	1.0	-44.4	-13.0	-31.4	

Rev. 03.03.14

LAT 16QAM EIRP POWER FOR LTE BAND 41 (10.0MHZ BANDWIDTH)

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

Company: Apple

Project #: 14U17673

Date: 6/11/2014

Test Engineer: T Wang

Configuration: EUT Only

Mode: LTE Band 41, 10MHz 16QAM

Test Equipment:

Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber
3m Chamber F

Pre-amplifier
3m Chamber F

Filter

Limit
Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2501MHz)									
5.002	-13.2	H	3.0	35.6	1.0	-47.8	-13.0	-34.8	
7.503	-11.7	H	3.0	35.4	1.0	-46.1	-13.0	-33.1	
5.002	-13.1	V	3.0	35.6	1.0	-47.7	-13.0	-34.7	
7.503	-12.0	V	3.0	35.4	1.0	-46.5	-13.0	-33.5	
Mid Channel (2593MHz)									
5.186	-15.0	H	3.0	35.5	1.0	-49.5	-13.0	-36.5	
7.779	-10.9	H	3.0	35.2	1.0	-45.0	-13.0	-32.0	
5.186	-14.9	V	3.0	35.5	1.0	-49.4	-13.0	-36.4	
7.779	-10.6	V	3.0	35.2	1.0	-44.8	-13.0	-31.8	
High Channel (2685MHz)									
5.370	-14.1	H	3.0	35.5	1.0	-48.6	-13.0	-35.6	
8.055	-10.9	H	3.0	34.9	1.0	-44.8	-13.0	-31.8	
5.370	-13.5	V	3.0	35.5	1.0	-48.0	-13.0	-35.0	
8.055	-11.0	V	3.0	34.9	1.0	-44.9	-13.0	-31.9	

Rev. 03.03.14

LAT QPSK EIRP POWER FOR LTE BAND 41 (15.0MHZ BANDWIDTH)

3m Radiated Emissions Chamber Above 1GHz Substitution Measurement									
Company:	Apple								
Project #:	14U17673								
Date:	06/11/14								
Test Engineer:	T Wang								
Configuration:	EUT only								
Mode:	LTE Band 41, 15MHz QPSK								
Test Equipment: Substitution: Horn T59 Substitution, and 8ft SMA Cable									
Chamber	Pre-amplifier	Filter	Limit						
3m Chamber F	3m Chamber F		Part 27						
Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2503.5MHz)									
5.007	-12.6	H	3.0	35.6	1.0	-47.2	-13.0	-34.2	
7.511	-11.6	H	3.0	35.4	1.0	-46.0	-13.0	-33.0	
5.007	-12.6	V	3.0	35.6	1.0	-47.2	-13.0	-34.2	
7.511	-11.9	V	3.0	35.4	1.0	-46.3	-13.0	-33.3	
Mid Channel (2593MHz)									
5.186	-14.4	H	3.0	35.5	1.0	-48.9	-13.0	-35.9	
7.779	-10.2	H	3.0	35.2	1.0	-44.3	-13.0	-31.3	
5.186	-13.8	V	3.0	35.5	1.0	-48.3	-13.0	-35.3	
7.779	-10.3	V	3.0	35.2	1.0	-44.5	-13.0	-31.5	
High Channel (2682.5MHz)									
5.365	-14.0	H	3.0	35.5	1.0	-48.5	-13.0	-35.5	
8.048	-10.3	H	3.0	34.9	1.0	-44.2	-13.0	-31.2	
5.365	-13.6	V	3.0	35.5	1.0	-48.1	-13.0	-35.1	
8.048	-11.1	V	3.0	34.9	1.0	-45.1	-13.0	-32.1	
Rev. 03.03.14									

LAT 16QAM EIRP POWER FOR LTE BAND 41 (15.0MHZ BANDWIDTH)

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

Company: Apple
Project #: 14U17673
Date: 06/11/14
Test Engineer: T Wang
Configuration: EUT only
Mode: LTE Band 41, 15MHz 16QAM

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

Chamber
 3m Chamber F

Pre-amplifier
 3m Chamber F

Filter

Limit
 Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2503.5MHz)									
5.007	-13.0	H	3.0	35.6	1.0	-47.6	-13.0	-34.6	
7.511	-11.8	H	3.0	35.4	1.0	-46.2	-13.0	-33.2	
5.007	-13.2	V	3.0	35.6	1.0	-47.8	-13.0	-34.8	
7.511	-12.3	V	3.0	35.4	1.0	-46.7	-13.0	-33.7	
Mid Channel (2593MHz)									
5.186	-14.9	H	3.0	35.5	1.0	-49.4	-13.0	-36.4	
7.779	-10.3	H	3.0	35.2	1.0	-44.4	-13.0	-31.4	
5.186	-14.1	V	3.0	35.5	1.0	-48.6	-13.0	-35.6	
7.779	-10.7	V	3.0	35.2	1.0	-44.9	-13.0	-31.9	
High Channel (2682.5MHz)									
5.365	-14.4	H	3.0	35.5	1.0	-48.9	-13.0	-35.9	
8.048	-10.7	H	3.0	34.9	1.0	-44.6	-13.0	-31.6	
5.365	-13.9	V	3.0	35.5	1.0	-48.4	-13.0	-35.4	
8.048	-11.4	V	3.0	34.9	1.0	-45.4	-13.0	-32.4	

Rev. 03.03.14

LAT QPSK EIRP POWER FOR LTE BAND 41 (20.0MHZ BANDWIDTH)

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

Company: Apple
Project #: 14U17673
Date: 06/11/14
Test Engineer: T Wang
Configuration: EUT only
Mode: LTE Band 41, 20MHz QPSK

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

Chamber
3m Chamber F

Pre-amplifier
3m Chamber F

Filter

Limit
Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2506MHz)									
5.012	-12.8	H	3.0	35.6	1.0	-47.4	-13.0	-34.4	
7.518	-11.3	H	3.0	35.4	1.0	-45.8	-13.0	-32.8	
5.012	-12.2	V	3.0	35.6	1.0	-46.8	-13.0	-33.8	
7.518	-11.8	V	3.0	35.4	1.0	-46.2	-13.0	-33.2	
Mid Channel (2593MHz)									
5.186	-14.5	H	3.0	35.5	1.0	-49.0	-13.0	-36.0	
7.779	-10.7	H	3.0	35.2	1.0	-44.8	-13.0	-31.8	
5.186	-13.5	V	3.0	35.5	1.0	-48.0	-13.0	-35.0	
7.779	-10.9	V	3.0	35.2	1.0	-45.1	-13.0	-32.1	
High Channel (2680MHz)									
5.360	-14.9	H	3.0	35.5	1.0	-49.4	-13.0	-36.4	
8.040	-10.7	H	3.0	34.9	1.0	-44.6	-13.0	-31.6	
5.360	-13.4	V	3.0	35.5	1.0	-47.9	-13.0	-34.9	
8.040	-10.8	V	3.0	34.9	1.0	-44.8	-13.0	-31.8	

Rev. 03.03.14

LAT 16QAM EIRP POWER FOR LTE BAND 41 (20.0MHZ BANDWIDTH)

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

Company: Apple
Project #: 14U17673
Date: 06/11/14
Test Engineer: T Wang
Configuration: EUT only
Mode: LTE Band 41, 20MHz 16QAM

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

Chamber
 3m Chamber F

Pre-amplifier
 3m Chamber F

Filter

Limit
 Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2506MHz)									
5.012	-13.3	H	3.0	35.6	1.0	-47.9	-13.0	-34.9	
7.518	-11.6	H	3.0	35.4	1.0	-46.1	-13.0	-33.1	
5.012	-12.9	V	3.0	35.6	1.0	-47.5	-13.0	-34.5	
7.518	-12.2	V	3.0	35.4	1.0	-46.6	-13.0	-33.6	
Mid Channel (2593MHz)									
5.186	-14.9	H	3.0	35.5	1.0	-49.4	-13.0	-36.4	
7.779	-11.2	H	3.0	35.2	1.0	-45.3	-13.0	-32.3	
5.186	-14.0	V	3.0	35.5	1.0	-48.5	-13.0	-35.5	
7.779	-11.4	V	3.0	35.2	1.0	-45.6	-13.0	-32.6	
High Channel (2680MHz)									
5.360	-15.1	H	3.0	35.5	1.0	-49.6	-13.0	-36.6	
8.040	-11.0	H	3.0	34.9	1.0	-44.9	-13.0	-31.9	
5.360	-13.9	V	3.0	35.5	1.0	-48.4	-13.0	-35.4	
8.040	-10.3	V	3.0	34.9	1.0	-44.3	-13.0	-31.3	

Rev. 03.03.14

UAT QPSK EIRP POWER FOR LTE BAND 41 (5.0MHZ BANDWIDTH)

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

Company: Apple

Project #: 14U17673

Date: 06/11/14

Test Engineer: T Wang

Configuration: EUT only

Mode: LTE Band 41, 5MHz QPSK

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

Chamber
3m Chamber F

Pre-amplifier
3m Chamber F

Filter

Limit
Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2498.5MHz)									
4.997	-12.9	H	3.0	35.6	1.0	-47.5	-13.0	-34.5	
7.496	-12.2	H	3.0	35.4	1.0	-46.6	-13.0	-33.6	
4.997	-12.0	V	3.0	35.6	1.0	-46.6	-13.0	-33.6	
7.496	-12.3	V	3.0	35.4	1.0	-46.8	-13.0	-33.8	
Mid Channel (2593MHz)									
5.186	-13.9	H	3.0	35.5	1.0	-48.4	-13.0	-35.4	
7.779	-11.2	H	3.0	35.2	1.0	-45.3	-13.0	-32.3	
5.186	-14.0	V	3.0	35.5	1.0	-48.5	-13.0	-35.5	
7.779	-10.9	V	3.0	35.2	1.0	-45.1	-13.0	-32.1	
High Channel (2687.5MHz)									
5.375	-14.5	H	3.0	35.5	1.0	-49.0	-13.0	-36.0	
8.063	-10.9	H	3.0	34.9	1.0	-44.8	-13.0	-31.8	
5.375	-13.9	V	3.0	35.5	1.0	-48.4	-13.0	-35.4	
8.063	-11.1	V	3.0	34.9	1.0	-45.0	-13.0	-32.0	

Rev. 03.03.14

UAT 16QAM EIRP POWER FOR LTE BAND 41 (5.0MHZ BANDWIDTH)

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

Company: Apple

Project #: 14U17673

Date: 06/11/14

Test Engineer: T Wang

Configuration: EUT only

Mode: LTE Band 41, 5MHz 16QAM

Test Equipment:

Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber
3m Chamber F

Pre-amplifier
3m Chamber F

Filter

Limit
Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2498.5MHz)									
4.997	-13.6	H	3.0	35.6	1.0	-48.2	-13.0	-35.2	
7.496	-12.3	H	3.0	35.4	1.0	-46.7	-13.0	-33.7	
4.997	-12.4	V	3.0	35.6	1.0	-47.0	-13.0	-34.0	
7.496	-12.4	V	3.0	35.4	1.0	-46.9	-13.0	-33.9	
Mid Channel (2593MHz)									
5.186	-14.3	H	3.0	35.5	1.0	-48.8	-13.0	-35.8	
7.779	-11.6	H	3.0	35.2	1.0	-45.7	-13.0	-32.7	
5.186	-14.4	V	3.0	35.5	1.0	-48.9	-13.0	-35.9	
7.779	-11.4	V	3.0	35.2	1.0	-45.6	-13.0	-32.6	
High Channel (2687.5MHz)									
5.375	-14.9	H	3.0	35.5	1.0	-49.4	-13.0	-36.4	
8.063	-11.3	H	3.0	34.9	1.0	-45.2	-13.0	-32.2	
5.375	-14.7	V	3.0	35.5	1.0	-49.2	-13.0	-36.2	
8.063	-11.6	V	3.0	34.9	1.0	-45.5	-13.0	-32.5	

Rev. 03.03.14

UAT QPSK EIRP POWER FOR LTE BAND 41 (10.0MHZ BANDWIDTH)

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

Company: Apple

Project #: 14U17673

Date: 6/11/2014

Test Engineer: Macie

Configuration: EUT Only

Mode: LTE Band 41, 10MHz QPSK

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

Chamber
3m Chamber F

Pre-amplifier
3m Chamber F

Filter

Limit
Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2501MHz)									
5.002	-12.2	H	3.0	35.6	1.0	-46.8	-13.0	-33.8	
7.503	-9.9	H	3.0	35.4	1.0	-44.3	-13.0	-31.3	
5.002	-12.3	V	3.0	35.6	1.0	-46.9	-13.0	-33.9	
7.503	-10.2	V	3.0	35.4	1.0	-44.7	-13.0	-31.7	
Mid Channel (2593MHz)									
5.186	-11.6	H	3.0	35.5	1.0	-46.1	-13.0	-33.1	
7.779	-8.8	H	3.0	35.2	1.0	-42.9	-13.0	-29.9	
5.186	-11.6	V	3.0	35.5	1.0	-46.1	-13.0	-33.1	
7.779	-9.0	V	3.0	35.2	1.0	-43.2	-13.0	-30.2	
High Channel (2685MHz)									
5.370	-12.2	H	3.0	35.5	1.0	-46.7	-13.0	-33.7	
8.055	-9.4	H	3.0	34.9	1.0	-43.3	-13.0	-30.3	
5.370	-11.9	V	3.0	35.5	1.0	-46.4	-13.0	-33.4	
8.055	-9.4	V	3.0	34.9	1.0	-43.3	-13.0	-30.3	

Rev. 03.03.14

UAT 16QAM EIRP POWER FOR LTE BAND 41 (10.0MHZ BANDWIDTH)

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

Company: Apple
Project #: 14U17673
Date: 6/11/2014
Test Engineer: Macie
Configuration: EUT Only
Mode: LTE Band 41, 10MHz 16QAM

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

Chamber
3m Chamber F

Pre-amplifier
3m Chamber F

Filter

Limit
Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2501MHz)									
5.002	-13.1	H	3.0	35.6		-48.7	-13.0	-35.7	
7.503	-10.7	H	3.0	35.4		-46.1	-13.0	-33.1	
5.002	-13.6	V	3.0	35.6		-49.2	-13.0	-36.2	
7.503	-10.8	V	3.0	35.4		-46.3	-13.0	-33.3	
Mid Channel (2593MHz)									
5.186	-12.5	H	3.0	35.5		-48.0	-13.0	-35.0	
7.779	-9.6	H	3.0	35.2		-44.7	-13.0	-31.7	
5.186	-12.3	V	3.0	35.5		-47.8	-13.0	-34.8	
7.779	-9.8	V	3.0	35.2		-45.0	-13.0	-32.0	
High Channel (2685MHz)									
5.370	-13.0	H	3.0	35.5		-48.5	-13.0	-35.5	
8.055	-9.9	H	3.0	34.9		-44.8	-13.0	-31.8	
5.370	-12.5	V	3.0	35.5		-48.0	-13.0	-35.0	
8.055	-10.2	V	3.0	34.9		-45.1	-13.0	-32.1	

Rev. 03.03.14

UAT QPSK EIRP POWER FOR LTE BAND 41 (15.0MHZ BANDWIDTH)

3m Radiated Emissions Chamber Above 1GHz Substitution Measurement									
Company:		Apple							
Project #:		14U17673							
Date:		06/11/14							
Test Engineer:		T Wang							
Configuration:		EUT only							
Mode:		LTE Band 41, 15MHz QPSK							
Test Equipment:									
Substitution: Horn T59 Substitution, and 8ft SMA Cable									
Chamber		Pre-amplifier		Filter		Limit			
3m Chamber F		3m Chamber F				Part 27			
Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2503.5MHz)									
5.007	-13.0	H	3.0	35.6	1.0	-47.6	-13.0	-34.6	
7.511	-11.7	H	3.0	35.4	1.0	-46.1	-13.0	-33.1	
5.007	-12.2	V	3.0	35.6	1.0	-46.8	-13.0	-33.8	
7.511	-11.2	V	3.0	35.4	1.0	-45.6	-13.0	-32.6	
Mid Channel (2593MHz)									
5.186	-12.7	H	3.0	35.5	1.0	-47.2	-13.0	-34.2	
7.779	-9.0	H	3.0	35.2	1.0	-43.1	-13.0	-30.1	
5.186	-13.8	V	3.0	35.5	1.0	-48.3	-13.0	-35.3	
7.779	-10.1	V	3.0	35.2	1.0	-44.3	-13.0	-31.3	
High Channel (2682.5MHz)									
5.365	-13.9	H	3.0	35.5	1.0	-48.4	-13.0	-35.4	
8.048	-10.2	H	3.0	34.9	1.0	-44.1	-13.0	-31.1	
5.365	-13.3	V	3.0	35.5	1.0	-47.8	-13.0	-34.8	
8.048	-10.8	V	3.0	34.9	1.0	-44.8	-13.0	-31.8	
Rev. 03.03.14									

UAT 16QAM EIRP POWER FOR LTE BAND 41 (15.0MHZ BANDWIDTH)

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

Company:

Apple

Project #:

14U17673

Date:

06/11/14

Test Engineer:

T Wang

Configuration:

EUT only

Mode:

LTE Band 41, 15MHz 16QAM

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

Chamber
 3m Chamber F

Pre-amplifier
 3m Chamber F

Filter

Limit
 Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2503.5MHz)									
5.007	-13.9	H	3.0	35.6	1.0	-48.5	-13.0	-35.5	
7.511	-12.0	H	3.0	35.4	1.0	-46.4	-13.0	-33.4	
5.007	-13.0	V	3.0	35.6	1.0	-47.6	-13.0	-34.6	
7.511	-11.9	V	3.0	35.4	1.0	-46.3	-13.0	-33.3	
Mid Channel (2593MHz)									
5.186	-13.6	H	3.0	35.5	1.0	-48.1	-13.0	-35.1	
7.779	-9.8	H	3.0	35.2	1.0	-43.9	-13.0	-30.9	
5.186	-14.6	V	3.0	35.5	1.0	-49.1	-13.0	-36.1	
7.779	-10.8	V	3.0	35.2	1.0	-45.0	-13.0	-32.0	
High Channel (2682.5MHz)									
5.365	-14.8	H	3.0	35.5	1.0	-49.3	-13.0	-36.3	
8.048	-11.0	H	3.0	34.9	1.0	-44.9	-13.0	-31.9	
5.365	-14.3	V	3.0	35.5	1.0	-48.8	-13.0	-35.8	
8.048	-11.7	V	3.0	34.9	1.0	-45.7	-13.0	-32.7	

Rev. 03.03.14

UAT QPSK EIRP POWER FOR LTE BAND 41 (20.0MHZ BANDWIDTH)

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

Company: Apple
Project #: 14U17673
Date: 06/11/14
Test Engineer: T Wang
Configuration: EUT only
Mode: LTE Band 41, 20MHz QPSK

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

Chamber
 3m Chamber F

Pre-amplifier
 3m Chamber F

Filter

Limit
 Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2506MHz)									
5.012	-12.8	H	3.0	35.6	1.0	-47.4	-13.0	-34.4	
7.518	-11.3	H	3.0	35.4	1.0	-45.8	-13.0	-32.8	
5.012	-12.2	V	3.0	35.6	1.0	-46.8	-13.0	-33.8	
7.518	-11.8	V	3.0	35.4	1.0	-46.2	-13.0	-33.2	
Mid Channel (2593MHz)									
5.186	-14.6	H	3.0	35.5	1.0	-49.1	-13.0	-36.1	
7.779	-10.3	H	3.0	35.2	1.0	-44.4	-13.0	-31.4	
5.186	-13.9	V	3.0	35.5	1.0	-48.4	-13.0	-35.4	
7.779	-10.1	V	3.0	35.2	1.0	-44.3	-13.0	-31.3	
High Channel (2680MHz)									
5.360	-14.3	H	3.0	35.5	1.0	-48.8	-13.0	-35.8	
8.040	-10.9	H	3.0	34.9	1.0	-44.8	-13.0	-31.8	
5.360	-13.9	V	3.0	35.5	1.0	-48.4	-13.0	-35.4	
8.040	-10.6	V	3.0	34.9	1.0	-44.6	-13.0	-31.6	

Rev. 03.03.14

UAT 16QAM EIRP POWER FOR LTE BAND 41 (20.0MHZ BANDWIDTH)

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

Company: Apple
Project #: 14U17673
Date: 06/11/14
Test Engineer: T Wang
Configuration: EUT only
Mode: LTE Band 41, 20MHz 16QAM

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

Chamber
3m Chamber F

Pre-amplifier
3m Chamber F

Filter

Limit
Part 27

Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2506MHz)									
5.012	-13.5	H	3.0	35.6	1.0	-48.1	-13.0	-35.1	
7.518	-12.1	H	3.0	35.4	1.0	-46.6	-13.0	-33.6	
5.012	-12.8	V	3.0	35.6	1.0	-47.4	-13.0	-34.4	
7.518	-12.2	V	3.0	35.4	1.0	-46.6	-13.0	-33.6	
Mid Channel (2593MHz)									
5.186	-15.8	H	3.0	35.5	1.0	-50.3	-13.0	-37.3	
7.779	-11.0	H	3.0	35.2	1.0	-45.1	-13.0	-32.1	
5.186	-15.5	V	3.0	35.5	1.0	-50.0	-13.0	-37.0	
7.779	-10.9	V	3.0	35.2	1.0	-45.1	-13.0	-32.1	
High Channel (2680MHz)									
5.360	-14.9	H	3.0	35.5	1.0	-49.4	-13.0	-36.4	
8.040	-11.3	H	3.0	34.9	1.0	-45.2	-13.0	-32.2	
5.360	-14.4	V	3.0	35.5	1.0	-48.9	-13.0	-35.9	
8.040	-11.1	V	3.0	34.9	1.0	-45.1	-13.0	-32.1	

Rev. 03.03.14