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

			ted Emissions Substitution I					
Company:	Apple							
Project #:	14U17673							
Date:	06/03/14							
Test Engineer: Configuration:	T. Chu							
Jonfiguration: Mode:	EUT only	5MHz QPSK						
		, and 8ft SMA Ca						
C	hamb er	Pre-ai	mplifer	Filte				.imit
	hamb er		mplifer	Filte	er	•	L Part 24	.imit •
Cl 3m Chai Frequency SG	hamber mber F –	Pre-ar 3m Cham	mplifer	Filte		, Limit		.imit v Notes
Cl 3m Char Frequency SG (GHz)	hamber mber F reading Ant. Pol. (dBm) (H/V)	Pre-ar 3m Cham	mplifer Iber F 🚽		•		Part 24	•
Cl 3m Chai Frequency SG	hamber mber F reading Ant. Pol. (dBm) (H/V)	Pre-ar 3m Cham	mplifer Iber F 🚽		•		Part 24	•
C 3m Char Frequency SG (GHz) ow Channel (185	hamber mber F Freading Ant. Pol. (dBm) (H/V)	Pre-ar 3m Cham Distance	mplifer ıber F _▼ Preamp	Attenuator	EIRP	Limit	Part 24 Delta	•
Cl 3m Char Frequency SG (GHz) ow Channel (185 3.71 3.71	hamber mber F Greading Ant. Pol. (dBm) (H/V) 52.5MHz) -4.2 H -3.7 V	Pre-ai 3m Cham Distance	nplifer Iber F – Preamp 36.3	Attenuator	EIRP	Limit	Part 24 Delta -26.5	•
Cl 3m Char Frequency SG (GHz) ow Channel (185 3.71 3.71 Jid Channel (188	hamber mber F Greading Ant. Pol. (dBm) (H/V) 52.5MHz) -4.2 H -3.7 V 0MHz)	Pre-ai 3m Cham Distance	mplifer Iber F Preamp 36.3 36.3	Attenuator	EIRP -39.5 -39.0	Limit -13.0 -13.0	Part 24 Delta -26.5 -26.0	•
Cl 3m Char Frequency SG (GHz) ow Channel (185 3.71 3.71	hamber mber F Greading Ant. Pol. (dBm) (H/V) 52.5MHz) -4.2 H -3.7 V	Pre-ai 3m Cham Distance	nplifer Iber F – Preamp 36.3	Attenuator	EIRP	Limit	Part 24 Delta -26.5	•
Cl 3m Char Frequency SG (GHz) .ow Channel (185 3.71 3.71 Mid Channel (1880 3.76 3.76	hamber           mber F         •           Greading (dBm)         Ant. Pol. (H/V)           52.5MHz)         •           -4.2         H           -3.7         V           0MHz)         •           -5.3         H           -4.9         V	Pre-al 3m Cham Distance	mplifer Iber F Preamp 36.3 36.3 36.3	Attenuator 1.0 1.0 1.0 1.0 1.0	EIRP -39.5 -39.0 -40.6	Limit -13.0 -13.0 -13.0	Part 24 Delta -26.5 -26.0 -27.6	•
C 3m Char Frequency SG (GHz) ow Channel (185 3.71 3.71 Jid Channel (1880 3.76	hamber           mber F         •           Greading (dBm)         Ant. Pol. (H/V)           52.5MHz)         •           -4.2         H           -3.7         V           0MHz)         •           -5.3         H           -4.9         V	Pre-al 3m Cham Distance	mplifer Iber F Preamp 36.3 36.3 36.3	Attenuator 1.0 1.0 1.0 1.0 1.0	EIRP -39.5 -39.0 -40.6	Limit -13.0 -13.0 -13.0	Part 24 Delta -26.5 -26.0 -27.6	•

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

				ated Emissions z Substitution I					
Company:		Apple							
Project #:		14U17673							
Date:		06/03/14							
fest Engine		T. Chu							
Configuratio		EUT Only							
/lode:		LTE Band 2, 5	MHz 16QAM						
ubstitution	Horn T59 Si Chamber	ubstitution, a	and 8ft SMA Ca Pre-a	able amplifer	Filte	er	1	Lii	nit
							4		
3m C	hamber F	-	3m Char	mberr 🚽		-	-	Part 24	-
1			1		1	_			
Frequency	SG reading	Ant Pol	Distance	Preamp	Attenuator	FIRP		Delta	Notes
	SG reading (dBm)		Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Frequency (GHz) .ow Channel	(dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz) ow Channel 3.71	(dBm) (1852.5MHz) -10.1	(H/V) H	3.0	36.3	1.0	-45.4	-13.0	-32.4	Notes
(GHz) ow Channel 3.71 5.56	(dBm) (1852.5MHz) -10.1 -6.3	(H/V) н н	3.0 3.0	36.3 35.6	1.0 1.0	-45.4 -40.8	-13.0 -13.0	-32.4 -27.8	Notes
(GHz) ow Channel 3.71 5.56 3.71	(dBm) (1852.5MHz) -10.1 -6.3 -14.3	(H/V) H H V	3.0 3.0 3.0	36.3 35.6 36.3	1.0 1.0 1.0	-45.4 -40.8 -49.6	-13.0 -13.0 -13.0	-32.4 -27.8 -36.6	Notes
(GHz) ow Channel 3.71 5.56	(dBm) (1852.5MHz) -10.1 -6.3	(H/V) н н	3.0 3.0	36.3 35.6	1.0 1.0	-45.4 -40.8	-13.0 -13.0	-32.4 -27.8	Notes
(GHz) ow Channel 3.71 5.56 3.71 5.56	(dBm) (1852.5MHz) -10.1 -6.3 -14.3 -7.6	(H/V) H H V	3.0 3.0 3.0	36.3 35.6 36.3	1.0 1.0 1.0	-45.4 -40.8 -49.6	-13.0 -13.0 -13.0	-32.4 -27.8 -36.6	Notes
(GHz) ow Channel 3.71 5.56 3.71 5.56 1d Channel (	(dBm) (1852.5MHz) -10.1 -6.3 -14.3 -7.6 1880MHz)	(H/V) H H V V	3.0 3.0 3.0	36.3 35.6 36.3	1.0 1.0 1.0	-45.4 -40.8 -49.6	-13.0 -13.0 -13.0	-32.4 -27.8 -36.6	Notes
(GHz) ow Channel 3.71 5.56 3.71 5.56	(dBm) (1852.5MHz) -10.1 -6.3 -14.3 -7.6	(H/V) H H V	3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0	-45.4 -40.8 -49.6 -42.1	-13.0 -13.0 -13.0 -13.0	-32.4 -27.8 -36.6 -29.1	Notes
(GHz) ow Channel 3.71 5.56 3.71 5.56 Mid Channel ( 3.76	(dBm) (1852.5MHz) -10.1 -6.3 -14.3 -7.6 1880MHz) -4.3	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0	-45.4 -40.8 -49.6 -42.1 -39.6	-13.0 -13.0 -13.0 -13.0 -13.0	-32.4 -27.8 -36.6 -29.1 -26.6	Notes
(GHz) ow Channel 3.71 5.56 3.71 5.56 lid Channel ( 3.76 5.64	(dBm) (1852.5MHz) -10.1 -6.3 -14.3 -7.6 1880MHz) -4.3 -8.4	(H/V) H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0 1.0 1.0	-45.4 -40.8 -49.6 -42.1 -39.6 -43.0	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-32.4 -27.8 -36.6 -29.1 -26.6 -30.0	Notes
(GHz) ow Channel 3.71 5.56 3.71 5.56 lid Channel ( 3.76 5.64 3.76 5.64 3.76 5.64	(dBm) (1852.5MHz) -10.1 -6.3 -14.3 -7.6 1880MHz) -4.3 -8.4 -9.7 -11.6	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	45.4 40.8 49.6 42.1 -39.6 43.0 45.0	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-32.4 -27.8 -36.6 -29.1 -26.6 -30.0 -32.0	Notes
(GHz) ow Channel 3.71 5.56 3.71 5.56 lid Channel ( 3.76 5.64 3.76 5.64 3.76 5.64	(dBm) (1852.5MHz) -10.1 -6.3 -14.3 -7.6 1880MHz) -4.3 -8.4 -9.7 -11.6 (1907.5MHz)	(H/V) H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6 35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	45.4 40.8 49.6 42.1 -39.6 43.0 45.0 46.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-32.4 -27.8 -36.6 -29.1 -26.6 -30.0 -32.0 -33.1	Notes
(GHz) ow Channel 3.71 5.56 3.71 5.56 lid Channel ( 3.76 5.64 3.76 5.64 3.76 5.64	(dBm) (1852.5MHz) -10.1 -6.3 -14.3 -7.6 1880MHz) -4.3 -8.4 -9.7 -11.6	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	45.4 40.8 49.6 42.1 -39.6 43.0 45.0	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-32.4 -27.8 -36.6 -29.1 -26.6 -30.0 -32.0	Notes

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

				ted Emissions Substitution I					
ompany:		Apple							
roject #:		14U17673							
ate:		06/03/14							
est Engine	er:	T. Chu							
onfiguratio	n:	EUT only							
lode:		LTE Band 2, 1	0MHz QPSK						
	Chamber		Pre-ar	mplifer	Filte	er		Li	mit
3m C	Chamber hamber F	•	Pre-ar 3m Cham	·	Filte	er .	•	Li Part 24	mit •
requency	hamber F SG reading	Ant. Pol.		·	Filte	EIRP	Limit		mit • Notes
requency (GHz)	hamber F SG reading (dBm)		3m Cham	iber F 🗸		•	Limit	Part 24	-
requency (GHz) ow Channel	hamber F SG reading (dBm) (1855MHz)	Ant. Pol. (H/V)	3m Cham Distance	ber F ↓ Preamp	Attenuator	EIRP		Part 24	-
requency (GHz)	hamber F SG reading (dBm)	Ant. Pol.	3m Cham	iber F 🗸		•	Limit	Part 24	-
Frequency (GHz) ow Channel 3.71 3.71	hamber F SG reading (dBm) (1855MHz) -15.6 -13.9	Ant. Pol. (H/V)	3m Cham Distance	Preamp	Attenuator	EIRP -50.9	-13.0	Part 24 Delta	-
Frequency (GHz) ow Channel 3.71 3.71 id Channel (	hamber F SG reading (dBm) (1855MHz) -15.6 -13.9 1880MHz)	Ant. Pol. (H/V) H V	3m Cham Distance	ber F - Preamp 36.3 36.3	Attenuator	EIRP -50.9 -49.2	-13.0 -13.0	Part 24 Delta -37.9 -36.2	-
Frequency (GHz) ow Channel 3.71 3.71 id Channel ( 3.76	hamber F SG reading (dBm) (1855MHz) -15.6 -13.9 1880MHz) -10.3	Ant. Pol. (H/V) H V	3m Cham Distance	16er F - Preamp 36.3 36.3 36.3	Attenuator 1.0 1.0 1.0 1.0 1.0	EIRP -50.9 -49.2 -45.6	-13.0 -13.0 -13.0	Part 24 Delta	-
Frequency (GHz) ow Channel 3.71 3.71 id Channel (	hamber F SG reading (dBm) (1855MHz) -15.6 -13.9 1880MHz)	Ant. Pol. (H/V) H V	3m Cham Distance	ber F - Preamp 36.3 36.3	Attenuator	EIRP -50.9 -49.2	-13.0 -13.0	Part 24 Delta -37.9 -36.2	-
Frequency (GHz) ow Channel 3.71 3.71 id Channel ( 3.76 3.76 igh Channel	hamber F SG reading (dBm) (1855MHz) -15.6 -13.9 1880MHz) -10.3 -10.9 (1905MHz)	Ant. Pol. (H/V) H V H V	3m Cham Distance	Preamp           36.3           36.3           36.3           36.3	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	50.9 -50.9 -49.2 -45.6 -46.2	-13.0 -13.0 -13.0 -13.0	Part 24           Delta           -37.9           -36.2           -32.6           -33.2	-
requency (GHz) ow Channel 3.71 3.71 id Channel ( 3.76 3.76	hamber F SG reading (dBm) (1855MHz) -15.6 -13.9 1880MHz) -10.3 -10.9	Ant. Pol. (H/V) H V	3m Cham Distance	16er F - Preamp 36.3 36.3 36.3	Attenuator 1.0 1.0 1.0 1.0 1.0	EIRP -50.9 -49.2 -45.6	-13.0 -13.0 -13.0	Part 24 Delta	-

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

				ted Emissions Substitution I					
Company:		Apple							
roject #:		14U17673							
)ate:		06/03/14							
est Engine	er:	T. Chu							
Configuratio		EUT only							
/lode:		LTE Band 2, 1	0MHz 16QAM						
	Chamber			mplifer	Filte	er	4		imit
3m C	Chamber hamber F	•	Pre-ai 3m Cham		Filte	er	•	L Part 24	imit •
Frequency	hamber F SG reading	Ant. Pol.			Filte	EIRP	Limit		imit • Notes
Frequency (GHz)	hamber F SG reading (dBm)		3m Cham	ıber F 🖵		•	Limit	Part 24	·
Frequency (GHz) ow Channel	hamber F SG reading (dBm) (1855MHz)	Ant. Pol. (H/V)	3m Cham Distance	ıber F <mark>-</mark> Preamp	Attenuator	EIRP		Part 24	·
Frequency (GHz) ow Channel 3.71	hamber F SG reading (dBm) (1855MHz) -15.2	Ant. Pol. (H/V)	3m Cham Distance	ber F Preamp 36.3	Attenuator	EIRP -50.5	-13.0	Part 24 Delta	·
Frequency (GHz) ow Channel	hamber F SG reading (dBm) (1855MHz)	Ant. Pol. (H/V)	3m Cham Distance	ıber F <mark>-</mark> Preamp	Attenuator	EIRP		Part 24	·
Frequency (GHz) ow Channel 3.71 3.71 lid Channel (	hamber F SG reading (dBm) (1855MHz) -15.2 -13.9 1880MHz)	Ant. Pol. (H/V) H V	3m Cham Distance	iber F - Preamp 36.3 36.3	Attenuator	EIRP -50.5 -49.2	-13.0 -13.0	Part 24 Delta -37.5 -36.2	·
Frequency (GHz) ow Channel 3.71 3.71 lid Channel ( 3.76	hamber F SG reading (dBm) (1855MHz) -15.2 -13.9 (1880MHz) -11.4	Ant. Pol. (H/V) H V	3m Cham Distance	iber F - Preamp 36.3 36.3 36.3	Attenuator 1.0 1.0 1.0 1.0	EIRP -50.5 -49.2 -46.7	-13.0 -13.0 -13.0	Part 24 Delta	·
Frequency (GHz) ow Channel 3.71 3.71 lid Channel (	hamber F SG reading (dBm) (1855MHz) -15.2 -13.9 1880MHz)	Ant. Pol. (H/V) H V	3m Cham Distance	iber F - Preamp 36.3 36.3	Attenuator	EIRP -50.5 -49.2	-13.0 -13.0	Part 24 Delta -37.5 -36.2	·
Frequency (GHz) ow Channel 3.71 3.71 lid Channel ( 3.76 3.76	hamber F SG reading (dBm) (1855MHz) -15.2 -13.9 1880MHz) -11.4 -12.6	Ant. Pol. (H/V) H V	3m Cham Distance	iber F - Preamp 36.3 36.3 36.3	Attenuator 1.0 1.0 1.0 1.0	EIRP -50.5 -49.2 -46.7	-13.0 -13.0 -13.0	Part 24 Delta	·
Frequency (GHz) ow Channel 3.71 3.71 lid Channel ( 3.76	hamber F SG reading (dBm) (1855MHz) -15.2 -13.9 1880MHz) -11.4 -12.6	Ant. Pol. (H/V) H V	3m Cham Distance	iber F - Preamp 36.3 36.3 36.3	Attenuator 1.0 1.0 1.0 1.0	EIRP -50.5 -49.2 -46.7	-13.0 -13.0 -13.0	Part 24 Delta	·

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

				ated Emissions z Substitution I					
ompany:		Apple							
roject #:		14U17673							
ate:		06/04/14							
est Enginee		T. Chu							
configuration		EUT only							
lode:		LTE Band 2. 1							
ubstitution:		ubstitution, a	and 8ft SMA C				1		
	Chamber		Pre-a	amplifer	Filte	er		Lir	nit
3m C	hamber F	•	3m Chai	mber F 🖵		•	·	Part 24	•
I	hamber F SG reading (dBm)		3m Chai	mber F _ Preamp	Attenuator	EIRP	Limit	Part 24 Delta	Notes
requency	SG reading (dBm)	Ant. Pol.			Attenuator				Notes
Frequency (GHz) ow Channel ( 3.72	SG reading (dBm) 1857.5MHz) -4.4	Ant. Pol. (H/V)	Distance	Preamp 36.3	1.0	EIRP	Limit	Delta -26.7	Notes
Frequency (GHz) ow Channel ( 3.72 5.57	SG reading (dBm) 1857.5MHz) -4.4 -1.8	Ant. Pol. (H/V) H	Distance 3.0 3.0	Preamp	1.0 1.0	EIRP -39.7 -36.4	Limit -13.0 -13.0	Delta -26.7 -23.4	Notes
requency (GHz) ow Channel ( 3.72 5.57 3.72	SG reading (dBm) 1857.5MHz) -4.4 -1.8 -6.5	Ant. Pol. (H/V) H H V	Distance	Preamp 36.3 35.6 36.3	1.0 1.0 1.0	-39.7 -36.4 -41.8	Limit -13.0 -13.0 -13.0	Delta -26.7 -23.4 -28.8	Notes
Frequency (GHz) ow Channel ( 3.72 5.57	SG reading (dBm) 1857.5MHz) -4.4 -1.8	Ant. Pol. (H/V) H	Distance 3.0 3.0	Preamp	1.0 1.0	EIRP -39.7 -36.4	Limit -13.0 -13.0	Delta -26.7 -23.4	Notes
Frequency (GHz) ow Channel ( 3.72 5.57 3.72 5.57	SG reading (dBm) 1857.5MHz) -4.4 -1.8 -6.5 -4.8	Ant. Pol. (H/V) H H V	Distance	Preamp 36.3 35.6 36.3	1.0 1.0 1.0	-39.7 -36.4 -41.8	Limit -13.0 -13.0 -13.0	Delta -26.7 -23.4 -28.8	Notes
Frequency (GHz) ow Channel ( 3.72 5.57 3.72	SG reading (dBm) 1857.5MHz) -4.4 -1.8 -6.5 -4.8	Ant. Pol. (H/V) H H V	Distance	Preamp 36.3 35.6 36.3	1.0 1.0 1.0	-39.7 -36.4 -41.8	Limit -13.0 -13.0 -13.0	Delta -26.7 -23.4 -28.8	Notes
Frequency (GHz) ow Channel ( 3.72 5.57 3.72 5.57 lid Channel ( 3.76 5.64	SG reading (dBm) 1857.5MHz) -4.4 -1.8 -6.5 -4.8 1880MHz)	Ant. Pol. (H/V) H H V V V	Distance	36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0	-39.7 -36.4 -41.8 -39.4 -38.8 -43.0	Limit -13.0 -13.0 -13.0 -13.0	Delta -26.7 -23.4 -28.8 -26.4 -25.8 -30.0	Notes
Frequency (GHz) ow Channel ( 3.72 5.57 3.72 5.57 lid Channel ( 3.76 5.64 3.76	SG reading (dBm) 1857.5MHz) -4.4 -6.5 -4.8 -6.5 -4.8 -8.4 -6.9	Ant. Pol. (H/V) H H V V H H H V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Breamp           36.3           35.6           36.3           35.6           35.6           36.3           35.6           36.3           35.6           36.3           35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	EIRP -39.7 -36.4 -41.8 -39.4 -39.4 -38.8 -43.0 -42.2	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -26.7 -23.4 -28.8 -26.4 -25.8 -30.0 -29.2	Notes
requency (GHz) ow Channel ( 3.72 5.57 3.72 5.57 id Channel ( 3.76 5.64	SG reading (dBm) 1857.5MHz) -4.4 -1.8 -6.5 -4.8 1880MHz) -3.5 -8.4	Ant. Pol. (H/V) H H V V V	Distance	36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0 1.0 1.0	-39.7 -36.4 -41.8 -39.4 -38.8 -43.0	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -26.7 -23.4 -28.8 -26.4 -25.8 -30.0	Notes
Frequency (GHz) ow Channel ( 3.72 5.57 3.72 5.57 lid Channel ( 3.76 5.64 3.76 5.64	SG reading (dBm) 1857.5MHz) -4.4 -1.8 -6.5 -4.8 1880MHz) -3.5 -8.4 -6.9 -11.3	Ant. Pol. (H/V) H H V V H H H V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Breamp           36.3           35.6           36.3           35.6           35.6           36.3           35.6           36.3           35.6           36.3           35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	EIRP -39.7 -36.4 -41.8 -39.4 -39.4 -38.8 -43.0 -42.2	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -26.7 -23.4 -28.8 -26.4 -25.8 -30.0 -29.2	Notes
requency (GHz) ow Channel ( 3.72 5.57 3.72 5.57 id Channel ( 3.76 5.64 3.76 5.64 3.76 5.64 igh Channel	SG reading (dBm) 1857.5MHz) -4.4 -1.8 -6.5 -4.8 1880MHz) -3.5 -8.4 -6.9 -11.3 1902.5MHz)	Ant. Pol. (H/V) H H V V V H H V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Breamp           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-39.7 -36.4 -41.8 -39.4 -38.8 -43.0 -42.2 -45.9	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -26.7 -23.4 -28.8 -26.4 -25.8 -30.0 -29.2 -32.9	Notes
Frequency (GHz) ow Channel ( 3.72 5.57 3.72 5.57 lid Channel ( 3.76 5.64 3.76 5.64 3.76 5.64 3.76 5.64 3.76 5.64	SG reading (dBm) 1857.5MHz) 4.4 -1.8 -6.5 -4.8 1880MHz) -3.5 -8.4 -6.9 -11.3 (1902.5MHz) -1.0	Ant. Pol. (H/V) H H V V V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Breamp           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	EIRP -39.7 -36.4 -41.8 -39.4 -38.8 -43.0 -42.2 -45.9 -36.3	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -26.7 -23.4 -28.8 -26.4 -25.8 -30.0 -29.2 -32.9 -23.3	Notes
Frequency (GHz) ow Channel ( 3.72 5.57 3.72 5.57 lid Channel ( 3.76 5.64 3.76 5.64 3.76 5.64 igh Channel	SG reading (dBm) 1857.5MHz) -4.4 -1.8 -6.5 -4.8 1880MHz) -3.5 -8.4 -6.9 -11.3 1902.5MHz)	Ant. Pol. (H/V) H H V V V H H V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Breamp           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-39.7 -36.4 -41.8 -39.4 -38.8 -43.0 -42.2 -45.9	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -26.7 -23.4 -28.8 -26.4 -25.8 -30.0 -29.2 -32.9	Notes

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

				ted Emissions Substitution I					
ompany:		Apple							
roject #:		14U17673							
ate:		06/04/14							
est Engineer	r:	T. Chu							
onfiguration		EUT only							
ode:		LTE Band 2, 1	5MHz 16QAM						
est Equipme	nt:								
		ubstitution, a	and 8ft SMA Ca	ble					
	Chamber		Pre-a	mplifer	Filte	ar		Li	mit
			3m Chan				4		
3m Ch	amber F	•	3m Chan	nderr 🚽			r I	Part 24	•
requency S	Creading	Ant Pol	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	(H/V)	Distance	Treamp	Altentiator	LIN	LIIIII	Dena	Notes
		1							
	857.5MHz)						•		
w Channel (1 3.72	857.5MHz) -5.2	Н	3.0	36.3	1.0	-40.5	-13.0	-27.5	
w Channel (1 3.72 5.57	-5.2 -2.2	Н	3.0	35.6	1.0	-36.8	-13.0	-23.8	
w Channel (1 3.72 5.57 3.72	-5.2 -2.2 -6.9	H V	3.0 3.0	35.6 36.3	1.0 1.0	-36.8 -42.2	-13.0 -13.0	-23.8 -29.2	
w Channel (1 3.72 5.57	-5.2 -2.2	Н	3.0	35.6	1.0	-36.8	-13.0	-23.8	
w Channel (1 3.72 5.57 3.72 5.57 5.57	-5.2 -2.2 -6.9 -5.1	H V	3.0 3.0	35.6 36.3	1.0 1.0	-36.8 -42.2	-13.0 -13.0	-23.8 -29.2	
w Channel (1 3.72 5.57 3.72	-5.2 -2.2 -6.9 -5.1	H V	3.0 3.0	35.6 36.3	1.0 1.0	-36.8 -42.2	-13.0 -13.0	-23.8 -29.2	
w Channel (1 3.72 5.57 3.72 5.57 id Channel (1	-5.2 -2.2 -6.9 -5.1 880MHz)	H V V	3.0 3.0 3.0	35.6 36.3 35.6	1.0 1.0 1.0	-36.8 -42.2 -39.6	-13.0 -13.0 -13.0	-23.8 -29.2 -26.6	
w Channel (1 3.72 5.57 3.72 5.57 id Channel (1 3.76	-5.2 -2.2 -6.9 -5.1 880MHz) -4.2	H V V H H	3.0 3.0 3.0 3.0	35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0	-36.8 -42.2 -39.6 -39.4	-13.0 -13.0 -13.0 -13.0	-23.8 -29.2 -26.6 -26.4 -30.5 -29.0	
w Channel (1 3.72 5.57 3.72 5.57 id Channel (10 3.76 5.64	-5.2 -2.2 -6.9 -5.1 880MHz) -4.2 -8.9	H V V H H	3.0 3.0 3.0 3.0 3.0 3.0	35.6 36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0	-36.8 -42.2 -39.6 -39.4 -39.4 -43.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-23.8 -29.2 -26.6 -26.4 -30.5	
w Channel (1 3.72 5.57 3.72 5.57 id Channel (1 3.76 5.64 3.76 5.64	-5.2 -2.2 -6.9 -5.1 880MHz) -4.2 -8.9 -6.7 -11.1	H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.6 36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0 1.0	-36.8 -42.2 -39.6 -39.4 -43.5 -42.0	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-23.8 -29.2 -26.6 -26.4 -30.5 -29.0	
w Channel (1 3.72 5.57 3.72 5.57 id Channel (1 3.76 5.64 3.76	-5.2 -2.2 -6.9 -5.1 880MHz) -4.2 -8.9 -6.7 -11.1	H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.6 36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0 1.0	-36.8 -42.2 -39.6 -39.4 -43.5 -42.0	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-23.8 -29.2 -26.6 -26.4 -30.5 -29.0	
w Channel (1 3.72 5.57 3.72 5.57 id Channel (1 3.76 5.64 3.76 5.64 gh Channel (1	-5.2 -2.2 -6.9 -5.1 380MHz) -4.2 -8.9 -6.7 -11.1 1902.5MHz)	H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.6 36.3 35.6 36.3 35.6 36.3 35.6 35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-36.8 -42.2 -39.6 -39.4 -43.5 -42.0 -45.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-23.8 -29.2 -26.6 -26.4 -30.5 -29.0 -32.7 -22.6 -24.6	
w Channel (1 3.72 5.57 3.72 5.57 id Channel (1 3.76 5.64 3.76 5.64 gh Channel (1 3.81	-5.2 -2.2 -6.9 -5.1 380MHz) -4.2 -8.9 -6.7 -11.1 1902.5MHz) -0.3	H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.6 36.3 35.6 36.3 35.6 36.3 35.6 35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-36.8 42.2 -39.6 -39.4 -43.5 42.0 45.7 -35.6	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-23.8 -29.2 -26.6 -26.4 -30.5 -29.0 -32.7 -22.6	

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

				ated Emissions z Substitution N					
Company:		Apple							
Project #:		14U17673							
Date:		06/04/14							
Test Enginee		T. Chu							
Configuratior		EUT only							
Mode:		LTE Band 2, 2	0MHz QPSK						
upstitution:	Horn T59 Si Chamber		and 8ft SMA C Pre-a	able amplifer	Filte	er		Lin	nit
3m Cl	namber F	-	3m Cha	mber F 🚽				Part 24	•
I			1		1				
			Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)		Distance	Preamp	Attenuator	-38.5	Limit	Delta	Notes
ow Channel ( 3.72 5.58	(dBm) 1860MHz)	(H/V)						-25.5 -23.2	Notes
(GHz) ow Channel ( 3.72 5.58 3.72	(dBm) 1860MHz) -3.2 -1.6 -6.5	(H/V) H H V	3.0 3.0 3.0	36.3 35.6 36.3	1.0 1.0 1.0	-38.5 -36.2 -41.8	-13.0 -13.0 -13.0	-25.5 -23.2 -28.8	Notes
(GHz) ow Channel ( 3.72 5.58	(dBm) 1860MHz) -3.2 -1.6	(H/V) н н	3.0 3.0	36.3 35.6	1.0 1.0	-38.5 -36.2	-13.0 -13.0	-25.5 -23.2	Notes
(GHz) -ow Channel ( 3.72 5.58 3.72 5.58 3.72 5.58	(dBm) 1860MHz) -3.2 -1.6 -6.5 -3.7	(H/V) H H V	3.0 3.0 3.0	36.3 35.6 36.3	1.0 1.0 1.0	-38.5 -36.2 -41.8	-13.0 -13.0 -13.0	-25.5 -23.2 -28.8	Notes
(GHz) ow Channel ( 3.72 5.58 3.72 5.58 Vid Channel (1	(dBm) 1860MHz) -3.2 -1.6 -6.5 -3.7 880MHz)	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0	-38.5 -36.2 -41.8 -38.2	-13.0 -13.0 -13.0 -13.0	-25.5 -23.2 -28.8 -25.2	Notes
(GHz) -ow Channel ( 3.72 5.58 3.72 5.58 3.72 5.58	(dBm) 1860MHz) -3.2 -1.6 -6.5 -3.7	(H/V) H H V	3.0 3.0 3.0	36.3 35.6 36.3	1.0 1.0 1.0	-38.5 -36.2 -41.8	-13.0 -13.0 -13.0	-25.5 -23.2 -28.8	Notes
(GHz) ow Channel ( 3.72 5.58 3.72 5.58 1id Channel (1 3.76	(dBm) 1860MHz) -3.2 -1.6 -6.5 -3.7 880MHz) -0.9	(H/V) H V V	3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0	-38.5 -36.2 -41.8 -38.2 -36.2	-13.0 -13.0 -13.0 -13.0 -13.0	-25.5 -23.2 -28.8 -25.2 -23.2	Notes
(GHz) ow Channel ( 3.72 5.58 3.72 5.58 Mid Channel (1 3.76 5.64	(dBm) 1860MHz) -3.2 -1.6 -6.5 -3.7 880MHz) -0.9 -1.1	(H/V) H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0 1.0 1.0	-38.5 -36.2 -41.8 -38.2 -36.2 -36.2 -35.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	25.5 23.2 28.8 25.2 23.2 22.7	Notes
(GHz) ow Channel ( 3.72 5.58 3.72 5.58 Mid Channel ( 3.76 5.64 3.76 5.64	(dBm) 1860MHz) -3.2 -1.6 -6.5 -3.7 880MHz) -0.9 -1.1 -2.5 -5.0	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-38.5 -36.2 -41.8 -38.2 -36.2 -36.2 -35.7 -37.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.5 -23.2 -28.8 -25.2 -23.2 -23.2 -23.2 -23.2 -24.8	Notes
(GHz) .ow Channel ( 3.72 5.58 3.72 5.58 Aid Channel ( 3.76 5.64 3.76 5.64 3.76 5.64	(dBm) 1860MHz) -3.2 -1.6 -6.5 -3.7 880MHz) -0.9 -1.1 -2.5 -5.0 1900MHz)	(H/V) H H V V V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6 35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-38.5 -36.2 -41.8 -38.2 -36.2 -35.7 -37.8 -39.6	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.5 -23.2 -28.8 -25.2 -23.2 -23.2 -22.7 -24.8 -26.6	Notes
(GHz) ow Channel ( 3.72 5.58 3.72 5.58 1id Channel (1 3.76 5.64 3.76 5.64 1igh Channel 3.80	(dBm) 1860MHz) 3.2 1.6 6.5 3.7 880MHz) 0.9 1.1 2.5 5.0 1900MHz) 4.5	(H/V) H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-38.5 -36.2 -41.8 -38.2 -36.2 -35.7 -37.8 -39.6 -39.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.5 -23.2 -28.8 -25.2 -23.2 -23.2 -23.2 -23.2 -24.8 -26.6 -26.7	Notes
(GHz) ow Channel ( 3.72 5.58 3.72 5.58 lid Channel (1 3.76 5.64 3.76 5.64 3.76 5.64	(dBm) 1860MHz) -3.2 -1.6 -6.5 -3.7 880MHz) -0.9 -1.1 -2.5 -5.0 1900MHz)	(H/V) H H V V V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6 35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-38.5 -36.2 -41.8 -38.2 -36.2 -35.7 -37.8 -39.6	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.5 -23.2 -28.8 -25.2 -23.2 -23.2 -22.7 -24.8 -26.6	Notes

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

				ted Emissions Substitution					
ompany:		Apple							
roject #:		14U17673							
ate:		06/04/14							
est Enginee		T. Chu							
onfiguration		EUTonly							
ode:		LTE Band 2. 2	0MHz 16QAM						
est Equipme ubstitution:		ubstitution, a	and 8ft SMA Ca	ble					
				1			1		1
	Chamber		Pre-a	mplifer	Filte	er		Lir	mit
3m Cl	hamber F	•	3m Chan	nberF 🚽		•	·	Part 24	-
requency	SG reading	Ant. Pol.	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	(H/V)							
w Channel /	1860MHz)								
w channel (	-3.0	Н	3.0	36.3	1.0	-38.3	-13.0	-25.3	
3.72			3.0	35.6	1.0	-36.0	-13.0	-23.0	
3.72 5.58	-1.4	Н							
3.72 5.58 3.72	-1.4 -6.2	V	3.0	36.3	1.0	-41.5	-13.0	-28.5	
3.72 5.58	-1.4			36.3 35.6	1.0 1.0	-41.5 -38.2	-13.0 -13.0	-20.5	
3.72 5.58 3.72 5.58	-1.4 -6.2 -3.7	V	3.0						
3.72 5.58 3.72	-1.4 -6.2 -3.7	V V	3.0						
3.72 5.58 3.72 5.58 id Channel (1	-1.4 -6.2 -3.7 880MHz)	V	3.0 3.0	35.6	1.0	-38.2	-13.0	-25.2	
3.72 5.58 3.72 5.58 id Channel (1 3.76	-1.4 -6.2 -3.7 880MHz) 0.4	V V H	3.0 3.0 3.0	35.6 36.3	1.0	-38.2 -34.9	-13.0 -13.0	-25.2 -21.9	
3.72 5.58 3.72 5.58 id Channel (1 3.76 5.64	-1.4 -6.2 -3.7 880MHz) 0.4 -0.8	V V H H	3.0 3.0 3.0 3.0 3.0	35.6 36.3 35.6	1.0 1.0 1.0	-38.2 -34.9 -35.4	-13.0 -13.0 -13.0	-25.2 -21.9 -22.4	
3.72 5.58 3.72 5.58 id Channel (1 3.76 5.64 3.76 5.64	-1.4 -6.2 -3.7 1880MHz) 0.4 -0.8 -2.3 -4.6	V V H H V	3.0 3.0 3.0 3.0 3.0 3.0	35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0	-38.2 -34.9 -35.4 -37.6	-13.0 -13.0 -13.0 -13.0	-25.2 -21.9 -22.4 -24.6	
3.72 5.58 3.72 5.58 id Channel (1 3.76 5.64 3.76 5.64 gh Channel	.1.4 .6.2 .3.7 1880MHz) 0.4 .0.8 .2.3 .4.6 (1900MHz)	V V H H V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.6 36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0 1.0	-38.2 -34.9 -35.4 -37.6 -39.2	-13.0 -13.0 -13.0 -13.0 -13.0	-25.2 -21.9 -22.4 -24.6 -26.2	
3.72 5.58 3.72 5.58 id Channel (1 3.76 5.64 3.76 5.64 gh Channel 3.80	.1.4 .6.2 .3.7 880MHz) 0.4 .0.8 .2.3 .4.6 (1900MHz) .3.9	V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.6 36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0	-38.2 -34.9 -35.4 -37.6 -39.2 -39.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.2 -21.9 -22.4 -24.6 -26.2 -26.1	
3.72 5.58 3.72 5.58 id Channel (1 3.76 5.64 3.76 5.64 gh Channel 3.80 5.70	.1.4 .6.2 .3.7 .0.4 .0.8 .2.3 .4.6 .1900MHz) .3.9 .2.2	U V H H V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.6 36.3 35.6 36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-38.2 -34.9 -35.4 -37.6 -39.2 -39.1 -36.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.2 -21.9 -22.4 -24.6 -26.2 -26.1 -23.8	
3.72 5.58 3.72 5.58 d Channel (1 3.76 5.64 3.76 5.64 gh Channel 3.80	.1.4 .6.2 .3.7 880MHz) 0.4 .0.8 .2.3 .4.6 (1900MHz) .3.9	V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.6 36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0	-38.2 -34.9 -35.4 -37.6 -39.2 -39.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.2 -21.9 -22.4 -24.6 -26.2 -26.1	

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

				ted Emissions Substitution I					
Company:		Apple							
Project #:		14U17673							
Date:		06/10/14							
Test Engine	er:	Macie							
Configuratio	on:	EUT Only							
Node:		LTE Band 2, 1	.4MHz QPSK						
ubstitution	: Horn T59 S Chamber		and 8ft SMA Ca Pre-a	able mplifer	Filte	er	1	Lir	nit
3m C	Chamber F	-	3m Chan	nber F 🖵	2.5G HP Fi	lter ,	•	Part 24	•
Frequency	SG reading	Ant. Pol.	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	(H/V)		-					
	(1850.7MHz)								
.ow Channel			3.0	36.3	1.0	-50.1	-13.0	-37.1	
3.701	-14.8	H							
3.701 5.083	-14.4	Н	3.0	35.6	1.0	-48.9	-13.0	-35.9	
3.701 5.083 3.701	-14.4 -14.9	H V	3.0 3.0	36.3	1.0	-50.2	-13.0	-37.2	
3.701 5.083	-14.4	Н	3.0						
3.701 5.083 3.701	-14.4 -14.9 -14.1	H V	3.0 3.0	36.3	1.0	-50.2	-13.0	-37.2	
3.701 5.083 3.701 5.083 Mid Channel 3.760	-14.4 -14.9 -14.1	H V V	3.0 3.0 3.0 3.0	36.3 35.6 36.3	1.0 1.0 1.0	-50.2 -48.7 -50.8	-13.0 -13.0 -13.0	-37.2 -35.7 -37.8	
3.701 5.083 3.701 5.083 Mid Channel 3.760 5.053	-14.4 -14.9 -14.1 (1880MHz) -15.6 -14.6	H V V H H	3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0	-50.2 -48.7 -50.8 -49.2	-13.0 -13.0 -13.0 -13.0 -13.0	-37.2 -35.7 -37.8 -36.2	
3.701 5.083 3.701 5.083 Mid Channel 3.760 5.053 3.760	-14.4 -14.9 -14.1 (1880MHz) -15.6 -14.6 -14.7	H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0	-50.2 -48.7 -50.8 -49.2 -50.0	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.2 -35.7 -37.8 -36.2 -37.0	
3.701 5.083 3.701 5.083 Mid Channel 3.760 5.053	-14.4 -14.9 -14.1 (1880MHz) -15.6 -14.6	H V V H H	3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0	-50.2 -48.7 -50.8 -49.2	-13.0 -13.0 -13.0 -13.0 -13.0	-37.2 -35.7 -37.8 -36.2	
3.701 5.083 3.701 5.083 Mid Channel 3.760 5.053 3.760 5.053	-14.4 -14.9 -14.1 (1880MHz) -15.6 -14.6 -14.7 -14.7 -14.1	H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0	-50.2 -48.7 -50.8 -49.2 -50.0	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.2 -35.7 -37.8 -36.2 -37.0	
3.701 5.083 3.701 5.083 Aid Channel 3.760 5.053 3.760 5.053	-14.4 -14.9 -14.1 (1880MHz) -15.6 -14.6 -14.7	H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0	-50.2 -48.7 -50.8 -49.2 -50.0	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.2 -35.7 -37.8 -36.2 -37.0	
3.701 5.083 3.701 5.083 Mid Channel 3.760 5.053 3.760 5.053 4igh Channel	.14.4 .14.9 .14.1 (1880MHz) .15.6 .14.6 .14.7 .14.1 (1909.3MHz)	H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 35.6	1.0 1.0 1.0 1.0 1.0 1.0	-50.2 -48.7 -50.8 -49.2 -50.0 -48.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	37.2 35.7 37.8 36.2 37.0 35.7	
3.701 5.083 3.701 5.083 Mid Channel 3.760 5.053 3.760 5.053 4.054 4.054 4.054 4.054 4.054 4.054 4.054 4.054 4.054 4.054 4.054 4.055 4.0546 4.0546 5.0546 5.0546 5	14.4 -14.9 -14.1 (1880MHz) -15.6 -14.6 -14.7 -14.7 -14.1 (1909.3MHz) -14.2	H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.2 -48.7 -50.8 -49.2 -50.0 -48.7 -49.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	37.2 -35.7 -37.8 -36.2 -37.0 -35.7 	

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

				ted Emissions Substitution N					
Company:		Apple							
Project #:		14U17673							
Date: Fact Environ		06/10/14							
Fest Enginee Configuration		Macie EUT Only							
Johnguration Aode:		LTE Band 2. 1	4MHz 160AM						
2	<b>Chamber</b> hamber F		Pre-a 3m Chai	amplifer	Filte 2.5G HP Fi		ļ	Lir Part 24	
3m Cl	namper F	•	Sin Cha	mber F 🚽	2.00 HP FI	lter	<u>_</u>	Part 24	•
Frequency	-		Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	(H/V)							
· · ·	4050 78411-1								
ow Channel (		Н	30	26.2	10	19.9	13.0	36.9	
· · ·	1850.7MHz) -14.6 -13.7	H	3.0 3.0	36.3 35.6	1.0 1.0	-49.9 -48.3	-13.0 -13.0	-36.9 -35.3	
ow Channel ( 3.701	-14.6								
ow Channel ( 3.701 5.083	-14.6 -13.7	Н	3.0	35.6	1.0	-48.3	-13.0	-35.3	
ow Channel ( 3.701 5.083 3.701 5.083	-14.6 -13.7 -14.6 -14.2	H V	3.0 3.0	35.6 36.3	1.0 1.0	-48.3 -49.9	-13.0 -13.0	-35.3 -36.9	
ow Channel ( 3.701 5.083 3.701 5.083 Aid Channel (1	-14.6 -13.7 -14.6 -14.2 880MHz)	H V V	3.0 3.0 3.0	35.6 36.3 35.6	1.0 1.0 1.0	-48.3 -49.9 -48.8	-13.0 -13.0 -13.0	-35.3 -36.9 -35.8	
ow Channel ( 3.701 5.083 3.701 5.083	-14.6 -13.7 -14.6 -14.2	H V	3.0 3.0	35.6 36.3	1.0 1.0	-48.3 -49.9	-13.0 -13.0	-35.3 -36.9	
ow Channel ( 3.701 5.083 3.701 5.083 Alid Channel (1 3.760 5.053 3.760	-14.6 -13.7 -14.6 -14.2 880MHz) -14.0 -14.0 -14.5	H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.6 36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0 1.0	48.3 49.9 48.8 49.3 48.6 49.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.3 -36.9 -35.8 -36.3 -35.6 -36.8	
ow Channel ( 3.701 5.083 3.701 5.083 Aid Channel (1 3.760 5.053	-14.6 -13.7 -14.6 -14.2 1880MHz) -14.0 -14.0	H V V H H	3.0 3.0 3.0 3.0 3.0 3.0	35.6 36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0	48.3 49.9 48.8 49.3 49.3 48.6	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.3 -36.9 -35.8 -36.3 -35.6	
ow Channel ( 3.701 5.083 3.701 5.083 Alid Channel ( 3.760 5.053 3.760 5.053	-14.6 -13.7 -14.6 -14.2 1880MHz) -14.0 -14.0 -14.5 -14.4	H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.6 36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0 1.0	48.3 49.9 48.8 49.3 48.6 49.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.3 -36.9 -35.8 -36.3 -35.6 -36.8	
ow Channel ( 3.701 5.083 3.701 5.083 lid Channel ( 3.760 5.053 3.760 5.053 ligh Channel	-14.6 -13.7 -14.6 -14.2 -14.0 -14.0 -14.0 -14.5 -14.4 1909.3MHz)	H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.6 36.3 35.6 36.3 35.6 36.3 35.6 35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	48.3 49.9 48.8 49.3 48.6 49.8 49.0	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	35.3 36.9 35.8 36.3 35.6 36.8 36.0	
ow Channel ( 3.701 5.083 3.701 5.083 1id Channel ( 3.760 5.053 3.760 5.053 1.760 5.053 1.760 5.053	-14.6 -13.7 -14.6 -14.2 1880MHz) -14.0 -14.0 -14.5 -14.4 (1909.3MHz) -14.5	H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.6 36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	_48.3 _49.9 _48.8 _49.3 _48.6 _49.8 _49.0 _49.8 _49.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	35.3 36.9 35.8 36.3 35.6 36.8 36.0 36.8 36.8	
ow Channel ( 3.701 5.083 3.701 5.083 lid Channel ( 3.760 5.053 3.760 5.053 ligh Channel	-14.6 -13.7 -14.6 -14.2 -14.0 -14.0 -14.0 -14.5 -14.4 1909.3MHz)	H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.6 36.3 35.6 36.3 35.6 36.3 35.6 35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	48.3 49.9 48.8 49.3 48.6 49.8 49.0	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	35.3 36.9 35.8 36.3 35.6 36.8 36.0	

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

				ted Emissions Substitution N					
ompany:		Apple							
Project #:		14U17673							
Date:		06/10/14							
lest Enginee	er:	Macie							
Configuration		EUT Only							
Node:		LTE Band 2. 3	MHz QPSK						
Fest Equipme									
substitution:	Horn T59 St	ubstitution, a	and 8ft SMA C	able					
	<u>.</u>		Pre	mplifer	<b>E</b> 114.		1		
	Chamber		F16-a		Filte	er		Lin	nit
3m Cl	namber F	•	3m Chai	mber F 🚽	2.5G HP Fi	lter -	-	Part 24	•
I			1		1				
<b>F</b>	00 ma a dim ai	Aut Dal	Distance		Atten	5100	1 1	Datta	Natas
	-		Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz) Low Channel (	(dBm) 1851.5MHz)	(H/V)							Notes
(GHz) ow Channel ( 3.703	(dBm) 1851.5MHz) -14.3	(H/V) н	3.0	36.3	1.0	-49.6	-13.0	-36.6	Notes
Low Channel ( 3.703 5.083	(dBm) 1851.5MHz) -14.3 -13.8	(H/V)				-49.6 -48.3	-13.0 -13.0	-36.6 -35.3	Notes
(GHz) Low Channel ( 3.703	(dBm) 1851.5MHz) -14.3	(H/V) H H	3.0 3.0	36.3 35.6	1.0 1.0	-49.6	-13.0	-36.6	Notes
(GHz) Low Channel ( 3.703 5.083 3.703 5.083	(dBm) 1851.5MHz) -14.3 -13.8 -14.0 -13.7	(H/V) H H V	3.0 3.0 3.0	36.3 35.6 36.3	1.0 1.0 1.0	49.6 48.3 49.3	-13.0 -13.0 -13.0	-36.6 -35.3 -36.3	Notes
(GHz) ow Channel ( 3.703 5.083 3.703 5.083 Mid Channel (1	(dBm) 1851.5MHz) -14.3 -13.8 -14.0 -13.7 880MHz)	(H/V) H H V V	3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0	49.6 48.3 49.3 48.2	-13.0 -13.0 -13.0 -13.0		Notes
(GHz) Low Channel ( 3.703 5.083 3.703 5.083 Mid Channel (1 3.760	(dBm) 1851.5MHz) -14.3 -13.8 -14.0 -13.7 880MHz) -13.7	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0	49.6 48.3 49.3 48.2 49.0	-13.0 -13.0 -13.0 -13.0 -13.0	-36.6 -35.3 -36.3 -35.2 	Notes
(GHz) Low Channel ( 3.703 5.083 3.703 5.083 Mid Channel (1 3.760 5.028	(dBm) 1851.5MHz) -14.3 -13.8 -14.0 -13.7 880MHz) -13.7 -12.9	(H/V) H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0 1.0 1.0	49.6 48.3 49.3 48.2 49.0 47.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.6 -35.3 -36.3 -35.2 	Notes
(GHz) Low Channel ( 3.703 5.083 3.703 5.083 Mid Channel (1 3.760 5.028 3.760	(dBm) 1851.5MHz) .14.3 .13.8 .14.0 .13.7 .13.5	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.6 48.3 49.3 48.2 48.2 49.0 47.5 48.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.6 -35.3 -36.3 -35.2 	Notes
(GHz) Low Channel ( 3.703 5.083 3.703 5.083 Mid Channel (1 3.760 5.028	(dBm) 1851.5MHz) -14.3 -13.8 -14.0 -13.7 880MHz) -13.7 -12.9	(H/V) H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0 1.0 1.0	49.6 48.3 49.3 48.2 49.0 47.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.6 -35.3 -36.3 -35.2 	Notes
(GHz) Low Channel ( 3.703 5.083 3.703 5.083 Mid Channel (1 3.760 5.028 3.760	(dBm) 1851.5MHz) -14.3 -13.8 -14.0 -13.7 -13.7 -13.7 -12.9 -13.5 -13.3	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.6 48.3 49.3 48.2 48.2 49.0 47.5 48.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.6 -35.3 -36.3 -35.2 	Notes
(GHz) ow Channel ( 3.703 5.083 3.703 5.083 Vid Channel ( 3.760 5.028 3.760 5.028	(dBm) 1851.5MHz) -14.3 -13.8 -14.0 -13.7 -13.7 -13.7 -12.9 -13.5 -13.3	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.6 48.3 49.3 48.2 48.2 49.0 47.5 48.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.6 -35.3 -36.3 -35.2 	Notes
(GHz) ow Channel ( 3.703 5.083 3.703 5.083 Mid Channel ( 3.760 5.028 3.760 5.028 3.760 5.028 4.00 5.028 1.00 5.028 3.760 5.028 3.760 5.028	(dBm) 1851.5MHz) -14.3 -13.8 -14.0 -13.7 -13.7 -12.9 -13.5 -13.3 1908.5MHz) -14.0 -12.6	(H/V) H V V H H V V V H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.6 48.3 49.3 48.2 49.0 47.5 48.8 47.9 49.3 47.2	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	36.6 35.3 36.3 35.2 36.0 34.5 35.8 34.9 36.3 34.2	Notes
(GHz) ow Channel ( 3.703 5.083 3.703 5.083 Mid Channel (1 3.760 5.028 3.760 5.028 4.760 5.028 1.760 5.028 1.760 5.028	(dBm) 1851.5MHz) -14.3 -13.8 -14.0 -13.7 -13.7 -13.7 -13.7 -13.5 -13.3 1908.5MHz) -14.0	(H/V) H V V H H V V H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.6 48.3 49.3 48.2 49.0 47.5 48.8 47.9 49.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.6 -35.3 -36.3 -35.2 	Notes

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

				ted Emissions Substitution N					
ompany:		Apple							
roject #:		14U17673							
ate:		06/10/14							
est Engine		Macie							
onfiguratio		EUT Only							
lode:		LTE Band 2, 3	MHz 16QAM						
	Chamber			mplifer	Filte	er	ļ	Lir	mit
3m C	hamber F	-	3m Char	nber F 🚽	2.5G HP Fi	lter _	·	Part 24	-
	SG reading		Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz) ow Channel	(dBm) (1851.5MHz)	(H/V)		-					Notes
(GHz) ow Channel 3.703	(dBm) (1851.5MHz) -14.8	(H/V) Н	3.0	36.3	1.0	-50.1	-13.0	-37.1	Notes
(GHz) ow Channel 3.703 5.083	(dBm) (1851.5MHz) -14.8 -13.7	(H/V) H H	3.0 3.0	36.3 35.6	1.0 1.0	-50.1 -48.3	-13.0 -13.0	-37.1 -35.3	Notes
(GHz) ow Channel 3.703	(dBm) (1851.5MHz) -14.8	(H/V) Н	3.0	36.3	1.0	-50.1	-13.0	-37.1	Notes
(GHz) ow Channel 3.703 5.083 3.703 5.083	(dBm) (1851.5MHz) -14.8 -13.7 -14.6 -14.3	(H/V) H H V	3.0 3.0 3.0	36.3 35.6 36.3	1.0 1.0 1.0	-50.1 -48.3 -49.9	-13.0 -13.0 -13.0	-37.1 -35.3 -36.9	Notes
(GHz) ow Channel 3.703 5.083 3.703 5.083 id Channel (	(dBm) (1851.5MHz) -14.8 -13.7 -14.6 -14.3 1880MHz)	(H/V) H H V V	3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0	-50.1 -48.3 -49.9 -48.8	-13.0 -13.0 -13.0 -13.0	-37.1 -35.3 -36.9 -35.8	Notes
(GHz) ow Channel 3.703 5.083 3.703 5.083 id Channel ( 3.760	(dBm) (1851.5MHz) -14.8 -13.7 -14.6 -14.3 1880MHz) -14.8	(H/V) H V V H	3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0	-50.1 -48.3 -49.9 -48.8 -50.0	-13.0 -13.0 -13.0 -13.0 -13.0	-37.1 -35.3 -36.9 -35.8 -37.0	Notes
(GHz) ow Channel 3.703 5.083 3.703 5.083 id Channel ( 3.760 5.028	(dBm) (1851.5MHz) -14.8 -13.7 -14.6 -14.3 1880MHz) -14.8 -13.8	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0	-50.1 -48.3 -49.9 -48.8 -50.0 -48.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.1 -35.3 -36.9 -35.8 -37.0 -35.3	Notes
(GHz) ow Channel 3.703 5.083 3.703 5.083 id Channel ( 3.760	(dBm) (1851.5MHz) -14.8 -13.7 -14.6 -14.3 1880MHz) -14.8	(H/V) H V V H H	3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0 1.0 1.0	-50.1 -48.3 -49.9 -48.8 -50.0	-13.0 -13.0 -13.0 -13.0 -13.0	-37.1 -35.3 -36.9 -35.8 -37.0	Notes
(GHz) ow Channel 3.703 5.083 3.703 5.083 id Channel ( 3.760 5.028 3.760 5.028	(dBm) 1851.5MHz) .14.8 .13.7 .14.6 .14.3 1880MHz) .14.8 .13.8 .13.8 .14.5 .13.6	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.1 -48.3 -49.9 -48.8 -50.0 -48.3 -49.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.1 -35.3 -36.9 -35.8 	Notes
(GHz) w Channel 3.703 5.083 3.703 5.083 id Channel ( 3.760 5.028 3.760 5.028 3.760 5.028 igh Channel	(dBm) 1851.5MHz) -14.8 -13.7 -14.6 -14.3 1880MHz) -14.8 -13.8 -13.8 -14.5 -13.6 (1908.5MHz)	(H/V) H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6 35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.1 -48.3 -49.9 -48.8 -50.0 -48.3 -49.8 -48.2	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.1 -35.3 -36.9 -35.8 -37.0 -35.3 -36.8 -35.2	Notes
(GHz) ow Channel 3,703 5,083 3,703 5,083 id Channel ( 3,760 5,028 3,760 5,028 3,760 5,028 igh Channel 3,817	(dBm) (1851.5MHz) -14.8 -13.7 -14.6 -14.3 1880MHz) -14.8 -13.8 -14.5 -13.6 (1908.5MHz) -14.2	(H/V) H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.1 -48.3 -49.9 -48.8 -50.0 -48.3 -49.8 -48.2 -49.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.1 -35.3 -36.9 -35.8 	Notes
(GHz) ow Channel 3,703 5.083 3,703 5.083 id Channel ( 3,760 5.028 3,760 5.028 3,760 5.028	(dBm) 1851.5MHz) -14.8 -13.7 -14.6 -14.3 1880MHz) -14.8 -13.8 -13.8 -14.5 -13.6 (1908.5MHz)	(H/V) H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6 35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.1 -48.3 -49.9 -48.8 -50.0 -48.3 -49.8 -48.2	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.1 -35.3 -36.9 -35.8 -37.0 -35.3 -36.8 -35.2	Notes
(GHz) w Channel 3.703 5.083 3.703 5.083 d Channel ( 3.760 5.028 3.760 5.028 gh Channel 3.817	(dBm) (1851.5MHz) -14.8 -13.7 -14.6 -14.3 1880MHz) -14.8 -13.8 -14.5 -13.6 (1908.5MHz) -14.2	(H/V) H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.1 -48.3 -49.9 -48.8 -50.0 -48.3 -49.8 -48.2 -49.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.1 -35.3 -36.9 -35.8 	Note

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

				ted Emissions Substitution N					
Company:		Apple							
Project #:		арріе 14U17673							
Date:		06/10/14							
Test Engine		Macie							
Configuratio		EUT Only							
Mode:		LTE Band 2. 5							
noue.		ETE Dana 2, 3	Minz Grone						
	Chamber		Pre-a	mplifer	Filte	er		Lii	mit
3m C	hamber F		3m Chan	nher F	2.5G HP Fi	lter ,	1	Part 24	
Sinc	namberr	•	1						<u> </u>
	SG reading		Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
					I		Limit	Delta	Notes
Frequency	SG reading (dBm)	Ant. Pol.			I		Limit	Delta	Notes
Frequency (GHz) ow Channel 3.703	SG reading (dBm) (1851.5MHz) -14.3	Ant. Pol. (H/V)	Distance	Preamp 36.3	Attenuator	EIRP	-13.0	-36.6	Notes
Frequency (GHz) ow Channel 3.703 5.083	SG reading (dBm) (1851.5MHz) -14.3 -13.9	Ant. Pol. (H/V) H	Distance 3.0 3.0	Preamp 36.3 35.6	Attenuator	EIRP -49.6 -48.5	-13.0 -13.0	-36.6 -35.5	Notes
Frequency (GHz) ow Channel 3.703 5.083 3.703	SG reading (dBm) (1851.5MHz) -14.3 -13.9 -14.4	Ant. Pol. (H/V) H H V	Distance 3.0 3.0 3.0	Preamp 36.3 35.6 36.3	Attenuator 1.0 1.0 1.0	49.6 48.5 49.7	-13.0 -13.0 -13.0	-36.6 -35.5 -36.7	Notes
Frequency (GHz) ow Channel 3.703 5.083	SG reading (dBm) (1851.5MHz) -14.3 -13.9	Ant. Pol. (H/V) H	Distance 3.0 3.0	Preamp 36.3 35.6	Attenuator	EIRP -49.6 -48.5	-13.0 -13.0	-36.6 -35.5	Notes
Frequency (GHz) ow Channel 3.703 5.083 3.703 5.083	SG reading (dBm) (1851.5MHz) -14.3 -13.9 -14.4 -13.9	Ant. Pol. (H/V) H H V	Distance 3.0 3.0 3.0	Preamp 36.3 35.6 36.3	Attenuator 1.0 1.0 1.0	49.6 48.5 49.7	-13.0 -13.0 -13.0	-36.6 -35.5 -36.7	Notes
Frequency (GHz) ow Channel 3.703 5.083 3.703	SG reading (dBm) (1851.5MHz) -14.3 -13.9 -14.4 -13.9	Ant. Pol. (H/V) H H V	Distance 3.0 3.0 3.0	Preamp 36.3 35.6 36.3	Attenuator 1.0 1.0 1.0	49.6 48.5 49.7	-13.0 -13.0 -13.0	-36.6 -35.5 -36.7	Notes
Frequency (GHz) ow Channel 3.703 5.083 3.703 5.083 Vid Channel (	SG reading (dBm) (1851.5MHz) -14.3 -13.9 -14.4 -13.9 1880MHz)	Ant. Pol. (H/V) H H V V V	Distance	<b>Preamp</b> 36.3 35.6 36.3 35.6 35.6	Attenuator 1.0 1.0 1.0 1.0	49.6 48.5 49.7 48.4	-13.0 -13.0 -13.0 -13.0	-36.6 -35.5 -36.7 -35.4	Notes
Frequency (GHz) ow Channel 3.703 5.083 3.703 5.083 Viid Channel ( 3.760	SG reading (dBm) (1851.5MHz) -14.3 -13.9 -14.4 -13.9 -14.4 -13.9 -14.4 -13.5 -14.1	Ant. Pol. (H/V) H H V V H H H V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Preamp           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0	49.6 48.5 49.7 48.4 49.2	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.6 -35.5 -36.7 -35.4 -36.2 -35.1 -36.4	Notes
Frequency (GHz) ow Channel 3.703 5.083 3.703 5.083 Mid Channel ( 3.760 5.028	SG reading (dBm) (1851.5MHz) -14.3 -13.9 -14.4 -13.9 1880MHz) -14.0 -13.5	Ant. Pol. (H/V) H H V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.6 48.5 49.7 48.4 49.2 48.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.6 -35.5 -36.7 -35.4 -36.2 -35.1	Notes
Frequency (GHz) ow Channel 3.703 5.083 3.703 5.083 3.703 5.083 4.10 5.028 3.760 5.028 3.760 5.028	SG reading (dBm) (1851.5MHz) -14.3 -13.9 -14.4 -13.9 -14.4 -13.9 -14.0 -13.5 -14.1 -13.3	Ant. Pol. (H/V) H H V V H H H V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Preamp           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6	Attenuator	49.6 -48.5 -49.7 -48.4 -49.2 -48.1 -49.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.6 -35.5 -36.7 -35.4 -36.2 -35.1 -36.4	Notes
Frequency (GHz) ow Channel 3.703 5.083 3.703 5.083 41d Channel ( 3.760 5.028 3.760 5.028 41gh Channel	SG reading (dBm) (1851.5MHz) -14.3 -13.9 -14.4 -13.9 -14.4 -13.9 -14.0 -13.5 -14.1 -13.3 (1908.5MHz)	Ant. Pol. (H/V) H H V V V H H H V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Breamp           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.6 48.5 49.7 48.4 49.2 48.1 49.4 47.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.6 -35.5 -36.7 -35.4 -36.2 -35.1 -36.4 -34.8	Notes
Frequency (GHz) ow Channel 3.703 5.083 3.703 5.083 401 402 5.028 3.760 5.028 3.760 5.028 3.760 5.028 402 5.028 402 5.028	SG reading (dBm) (1851.5MHz) -14.3 -13.9 -14.4 -13.9 1880MHz) -14.0 -13.5 -14.1 -13.3 (1908.5MHz) -14.1	Ant. Pol. (H/V) H H V V V V V H H H H	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Breamp           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6	Attenuator  1.0  1.0  1.0  1.0  1.0  1.0  1.0  1.	49.6 48.5 49.7 48.4 49.7 48.4 49.2 48.1 49.4 47.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0		Notes
Frequency (GHz) ow Channel 3.703 5.083 3.703 5.083 41d Channel ( 3.760 5.028 3.760 5.028 41gh Channel	SG reading (dBm) (1851.5MHz) -14.3 -13.9 -14.4 -13.9 -14.4 -13.9 -14.0 -13.5 -14.1 -13.3 (1908.5MHz)	Ant. Pol. (H/V) H H V V V H H H V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Breamp           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.6 48.5 49.7 48.4 49.2 48.1 49.4 47.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.6 -35.5 -36.7 -35.4 -36.2 -35.1 -36.4 -34.8	Notes

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

				ted Emissions Substitution N					
Company:		Apple							
Project #:		14U17673							
Date:		06/10/14							
Test Enginee	r:	Macie							
Configuration	:	EUT Only							
Node:		LTE Band 2, 5	MHz 16QAM						
Test Equipme Substitution:		ıbstitution, a	and 8ft SMA C	able					
	Chamber		Pre-a	mplifer	Filte	er		Lir	nit
			3m Chamber F 🚽		Filter 2.5G HP Filter		1	Limit Part 24	
3m Ch	amber F	•	3m Char	nber F 🚽	2.5G HP FI	iter		Fart 24	<b>_</b>
3m Ch			3m Char Distance	nber F Preamp	Attenuator	EIRP	Limit	Delta	Notes
Frequency S (GHz)	G reading (dBm)		I		I	_	_		Notes
Frequency (GHz)	SG reading (dBm) <sup>(852.5MHz)</sup>	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Frequency (GHz) ow Channel (1 3.705	6G reading (dBm) <sup>(852.5MHz)</sup> -14.3	Ant. Pol. (H/V)	Distance	Preamp 36.3	Attenuator	EIRP -49.6	Limit	Delta -36.6	Notes
Frequency S (GHz) ow Channel (1 3.705 5.083	6G reading (dBm) 1852.5MHz) -14.3 -14.4	Ant. Pol. (H/V) H	Distance 3.0 3.0	Preamp 36.3 35.6	Attenuator	EIRP 	Limit -13.0 -13.0	Delta -36.6 -35.9	Notes
Frequency (GHz) .ow Channel ( 3.705 5.083 3.705	SG reading (dBm) 1852.5MHz) -14.3 -14.4 -14.1	Ant. Pol. (H/V) H H V	Distance 3.0 3.0 3.0	Preamp 36.3 35.6 36.3	Attenuator 1.0 1.0 1.0	49.6 48.9 49.4	Limit -13.0 -13.0 -13.0	Delta -36.6 -35.9 -36.4	Notes
Frequency S (GHz) ow Channel (1 3.705 5.083	6G reading (dBm) 1852.5MHz) -14.3 -14.4	Ant. Pol. (H/V) H	Distance 3.0 3.0	Preamp 36.3 35.6	Attenuator	EIRP 	Limit -13.0 -13.0	Delta -36.6 -35.9	Notes
Frequency S (GHz) ow Channel ( 3.705 5.083 3.705 5.083	GG reading (dBm) (852.5MHz) -14.3 -14.4 -14.1 -14.3	Ant. Pol. (H/V) H H V	Distance 3.0 3.0 3.0	Preamp 36.3 35.6 36.3	Attenuator 1.0 1.0 1.0	49.6 48.9 49.4	Limit -13.0 -13.0 -13.0	Delta -36.6 -35.9 -36.4	Notes
Frequency (GHz) .ow Channel ( 3.705 5.083 3.705	GG reading (dBm) (852.5MHz) -14.3 -14.4 -14.1 -14.3	Ant. Pol. (H/V) H H V	Distance 3.0 3.0 3.0	Preamp 36.3 35.6 36.3	Attenuator 1.0 1.0 1.0	49.6 48.9 49.4	Limit -13.0 -13.0 -13.0	Delta -36.6 -35.9 -36.4	Notes
Frequency S (GHz) ow Channel (1 3.705 5.083 3.705 5.083 Mid Channel (1	SG reading (dBm) 1852.5MHz) -14.3 -14.4 -14.1 -14.3 880MHz)	Ant. Pol. (H/V) H H V V	Distance	26.3 35.6 36.3 35.6 35.6	Attenuator 1.0	49.6 -48.9 -49.4 -48.9	Limit -13.0 -13.0 -13.0 -13.0	Delta -36.6 -35.9 -36.4 -35.9	Notes
Frequency S (GHz) .ow Channel (1 3.705 5.083 3.705 5.083 Mid Channel (1 3.760 5.774 3.760	SG reading (dBm) 1852:5MHz) -14.3 -14.4 -14.1 -14.3 880MHz) -14.0	Ant. Pol. (H/V) H H V V H H H V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Preamp 36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.6 48.9 49.4 48.9 49.3 47.5 49.7	Limit -13.0 -13.0 -13.0 -13.0 -13.0	Delta -36.6 -35.9 -36.4 -35.9 -36.3 -34.5 -36.7	Notes
Frequency S (GHz) .ow Channel ( 3.705 5.083 3.705 5.083 Mid Channel (1 3.760 5.774	SG reading (dBm) 1852.5MHz) -14.3 -14.4 -14.1 -14.3 8800MHz) -14.0 -12.9	Ant. Pol. (H/V) H H V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.6 48.9 49.4 48.9 49.4 48.9	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -36.6 -35.9 -36.4 -35.9 -36.3 -34.5	Notes
Frequency (GHz) ow Channel (1 3.705 5.083 3.705 5.083 4id Channel (1 3.760 5.774 3.760 5.774	SG reading (dBm) 1852:5MHz) -14.3 -14.4 -14.1 -14.3 880MHz) -14.0 -12.9 -14.4 -13.1	Ant. Pol. (H/V) H H V V H H H V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Preamp 36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	49.6 48.9 49.4 48.9 49.3 47.5 49.7	Limit -13.0	Delta -36.6 -35.9 -36.4 -35.9 -36.3 -34.5 -36.7	Notes
Frequency S (GHz) .ow Channel (1 3.705 5.083 3.705 5.083 Aid Channel (1 3.760 5.774 3.760 5.774 3.760 5.774	SG reading (dBm) 1852.5MHz) -14.3 -14.4 -14.1 -14.3 8800Htz) -14.0 -12.9 -14.4 -13.1 1907.5MHz)	Ant. Pol. (H/V) H H V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Breamp           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6	Attenuator  1.0  1.0  1.0  1.0  1.0  1.0  1.0  1.	49.6 48.9 49.4 48.9 49.3 47.5 49.7 47.7	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -36.6 -35.9 -36.4 -35.9 -36.3 -34.5 -36.7 -34.7	Notes
Frequency S (GHz) .ow Channel ( 3.705 5.083 3.705 5.083 Jid Channel (1 3.760 5.774 3.760 5.774 3.760 5.774 Jigh Channel ( 3.815	SG reading (dBm) 1852.5MHz) -14.3 -14.4 -14.1 -14.3 8800MHz) -14.0 -12.9 -14.4 -13.1 1907.5MHz) -14.2	Ant. Pol. (H/V) H H V V V H H H	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Preamp           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6	Attenuator  1.0  1.0  1.0  1.0  1.0  1.0  1.0  1.	49.6 48.9 49.4 48.9 49.3 47.5 49.7 47.7 49.7 49.4	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -36.6 -35.9 -36.4 -35.9 -36.3 -34.5 -36.7 -34.7 -36.4	Notes
Frequency S (GHz) .ow Channel (1 3.705 5.083 3.705 5.083 Aid Channel (1 3.760 5.774 3.760 5.774 3.760 5.774	SG reading (dBm) 1852.5MHz) -14.3 -14.4 -14.1 -14.3 8800Htz) -14.0 -12.9 -14.4 -13.1 1907.5MHz)	Ant. Pol. (H/V) H H V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Breamp           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6	Attenuator  1.0  1.0  1.0  1.0  1.0  1.0  1.0  1.	49.6 48.9 49.4 48.9 49.3 47.5 49.7 47.7	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -36.6 -35.9 -36.4 -35.9 -36.3 -34.5 -36.7 -34.7	Notes

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

				ted Emissions Substitution N					
ompany: roject #: ate: est Enginee onfiguratior lode:	er: n:	Apple 14U17673 06/10/14 Macie EUT Only LTE Band 2, 1	0MHz QPSK						
est Equipme ubstitution:		ubstitution, a	and 8ft SMA C	able					
							1		
	Chamber		Pre-a	mplifer	Filte	er		Lir	nit
3m Cl	namber F	•	3m Char	nberF <mark>→</mark>	2.5G HP Fi	lter _	•	Part 24	•
	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHZ)	(	()							
(GHz)	1855MHz)								
• • •	1855MHz) -14.3	Н	3.0	36.3	1.0	-49.6	-13.0	-36.6	
ow Channel (		H	3.0 3.0	36.3 35.6	1.0 1.0	-49.6 -48.5	-13.0 -13.0	-36.6 -35.5	
ow Channel ( 3.710	-14.3								
ow Channel ( 3.710 4.969	-14.3 -13.9	Н	3.0	35.6	1.0	-48.5	-13.0	-35.5	
ow Channel ( 3.710 4.969 3.710 4.969	-14.3 -13.9 -14.0 -13.5	H V	3.0 3.0	35.6 36.3	1.0 1.0	-48.5 -49.3	-13.0 -13.0	-35.5 -36.3	
ow Channel ( 3.710 4.969 3.710 4.969 id Channel (1	-14.3 -13.9 -14.0 -13.5 880MHz)	H V V	3.0 3.0 3.0	35.6 36.3 35.6	1.0 1.0 1.0	-48.5 -49.3 -48.2	-13.0 -13.0 -13.0	-35.5 -36.3 -35.2	
w Channel ( 3.710 4.969 3.710 4.969 id Channel (1 3.760	-14.3 -13.9 -14.0 -13.5 880MHz) -13.6	H V V	3.0 3.0 3.0 3.0	35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0	48.5 49.3 48.2 -48.9	-13.0 -13.0 -13.0 -13.0	-35.5 -36.3 -35.2 -35.9	
w Channel ( 3.710 4.969 3.710 4.969 id Channel (1 3.760 5.058	-14.3 -13.9 -14.0 -13.5 880MHz) -13.6 -14.1	H V V H	3.0 3.0 3.0 3.0 3.0 3.0	35.6 36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0	48.5 49.3 48.2 48.9 48.9 48.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.5 -36.3 -35.2 -35.9 -35.7	
by Channel ( 3.710 4.969 3.710 4.969 id Channel (1 3.760 5.058 3.760	.14.3 .13.9 .14.0 .13.5 .13.5 .13.6 .14.1 .13.9	H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.6 36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0 1.0	48.5 49.3 48.2 48.9 48.9 48.7 49.2	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.5 -36.3 -35.2 	
w Channel ( 3.710 4.969 3.710 4.969 id Channel (1 3.760 5.058	-14.3 -13.9 -14.0 -13.5 880MHz) -13.6 -14.1	H V V H	3.0 3.0 3.0 3.0 3.0 3.0	35.6 36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0	48.5 49.3 48.2 48.9 48.9 48.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.5 -36.3 -35.2 -35.9 -35.7	
w Channel ( 3.710 4.969 3.710 4.969 d Channel (1 3.760 5.058 3.760 5.058	-14.3 -13.9 -14.0 -13.5 -1880MHz) -13.6 -14.1 -13.9 -14.1	H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.6 36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0 1.0	48.5 49.3 48.2 48.9 48.9 48.7 49.2	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.5 -36.3 -35.2 	
w Channel ( 3.710 4.969 3.710 4.969 d Channel (1 3.760 5.058 3.760 5.058	-14.3 -13.9 -14.0 -13.5 -1880MHz) -13.6 -14.1 -13.9 -14.1	H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.6 36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0 1.0	48.5 49.3 48.2 48.9 48.9 48.7 49.2	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.5 -36.3 -35.2 	
w Channel ( 3.710 4.969 3.710 4.969 id Channel (1 3.760 5.058 3.760 5.058 3.760 5.058	-14.3 -13.9 -14.0 -13.5 -13.6 -14.1 -13.9 -14.1 -13.9 -14.1 (1905MHz)	H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.6 36.3 35.6 36.3 35.6 36.3 35.6 35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	48.5 49.3 48.2 48.9 48.7 49.2 48.6	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	35.5 36.3 35.2 35.9 35.7 36.2 35.6	
ow Channel ( 3.710 4.969 3.710 4.969 id Channel (1 3.760 5.058 3.760 5.058 igh Channel 3.810	-14.3 -13.9 -14.0 -13.5 1880MHz) -13.6 -14.1 -13.9 -14.1 (1905MHz) -13.6	H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.6 36.3 35.6 36.3 35.6 36.3 35.6 35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	48.5 49.3 48.2 48.9 48.7 49.2 48.6 48.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	35.5 36.3 35.2 35.9 35.7 36.2 35.6 35.6 35.9	

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

				ted Emissions Substitution N					
ompany: roject #: ate: est Engineer: onfiguration: lode:	:	Apple 14U17673 06/10/14 Macie EUT Only LTE Band 2, 1	0MHz 16QAM						
est Equipmer		ubstitution a	and 8ft SMA C	able					
	10111 105 31	ibstitution, a					1		
(	Chamber		Pre-a	amplifer	Filte	er		Lir	nit
3m Ch	amber F	•	3m Char	mber F 🖵	2.5G HP Fi	lter -	-	Part 24	•
						_			
requency S		Ant. Pol.	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
requency S (GHz)	(dBm)		Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Frequency S (GHz) ow Channel (18	(dBm) 855MHz)	Ant. Pol. (H/V)			Attenuator				Notes
requency S (GHz) ow Channel (18 3.710	(dBm) 855MHz) -14.7	Ant. Pol. (H/V)	3.0	36.3	1.0	-50.0	-13.0	-37.0	Notes
requency S (GHz) ww Channel (18 3.710 4.969	(dBm) 355MHz) -14.7 -14.6	Ant. Pol. (H/V) H	3.0 3.0	36.3 35.6	1.0 1.0	-50.0 -49.2	-13.0 -13.0	-37.0 -36.2	Notes
requency S (GHz) ow Channel (18 3.710	(dBm) 855MHz) -14.7	Ant. Pol. (H/V)	3.0	36.3	1.0	-50.0	-13.0	-37.0	Notes
Frequency (GHz) ow Channel (15 3.710 4.969 3.710 4.969	(dBm) 855MHz) -14.7 -14.6 -14.3 -14.1	Ant. Pol. (H/V) H H V	3.0 3.0 3.0	36.3 35.6 36.3	1.0 1.0 1.0	-50.0 -49.2 -49.6	-13.0 -13.0 -13.0	-37.0 -36.2 -36.6	Notes
requency S( (GHz) ow Channel (18 3.710 4.969 3.710 4.969	(dBm) 855MHz) -14.7 -14.6 -14.3 -14.1 80MHz)	Ant. Pol. (H/V) H H V V V	3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0 1.0	-50.0 -49.2 -49.6 -48.7	-13.0 -13.0 -13.0 -13.0	-37.0 -36.2 -36.6 -35.7	Notes
requency S (GHz) ow Channel (18 3.710 4.969 3.710 4.969 id Channel (18 3.760	(dBm) 855MHz) -14.7 -14.6 -14.3 -14.1 80MHz) -14.0	Ant. Pol. (H/V) H H V V	3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0	-50.0 -49.2 -49.6 -48.7 -49.3	-13.0 -13.0 -13.0 -13.0 -13.0	-37.0 -36.2 -36.6 -35.7 	Notes
Frequency S (GHz) ow Channel (18 3.710 4.969 3.710 4.969 id Channel (18 3.760 5.058	(dBm) 355MHz) -14.7 -14.6 -14.3 -14.1 80MHz) -14.0 -13.9	Ant. Pol. (H/V) H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0 1.0 1.0	-50.0 -49.2 -49.6 -48.7 -49.3 -48.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0		Notes
requency S (GHz) ow Channel (18 3.710 4.969 3.710 4.969 id Channel (18 3.760	(dBm) 355MHz) -14.7 -14.6 -14.3 -14.1 80MHz) -14.0 -13.9 -14.0	Ant. Pol. (H/V) H H V V H H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.0 -49.2 -49.6 -48.7 -49.3 -49.3 -49.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.0 -36.2 -36.6 -35.7 	Notes
requency S (GHz) ow Channel (18 3.710 4.969 3.710 4.969 id Channel (18 3.760 5.058	(dBm) 355MHz) -14.7 -14.6 -14.3 -14.1 80MHz) -14.0 -13.9	Ant. Pol. (H/V) H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0 1.0 1.0	-50.0 -49.2 -49.6 -48.7 -49.3 -48.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0		Notes
requency S( (GHz) ow Channel (18 3.710 4.969 3.710 4.969 3.710 4.969 id Channel (18 3.760 5.058 3.760 5.058	(dBm) 355MHz) -14.7 -14.6 -14.3 -14.3 -14.1 80MHz) -14.0 -13.9 -14.0 -13.6	Ant. Pol. (H/V) H H V V H H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.0 -49.2 -49.6 -48.7 -49.3 -49.3 -49.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.0 -36.2 -36.6 -35.7 	Notes
requency S (GHz) wy Channel (18 3.710 4.969 3.710 4.969 id Channel (18 3.760 5.058 3.760 5.058 3.760 5.058 gh Channel (18	(dBm) 855MHz) -14.7 -14.6 -14.3 -14.1 80MHz) -14.0 -13.9 -14.0 -13.6 905MHz)	Ant. Pol. (H/V) H H V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.0 49.2 49.6 48.7 49.3 48.5 49.3 48.5 49.3 48.2	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.0 -36.2 -36.6 -35.7 -36.3 -35.5 -36.3 -35.5 -36.3 -35.2	Notes
requency (GHz) bw Channel (18 3.710 4.969 3.710 4.969 id Channel (18 3.760 5.058 3.760 5.058 3.760 5.058 3.760 5.058	(dBm) 855MHz) -14.7 -14.6 -14.3 -14.1 80MHz) -14.0 -13.9 -14.0 -13.6 905MHz) -14.1	Ant. Pol. (H/V) H H V V V V V H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.0 49.2 49.6 48.7 49.3 48.5 49.3 48.5 49.3 48.2	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0		Notes
requency S (GHz) ow Channel (18 3.710 4.969 3.710 4.969 id Channel (18 3.760 5.058 3.760 5.058 igh Channel (19	(dBm) 855MHz) -14.7 -14.6 -14.3 -14.1 80MHz) -14.0 -13.9 -14.0 -13.6 905MHz)	Ant. Pol. (H/V) H H V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.0 49.2 49.6 48.7 49.3 48.5 49.3 48.5 49.3 48.2	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-37.0 -36.2 -36.6 -35.7 -36.3 -35.5 -36.3 -35.5 -36.3 -35.2	Notes

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

				ted Emissions Substitution N					
ompany:		Apple							
roject #:		14U17673							
ate:		06/10/14							
est Enginee		Macie							
Configuration		EUT Only							
lode:		LTE Band 2. 1							
ubstitution:	Horn T59 Sı	ubstitution, a	and 8ft SMA C	able					
	Chamber		Pre-a	amplifer	Filte	er		Lii	mit
3m Ch	amber F		3m Char	mber F 🚽	2.5G HP Fi	lter -	, i	Part 24	•
	amberr	-							
	aniberr	•			ļ	_		]	
requency	G reading	Ant. Pol.	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Frequency S (GHz)	G reading (dBm)				Attenuator		_	Delta	Notes
Frequency (GHz)	G reading (dBm) 857.5MHz)	Ant. Pol. (H/V)	Distance	Preamp		EIRP	Limit		Notes
Frequency (GHz) ow Channel (1 3.715	G reading (dBm) 857.5MHz) -13.5	Ant. Pol. (H/V)	Distance	Preamp 36.3	1.0	EIRP	Limit	-35.8	Notes
Frequency (GHz) ow Channel (1 3.715 4.998	G reading (dBm) 857.5MHz) -13.5 -14.0	Ant. Pol. (H/V) H	Distance 3.0 3.0	Preamp 36.3 35.6	1.0 1.0	EIRP	Limit -13.0 -13.0	-35.8 -35.6	Notes
Frequency (GHz) ow Channel (1 3.715	G reading (dBm) 857.5MHz) -13.5	Ant. Pol. (H/V)	Distance	Preamp 36.3	1.0	EIRP	Limit	-35.8	Notes
Frequency S (GHz) ow Channel (1 3.715 4.998 3.715 4.998	G reading (dBm) (857.5MHz) -13.5 -14.0 -13.7 -13.5	Ant. Pol. (H/V) H H V	Distance 3.0 3.0 3.0	Preamp 36.3 35.6 36.3	1.0 1.0 1.0	48.8 48.6 49.0	Limit -13.0 -13.0 -13.0	-35.8 -35.6 -36.0	Notes
Frequency (GHz) ow Channel ( 3.715 4.998 3.715 4.998 lid Channel (1	G reading (dBm) (857.5MHz) -13.5 -14.0 -13.7 -13.5 8800MHz)	Ant. Pol. (H/V) H H V V	Distance 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 35.6	1.0 1.0 1.0 1.0	48.8 48.6 49.0 48.1	Limit -13.0 -13.0 -13.0 -13.0	-35.8 -35.6 -36.0 -35.1	Notes
Frequency (GHz) ow Channel (1 3.715 4.998 3.715 4.998 id Channel (1 3.760	GG reading (dBm) (857.5MHz) -13.5 -14.0 -13.7 -13.5 (880MHz) -14.7	Ant. Pol. (H/V) H H V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0	<b>Preamp</b> 36.3 35.6 36.3 35.6 36.3 36.3	1.0 1.0 1.0 1.0 1.0	EIRP 48.8 48.6 49.0 48.1	Limit -13.0 -13.0 -13.0 -13.0 -13.0	-35.8 -35.6 -36.0 -35.1 -37.0	Notes
Frequency (GHz) ow Channel ( 3.715 4.998 3.715 4.998 lid Channel (1	G reading (dBm) (857.5MHz) -13.5 -14.0 -13.7 -13.5 8800MHz)	Ant. Pol. (H/V) H H V V	Distance 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 35.6	1.0 1.0 1.0 1.0	48.8 48.6 49.0 48.1	Limit -13.0 -13.0 -13.0 -13.0	-35.8 -35.6 -36.0 -35.1	Notes
Frequency (GHz) ow Channel ( 3.715 4.998 3.715 4.998 ilid Channel (1 3.760 5.058	G reading (dBm) 857.5MHz) -13.5 -14.0 -13.7 -13.5 8800MHz) -14.7 -14.2	Ant. Pol. (H/V) H H V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0 1.0 1.0	EIRP 48.8 48.6 49.0 48.1 -50.0 48.8	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	35.8 35.6 36.0 35.1 37.0 35.8	Notes
Frequency         State           (GHz)         ow Channel (1           3.715         4.998           3.715         4.998           1.715         1           4.998         3.715           4.998         3.715           1.3.760         5.058           3.760         5.058	G reading (dBm) 187.5MHz) -13.5 -14.0 -13.7 -13.5 880MHz) -14.7 -14.2 -12.8 -14.8	Ant. Pol. (H/V) H H V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Preamp           36.3           35.6           36.3           35.6           35.6           36.3           35.6           36.3           35.6           36.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	EIRP 48.8 48.6 49.0 48.1 -50.0 48.8 48.0	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.8 -35.6 -36.0 -35.1 	Notes
Frequency (GHz) ow Channel ( 3.715 4.998 3.715 4.998 lid Channel (1 3.760 5.058 3.760 5.058 igh Channel (1	G reading (dBm) 857.5MHz) -13.5 -14.0 -13.7 -13.5 880MHz) -14.7 -14.2 -14.8 -14.8 -14.8 -14.8	Ant. Pol. (H/V) H H V V V H H V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Breamp           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	EIRP 48.8 48.6 49.0 48.1 -50.0 48.8 48.0 49.4	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	35.8 35.6 36.0 35.1 37.0 35.8 35.0 36.4	Notes
Frequency S (GHz) ow Channel ( 3.715 4.998 3.715 4.998 lid Channel ( 3.760 5.058 3.760 5.058 3.760 5.058 igh Channel ( 3.805	G reading (dBm) 857.5MHz) -13.5 -14.0 -13.7 -13.7 -13.5 8800Hz) -14.7 -14.2 -12.8 -14.8 -14.8 1902.5MHz) -15.1	Ant. Pol. (H/V) H H V V V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Breamp           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	EIRP 48.8 48.6 49.0 48.1 50.0 48.8 48.0 49.4 -50.3	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0		Notes
Frequency (GHz) ow Channel ( 3.715 4.998 3.715 4.998 lid Channel (1 3.760 5.058 3.760 5.058 igh Channel (1	G reading (dBm) 857.5MHz) -13.5 -14.0 -13.7 -13.5 880MHz) -14.7 -14.2 -14.8 -14.8 -14.8 -14.8	Ant. Pol. (H/V) H H V V V H H V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Breamp           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6           36.3           35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	EIRP 48.8 48.6 49.0 48.1 -50.0 48.8 48.0 49.4	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	35.8 35.6 36.0 35.1 37.0 35.8 35.0 36.4	Notes

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

				ted Emissions Substitution N					
ompany:		Apple							
roject #:		14U17673							
ate:		06/10/14							
est Enginee		Macie							
onfiguration		EUT Only							
ode:		LTE Band 2, 1	5MHz 16QAM						
est Equipme Ibstitution: I		ubstitution, a	and 8ft SMA Ca	able					
	Chamber		Pre-a	mplifer	Filte	er		Lin	nit
3m Ch	amber F	•	3m Char	nber F 🚽	2.5G HP Fi	lter -	·	Part 24	-
requency S	G reading	Ant. Pol.	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	(H/V)							
w Channel /1	857.5MHz)								
	-14.2	Н	3.0	36.3	1.0	-49.5	-13.0	-36.5	
3.715			3.0	35.6	1.0	-48.4	-13.0	-35.4	
3.715 4.998	-13.8	H			4.0				
3.715 4.998 3.715	-13.8 -14.2	V	3.0	36.3	1.0	-49.5	-13.0	-36.5	
3.715 4.998	-13.8				1.0 1.0	-49.5 -48.3	-13.0 -13.0	-35.3	
3.715 4.998 3.715 4.998	-13.8 -14.2 -13.7	V	3.0	36.3				······	
3.715 4.998 3.715	-13.8 -14.2 -13.7	V	3.0	36.3				······	
3.715 4.998 3.715 4.998 id Channel (1	-13.8 -14.2 -13.7 880MHz)	V V	3.0 3.0	36.3 35.6	1.0	-48.3	-13.0	-35.3	
3.715 4.998 3.715 4.998 id Channel (11 3.760	-13.8 -14.2 -13.7 880MHz) -14.6	V V H H V	3.0 3.0 3.0	36.3 35.6 36.3	1.0	-48.3 -49.9	-13.0 -13.0	-35.3 -36.9	
3.715 4.998 3.715 4.998 id Channel (11 3.760 5.058	-13.8 -14.2 -13.7 880MHz) -14.6 -13.8	V V H H	3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6	1.0 1.0 1.0	-48.3 -49.9 -48.4	-13.0 -13.0 -13.0	-35.3 -36.9 -35.4	
3.715 4.998 3.715 4.998 id Channel (10 3.760 5.058 3.760 5.058	-13.8 -14.2 -13.7 880MHz) -14.6 -13.8 -14.7 -14.7 -14.1	V V H H V	3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3	1.0 1.0 1.0 1.0	_48.3 _49.9 _48.4 _50.0	-13.0 -13.0 -13.0 -13.0	-35.3 -36.9 -35.4 -37.0	
3.715 4.998 3.715 4.998 id Channel (11 3.760 5.058 3.760 5.058 3.760 5.058	-13.8 -14.2 -13.7 380MHz) -14.6 -13.8 -14.7 -14.1 1902.5MHz)	V V H H V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 35.6	1.0 1.0 1.0 1.0 1.0	48.3 49.9 48.4 -50.0 48.7	-13.0 -13.0 -13.0 -13.0 -13.0	-35.3 -36.9 -35.4 -37.0 -35.7	
3.715 4.998 3.715 4.998 d Channel (1 3.760 5.058 3.760 5.058 3.760 5.058 gh Channel (1 3.805	-13.8 -14.2 -13.7 -13.7 -14.6 -13.8 -14.7 -14.1 -14.1 -1902.5MHz) -14.7	V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0	_48.3 _49.9 _48.4 _50.0 _48.7 _50.0	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.3 -36.9 -35.4 -37.0 -35.7 -37.0	
3.715 4.998 3.715 4.998 id Channel (1 3.760 5.058 3.760 5.058 gh Channel (1 3.805 4.998	-13.8 -14.2 -13.7 -14.6 -13.8 -14.7 -14.1 -14.1 -14.7 -14.1 -14.7 -14.7 -14.7 -14.2	V V H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	_48.3 _49.9 _48.4 _50.0 _48.7 _50.0 _48.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.3 -36.9 -35.4 -37.0 -35.7 -37.0 -35.8	
3.715 4.998 3.715 4.998 id Channel (1 3.760 5.058 3.760 5.058 gh Channel (1 3.805	-13.8 -14.2 -13.7 -13.7 -14.6 -13.8 -14.7 -14.1 -14.1 -1902.5MHz) -14.7	V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.6	1.0 1.0 1.0 1.0 1.0 1.0 1.0	_48.3 _49.9 _48.4 _50.0 _48.7 _50.0	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-35.3 -36.9 -35.4 -37.0 -35.7 -37.0	

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

				ted Emissions Substitution N					
Company: Project #: Date: Test Enginee Configuration Mode:	er: n:	Apple 14U17673 06/10/14 Macie EUT Only LTE Band 2, 2	0MHz QPSK						
<u>Fest Equipm</u> Substitution:	Horn T59 Si	ubstitution, a	and 8ft SMA C				1		
3m C	Chamber hamber F		Pre-a 3m Chai	mplifer	Filte 2.5G HP Fil			Lim Part 24	nit
Sinc	namber F	•			2.0011111			Falt 24	•
Frequency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel		()							
	-14.9	Н	3.0	36.3	1.0	-50.2	-13.0	-37.2	
	- 4.9								
3.720		Н	3.0	35.6	1.0	-49.0	-13.0	-36.0	
	-14.9 -14.4 -14.2	H V	3.0 3.0	35.6 36.3	1.0 1.0	-49.0 -49.5	-13.0 -13.0	-36.0 -36.5	
3.720 5.058	-14.4							Lagon	
3.720 5.058 3.720 5.058	-14.4 -14.2 -14.7	V	3.0	36.3	1.0	-49.5	-13.0	-36.5	
3.720 5.058 3.720 5.058 Mid Channel ()	-14.4 -14.2 -14.7 1880MHz)	V V	3.0 3.0	36.3 35.6	1.0 1.0	-49.5 -49.2	-13.0 -13.0	-36.5 -36.2	
3.720 5.058 3.720 5.058 Mid Channel ( 3.760	-14.4 -14.2 -14.7 1880MHz) -13.9	V V H	3.0 3.0 3.0	36.3 35.6 36.3	1.0 1.0 1.0	-49.5 -49.2 -49.2	-13.0 -13.0 -13.0	-36.5 -36.2 -36.2	
3.720 5.058 3.720 5.058 Mid Channel ( 3.760 5.088	-14.4 -14.2 -14.7 1880MHz) -13.9 -13.6	V V H H	3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.5	1.0 1.0 1.0 1.0 1.0	49.5 49.2 49.2 49.2 48.2	-13.0 -13.0 -13.0 -13.0 -13.0	-36.5 -36.2 -36.2 -36.2 -35.2	
3.720 5.058 3.720 5.058 Mid Channel ( 3.760 5.088 3.760	-14.4 -14.2 -14.7 1880MHz) -13.9 -13.6 -13.8	V V H H V	3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.5 36.3	1.0 1.0 1.0 1.0 1.0	49.5 49.2 49.2 49.2 48.2 49.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.5 -36.2 -36.2 -36.2 -35.2 -36.1	
3.720 5.058 3.720 5.058 Mid Channel ( 3.760 5.088	-14.4 -14.2 -14.7 1880MHz) -13.9 -13.6	V V H H	3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.5	1.0 1.0 1.0 1.0 1.0	49.5 49.2 49.2 49.2 48.2	-13.0 -13.0 -13.0 -13.0 -13.0	-36.5 -36.2 -36.2 -36.2 -35.2	
3.720 5.058 3.720 5.058 Mid Channel ( 3.760 5.088 3.760	-14.4 -14.2 -14.7 -1880MHz) -13.9 -13.6 -13.8 -14.8	V V H H V	3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.5 36.3	1.0 1.0 1.0 1.0 1.0	49.5 49.2 49.2 49.2 48.2 49.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.5 -36.2 -36.2 -36.2 -35.2 -36.1	
3.720 5.058 3.720 5.058 Mid Channel ( 3.760 5.088 3.760 5.088	-14.4 -14.2 -14.7 -1880MHz) -13.9 -13.6 -13.8 -14.8	V V H H V	3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.5 36.3	1.0 1.0 1.0 1.0 1.0	49.5 49.2 49.2 49.2 48.2 49.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-36.5 -36.2 -36.2 -36.2 -35.2 -36.1	
3.720 5.058 3.720 5.058 Mid Channel ( 3.760 5.088 3.760 5.088 4.088	-14.4 -14.2 -14.7 1880MHz) -13.9 -13.6 -13.8 -14.8 (1900MHz)	V V H H V V V	3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.5 36.3 35.5 36.3 35.5	1.0 1.0 1.0 1.0 1.0 1.0	49.5 49.2 49.2 48.2 49.1 49.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	36.5 36.2 36.2 35.2 36.1 36.3	
3.720 5.058 3.720 5.058 Mid Channel (* 3.760 5.088 3.760 5.088 4.00 5.088 1.00 5.088	-14.4 -14.2 -14.7 1880MHz) -13.9 -13.6 -13.8 -14.8 (1900MHz) -14.5	V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.5 36.3 35.5 36.3 35.5 36.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	_49.5 _49.2 _49.2 _48.2 _49.1 _49.3 _49.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	36.5 36.2 35.2 35.2 36.1 36.3 36.8	

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

				ted Emissions Substitution I					
ompany:		Apple							
roject #:		14U17673							
ate:		06/10/14							
est Enginee		Macie							
onfiguratio		EUT Only							
ode:		LTE Band 2, 2	0MHz 16QAM						
est Equipm									
ubstitution:	Horn T59 Su	ibstitution, a	and 8ft SMA Ca	able					
	Chamber		Pre-a	mplifer	Filte	ar.	1		mit
	Chamber			-			Ļ	LI	nit
			3m Chan	nber E _	2.5G HP Fi	lter .	-	Part 24	-
3m C	hamber F	-		illeri V	2.5G HP Filter 🚽			Part 24 🗸	
3m C	hamber F	•							
					I	_			Notes
requency	SG reading	Ant. Pol.	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
requency (GHz)	SG reading (dBm)				I	_	Limit		Notes
requency	SG reading (dBm)	Ant. Pol.			I	_	Limit		Notes
requency (GHz)	SG reading (dBm) 1860MHz)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP		Delta	Notes
requency (GHz) w Channel 3.720 4.998 3.720	SG reading (dBm) 1860MHz) -14.7 -14.4 -14.8	Ant. Pol. (H/V) H H V	Distance 3.0 3.0 3.0	Preamp 36.3 35.6 36.3	Attenuator 1.0 1.0 1.0	EIRP	-13.0 -13.0 -13.0	Delta -37.0 -36.0 -37.1	Notes
requency (GHz) w Channel 3.720 4.998	SG reading (dBm) 1860MHz) -14.7 -14.4	Ant. Pol. (H/V)	Distance 3.0 3.0	Preamp 36.3 35.6	Attenuator	EIRP -50.0 -49.0	-13.0 -13.0	Delta -37.0 -36.0	Notes
Frequency (GHz) w Channel 3.720 4.998 3.720 4.998	SG reading (dBm) 1860MHz) -14.7 -14.4 -14.8 -14.5	Ant. Pol. (H/V) H H V	Distance 3.0 3.0 3.0	Preamp 36.3 35.6 36.3	Attenuator 1.0 1.0 1.0	-50.0 -49.0 -50.1	-13.0 -13.0 -13.0	Delta -37.0 -36.0 -37.1	Notes
requency (GHz) w Channel 1 3.720 4.998 3.720 4.998 id Channel (	SG reading (dBm) 1860MHz) -14.7 -14.4 -14.8 -14.5 -14.5 -1880MHz)	Ant. Pol. (H/V) H H V V V	Distance	36.3 35.6 36.3 35.6 35.6	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0	EIRP -50.0 -49.0 -50.1 -49.1	-13.0 -13.0 -13.0 -13.0	Delta -37.0 -36.0 -37.1 -36.1	Notes
requency (GHz) w Channel 3.720 4.998 3.720 4.998 id Channel ( 3.760	SG reading (dBm) 1860MHz) -14.7 -14.4 -14.8 -14.5 1880MHz) -14.1	Ant. Pol. (H/V) H H V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	EIRP -50.0 -50.1 -49.1 -49.4	-13.0 -13.0 -13.0 -13.0 -13.0	Delta -37.0 -36.0 -37.1 -36.1 -36.4	Notes
requency (GHz) ow Channel ( 3.720 4.998 3.720 4.998 id Channel ( 3.760 5.088	SG reading (dBm) 1860MHz) -14.7 -14.4 -14.8 -14.5 1880MHz) -14.1 -14.1	Ant. Pol. (H/V) H H V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.5	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-50.0 -49.0 -50.1 -49.1 -49.4 -48.6	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -37.0 -36.0 -37.1 -36.1 -36.1 -36.4 -35.6	Notes
requency (GHz) w Channel 3.720 4.998 3.720 4.998 id Channel ( 3.760	SG reading (dBm) 1860MHz) -14.7 -14.4 -14.8 -14.5 1880MHz) -14.1	Ant. Pol. (H/V) H H V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	EIRP -50.0 -50.1 -49.1 -49.4	-13.0 -13.0 -13.0 -13.0 -13.0	Delta -37.0 -36.0 -37.1 -36.1 -36.4	Notes
requency (GHz) w Channel ( 3.720 4.998 3.720 4.998 id Channel ( 3.760 5.088 3.760 5.088	SG reading (dBm) 1860MHz) -14.7 -14.4 -14.8 -14.5 1880MHz) -14.1 -14.1 -14.1 -14.1 -14.1 -14.3	Ant. Pol. (H/V) H H V V H H H V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.5 36.3	Attenuator	50.0 -49.0 -50.1 -49.1 -49.4 -49.4 -49.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -37.0 -36.0 -37.1 -36.1 -36.4 -35.6 -36.4	Notes
requency (GHz) ow Channel ( 3.720 4.998 3.720 4.998 id Channel ( 3.760 5.088 3.760 5.088 3.760 5.088	SG reading (dBm) 1860MHz) -14.7 -14.4 -14.8 -14.5 1880MHz) -14.1 -14.1 -14.1 -14.3 (1900MHz)	Ant. Pol. (H/V) H H V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.5 36.3 35.5 36.3 35.5	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	EIRP -50.0 -50.1 -49.1 -49.4 -48.6 -49.4 -48.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -37.0 -36.0 -37.1 -36.1 -36.4 -35.6 -36.4 -35.6 -36.4 -35.9	Notes
requency (GHz) ow Channel ( 3.720 4.998 3.720 4.998 id Channel ( 3.760 5.088 3.760 5.088 3.760 5.088 igh Channel 3.800	SG reading (dBm) 1860MHz) -14.7 -14.7 -14.4 -14.8 -14.5 -14.5 -14.1 -14.1 -14.1 -14.1 -14.1 -14.1 -14.3 (1900MHz) -14.6	Ant. Pol. (H/V) H H V V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.5 36.3 35.5 36.3 35.5 36.3 35.5	Attenuator	50.0 49.0 50.1 49.1 49.4 48.6 49.4 48.9 49.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -37.0 -36.0 -37.1 -36.1 -36.4 -35.6 -36.4 -35.9 -36.9	Notes
requency (GHz) ow Channel ( 3.720 4.998 3.720 4.998 id Channel ( 3.760 5.088 3.760 5.088 3.760 5.088	SG reading (dBm) 1860MHz) -14.7 -14.4 -14.8 -14.5 1880MHz) -14.1 -14.1 -14.1 -14.3 (1900MHz)	Ant. Pol. (H/V) H H V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.3 35.6 36.3 35.6 36.3 35.6 36.3 35.5 36.3 35.5 36.3 35.5	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	EIRP -50.0 -50.1 -49.1 -49.4 -48.6 -49.4 -48.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -37.0 -36.0 -37.1 -36.1 -36.4 -35.6 -36.4 -35.6 -36.4 -35.9	Notes

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# 9.3.2. LTE BAND 4

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

				ted Emissions Substitution I					
Company:		Apple							
Project #:		14U17673							
Date:		06/07/14							
Test Engine									
		Ali Poushnejad	1						
Configuratio Mode:		EUT only	1111-000V						
lode:		LTE Band 4, 1	4IVIHZ QPSK						
ubstitution	Chamber		and 8ft SMA Ca Pre-a	mplifer	Filte	er		Li	mit
3m C	hamber F	•	3m Chan	nber F 🚽	2.5G HP Fi	lter 🚽		Part 27	-
Frequency	SG reading	Ant. Pol.	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	(H/V)							
ow 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	
	-13.3	V	3.0	36.4	1.0	-48.7	-13.0	-35.7	
3.42	-9.9	V	3.0	35.5	1.0	-44.4	-13.0	-31.4	
	-010		1						
3.42 5.13			•		1				
3.42 5.13 Aid Channel (	1732.5MHz)	Н	3.0	36.4	1.0	-48.8	-13.0	-35.8	
3.42 5.13 Mid Channel ( 3.47	1732.5MHz) -13.4	H	3.0 3.0	36.4 35.5	1.0 1.0	-48.8 -39.2	-13.0 -13.0	-35.8 -26.2	
3.42 5.13 Mid Channel (	1732.5MHz)	H H V	3.0 3.0 3.0	36.4 35.5 36.4	1.0 1.0 1.0	-48.8 -39.2 -47.5	-13.0	-35.8 -26.2 -34.5	
3.42 5.13 Mid Channel ( 3.47 5.20	1732.5MHz) -13.4 -4.7	Н	3.0	35.5	1.0	-39.2		-26.2	
3.42 5.13 Mid Channel ( 3.47 5.20 3.47 5.20	1732.5MHz) -13.4 -4.7 -12.1 -8.9	H V	3.0 3.0	35.5 36.4	1.0 1.0	-39.2 -47.5	-13.0 -13.0	-26.2 -34.5	
3.42 5.13 Mid Channel ( 3.47 5.20 3.47 5.20 High Channel	1732.5MHz) -13.4 -4.7 -12.1 -8.9 (1754.3MHz)	H V V	3.0 3.0 3.0	35.5 36.4 35.5	1.0 1.0 1.0	-39.2 -47.5 -43.4	-13.0 -13.0 -13.0	-26.2 -34.5 -30.4	
3.42 5.13 Aid Channel ( 3.47 5.20 3.47 5.20 digh Channel 3.51	1732.5MHz) -13.4 -4.7 -12.1 -8.9 (1754.3MHz) -11.8	H V V	3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0	-39.2 -47.5 -43.4 -47.2	-13.0 -13.0 -13.0 -13.0 -13.0	-26.2 -34.5 -30.4 -34.2	
3.42 5.13 Aid Channel ( 3.47 5.20 3.47 5.20 Aigh Channel 3.51 5.26	1732.5MHz) -13.4 -4.7 -12.1 -8.9 (1754.3MHz) -11.8 -7.2	H V V H	3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0	-39.2 -47.5 -43.4 -47.2 -41.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-26.2 -34.5 -30.4 -34.2 -34.2 -28.7	
3.42 5.13 Aid Channel ( 3.47 5.20 3.47 5.20 digh Channel 3.51	1732.5MHz) -13.4 -4.7 -12.1 -8.9 (1754.3MHz) -11.8	H V V	3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0	-39.2 -47.5 -43.4 -47.2	-13.0 -13.0 -13.0 -13.0 -13.0	-26.2 -34.5 -30.4 -34.2	

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

				ted Emissions Substitution I					
ompany:		Apple							
roject #:		14U17673							
ate:		06/07/14							
est Enginee	er:	Ali Poushnejad	ł						
onfiguratio	n:	EUT only							
lode:		LTE Band 4, 1	4MHz 16QAM						
	Chamber			mplifer	Filte		ļ	Lim	nit
3m C	hamber F	•	3m Chai	mber F 🚽	2.5G HP Fi	lter _	·	Part 27	•
	SG reading		Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	(H/V)							
ow Channel (				20.4			42.0		
	-14.0 -5.1	H	3.0 3.0	36.4 35.5	1.0 1.0	-49.4 -39.7	-13.0 -13.0	-36.4 -26.7	
3.42							-13.0	-36.8	
5.13		V	í 3.0 í	36.4	1.0	-49.8			
	-5.1 -14.4 -9.4	V V	3.0 3.0	36.4 35.5	1.0 1.0	-49.8 -43.9	-13.0	-30.9	
5.13 3.42 5.13	-14.4 -9.4							-30.9	
5.13 3.42	-14.4 -9.4							-30.9 -34.2	
5.13 3.42 5.13 id Channel (*	-14.4 -9.4 1732.5MHz)	V H H	3.0 3.0 3.0	35.5	1.0	-43.9	-13.0	-34.2 -27.0	
5.13 3.42 5.13 id Channel (* 3.47 5.20 3.47	-14.4 -9.4 1732.5MHz) -11.9 -5.6 -12.6	V H H V	3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0	_43.9 _47.2 _40.0 _48.0	-13.0 -13.0 -13.0 -13.0	-34.2 -27.0 -35.0	
5.13 3.42 5.13 id Channel (* 3.47 5.20	-14.4 -9.4 1732.5MHz) -11.9 -5.6	V H H	3.0 3.0 3.0	35.5 36.4 35.5	1.0 1.0 1.0	-43.9 -47.2 -40.0	-13.0 -13.0 -13.0	-34.2 -27.0	
5.13 3.42 5.13 id Channel (* 3.47 5.20 3.47	-14.4 -9.4 1732.5MHz) -11.9 -5.6 -12.6 -9.7	V H H V	3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0	_43.9 _47.2 _40.0 _48.0	-13.0 -13.0 -13.0 -13.0	-34.2 -27.0 -35.0	
5.13 3.42 5.13 id Channel (' 3.47 5.20 3.47 5.20 igh Channel 3.51	-14.4 -9.4 1732.5MHz) -11.9 -5.6 -12.6 -9.7 (1754.3MHz) -12.3	V H H V V	3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0	43.9 47.2 40.0 48.0 44.2 47.6	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	34.2 27.0 35.0 31.2 34.6	
5.13 3.42 5.13 id Channel (* 3.47 5.20 3.47 5.20 igh Channel 3.51 5.26	-14.4 -9.4 1732.5MHz) -11.9 -5.6 -12.6 -9.7 1754.3MHz) -12.3 -7.9	V H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	43.9 47.2 40.0 48.0 44.2 47.6 42.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	34.2 27.0 35.0 31.2 34.6 29.3	
5.13 3.42 5.13 id Channel (' 3.47 5.20 3.47 5.20 igh Channel 3.51	-14.4 -9.4 1732.5MHz) -11.9 -5.6 -12.6 -9.7 (1754.3MHz) -12.3	V H H V V	3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0	43.9 47.2 40.0 48.0 44.2 47.6	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	34.2 27.0 35.0 31.2 34.6	

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

				ted Emissions Substitution I					
ompany:		Apple							
roject #:		14U17673							
ate:		06/06/14							
est Enginee	r:	Ali poushnejad							
onfiguration		EUT only							
lode:		LTE Band 4, 3	MHz QPSK						
est Equipme substitution:		ubstitution, a	nd 8ft SMA C	able					
	Chamber		Pre-a	mplifer	Filte	er		Lir	mit
3m Cł	namber F	-	3m Chai	nber F 🚽	2.5G HP Fi	lter	•	Part 27	•
requerey	SG reading	Ant. Pol.	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
	-								
(GHz)	(dBm)	(H/V)							
(GHz) ow Channel (	(dBm) 1711.5MHz)	(H/V)							
(GHz) ow Channel ( 3.42	(dBm) 1711.5MHz) -14.2	(H/V) Н	3.0	36.4	1.0	-49.6	-13.0	-36.6	
(GHz) ow Channel ( 3.42 5.13	(dBm) 1711.5MHz) -14.2 -4.9	(H/V) H H	3.0	35.5	1.0	-39.5	-13.0	-26.5	
(GHz) ow Channel ( 3.42	(dBm) 1711.5MHz) -14.2	(H/V) Н							
(GHz) ow Channel ( 3.42 5.13 3.42	(dBm) 1711.5MHz) -14.2 -4.9 -15.2	(H/V) H H V	3.0 3.0	35.5 36.4	1.0 1.0	-39.5 -50.6	-13.0 -13.0	-26.5 -37.6	
(GHz) ow Channel ( 3.42 5.13 3.42 5.13 id Channel (1	(dBm) 1711.5MHz) -14.2 -4.9 -15.2 -9.0 732.5MHz)	(H/V) H H V V	3.0 3.0 3.0	35.5 36.4 35.5	1.0 1.0 1.0	-39.5 -50.6 -43.6	-13.0 -13.0 -13.0	-26.5 -37.6 -30.6	
(GHz) ow Channel ( 3.42 5.13 3.42 5.13 10 Channel (1 3.47	(dBm) 1711.5MHz) -14.2 -4.9 -15.2 -9.0 732.5MHz) -13.1	(H/V) H V V	3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0	-39.5 -50.6 -43.6 -48.5	-13.0 -13.0 -13.0 -13.0	-26.5 -37.6 -30.6 -35.5	
(GHz) ow Channel ( 3.42 5.13 3.42 5.13 id Channel (1 3.47 5.20	(dBm) 1711.5MHz) -14.2 -4.9 -15.2 -9.0 732.5MHz) -13.1 -5.8	(H/V) H V V H H	3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0	-39.5 -50.6 -43.6 -48.5 -40.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-26.5 -37.6 -30.6 -35.5 -27.3	
(GHz) ow Channel ( 3.42 5.13 3.42 5.13 lid Channel (1 3.47 5.20 3.47	(dBm) 1711.5MHz) -14.2 -4.9 -15.2 -9.0 732.5MHz) -13.1 -5.8 -12.5	(H/V) H H V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0	-39.5 -50.6 -43.6 -48.5 -40.3 -47.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-26.5 -37.6 -30.6 -35.5 -27.3 -34.9	
(GHz) ow Channel ( 3.42 5.13 3.42 5.13 id Channel (1 3.47 5.20	(dBm) 1711.5MHz) -14.2 -4.9 -15.2 -9.0 732.5MHz) -13.1 -5.8	(H/V) H V V H H	3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0	-39.5 -50.6 -43.6 -48.5 -40.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-26.5 -37.6 -30.6 -35.5 -27.3	
(GHz) ow Channel ( 3.42 5.13 3.42 5.13 lid Channel (1 3.47 5.20 3.47	(dBm) 1711.5MHz) -14.2 -4.9 -15.2 -9.0 732.5MHz) -13.1 -5.8 -12.5 -10.6	(H/V) H H V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0	-39.5 -50.6 -43.6 -48.5 -40.3 -47.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-26.5 -37.6 -30.6 -35.5 -27.3 -34.9	
(GHz) ow Channel ( 3.42 5.13 3.42 5.13 id Channel (1 3.47 5.20 3.47 5.20	(dBm) 1711.5MHz) -14.2 -4.9 -15.2 -9.0 732.5MHz) -13.1 -5.8 -12.5 -10.6	(H/V) H H V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0	-39.5 -50.6 -43.6 -48.5 -40.3 -47.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-26.5 -37.6 -30.6 -35.5 -27.3 -34.9	
(GHz) ow Channel ( 3.42 5.13 3.42 5.13 lid Channel (1 3.47 5.20 3.47 5.20 igh Channel (1	(dBm) 1711.5MHz) .14.2 .4.9 .15.2 .9.0 732.5MHz) .13.1 .5.8 .12.5 .10.6 1753.5MHz)	(H/V) H V V H H V V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-39.5 -50.6 -43.6 -43.6 -48.5 -40.3 -47.9 -45.1 -47.3 -41.2	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	26.5 37.6 30.6 35.5 27.3 34.9 32.1 34.3 28.2	
(GHz) ow Channel ( 3.42 5.13 3.42 5.13 lid Channel (1 3.47 5.20 3.47 5.20 igh Channel ( 3.51	(dBm) 1711.5MHz) -14.2 -4.9 -15.2 -9.0 732.5MHz) -13.1 -5.8 -12.5 -10.6 1753.5MHz) -11.9	(H/V) H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-39.5 -50.6 -43.6 -43.5 -40.3 -47.9 -45.1 -47.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-26.5 -37.6 -30.6 -35.5 -27.3 -34.9 -32.1 -34.3	

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

				ted Emissions Substitution I					
Company:		Apple							
Project #:		14U17673							
Date:		06/06/14							
Test Engine	er:	Ali poushnejad							
Configuratio	n:	EUT only							
Node:		LTE Band 4, 3	MHz 16QAM						
<u>Test Equipm</u> Substitution:		ubstitution, a	and 8ft SMA C	able					
	Chamber		Pre-a	mplifer	Filte	er		Lin	nit
3m C	hamber F	•	3m Char	nber F 🚽	2.5G HP Fi	lter _	•	Part 27	•
	SG reading		Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	(H/V)							
ow Channel									
3.42 5.13	-14.7 -5.4	H	3.0 3.0	36.4 35.5	1.0 1.0	-50.1 -40.0	-13.0 -13.0	-37.1 -27.0	
3.42	-14.0	V	3.0	36.4	1.0	-40.0	-13.0	-36.4	
5.13	-8.9	v	3.0	35.5	1.0	-43.4	-13.0	-30.4	
	1732 5MH-)								
Aid Channel (	-13.1	Н	3.0	36.4	1.0	-48.5	-13.0	-35.5	
Aid Channel ( 3.47	-6.5	H	3.0	35.5	1.0	-41.0	-13.0	-28.0	
	-12.1	V	3.0	36.4	1.0	-47.5	-13.0	-34.5	
3.47 5.20 3.47		V	3.0	35.5	1.0	-44.2	-13.0	-31.2	
3.47 5.20	-9.7								
3.47 5.20 3.47 5.20	-9.7				1		-13.0	-34.7	
3.47 5.20 3.47 5.20	-9.7	Н	3.0	36.4	1.0	-47.7	-13.0	-34.7	
3.47 5.20 3.47 5.20 High Channel 3.51 5.26	-9.7 (1753.5MHz) -12.4 -7.5	Н	3.0	35.5	1.0	-41.9	-13.0	-28.9	
3.47 5.20 3.47 5.20 figh Channel 3.51	-9.7 (1753.5MHz) -12.4								

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

				ated Emissions z Substitution I					
Company:		Apple							
Project #:		14U17673							
Date:		06/06/14							
Test Enginee		Ali Poushnejad							
Configuration		EUT only							
/lode:		LTE Band 4, 5	MHz QPSK						
lest Equipm	ont:								
		ubstitution, a	and 8ft SMA C	able					
	Chamber		Pre-s	amplifer	Filte		1	Lin	
				•			4		nit
3m C	hamber F	-	3m Cha	mber F 🚽	2.5G HP Fi	ter _	•	Part 27	•
		Ant Dal	Distance	Dreamen	Attenueter		1 1	Dalta	Natas
	SG reading	Ant. Pol.	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
	-	(H/V)							
(GHz)	(dBm)	(H/V)							
(GHz)	(dBm)	(H/V) Н	3.0	36.4	1.0	-38.9	-13.0	-25.9	
(GHz) .ow Channel ( 3.43 5.14	(dBm) 1712.5MHz) -3.5 -3.4	H	3.0	35.5	1.0	-38.0	-13.0	-25.0	
(GHz) ow Channel ( 3.43 5.14 3.43	(dBm) 1712.5MHz) -3.5 -3.4 -3.3	H H V	3.0 3.0	35.5 36.4	1.0 1.0	-38.0 -38.7	-13.0 -13.0	-25.0 -25.7	
(GHz) .ow Channel ( 3.43 5.14	(dBm) 1712.5MHz) -3.5 -3.4	H	3.0	35.5	1.0	-38.0	-13.0	-25.0	
(GHz) ow Channel ( 3.43 5.14 3.43 5.14 5.14	(dBm) 1712.5MHz) -3.5 -3.4 -3.3 -5.5	H H V	3.0 3.0	35.5 36.4	1.0 1.0	-38.0 -38.7	-13.0 -13.0	-25.0 -25.7	
(GHz) ow Channel ( 3.43 5.14 3.43	(dBm) 1712.5MHz) -3.5 -3.4 -3.3 -5.5	H H V	3.0 3.0	35.5 36.4	1.0 1.0	-38.0 -38.7	-13.0 -13.0	-25.0 -25.7	
(GHz) ow Channel ( 3.43 5.14 3.43 5.14 11d Channel (	(dBm) 1712.5MHz) -3.5 -3.4 -3.3 -5.5 1732.5MHz)	H H V V	3.0 3.0 3.0	35.5 36.4 35.5	1.0 1.0 1.0	-38.0 -38.7 -40.1	-13.0 -13.0 -13.0	-25.0 -25.7 -27.1	
(GHz) ow Channel ( 3.43 5.14 3.43 5.14 1id Channel ( 3.47	(dBm) 1712.5MHz) -3.5 -3.4 -3.3 -5.5 1732.5MHz) -3.9	H H V V H H	3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0	-38.0 -38.7 -40.1 -39.3	-13.0 -13.0 -13.0 -13.0	-25.0 -25.7 -27.1 -26.3	
(GHz) ow Channel ( 3.43 5.14 3.43 5.14 lid Channel ( 3.47 5.20	(dBm) 1712.5MHz) -3.5 -3.4 -3.3 -5.5 1732.5MHz) -3.9 -3.4	H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0	-38.0 -38.7 -40.1 -39.3 -37.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.0 -25.7 -27.1 -26.3 -24.9	
(GHz) ow Channel ( 3.43 5.14 3.43 5.14 lid Channel ( 3.47 5.20 3.47 5.20	(dBm) 1712.5MHz) .3.5 .3.4 .3.3 .5.5 1732.5MHz) .3.9 .3.4 .3.3 .3.4 .3.3 .3.4	H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0	-38.0 -38.7 -40.1 -39.3 -37.9 -38.6	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.0 -25.7 -27.1 -26.3 -24.9 -25.6	
(GHz) ow Channel ( 3.43 5.14 3.43 5.14 lid Channel ( 3.47 5.20 3.47	(dBm) 1712.5MHz) .3.5 .3.4 .3.3 .5.5 1732.5MHz) .3.9 .3.4 .3.3 .3.4 .3.3 .3.4	H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0	-38.0 -38.7 -40.1 -39.3 -37.9 -38.6	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.0 -25.7 -27.1 -26.3 -24.9 -25.6	
(GHz) ow Channel ( 3.43 5.14 3.43 5.14 Nid Channel ( 3.47 5.20 3.47 5.20 3.47 5.20	(dBm) 1712.5MHz) 3.5 3.4 3.3 5.5 1732.5MHz) 3.9 3.4 3.3 3.4 (1752.5MHz)	H H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-38.0 -38.7 -40.1 -39.3 -37.9 -38.6 -37.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.0 -25.7 -27.1 -26.3 -24.9 -25.6 -24.9	
(GHz) ow Channel ( 3.43 5.14 3.43 5.14 1id Channel ( 3.47 5.20 3.47 5.20 3.47 5.20 1igh Channel 3.51	(dBm) 1712.5MHz) .3.5 .3.4 .3.3 .5.5 1732.5MHz) .3.9 .3.4 .3.3 .3.4 .3.3 .3.4 .3.3 .3.4 .3.3 .3.4 .3.3 .3.4 .3.3 .3.4 .3.3 .3.4 .3.9 .3.4 .3.5 .3.4 .3.9 .3.4 .3.5 .3.4 .3.9 .3.4 .3.5 .3.4 .3.5 .3.4 .3.5 .3.4 .3.5 .3.4 .3.5 .3.4 .3.5 .3.4 .3.5 .3.4 .3.5 .3.4 .3.5 .3.4 .3.5 .3.4 .3.5 .5.5	H H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-38.0 -38.7 -40.1 -39.3 -37.9 -38.6 -37.9 -37.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.0 -25.7 -27.1 -26.3 -24.9 -25.6 -24.9 -25.6 -24.9	

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

				ted Emissions Substitution I					
ompany:		Apple							
roject #:		14U17673							
ate:		6/6/114							
est Engine		Ali Poushnejad							
onfiguratio		EUT only	•						
ode:		LTE Band 4. 5							
Jue.		LTE Danu 4, 5	WINZ TOQAW						
	Chamber		Pre-a 3m Chan	mplifer	Filte		ļ	Lir Part 27	
3m C	hamber F	-	3m Chan	nber F 🚽	2.5G HP FI	lter _		Part 27	•
		Ant Dal	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
requency	SG reading	Ant. Pol.	Distance	rieamp	/				
(GHz)	(dBm)	Ant. Pol. (H/V)	Distance	Treamp	,				
(GHz) ow Channel	(dBm) 1712.5MHz)	(H/V)							
(GHz) ow Channel 3.43	(dBm) 1712.5MHz) -3.3	(H/V) H	3.0	36.4	1.0	-38.7	-13.0	-25.7	
(GHz) ow Channel 3.43 5.14	(dBm) 1712.5MHz) -3.3 -3.5	(H/V) Н Н	3.0 3.0	36.4 35.5	1.0 1.0	-38.7 -38.0	-13.0 -13.0	-25.0	
(GHz) ow Channel 3.43 5.14 3.43	(dBm) 1712.5MHz) -3.3 -3.5 -3.3	(H/V) H H V	3.0 3.0 3.0	36.4 35.5 36.4	1.0 1.0 1.0	-38.7 -38.0 -38.7	-13.0 -13.0 -13.0	-25.0 -25.7	
(GHz) ow Channel 3.43 5.14	(dBm) 1712.5MHz) -3.3 -3.5	(H/V) Н Н	3.0 3.0	36.4 35.5	1.0 1.0	-38.7 -38.0	-13.0 -13.0	-25.0	
(GHz) ow Channel 3.43 5.14 3.43	(dBm) 1712.5MHz) -3.3 -3.5 -3.3 -5.8	(H/V) H H V	3.0 3.0 3.0	36.4 35.5 36.4	1.0 1.0 1.0	-38.7 -38.0 -38.7	-13.0 -13.0 -13.0	-25.0 -25.7	
(GHz) ow Channel 3.43 5.14 3.43 5.14 5.14	(dBm) 1712.5MHz) -3.3 -3.5 -3.3 -5.8	(H/V) H H V	3.0 3.0 3.0	36.4 35.5 36.4	1.0 1.0 1.0	-38.7 -38.0 -38.7	-13.0 -13.0 -13.0	-25.0 -25.7 -27.4 -25.7	
(GHz) ow Channel 3.43 5.14 3.43 5.14 id Channel (	(dBm) 1712.5MHz) -3.3 -3.5 -3.3 -5.8 1732.5MHz)	(H/V) H H V V	3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0	-38.7 -38.0 -38.7 -40.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.0 -25.7 -27.4	
(GHz) w Channel 3.43 5.14 3.43 5.14 id Channel ( 3.47 5.20 3.47	(dBm) 1712.5MHz) 3.3 3.5 3.3 5.8 1732.5MHz) 3.3 3.8 2.9	(H/V) H V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-38.7 -38.0 -38.7 -40.4 -38.7 -38.3 -38.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.0 -25.7 -27.4 -25.7 -25.3 -25.3	
(GHz) w Channel 1 3.43 5.14 3.43 5.14 id Channel ( 3.47 5.20	(dBm) 1712.5MHz) -3.3 -3.5 -3.3 -5.8 1732.5MHz) -3.3 -3.8	(H/V) H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0 1.0 1.0	-38.7 -38.0 -38.7 -40.4 -38.7 -38.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.0 -25.7 -27.4 -25.7 -25.3	
(GHz) w Channel 3.43 5.14 3.43 5.14 id Channel ( 3.47 5.20 3.47 5.20	(dBm) 1712.5MHz) 3.3 3.5 3.3 -5.8 1732.5MHz) 3.3 3.8 2.9 3.3	(H/V) H V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-38.7 -38.0 -38.7 -40.4 -38.7 -38.3 -38.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.0 -25.7 -27.4 -25.7 -25.3 -25.3	
(GHz) w Channel 3.43 5.14 3.43 5.14 id Channel ( 3.47 5.20 3.47 5.20	(dBm) 1712.5MHz) 3.3 3.5 3.3 -5.8 1732.5MHz) 3.3 3.8 2.9 3.3	(H/V) H V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-38.7 -38.0 -38.7 -40.4 -38.7 -38.3 -38.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.0 -25.7 -27.4 -25.7 -25.3 -25.3	
(GHz) w Channel 3.43 5.14 3.43 5.14 id Channel ( 3.47 5.20 3.47 5.20 3.47 5.20 3.47 5.20 3.47 5.20	(dBm) 1712.5MHz) 3.3 3.5 3.3 -5.8 1732.5MHz) 3.3 3.8 2.9 3.3 (1752.5MHz) 1752.5MHz)	(H/V) H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-38.7 -38.0 -38.7 -40.4 -38.7 -38.3 -38.3 -37.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.0 -25.7 -27.4 -25.7 -25.3 -25.3 -25.3 -24.8	
(GHz) w Channel 3.43 5.14 3.43 5.14 id Channel ( 3.47 5.20 3.47 5.20 gh Channel 3.51	(dBm) 1712.5MHz) 3.3 3.5 3.3 5.8 1732.5MHz) 1732.5MHz) 3.3 3.8 -2.9 3.3 1752.5MHz) 5.7	(H/V) H H V V V V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-38.7 -38.0 -38.7 -40.4 -38.7 -38.3 -38.3 -37.8 -41.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.0 -25.7 -27.4 -25.7 -25.3 -25.3 -25.3 -24.8 -28.1	

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

				ted Emissions Substitution I					
ompany:		Apple							
oject #:		14U17673							
ate:		06/05/14							
est Engine	er:	A. Poushnejad	l						
onfiguratio		EUT only							
ode:		LTE Band 4, 1	0MHz QPSK						
	Chamber			mplifer	Filte				mit
3m C	hamber D	•	3m Chan	nber D 🚽	2.5G HP Fi	lter _	•	Part 27	•
	SG reading		Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	(H/V)					<u> </u>		
w Channel 3.43	(1/15MHz) -5.3	Н	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	-25.0	
3.43	-6.8	v	3.0	38.3	1.0	-44.1	-13.0	-31.1	
	-4.8	V	3.0	37.5	1.0	-41.3	-13.0	-28.3	
5.15		L							
5.15	1/32.5MHz)			~~ ~		-41.0	-13.0	-28.0	
	1/32.5MHz) -3.7	Н	3.0	38.3	1.0				
5.15 d Channel ( 3.47 5.20	-3.7 -3.4	Н	3.0	37.5	1.0	-39.9	-13.0	-26.9	
5.15 d Channel ( 3.47 5.20 3.47	-3.7 -3.4 -5.6	H V	3.0 3.0	37.5 38.3	1.0 1.0	-39.9 -42.9	-13.0	-29.9	
5.15 d Channel ( 3.47 5.20	-3.7 -3.4	Н	3.0	37.5	1.0	-39.9			
5.15 d Channel ( 3.47 5.20 3.47	-3.7 -3.4 -5.6 -3.7	H V	3.0 3.0	37.5 38.3	1.0 1.0	-39.9 -42.9	-13.0	-29.9	
5.15 d Channel ( 3.47 5.20 3.47 5.20	-3.7 -3.4 -5.6 -3.7	H V	3.0 3.0	37.5 38.3	1.0 1.0	-39.9 -42.9	-13.0	-29.9	
5.15 d Channel ( 3.47 5.20 3.47 5.20 gh Channel	-3.7 -3.4 -5.6 -3.7 (1750MHz)	H V V	3.0 3.0 3.0	37.5 38.3 37.5	1.0 1.0 1.0	-39.9 -42.9 -40.1	-13.0 -13.0	-29.9 -27.1	
5.15 d Channel ( 3.47 5.20 3.47 5.20 gh Channel 3.50	-3.7 -3.4 -5.6 -3.7 (1750MHz) -5.2	H V V	3.0 3.0 3.0 3.0	37.5 38.3 37.5 38.2	1.0 1.0 1.0 1.0	-39.9 -42.9 -40.1 -42.5	-13.0 -13.0 -13.0	-29.9 -27.1 -29.5	

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

				ted Emissions Substitution I					
ompany:		Apple							
oject #:		14U17673							
ate:		06/05/14							
est Engine	er:	A. Poushnejad							
onfiguratio		EUT only							
ode:		LTE Band 4, 1	0MHz 16QAM						
	Chamber			mplifer	Filte 2.5G HP Fi			Lir	nit
3m C	hamber D	•	3m Char	nberD 🚽	2.5G HP FI	iter _		Part 27	•
	SG reading		Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	(H/V)							
w Channel 3.43	(1/15MHz) -5.7	Н	3.0	38.3	1.0	-43.0	-13.0	-30.0	
5.15	-3.7	H	3.0	37.5	1.0	-43.0	-13.0	-26.2	
	-2.1	v	3.0	38.3	1.0	-44.0	-13.0	-31.0	
	-4.5	V	3.0	37.5	1.0	-41.0	-13.0	-28.0	
3.43 5.15									
3.43 5.15	•	L					1		
3.43 5.15 d Channel (	1732.5MHz)	Н	3.0	38.3	1.0	-40.5	-13.0	-27.5	
3.43 5.15	•	H	3.0 3.0	38.3 37.5	1.0 1.0	-40.5 -39.6	-13.0 -13.0	-27.5 -26.6	
3.43 5.15 id Channel ( 3.47	1732.5MHz) -3.3								
3.43 5.15 d Channel ( 3.47 5.20	1732.5MHz) -3.3 -3.1	Н	3.0	37.5	1.0	-39.6	-13.0	-26.6	
3.43 5.15 id Channel ( 3.47 5.20 3.47 5.20	1732.5MHz) -3.3 -3.1 -5.4 -3.5	H V	3.0 3.0	37.5 38.3	1.0 1.0	-39.6 -42.7	-13.0 -13.0	-26.6 -29.7	
3.43 5.15 d Channel ( 3.47 5.20 3.47 5.20 gh Channel	1732.5MHz) -3.3 -3.1 -5.4 -3.5 (1750MHz)	H V V	3.0 3.0 3.0	37.5 38.3 37.5	1.0 1.0 1.0	-39.6 -42.7 -40.0	-13.0 -13.0 -13.0	-26.6 -29.7 -27.0	
3.43 5.15 d Channel ( 3.47 5.20 3.47 5.20	1732.5MHz) -3.3 -3.1 -5.4 -3.5	H V	3.0 3.0	37.5 38.3	1.0 1.0	-39.6 -42.7	-13.0 -13.0	-26.6 -29.7	
3.43 5.15 d Channel ( 3.47 5.20 3.47 5.20 gh Channel 3.50	1732.5MHz) -3.3 -3.1 -5.4 -3.5 (1750MHz) -5.1	H V V	3.0 3.0 3.0 3.0	37.5 38.3 37.5 38.2	1.0 1.0 1.0 1.0	-39.6 -42.7 -40.0 -42.3	-13.0 -13.0 -13.0 -13.0	-26.6 -29.7 -27.0 -29.3	

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

				ated Emissions z Substitution I					
Company:		Apple							
Project #:		14U17673							
Date:		06/05/14							
Test Enginee		A. Poushnejad							
Configuration		EUT only							
Mode:		LTE Band 4. 1	5MHz QPSK						
Test Equipme Substitution:		ubstitution, a	and 8ft SMA C	able					
	Chamber		Pre-a	amplifer	Filte	er		Lir	nit
3m Cl	hamber D	-	3m Cha	mber D 🚽	2.5G HP Fi	lter -	-	Part 27	-
I			,		,	_	_	1	
Frequency			Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
	(al Duna)	(H/V)							
(GHz)	(dBm)	()							
ow Channel (	1717.5MHz)			20.0			40.0		
ow Channel ( 3.44	1717.5MHz) -4.1	H	3.0	38.3	1.0	-41.4	-13.0	-28.4	
ow Channel ( 3.44 5.15	1717.5MHz) -4.1 -2.3	H H	3.0	37.5	1.0	-38.8	-13.0	-25.8	
ow Channel ( 3.44	1717.5MHz) -4.1	H							
ow Channel ( 3.44 5.15 3.44 5.15	1717.5MHz) -4.1 -2.3 -7.1 -1.7	H H V	3.0 3.0	37.5 38.3	1.0 1.0	-38.8 -44.4	-13.0 -13.0	-25.8 -31.4	
ow Channel ( 3.44 5.15 3.44 5.15 44 5.15	1717.5MHz) -4.1 -2.3 -7.1 -1.7 1732.5MHz)	H H V V	3.0 3.0 3.0	37.5 38.3 37.5	1.0 1.0 1.0	-38.8 -44.4 -38.2	-13.0 -13.0 -13.0	-25.8 -31.4 -25.2	
ow Channel ( 3.44 5.15 3.44 5.15 Vid Channel (1 3.47	1717.5MHz) -4.1 -2.3 -7.1 -1.7 1732.5MHz) -2.7	H H V V	3.0 3.0 3.0 3.0	37.5 38.3 37.5 38.3	1.0 1.0 1.0 1.0	-38.8 -44.4 -38.2 -40.0	-13.0 -13.0 -13.0 -13.0	-25.8 -31.4 -25.2 -27.0	
ow Channel ( 3.44 5.15 3.44 5.15 Vid Channel (1 3.47 5.20	1717.5MHz) -4.1 -2.3 -7.1 -1.7 1732.5MHz) -2.7 0.8	H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0	37.5 38.3 37.5 38.3 37.5	1.0 1.0 1.0 1.0	-38.8 -44.4 -38.2 -40.0 -35.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.8 -31.4 -25.2 -27.0 -22.7	
ow Channel ( 3.44 5.15 3.44 5.15 Mid Channel (1 3.47 5.20 3.47	1717.5MHz) -4.1 -2.3 -7.1 -1.7 732.5MHz) -2.7 0.8 -2.2	H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0	37.5 38.3 37.5 38.3 37.5 38.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0	-38.8 -44.4 -38.2 -40.0 -35.7 -39.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.8 -31.4 -25.2 -27.0 -22.7 -26.5	
ow Channel ( 3.44 5.15 3.44 5.15 Aid Channel (1 3.47 5.20	1717.5MHz) -4.1 -2.3 -7.1 -1.7 1732.5MHz) -2.7 0.8	H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0	37.5 38.3 37.5 38.3 37.5	1.0 1.0 1.0 1.0	-38.8 -44.4 -38.2 -40.0 -35.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.8 -31.4 -25.2 -27.0 -22.7	
ow Channel ( 3.44 5.15 3.44 5.15 Mid Channel (1 3.47 5.20 3.47 5.20 3.47 5.20	1717.5MHz) 4.1 -2.3 -7.1 1.7 -2.7 0.8 -2.2 -0.8 1747.5MHz)	H H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	37.5 38.3 37.5 38.3 37.5 38.3 37.5 38.3 37.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-38.8 -44.4 -38.2 -40.0 -35.7 -39.5 -37.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.8 -31.4 -25.2 -27.0 -22.7 -26.5 -24.3	
ow Channel ( 3.44 5.15 3.44 5.15 Mid Channel (1 3.47 5.20 3.47 5.20 1.47 5.20 1.47 5.20	1717.5MHz) -4.1 -2.3 -7.1 -7.1 -7.7 -7.7 -7.7 -7.7 -7.7 -7.7	H H V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	37.5 38.3 37.5 38.3 37.5 38.3 37.5 38.3 37.5 38.3 37.5 38.2	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-38.8 -44.4 -38.2 -40.0 -35.7 -39.5 -37.3 -37.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.8 -31.4 -25.2 -27.0 -22.7 -26.5 -24.3 -28.1	
ow Channel ( 3.44 5.15 3.44 5.15 5.15 Mid Channel ( 3.47 5.20 3.47 5.20 10 3.47 5.20 10 3.50 5.24	1717.5MHz) -4.1 -2.3 -7.1 -1.7 1732.5MHz) -2.7 0.8 -2.2 -0.8 1747.5MHz) -3.9 -4.1	H H V V H H H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	37.5 38.3 37.5 38.3 37.5 38.3 37.5 38.3 37.5 38.2 37.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-38.8 -44.4 -38.2 -40.0 -35.7 -39.5 -37.3 -37.3 -41.1 -40.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.8 31.4 -25.2 -27.0 -22.7 -26.5 -24.3 -28.1 -27.5	
ow Channel ( 3.44 5.15 3.44 5.15 Mid Channel (1 3.47 5.20 3.47 5.20 1.47 5.20 1.47 5.20	1717.5MHz) -4.1 -2.3 -7.1 -7.1 -7.7 -7.7 -7.7 -7.7 -7.7 -7.7	H H V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	37.5 38.3 37.5 38.3 37.5 38.3 37.5 38.3 37.5 38.3 37.5 38.2	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-38.8 -44.4 -38.2 -40.0 -35.7 -39.5 -37.3 -37.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.8 -31.4 -25.2 -27.0 -22.7 -26.5 -24.3 -28.1	

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

				ited Emissions Substitution I					
ompany:		Apple							
oject #:		14U17673							
ite:		06/05/14							
st Engine	er:	A. Poushnejad	I						
onfiguratio	n:	EUT only							
ode:		LTE Band 4, 1	5MHz 16QAM						
	Chamber			mplifer	Filte		ļ		mit
3m C	hamber D	•	3m Char	nber D 👻	2.5G HP Fi	lter _	·	Part 27	-
	SG reading		Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	(H/V)							
<u> </u>									
w Channel	(1717.5MHz)		20.7	20.2	10	44.2	42.0	20.2	
w Channel 3.44	-4.0	Н	3.0	38.3	1.0	-41.3	-13.0	-28.3	
w Channel 3.44 5.15	-4.0 -3.4	Н	3.0	37.5	1.0	-39.9	-13.0	-26.9	
w Channel 3.44	-4.0								
w Channel 3.44 5.15 3.44 5.15	-4.0 -3.4 -7.3 -5.8	H V	3.0 3.0	37.5 38.3	1.0 1.0	-39.9 -44.6	-13.0 -13.0	-26.9 -31.6	
w Channel 3.44 5.15 3.44 5.15 d Channel	-4.0 -3.4 -7.3 -5.8 1732.5MHz)	H V V	3.0 3.0 3.0	37.5 38.3 37.5	1.0 1.0 1.0	-39.9 -44.6 -42.3	-13.0 -13.0 -13.0	-26.9 -31.6 -29.3	
w Channel 3.44 5.15 3.44 5.15 d Channel 3.47	-4.0 -3.4 -7.3 -5.8 1732.5MHz) -2.8	H V V	3.0 3.0 3.0 3.0	37.5 38.3 37.5 38.3	1.0 1.0 1.0 1.0	-39.9 -44.6 -42.3 -40.0	-13.0 -13.0 -13.0 -13.0	-26.9 -31.6 -29.3 -27.0	
w Channel 3.44 5.15 3.44 5.15 d Channel 3.47 5.20	4.0 -3.4 -7.3 -5.8 1732.5MHz) -2.8 1.0	H V V H	3.0 3.0 3.0 3.0 3.0 3.0	37.5 38.3 37.5 38.3 37.5	1.0 1.0 1.0 1.0	-39.9 -44.6 -42.3 -40.0 -35.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-26.9 -31.6 -29.3 -27.0 -22.5	
w Channel 3.44 5.15 3.44 5.15 d Channel 3.47	-4.0 -3.4 -7.3 -5.8 1732.5MHz) -2.8	H V V	3.0 3.0 3.0 3.0	37.5 38.3 37.5 38.3	1.0 1.0 1.0 1.0	-39.9 -44.6 -42.3 -40.0	-13.0 -13.0 -13.0 -13.0	-26.9 -31.6 -29.3 -27.0	
w Channel 3.44 5.15 3.44 5.15 d Channel 3.47 5.20 3.47 5.20	4.0 3.4 7.3 -5.8 1732.5MHz) 2.8 1.0 -2.3 -0.3	H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	37.5 38.3 37.5 38.3 37.5 38.3 37.5 38.3	1.0 1.0 1.0 1.0 1.0 1.0	-39.9 -44.6 -42.3 -40.0 -35.5 -39.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-26.9 -31.6 -29.3 -27.0 -22.5 -26.5	
w Channel 3.44 5.15 3.44 5.15 d Channel 3.47 5.20 3.47 5.20 gh Channel	4.0 3.4 7.3 -5.8 1732.5MHz) -2.8 1.0 -2.3 -0.3 (1747.5MHz)	H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	37.5 38.3 37.5 38.3 37.5 38.3 37.5 38.3 37.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-39.9 -44.6 -42.3 -40.0 -35.5 -39.5 -36.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-26.9 -31.6 -29.3 -27.0 -22.5 -26.5 -23.7	
w Channel 3.44 5.15 3.44 5.15 d Channel 3.47 5.20 3.47 5.20 gh Channel 3.50	4.0 3.4 7.3 5.8 1732.5MHz) -2.8 1.0 -2.3 -0.3 (1747.5MHz) 4.1	H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	37.5 38.3 37.5 38.3 37.5 38.3 37.5 38.3 37.5 38.2	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-39.9 -44.6 -42.3 -40.0 -35.5 -39.5 -36.7 -41.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-26.9 -31.6 -29.3 -27.0 -22.5 -26.5 -23.7 -28.3	
w Channel 3.44 5.15 3.44 5.15 d Channel 3.47 5.20 3.47 5.20 gh Channel	4.0 3.4 7.3 -5.8 1732.5MHz) -2.8 1.0 -2.3 -0.3 (1747.5MHz)	H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	37.5 38.3 37.5 38.3 37.5 38.3 37.5 38.3 37.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-39.9 -44.6 -42.3 -40.0 -35.5 -39.5 -36.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-26.9 -31.6 -29.3 -27.0 -22.5 -26.5 -23.7	

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

				ted Emissions Substitution N					
Company:		Apple							
Project #: Date:		14U17673 06/05/14							
lest Enginee		A. Poushnejad							
Configuration		EUT only							
/lode:		LTE Band 4, 2	MHz QPSK						
<u>Fest Equipme</u> Substitution:		ubstitution, a	and 8ft SMA Ca	able					
	Chamber		Pre-a	mplifer	Filte	er	1	Lin	nit
3m Ch	namber D	-	3m Char	nber D 🚽	2.5G HP Fi	lter _	·	Part 27	-
			Distance			5100	1 1 14	Delta	Notes
Frequency S			Distance	Preamp	Attenuator	EIRP	Limit	Deita	Notes
(GHz)	(dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Della	Notes
(GHz) ow Channel (1	(dBm) 1720MHz)	(H/V)							Notes
(GHz)	(dBm)		3.0 3.0	38.3 37.5	Attenuator 1.0 1.0	-39.9 -39.4	-13.0 -13.0	-26.9 -26.4	Notes
(GHz) ow Channel (1 3.44 5.16 3.44	(dBm) 1720MHz) -2.6 -2.9 -4.5	(H/V) H H V	3.0 3.0 3.0	38.3 37.5 38.3	1.0 1.0 1.0	-39.9 -39.4 -41.8	-13.0 -13.0 -13.0	-26.9 -26.4 -28.8	Notes
(GHz) ow Channel (1 3.44 5.16	(dBm) 1720MHz) -2.6 -2.9	(H/V) H H	3.0 3.0	38.3 37.5	1.0 1.0	-39.9 -39.4	-13.0 -13.0	-26.9 -26.4	Notes
(GHz) ow Channel (1 3.44 5.16 3.44 5.16	(dBm) -2.6 -2.9 -4.5 -2.7	(H/V) H H V	3.0 3.0 3.0	38.3 37.5 38.3	1.0 1.0 1.0	-39.9 -39.4 -41.8	-13.0 -13.0 -13.0	-26.9 -26.4 -28.8	Notes
(GHz) ow Channel (1 3.44 5.16 3.44 5.16	(dBm) -2.6 -2.9 -4.5 -2.7	(H/V) H H V	3.0 3.0 3.0	38.3 37.5 38.3	1.0 1.0 1.0	-39.9 -39.4 -41.8	-13.0 -13.0 -13.0	-26.9 -26.4 -28.8	Notes
(GHz) ow Channel (1 3.44 5.16 3.44 5.16 1id Channel (1	(dBm) 1720MHz) -2.6 -2.9 -4.5 -2.7 732.5MHz) -1.8 0.1	(H/V) H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	38.3 37.5 38.3 37.5	1.0 1.0 1.0 1.0	-39.9 -39.4 -41.8 -39.2 -39.0 -36.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-26.9 -26.4 -28.8 -26.2 -26.0 -23.3	Notes
(GHz) ow Channel (1 3.44 5.16 5.16 lid Channel (1 3.47 5.20 3.47	(dBm) 1720MHz) -2.6 -2.9 -4.5 -2.7 732.5MHz) -1.8 0.1 -2.8	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	38.3 37.5 38.3 37.5 38.3 37.5 38.3 37.5 38.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-39.9 -39.4 -41.8 -39.2 -39.0 -36.3 -40.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-26.9 -26.4 -28.8 -26.2 -26.0 -23.3 -27.1	Notes
(GHz) ow Channel (1 3.44 5.16 3.44 5.16 id Channel (1 3.47 5.20	(dBm) 1720MHz) -2.6 -2.9 -4.5 -2.7 732.5MHz) -1.8 0.1	(H/V) H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	38.3 37.5 38.3 37.5 38.3 37.5	1.0 1.0 1.0 1.0 1.0 1.0	-39.9 -39.4 -41.8 -39.2 -39.0 -36.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-26.9 -26.4 -28.8 -26.2 -26.0 -23.3	Notes
(GHz) ow Channel ( 3.44 5.16 3.44 5.16 lid Channel (1 3.47 5.20 3.47 5.20	(dBm) 1720MHz) -2.6 -2.9 -4.5 -2.7 732.5MHz) -1.8 0.1 -2.8 -0.7	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	38.3 37.5 38.3 37.5 38.3 37.5 38.3 37.5 38.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-39.9 -39.4 -41.8 -39.2 -39.0 -36.3 -40.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-26.9 -26.4 -28.8 -26.2 -26.0 -23.3 -27.1	Notes
(GHz) ow Channel ( 3.44 5.16 3.44 5.16 id Channel (1 3.47 5.20 3.47 5.20 igh Channel (1	(dBm) 1720MHz) -2.6 -2.9 -4.5 -2.7 732.5MHz) -1.8 0.1 -2.8 -0.7 1745MHz)	(H/V) H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	38.3 37.5 38.3 37.5 38.3 37.5 38.3 37.5 38.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-39.9 -39.4 -41.8 -39.2 -39.0 -36.3 -40.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	26.9 26.4 28.8 26.2 26.0 23.3 27.1 24.1	Notes
(GHz) ow Channel ( 3.44 5.16 5.16 id Channel (1 3.47 5.20 3.47 5.20	(dBm) 1720MHz) -2.6 -2.9 -4.5 -2.7 732.5MHz) -1.8 0.1 -2.8 -0.7	(H/V) H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	38.3 37.5 38.3 37.5 38.3 37.5 38.3 37.5 38.3 37.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-39.9 -39.4 -41.8 -39.2 -39.0 -36.3 -40.1 -37.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-26.9 -26.4 -28.8 -26.2 -26.0 -23.3 -27.1	Notes
(GHz) ow Channel ( 3.44 5.16 3.44 5.16 10 10 10 10 10 10 10 10 10 10 10 10 10	(dBm) 1720MHz) -2.6 -2.9 -4.5 -2.7 732.5MHz) -1.8 0.1 -2.8 -0.7 1745MHz) -0.9	(H/V) H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	38.3 37.5 38.3 37.5 38.3 37.5 38.3 37.5 38.3 37.5 38.2	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-39.9 -39.4 -41.8 -39.2 -39.0 -36.3 -40.1 -37.1 -38.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	26.9 26.4 28.8 26.2 26.0 23.3 27.1 24.1 25.1	

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

				ted Emissions Substitution I					
ompany:		Apple							
oject #:		14U17673							
ate:		06/05/14							
est Engine	er:	A. Poushnejad	I						
onfiguratio	n:	EUT only							
ode:		LTE Band 4, 2	0MHz 16QAM						
	Chamber			mplifer	Filte			Lir	nit
3m C	hamber D	•	3m Chan	nber D 🚽	2.5G HP Fi	lter _	·	Part 27	•
requency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
w Channel		(1.0.0)							
3.44	-2.5	Н	3.0	38.3	1.0	-39.8	-13.0	-26.8	
F 40	-2.5	Н	3.0	37.5	1.0	-39.0	-13.0	-26.0	
5.16	-4.4	V	3.0	38.3	1.0	-41.7	-13.0	-28.7	
3.44	-3.2	V	3.0	37.5	1.0	-39.7	-13.0	-26.7	
	-3.2								
3.44 5.16	•								
3.44	•	Н	3.0	38.3	1.0	-39.1	-13.0	-26.1	
3.44 5.16 d Channel (	1732.5MHz)	H H	3.0 3.0	38.3 37.5	1.0 1.0	-39.1 -36.5	-13.0 -13.0	-26.1 -23.5	
3.44 5.16 id Channel ( 3.47 5.20 3.47	1732.5MHz) -1.8 0.0 -3.0	H V	3.0 3.0	37.5 38.3	1.0 1.0	-36.5 -40.3	-13.0 -13.0	-23.5 -27.3	
3.44 5.16 d Channel ( 3.47 5.20	1732.5MHz) -1.8 0.0	Н	3.0	37.5	1.0	-36.5	-13.0	-23.5	
3.44 5.16 id Channel ( 3.47 5.20 3.47 5.20	1732.5MHz) -1.8 0.0 -3.0 -0.6	H V	3.0 3.0	37.5 38.3	1.0 1.0	-36.5 -40.3	-13.0 -13.0	-23.5 -27.3	
3.44 5.16 id Channel ( 3.47 5.20 3.47	1732.5MHz) -1.8 0.0 -3.0 -0.6	H V	3.0 3.0	37.5 38.3	1.0 1.0	-36.5 -40.3	-13.0 -13.0	-23.5 -27.3	
3.44 5.16 d Channel ( 3.47 5.20 3.47 5.20 gh Channel	1732.5MHz) -1.8 0.0 -3.0 -0.6 (1745MHz)	H V V	3.0 3.0 3.0	37.5 38.3 37.5	1.0 1.0 1.0	-36.5 -40.3 -37.1	-13.0 -13.0 -13.0	-23.5 -27.3 -24.1	
3.44 5.16 d Channel ( 3.47 5.20 3.47 5.20 gh Channel 3.49	1732.5MHz) -1.8 0.0 -3.0 -0.6 (1745MHz) -2.4	H V V	3.0 3.0 3.0 3.0	37.5 38.3 37.5 38.2	1.0 1.0 1.0 1.0	-36.5 -40.3 -37.1 -39.6	-13.0 -13.0 -13.0 -13.0	-23.5 -27.3 -24.1 -26.6	

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

				ted Emissions Substitution I					
ompany:		Apple							
roject #:		14U17673							
ate:		06/10/14							
est Enginee	er:	T Wang							
onfiguration	n:	EUT only							
lode:		LTE Band 4, 1	.4MHz QPSK						
est Equipme substitution:		ubstitution, a	and 8ft SMA Ca	able					
	Chamber		Pre-a	mplifer	Filte	er		Li	mit
3m Cl	hamber F	•	3m Char	nber F 🚽	2.5G HP Fi	ter _	•	Part 27	•
requency	SG reading	Ant. Pol.	3m Chan Distance	nber F 🚽 Preamp	2.5G HP Fi Attenuator	EIRP	Limit	Part 27 Delta	• Notes
Frequency (GHz)	SG reading (dBm)				I				
Frequency (GHz) ow Channel (	SG reading (dBm) <sup>1710.7MHz)</sup>	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	
Frequency (GHz)	SG reading (dBm)	Ant. Pol.			I				
Frequency (GHz) ow Channel ( 3.421 5.132 3.421	SG reading (dBm) 1710.7MHz) -5.3	Ant. Pol. (H/V) H H V	Distance 3.0 3.0 3.0	Preamp 36.4 35.5 36.4	Attenuator	40.7 -37.4 -40.7	Limit -13.0	Delta -27.7 -24.4 -27.7	
Frequency (GHz) ow Channel ( 3.421 5.132	SG reading (dBm) 1710.7MHz) -5.3 -2.8	Ant. Pol. (H/V) H	Distance 3.0 3.0	Preamp 36.4 35.5	Attenuator	EIRP -40.7 -37.4	Limit -13.0 -13.0	Delta -27.7 -24.4	
Frequency (GHz) ow Channel ( 3.421 5.132 3.421	SG reading (dBm) 1710.7MHz) -5.3 -2.8 -5.3 -3.3	Ant. Pol. (H/V) H H V	Distance 3.0 3.0 3.0	Preamp 36.4 35.5 36.4	Attenuator 1.0 1.0 1.0 1.0	40.7 -37.4 -40.7	Limit -13.0 -13.0 -13.0	Delta -27.7 -24.4 -27.7	
Frequency (GHz) ow Channel ( 3.421 5.132 3.421 5.132	SG reading (dBm) 1710.7MHz) -5.3 -2.8 -5.3 -3.3	Ant. Pol. (H/V) H H V V	Distance 3.0 3.0 3.0	Preamp 36.4 35.5 36.4	Attenuator 1.0 1.0 1.0 1.0	40.7 -37.4 -40.7	Limit -13.0 -13.0 -13.0	Delta -27.7 -24.4 -27.7	
Frequency (GHz) ow Channel ( 3.421 5.132 3.421 5.132 ild Channel (1 3.465 5.198	SG reading (dBm) 1710.7MHz) -5.3 -2.8 -5.3 -3.3 -3.3 -732.5MHz) -4.1 -4.1	Ant. Pol. (H/V) H H V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Preamp           36.4           35.5           36.4           35.5           36.4           35.5	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	40.7 -37.4 -40.7 -37.8 -39.4 -38.6	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta 27.7 24.4 27.7 24.8 -26.4 -25.6	
Frequency (GHz) ow Channel ( 3.421 5.132 3.421 5.132 ild Channel (1 3.465 5.198 3.465	SG reading (dBm) 1710.7MHz) -5.3 -2.8 -5.3 -3.3 -3.3 -732.5MHz) -4.1 -4.1 -3.9	Ant. Pol. (H/V) H H V V H H H V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Breamp           36.4           35.5           36.4           35.5           36.4           35.5           36.4           35.5           36.4           35.5	Attenuator	40.7 -37.4 -40.7 -37.8 -39.4 -38.6 -39.3	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -27.7 -24.4 -27.7 -24.8 -26.4 -25.6 -26.3	
Frequency (GHz) ow Channel ( 3.421 5.132 3.421 5.132 ild Channel (1 3.465 5.198	SG reading (dBm) 1710.7MHz) -5.3 -2.8 -5.3 -3.3 -3.3 -732.5MHz) -4.1 -4.1	Ant. Pol. (H/V) H H V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Preamp           36.4           35.5           36.4           35.5           36.4           35.5	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	40.7 -37.4 -40.7 -37.8 -39.4 -38.6	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta 27.7 24.4 27.7 24.8 -26.4 -25.6	
Frequency (GHz) ow Channel ( 3.421 5.132 3.421 5.132 ild Channel (1 3.465 5.198 3.465	SG reading (dBm) 1710.7MHz) -5.3 -2.8 -5.3 -3.3 1732.5MHz) -4.1 -4.1 -3.9 -3.4	Ant. Pol. (H/V) H H V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Breamp           36.4           35.5           36.4           35.5           36.4           35.5           36.4           35.5           36.4           35.5	Attenuator	EIRP -40.7 -37.4 -40.7 -37.8 -39.4 -38.6 -39.3 -37.9	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -27.7 -24.4 -27.7 -24.8 -26.4 -25.6 -26.3 -24.9	
Frequency (GHz) ow Channel ( 3.421 5.132 3.421 5.132 lid Channel (1 3.465 5.198 3.465 5.198 igh Channel 3.509	SG reading (dBm) 1710.7MHz) -5.3 -2.8 -5.3 -3.3 -732.5MHz) -4.1 -4.1 -4.1 -3.9 -3.4 (1754.3MHz) -3.9 -3.9	Ant. Pol. (H/V) H H V V V H H H H H H	Distance	36.4           35.5         36.4           35.5         36.4           35.5         36.4           35.5         36.4           35.5         36.4           35.5         36.4           35.5         36.4           35.5         36.4           35.5         36.4           35.5         36.4           35.5         36.4	Attenuator  1.0  1.0  1.0  1.0  1.0  1.0  1.0  1.	EIRP -40.7 -37.4 -40.7 -37.8 -39.4 -38.6 -39.3 -37.9 -39.3	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -27.7 -24.4 -27.7 -24.8 -26.4 -26.6 -26.3 -24.9 -26.3 -24.9	
Frequency (GHz) ow Channel ( 3.421 5.132 5.132 101 Channel ( 3.465 5.198 3.465 5.198 102 Channel ( 3.509 5.263	SG reading (dBm) 1710.7MHz) 5.3 2.8 5.3 3.3 1732.5MHz) 4.1 4.1 4.1 3.9 3.4 1754.3MHz) 3.9 3.0	Ant. Pol. (H/V) H H V V V H H V V H H H	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Preamp 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5	Attenuator  Attenuator  1.0  1.0  1.0  1.0  1.0  1.0  1.0  1.	40.7 -37.4 -40.7 -37.8 -39.4 -38.6 -39.3 -37.9 -39.3 -37.5	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta 27.7 24.4 27.7 24.8 26.4 25.6 26.3 24.9 26.3 24.9	
Frequency (GHz) ow Channel ( 3.421 5.132 3.421 5.132 lid Channel (1 3.465 5.198 3.465 5.198 igh Channel 3.509	SG reading (dBm) 1710.7MHz) -5.3 -2.8 -5.3 -3.3 -732.5MHz) -4.1 -4.1 -4.1 -3.9 -3.4 (1754.3MHz) -3.9 -3.9	Ant. Pol. (H/V) H H V V V H H H H H H	Distance	36.4           35.5         36.4           35.5         36.4           35.5         36.4           35.5         36.4           35.5         36.4           35.5         36.4           35.5         36.4           35.5         36.4           35.5         36.4           35.5         36.4           35.5         36.4	Attenuator  1.0  1.0  1.0  1.0  1.0  1.0  1.0  1.	EIRP -40.7 -37.4 -40.7 -37.8 -39.4 -38.6 -39.3 -37.9 -39.3	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -27.7 -24.4 -27.7 -24.8 -26.4 -26.6 -26.3 -24.9 -26.3 -24.9	

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

				ted Emissions Substitution N					
Company:		Apple							
roject #:		14U17673							
Date:		06/10/14							
est Engine	er:	T Wang							
Configuratio		EUT only							
Node:		LTE Band 4, 1	4MHz 16QAM						
upstitution	Chamber		end 8ft SMA Ca Pre-a	mplifer	Filte	er	1	Lir	nit
3m C	hamber F	•	3m Char	nber F 🚽	2.5G HP Fi	lter -	•	Part 27	•
Frequency	SG reading	Ant. Pol.	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	(H/V)							
ow Channel									
3.421 5.132	-6.0 -3.5	H	3.0 3.0	36.4	1.0 1.0	-41.4 -38.1	-13.0 -13.0	-28.4 -25.1	
0.13Z	-3.5 -6.1	V N	3.0	30.0	1.0	-38.1	-13.0	-23.1	
3 /21	-0.1	V	3.0	35.5	1.0	-41.5	-13.0	-25.6	
3.421 5.132									
5.132					1				
5.132 Iid Channel (									
5.132 lid Channel ( 3.465	-5.0	Н	3.0	36.4	1.0	-40.3	-13.0	-27.3	
5.132 lid Channel ( 3.465 5.198	-5.0 -4.7	Н	3.0	35.5	1.0	-39.2	-13.0	-26.2	
5.132 lid Channel ( 3.465 5.198 3.465	-5.0 -4.7 -4.7	H V	3.0 3.0	35.5 36.4	1.0 1.0	-39.2 -40.1	-13.0 -13.0	-26.2 -27.1	
5.132 lid Channel ( 3.465 5.198	-5.0 -4.7	Н	3.0	35.5	1.0	-39.2	-13.0	-26.2	
5.132 lid Channel ( 3.465 5.198 3.465	-5.0 -4.7 -4.7 -4.2	H V	3.0 3.0	35.5 36.4	1.0 1.0	-39.2 -40.1	-13.0 -13.0	-26.2 -27.1	
5.132 lid Channel ( 3.465 5.198 3.465 5.198	-5.0 -4.7 -4.7 -4.2	H V	3.0 3.0	35.5 36.4	1.0 1.0	-39.2 -40.1	-13.0 -13.0	-26.2 -27.1	
5.132 lid Channel ( 3.465 5.198 3.465 5.198 ligh Channel 3.509 5.263	-5.0 -4.7 -4.7 -4.2 (1754.3MHz) -4.8 -3.9	H V V H H	3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0	-39.2 -40.1 -38.7 -40.2 -38.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-26.2 -27.1 -25.7 -27.2 -25.4	
5.132 lid Channel ( 3.465 5.198 3.465 5.198 ligh Channel 3.509	-5.0 -4.7 -4.7 -4.2 (1754.3MHz) -4.8	H V V	3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0	-39.2 -40.1 -38.7 -40.2	-13.0 -13.0 -13.0 -13.0	-26.2 -27.1 -25.7 -27.2	

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

				ted Emissions Substitution I					
ompany:		Apple							
roject #:		14U17673							
ate:		06/10/14							
est Enginee		T Wang							
Configuration		EUT only							
lode:		LTE Band 4, 3	MHZ OPSK						
		ETE Dana 4, 0							
	Chamber			mplifer	Filte		ļ	Lir	mit
3m C	hamber F	-	3m Chai	mber F 🚽	2.5G HP Fi	lter -	<b>·</b>	Part 27	-
							-		
	SG reading		Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz) ow Channel (	(dBm)	(H/V)							
ow Channel i	-4.7	Н	3.0	36.4	1.0	-40.1	-13.0	-27.1	
			3.0	35.5	1.0	-39.0	-13.0	-26.0	
3.423	.4.4	н					-10.0		
	-4.4 -5.2	H V	3.0	36.4	1.0	-40.6	-13.0	-27.6	
3.423 5.135							-13.0 -13.0	-27.6 -25.4	
3.423 5.135 3.423 5.135	-5.2 -3.9	V	3.0	36.4	1.0	-40.6			
3.423 5.135 3.423 5.135 Iid Channel (	-5.2 -3.9 1732.5MHz)	V V	3.0 3.0	36.4 35.5	1.0 1.0	-40.6 -38.4	-13.0	-25.4	
3.423 5.135 3.423 5.135 ild Channel ( 3.465	-5.2 -3.9 1732.5MHz) -5.0	V V H	3.0 3.0 3.0	36.4 35.5 36.4	1.0 1.0 1.0	-40.6 -38.4 -40.3	-13.0 -13.0	-25.4 -27.3	
3.423 5.135 3.423 5.135 iid Channel ( 3.465 5.198	-5.2 -3.9 1732.5MHz) -5.0 -3.8	V V H H	3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0 1.0	40.6 -38.4 -40.3 -38.3	-13.0 -13.0 -13.0	-25.4 -27.3 -25.3	
3.423 5.135 3.423 5.135 ild Channel ( 3.465	-5.2 -3.9 1732.5MHz) -5.0	V V H	3.0 3.0 3.0	36.4 35.5 36.4	1.0 1.0 1.0	-40.6 -38.4 -40.3	-13.0 -13.0	-25.4 -27.3	
3.423 5.135 3.423 5.135 iid Channel ( 3.465 5.198 3.465	-5.2 -3.9 1732.5MHz) -5.0 -3.8 -5.2	V V H H V	3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0	-40.6 -38.4 -40.3 -38.3 -40.6	-13.0 -13.0 -13.0 -13.0	-25.4 -27.3 -25.3 -27.6	
3.423 5.135 3.423 5.135 lid Channel ( 3.465 5.198 3.465 5.198 igh Channel	-5.2 -3.9 732.5MHz) -5.0 -3.8 -5.2 -4.1 (1753.5MHz)	V V H H V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0 1.0	-40.6 -38.4 -40.3 -38.3 -40.6 -38.6	-13.0 -13.0 -13.0 -13.0 -13.0	-25.4 -27.3 -25.3 -27.6 -25.6	
3.423 5.135 3.423 5.135 lid Channel (' 3.465 5.198 3.465 5.198 igh Channel 3.507	-5.2 -3.9 1732.5MHz) -5.0 -3.8 -5.2 -4.1 (1753.5MHz) -6.9	V V H H V V H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0	40.6 -38.4 -40.3 -38.3 -40.6 -38.6 -38.6	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.4 -27.3 -25.3 -27.6 -25.6 -29.3	
3.423 5.135 3.423 5.135 lid Channel (* 3.465 5.198 3.465 5.198 igh Channel 3.507 5.261	-5.2 -3.9 1732.5MHz) -5.0 -3.8 -5.2 -4.1 1753.5MHz) -6.9 -4.9	H H V V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	40.6 -38.4 -40.3 -38.3 -40.6 -38.6 -38.6 -42.3 -39.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.4 -27.3 -25.3 -27.6 -25.6 -25.6 -29.3 -26.4	
3.423 5.135 3.423 5.135 lid Channel (' 3.465 5.198 3.465 5.198 igh Channel 3.507	-5.2 -3.9 1732.5MHz) -5.0 -3.8 -5.2 -4.1 (1753.5MHz) -6.9	V V H H V V H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0	40.6 -38.4 -40.3 -38.3 -40.6 -38.6 -38.6	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.4 -27.3 -25.3 -27.6 -25.6 -29.3	

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

				ted Emissions Substitution I					
ompany:		Apple							
roject #:		14U17673							
ate:		06/10/14							
est Enginee	r:	T Wang							
onfiguration		EUT only							
lode:		LTE Band 4. 3	MHz 16QAM						
	Chamber		and 8ft SMA Ca Pre-a	mplifer	Filte	er		Lir	nit
3m Cl	namber F	-	3m Char	nber F 🚽	2.5G HP Fi	lter	·	Part 27	•
Frequency			Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
	(dBm)		Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz) ow Channel (	(dBm) 1711.5MHz)	(H/V)		·					Notes
(GHz) ow Channel ( 3.423 5.135 3.423	(dBm) 1711.5MHz) -5.6 -5.1 -6.1	(H/V) H H V	3.0 3.0 3.0	36.4 35.5 36.4	1.0 1.0 1.0	41.0 -39.7 -41.5	-13.0 -13.0 -13.0	-28.0 -26.7 -28.5	Notes
(GHz) ow Channel ( 3.423 5.135	(dBm) 1711.5MHz) -5.6 -5.1	(H/V) н н	3.0 3.0	36.4 35.5	1.0 1.0	-41.0 -39.7	-13.0 -13.0	-28.0 -26.7	Notes
(GHz) ow Channel ( 3.423 5.135 3.423 5.135	(dBm) 1711.5MHz) -5.6 -5.1 -6.1 -4.7	(H/V) H H V	3.0 3.0 3.0	36.4 35.5 36.4	1.0 1.0 1.0	41.0 -39.7 -41.5	-13.0 -13.0 -13.0	-28.0 -26.7 -28.5	Notes
(GHz) ow Channel ( 3.423 5.135 3.423 5.135 id Channel (1	(dBm) 1711.5MHz) -5.6 -5.1 -6.1 -4.7 732.5MHz)	(H/V) H H V V	3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0	41.0 -39.7 -41.5 -39.2	-13.0 -13.0 -13.0 -13.0	-28.0 -26.7 -28.5 -26.2	Notes
(GHz) ow Channel ( 3.423 5.135 3.423 5.135	(dBm) 1711.5MHz) -5.6 -5.1 -6.1 -4.7	(H/V) H H V	3.0 3.0 3.0	36.4 35.5 36.4	1.0 1.0 1.0	41.0 -39.7 -41.5	-13.0 -13.0 -13.0	-28.0 -26.7 -28.5	Notes
(GHz) ow Channel ( 3.423 5.135 3.423 5.135 idd Channel (1 3.465	(dBm) 1711.5MHz) -5.6 -5.1 -6.1 -4.7 732.5MHz) -5.9	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0	-41.0 -39.7 -41.5 -39.2 -41.2	-13.0 -13.0 -13.0 -13.0 -13.0	-28.0 -26.7 -28.5 -26.2 -28.2	Notes
(GHz) ow Channel ( 3.423 5.135 3.423 5.135 10 Channel (1 3.465 5.198	(dBm) 1711.5MHz) -5.6 -5.1 -6.1 -4.7 732.5MHz) -5.9 -4.6	(H/V) H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0 1.0 1.0	41.0 -39.7 41.5 -39.2 -41.2 -39.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-28.0 -26.7 -28.5 -26.2 -28.2 -28.2 -26.1	Notes
(GHz) ow Channel ( 3.423 5.135 3.423 5.135 id Channel ( 3.465 5.198 3.465 5.198	(dBm) 1711.5MHz) .5.6 .5.1 .6.1 .4.7 732.5MHz) .5.9 .4.6 .6.1 .4.9	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	41.0 .39.7 41.5 .39.2 .41.2 .39.1 41.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-28.0 -26.7 -28.5 -26.2 -28.2 -26.1 -28.5	Notes
(GHz) ow Channel ( 3.423 5.135 5.135 5.135 lid Channel (1 3.465 5.198 3.465 5.198 igh Channel (	(dBm) 1711.5MHz) .5.6 .5.1 .6.1 .4.7 732.5MHz) .5.9 .4.6 .6.1 .4.9 1753.5MHz)	(H/V) H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	41.0 39.7 41.5 -39.2 41.2 -39.1 41.5 -39.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-28.0 -26.7 -28.5 -26.2 -28.2 -26.1 -28.5 -26.4	Notes
(GHz) ow Channel ( 3.423 5.135 5.135 5.135 id Channel (1 3.465 5.198 3.465 5.198 igh Channel 3.507	(dBm) 1711.5MHz) -5.6 -5.1 -6.1 -4.7 732.5MHz) -5.9 -4.6 -6.1 -4.9 1753.5MHz) -7.8	(H/V) H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	41.0 .39.7 .41.5 .39.2 .41.2 .39.1 .41.5 .39.4 .43.2	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-28.0 -26.7 -28.5 -26.2 -28.2 -28.2 -26.1 -28.5 -26.4 -30.2	Notes
(GHz) ow Channel ( 3.423 5.135 5.135 5.135 lid Channel (1 3.465 5.198 3.465 5.198 igh Channel (	(dBm) 1711.5MHz) .5.6 .5.1 .6.1 .4.7 732.5MHz) .5.9 .4.6 .6.1 .4.9 1753.5MHz)	(H/V) H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	41.0 39.7 41.5 -39.2 41.2 -39.1 41.5 -39.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-28.0 -26.7 -28.5 -26.2 -28.2 -26.1 -28.5 -26.4	Notes

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

				ated Emissions z Substitution N					
ompany:		Apple							
roject #:		14U17673							
ate:		06/10/14							
est Enginee		T Wang							
onfiguratio		EUT only							
lode:		LTE Band 4. 5	MHz QPSK						
est Equipm		ubstitution. a	and 8ft SMA C	able					
							1		
	Chamber		Pre-a	amplifer	Filte	er		Lin	nit
3m C	hamber F	-	3m Cha	mber F 🚽	2.5G HP Fi	lter -	•	Part 27	-
							-		
requency	SG reading	Ant. Pol.	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
		(H/\/)							
(GHz)	(dBm)	(H/V)							
(GHz)	(dBm)	<u>(H/V)</u> н	3.0	36.4	1.0	-42.0	-13.0	-29.0	
(GHz) ow Channel (	(dBm) (1712.5MHz)		3.0 3.0	<u>36.4</u> 35.5	1.0 1.0	-42.0 -38.3	-13.0 -13.0	-29.0 -25.3	
(GHz) ow Channel 3.425 5.138 3.425	(dBm) (1712.5MHz) -6.6 -3.7 -6.3	H H V	3.0 3.0	35.5 36.4	1.0 1.0	-38.3 -41.7	-13.0 -13.0	-25.3 -28.7	
(GHz) ow Channel ( 3.425 5.138	(dBm) (1712.5MHz) -6.6 -3.7	H	3.0	35.5	1.0	-38.3	-13.0	-25.3	
(GHz) ow Channel 3.425 5.138 3.425 5.138 5.138	(dBm) (1712.5MHz) -6.6 -3.7 -6.3 -3.4	H H V	3.0 3.0	35.5 36.4	1.0 1.0	-38.3 -41.7	-13.0 -13.0	-25.3 -28.7	
(GHz) ow Channel 3.425 5.138 3.425	(dBm) (1712.5MHz) -6.6 -3.7 -6.3 -3.4	H H V	3.0 3.0	35.5 36.4	1.0 1.0	-38.3 -41.7	-13.0 -13.0	-25.3 -28.7	
(GHz) ow Channel ( 3.425 5.138 3.425 5.138 id Channel (	(dBm) (1712.5MHz) -6.6 -3.7 -6.3 -3.4 1732.5MHz)	H H V V	3.0 3.0 3.0	35.5 36.4 35.5	1.0 1.0 1.0	-38.3 -41.7 -37.9	-13.0 -13.0 -13.0	-25.3 -28.7 -24.9	
(GHz) ow Channel ( 3.425 5.138 3.425 5.138 id Channel ( 3.465 5.198 3.465	(dBm) 1712.5MHz) -6.6 -3.7 -6.3 -3.4 1732.5MHz) -7.4 -5.5 -6.6	H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0	-38.3 -41.7 -37.9 -42.7 -40.0 -42.0	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.3 -28.7 -24.9 -29.7 -29.7 -27.0 -29.0	
(GHz) w Channel ( 3.425 5.138 3.425 5.138 id Channel ( 3.465 5.198	(dBm) (1712.5MHz) -6.6 -3.7 -6.3 -3.4 -7.4 -7.4 -5.5	H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0	-38.3 -41.7 -37.9 -42.7 -40.0	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.3 -28.7 -24.9 -29.7 -29.7 -27.0	
(GHz) ow Channel ( 3.425 5.138 3.425 5.138 id Channel ( 3.465 5.198 3.465 5.198	(dBm) (1712.5MHz) -6.6 -3.7 -6.3 -3.4 1732.5MHz) -7.4 -5.5 -6.6 -4.8	H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0	-38.3 -41.7 -37.9 -42.7 -40.0 -42.0	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.3 -28.7 -24.9 -29.7 -29.7 -27.0 -29.0	
(GHz) ow Channel ( 3.425 5.138 3.425 5.138 id Channel ( 3.465 5.198 3.465	(dBm) (1712.5MHz) -6.6 -3.7 -6.3 -3.4 1732.5MHz) -7.4 -5.5 -6.6 -4.8	H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0	-38.3 -41.7 -37.9 -42.7 -40.0 -42.0	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-25.3 -28.7 -24.9 -29.7 -29.7 -27.0 -29.0	
(GHz) ow Channel ( 3.425 5.138 3.425 5.138 id Channel ( 3.465 5.198 3.465 5.198 3.465 5.198	(dBm) 1712.5MHz) -6.6 -3.7 -6.3 -3.4 1732.5MHz) -7.4 -5.5 -6.6 -4.8 (1752.5MHz)	H H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0	-38.3 -41.7 -37.9 -42.7 -40.0 -42.0 -39.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	25.3 28.7 24.9 29.7 27.0 29.0 26.3	
(GHz) w Channel ( 3.425 5.138 3.425 5.138 d Channel ( 3.465 5.198 3.465 5.198 gh Channel 3.505	(dBm) (1712.5MHz) -6.6 -3.7 -6.3 -3.4 (1732.5MHz) -7.4 -5.5 -6.6 -6.6 -4.8 (1752.5MHz) -6.9	H H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-38.3 41.7 -37.9 -42.7 -40.0 -42.0 -39.3 -42.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	25.3 28.7 24.9 29.7 27.0 29.0 26.3 29.3	

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

				ated Emissions z Substitution N					
ompany:		Apple							
roject #:		14U17673							
ate:		06/10/14							
est Enginee		T Wang							
onfiguration		EUT only							
lode:		LTE Band 4, 5	MHz 16QAM						
est Equipmo ubstitution:		ubstitution, a	and 8ft SMA C	able					
							1		
	Chamber		Pre-a	amplifer	Filte	er		Lin	nit
3m Cl	hamber F	•	3m Cha	mber F 🚽	2.5G HP Fi	lter -	-	Part 27	-
I			,		1	_	-	1	
	SG reading	Ant. Pol.	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
requency									
(GHz)	(dBm)	(H/V)							
(GHz) ow Channel (	(dBm)								
(GHz) ow Channel ( 3.425	(dBm) 1712.5MHz) -7.4	(H/V) H	3.0	36.4	1.0	-42.8	-13.0	-29.8	
(GHz) ow Channel ( 3.425 5.138	(dBm) 1712.5MHz) -7.4 -4.5	(H/V) н н	3.0	35.5	1.0	-39.1	-13.0	-26.1	
(GHz) ow Channel ( 3.425 5.138 3.425	(dBm) 1712.5MHz) -7.4 -4.5 -7.1	(H/V) H H V	3.0 3.0	35.5 36.4	1.0 1.0	-39.1 -42.5	-13.0 -13.0	-26.1 -29.5	
(GHz) ow Channel ( 3.425 5.138	(dBm) 1712.5MHz) -7.4 -4.5	(H/V) н н	3.0	35.5	1.0	-39.1	-13.0	-26.1	
(GHz) ow Channel ( 3.425 5.138 3.425	(dBm) 1712.5MHz) -7.4 -4.5 -7.1 -4.5	(H/V) H H V	3.0 3.0	35.5 36.4	1.0 1.0	-39.1 -42.5	-13.0 -13.0	-26.1 -29.5	
(GHz) ow Channel ( 3.425 5.138 3.425 5.138	(dBm) 1712.5MHz) -7.4 -4.5 -7.1 -4.5 1732.5MHz) -8.2	(H/V) H H V	3.0 3.0	35.5 36.4	1.0 1.0	-39.1 -42.5	-13.0 -13.0	-26.1 -29.5 -26.0 -30.5	
(GHz) ow Channel ( 3.425 5.138 3.425 5.138 id Channel ( 3.465 5.198	(dBm) 1712.5MHz) -7.4 -4.5 -7.1 -4.5 1732.5MHz) -8.2 -7.2	(H/V) H V V H H	3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0 1.0	-39.1 -42.5 -39.0 -43.5 -41.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-26.1 -29.5 -26.0 -30.5 -28.7	
(GHz) ow Channel ( 3.425 5.138 3.425 5.138 id Channel ( 3.465 5.198 3.465	(dBm) 1712.5MHz) -7.4 -4.5 -7.1 -4.5 1732.5MHz) -8.2 -7.2 -7.3	(H/V) H V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0	-39.1 -42.5 -39.0 -43.5 -41.7 -42.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-26.1 -29.5 -26.0 -30.5 -28.7 -29.7	
(GHz) ow Channel ( 3.425 5.138 3.425 5.138 id Channel ( 3.465 5.198	(dBm) 1712.5MHz) -7.4 -4.5 -7.1 -4.5 1732.5MHz) -8.2 -7.2	(H/V) H V V H H	3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0 1.0	-39.1 -42.5 -39.0 -43.5 -41.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-26.1 -29.5 -26.0 -30.5 -28.7	
(GHz) ow Channel ( 3.425 5.138 3.425 5.138 id Channel ( 3.465 5.198 3.465 5.198	(dBm) 1712.5MHz) 7.4 4.5 7.1 4.5 1732.5MHz) 8.2 7.2 7.3 -5.5	(H/V) H V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0	-39.1 -42.5 -39.0 -43.5 -41.7 -42.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-26.1 -29.5 -26.0 -30.5 -28.7 -29.7	
(GHz) ow Channel ( 3.425 5.138 3.425 5.138 id Channel ( 3.465 5.198 3.465 5.198	(dBm) 1712.5MHz) 7.4 4.5 7.1 4.5 1732.5MHz) 8.2 7.2 7.3 -5.5	(H/V) H V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0	-39.1 -42.5 -39.0 -43.5 -41.7 -42.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-26.1 -29.5 -26.0 -30.5 -28.7 -29.7	
(GHz) ow Channel ( 3.425 5.138 3.425 5.138 id Channel ( 3.465 5.198 3.465 5.198 igh Channel	(dBm) 1712.5MHz) 7.4 4.5 7.1 4.5 1732.5MHz) 8.2 7.2 7.3 5.5 1752.5MHz)	(H/V) H V V H H V V H H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0	-39.1 -42.5 -39.0 -43.5 -41.7 -42.7 -40.0	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-26.1 -29.5 -26.0 -30.5 -28.7 -29.7 -27.0	
(GHz) ow Channel ( 3.425 5.138 3.425 5.138 ild Channel ( 3.465 5.198 3.465 5.198 igh Channel 3.505	(dBm) 1712.5MHz) 7.4 4.5 7.1 4.5 1732.5MHz) 8.2 7.3 5.5 1752.5MHz) 7.9	(H/V) H V V V H H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-39.1 -42.5 -39.0 -43.5 -41.7 -42.7 -40.0 -43.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-26.1 -29.5 -26.0 -30.5 -28.7 -29.7 -27.0 -30.3	

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

				ated Emissions z Substitution I					
ompany:		Apple							
roject #:		14U17673							
ate:		06/10/14							
est Enginee	r:	T Wang							
onfiguration	1:	EUT only							
lode:		LTE Band 4, 1	0MHz QPSK						
est Equipme ubstitution:		Ibstitution, a	ind 8ft SMA C	able					
	Chamber		Pre-a	amplifer	Filte	er		Lii	mit
			Pre-amplifer 3m Chamber F		Filter		1	Limit	
3m Cł	namber F	•	3m Chai	mber F 🚽	2.5G HP FI		r I	Fart 2/	<b>•</b>
requency	SG reading	Ant. Pol.	3m Chai Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
requency (GHz)	SG reading (dBm)	_	<u> </u>						Notes
requency (GHz)	SG reading (dBm)	Ant. Pol.	<u> </u>						Notes
requency ( (GHz)	SG reading (dBm) <sup>1715MHz)</sup>	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
requency (GHz) w Channel ( 3.430 5.145 3.430	SG reading (dBm) 1715MHz) -8.1 -5.3 -8.2	Ant. Pol. (H/V) H H V	Distance 3.0 3.0 3.0	Preamp 36.4 35.5 36.4	Attenuator 1.0 1.0 1.0	43.5 -39.8 -43.6	Limit -13.0 -13.0 -13.0	Delta -30.5 -26.8 -30.6	Notes
requency (GHz) ow Channel ( 3.430 5.145	SG reading (dBm) 1715MHz) -8.1 -5.3	Ant. Pol. (H/V)	Distance 3.0 3.0	Preamp 36.4 35.5	Attenuator	EIRP -43.5 -39.8	Limit -13.0 -13.0	Delta -30.5 -26.8	Notes
requency (GHz) w Channel ( 3.430 5.145 3.430 5.145	SG reading (dBm) 1715MHz) -8.1 -5.3 -8.2 -5.7	Ant. Pol. (H/V) H H V	Distance 3.0 3.0 3.0	Preamp 36.4 35.5 36.4	Attenuator 1.0 1.0 1.0	43.5 -39.8 -43.6	Limit -13.0 -13.0 -13.0	Delta -30.5 -26.8 -30.6	Notes
requency (GHz) ow Channel ( 3.430 5.145 3.430	SG reading (dBm) 1715MHz) -8.1 -5.3 -8.2 -5.7	Ant. Pol. (H/V) H H V	Distance 3.0 3.0 3.0	Preamp 36.4 35.5 36.4	Attenuator 1.0 1.0 1.0	43.5 -39.8 -43.6	Limit -13.0 -13.0 -13.0	Delta -30.5 -26.8 -30.6	Notes
requency (GHz) ow Channel ( 3.430 5.145 3.430 5.145 id Channel (1	SG reading (dBm) 1715MHz) -8.1 -5.3 -8.2 -5.7 732.5MHz)	Ant. Pol. (H/V) H H V V V	Distance	36.4 35.5 36.4 35.5	Attenuator	EIRP -43.5 -39.8 -43.6 -40.2	Limit -13.0 -13.0 -13.0 -13.0	Delta -30.5 -26.8 -30.6 -27.2	Notes
requency ( (GHz) w Channel ( 3.430 5.145 3.430 5.145 d Channel (1 3.465	SG reading (dBm) 1715MHz) -5.3 -8.2 -5.7 732.5MHz) -5.8	Ant. Pol. (H/V) H H V V H H H V	Distance 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	EIRP 43.5 -39.8 -43.6 -40.2 -41.1	Limit -13.0 -13.0 -13.0 -13.0 -13.0	Delta -30.5 -26.8 -30.6 -27.2	Notes
requency ( (GHz) ow Channel ( 3.430 5.145 3.430 5.145 id Channel (1 3.465 5.198	SG reading (dBm) 1715MHz) -8.1 -5.3 -8.2 -5.7 732.5MHz) -5.8 -4.6	Ant. Pol. (H/V) H H V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	EIRP _43.5 _39.8 _43.6 _40.2 _41.1 _39.1	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -30.5 -26.8 -30.6 -27.2 -28.1 -26.1	Notes
requency (GHz) ww Channel ( 3.430 5.145 3.430 5.145 id Channel (1 3.465 5.198 3.465 5.198	SG reading (dBm) 1715MHz) -5.3 -8.2 -5.7 732.5MHz) -5.8 -4.6 -6.8 -4.6 -6.8 -4.6	Ant. Pol. (H/V) H H V V H H H V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Breamp           36.4           35.5           36.4           35.5           36.4           35.5           36.4           35.5           36.4           35.5	Attenuator  1.0  1.0  1.0  1.0  1.0  1.0  1.0  1.	EIRP <u>43.5</u> <u>-39.8</u> <u>43.6</u> <u>40.2</u> <u>41.1</u> <u>-39.1</u> <u>42.2</u>	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -30.5 -26.8 -30.6 -27.2 -28.1 -26.1 -29.2	Notes
requency (GHz) w Channel ( 3.430 5.145 3.430 5.145 d Channel (1 3.465 5.198 3.465 5.198 3.465 5.198 gh Channel (1	SG reading (dBm) 1715MHz) -8.1 -5.3 -8.2 -5.7 732.5MHz) -5.8 -4.6 -6.8 -4.6 1750MHz)	Ant. Pol. (H/V) H H V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Breamp           36.4           35.5           36.4           35.5           36.4           35.5           36.4           35.5           36.4           35.5	Attenuator  1.0  1.0  1.0  1.0  1.0  1.0  1.0  1.	EIRP 43.5 -39.8 43.6 -40.2 -41.1 -39.1 -42.2 -39.1	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -30.5 -26.8 -30.6 -27.2 -28.1 -26.1 -29.2 -26.1	Notes
requency (GHz) w Channel ( 3.430 5.145 5.145 d Channel (1 3.465 5.198 3.465 5.198 3.465 5.198 gh Channel ( 3.500	SG reading (dBm) 1715MHz) -8.1 -5.3 -8.2 -5.7 732.5MHz) -5.8 -4.6 -6.8 -4.6 -6.8 -4.6 1750MHz) -7.0	Ant. Pol. (H/V) H H V V H H V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Breamp           36.4           35.5           36.4           35.5           36.4           35.5           36.4           35.5           36.4           35.5           36.4           35.5           36.4           35.5           36.4	Attenuator  1.0  1.0  1.0  1.0  1.0  1.0  1.0  1.	EIRP 43.5 -39.8 43.6 -40.2 41.1 -39.1 42.2 -39.1 -42.4	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -30.5 -26.8 -30.6 -27.2 -28.1 -26.1 -29.2 -26.1 -29.2 -26.1	Notes
requency (GHz) w Channel ( 3.430 5.145 3.430 5.145 d Channel (1 3.465 5.198 3.465 5.198 3.465 5.198 gh Channel (1	SG reading (dBm) 1715MHz) -8.1 -5.3 -8.2 -5.7 732.5MHz) -5.8 -4.6 -6.8 -4.6 1750MHz)	Ant. Pol. (H/V) H H V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Breamp           36.4           35.5           36.4           35.5           36.4           35.5           36.4           35.5           36.4           35.5	Attenuator  1.0  1.0  1.0  1.0  1.0  1.0  1.0  1.	EIRP 43.5 -39.8 43.6 -40.2 -41.1 -39.1 -42.2 -39.1	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -30.5 -26.8 -30.6 -27.2 -28.1 -26.1 -29.2 -26.1	Notes

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

				ated Emissions z Substitution N					
ompany:		Apple							
roject #:		14U17673							
ate:		06/10/14							
est Enginee	r:	T Wang							
onfiguration	1:	EUT only							
ode:		LTE Band 4, 1	0MHz 16QAM						
	Chamber		and 8ft SMA C	amplifer	Filte	ər		Lir	nit
0.01	namber F		3m Cha	mber F 🚽	2.5G HP Fi	lter ,	1	Part 27	_
3m Cr	amper F	•			2.0011111				
requency (GHz)			Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
requency	SG reading (dBm)	Ant. Pol.							Notes
requency (GHz) w Channel ( 3.430	SG reading (dBm) <sup>1715MHz)</sup> -8.9	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP -44.3	Limit	Delta	Notes
requency (GHz) w Channel ( 3.430 5.145	SG reading (dBm) 1715MHz) -8.9 -6.1	Ant. Pol. (H/V) H	Distance 3.0 3.0	Preamp	Attenuator	EIRP -44.3 -40.6	Limit -13.0 -13.0	Delta	Notes
requency (GHz) ww Channel ( 3.430 5.145 3.430	SG reading (dBm) 1715MHz) -8.9 -6.1 -9.5	Ant. Pol. (H/V) H H V	Distance	Preamp 36.4 35.5 36.4	Attenuator 1.0 1.0 1.0 1.0	EIRP 	Limit -13.0 -13.0 -13.0	Delta 31.3 27.6 31.9	Notes
requency (GHz) w Channel ( 3.430 5.145	SG reading (dBm) 1715MHz) -8.9 -6.1	Ant. Pol. (H/V) H	Distance 3.0 3.0	Preamp	Attenuator	EIRP -44.3 -40.6	Limit -13.0 -13.0	Delta	Notes
requency (GHz) w Channel ( 3.430 5.145 3.430	SG reading (dBm) 1715MHz) -6.1 -9.5 -6.4	Ant. Pol. (H/V) H H V	Distance	Preamp 36.4 35.5 36.4	Attenuator 1.0 1.0 1.0 1.0	EIRP 	Limit -13.0 -13.0 -13.0	Delta 31.3 27.6 31.9	Notes
requency ( (GHz) w Channel ( 3.430 5.145 3.430 5.145 id Channel (1 3.465	SG reading (dBm) 1715MHz) -6.1 -9.5 -6.4 732.5MHz) -6.9	Ant. Pol. (H/V) H H V V	Distance	Preamp 36.4 35.5 36.4 35.5 36.4 35.5	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	EIRP 44.3 40.6 44.9 40.9 40.9	Limit -13.0 -13.0 -13.0 -13.0 -13.0	Delta 31.3 -27.6 -31.9 -27.9	Notes
requency (GHz) ww Channel ( 3.430 5.145 3.430 5.145 id Channel (1 3.465 5.198	SG reading (dBm) 1715MHz) -8.9 -6.1 -9.5 -6.4 732.5MHz) -6.9 -5.5	Ant. Pol. (H/V) H H V V V	Distance	Preamp           36.4           35.5           36.4           35.5           36.4           35.5	Attenuator 1.0	EIRP _44.3 _40.6 _44.9 _40.9 _40.9	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta 31.3 -27.6 -31.9 -27.9 -29.2 -27.0	Notes
requency (GHz) ww Channel ( 3.430 5.145 3.430 5.145 id Channel (1 3.465 5.198 3.465	SG reading (dBm) 1715MHz) -8.9 -6.1 -9.5 -6.4 732.5MHz) -6.9 -5.5 -7.8	Ant. Pol. (H/V) H H V V V H H H V	Distance	Preamp 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4	Attenuator 1.0	EIRP <u>44.3</u> <u>40.6</u> <u>44.9</u> <u>40.9</u> <u>40.9</u> <u>42.2</u> <u>40.0</u> <u>43.2</u>	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -31.3 -27.6 -31.9 -27.9 -29.2 -29.2 -27.0 -30.2	Notes
requency (GHz) ww Channel ( 3.430 5.145 3.430 5.145 id Channel (1 3.465 5.198	SG reading (dBm) 1715MHz) -8.9 -6.1 -9.5 -6.4 732.5MHz) -6.9 -5.5	Ant. Pol. (H/V) H H V V V	Distance	Preamp           36.4           35.5           36.4           35.5           36.4           35.5	Attenuator 1.0	EIRP _44.3 _40.6 _44.9 _40.9 _40.9	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta 31.3 -27.6 -31.9 -27.9 -29.2 -27.0	Notes
requency (GHz) w Channel ( 3.430 5.145 3.430 5.145 id Channel (1 3.465 5.198 3.465 5.198	SG reading (dBm) 1715MHz) -8.9 -6.1 -9.5 -6.4 732.5MHz) -6.9 -5.5 -7.8 -5.3	Ant. Pol. (H/V) H H V V V H H H V	Distance	Preamp 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4	Attenuator 1.0	EIRP <u>44.3</u> <u>40.6</u> <u>44.9</u> <u>40.9</u> <u>40.9</u> <u>42.2</u> <u>40.0</u> <u>43.2</u>	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -31.3 -27.6 -31.9 -27.9 -29.2 -29.2 -27.0 -30.2	Notes
requency (GHz) ww Channel ( 3.430 5.145 3.430 5.145 id Channel (1 3.465 5.198 3.465 5.198 3.465 5.198 gh Channel ( 3.500	SG reading (dBm) 1715MHz) -8.9 -6.1 -9.5 -6.4 732.5MHz) -6.9 -5.5 -7.8 -5.3	Ant. Pol. (H/V) H H V V V H H H V	Distance	Preamp 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4	Attenuator 1.0	EIRP <u>44.3</u> <u>40.6</u> <u>44.9</u> <u>40.9</u> <u>40.9</u> <u>42.2</u> <u>40.0</u> <u>43.2</u>	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -31.3 -27.6 -31.9 -27.9 -29.2 -29.2 -27.0 -30.2	Notes
requency (GHz) ow Channel ( 3.430 5.145 3.430 5.145 id Channel (1 3.465 5.198 3.465 5.198 3.465 5.198 gh Channel ( 3.500 5.250	SG reading (dBm) 1715MHz) -6.1 -9.5 -6.4 732.5MHz) -6.9 -5.5 -7.8 -5.3 1750MHz) -7.9 -6.4	Ant. Pol. (H/V) H H V V V V V H H H H H	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Preamp 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5	Attenuator	EIRP 44.3 40.6 44.9 40.9 42.2 40.0 43.2 -39.8 43.3 40.9	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -31.3 -27.6 -31.9 -27.9 -29.2 -27.0 -29.2 -27.0 -26.8 -30.2 -26.8 -30.3 -27.9	Notes
requency (GHz) w Channel ( 3.430 5.145 3.430 5.145 id Channel (1 3.465 5.198 3.465 5.198 3.465 5.198 gh Channel ( 3.500	SG reading (dBm) 1715MHz) -8.9 -6.1 -9.5 -6.4 732.5MHz) -6.9 -5.5 -7.8 -5.3 1750MHz) -7.9	Ant. Pol. (H/V) H H V V V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Preamp 36.4 35.5 36.4 36.4 35.5 36.4 37.5 36.5 36.5 36.5 36.5 36.5 36.5 36.5 36.5 36.5 36.5 36.5	Attenuator  1.0  1.0  1.0  1.0  1.0  1.0  1.0  1.	EIRP 44.3 40.6 44.9 40.9 40.9 40.9 42.2 40.0 43.2 -39.8 43.3	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -31.3 -27.6 -31.9 -27.9 -29.2 -27.0 -30.2 -26.8 -30.3	Notes

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

				ted Emissions Substitution I					
ompany:		Apple							
roject #:		дрре 14U17673							
ate:		06/10/14							
est Enginee									
-		T Wang							
Configuration		EUT only							
lode:		LTE Band 4, 1	5MHZ QPSK						
	Chamb er			mplifer	Filte		ļ	Lir	mit
3m Cl	namber F	•	3m Char	mber F 🚽	2.5G HP Fi	lter _	•	Part 27	•
Frequency			Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz) ow Channel (	(dBm) 1717.5MHz)	(H/V)							Notes
(GHz) ow Channel ( 3.435	(dBm) 1717.5MHz) -9.0	(H/V) Н	3.0	36.4	1.0	-44.4	-13.0	-31.4	Notes
(GHz) ow Channel (	(dBm) 1717.5MHz)	(H/V)							Notes
(GHz) ow Channel ( 3.435 5.153	(dBm) 1717.5MHz) -9.0 -4.9	(H/V) H H	3.0 3.0	36.4 35.5	1.0 1.0	-44.4 -39.4	-13.0 -13.0	-31.4 -26.4	Notes
(GHz) ow Channel ( 3.435 5.153 3.435 5.153	(dBm) 1717.5MHz) -9.0 -4.9 -8.3 -4.8	(H/V) H H V	3.0 3.0 3.0	36.4 35.5 36.4	1.0 1.0 1.0	-44.4 -39.4 -43.7	-13.0 -13.0 -13.0	-31.4 -26.4 -30.7	Notes
(GHz) ow Channel ( 3.435 5.153 3.435	(dBm) 1717.5MHz) -9.0 -4.9 -8.3 -4.8	(H/V) H H V V	3.0 3.0 3.0	36.4 35.5 36.4	1.0 1.0 1.0	-44.4 -39.4 -43.7	-13.0 -13.0 -13.0	-31.4 -26.4 -30.7	Notes
(GHz) ow Channel ( 3,435 5,153 3,435 5,153 id Channel (1	(dBm) 1717.5MHz) -9.0 -4.9 -8.3 -4.8 732.5MHz)	(H/V) H H V	3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0	-44.4 -39.4 -43.7 -39.4	-13.0 -13.0 -13.0 -13.0	-31.4 -26.4 -30.7 -26.4	Notes
(GHz) ow Channel ( 3.435 5.153 3.435 5.153 lid Channel (1 3.465	(dBm) 1717.5MHz) -9.0 -4.9 -8.3 -4.8 732.5MHz) -8.4	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0	-44.4 -39.4 -43.7 -39.4 -43.7	-13.0 -13.0 -13.0 -13.0 -13.0	-31.4 -26.4 -30.7 -26.4 -30.7	Notes
(GHz) ow Channel ( 3.435 5.153 3.435 5.153 101 Channel (1 3.465 5.198	(dBm) 1717.5MHz) -9.0 -4.9 -8.3 -4.8 732.5MHz) -8.4 -5.8	(H/V) H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0 1.0 1.0		-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-31.4 -26.4 -30.7 -26.4 -30.7 -27.3	Notes
(GHz) ow Channel ( 3.435 5.153 3.435 5.153 lid Channel (1 3.465 5.198 3.470 5.198	(dBm) 1717.5MHz) -9.0 -4.9 -8.3 -4.8 732.5MHz) -8.4 -5.8 -7.7 -5.6	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	44.4 -39.4 -43.7 -39.4 -43.7 -40.3 -43.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-31.4 -26.4 -30.7 -26.4 -30.7 -27.3 -30.1	Notes
(GHz) ow Channel ( 3.435 5.153 5.153 lid Channel (1 3.465 5.198 3.470	(dBm) 1717.5MHz) -9.0 -4.9 -8.3 -4.8 732.5MHz) -8.4 -5.8 -7.7 -5.6	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	44.4 -39.4 -43.7 -39.4 -43.7 -40.3 -43.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-31.4 -26.4 -30.7 -26.4 -30.7 -27.3 -30.1	Notes
(GHz) ow Channel ( 3.435 5.153 3.435 5.153 lid Channel (1 3.465 5.198 3.470 5.198 igh Channel (	(dBm) 1717.5MHz) -9.0 -4.9 -8.3 -4.8 732.5MHz) -8.4 -5.8 -7.7 -5.6 1747.5MHz)	(H/V) H V V H H V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	_44.4 _39.4 _43.7 _39.4 _43.7 _40.3 _43.1 _40.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-31.4 -26.4 -30.7 -26.4 -30.7 -27.3 -30.1 -27.1	Notes
(GHz) ow Channel ( 3.435 5.153 5.153 14 Channel (1 3.465 5.198 3.470 5.198 igh Channel ( 3.495	(dBm) 1717.5MHz) -9.0 4.9 8.3 4.8 732.5MHz) -8.4 -5.8 -7.7 -5.6 1747.5MHz) -7.4	(H/V) H V V H H V V H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	44.4 .39.4 43.7 .39.4 43.7 40.3 43.1 40.1 42.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	31.4 -26.4 -30.7 -26.4 -30.7 -27.3 -30.1 -27.1 -29.8	Notes

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FAX: (510) 661-0888

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

				ted Emissions Substitution I					
ompany:		Apple							
roject #:		14U17673							
ate:		06/10/14							
est Enginee		T Wang							
onfiguratio		EUT only							
lode:		LTE Band 4, 1	5MHz 16QAM						
est Equipm Ibstitution:		ubstitution, a	and 8ft SMA Ca	able					
	Chamber		Pre-a	mplifer	Filte	er		Lir	nit
3m C	hamber F	-	3m Char	nber F 🚽	2.5G HP Fi	lter -	·	Part 27	•
					,	_		1	
	SG reading		Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz) ow Channel (	(dBm) 1717.5MHz)	(H/V)							Notes
(GHz) ow Channel 3.435	(dBm) 1717.5MHz) -9.8	(H/V) Н	3.0	36.4	1.0	-45.2	-13.0	-32.2	Notes
(GHz) ow Channel ( 3.435 5.153	(dBm) 1717.5MHz) -9.8 -6.1	(H/V) н н	3.0 3.0	36.4 35.5	1.0 1.0	-45.2 -40.6	-13.0 -13.0	-32.2 -27.6	Notes
(GHz) ow Channel ( 3.435	(dBm) 1717.5MHz) -9.8	(H/V) Н	3.0	36.4	1.0	-45.2	-13.0	-32.2 -27.6 -31.5	Notes
(GHz) ow Channel ( 3.435 5.153 3.435 5.153	(dBm) 1717.5MHz) -9.8 -6.1 -9.1 -5.8	(H/V) H H V	3.0 3.0 3.0	36.4 35.5 36.4	1.0 1.0 1.0	-45.2 -40.6 -44.5	-13.0 -13.0 -13.0	-32.2 -27.6	Notes
(GHz) ow Channel ( 3.435 5.153 3.435 5.153 id Channel (	(dBm) 1717.5MHz) -9.8 -6.1 -9.1 -5.8 1732.5MHz)	(H/V) H H V V	3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0	<u>45.2</u> <u>40.6</u> <u>44.5</u> <u>40.4</u>	-13.0 -13.0 -13.0 -13.0	-32.2 -27.6 -31.5 -27.4	Notes
(GHz) ow Channel ( 3.435 5.153 3.435 5.153 id Channel ( 3.465	(dBm) 1717.5MHz) -9.8 -6.1 -9.1 -5.8 1732.5MHz) -9.2	(H/V) H V V	3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0	.45.2 .40.6 .44.5 .40.4 .44.5	-13.0 -13.0 -13.0 -13.0 -13.0	-32.2 -27.6 -31.5 -27.4 -31.5	Notes
(GHz) ow Channel ( 3.435 5.153 3.435 5.153 id Channel ( 3.465 5.198	(dBm) 1717.5MHz) -9.8 -6.1 -9.1 -5.8 1732.5MHz) -9.2 -6.7	(H/V) H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0 1.0 1.0	45.2 40.6 44.5 40.4 -44.5 -41.2	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	32.2 -27.6 -31.5 -27.4 -31.5 -28.2	Notes
(GHz) ow Channel ( 3.435 5.153 3.435 5.153 id Channel ( 3.465 5.198 3.470	(dBm) 1717.5MHz) -9.8 -6.1 -9.1 -5.8 1732.5MHz) -9.2 -6.7 -8.5	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	45.2 40.6 44.5 40.4 44.5 41.2 43.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-32.2 -27.6 -31.5 -27.4 	Notes
(GHz) w Channel ( 3.435 5.153 3.435 5.153 id Channel ( 3.465 5.198	(dBm) 1717.5MHz) -9.8 -6.1 -9.1 -5.8 1732.5MHz) -9.2 -6.7	(H/V) H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0 1.0 1.0	45.2 40.6 44.5 40.4 -44.5 -41.2	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	32.2 -27.6 -31.5 -27.4 -31.5 -28.2	Notes
(GHz) ow Channel ( 3.435 5.153 3.435 5.153 id Channel ( 3.465 5.198 3.470 5.198	(dBm) 1717.5MHz) -9.8 -6.1 -9.1 -5.8 1732.5MHz) -9.2 -6.7 -8.5 -6.5	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	45.2 40.6 44.5 40.4 44.5 41.2 43.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-32.2 -27.6 -31.5 -27.4 	Notes
(GHz) w Channel ( 3.435 5.153 3.435 5.153 id Channel ( 3.465 5.198 3.470 5.198 gh Channel	(dBm) 1717.5MHz) 9.8 -6.1 9.1 -5.8 1732.5MHz) 9.2 -6.7 8.5 -6.5 (1747.5MHz)	(H/V) H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	45.2 40.6 44.5 40.4 44.5 41.2 43.9 41.0	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-32.2 -27.6 -31.5 -27.4 -31.5 -28.2 -30.9 -28.0	Notes
(GHz) w Channel ( 3.435 5.153 3.435 5.153 id Channel ( 3.465 5.198 3.470 5.198 3.470 5.198 gh Channel 3.495	(dBm) 1717.5MHz) 9.8 -6.1 9.1 -5.8 1732.5MHz) -9.2 -6.7 -8.5 -6.5 (1747.5MHz) -8.3	(H/V) H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	45.2 40.6 44.5 40.4 -44.5 41.2 43.9 41.0 -43.7	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-32.2 -27.6 -31.5 -27.4 	Notes
(GHz) ow Channel ( 3,435 5,153 3,435 5,153 iid Channel ( 3,465 5,198 3,470 5,198 igh Channel	(dBm) 1717.5MHz) 9.8 -6.1 9.1 -5.8 1732.5MHz) 9.2 -6.7 8.5 -6.5 (1747.5MHz)	(H/V) H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	45.2 40.6 44.5 40.4 44.5 41.2 43.9 41.0	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-32.2 -27.6 -31.5 -27.4 -31.5 -28.2 -30.9 -28.0	Notes

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

				ited Emissions z Substitution N					
Company:		Apple							
Project #:		14U17673							
Date:		06/10/14							
Test Enginee	er:	T Wang							
Configuration		EUT only							
Node:		LTE Band 4, 2	MHz QPSK						
Substitution:	Horn T59 Si Chamber	ubstitution, a	nd 8ft SMA Ca Pre-a	able Implifer	Filte	er	1	Lin	nit
3m C	hamber F	-	3m Char	nber F 🖵	2.5G HP Fi	lter _	·	Part 27	-
Fraguanay	SG reading	Ant Dol	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
riequency	_	(H/V)	Distance	Freamp	Allenuator	EIRF	LIIIIIL	Della	Notes
(GHz)	(dBm)						:		
(GHz) ow Channel (	(dBm) (1720MHz)	(1/1/1/)							
ow Channel ( 3.440	1720MHz) _8.5	H	3.0	36.4	1.0	-43.9	-13.0	-30.9	
ow Channel ( 3.440 5.160	1720MHz) -8.5 -5.7	H	3.0	35.5	1.0	-40.2	-13.0	-27.2	
ow Channel ( 3.440 5.160 3.440	1720MHz) -8.5 -5.7 -7.9	H H V	3.0 3.0	35.5 36.4	1.0 1.0	-40.2 -43.3	-13.0 -13.0	-27.2 -30.3	
ow Channel ( 3.440 5.160	1720MHz) -8.5 -5.7	H	3.0	35.5	1.0	-40.2	-13.0	-27.2	
ow Channel ( 3.440 5.160 3.440	1720MHz) -8.5 -5.7 -7.9 -5.0	H H V	3.0 3.0	35.5 36.4	1.0 1.0	-40.2 -43.3	-13.0 -13.0	-27.2 -30.3	
ow Channel ( 3.440 5.160 3.440 5.160	1720MHz) -8.5 -5.7 -7.9 -5.0	H H V	3.0 3.0	35.5 36.4 35.5 36.4	1.0 1.0	-40.2 -43.3	-13.0 -13.0	-27.2 -30.3	
ow Channel ( 3,440 5,160 3,440 5,160 5,160 Aid Channel ( 3,465 5,198	1720MHz) -8.5 -5.7 -7.9 -5.0 1732.5MHz) -8.2 -4.9	H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0	40.2 43.3 -39.5 43.5 -39.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-27.2 -30.3 -26.5 -30.5 -26.4	
ow Channel ( 3.440 5.160 3.440 5.160 Aid Channel ( 3.465 5.198 3.465	1720MHz) -8.5 -5.7 -7.9 -5.0 1732.5MHz) -8.2 -4.9 -8.0	H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0	40.2 43.3 -39.5 43.5 -39.4 43.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-27.2 -30.3 -26.5 -30.5 -26.4 -30.4	
ow Channel ( 3.440 5.160 3.440 5.160 Aid Channel ( 3.465 5.198	1720MHz) -8.5 -5.7 -7.9 -5.0 1732.5MHz) -8.2 -4.9	H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0	40.2 43.3 -39.5 43.5 -39.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-27.2 -30.3 -26.5 -30.5 -26.4	
ow Channel ( 3.440 5.160 3.440 5.160 Mid Channel ( 3.465 5.198 3.465 5.198	1720MHz) -8.5 -5.7 -7.9 -5.0 1732.5MHz) -8.2 -4.9 -8.0 -5.0	H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0	40.2 43.3 -39.5 43.5 -39.4 43.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-27.2 -30.3 -26.5 -30.5 -26.4 -30.4	
ow Channel ( 3.440 5.160 3.440 5.160 Jid Channel ( 3.465 5.198 3.465 5.198	1720MHz) -8.5 -5.7 -7.9 -5.0 1732.5MHz) -8.2 -4.9 -8.0 -5.0	H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0	40.2 43.3 -39.5 43.5 -39.4 43.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-27.2 -30.3 -26.5 -30.5 -26.4 -30.4	
ow Channel ( 3.440 5.160 3.440 5.160 Aid Channel ( 3.465 5.198 3.465 5.198 41gh Channel	1720MHz) 	H H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	_40.2 _43.3 _39.5 _39.5 _43.5 _39.4 _43.4 _39.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	27.2 -30.3 -26.5 -30.5 -26.4 -30.4 -26.5	
ow Channel ( 3.440 5.160 3.440 5.160 Aid Channel ( 3.465 5.198 3.465 5.198 3.465 5.198 100 100 100 100 100 100 100 100 100 10	1720MHz) 8.5 5.7 7.9 5.0 1732.5MHz) 8.2 4.9 8.0 5.0 1745MHz) 8.9	H H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5 36.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	_40.2 _43.3 _39.5 _43.5 _39.4 _43.4 _39.5 _44.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	27.2 30.3 26.5 30.5 26.4 30.4 26.5 31.3	

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

				ated Emissions z Substitution I					
ompany:		Apple							
roject #:		14U17673							
ate:		06/10/14							
est Enginee	r:	T Wang							
onfiguration		EUT only							
lode:		-	0MHz 16QAM						
est Equipme		ubstitution. a	and 8ft SMA C	able					
	Chamber		Pre-a	amplifer	Filte	er		Lir	nit
	Chamber			-					
	amber F	•	3m Chai	mber F 🚽	2.5G HP Fi	lter -	·	Part 27	•
		•	3m Chai	mber F 🖵	2.5G HP Fi	lter _	·	Part 27	•
	amber F		3m Chai	mber F	2.5G HP Fi	Iter	Limit	Part 27 Delta	• Notes
3m Cr requency (GHz)	amber F SG reading (dBm)				I				▼ Notes
3m Cr Frequency ( (GHz) ow Channel (	namber F 6G reading (dBm) 1720MHz)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	▼ Notes
3m Ch Frequency ( (GHz) ow Channel ( 3.440	G reading (dBm) 1720MHz) -9.3	Ant. Pol. (H/V)	Distance	Preamp 36.4	Attenuator	EIRP	Limit	Delta	Notes
3m Ch Frequency ( (GHz) ow Channel ( 3.440 5.160	G reading (dBm) (720MHz) -9.3 -6.7	Ant. Pol. (H/V)	Distance 3.0 3.0	Preamp 36.4 35.5	Attenuator	EIRP -44.7 -41.2	Limit -13.0 -13.0	Delta -31.7 -28.2	Notes
3m Cr requency ( (GHz) ow Channel ( 3.440 5.160 3.440	amber F 6G reading (dBm) 1720MHz) -9.3 -6.7 -8.8	Ant. Pol. (H/V) H H V	Distance	Preamp 36.4 35.5 36.4	Attenuator 1.0 1.0 1.0	EIRP 	Limit -13.0 -13.0 -13.0	Delta -31.7 -28.2 -31.2	Notes
3m Ch Frequency ( (GHz) ow Channel ( 3.440 5.160	G reading (dBm) (720MHz) -9.3 -6.7	Ant. Pol. (H/V)	Distance 3.0 3.0	Preamp 36.4 35.5	Attenuator	EIRP -44.7 -41.2	Limit -13.0 -13.0	Delta -31.7 -28.2	Notes
3m Cr Frequency ( (GHz) ow Channel ( 3.440 5.160 3.440	aamber F SG reading (dBm) 1720MHz) -9.3 -6.7 -8.8 -5.8	Ant. Pol. (H/V) H H V	Distance	Preamp 36.4 35.5 36.4	Attenuator 1.0 1.0 1.0	EIRP 	Limit -13.0 -13.0 -13.0	Delta -31.7 -28.2 -31.2	Notes
3m Ch Frequency ( (GHz) ow Channel ( 3.440 5.160 5.160	aamber F SG reading (dBm) 1720MHz) -9.3 -6.7 -8.8 -5.8	Ant. Pol. (H/V) H H V	Distance	Preamp 36.4 35.5 36.4	Attenuator 1.0 1.0 1.0	EIRP 	Limit -13.0 -13.0 -13.0	Delta 31.7 28.2 31.2 27.3	Notes
3m Ch Frequency 3 (GHz) ow Channel ( 3.440 5.160 5.160 ild Channel (1 3.465 5.198	Contemporation and the second	Ant. Pol. (H/V) H H V V	Distance	36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	44.7 41.2 44.2 40.3	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta 31.7 -28.2 -31.2 -27.3 -31.3 -27.3	Notes
3m Ch requency S (GHz) w Channel (1 3.440 5.160 5.160 id Channel (1 3.465 5.198 3.465	Contemporation and the second	Ant. Pol. (H/V) H H V V H H H V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Breamp           36.4           35.5           36.4           35.5           36.4           35.5           36.4           35.5           36.4           35.5	Attenuator  1.0  1.0  1.0  1.0  1.0  1.0  1.0  1.	EIRP 44.7 41.2 44.2 40.3 44.3 40.3 44.2	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -31.7 -28.2 -31.2 -27.3 -31.3 -27.3 -31.2 -31.2	Notes
3m Cr requency 3 (GHz) ow Channel ( 3.440 5.160 id Channel (1 3.455 5.198	Contemporation and the second	Ant. Pol. (H/V) H H V V	Distance	36.4 35.5 36.4 35.5 36.4 35.5 36.4 35.5	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	44.7 41.2 44.2 40.3	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta 31.7 -28.2 -31.2 -27.3 -31.3 -27.3	Notes
3m Ch requency ( (GHz) ow Channel ( 3.440 5.160 id Channel ( 3.465 5.198 3.465 5.198	Contemporation for the second	Ant. Pol. (H/V) H H V V H H H V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Breamp           36.4           35.5           36.4           35.5           36.4           35.5           36.4           35.5           36.4           35.5	Attenuator  1.0  1.0  1.0  1.0  1.0  1.0  1.0  1.	EIRP 44.7 41.2 44.2 40.3 44.3 40.3 44.2	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta -31.7 -28.2 -31.2 -27.3 -31.3 -27.3 -31.2 -31.2	Notes
3m Cr requency ( (GHz) ww Channel ( 3.440 5.160 3.445 5.198 3.465 5.198 3.465 5.198 3.465	Contemporation and the second	Ant. Pol. (H/V) H H V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Breamp           36.4           35.5           36.4           35.5           36.4           35.5           36.4           35.5           36.4           35.5	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	EIRP 44.7 41.2 40.3 40.3 40.3 44.3 40.3 44.2 40.2	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta 31.7 -28.2 -31.2 -27.3 -31.3 -27.3 -31.2 -27.2	Notes
3m Cr (GHz) w Channel ( 3.440 5.160 id Channel (1 3.465 5.198 3.465 5.198 igh Channel ( 3.490	aamber F SG reading (dBm) 1720MHz) -9.3 -6.7 -8.8 -5.8 -5.8 -5.8 -5.8 -5.8 -5.8 -5.7 1745MHz) -9.7	Ant. Pol. (H/V) H H V V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Breamp           36.4           35.5           36.4           35.5           36.4           35.5           36.4           35.5           36.4           35.5           36.4           35.5           36.4           35.5           36.4	Attenuator  1.0  1.0  1.0  1.0  1.0  1.0  1.0  1.	EIRP 44.7 41.2 40.3 44.3 40.3 44.2 40.2 45.1	Limit .13.0 .13.0 .13.0 .13.0 .13.0 .13.0 .13.0 .13.0 .13.0 .13.0 .13.0	Delta -31.7 -28.2 -31.2 -27.3 -31.3 -27.3 -31.2 -27.2 -32.1	Notes
3m Cr requency ( (GHz) ww Channel ( 3.440 5.160 3.445 5.198 3.465 5.198 3.465 5.198 3.465 5.198 gh Channel (	Contemporation and the second	Ant. Pol. (H/V) H H V V V	Distance 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Breamp           36.4           35.5           36.4           35.5           36.4           35.5           36.4           35.5           36.4           35.5	Attenuator 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	EIRP 44.7 41.2 40.3 40.3 40.3 44.3 40.3 44.2 40.2	Limit -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	Delta 31.7 -28.2 -31.2 -27.3 -31.3 -27.3 -31.2 -27.2	Notes

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# 9.3.3. LTE BAND 5

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

				ted Emissions Substitution I					
Company:		Apple							
Project #:		14U17673							
Date:		06/03/14							
Test Engine	er:	E. Yu/ O.Su							
Configuratio		EUT only							
Mode:			2, 1.4MHz, QPSK	(					
ubstitution	Chamber		and 8ft SMA Ca Pre-a	mplifer	Filte	er	1	Li	mit
3m C	hamber F	•	3m Chan	nber F 🚽	Filter 01	•	•	Part 22	•
<b>-</b>		Ant Dal	Distance		Attenueten	EIRP	1 1	Dalta	Neter
(GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
ow Channel									
Low Channel	-21.8	Н	3.0	34.9	1.0	-55.7	-13.0	-42.7	
1 65	-11.2	H	3.0	35.4	1.0	-45.5	-13.0	-32.5	
1.65 2.47		V	3.0	34.9	1.0	-52.7	-13.0	-39.7	
1.65 2.47 1.65	-18.8				4 0	-42.9	-13.0	-29.9	
2.47	-18.8 -8.5	V	3.0	35.4	1.0	-42.3			
2.47 1.65 2.47	-8.5	V	3.0	35.4	1.0	-42.5			
2.47 1.65 2.47 Mid Channel (	-8.5 836.5MHz)						-13.0	.37.2	
2.47 1.65 2.47	-8.5	V H H	3.0 3.0 3.0	35.4 34.9 35.3	1.0 1.0 1.0	-42.5 -50.2 -47.6	-13.0 -13.0	-37.2 -34.6	
2.47 1.65 2.47 Mid Channel ( 1.67	-8.5 836.5MHz) -16.4	Н	3.0	34.9	1.0	-50.2			
2.47 1.65 2.47 Mid Channel ( 1.67 2.51	-8.5 836.5MHz) -16.4 -13.3	H H	3.0 3.0	34.9 35.3	1.0 1.0	-50.2 -47.6	-13.0	-34.6	
2.47 1.65 2.47 Mid Channel ( 1.67 2.51 1.67 2.51	-8.5 836.5MHz) -16.4 -13.3 -16.2 -10.8	H H V	3.0 3.0 3.0	34.9 35.3 34.9	1.0 1.0 1.0	-50.2 -47.6 -50.1	-13.0 -13.0	-34.6 -37.1	
2.47 1.65 2.47 Vid Channel ( 1.67 2.51 1.67 2.51 1.57 2.51 Vig Channel	-8.5 836.5MHz) -16.4 -13.3 -16.2 -10.8 (848.3MHz)	H H V V	3.0 3.0 3.0 3.0 3.0	34.9 35.3 34.9 35.3	1.0 1.0 1.0 1.0	-50.2 -47.6 -50.1 -45.1	-13.0 -13.0 -13.0	-34.6 -37.1 -32.1	
2.47 1.65 2.47 Mid Channel ( 1.67 2.51 1.67 2.51 1.67 1.70	-8.5 836.5MHz) -16.4 -13.3 -16.2 -10.8 (848.3MHz) -18.0	H H V V	3.0 3.0 3.0 3.0 3.0	34.9 35.3 34.9 35.3 34.9	1.0 1.0 1.0 1.0	-50.2 -47.6 -50.1 -45.1 -51.9	-13.0 -13.0 -13.0 -13.0	-34.6 -37.1 -32.1 -38.9	
2.47 1.65 2.47 Aid Channel ( 1.67 2.51 1.67 2.51 tigh Channel 1.70 2.54	-8.5 836.5MHz) -16.4 -13.3 -16.2 -10.8 (848.3MHz) -18.0 -16.1	H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	34.9 35.3 34.9 35.3 34.9 35.3	1.0 1.0 1.0 1.0 1.0 1.0	-50.2 -47.6 -50.1 -45.1 -51.9 -50.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-34.6 -37.1 -32.1 -38.9 -37.5	
2.47 1.65 2.47 Mid Channel ( 1.67 2.51 1.67 2.51 1.67 2.51 High Channel 1.70	-8.5 836.5MHz) -16.4 -13.3 -16.2 -10.8 (848.3MHz) -18.0	H H V V	3.0 3.0 3.0 3.0 3.0	34.9 35.3 34.9 35.3 34.9	1.0 1.0 1.0 1.0	-50.2 -47.6 -50.1 -45.1 -51.9	-13.0 -13.0 -13.0 -13.0	-34.6 -37.1 -32.1 -38.9	

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

				ted Emissions Substitution I					
ompany: roject #:		Apple 14U17673							
ate:		06/04/14							
est Enginee		E. Yu							
onfiguration		EUT only							
lode:		LIE Band 5, 1	4MHz 16QAM						
2	Chamber hamber F		Pre-a 3m Chai	mplifer	Filter 01				mit
3m Cl	namper F	•	Sin Cha		Filter 01	•		Part 22 🗸	
requency (GHz)	SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
	(dBm)		Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz) ow Channel ( 1.65	(dBm) 824.7MHz) -22.7	(H/V) н	3.0	34.9	1.0	-56.6	-13.0	-43.6	Notes
(GHz) ow Channel ( 1.65 2.47	(dBm) 824.7MHz) -22.7 -11.8	(H/V) н н	3.0 3.0	34.9 35.4	1.0 1.0	-56.6 -46.1	-13.0 -13.0	_43.6 33.1	Notes
(GHz) w Channel ( 1.65 2.47 1.65	(dBm) 824.7MHz) -22.7 -11.8 -21.0	(H/V) H H V	3.0 3.0 3.0	34.9 35.4 34.9	1.0 1.0 1.0	-56.6 -46.1 -54.9	-13.0 -13.0 -13.0	 	Notes
(GHz) ow Channel ( 1.65 2.47	(dBm) 824.7MHz) -22.7 -11.8	(H/V) н н	3.0 3.0	34.9 35.4	1.0 1.0	-56.6 -46.1	-13.0 -13.0	_43.6 33.1	Notes
(GHz) ow Channel ( 1.65 2.47 1.65	(dBm) 824.7MHz) -22.7 -11.8 -21.0 -10.0	(H/V) H H V	3.0 3.0 3.0	34.9 35.4 34.9	1.0 1.0 1.0	-56.6 -46.1 -54.9	-13.0 -13.0 -13.0	 	Notes
(GHz) ow Channel ( 1.65 2.47 1.65 2.47 id Channel (8 1.67	(dBm) 824.7MHz) -22.7 -11.8 -21.0 -10.0 336.5MHz) -16.4	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0 3.0	34.9 35.4 34.9 35.4 35.4 34.9	1.0 1.0 1.0 1.0 1.0	-56.6 -46.1 -54.9 -44.4 -50.2	-13.0 -13.0 -13.0 -13.0 -13.0	-43.6 -33.1 -41.9 -31.4 -37.2	Notes
(GHz) ow Channel ( 1.65 2.47 1.65 2.47 id Channel (8 1.67 2.51	(dBm) 824.7MHz) -22.7 -11.8 -21.0 -10.0 336.5MHz) -16.4 -13.6	(H/V) H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	34.9 35.4 34.9 35.4 34.9 35.3	1.0 1.0 1.0 1.0 1.0 1.0	-56.6 -46.1 -54.9 -44.4 -50.2 -47.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-43.6 -33.1 -41.9 -31.4 -37.2 -34.9	Notes
(GHz) ow Channel ( 1.65 2.47 1.65 2.47 id Channel (8 1.67 2.51 1.67	(dBm) 824.7MHz) -22.7 -11.8 -21.0 -10.0 336.5MHz) -16.4 -13.6 -18.3	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	34.9 35.4 34.9 35.4 34.9 35.3 34.9 35.3 34.9	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-56.6 -46.1 -54.9 -44.4 -50.2 -47.9 -52.2	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	43.6 -33.1 -41.9 -31.4 -37.2 -34.9 -39.2	Notes
(GHz) ow Channel ( 1.65 2.47 1.65 2.47 id Channel (8 1.67 2.51	(dBm) 824.7MHz) -22.7 -11.8 -21.0 -10.0 336.5MHz) -16.4 -13.6	(H/V) H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	34.9 35.4 34.9 35.4 34.9 35.3	1.0 1.0 1.0 1.0 1.0 1.0	-56.6 -46.1 -54.9 -44.4 -50.2 -47.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-43.6 -33.1 -41.9 -31.4 -37.2 -34.9	Notes
(GHz) ow Channel ( 1.65 2.47 1.65 2.47 id Channel ( 1.67 2.51 1.67 2.51	(dBm) 824.7MHz) -22.7 -11.8 -21.0 -10.0 336.5MHz) -16.4 -13.6 -18.3 -11.8	(H/V) H H V V V H H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	34.9 35.4 34.9 35.4 34.9 35.3 34.9 35.3 34.9	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-56.6 -46.1 -54.9 -44.4 -50.2 -47.9 -52.2	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	43.6 -33.1 -41.9 -31.4 -37.2 -34.9 -39.2	Notes
(GHz) w Channel ( 1.65 2.47 1.65 2.47 id Channel ( 1.67 2.51 1.67 2.51 gh Channel	(dBm) 824.7MHz) -22.7 -11.8 -21.0 -10.0 336.5MHz) -16.4 -13.6 -18.3 -11.8 (848.3MHz)	(H/V) H V V H H V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	34.9 35.4 34.9 35.4 34.9 35.3 34.9 35.3 34.9 35.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-56.6 -46.1 -54.9 -44.4 -50.2 -47.9 -52.2 -46.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	43.6 -33.1 -41.9 -31.4 -37.2 -34.9 -39.2 -33.1	Notes
(GHz) w Channel ( 1.65 2.47 1.65 2.47 id Channel (8 1.67 2.51 1.67 2.51 1.67 2.51 1.67 2.51 1.67 2.51 1.67 2.51 1.67 2.51	(dBm) 824.7MHz) -22.7 -11.8 -21.0 -10.0 336.5MHz) -16.4 -13.6 -18.3 -11.8 848.3MHz) -17.4	(H/V) H V V H H V V H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	34.9 35.4 34.9 35.4 34.9 35.3 34.9 35.3 34.9	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-56.6 -46.1 -54.9 -44.4 -50.2 -47.9 -52.2 -46.1 -51.3	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	43.6 -33.1 -41.9 -31.4 -37.2 -34.9 -39.2	Notes
(GHz) w Channel ( 1.65 2.47 1.65 2.47 id Channel ( 1.67 2.51 1.67 2.51 1.67 2.51 gh Channel	(dBm) 824.7MHz) -22.7 -11.8 -21.0 -10.0 336.5MHz) -16.4 -13.6 -18.3 -11.8 (848.3MHz)	(H/V) H V V H H V V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	34.9 35.4 34.9 35.4 34.9 35.3 34.9 35.3 34.9 35.3 34.9	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-56.6 -46.1 -54.9 -44.4 -50.2 -47.9 -52.2 -46.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	43.6 -33.1 41.9 -31.4 -37.2 -34.9 -39.2 -33.1 -38.3	Notes

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

				ated Emissions z Substitution I					
Company:		Apple							
Project #:		14U17673							
Date:		06/05/14							
rest Enginee		E. Yu/ O.Su							
Configuration		EUT Only							
/ode:		LTE Band 5, 3	MHZ OPSK						
	Chamber			amplifer	Filte	er			mit
3m C	hamber F	•	3m Cha	mber F 🖵	Filter 01	•	r	Part 22	-
							-		
	SG reading		Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	(H/V)							
	825.5MHZ)		3.0	34.9	1.0	-47.1	-13.0	-34.1	
ow Channel (	12.2	H							
1.65	-13.2 -19.2	H							
	-13.2 -19.2 -16.7	H H V	3.0 3.0 3.0	34.9 35.4 34.9	1.0	-53.5	-13.0 -13.0	-40.5 -37.6	
1.65 2.48	-19.2	Н	3.0	35.4	1.0	-53.5	-13.0	-40.5	
1.65 2.48 1.65 2.48	-19.2 -16.7 -18.5	H V	3.0 3.0	35.4 34.9	1.0 1.0	-53.5 -50.6	-13.0 -13.0	-40.5 -37.6	
1.65 2.48 1.65 2.48 Iid Channel (8	-19.2 -16.7 -18.5 836.5MHz)	H V V	3.0 3.0 3.0	35.4 34.9 35.4	1.0 1.0 1.0	-53.5 -50.6 -52.9	-13.0 -13.0 -13.0	-40.5 -37.6 -39.9	
1.65 2.48 1.65 2.48 Nid Channel (8 1.67	-19.2 -16.7 -18.5 336.5MHz) -9.1	H V V	3.0 3.0 3.0 3.0	35.4 34.9 35.4 34.9	1.0 1.0 1.0 1.0	-53.5 -50.6 -52.9 -43.0	-13.0 -13.0 -13.0 -13.0	-40.5 -37.6 -39.9 -30.0	
1.65 2.48 1.65 2.48 Iid Channel (8 1.67 2.51	-19.2 -16.7 -18.5 336.5MHz) -9.1 -19.1	H V V H	3.0 3.0 3.0 3.0 3.0 3.0	35.4 34.9 35.4 34.9 35.3	1.0 1.0 1.0 1.0	-53.5 -50.6 -52.9 -43.0 -53.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-40.5 -37.6 -39.9 -30.0 -40.4	
1.65 2.48 1.65 2.48 Nid Channel (8 1.67	-19.2 -16.7 -18.5 336.5MHz) -9.1	H V V	3.0 3.0 3.0 3.0	35.4 34.9 35.4 34.9	1.0 1.0 1.0 1.0	-53.5 -50.6 -52.9 -43.0	-13.0 -13.0 -13.0 -13.0	-40.5 -37.6 -39.9 -30.0	
1.65 2.48 1.65 2.48 11d Channel (t 1.67 2.51 1.67 2.51	-19.2 -16.7 -18.5 336.5MHz) -9.1 -19.1 -11.7 -16.7	H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.4 34.9 35.4 34.9 35.3 34.9	1.0 1.0 1.0 1.0 1.0 1.0 1.0	-53.5 -50.6 -52.9 -43.0 -53.4 -45.6	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	<u>40.5</u> <u>-37.6</u> <u>-39.9</u> <u></u>	
1.65 2.48 1.65 2.48 Nid Channel (1 1.67 2.51 1.67 2.51 Nigh Channel	-19.2 -16.7 -18.5 336.5MHz) -9.1 -19.1 -19.1 -11.7 -16.7 (847.5MHz)	H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.4 34.9 35.4 34.9 35.3 34.9 35.3 34.9 35.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-53.5 -50.6 -52.9 -43.0 -53.4 -45.6 -51.0	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	40.5 -37.6 -39.9 -30.0 -40.4 -32.6 -38.0	
1.65 2.48 1.65 2.48 <b>lid Channel (</b> 1.67 2.51 1.67 2.51 1.67 2.51 <b>ligh Channel</b> 1.70	-19.2 -16.7 -18.5 336.5MHz) -9.1 -19.1 -11.7 -16.7 (847.5MHz) -18.1	H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.4 34.9 35.4 35.3 35.3 34.9 35.3 34.9 35.3 34.9	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-53.5 -50.6 -52.9 -43.0 -53.4 -45.6 -51.0 -51.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	40.5 -37.6 -39.9 -30.0 -40.4 -32.6 -38.0 -38.9	
1.65 2.48 1.65 2.48 Nid Channel (f 1.67 2.51 1.67 2.51 1.67 2.51 Nigh Channel 1.70 2.54	-19.2 -16.7 -18.5 336.5MHz) -9.1 -19.1 -11.7 -16.7 (847.5MHz) -18.1 -17.8	H V V H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.4 34.9 35.4 35.3 34.9 35.3 34.9 35.3 34.9 35.3	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-53.5 -50.6 -52.9 -43.0 -53.4 -45.6 -51.0 -51.9 -52.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	40.5 37.6 39.9 30.0 40.4 32.6 38.0 38.9 39.1	
1.65 2.48 1.65 2.48 <b>lid Channel (</b> 1.67 2.51 1.67 2.51 1.67 2.51 <b>ligh Channel</b> 1.70	-19.2 -16.7 -18.5 336.5MHz) -9.1 -19.1 -11.7 -16.7 (847.5MHz) -18.1	H V V H H V V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	35.4 34.9 35.4 35.3 35.3 34.9 35.3 34.9 35.3 34.9	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-53.5 -50.6 -52.9 -43.0 -53.4 -45.6 -51.0 -51.9	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	40.5 -37.6 -39.9 -30.0 -40.4 -32.6 -38.0 -38.9	

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

				ted Emissions Substitution I					
Company:		Apple							
Project #:		14U17673							
Date:		06/05/14							
Test Engine		E. Yu/ O.Su							
Configuratio		EUT Only							
Node:		LTE Band 5, 3	MHz 16QAM						
Test Equipm Substitution		ubstitution, a	and 8ft SMA Ca	able					
	Chamber		Pre-a	mplifer	Filte	er		Lin	nit
3m C	hamber F	•	3m Char	nber F 🚽	Filter 01	•	-	Part 22	•
	SG reading		Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz)	(dBm)	(H/V)							
ow Channel							40.0		
1.65 2.48	-12.9 -18.2	H	3.0 3.0	34.9 35.4	1.0 1.0	-46.8 -52.6	-13.0 -13.0	-33.8 -39.6	
1.65	-10.2	л V	3.0	34.9	1.0	-52.0	-13.0	-37.0	
1.00	-17.9	v	3.0	35.4	1.0	-52.3	-13.0	-39.3	
2.48	Y						•		
			<u> </u>						
Aid Channel (	-9.0	H	3.0	34.9	1.0	-42.9	-13.0	-29.9	
Mid Channel ( 1.67			3.0	35.3	1.0 1.0	-53.9 -46.1	-13.0 -13.0	-40.9 -33.1	
Mid Channel ( 1.67 2.51	-19.6	H	2.0	2/0		-40.1	-13.0	-38.9	
Aid Channel ( 1.67 2.51 1.67	-19.6 -12.2	V	3.0 3.0	34.9		-51.9			
Mid Channel ( 1.67 2.51	-19.6		3.0 3.0	34.9 35.3	1.0	-51.9	-13.0		
Aid Channel ( 1.67 2.51 1.67 2.51 igh Channel	-19.6 -12.2 -17.6 (847.5MHz)	V V	3.0	35.3	1.0				
Aid Channel ( 1.67 2.51 1.67 2.51 4igh Channel 1.70	-19.6 -12.2 -17.6 (847.5MHz) -17.6	V V H	3.0 3.0	35.3	1.0	-51.4	-13.0	-38.4	
Aid Channel ( 1.67 2.51 1.67 2.51 4 gh Channel 1.70 2.54	-19.6 -12.2 -17.6 (847.5MHz) -17.6 -16.9	V V H H	3.0 3.0 3.0	35.3 34.9 35.4	1.0 1.0 1.0	-51.4 -51.3	-13.0 -13.0	-38.3	
Aid Channel ( 1.67 2.51 1.67 2.51 4igh Channel 1.70	-19.6 -12.2 -17.6 (847.5MHz) -17.6	V V H	3.0 3.0	35.3	1.0	-51.4	-13.0		

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

				ated Emissions z Substitution I					
Company:		Apple							
Project #:		14U17673							
Date:		06/05/14							
Test Enginee	er:	E. Yu/ O.Su							
Configuration	n:	EUT Only							
Node:		LTE Band 5, 5	MHz QPSK						
	Chamber hamber F			amplifer mber F 🚽	Filter 01	er	ļ	Limit Part 22	
3m C	namperr	•	Sill Cha		Filter Of			Part 22	•
			Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Frequency			Distance	Freamp	Allenualor	LIN			110100
(GHz)	(dBm)	Ant. Pol. (H/V)	Distance	Freamp	Altentiator				
(GHz) ow Channel (	(dBm) (826.5MHz)	(H/V)		•					
(GHz) ow Channel ( 1.65	(dBm) (826.5MHz) -11.5	(H/V) Н	3.0	34.9	1.0	-45.4	-13.0	-32.4	
(GHz) ow Channel ( 1.65 2.48	(dBm) (826.5MHz) -11.5 -20.2	(H/V) Н Н	3.0 3.0	34.9 35.4	1.0 1.0	-45.4 -54.6	-13.0 -13.0	-32.4 -41.6	
(GHz) ow Channel ( 1.65	(dBm) (826.5MHz) -11.5	(H/V) Н	3.0	34.9	1.0	-45.4	-13.0	-32.4	
(GHz) .ow Channel ( 1.65 2.48 1.65 2.48	(dBm) (826.5MHz) -11.5 -20.2 -16.4 -18.4	(H/V) H H V	3.0 3.0 3.0	34.9 35.4 34.9	1.0 1.0 1.0	-45.4 -54.6 -50.3	-13.0 -13.0 -13.0	-32.4 -41.6 -37.3	
(GHz) .ow Channel ( 1.65 2.48 1.65 2.48 Mid Channel (	(dBm) (826.5MHz) -11.5 -20.2 -16.4 -18.4 836.5MHz)	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0	34.9 35.4 34.9 35.4	1.0 1.0 1.0 1.0	-45.4 -54.6 -50.3 -52.7	-13.0 -13.0 -13.0 -13.0	-32.4 41.6 -37.3 -39.7	
(GHz) .ow Channel ( 1.65 2.48 1.65 2.48 Aid Channel ( 1.67	(dBm) (826.5MHz) -11.5 -20.2 -16.4 -18.4 836.5MHz) -14.2	(H/V) H V V	3.0 3.0 3.0 3.0 3.0 3.0	34.9 35.4 34.9 35.4 35.4 34.9	1.0 1.0 1.0 1.0 1.0	-45.4 -54.6 -50.3 -52.7 -48.1	-13.0 -13.0 -13.0 -13.0 -13.0	-32.4 41.6 -37.3 -39.7 -35.1	
(GHz) .ow Channel ( 1.65 2.48 1.65 2.48 Mid Channel (	(dBm) (826.5MHz) -11.5 -20.2 -16.4 -18.4 836.5MHz)	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0	34.9 35.4 34.9 35.4	1.0 1.0 1.0 1.0	-45.4 -54.6 -50.3 -52.7	-13.0 -13.0 -13.0 -13.0	-32.4 41.6 -37.3 -39.7	
(GHz) .ow Channel ( 1.65 2.48 1.65 2.48 Aid Channel ( 1.67	(dBm) (826.5MHz) -11.5 -20.2 -16.4 -18.4 836.5MHz) -14.2 -8.8	(H/V) H V V	3.0 3.0 3.0 3.0 3.0 3.0	34.9 35.4 34.9 35.4 35.4 34.9	1.0 1.0 1.0 1.0 1.0	-45.4 -54.6 -50.3 -52.7 -48.1	-13.0 -13.0 -13.0 -13.0 -13.0	-32.4 41.6 -37.3 -39.7 -35.1	
(GHz) ow Channel ( 1.65 2.48 1.65 2.48 Mid Channel ( 1.67 1.67 tigh Channel 1.69	(dBm) (826.5MHz) -11.5 -20.2 -16.4 -18.4 836.5MHz) -14.2 -8.8 (846.5MHz) -21.2	(H/V) H V V H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	34.9 35.4 34.9 35.4 34.9 34.9 34.9	1.0 1.0 1.0 1.0 1.0 1.0 1.0	-45.4 -54.6 -50.3 -52.7 -48.1 -42.7 -55.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	32.4 41.6 37.3 39.7 35.1 29.7 42.1	
(GHz) .ow Channel ( 1.65 2.48 1.65 2.48 Mid Channel ( 1.67 1.67 1.67 1.67	(dBm) (826.5MHz) -11.5 -20.2 -16.4 -18.4 836.5MHz) -14.2 -8.8 (846.5MHz) -21.2 -15.0	(H/V) H V V H V H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	34.9 35.4 34.9 35.4 34.9 34.9 34.9 34.9 34.9	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-45.4 -54.6 -50.3 -52.7 -48.1 -42.7 -55.1 -49.4	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	32.4 41.6 37.3 39.7 35.1 -29.7 42.1 36.4	
(GHz) ow Channel ( 1.65 2.48 1.65 2.48 Mid Channel ( 1.67 1.67 tigh Channel 1.69	(dBm) (826.5MHz) -11.5 -20.2 -16.4 -18.4 836.5MHz) -14.2 -8.8 (846.5MHz) -21.2	(H/V) H V V H V	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	34.9 35.4 34.9 35.4 34.9 34.9 34.9	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-45.4 -54.6 -50.3 -52.7 -48.1 -42.7 -55.1	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	32.4 41.6 37.3 39.7 35.1 29.7 42.1	

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

				ated Emissions z Substitution I					
Company: Project #:		Apple 14U17673							
Date:		06/05/14							
Test Engin	eer:	E. Yu/ O.Su							
Configurat		EUT Only							
Mode:		LTE Band 5, 5	MHz 16QAM						
	Chamber			amplifer	Filte	er	ļ	Li	mit
Зm	3m Chamber F 🗸		3m Chamber F →		Filter 01 🗸		•	Part 22 🗸	
Frequenc	v SG reading	Ant Pol	Distance	Preamp	Attenuator	FIRP	l imit	Delta	Notes
Frequenc (GHz)	y SG reading (dBm)	Ant. Pol. (H/V)	Distance	Preamp	Attenuator	EIRP	Limit	Delta	Notes
(GHz) Low Channe	(dBm) I (826.5MHz)	(H/V)							Notes
(GHz) Low Channe 1.65	(dBm) (826.5MHz) -11.8	(H/V) H	3.0	34.9	1.0	-45.7	-13.0	-32.7	Notes
(GHz) Low Channe 1.65 2.48	(dBm) I (826.5MHz) -11.8 -18.9	(H/V) н н	3.0 3.0	34.9 35.4	1.0 1.0	-45.7 -53.2	-13.0 -13.0	-32.7 -40.2	Notes
(GHz) Low Channe 1.65	(dBm) (826.5MHz) -11.8	(H/V) H	3.0	34.9	1.0	-45.7 -53.2 -51.0	-13.0 -13.0 -13.0	-32.7	Notes
(GHz) Low Channe 1.65 2.48 1.65 2.48	(dBm) (826.5MHz) -11.8 -18.9 -17.1 -18.7	(H/V) H H V	3.0 3.0 3.0	34.9 35.4 34.9	1.0 1.0 1.0	-45.7 -53.2	-13.0 -13.0	-32.7 -40.2 -38.0	Notes
(GHz) Low Channe 1.65 2.48 1.65 2.48 Mid Channe	(dBm) -1 (826.5MHz) -11.8 -18.9 -17.1 -18.7 (836.5MHz)	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0	34.9 35.4 34.9 35.4	1.0 1.0 1.0 1.0	-45.7 -53.2 -51.0 -53.0	-13.0 -13.0 -13.0 -13.0	-32.7 40.2 -38.0 40.0	Notes
(GHz) Low Channe 1.65 2.48 1.65 2.48 Mid Channe 1.67	(dBm) (dBm) (826.5MHz) -11.8 -18.9 -17.1 -18.7 (836.5MHz) -12.9	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0 3.0	34.9 35.4 34.9 35.4 35.4 34.9	1.0 1.0 1.0 1.0 1.0	_45.7 _53.2 _51.0 _53.0 _46.8	-13.0 -13.0 -13.0 -13.0 -13.0	-32.7 40.2 -38.0 -40.0	Notes
(GHz) Low Channe 1.65 2.48 1.65 2.48 Mid Channe	(dBm) -1 (826.5MHz) -11.8 -18.9 -17.1 -18.7 (836.5MHz)	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0	34.9 35.4 34.9 35.4	1.0 1.0 1.0 1.0	-45.7 -53.2 -51.0 -53.0	-13.0 -13.0 -13.0 -13.0	-32.7 40.2 -38.0 40.0	Notes
(GHz) Low Channe 1.65 2.48 1.65 2.48 Mid Channe 1.67 1.67	(dBm) (dBm) (826.5MHz) -11.8 -18.9 -17.1 -18.7 (836.5MHz) -12.9	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0 3.0	34.9 35.4 34.9 35.4 35.4 34.9	1.0 1.0 1.0 1.0 1.0	_45.7 _53.2 _51.0 _53.0 _46.8	-13.0 -13.0 -13.0 -13.0 -13.0	-32.7 40.2 -38.0 -40.0	Notes
(GHz) Low Channe 1.65 2.48 1.65 2.48 Mid Channe 1.67 1.67 High Channe 1.69	(dBm) (k26.5MHz) .11.8 .18.9 .17.1 .18.7 (k36.5MHz) .2.9 .8.8 (k46.5MHz) .21.6	(H/V) H H V V	3.0 3.0 3.0 3.0 3.0 3.0	34.9 35.4 34.9 35.4 35.4 34.9	1.0 1.0 1.0 1.0 1.0	_45.7 _53.2 _51.0 _53.0 _46.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-32.7 40.2 -38.0 40.0 -33.8 -29.7 -42.5	Notes
(GHz) Low Channe 1.65 2.48 1.65 2.48 Mid Channe 1.67 1.67 High Channe 1.69 2.54	(dBm) (826.5MHz) -11.8 -18.9 -17.1 -18.7 (836.5MHz) (836.5MHz) -8.8 el (846.5MHz)	(H/V) H H V V H H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	34.9 35.4 34.9 35.4 34.9 34.9 34.9 34.9 35.4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	-45.7 -53.2 -51.0 -53.0 -46.8 -42.7 -55.5 -49.8	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-32.7 -40.2 -38.0 -40.0 -33.8 -29.7 -42.5 -36.8	Notes
(GHz) Low Channe 1.65 2.48 1.65 2.48 Mid Channe 1.67 1.67 High Channe 1.69	(dBm) (k26.5MHz) .11.8 .18.9 .17.1 .18.7 (k36.5MHz) .2.9 .8.8 (k46.5MHz) .21.6	(H/V) H H V V H H	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	34.9 35.4 34.9 35.4 34.9 34.9 34.9	1.0 1.0 1.0 1.0 1.0 1.0 1.0	-45.7 -53.2 -51.0 -53.0 -46.8 -42.7 -55.5	-13.0 -13.0 -13.0 -13.0 -13.0 -13.0 -13.0	-32.7 40.2 -38.0 40.0 -33.8 -29.7 -42.5	Notes

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