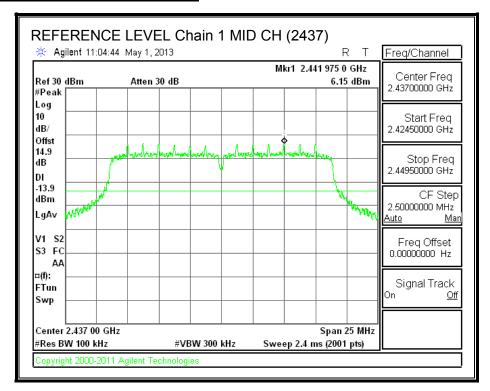
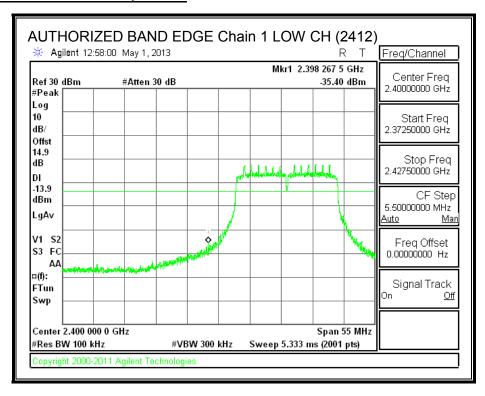
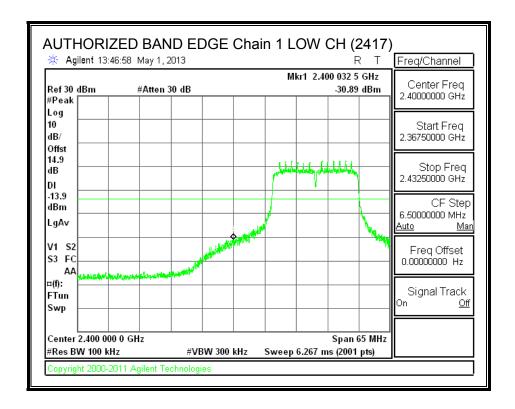


IN-BAND REFERENCE LEVEL, Chain 1

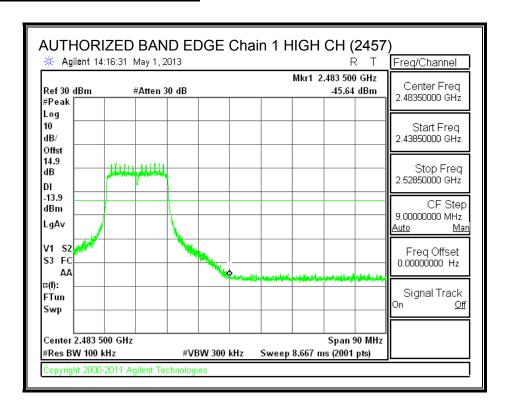


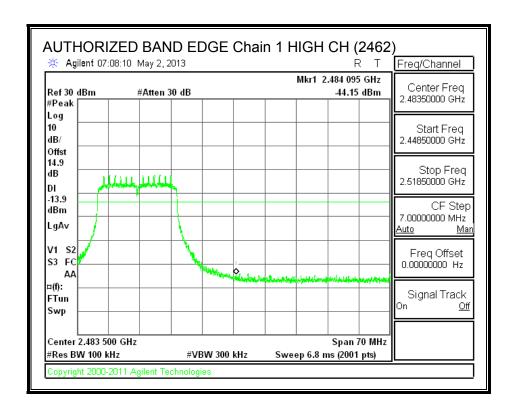
LOW CHANNEL BANDEDGE, Chain 1

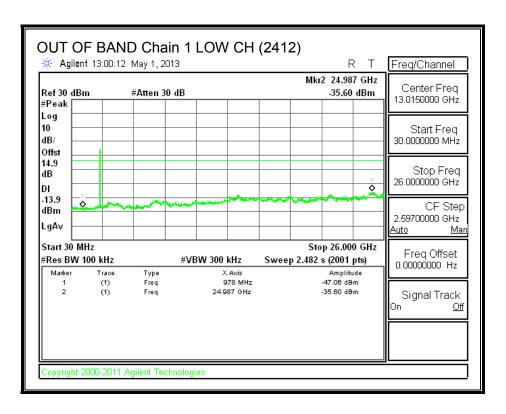


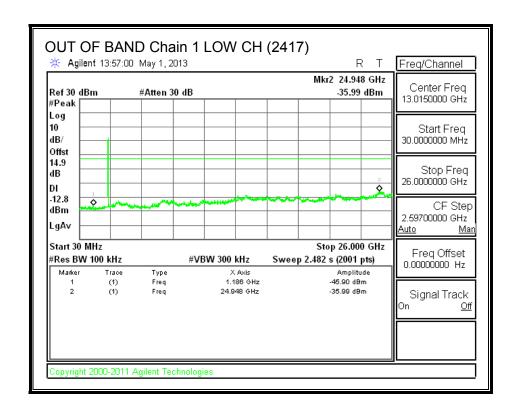


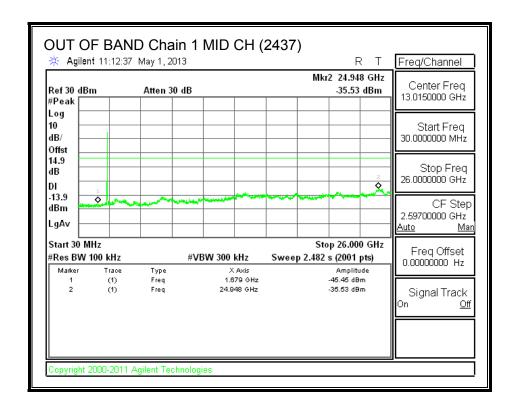
HIGH CHANNEL BANDEDGE, Chain 1

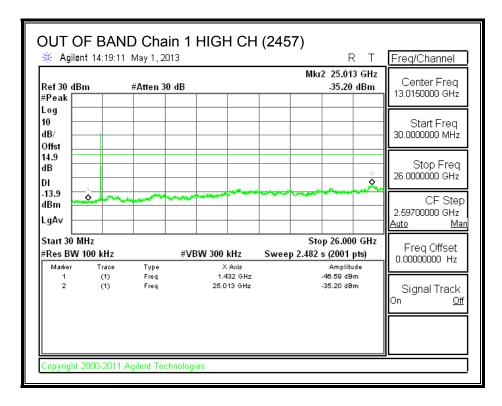


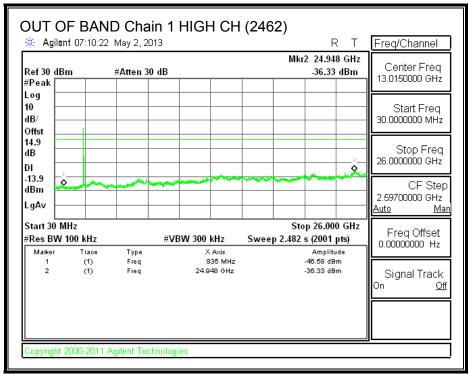






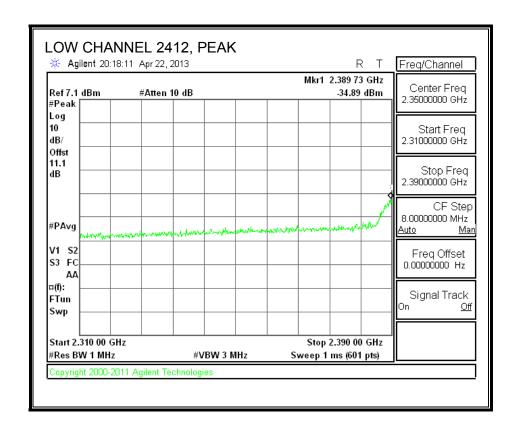


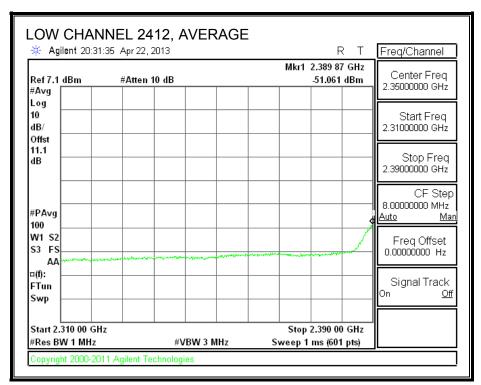


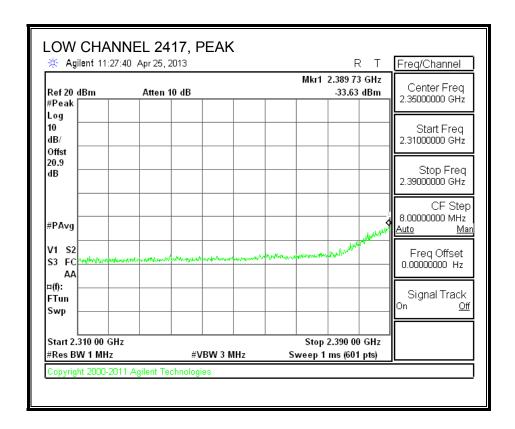


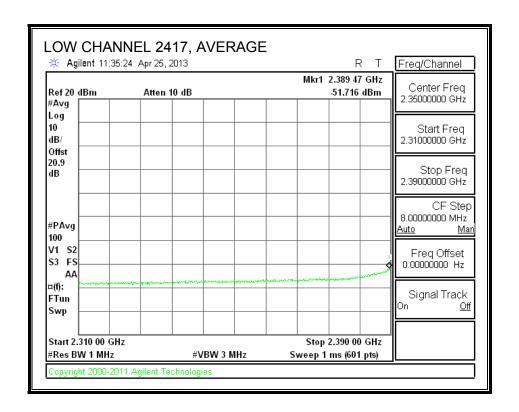
8.3.7. CONDUCTED BE AND SPURIOUS IN RESTRICTED BANDS (no filter unit)

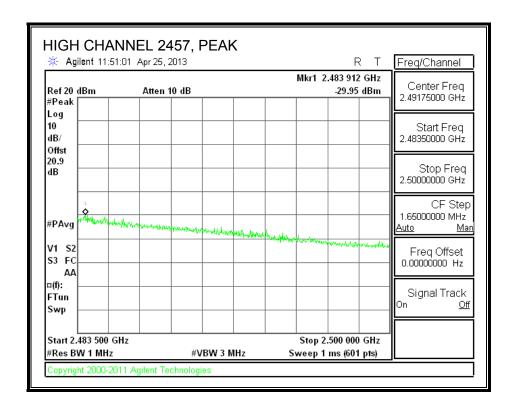
RESTRICTED BANDEDGE Chain 0

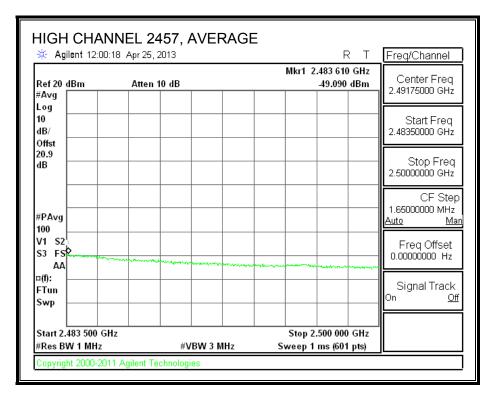


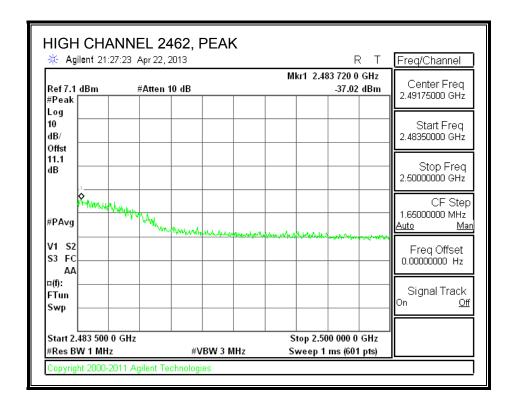


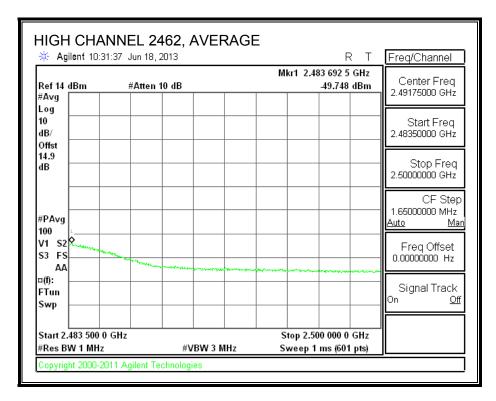


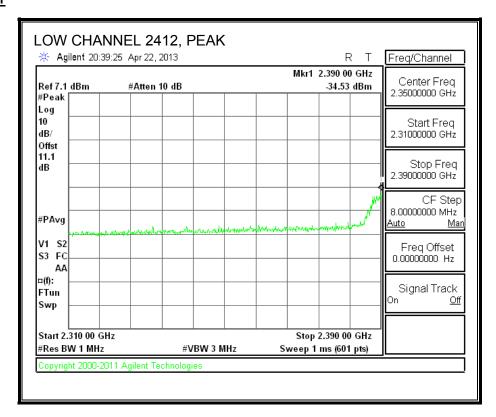


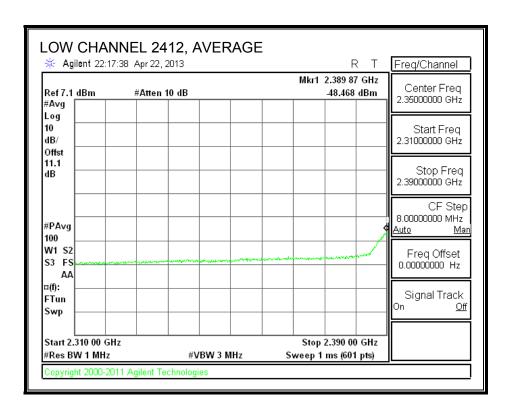


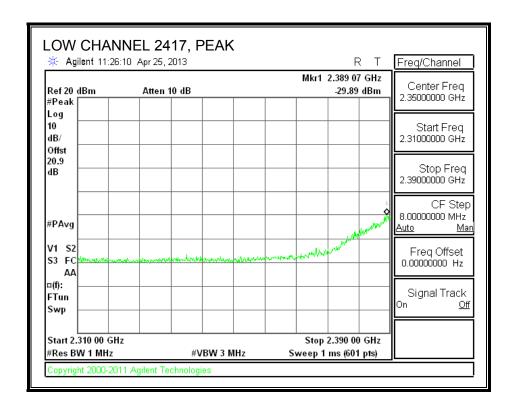


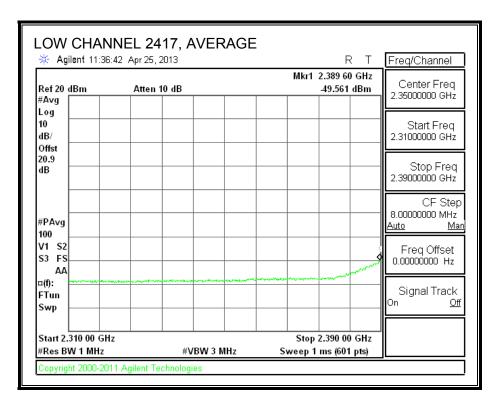


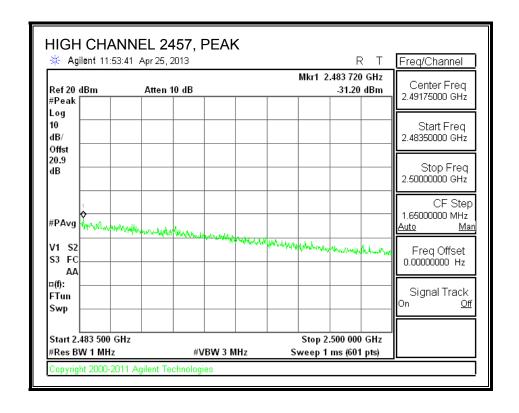


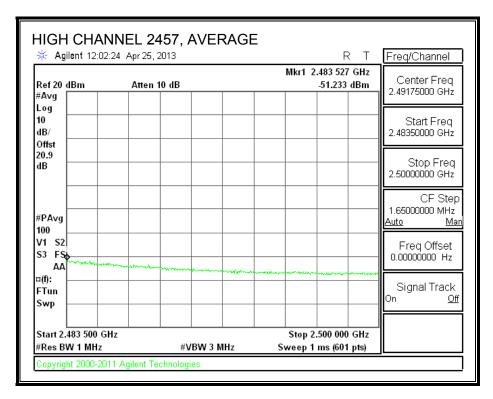


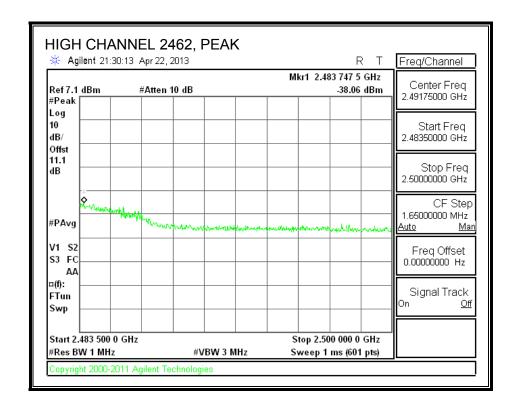


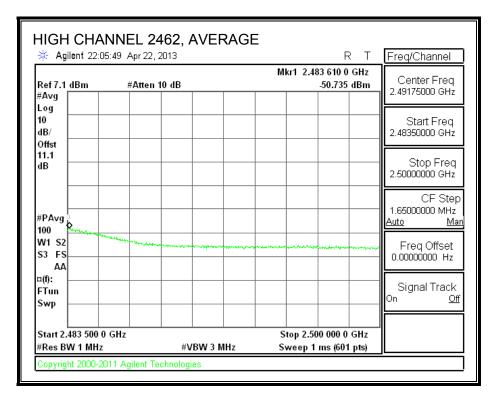




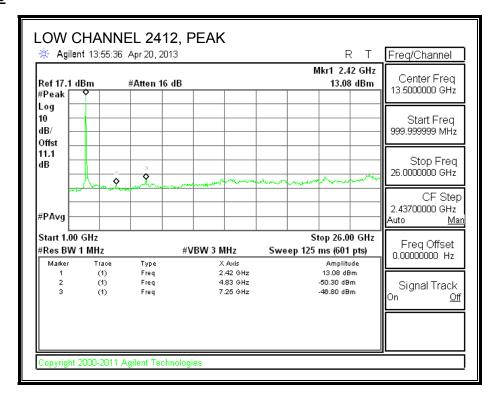


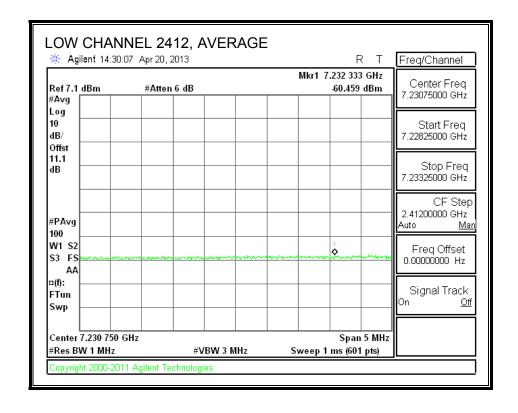


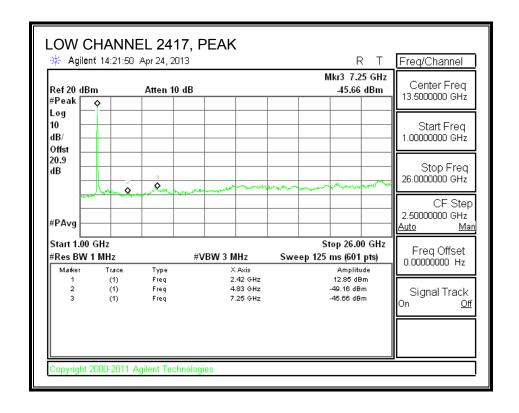


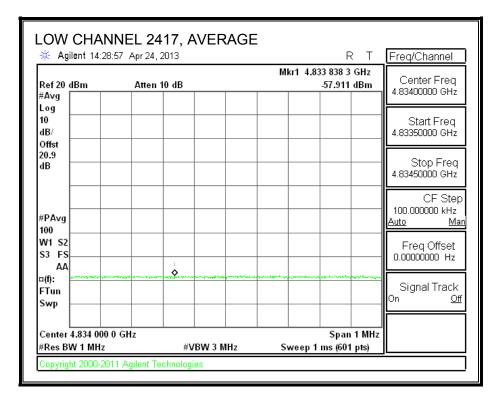


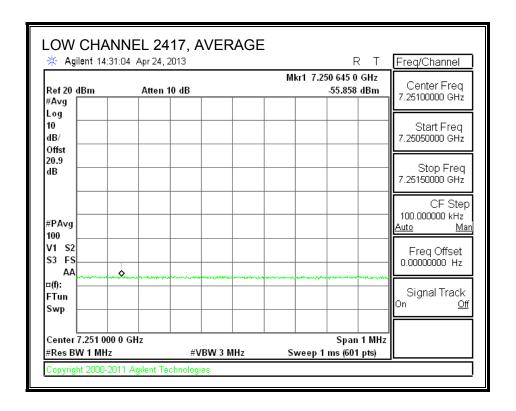
HARMONICS AND SPURIOUS

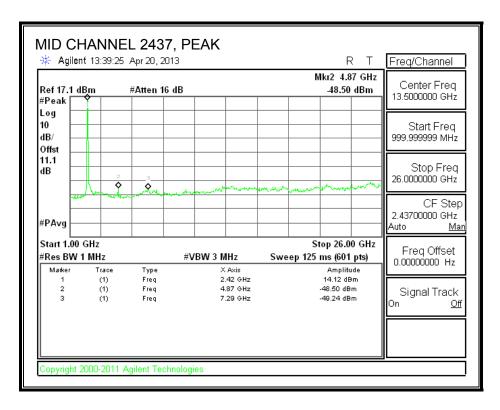


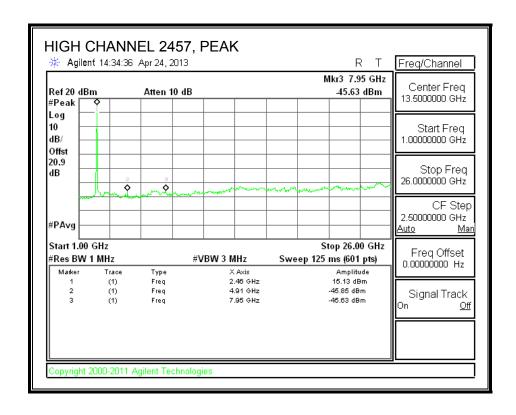


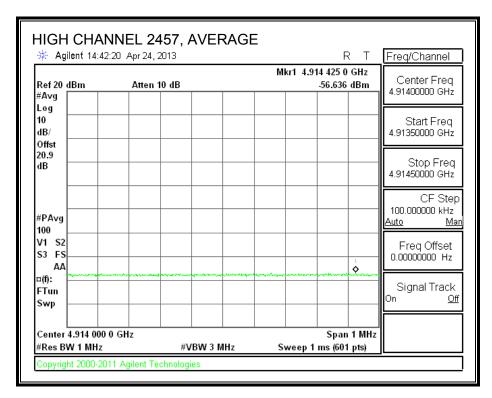


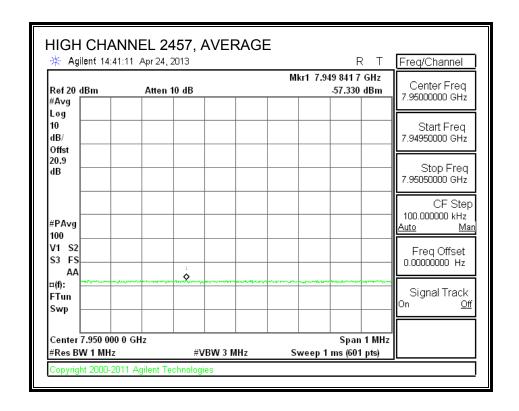


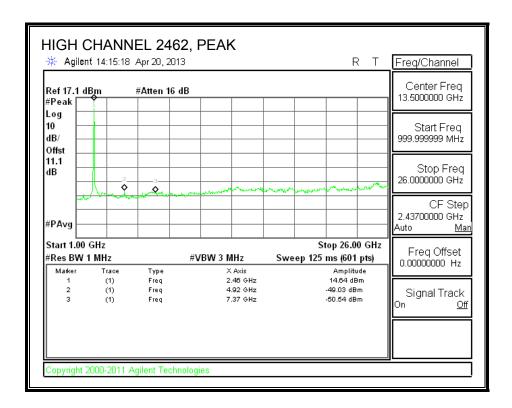


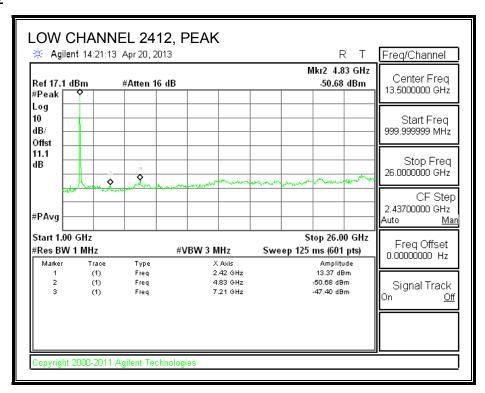


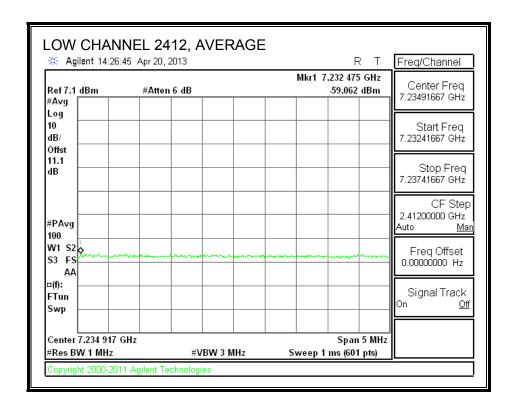


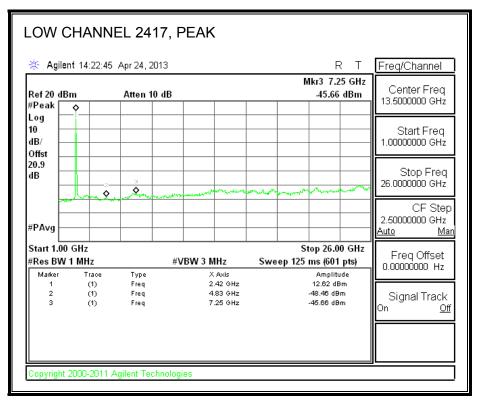


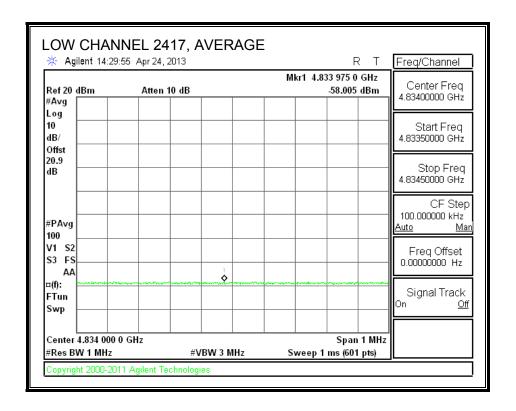


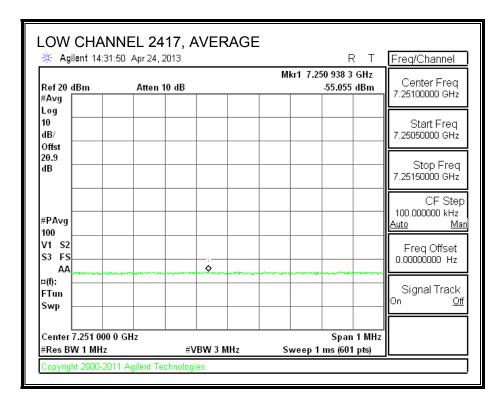


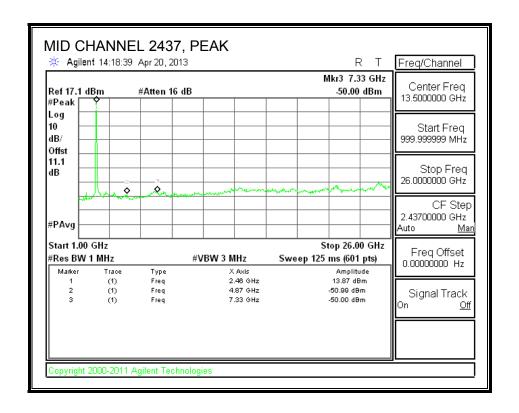


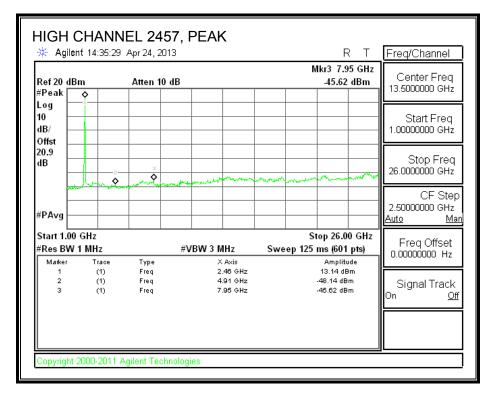


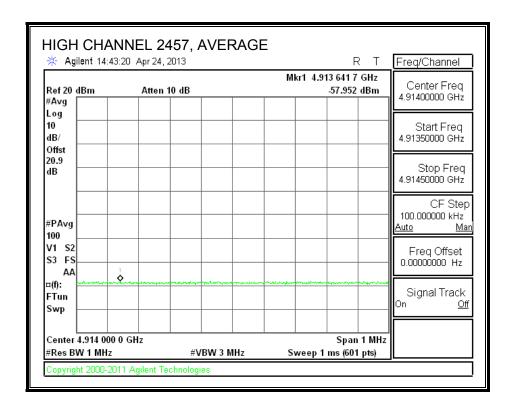


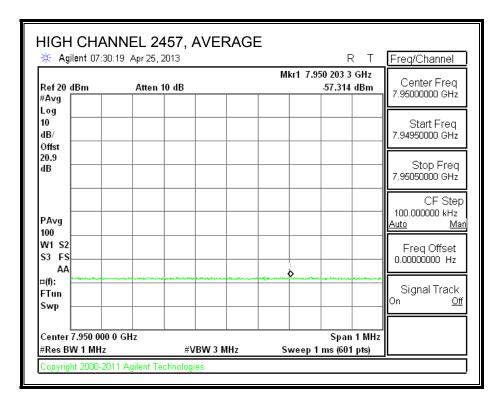


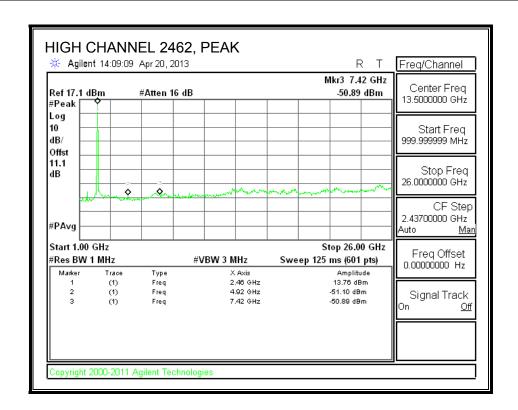












BANDEDGE DATA

Date:		4/25/2013							
Test Engineer: Client: Project Number:		Oliver Su / T. Wagoner Qualcomm Atheros 13U14995							
		Tx							
Mode of op	eration:	11n HT20 2.4GHz		<u>Note:</u> if the PK margin is greater than 20 dB, there is no need to get AVG read					
Channel	Frequency (MHz)	PSA PK Reading Chain 0 (dBm)	PSA PK Reading Chain 1 (dBm)	AG/Chain (dBi)	PK EIRP (dBm)	PK E-field Limit (dBm)	PK E-field Margin (dB)	Software Setting	AVG Power Meter Reading (dBm)
1 (2412)	2389	-34.89	-34.53	2	-26.69	-21.2	-5.49	10.00	9.2 / 9.2
2 (2417)	2390	-33.63	-29.89	2	-23.35	-21.2	-2.15	15.50	14.4 / 14.7
10 (2457)	2483	-29.95	-31.2	2	-22.51	-21.2	-1.31	15.50	15.8 / 14.35
11 (2462)	2483	-37.02	-38.06	2	-29.49	-21.2	-8.29	9.00	8.8 / 8.1
Channel	Frequency (MHz)	PSA AVG Reading Chain 0 (dBm)	PSA AVG Reading Chain 1 (dBm)	AG/Chain (dBi)	AVG EIRP (dBm)	AVG E-field Limit (dBm)	AVG E-field Margin (dB)	Software Setting	AVG Power Meter Reading (dBm)
1 (2412)	2389	-50.925	-48.332	2	-41.42	-41.2	-0.22	9.00	7.6 / 8.3
2 (2417)	2389	-51.58	-49.425	2	-42.35	-41.2	-1.15	13.50	12.4 / 12.5
10 (2457)	2483	-48.954	-51.097	2	-41.87	-41.2	-0.67	13.50	14 / 12.25
				2	-42.06	-41.2	-0.86	9.00	8.8 / 8.1

Note: Duty Cycle Correction Factor added. DCCF = 0.136 dB

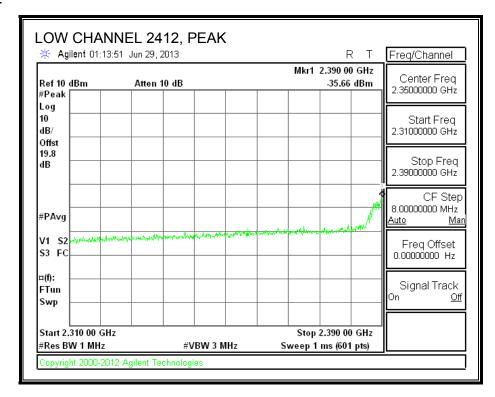
Harmonics and Spurious Data

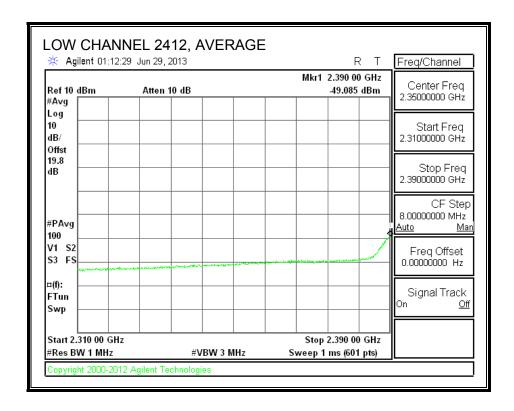
Date:		4/24/2013							
Test Engineer:		01iver Su / T. Wa	goner						
Client: Project Number: Configuration: Mode of operation:		Qualcomm	gonei						
		13U14995							
		Tx							
				Note: if th	e PK margi	in is greater th	nan 20 dB, the	re is no nee	d to get AVG readin
vioue or op	Cration.	111111120 2.40112		ITOCC.	c i k iliaigi	iris greater ti	idii 20 db, tiic	c is no nec	2 to get AVG reading
Channel	Frequency (MHz)	PSA PK Reading Chain 0 (dBm)	PSA PK Reading Chain 1 (dBm)	AG/Chain (dBi)	PK EIRP (dBm)	PK E-field Limit (dBm)	PK E-field Margin (dB)	Software Setting	AVG Power Meter Reading (dBm)
1 (2412)	4824	-50.3	-50.68	2	-42.47	-21.2	-21.27	17.50	17.5 / 17.8
1 (2412)	7236	-46.8	-47.4	2	-39.07	-21.2	-17.87	17.50	17.5 / 17.8
2 (2417)	4834	-49.16	-48.46	2	-40.78	-21.2	-19.58	17.50	16.5 / 16.5
2 (2417)	7251	-45.66	-45.66	2	-37.64	-21.2	-16.44	17.50	16.5 / 16.5
6 (2437)	4874	-48.5	-50.99	2	-41.55	-21.2	-20.35	17.50	17.5 / 17.6
6 (2437)	7311	-49.24	-50	2	-41.58	-21.2	-20.38	17.50	17.5 / 17.6
10 (2457)	4914	-45.85	-48.14	2	-38.83	-21.2	-17.63	17.50	17.5 / 17.6
10 (2457)	7950	-45.63	-45.62	2	-37.60	-21.2	-16.40	17.50	17.5 / 17.6
11 (2462)	4924	-49.03	-51.1	2	-41.92	-21.2	-20.72	17.50	18.3 / 17.6
11 (2462)	7386	-50.54	-50.89	2	-42.69	-21.2	-21.49	17.50	18.3 / 17.6
Channel	Frequency (MHz)	PSA AVG Reading Chain 0 (dBm)	PSA AVG Reading Chain 1 (dBm)	AG/Chain (dBi)	AVG EIRP (dBm)	AVG E-field Limit (dBm)	AVG E-field Margin (dB)	Software Setting	AVG Power Meter Reading (dBm)
1 (2412)	7236	-60.323	-58.926	2	-51.55	-41.2	-10.35	17.50	17.4 / 17.7
2 (2417)	4834	-57.775	-57.869	2	-49.80	-41.2	-8.60	17.50	16.5 / 16.5
2 (2417)	7251	-55.722	-54.919	2	-47.28	-41.2	-6.08	17.50	16.5 / 16.5
10(2457)	4914	-56.5	-57.816	2	-49.09	-41.2	-7.89	17.50	16.5 / 16.5
10 (2457)	7950	-57.194	-57.178	2	-49.17	-41.2	-7.97	17.50	16.5 / 16.5

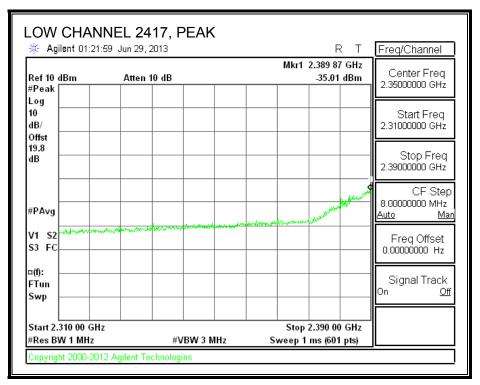
Note: Duty Cycle Correction Factor added. DCCF = 0.136 dB

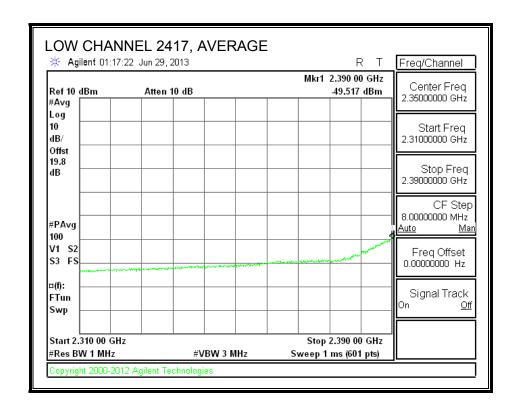
8.3.8. CONDUCTED BE AND SPURIOUS IN RESTRICTED BANDS (3G filter unit)

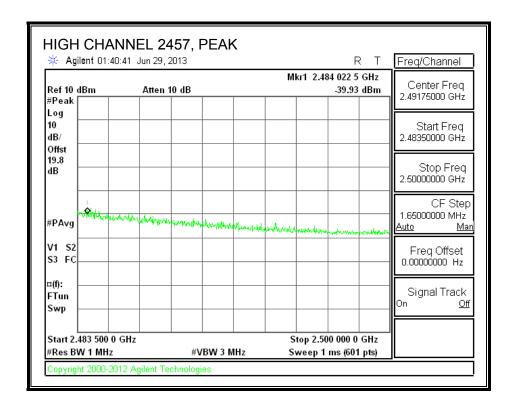
RESTRICTED BANDEDGE Chain 0

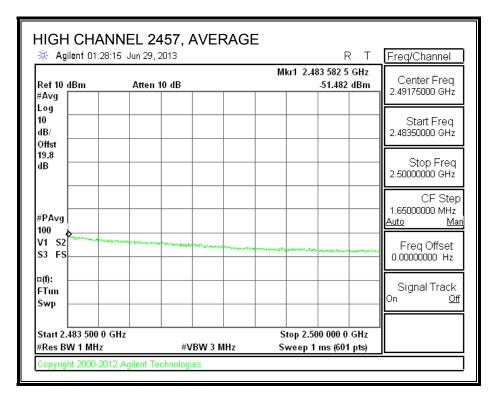


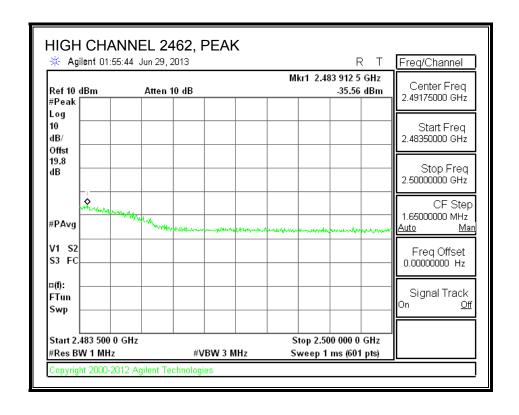


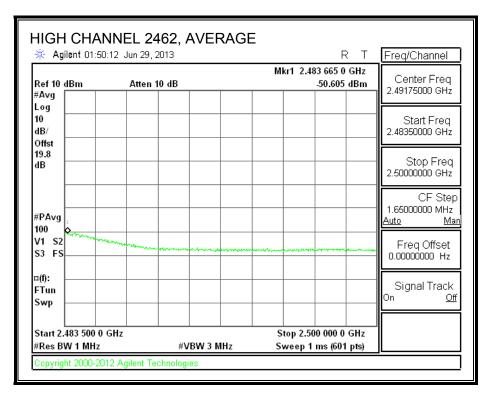


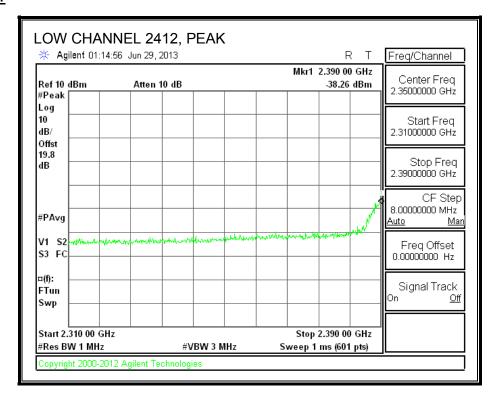


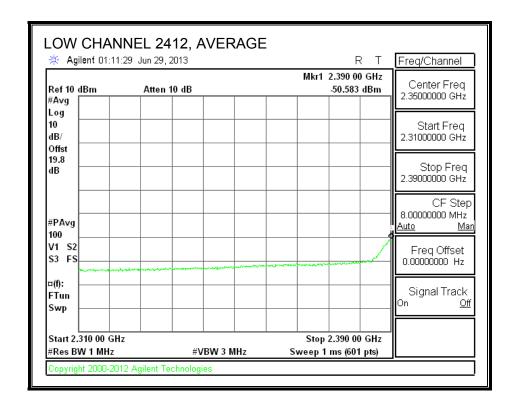


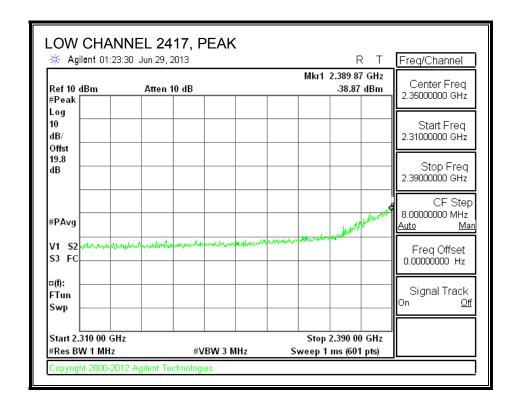


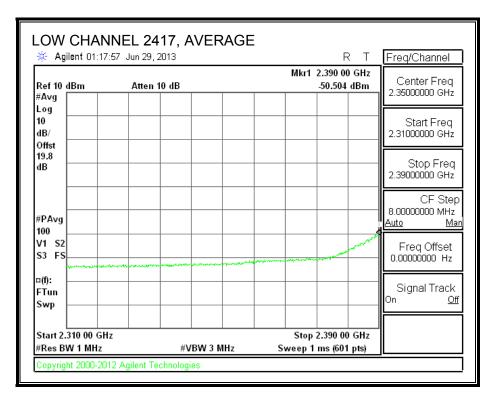


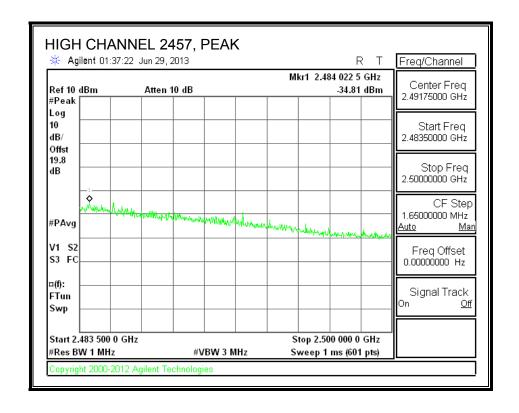


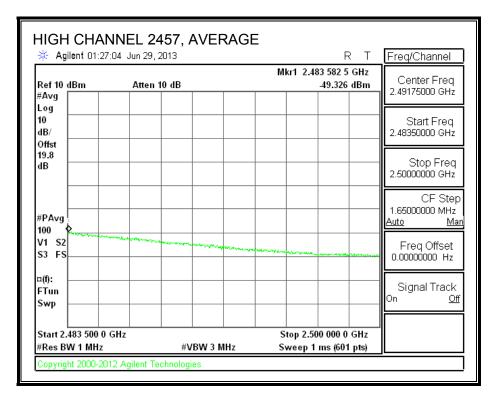


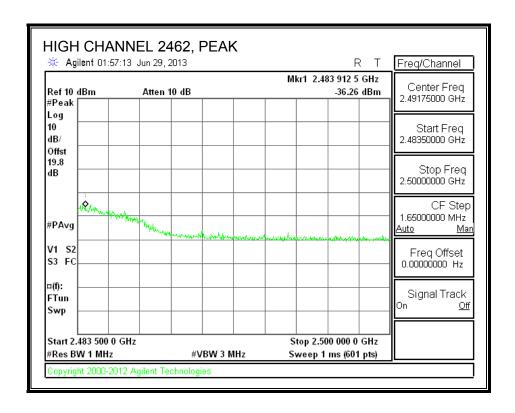


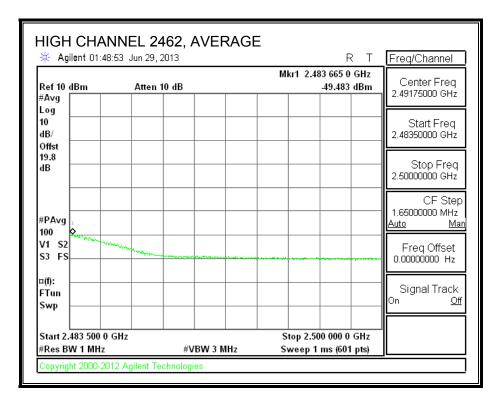












REPORT NO: 13U14995-1 DATE: JULY 1, 2013 FCC ID: PPD-QCA6234 IC: 4104A-QCA6234

BANDEDGE DATA

2TX Conduc	ted BE for FO	CC DTS (in the res	tricted bands)							
Date:		6/29/2013								
Date. Test Engine	or:	Chris Xiong								
Client:	:ет.	Qualcomm Athe	roc							
Project Nur	mhari	13U14995	103							
Configurati		TX								
		11n HT20		Nata . : £ th	a DV			!	 	
Mode of op	eration:	1111 H12U		Note: if the PK margin is greater than 20 dB, there is no need to get AVG rea				i to get AvG read	iiiig.	
Channel	Frequency	PSA PK Reading	PSA PK Reading	AG/Chain	PK EIRP	PK E-field	PK E-field	Software	AVG Power	AVG Power
	(GHz)	Chain 0 (dBm)	Chain 1 (dBm)	(dBi)	(dBm)	Limit	Margin	Setting	Meter Reading -	Meter Reading
	(-:,	(,	- C	(,	(,	(dBm)	(dB)	(dBm)	Chain 0 (dBm)	Chain 1 (dBm)
1	2.39	-35.66	-38.26	2	-28.75	-21.2	-7.55	10.50	6.86	6.73
2	2.38987	-35.01	-38.87	2	-28.50	-21.2	-7.30	15.00	11.36	10.77
10	2.4840225	-39.93	-34.81	2	-28.64	-21.2	-7.44	15.00	10.77	11.31
11	2.4839125	-35.56	-36.26	2	-27.88	-21.2	-6.68	11.00	6.77	6.99
Channel	Frequency	PSA AVG	PSA AVG	AG/Chain	AVG EIRP	AVG E-field	AVG E-field	Software	AVG Power	AVG Power
	(MHz)	Reading	Reading	(dBi)	(dBm)	Limit	Margin	Setting	Meter Reading -	Meter Reading
		Chain 0 (dBm)	Chain 1 (dBm)			(dBm)	(dB)	(dBm)	Chain 0 (dBm)	Chain 1 (dBm)
1	2.39	-49.085	-50.583	2	-41.75	-41.2	-0.55	10.50	6.86	6.73
2	2.39	-49.517	-50.504	2	-41.96	-41.2	-0.76	15.00	11.36	10.77
	2.4835825	-51.482	-49.326	2	-42.25	-41.2	-1.05	15.00	10.77	11.31
10	2.4033023	-31.402	73.320	_						

Note: Duty Cycle Correction Factor already added to PSA for average measurement. DCCF= 0.136

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REPORT NO: 13U14995-1 DATE: JULY 1, 2013 FCC ID: PPD-QCA6234 IC: 4104A-QCA6234

8.4. 802.11a **MODE IN THE 5.8 GHz BAND**

8.4.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

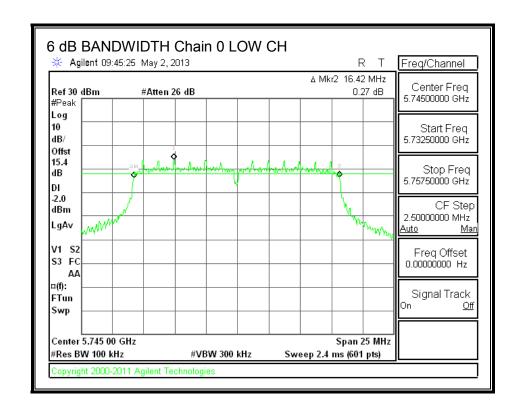
IC RSS-210 A8.2 (a)

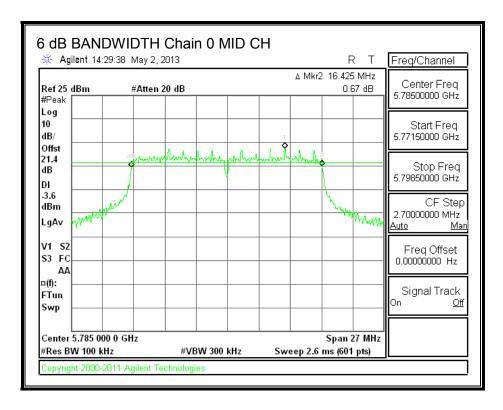
The minimum 6 dB bandwidth shall be at least 500 kHz.

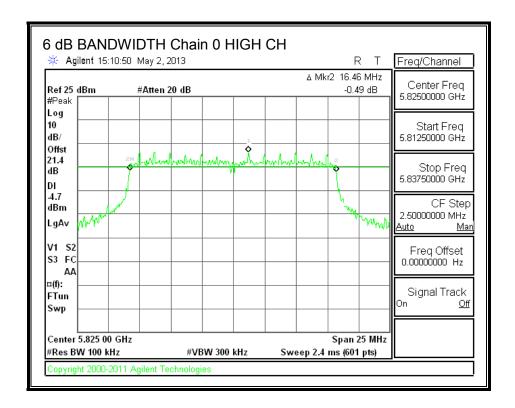
RESULTS

Channel	Frequency	6 dB BW	6 dB BW	Minimum	
		Chain 0	Chain 1	Limit	
	(MHz)	(MHz)	(MHz)	(MHz)	
Low	5745	16.420	16.040	0.5	
Mid	5785	16.425	16.515	0.5	
High	5825	16.460	16.420	0.5	

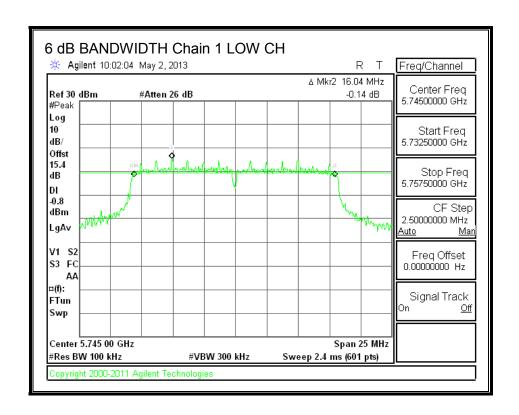
6 dB BANDWIDTH, Chain 0

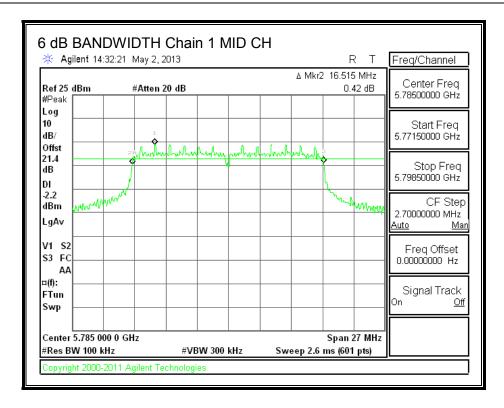


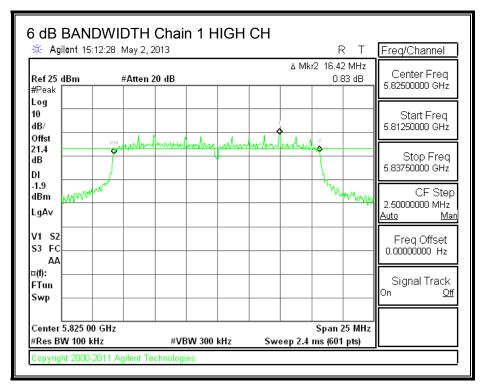




6 dB BANDWIDTH, Chain 1







REPORT NO: 13U14995-1 DATE: JULY 1, 2013 FCC ID: PPD-QCA6234 IC: 4104A-QCA6234

8.4.2. 99% BANDWIDTH

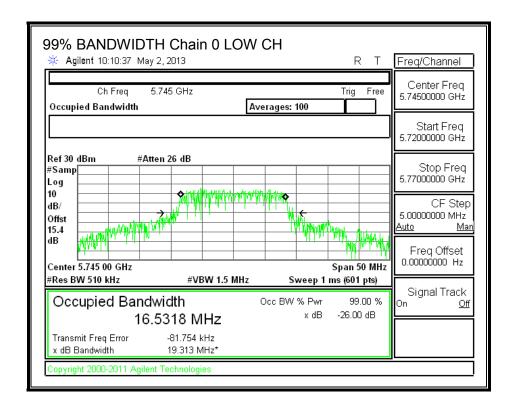
LIMITS

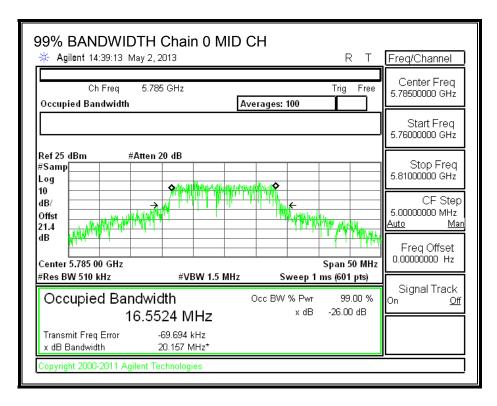
None; for reporting purposes only.

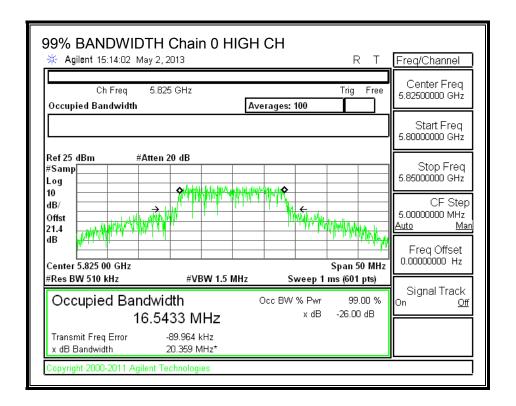
RESULTS

Channel	Frequency	99% BW	99% BW	
		Chain 0	Chain 1	
	(MHz)	(MHz)	(MHz)	
Low	5745	16.5318	16.6311	
Mid	5785	16.5524	16.6747	
High	5825	16.5433	16.6619	

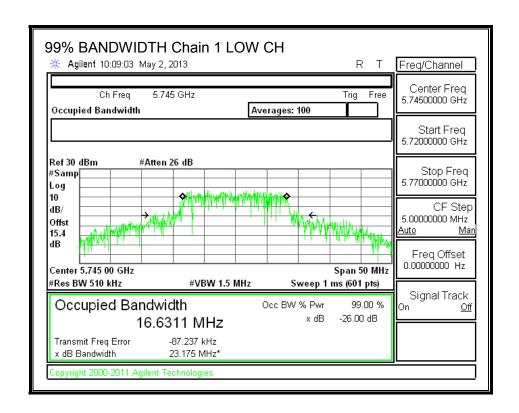
99% BANDWIDTH, Chain 0

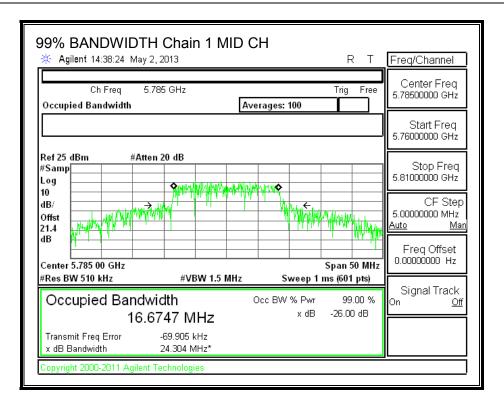


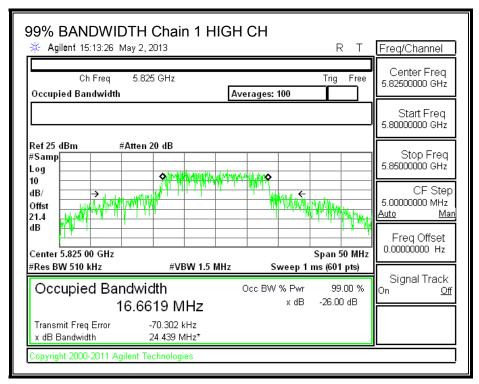




99% BANDWIDTH, Chain 1







REPORT NO: 13U14995-1 DATE: JULY 1, 2013 FCC ID: PPD-QCA6234 IC: 4104A-QCA6234

8.4.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 25.4 dB (including two 10 dB pads, 2 dB cables, and 3.4 dB power splitter) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

Channel	Frequency	Chain 0	Chain 1	Total
		Power	Power	Power
	(MHz)	(dBm)	(dBm)	(dBm)
Low	5745	14.40	15.90	18.22
Mid	5785	14.30	15.80	18.12
High	5825	14.30	16.20	18.36

REPORT NO: 13U14995-1 FCC ID: PPD-QCA6234

8.4.4. OUTPUT POWER

LIMITS

FCC §15.247

IC RSS-210 A8.4

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

The TX chains are uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain.

Chain 0	Chain 1	Uncorrelated Chains
Antenna	Antenna	Directional
Gain	Gain	Gain
(dBi)	(dBi)	(dBi)
2.00	2.00	2.00

DATE: JULY 1, 2013

IC: 4104A-QCA6234

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RESULTS

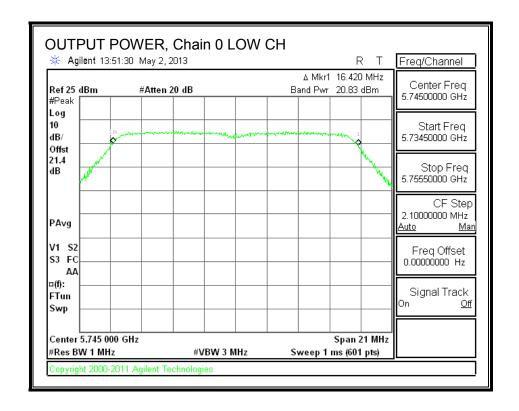
Limits

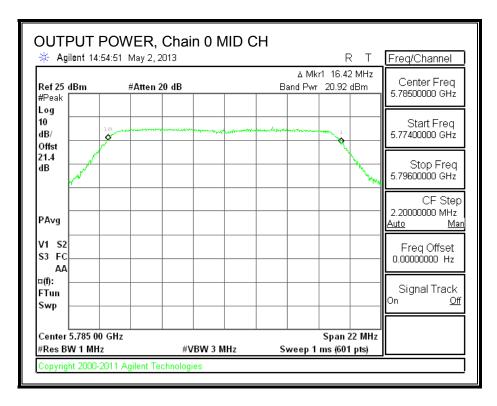
Channel	Frequency	Directional	FCC	IC	IC	Max
		Gain	Power	Power	EIRP	Power
			Limit	Limit	Limit	
	(MHz)	(dBi)	(dBm)	(dBm)	(dBm)	(dBm)
Low	5745	2.00	30.00	30	36	30.00
Mid	5785	2.00	30.00	30	36	30.00
High	5825	2.00	30.00	30	36	30.00

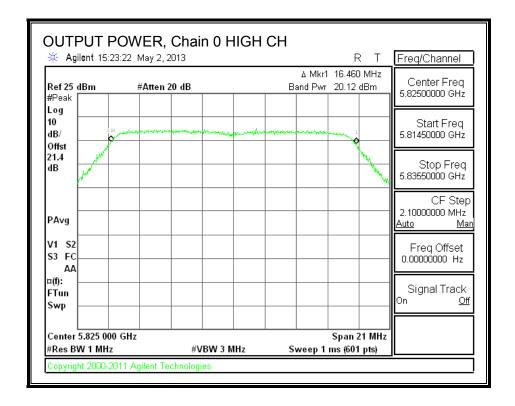
Results

Channel	Frequency	Chain 0	Chain 1	Total	Power	Margi
		Meas	Meas	Corr'd	Limit	
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5745	20.83	22.18	24.57	30.00	-5.43
Mid	5785	20.92	22.11	24.57	30.00	-5.43
High	5825	20.12	22.41	24.42	30.00	-5.58

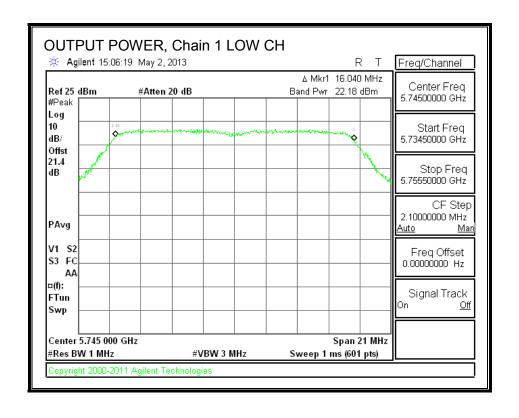
OUTPUT POWER, Chain 0

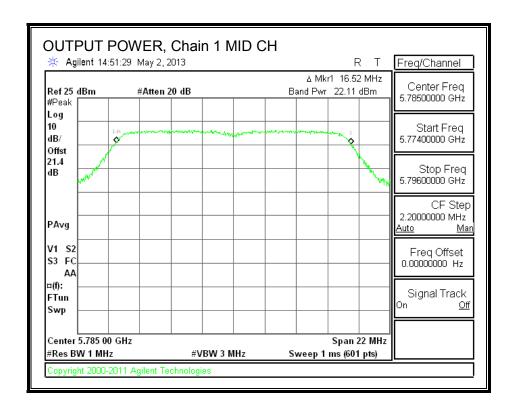


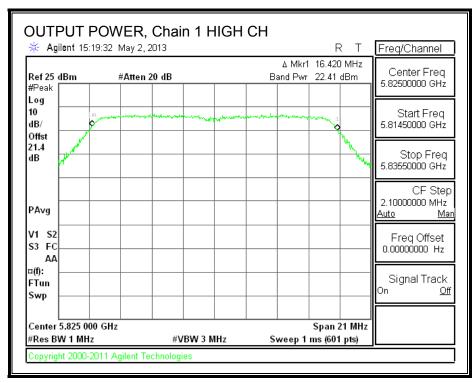




OUTPUT POWER, Chain 1







REPORT NO: 13U14995-1 DATE: JULY 1, 2013 FCC ID: PPD-QCA6234 IC: 4104A-QCA6234

8.4.5. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247

IC RSS-210 A8.2

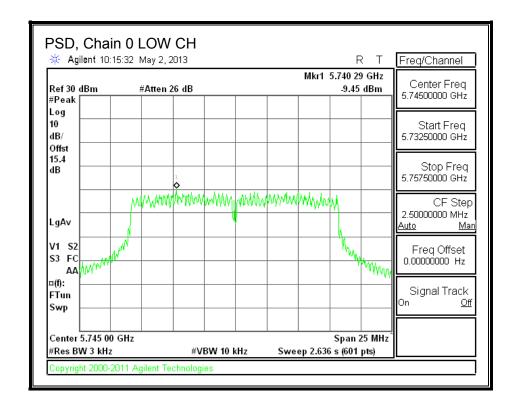
The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

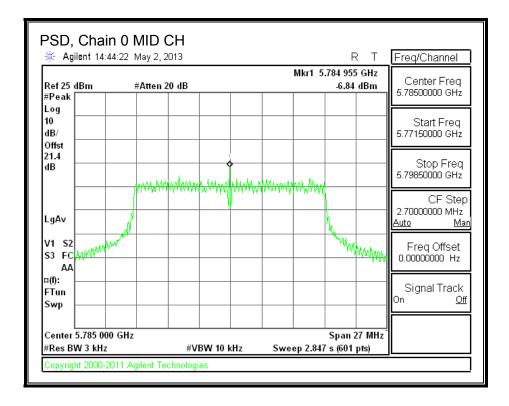
RESULTS

PSD Results

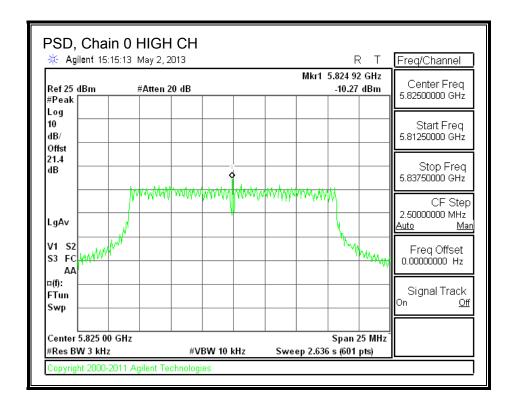
Channel	Frequency	Chain 0	Chain 1	Total	Limit	Margin
		Meas	Meas	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5745	-9.45	-9.46	-6.44	8.0	-14.4
Mid	5785	-6.84	-10.98	-5.42	8.0	-13.4
High	5825	-10.27	-10.44	-7.34	8.0	-15.3

PSD, Chain 0

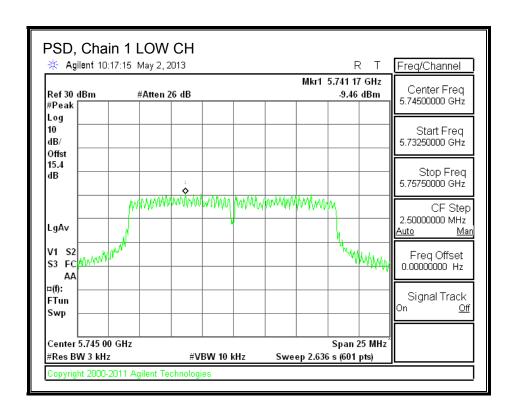


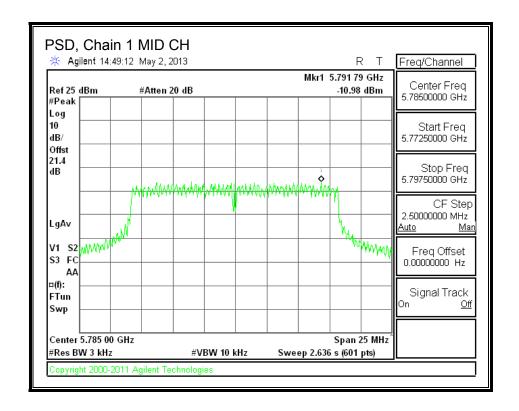


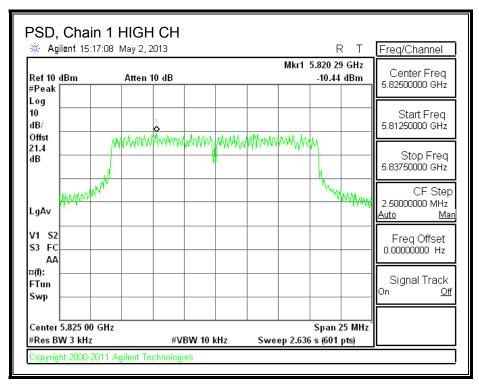
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.



PSD, Chain 1







REPORT NO: 13U14995-1 DATE: JULY 1, 2013 FCC ID: PPD-QCA6234 IC: 4104A-QCA6234

8.4.6. OUT-OF-BAND EMISSIONS

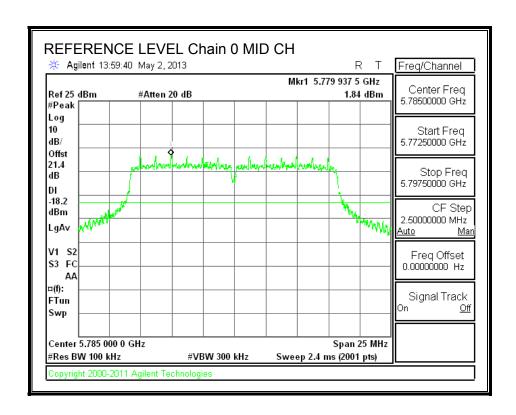
LIMITS

FCC §15.247 (d)

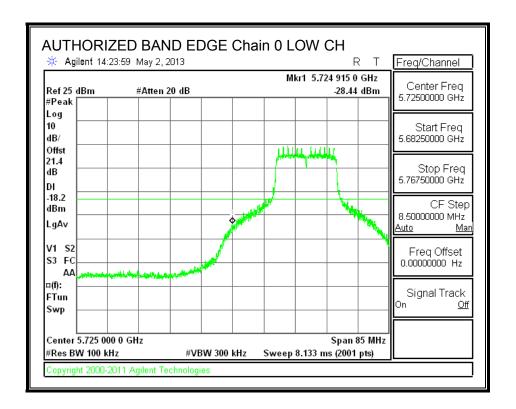
IC RSS-210 A8.5

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

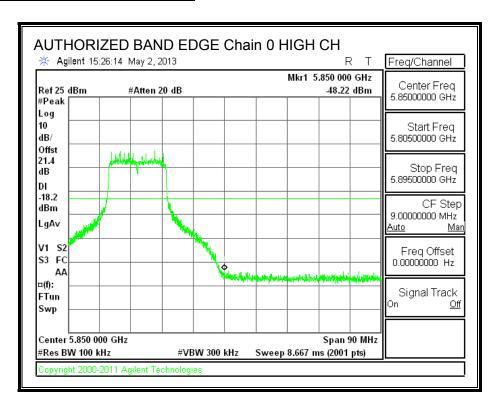
IN-BAND REFERENCE LEVEL, Chain 0



LOW CHANNEL BANDEDGE, Chain 0



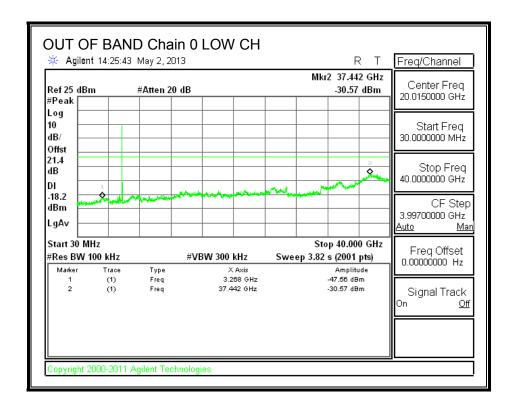
HIGH CHANNEL BANDEDGE, Chain 0

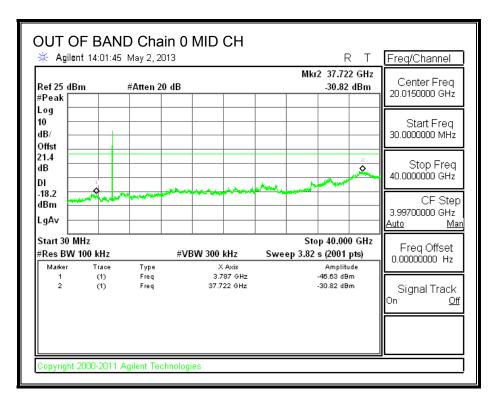


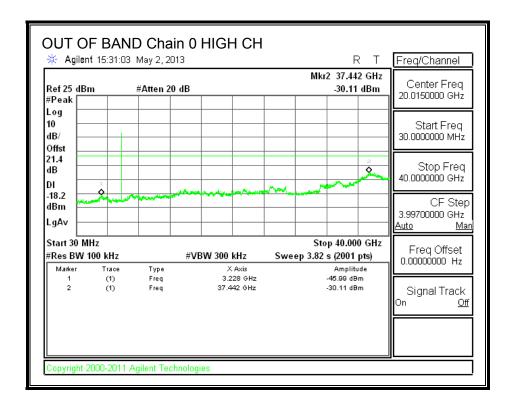
DATE: JULY 1, 2013

IC: 4104A-QCA6234

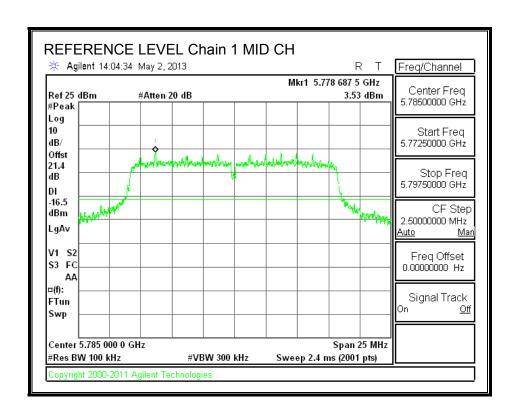
OUT-OF-BAND EMISSIONS, Chain 0



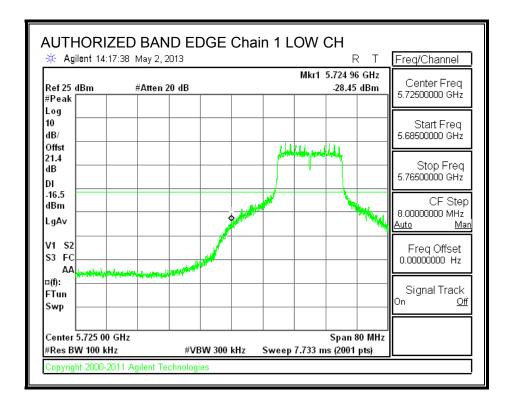




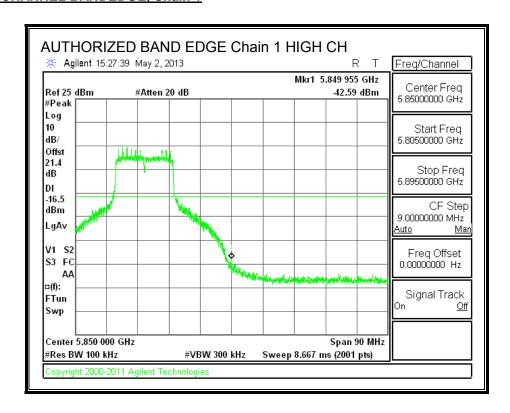
IN-BAND REFERENCE LEVEL, Chain 1



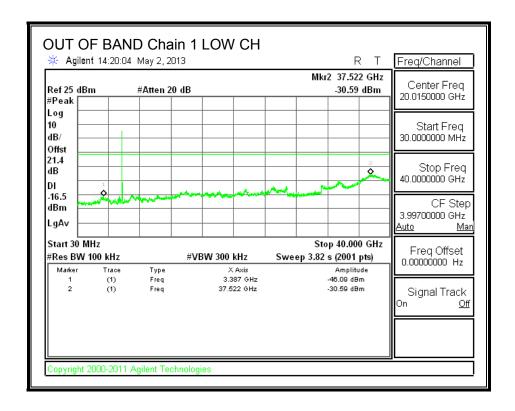
LOW CHANNEL BANDEDGE, Chain 1

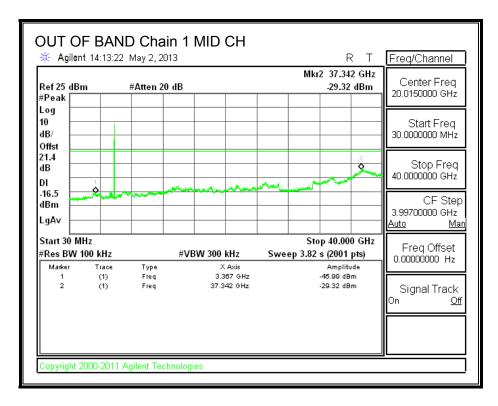


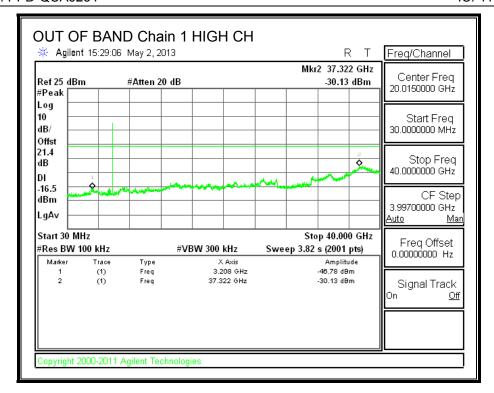
HIGH CHANNEL BANDEDGE, Chain 1



OUT-OF-BAND EMISSIONS, Chain 1



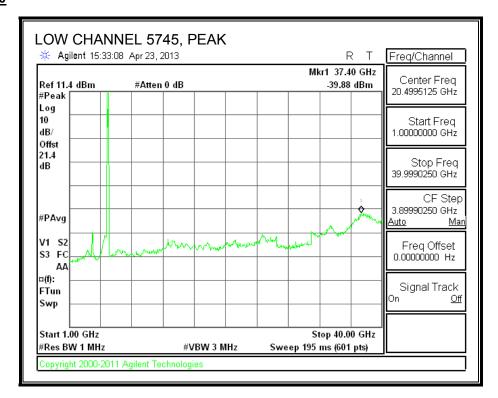


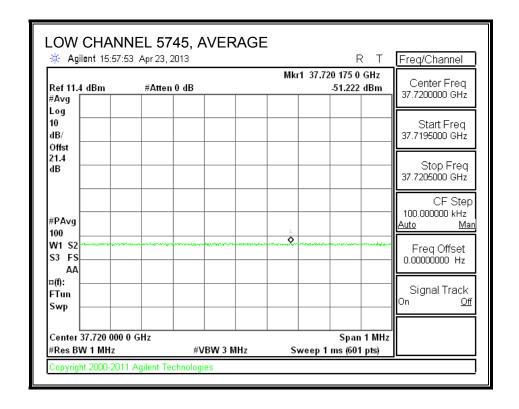


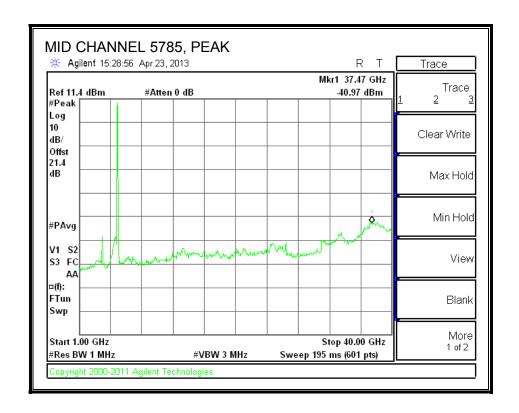
8.4.7. CONDUCTED SPURIOUS IN RESTRICTED BANDS (no filter unit)

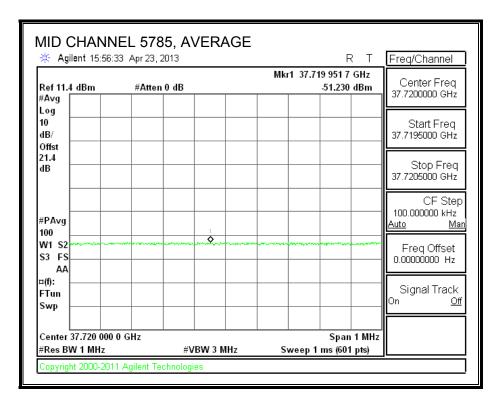
HARMONICS AND SPURIOUS

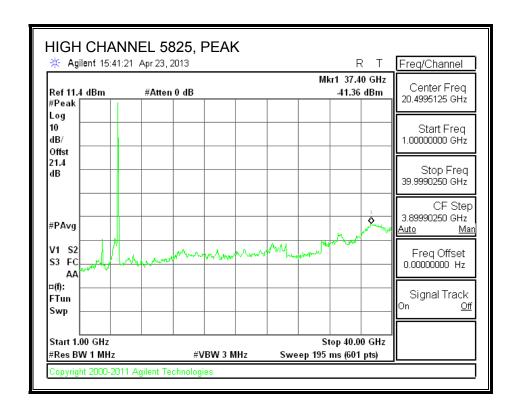
Chain 0

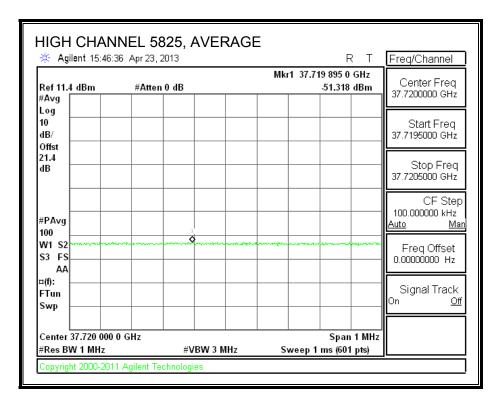




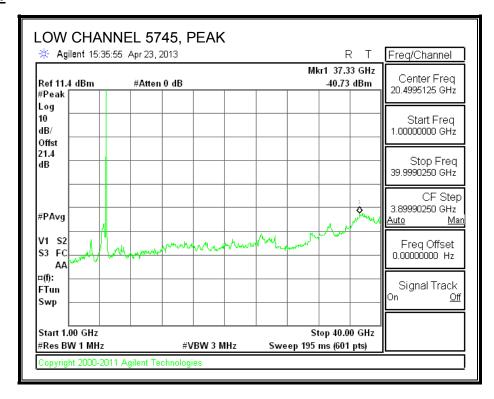


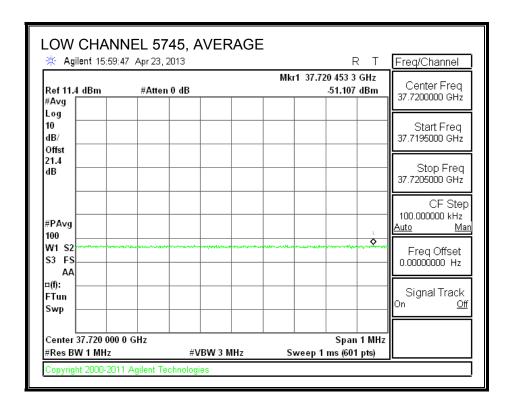


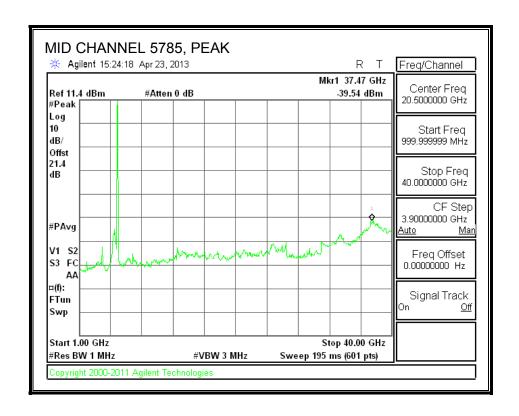


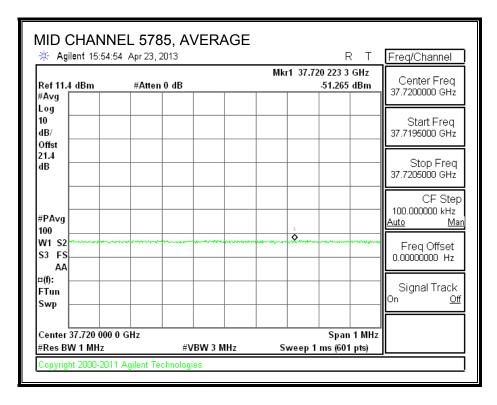


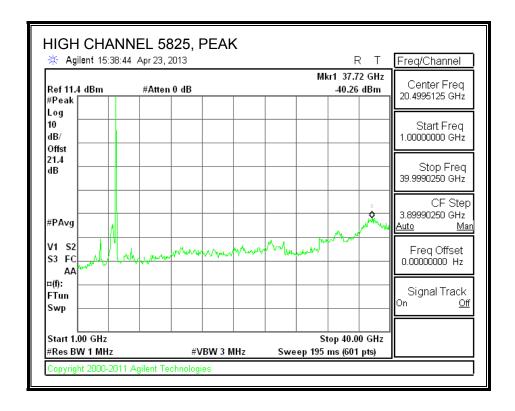
Chain 1

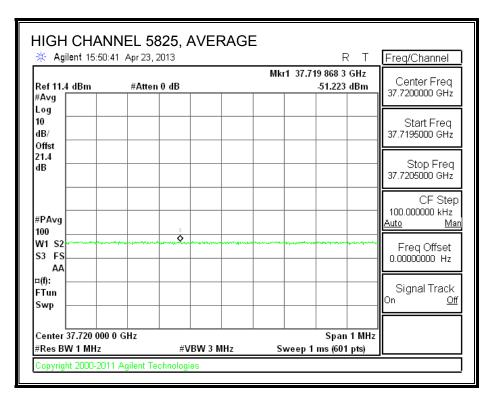












REPORT NO: 13U14995-1 DATE: JULY 1, 2013 FCC ID: PPD-QCA6234 IC: 4104A-QCA6234

HARMONIC SPURIOUS DATA

	· ·		the restricted bar	lus,					
Date:		4/23/2013							
Test Engine	er:	T. Wagoner / O.	Su						
Client:		Qualcomm Athe	ros						
Project Nun	nber:	13u14995							
Configuration	on:	5.8GHz 11a							
Mode of operation: Tx				Note: if th	e PK margi	n is greater th	nan 20 dB, the	re is no need	d to get AVG read
Channel		PSA PK Reading	•	-		PK E-field	PK E-field	Software	AVG Power
	(MHz)	Chain 0 (dBm)	Chain 1 (dBm)	(dBi)	(dBm)	Limit	Margin	Setting	Meter Reading
						(dBm)	(dB)		(dBm)
Low 5745	37.4	-39.88	-40.73	2	-32.26	-21.2	-11.06	17.00	14.4 / 15.9
Mid 5785	37.47	-40.97	-39.54	2	-32.18	-21.2	-10.98	17.00	14.3 / 15.8
High 5825	37.72	-41.36	-40.26	2	-32.75	-21.2	-11.55	17.00	14.3 / 16.2
				- (-)					
Channel	Frequency		PSA AVG	AG/Chain			AVG E-field	Software	AVG Power
	(MHz)	Reading	Reading	(dBi)	(dBm)	Limit	Margin	Setting	Meter Reading
		Chain 0 (dBm)	Chain 1 (dBm)			(dBm)	(dB)		(dBm)
Low 5745	37.72	-51.222	-51.107	2	-43.14	-41.2	-1.94	17.00	14.4 / 15.9
Mid 5785	37.72	-51.23	-51.265	2	-43.23	-41.2	-2.03	17.00	14.3 / 15.8

REPORT NO: 13U14995-1 DATE: JULY 1, 2013 IC: 4104A-QCA6234 FCC ID: PPD-QCA6234

802.11n HT20 MODE IN THE 5.8 GHz BAND 8.5.

8.5.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

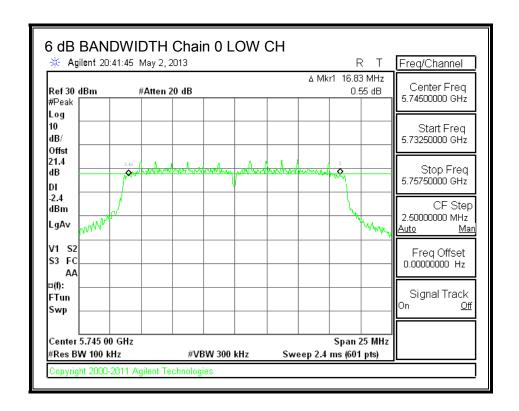
IC RSS-210 A8.2 (a)

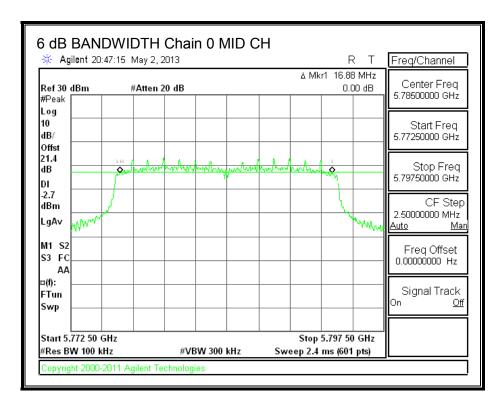
The minimum 6 dB bandwidth shall be at least 500 kHz.

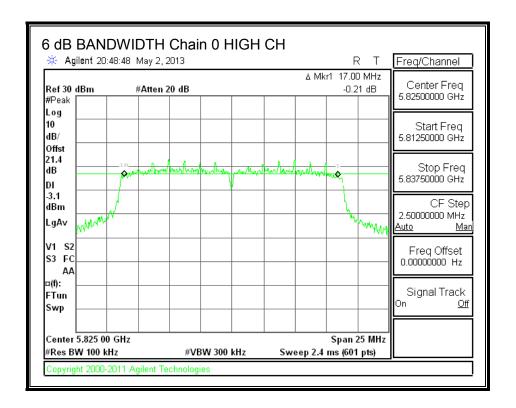
RESULTS

Channel	Channel Frequency		6 dB BW	Minimum	
		Chain 0	Chain 1	Limit	
	(MHz)	(MHz)	(MHz)	(MHz)	
Low	5745	16.83	17.00	0.5	
Mid	5785	16.88	16.29	0.5	
High	5825	17.00	16.46	0.5	

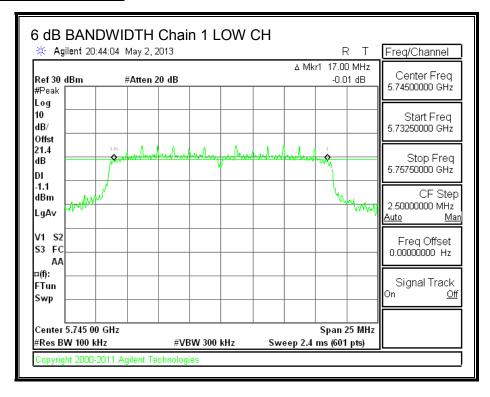
6 dB BANDWIDTH, Chain 0



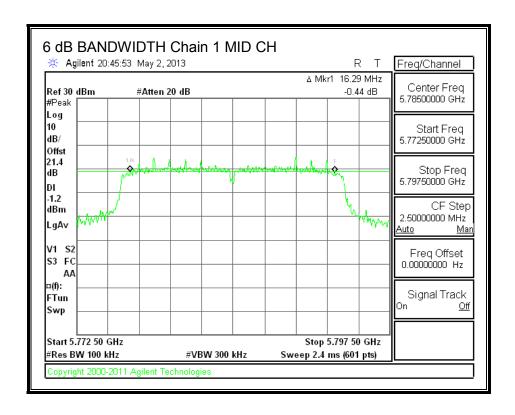


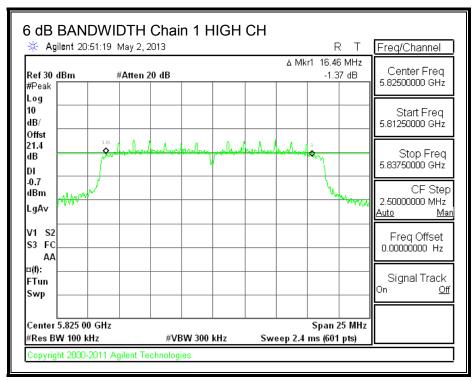


6 dB BANDWIDTH, Chain 1



FAX: (510) 661-0888





REPORT NO: 13U14995-1 DATE: JULY 1, 2013 FCC ID: PPD-QCA6234 IC: 4104A-QCA6234

8.5.2. 99% BANDWIDTH

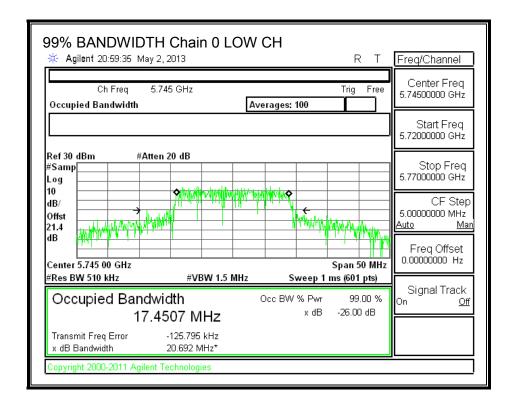
LIMITS

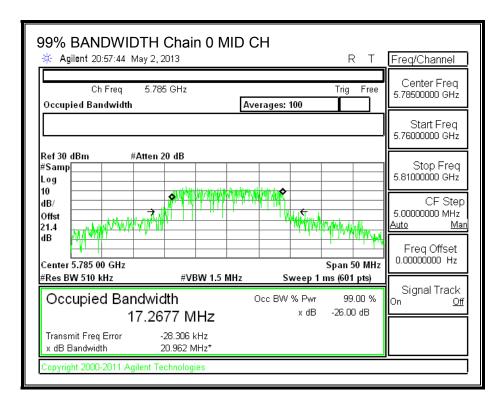
None; for reporting purposes only.

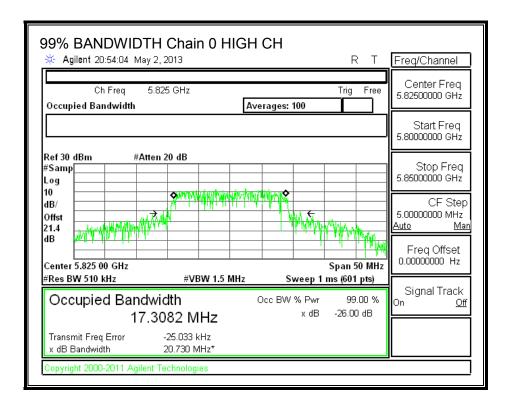
RESULTS

Channel	Frequency	99% BW	99% BW	
		Chain 0	Chain 1	
	(MHz)	(MHz)	(MHz)	
Low	5745	17.4507	17.6598	
Mid	5785	17.2677	17.5780	
High	5825	17.3082	17.5783	

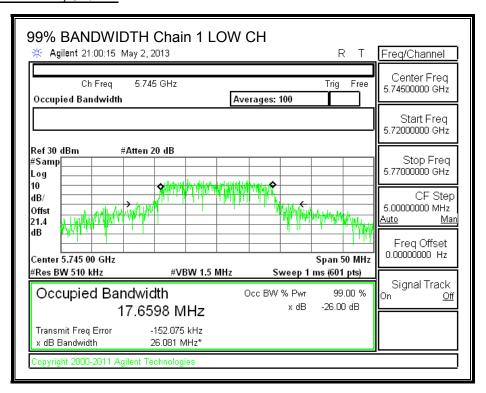
99% BANDWIDTH, Chain 0

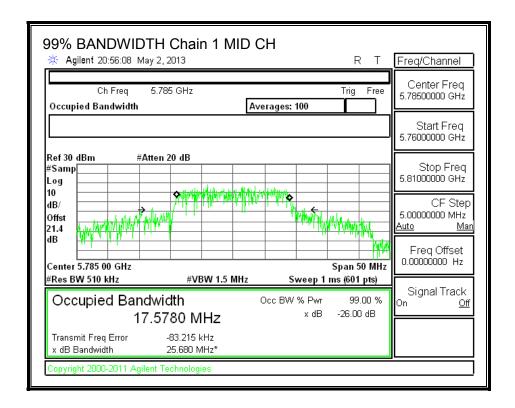


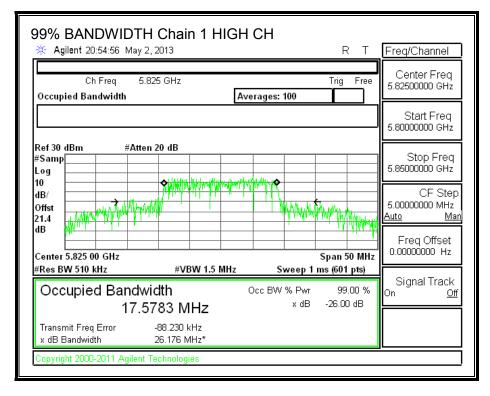




99% BANDWIDTH, Chain 1







REPORT NO: 13U14995-1 DATE: JULY 1, 2013 FCC ID: PPD-QCA6234 IC: 4104A-QCA6234

8.5.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 25.4 dB (including two 10 dB pads, 2 dB cables, and 3.4 dB power splitter) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

Channel	Frequency	Chain 0	Chain 1	Total
		Power	Power	Power
	(MHz)	(dBm)	(dBm)	(dBm)
Low	5745	15.00	16.30	18.71
Mid	5785	15.10	16.30	18.75
High	5825	15.10	16.70	18.98

REPORT NO: 13U14995-1 FCC ID: PPD-QCA6234

8.5.4. OUTPUT POWER

LIMITS

FCC §15.247

IC RSS-210 A8.4

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

The TX chains are uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain.

Chain 0	Chain 1	Uncorrelated Chains
Antenna	Antenna	Directional
Gain	Gain	Gain
(dBi)	(dBi)	(dBi)
2.00	2.00	2.00

DATE: JULY 1, 2013

IC: 4104A-QCA6234

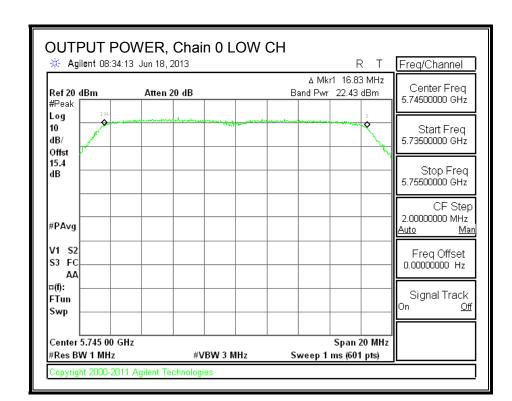
RESULTS

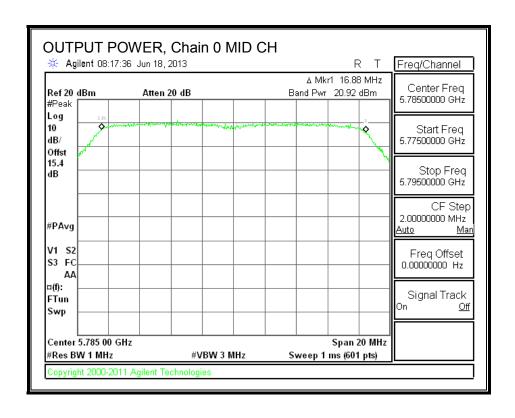
Limits

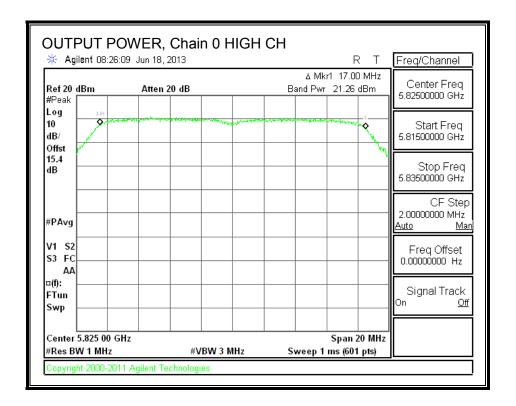
Channel	Frequency	Directional	FCC	IC	IC	Max
		Gain	Power	Power	EIRP	Power
			Limit	Limit	Limit	
	(MHz)	(dBi)	(dBm)	(dBm)	(dBm)	(dBm)
Low	5745	2.00	30.00	30	36	30.00
Mid	5785	2.00	30.00	30	36	30.00
High	5825	2.00	30.00	30	36	30.00

Results

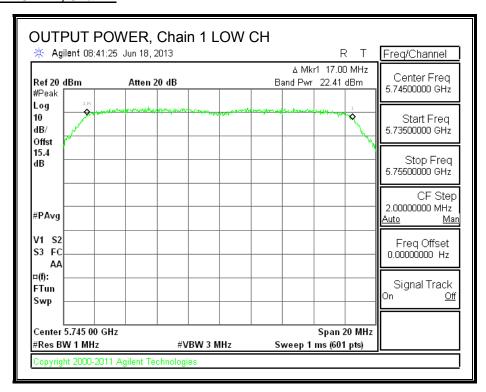
Channel	Frequency	Chain 0	Chain 1	Total	Power	Margi
		Meas	Meas	Corr'd	Limit	
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5745	22.43	22.41	25.43	30.00	-4.57
Mid	5785	20.92	22.72	24.92	30.00	-5.08
High	5825	21.26	23.26	25.38	30.00	-4.62

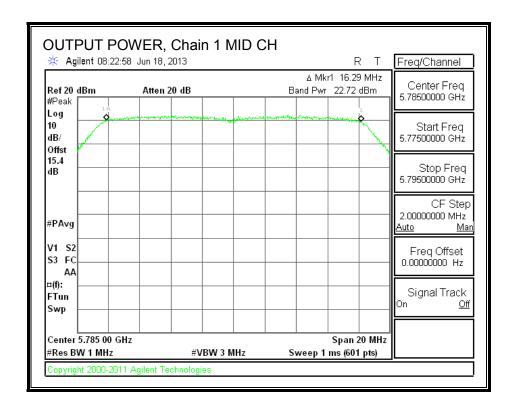


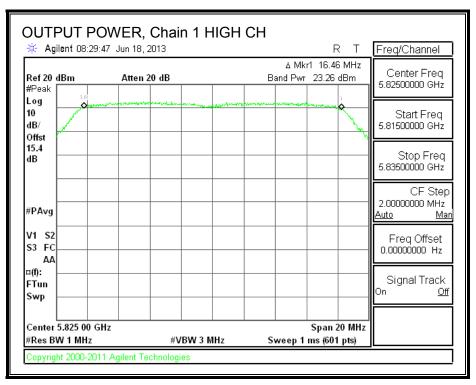




OUTPUT POWER, Chain 1







REPORT NO: 13U14995-1 DATE: JULY 1, 2013 FCC ID: PPD-QCA6234 IC: 4104A-QCA6234

8.5.5. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247

IC RSS-210 A8.2

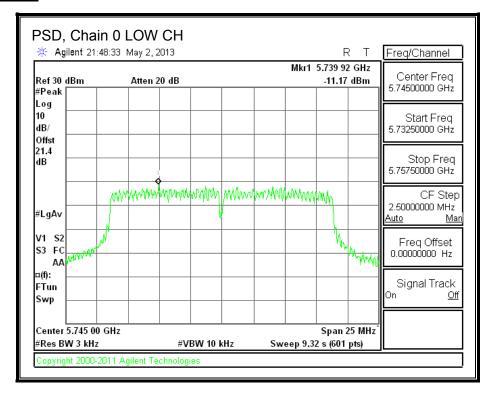
The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

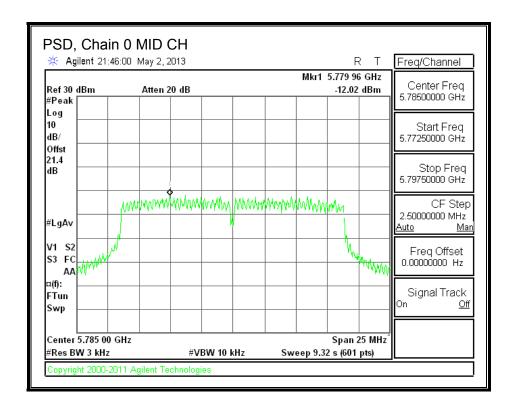
RESULTS

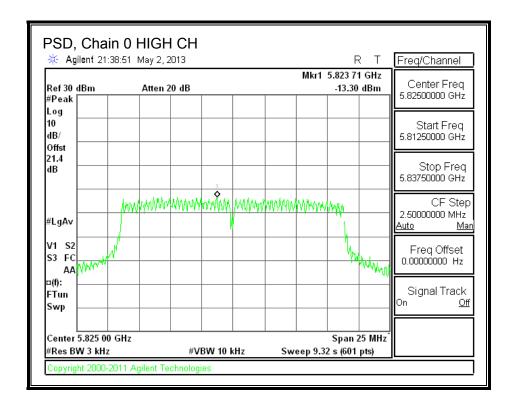
PSD Results

Channel	Frequency	Chain 0	Chain 1	Total	Limit	Margin
		Meas	Meas	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5745	-11.17	-10.56	-7.84	8.0	-15.8
Mid	5785	-12.02	-9.18	-7.36	8.0	-15.4
High	5825	-13.30	-10.24	-8.50	8.0	-16.5

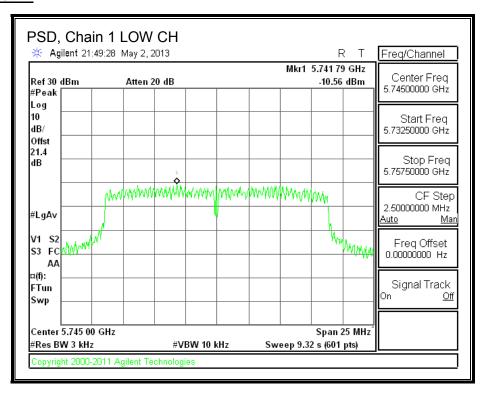
PSD, Chain 0

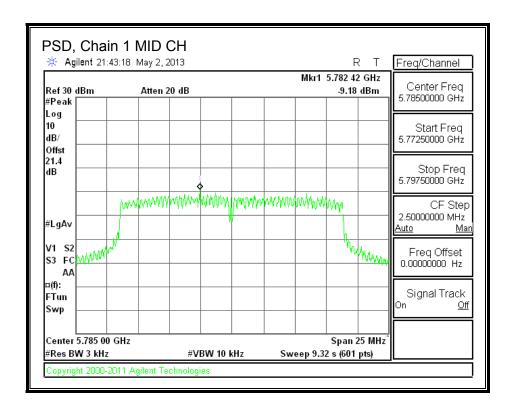


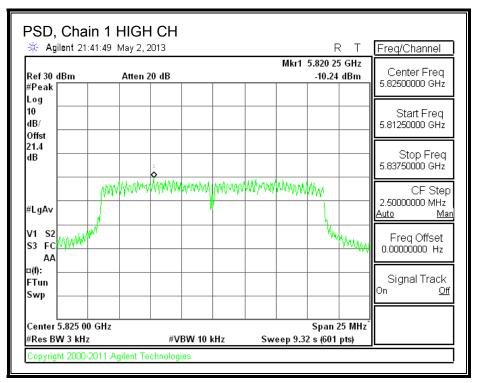




PSD, Chain 1







REPORT NO: 13U14995-1 FCC ID: PPD-QCA6234

8.5.6. OUT-OF-BAND EMISSIONS

LIMITS

FCC §15.247 (d)

IC RSS-210 A8.5

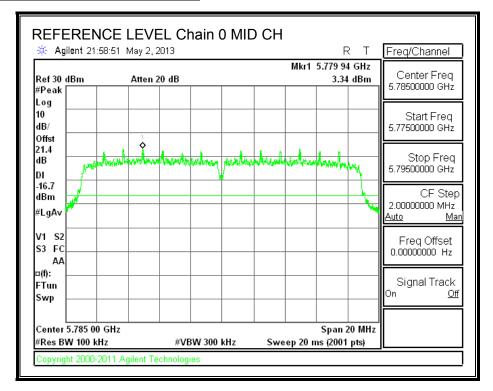
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

DATE: JULY 1, 2013

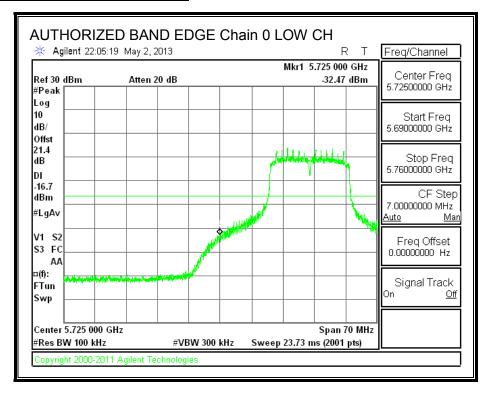
IC: 4104A-QCA6234

RESULTS

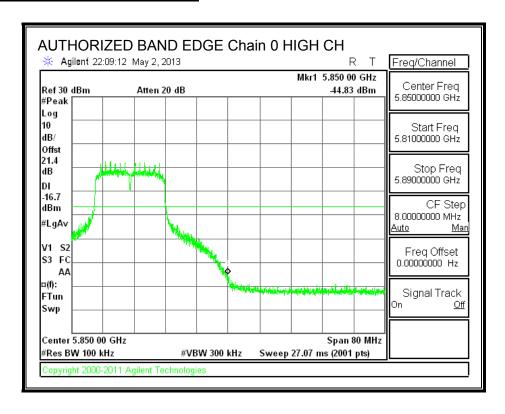
IN-BAND REFERENCE LEVEL, Chain 0



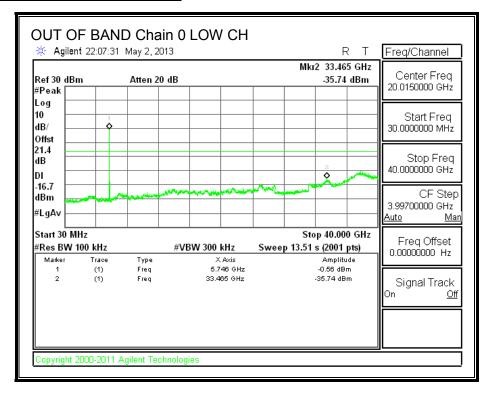
LOW CHANNEL BANDEDGE, Chain 0

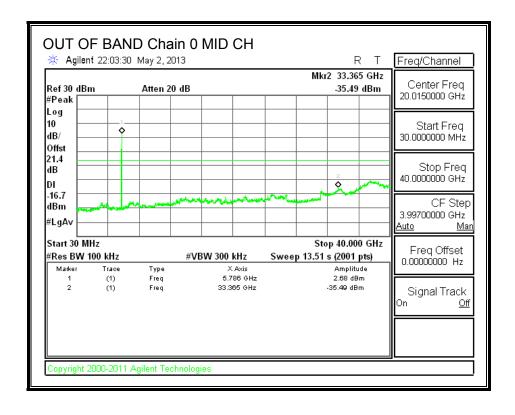


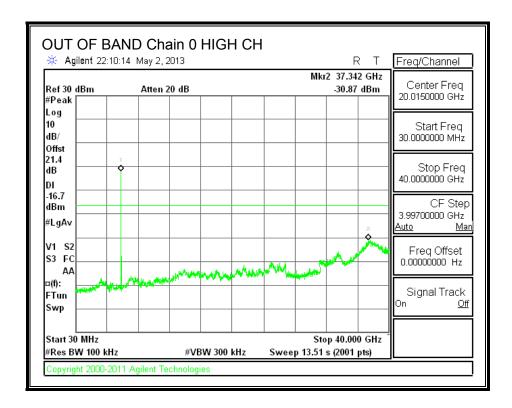
HIGH CHANNEL BANDEDGE, Chain 0



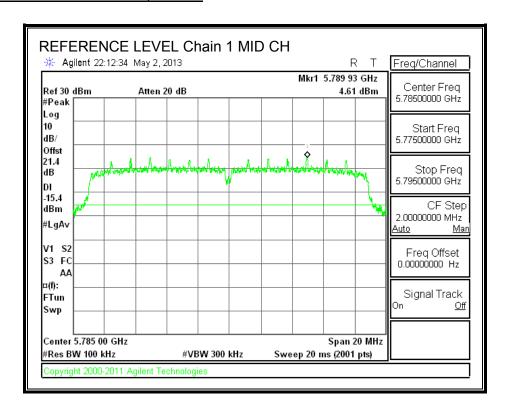
OUT-OF-BAND EMISSIONS, Chain 0



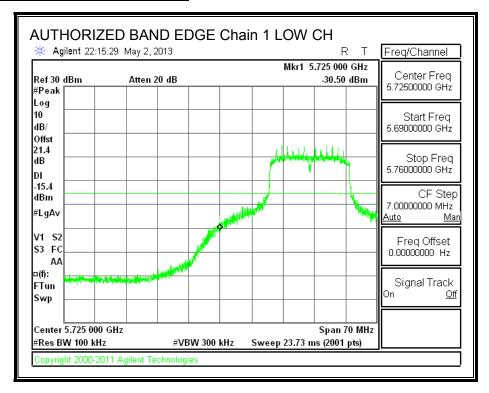




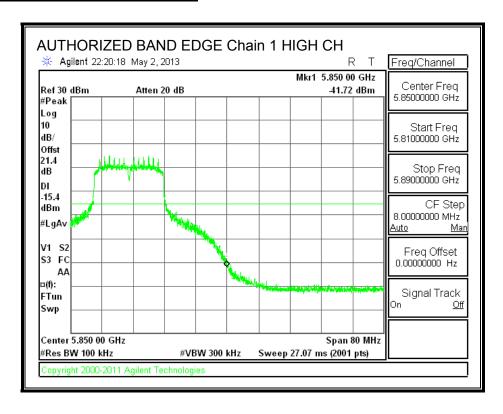
IN-BAND REFERENCE LEVEL, Chain 1



LOW CHANNEL BANDEDGE, Chain 1

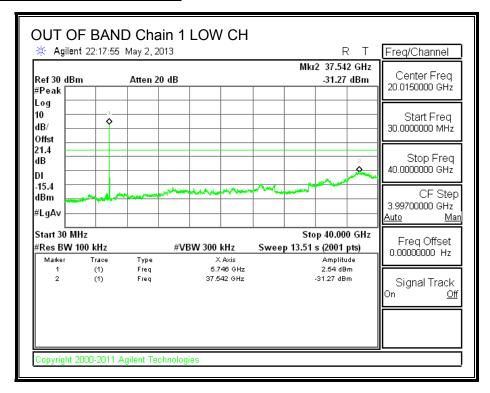


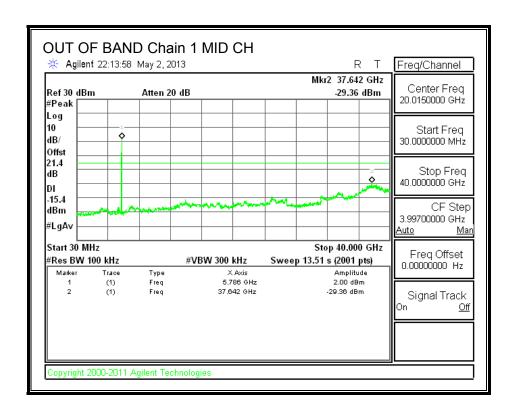
HIGH CHANNEL BANDEDGE, Chain 1

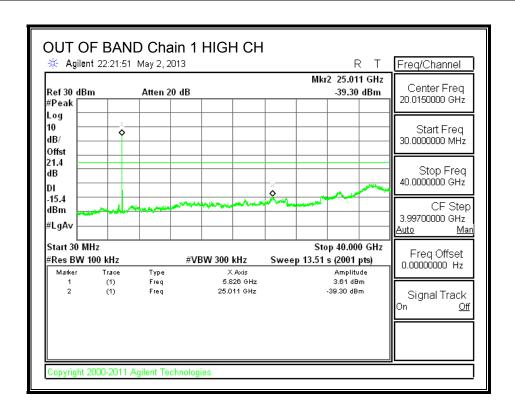


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OUT-OF-BAND EMISSIONS, Chain 1



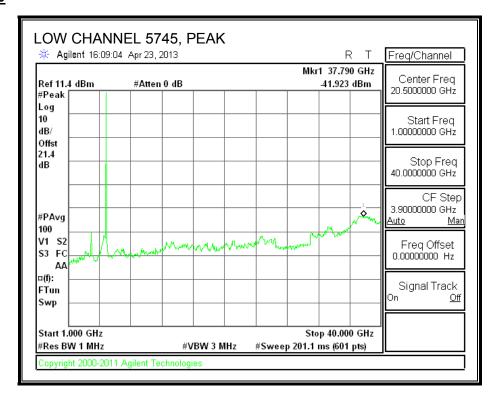


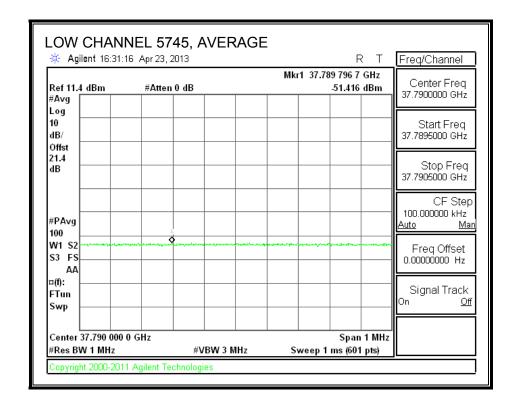


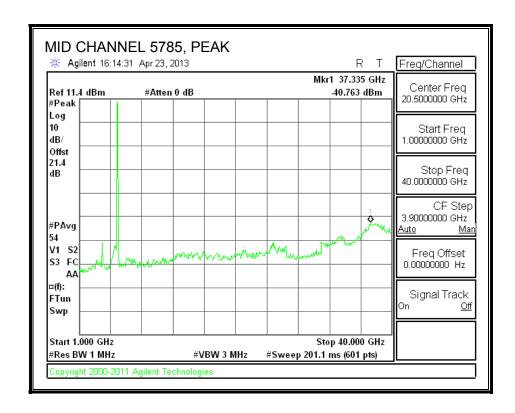
8.5.7. CONDUCTED SPURIOUS IN RESTRICTED BANDS (no filter units)

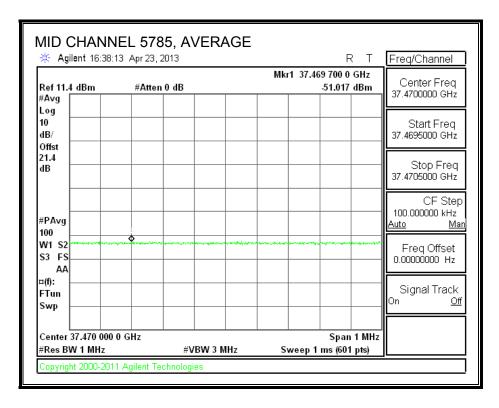
HARMONICS AND SPURIOUS

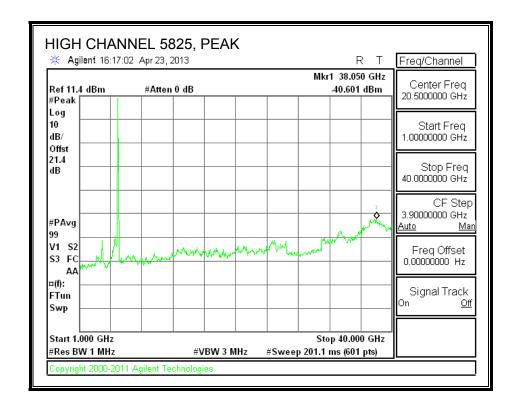
Chain 0

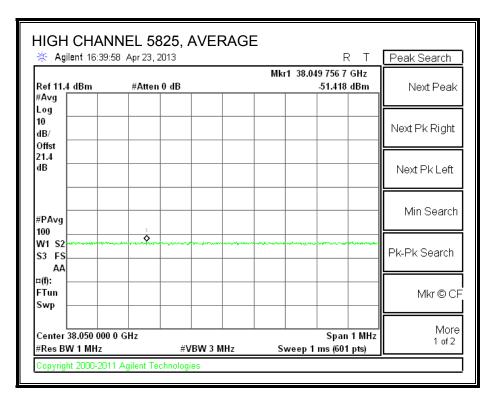




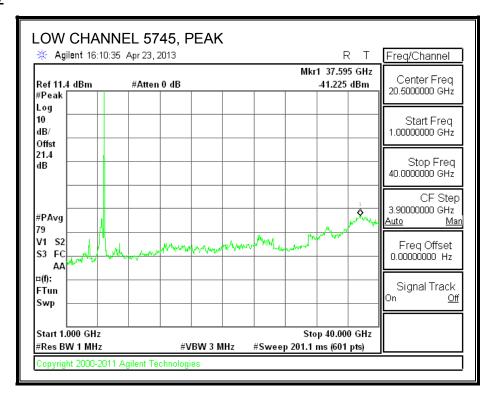


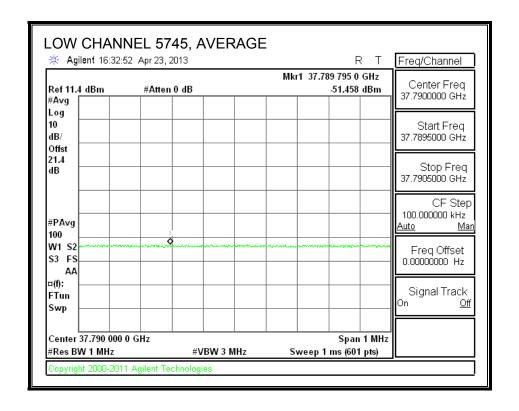


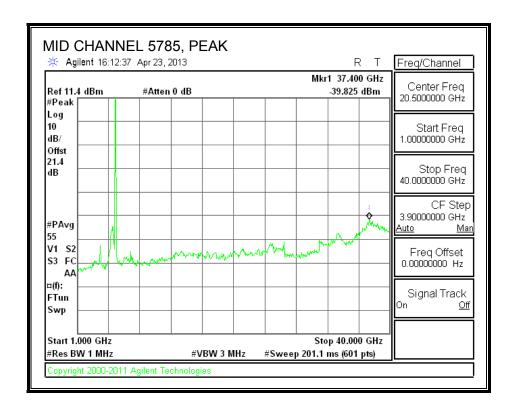


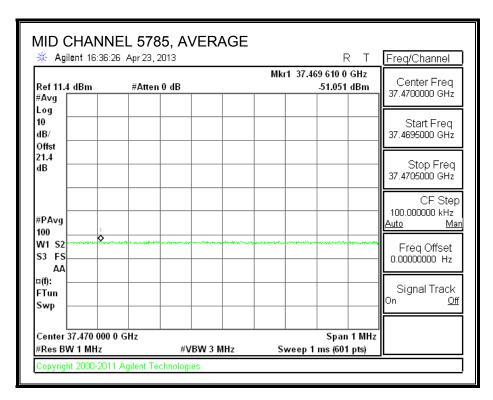


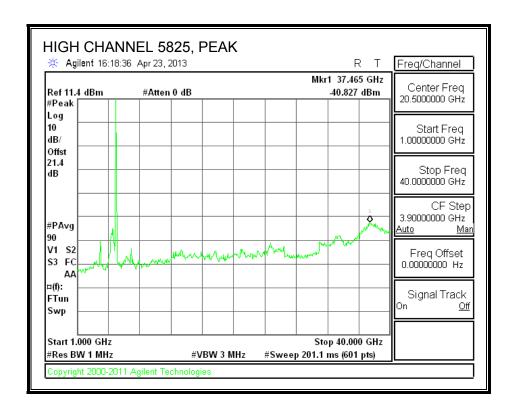
Chain 1

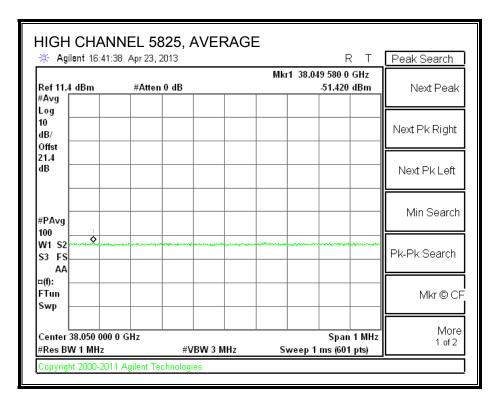












REPORT NO: 13U14995-1 DATE: JULY 1, 2013 FCC ID: PPD-QCA6234 IC: 4104A-QCA6234

HARMONIC SPURIOUS DATA

Date:		4/23/2013							
Test Engine	er:	O. Su							
Client:		Qualcomm Athe	ros						
Project Nur	mber:	13u14995							
Configurati	on:	5.8GHz 11n HT20	1						
Mode of op	eration:	Tx		Note: if the PK margin is greater than 20 dB, there is no need to get AVG readi					
Channel		PSA PK Reading	J	•		PK E-field	PK E-field	Software	AVG Power
	(MHz)	Chain 0 (dBm)	Chain 1 (dBm)	(dBi)	(dBm)	Limit	Margin	Setting	Meter Reading
						(dBm)	(dB)		(dBm)
Low 5745	37.79	-41.923	-41.225	2	-33.54	-21.2	-12.34	18.00	15.0 / 16.3
Mid 5785	37.47	-40.763	-39.825	2	-32.25	-21.2	-11.05	18.00	15.1 / 16.3
High 5825	38.05	-40.601	-40.827	2	-32.69	-21.2	-11.49	18.00	15.1 / 16.7
<u> </u>	-	201 11/0	201 11/2	10/01	****		N/0 T (1 1 1	0 (1	
Channel	Frequency			AG/Chain		AVG E-field	AVG E-field	Software	AVG Power
	(MHz)	Reading	Reading	(dBi)	(dBm)	Limit	Margin	Setting	Meter Reading
		Chain 0 (dBm)	Chain 1 (dBm)			(dBm)	(dB)		(dBm)
Low 5745	37.79	-51.416	-51.458	2	-43.42	-41.2	-2.22	18.00	15.0 / 16.3
Mid 5785	37.47	-51.017	-51.051	2	-43.01	-41.2	-1.81	18.00	14.8 / 16.2
เขเน ว/ชว									

REPORT NO: 13U14995-1 DATE: JULY 1, 2013 FCC ID: PPD-QCA6234 IC: 4104A-QCA6234

8.6. 802.11n HT40 MODE IN THE 5.8 GHz BAND

8.6.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

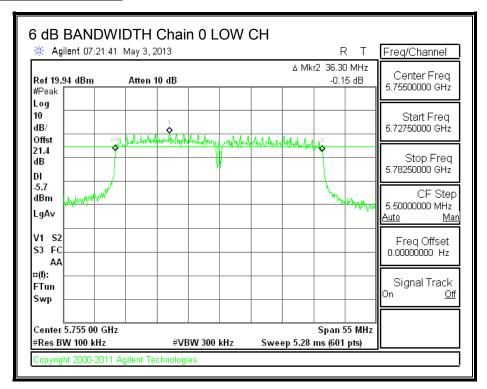
IC RSS-210 A8.2 (a)

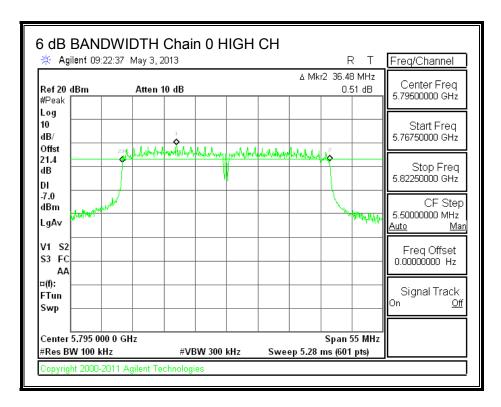
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

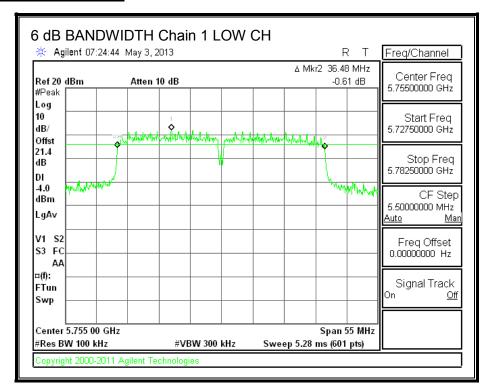
Channel	Frequency	6 dB BW	6 dB BW	Minimum
		Chain 0	Chain 1	Limit
	(MHz)	(MHz)	(MHz)	(MHz)
Low	5755	36.30	36.48	0.5
High	5795	36.48	36.48	0.5

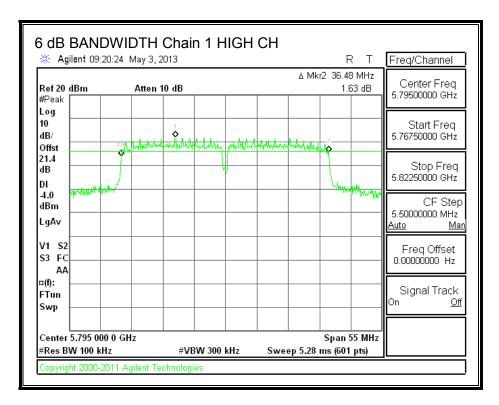
6 dB BANDWIDTH, Chain 0





6 dB BANDWIDTH, Chain 1





REPORT NO: 13U14995-1 DATE: JULY 1, 2013 FCC ID: PPD-QCA6234 IC: 4104A-QCA6234

8.6.2. 99% BANDWIDTH

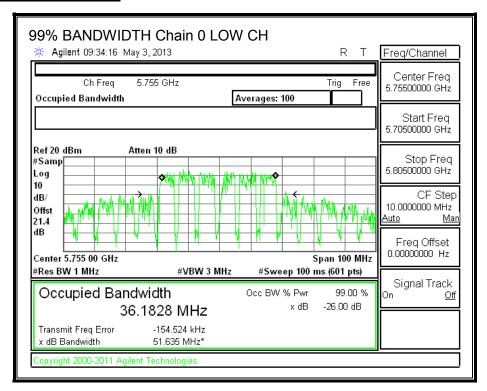
LIMITS

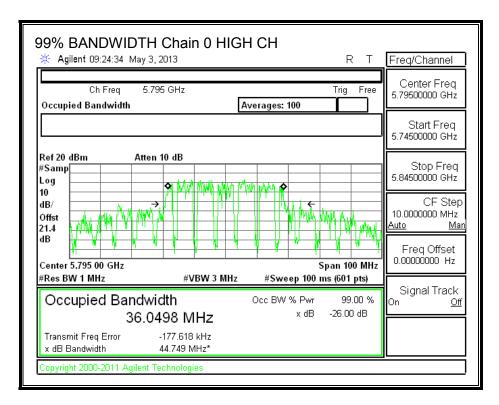
None; for reporting purposes only.

RESULTS

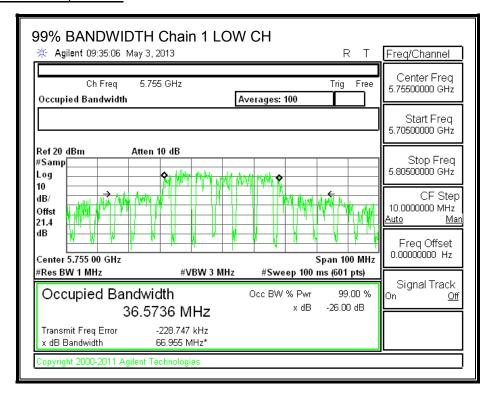
Channel	Frequency	99% BW	99% BW
		Chain 0	Chain 1
	(MHz)	(MHz)	(MHz)
Low	5755	36.1828	36.5736
High	5795	36.0498	36.8427

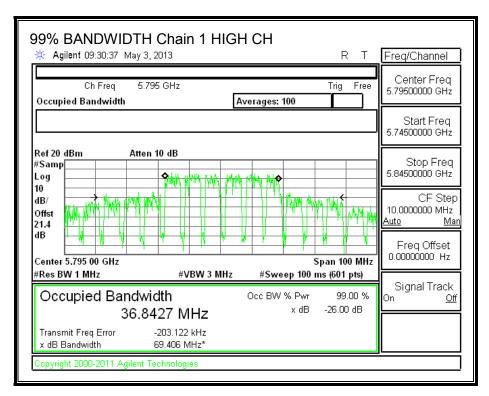
99% BANDWIDTH, Chain 0





99% BANDWIDTH, Chain 1





8.6.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 25.4 dB (including two 10 dB pads, 2 db cables, and 3.4 power splitter) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

Channel	Frequency	Chain 0	Chain 1	Total
		Power	Power	Power
	(MHz)	(dBm)	(dBm)	(dBm)
Low	5755	14.70	16.20	18.52
High	5795	14.80	16.30	18.62

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8.6.4. OUTPUT POWER

LIMITS

FCC §15.247

IC RSS-210 A8.4

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

The TX chains are uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain.

Chain 0	Chain 1	Uncorrelated Chains					
Antenna	Antenna	Directional					
Gain	Gain	Gain					
(dBi)	(dBi)	(dBi)					
2.00	2.00	2.00					

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RESULTS

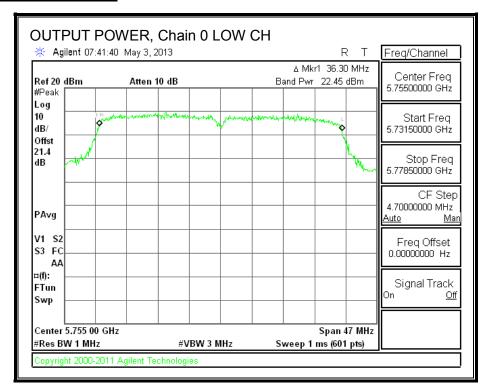
Limits

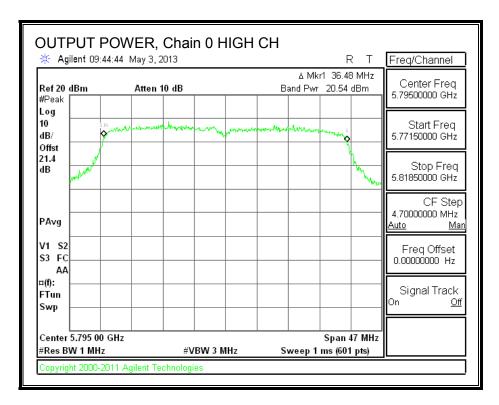
Channel	Frequency	Directional	FCC	IC	IC	Max
		Gain	Power	Power	EIRP	Power
			Limit	Limit	Limit	
	(MHz)	(dBi)	(dBm)	(dBm)	(dBm)	(dBm)
Low	5755	2.00	30.00	30	36	30.00
High	5795	2.00	30.00	30	36	30.00

Results

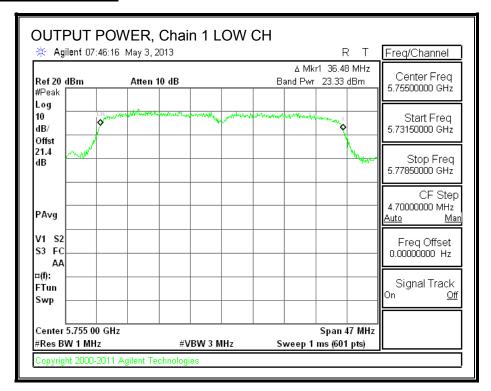
Nesuits						
Channel	Frequency	Chain 0	Chain 1	Total	Power	Margi
		Meas	Meas	Corr'd	Limit	
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5755	22.45	23.33	25.92	30.00	-4.08
High	5795	20.54	23.54	25.30	30.00	-4.70

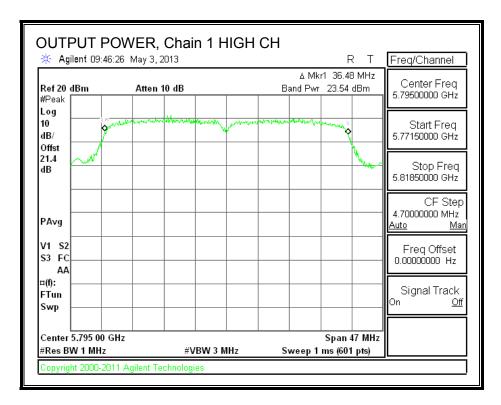
OUTPUT POWER, Chain 0





OUTPUT POWER, Chain 1





8.6.5. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247

IC RSS-210 A8.2

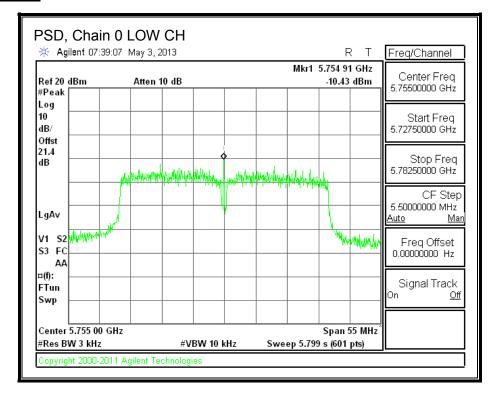
The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

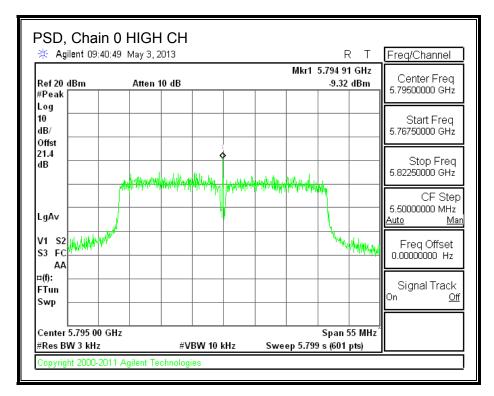
RESULTS

PSD Results

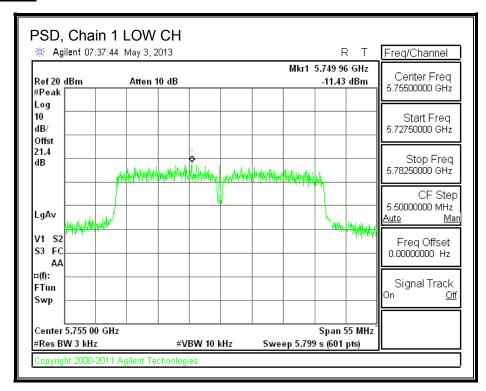
Channel	Frequency Chain		Chain 1	Total	Limit	Margin
		Meas	Meas	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5755	-10.43	-11.43	-7.89	8.0	-15.9
High	5795	-9.32	-12.23	-7.53	8.0	-15.5

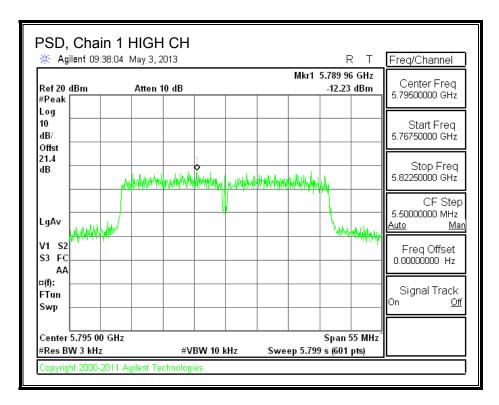
PSD, Chain 0





PSD, Chain 1





8.6.6. OUT-OF-BAND EMISSIONS

LIMITS

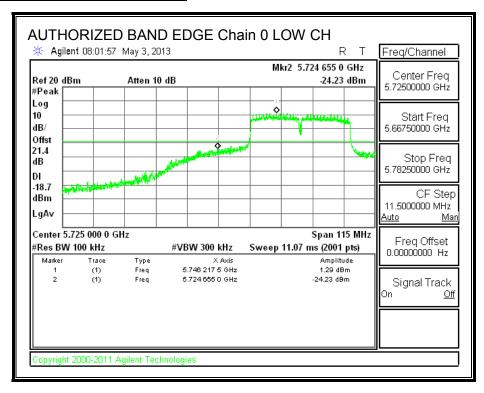
FCC §15.247 (d)

IC RSS-210 A8.5

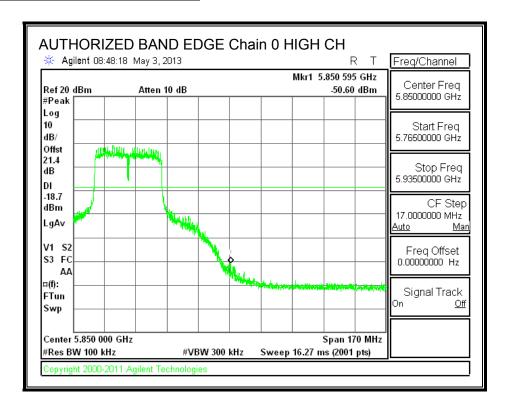
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

RESULTS

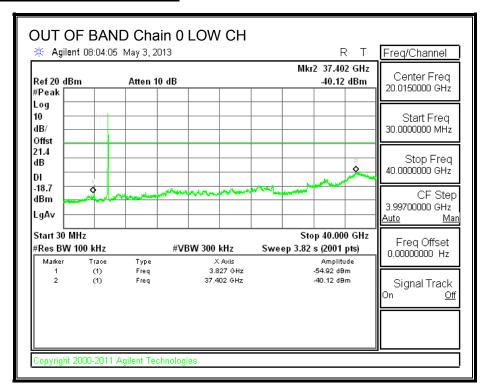
LOW CHANNEL BANDEDGE, Chain 0

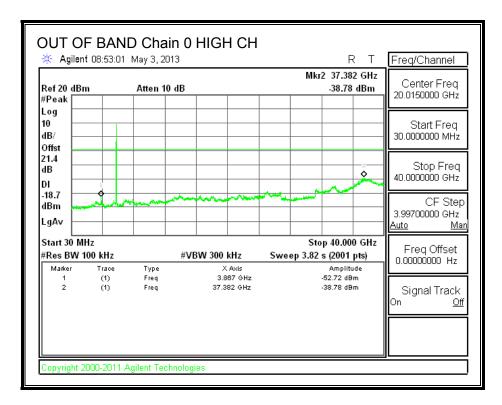


HIGH CHANNEL BANDEDGE, Chain 0

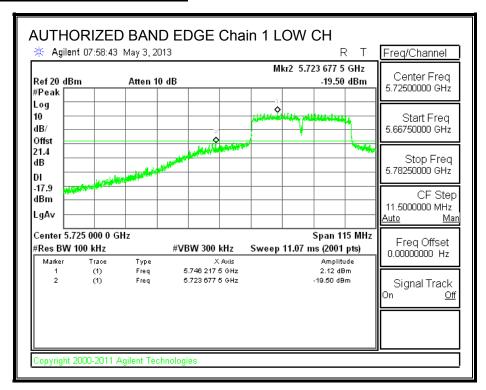


OUT-OF-BAND EMISSIONS, Chain 0

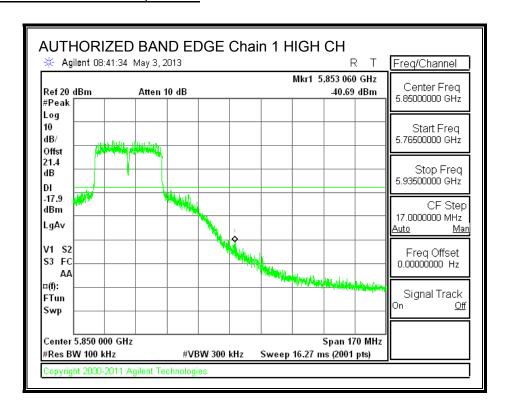




LOW CHANNEL BANDEDGE, Chain 1



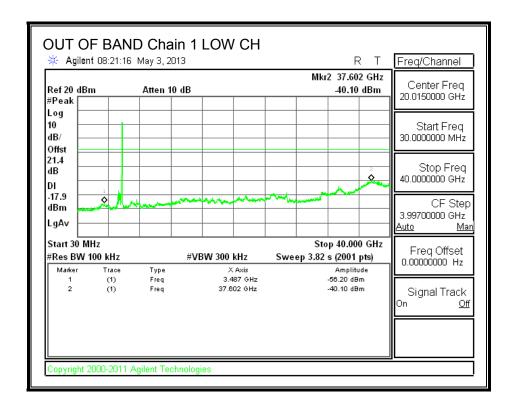
HIGH CHANNEL BANDEDGE, Chain 1

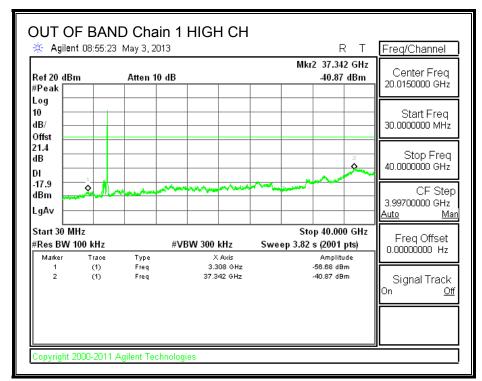


DATE: JULY 1, 2013

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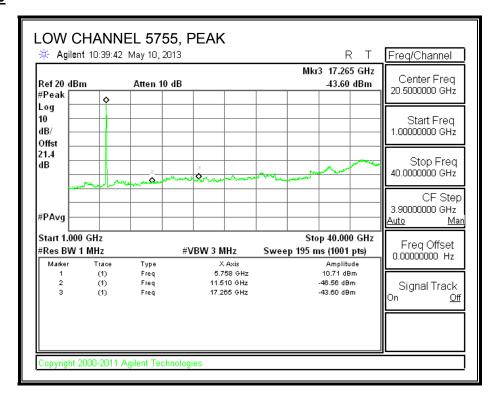
OUT-OF-BAND EMISSIONS, Chain 1

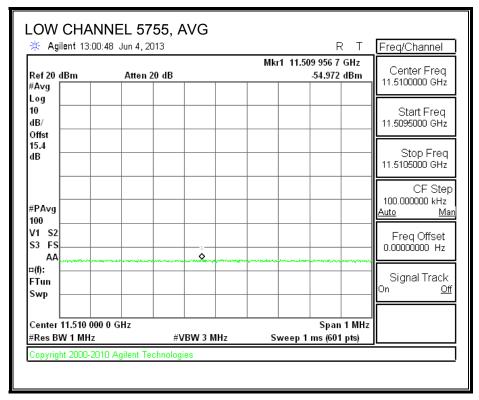


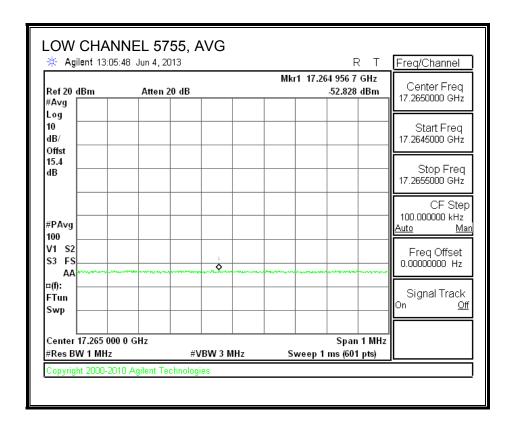


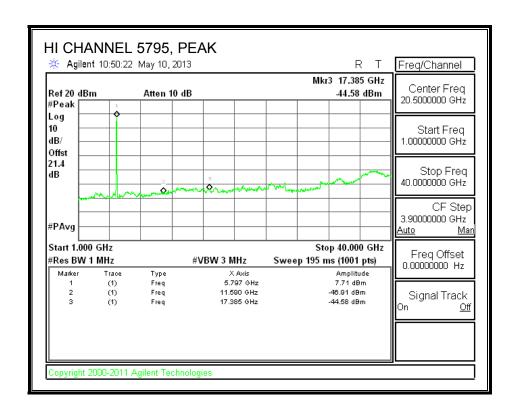
8.6.7. CONDUCTED SPURIOUS IN RESTRICTED BANDS (no filter units)

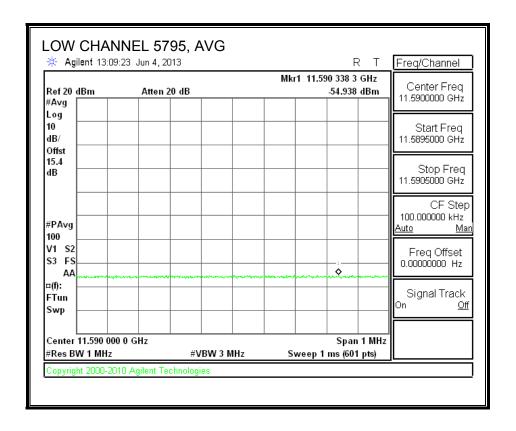
HARMONICS AND SPURIOUS Chain 0

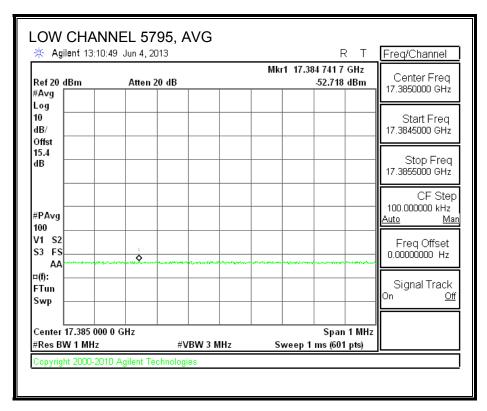


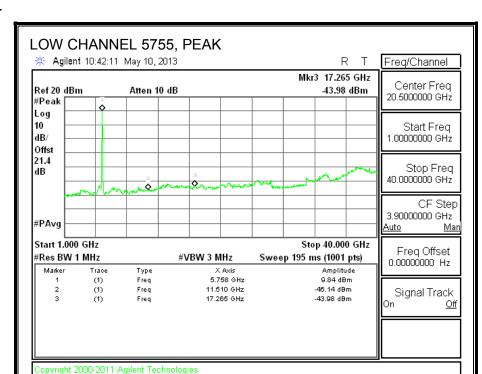


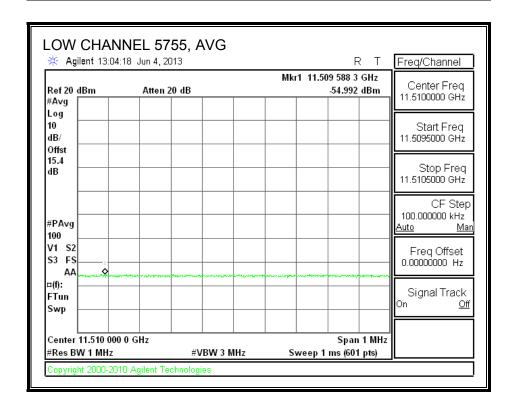






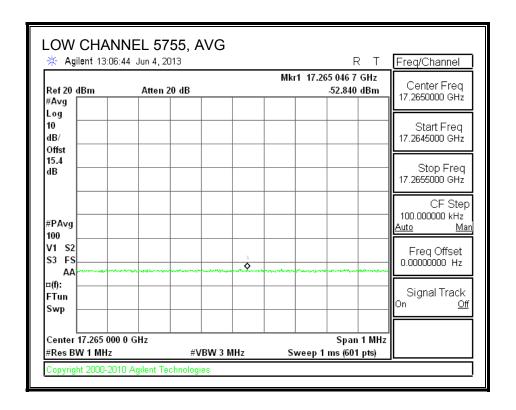


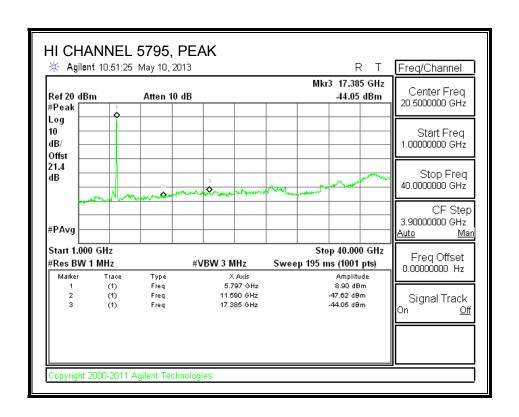


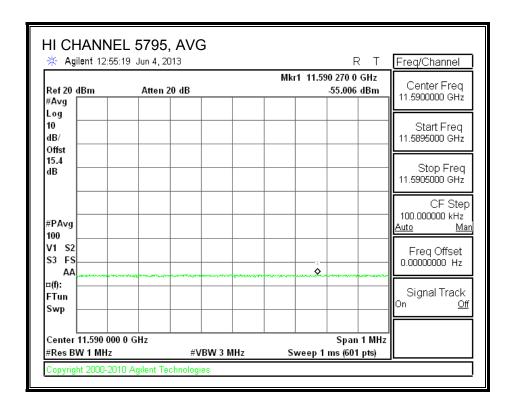


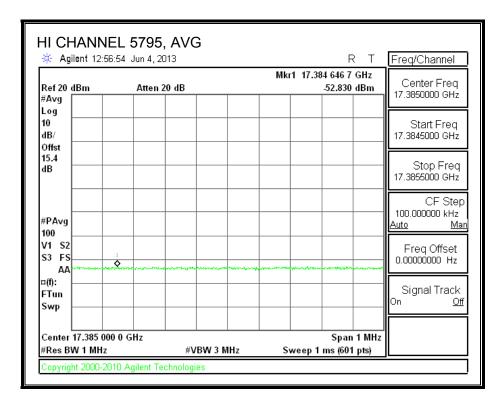
DATE: JULY 1, 2013

IC: 4104A-QCA6234







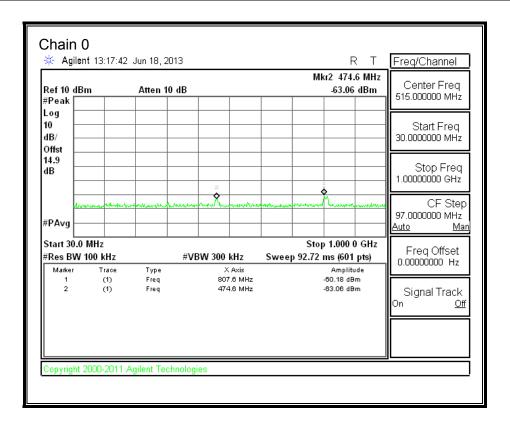


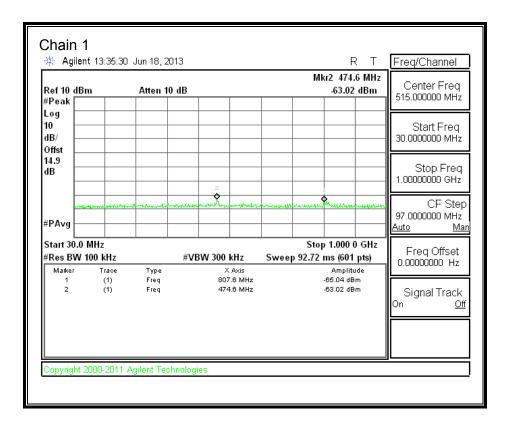
HARMONIC SPURIOUS DATA

TX Conduc	ted Spurious	s for FCC DTS (in t	the restricted ba	ands)					
Date:		5/9/2013							
Test Engine	er:	Tony Wagoner							
Client:		Qualcomm Atheros							
Project Nun	nber:	13U14995							
Configuration	on:	5.8 GHz 11n HT40							
Mode of op	eration:	Tx		Note: if th	e PK margi	n is greater th	ian 20 dB, thei	re is no need	d to get AVG rea
Channel	Frequency (GHz)	PSA PK Reading Chain 0 (dBm)	PSA PK Reading Chain 1 (dBm)	AG/Chain (dBi)	PK EIRP (dBm)	PK E-field Limit (dBm)	PK E-field Margin (dB)	Software Setting	AVG Power Meter Reading (dBm)
151 (5755)	11.51	-45.39	-45.07	2	-37.21	-21.2	-16.01	18.00	12.5 / 14.2
151 (5755)	17.265	-42.53	-42.91	2	-34.70	-21.2	-13.50	18.00	12.5 / 14.2
159 (5795)	11.59	-45.84	-46.55	2	-38.16	-21.2	-16.96	18.00	11.7 / 14.3
159 (5795)	17.385	-43.51	-42.98	2	-35.22	-21.2	-14.02	18.00	11.7 / 14.3
Channel	Frequency (MHz)	PSA AVG Reading Chain 0 (dBm)	PSA AVG Reading Chain 1 (dBm)	AG/Chain (dBi)	AVG EIRP (dBm)	AVG E-field Limit (dBm)	AVG E-field Margin (dB)	Software Setting	AVG Power Meter Reading (dBm)
151 (5755)	11.51	-53.902	-53.922	2	-45.89	-21.2	-24.69	18.00	12.5 / 14.2
151 (5755)	17.265	-51.758	-51.77	2	-43.74	-21.2	-22.54	18.00	12.5 / 14.2
159 (5795)	11.59	-53.868	-53.936	2	-45.88	-21.2	-24.68	18.00	11.7 / 14.3
	17.385	-51.648	-51.76	2	-43.68	-21.2	-22.48	18.00	11.7 / 14.3

8.7. WORST-CASE BELOW 1 GHz

CONDUCTED SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION)





Page 320 of 389

DATA							
2TX Conducted Sp	urious for FCC DT	S (in the restrict	ed bands)				
Date:		6/18/2013					
Test Engineer:		Tony Wagoner					
Client:		Qualcomm					
Project Number:		13u14995					
Configuration:		30-1000MHz					
Mode of operation	η:	Worst Case					
Frequency (MHz)	Meter PK	Meter PK	AG	AG	PK EIRP	QP E-field	QP E-field
	Reading	Reading	Chain 0	Chain 1	(dBm)	Limit	Margin
	Chain 0 (dBm)	Chain 1 (dBm)	(dBi)	(dBi)		(dBm)	(dB)
474.6	-63.06	-63.02	2	2	-50.32	-49.18	-1.14
807.6	-60.18	-65.04	2	2	-49.24	-49.18	-0.06
Note: if the QP ma	rgin is passing th	ere is no need to	ວ get QP n	neasurem [,]	ent.		
					<u> </u>		
QP Limit Start Freq (MHz)	Stop Freq (MHz)	Limit (dBm)					
30	88	-55.20					
88	216	-51.68					
216	960	-49.18					
960	1000	-41.22					

9. RADIATED TEST RESULTS

9.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

IC RSS-210 Clause 2.6 (Transmitter)

IC RSS-GEN Clause 6 (Receiver)

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 1 MHz for peak measurements and as applicable for average measurements.

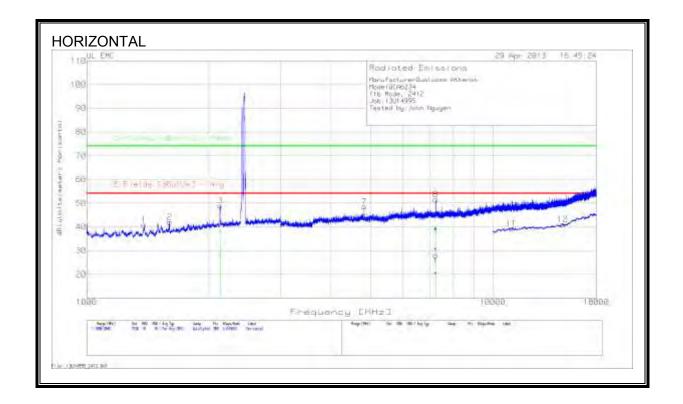
The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

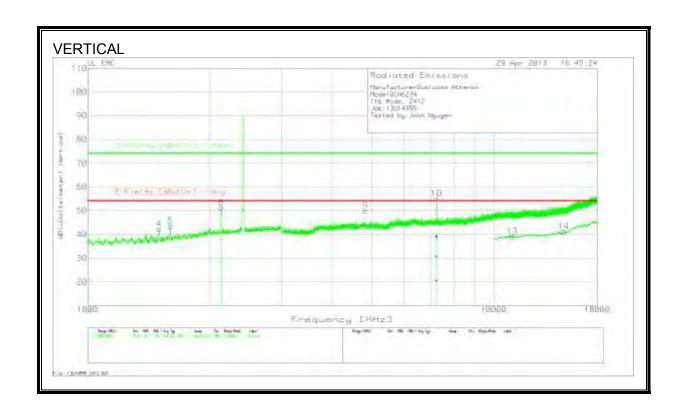
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

9.2. TX ABOVE 1 GHz 802.11b MODE IN THE 2.4 GHz BAND

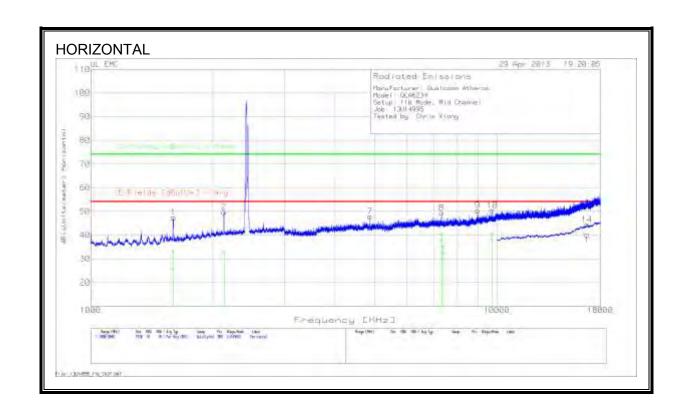
SPURIOUS EMISSIONS WITH 50 OHM LOAD

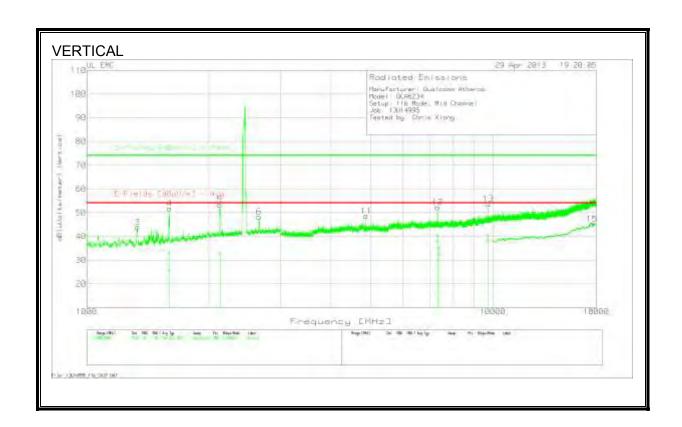
11b Mode, 2412 MHz





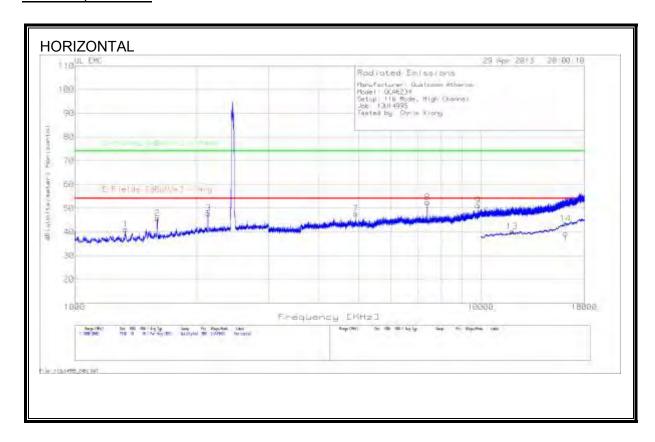
SE POST AND DESCRIPTION OF THE PERSON NAMED IN	5									
234										
112										
5										
hn Nguyen										
in since it.										
000 - 3000MHz							1. 2.000.00			
Test Meter equency Reading MHz dBuv	Detector	Factor [dB/m]	Preamp/ Cable dB	dB(uVolt	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (d8)	Height [cm]	Polarity
383.333 46.89	PK	29	-35.1	40.79	53.97	-13.18	74	-33.21	100	Horz
599.333 47.41	PK	29.5	-34.9	42.01	53.97	-11.96	74	-31.99	400	Horz
2132.667 50.93	PK	32.3	-34.3	48.93	53,97	-5.04	74	-25.07	400	Horz
- 3000MHz										1
Test Meter equency Reading		T346 Ant Factor	Preamp/	dB(uVolt	E-Fields [dBuV/m]	Margin	E-Fields [dBuV/m]	Margin	Height	100
MHz dBuv	Detector	[dB/m]	Cable dB	s/meter)	- Avg	(dB)	- Peak	(dB)	[cm]	Polarity
1500 48.61	PK	28.8	-35,1	42.31	53,97	-11.66	74	-31,69	200	Vert
600.667 49.02	PK	29.5	-34.9	43.62	53.97	-10.35	74	-30.38	100	Vert
*2134 53.42	PK	32,3	-34,3	51,42	53,97	-2.55	74	-22,58	200	Vert
000 - 18000MHz										7
Test Meter equency Reading		T346 Ant Factor	Preamp/	dB(uVolt		Margin	E-Fields [dBuV/m]	Margin	Height	no to the
MHz dBuv 824.899 45.92	Detector	[dB/m] 34,4	Cable dB -31.8	s/meter) 48.52	- Avg 53.97	(dB) -5.45	- Peak 74	(dB) -25.48	[cm] 399	Polarity
7235.598 44.92	PK	36	-29.4	51.52	53.97	-2.45	74	-22.48	199	Horz
- 18000MHz	PK	30	-23.4	31.32	33.37	-2.43	74	-22.40	133	HOTZ
Table 100		Visit New			0.020467		1007325			
Test Meter equency Reading MHz dBuv	Detector	Factor [dB/m]	Preamp/ Cable dB	dB(uVolt	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
824.065 47.49	PK	34.4	-31.8	50.09	53.97	-3.88	74	-23.91	100	Vert
7236.431 48.47	PK	36	-29.4	55.07	53.97	1.1	74	-18,93	300	Vert
0000 - 18000MHz							1	7 1 1 1 1		
Test Meter requency Reading		T346 Ant Factor	Preamp/	dB(uVolt	E-Fields [dBuV/m]	Margin	E-Fields [dBuV/m]	Margin	Height	
MHz dBuv	Detector	[dB/m]	Cable dB	s/meter)	- Avg	(dB)	- Peak	(dB)	[cm]	Polarity
1115.442 26.04	PK	38.5	-25.3	39.24	53.97	-14.73	74	-34.76	400	Horz
4861.569 27.26	PK	39.8	-26	41,06	53.97	-12.91	74	-32.94	300	Horz
Test Meter requency Reading		T346 Ant	Preamp/	dB(uVolt	E-Fields [dBuV/m]	Margin	E-Fields	Margin	Height	
MHz dBuv	Detector	[dB/m]	Cable dB	s/meter)	- Avg	(dB)	- Peak	(dB)	[cm]	Polarity
1099.45 26.11	PK	38,5	-25,5	39.11	53,97	-14.86	74	-34,89	400	Vert
4857.571 27.38	PK	39.8	-25.9	41.28	53.97	-12.69	74	-32.72	200	Vert
restricted band - 18000MHz					L)LI	_1 1	,=1=,			
Test Meter equency Reading	Detector	Factor			7 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Margin	E-Fields [dBuV/m]	Margin	Height	Delasti
COLUMN TO SERVICE AND ADDRESS OF THE PARTY O	A SECTION AND ADDRESS OF THE RESIDENCE AND AD									Polarity Vert
- 18000MHz Test Meter	3	Detector RMS	Factor Detector [dB/m]	Factor Preamp/ Detector [dB/m] Cable dB	Factor Preamp/ dB(uVolt Detector [dB/m] Cable dB s/meter)	Factor Preamp/ dB(uVolt [dBuV/m] Detector [dB/m] Cable dB s/meter) - Avg	Factor Preamp/ dB(uVolt [dBuV/m] Margin Detector [dB/m] Cable dB s/meter) - Avg (dB)	Factor Preamp/ dB(uVolt [dBuV/m] Margin [dBuV/m] Detector [dB/m] Cable dB s/meter) - Avg (dB) - Peak	Factor Preamp/ dB(uVolt [dBuV/m] Margin [dBuV/m] Margin Detector [dB/m] Cable dB s/meter) - Avg (dB) - Peak (dB)	Factor Preamp/ dB(uVolt dBuV/m Margin dBuV/m Margin Detector dB/m Cable dB s/meter - Avg (dB) - Peak (dB) [cm]

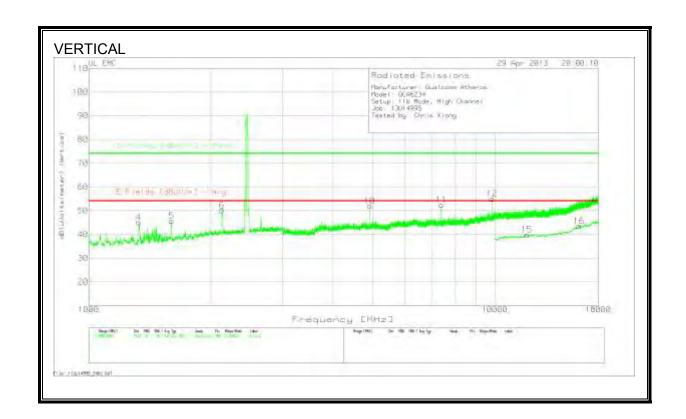




lanufact	urer: Qualco	mm Ather	os									
Aodel: Q		C 1 C 0 C 1 C 1 C 1	1 10									
	Mode, Mid	Channel										
lob: 13U1												
Tested by	: Chris Xiong											
7.577.52												
Horizonta	Test	Meter		T346 Ant			E-Fields		E-Fields			
Marker	Frequency	Reading		Factor	Preamp/	dB(uVolt	[dBuV/m]	Margin	[dBuV/m]	Margin	Height	
No.	MHz	dBuv	Detector	[dB/m]	Cable dB	s/meter)	- Avg	(dB)	- Peak	(dB)	[cm]	Polarity
1	1599.333	52.83	PK	29.5	-34.9	47.43	53.97	-6.54	74	-26.57	300	Horz
2	*2130.667	51.69	PK	32.3	-34.2	49.79	53.97	-4.18	74	-24.21	400	Horz
Vertical 1	000 - 3000MH	z								77/11		7
1.6.1	Test	Meter		T346 Ant		ALC: NO.	E-Fields	Edward .	E-Fields	Section 1	June As	
Marker	Frequency	Reading	4 147 41	Factor	Preamp/	dB(uVolt	[dBuV/m]	Margin	[dBuV/m]	Margin	Height	4.5 LA
No.	MHz	dBuv	Detector	[dB/m]	Cable dB	s/meter)	- Avg	(dB)	- Peak	(dB)	[cm]	Polarity
3	1334	49,99	PK	29.1	-35,2	43,89	53.97	-10.08	74	-30.11	199	Vert
4	1598	57.17	PK PK	29,5	-34.9	51.77	53,97	-2,2	74	-22,23	300 199	Vert
5	2657.333	55,25 48.8	PK	32.3	-34.2 -33.5	53,35 48,3	53,97 53.97	-0.62 -5.67	74	-20,65 -25.7	100	Vert
	3000 - 18000			3.3	-0.0.0	40.0	24.27	-3.07	7.4	14.01.7	100	Vert
	Test	Meter		T346 Ant			E-Fields		E-Fields			
Marker	Frequency	Reading		Factor	Preamp/	dB(uVolt	[dBuV/m]	Margin	[dBuV/m]	Margin	Height	No. Collection
No.	MHz	dBuv	Detector	[d0/m]	Cable dB	s/meter)	- Avg	(dB)	- Peak	(dB)	[cm]	Polarity
7	4874.896	45.06	PK	34.4	-31.6	47.86	53.97	-6.11	74	-26.14	400	Horz
8	7313.094	42.13	PK	36	-28.7	49.43	53.97	-4.54	74	-24.57	300	Horz
9	8968.002	39.79	PK	36.8	-26.2	50.39	53.97	-3,58	74	-23.61	300	Horz
10	9747.958	38.76	PK	37.6	-25.9	50.46	53.97	-3.51	74	-23,54	300	Horz
Vertical 3	000 - 18000M			TOAC ALC			F. F1-14-		F F1-14			
6.4 action	Test	Meter	1.00	T346 Ant	Drawn	dpharen	E-Fields	6.4 ments	E-Fields	Barrete	Malaka	
Marker	Frequency MHz	Reading dBuv	Detector	(dB/m)	Preamp/ Cable dB	dB(uVolt s/meter)	[dBuV/m]	Margin (dB)	[dBuV/m] - Peak	Margin	Height	Polarity
No. 11	4875.729	45.83	Detector	34,4	-31.6	48.63	- Avg 53.97	-5.34	74	(dB) -25.37	(cm)	Vert
12	7312.26	44.95	PK	36	-28.7	52.25	53.97	-1.72	74	-25.87	199	Vert
13	*9747.958	42.04	PK	37.6	-25.9	53.74	53.97	-0.23	74	-20.26	300	Vert
Supervised Raffic Instead on the	10000 - 1800			27.19				- 416-4		20120	200	
	Test	Meter		T346 Ant			E-Fields	KER ST	E-Fields			
Marker	Frequency	Reading		Factor	Preamp/	dB(uVolt	[dBuV/m]	Margin	[dBuV/m]	Margin	Height	
No.	MHz	dBuv	Detector	[dB/m]	Cable dB	s/meter)	- Avg	(dB)	- Peak	(dB)	(cm)	Polarity
14	16688.656	24.23	PK	41,4	-21.3	44.33	53,97	-9.64	74	-29.67	100	Horz
Vertical 1	0000 - 180001		77.	W0.40 7		. ** **	F 51 11					
	Test	Meter		T346 Ant	Addm.	404.44.4	E-Fields	75 0 00	E-Fields	24334	11-1-62	
Marker	Frequency	Reading	Barbara III	Factor	Preamp/	dB(uVolt	[dBuV/m]	Margin	[dBuV/m]	Margin	Height	materia.
No. 15	MHz 17544.228	dBuv 23.93	Detector	[dB/m] 41.9	-20.7	s/meter) 45.13	- Avg 53.97	(dB) -8.84	- Peak	(dB) -28,87	(cm)	Polarity
	17544.228 000 - 3000MH		FR	74.7	-20,7	40.13	33,37	-0.04	7.4	-20,87	400	ven
- ar creat L	Test	Meter		T346 Ant			E-Fleids		E-Fleids			
	Frequency	Reading		Factor	Preamp/	dB(uVolt	[dBuV/m]	Margin	[dBuV/m]	Margin	Height	
	MHz	dBuy	Detector	[d8/m]	Cable dB	s/meter)	- Avg	(dB)	- Peak	(dB)	[cm]	Polarity
	1594.72	34.11	RMS	29,4	-35	28,51	53.97	-25.46	74	-45,49	327	Vert
	2651.7663	32.81	RMS	33	-33,5	32.31	53.97	-21.66	74	41.69	164	Vert
Horizonta	Horizontal 3		OMHz									
	Test	Meter		T346 Ant			E-Fields		E-Fields			
	Frequency	Reading	L. Salvagara	Factor	Preamp/		[dBuV/m]	Margin	[dBuV/m]	Margin	Height	64.000
	MHz	dBuy	Detector	[dB/m]	Cable dB	s/meter)	- Avg	(dB)	- Peak	(dB)	[cm]	Polarity
Vertical 3	7309,8873 Vertical 300	34.54		36	-28.7	41.84	53,97	-12.13	74	-32.16	161	Vert
vertical s		Meter		T346 Ant			E-Fields		E-Fields	10.0		
	Frequency	Reading		Factor	Preamp/	dB(uVolt	[dBuV/m]	Margin	[dBuV/m]	Margin	Height	
	MHz	dBuv	Detector	[dB/m]	Cable dB	s/meter)	- Avg	(dB)	- Peak	(dB)	[cm]	Polarity
	4874,0579	33,77	the little was to be a second or the last the la	34,4	-31,6		53,97	-17.4	74	-37.43	128	ACCRECATE VALUE OF STREET
	7311,7822		RM5	36		41,8	53,97	-12,17	74	-32,2		
2	*=Not in the					19.0						
PK - Peak												
QP - Quas	-Peak detec	tor										
	ear Average											
gAv - Log	Average det											
	age detector											

DATE: JULY 1, 2013 IC: 4104A-QCA6234





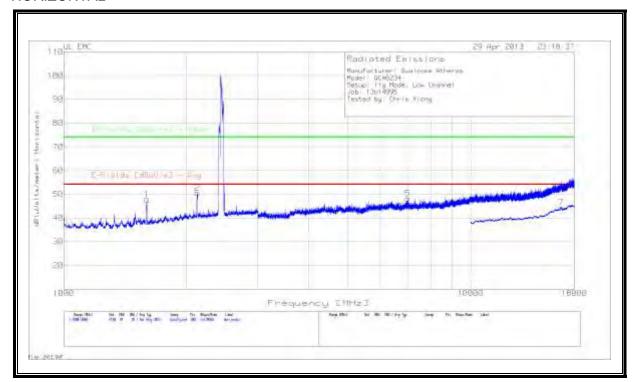
DATA Manufacturer: Qualcomm Atheros Model: QCA6234 Setup: 11b Mode, High Channel Job: 13U14995 Tested by: Chris Xiong Meter E-Fields Reading Factor dB(uVolts [dBuV/m] Margin [d8uV/m] Margin Height Preamp/ **Polarity** [d8/m] Marker No. Frequency dBuy Detector Cable di /meter) AVE (dB) Peak (dB) [cm] Horizontal 1000 - 3000MHz 1598,667 51.15 PK 29,5 -14.9 45.75 53,97 8.22 74 -28,25 Hors 2 2126,667 51.09 DW 32.3 34.7 49.19 53.97 4.78 74 -24.61 400 HOTZ Vertical 1000 - 3000MHz 1328.667 51.19 PK 29.1 -15.2 45.09 53,97 -8.88 74 -28.91100 Vert 1599.333 51.1 Dy 45.7 53.97 4 29.5 34.9 8.27 74 -28.3300 Vert 2193,338 53.04 PK 32,3 34,3 51.04 53,97 2,93 74 22,96 48.16 DK: 33.6 47.56 53.97 74 -26,44 6 2659.333 13 5.41 300 Vert. 1346 Ant Test. Meter dB(uVolts [dBuV/m] Height Margin Frequency Reading Eactor HPF IdBuV/ml Margin Marker No. MHz Detector [dB/m] Preamp/ /meter) Aug (da) Peak (dB) [cm] Polarity Horizontal 3000 - 18000MHz 47.74 7 2974 893 44 84 78 55.2 -31.553:97 -5.2374 -26.26 600 Michigan P. 1/4 7385.59 44.73 PK 35.1 23.4 52.43 53.97 1.54 21.57 400 Horz 10 9847,953 39,34 PK 37.8 - 26 51.14 53,97 -2.8374 -22.85400 Horz Vertical 3000 - 18000MHz 10 4924.893 49.07 PK 34.4 -31.5 51,97 53.97 -2 74 -22.03 299 Vert Dw 44.69 53.97 74 -21.61 11 7385.59 35.1 -28.4 52.39 1.58 299 Vert 9848,786 Py, 37,8 55.04 53.97 1.07 74 18.96 200 Horizontal 1000 - 18000MHz T160 BRF dB(uVolts [dBuV/m Margin (dBuV/m Margin Height Frequency Reading Factor Preamp Factor MHZ dBuv Detector [dB/m] Gain (dB) [dB] (dB) /meter) 1-Avg (Bb) |-Peak (dB) [cm] Polarity 7386.79 26.8 RM5 35.9 35 8.3 0.2 36.8 53.97 -17.17148 Horz Vertical 1000 - 18000MHz 4923.92 33,36 RMS 34.6 -34.940,36 53,97 -13.61162 Vert 7384.NS 32.87 RM5 35.3 35 8.9 0.3 42.97 53.97 -11 127 Vert PK - Peak detector QP - Quasi-Peak detector LnAv - Linear Average detector LgAv - Log Average detector Av - Average detector

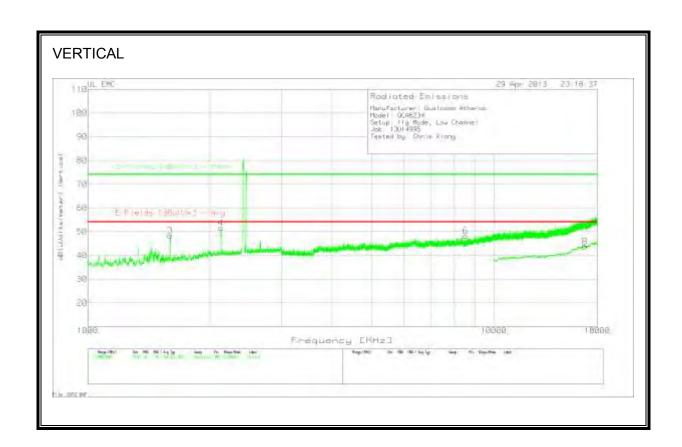
TX ABOVE 1 GHz 802.11g MODE IN THE 2.4 GHz BAND 9.3.

SPURIOUS EMISSIONS WITH 50 OHM LOAD

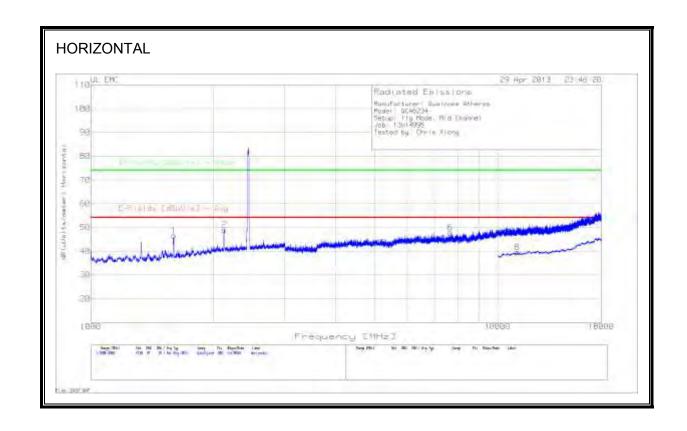
11g Mode, 2412 MHz

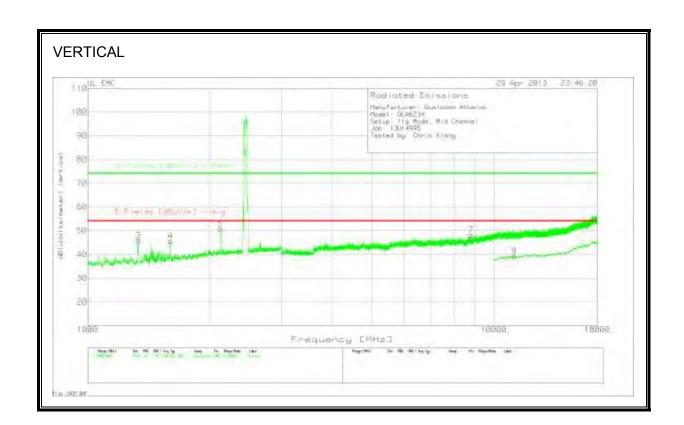
HORIZONTAL



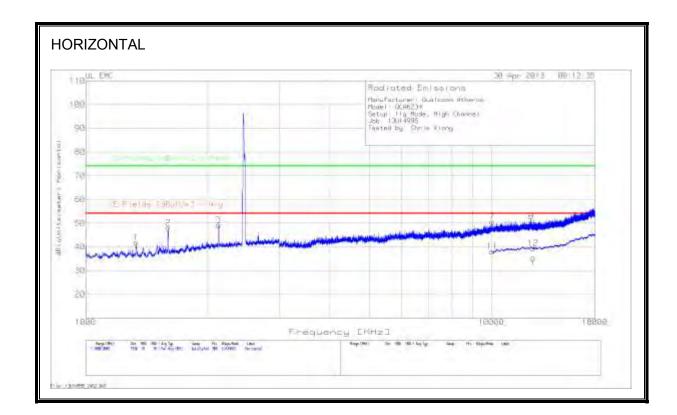


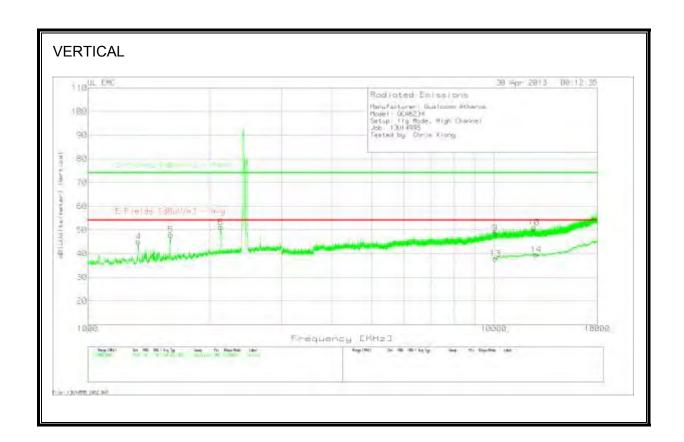
DATA												
Manufact	turer: Qualo	omm Athe	ros									
Model: 0	•											
	g Mode, Lo	w Channel										
Job: 13U1	_											
	y: Chris Xion	g										
		•										
	Test	Meter		T346 Ant			E-Fields		E-Fields			
Marker	Frequency	Reading		Factor	Preamp/	dB(uVolts	[dBuV/m]	Margin	[dBuV/m]	Margin	Height	
No.	MHz	dBuv	Detector	[dB/m]	Cable dB	/meter)	Avg	(dB)	Peak	(dB)	[cm]	Polarity
Horizonta	al 1000 - 300	0MHz										
1	1599.333	53.25	PK	29.5	-34.9	47.85	53.97	-6.12	74	-26.15	400	Horz
2	*2132.667	52.53	PK	32.3	-34.3	50.53	53.97	-3.44	74	-23.47	400	Horz
Vertical 1	000 - 3000N	lHz										
3	1597.333	53.8	PK	29.5	-34.9	48.4	53.97	-5.57	74	-25.6	100	Vert
4	*2127.333	53.46	PK	32.3	-34.2	51.56	53.97	-2.41	74	-22.44	199	Vert
	*=Not in th	e restricte	d band									
	Test	Meter		T346 Ant			E-Fields		E-Fields			
Marker	Frequency	_		Factor	Preamp/	dB(uVolts	[dBuV/m]	Margin	[dBuV/m]	Margin	Height	
No.	MHz	dBuv	Detector	[dB/m]	Cable dB	/meter)	Avg	(dB)	Peak	(dB)	[cm]	Polarity
Horizonta	al 1000 - 300	0MHz										
5	7011.444	40.65	PK	36	-28.5	48.15	53.97	-5.82	74	-25.85	200	Horz
Vertical 3	3000 - 18000	MHz										
6	8508.027	39.88	PK	36.2	-27.9	48.18	53.97	-5.79	74	-25.82	300	Vert
	Test	Meter		T346 Ant			E-Fields		E-Fields			
Marker	Frequency	Reading		Factor	Preamp/	dB(uVolts			[dBuV/m]	Margin	Height	
No.	MHz	dBuv	Detector	[dB/m]	Cable dB	/meter)	Avg	(dB)	Peak	(dB)	[cm]	Polarity
Horizonta	al 1000 - 300	0MHz										
7	16708.646	23.95	PK	41.4	-21	44.35	53.97	-9.62	74	-29.65	100	Horz
Vertical 1	0000 - 18000	OMHz										
8	16760.62	23.72	PK	41.4	-21.4	43.72	53.97	-10.25	74	-30.28	400	Vert
DK Deck	datact											
	detector	tor										
	si-Peak dete											
	near Average											
_	g Average d											
Av - Avei	rage detecto	or										





Manutacti	urer: Qualco	mm Δthei	ros									
Model: Q	-	Acirci	03									
	Mode, Mic	l Channel										
Job: 13U14		Cildinici										
	: Chris Xion	J										
. cotcu a j		•										
	Test	Meter		T346 Ant			E-Fields		E-Fields			
Marker	Frequency	Reading		Factor	Preamp/	dB(uVolts	[dBuV/m]	Margin	[dBuV/m]	Margin	Height	
No.	MHz	dBuv	Detector	[dB/m]	Cable dB	/meter)	Avg	(dB)	Peak	(dB)	[cm]	Polarity
Horizontal	1000 - 3000	MHz										
1	1600	51.97	PK	29.5	-34.9	46.57	53.97	-7.4	74	-27.43	400	Horz
2	2131.333	50.91	PK	32.3	-34.2	49.01	53.97	-4.96	74	-24.99	400	Horz
Vertical 10	000 - 3000MI	Hz										
3	1334	52.01	PK	29.1	-35.2	45.91	53.97	-8.06	74	-28.09	199	Vert
4	1600	51.03	PK	29.5	-34.9	45.63	53.97	-8.34	74	-28.37	299	Vert
5	*2125.333	52.77	PK	32.3	-34.2	50.87	53.97	-3.1	74	-23.13	199	Vert
	*=Not in th	e restricte	d band									
				T346 Ant			E-Fields		E-Fields			
Marker	Test	Meter		Factor	Preamp/	dB(uVolts	[dBuV/m]	Margin	[dBuV/m]	Margin	Height	
No.	Frequency	Reading	Detector	[dB/m]	Cable dB	/meter)	Avg	(dB)	Peak	(dB)	[cm]	Polarity
Horizontal	l 1000 - 3000	MHz										
6	7653.075	39.56	PK	36.2	-27.9	47.86	53.97	-6.11	74	-26.14	400	Horz
Vertical 30	000 - 18000N	ИHz										
7	8789.678	39.43	PK	36.6	-27.8	48.23	53.97	-5.74	74	-25.77	300	Vert
				T346 Ant			E-Fields		E-Fields			
Marker	Test	Meter		Factor	Preamp/	`		Margin	[dBuV/m] -	Margin	Height	١
	Frequency		Detector	[dB/m]	Cable dB	/meter)	Avg	(dB)	Peak	(dB)	[cm]	Polarity
	l 1000 - 3000											
8	11183.408	25.21	PK	38.6	-24.3	39.51	53.97	-14.46	74	-34.49	100	Horz
	0000 - 18000			25 -							45-	
9	11231.384	24.77	PK	38.6	-24.1	39.27	53.97	-14.7	74	-34.73	100	Vert
D./ D .												
PK - Peak												
	i-Peak dete											
	ear Average											
LgAV - Log	Average de	rtector r										



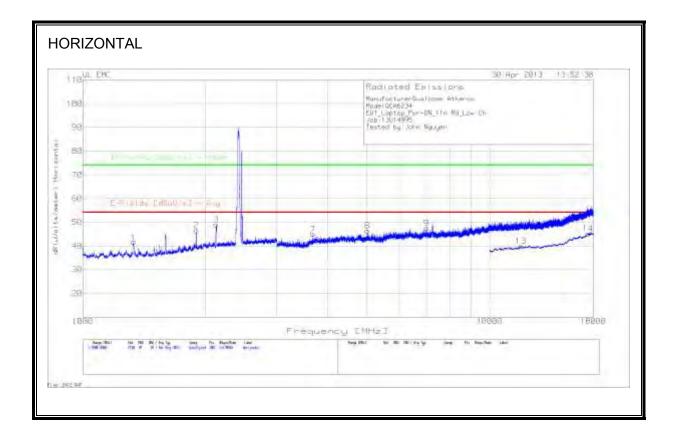


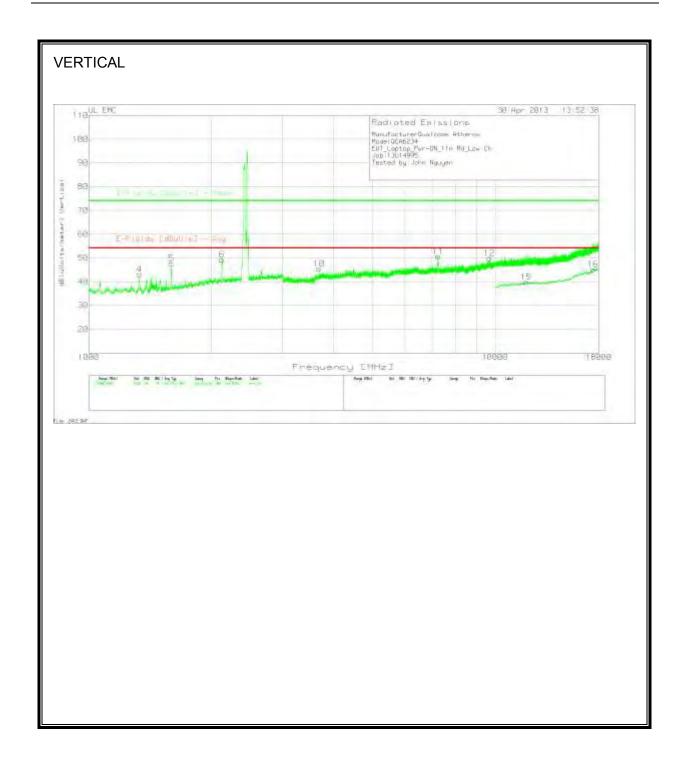
DATA												
Manufactu	rer: Qualcon	ım Athero	S									
Model: Q0	A6234											
Setup: 11g	Mode, High	Channel										
Job: 13U14	1995											
Tested by:	Chris Xiong											
	Test	Meter		T346 Ant			E-Fields		E-Fields			
Marker	Frequency	Reading		Factor	Preamp/C	dB(uVolts	[dBuV/m] -	Margin	[dBuV/m] -	Margin	Height	
No.	MHz	dBuv	Detector	[dB/m]	able dB	/meter)	Avg	(dB)	Peak	(dB)	[cm]	Polarity
Horizontal	1000 - 3000N	1Hz										
1	1332.667	47.89	PK	29.1	-35.2	41.79	53.97	-12.18	74	-32.21	100	Horz
2	1598	53.41	PK	29.5	-34.9	48.01	53.97	-5.96	74	-25.99	400	Horz
3	*2126	51.16	PK	32.3	-34.2	49.26	53.97	-4.71	74	-24.74	400	Horz
Vertical 10	00 - 3000MHz	!										
4	1334	51.19	PK	29.1	-35.2	45.09	53.97	-8.88	74	-28.91	100	Vert
5	1599.333	53.38	PK	29.5	-34.9	47.98	53.97	-5.99	74	-26.02	300	Vert
6	*2125.333	53.05	PK	32.3	-34.2	51.15	53.97	-2.82	74	-22.85	200	Vert
	*=Not in the	e restricte	d band									
	Test	Meter		T346 Ant	3.6GHz		E-Fields		E-Fields			
Marker	Frequency	Reading		Factor	HPF	dB(uVolts	[dBuV/m] -	Margin	[dBuV/m] -	Margin	Height	
No.	MHz	dBuv	Detector	[dB/m]	Preamp/C	/meter)	Avg	(dB)	Peak	(dB)	[cm]	Polarity
Horizontal	3000 - 18000	MHz										
7	10046.275	37.21	PK	38.1	-24.7	50.61	53.97	-3.36	74	-23.39	200	Horz
8	12538.637	36.13	PK	39.1	-24.6	50.63	53.97	-3.34	74	-23.37	200	Horz
Vertical 30	00 - 18000MF	z										
9	10073.774	35.84	PK	38.2	-25.4	48.64	53.97	-5.33	74	-25.36	300	Vert
10	12576.135	37.11	PK	39.1	-25.2	51.01	53.97	-2.96	74	-22.99	100	Vert
Horizontal	10000 - 1800											
	Test	Meter		T346 Ant	3.6GHz		E-Fields		E-Fields			
Marker	Frequency	Reading		Factor	HPF		[dBuV/m] -	Margin	[dBuV/m] -	Margin	Height	
No.	MHz	dBuv	Detector		Preamp/C	/meter)	Avg	(dB)	Peak	(dB)	[cm]	Polarity
11	10047.976	24.67	RMS	38.1	-24.7	38.07	53.97	-15.9	74	-35.93	100	Horz
12	12658.671	26.23	RMS	39.2	-26	39.43	53.97	-14.54	74	-34.57	400	Horz
	000 - 18000M											
13	10091.954	25.15	RMS	38.2	-25.5	37.85	53.97	-8.49	74	-36.15	100	Vert
14	12714.643	26.26	RMS	39.2	-25.9	39.56	53.97	-14.41	74	-34.44	400	Vert

9.4. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 2.4 GHz BAND

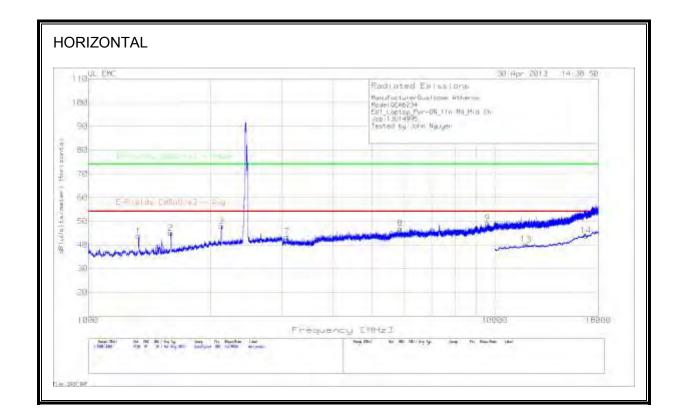
SPURIOUS EMISSIONS WITH 50 OHM LOAD

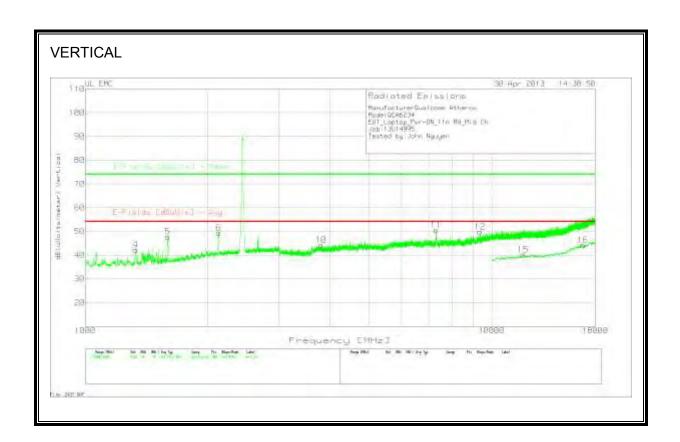
11n HT20 Mode, 2412 MHz





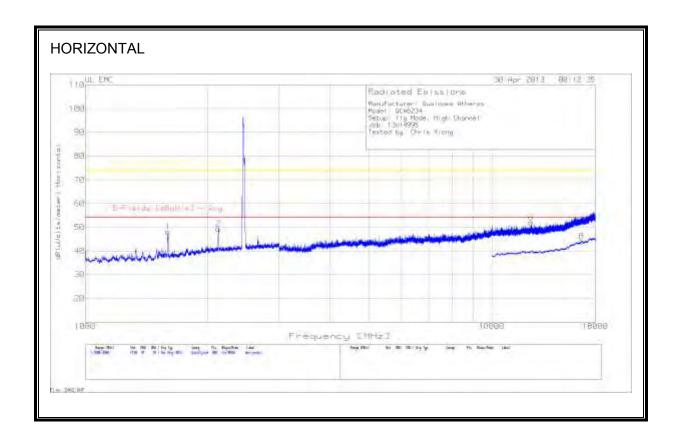
Manufact	urer: Qualco	mm Athe	ros									
Model: Q												
	op_Pwr-ON_	_11n Md_L	ow Ch									
Job: 13U1												
Tested by	: John Nguy	en										
	Test	Meter		T346 Ant			E-Fields		E-Fields			
Marker	Frequency	Reading		Factor	Preamp/	dB(uVolts	[dBuV/m]	Margin	[dBuV/m]	Margin	Height	
No.	MHz	dBuv	Detector	[dB/m]	Cable dB	/meter)	Avg	(dB)	Peak	(dB)	[cm]	Polarity
Horizonta	1000 - 3000	MHz										
1	1332.667	47.71	PK	29.1	-35.2	41.61	53.97	-12.36	74	-32.39	299	Horz
2	1904	49.46	PK	31.5	-34.4	46.56	53.97	-7.41	74	-27.44	100	Horz
3	2129.333	50.93	PK	32.3	-34.2	49.03	53.97	-4.94	74	-24.97	400	Horz
Vertical 1	000 - 3000MI	Hz										
4	1332.667	49.26	PK	29.1	-35.2	43.16	53.97	-10.81	74	-30.84	300	Vert
5	1596.667	53.06	PK	29.5	-34.9	47.66	53.97	-6.31	74	-26.34	300	Vert
6	2125.333	51.27	PK	32.3	-34.2	49.37	53.97	-4.6	74	-24.63	100	Vert
	Test	Meter		T346 Ant			E-Fields		E-Fields			
	Frequency	Reading		Factor	Preamp/		[dBuV/m]	Margin		Margin	Height	
No.	MHz	dBuv	Detector	[dB/m]	Cable dB	/meter)	Avg	(dB)	Peak	(dB)	[cm]	Polarity
	1 1000 - 3000			25.		**	F0			25	0.55	
7	3679.962	43.45	PK	33.5	-32	44.95	53.97	-9.02	74	-29.05	300	Horz
8	5010.722	43.12	PK	34.4	-31.1	46.42	53.97	-7.55	74	-27.58	100	Horz
9 Vertical 2	7005.611 000 - 18000N	40	PK	36	-28.5	47.5	53.97	-6.47	74	-26.5	199	Horz
verticai s	3687.462	43.76	PK	33.5	-31.9	45.36	53.97	-8.61	74	-28.64	400	Vert
11	7235.598	43.76	PK	36	-31.9	50.7	53.97	-3.27	74	-28.04	300	Vert
12	9684.629	37.49	PK	37.6	-25.2	49.89	53.97	-4.08	74	-24.11	200	Vert
	500 11025	57143	- 110	5710	LUIL	45105	55157	4100	, ,	24122	200	Vert
	Test	Meter		T346 Ant			E-Fields		E-Fields			
Marker	Frequency	Reading		Factor	Preamp/	dB(uVolts	[dBuV/m]	Margin		Margin	Height	
No.	MHz	dBuv	Detector	[dB/m]	Cable dB	/meter)	Avg	(dB)	Peak	(dB)	[cm]	Polarity
Horizonta	l 1000 - 3000	MHz				,						
13	11941.029	24.87	RMS	39	-24	39.87	53.97	-14.1	74	-34.13	300	Horz
14	17468.266	23.2	RMS	41.7	-19.7	45.2	53.97	-8.77	74	-28.8	100	Horz
	0000 - 18000	MHz										
Vertical 1	11919.04	25.16	RMS	39	-24.3	39.86	53.97	-14.11	74	-34.14	100	Vert
Vertical 1 15	17420.29	23.44	RMS	41.7	-20	45.14	53.97	-8.83	74	-28.86	300	Vert
	17420.23											
15	17420.23											
15												
15 16 PK - Peak		ctor										
15 16 PK - Peak QP - Quas	detector											



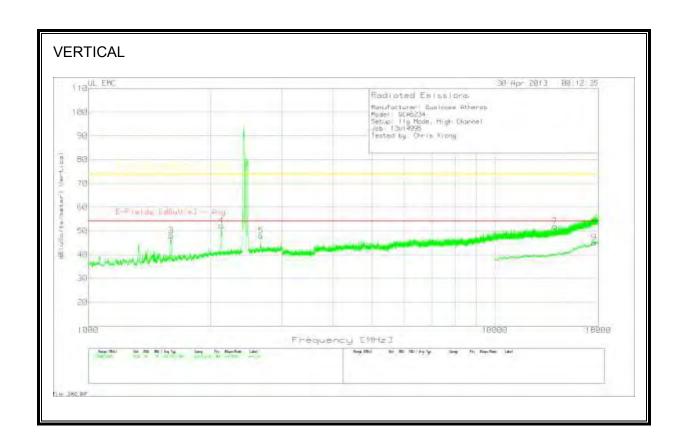


DATA												
Manufact	turer: Qualo	omm Atha										
Model: 0	-	omm Ame	105									
	•	44 54-1	naid ob									
	op_Pwr-ON	_11n IVIQ_	iviia Cn									
Job: 13U1												
restea by	y: John Nguy	/en										
	T4			T246 A-+			E-Fields		E-Fields			
Na-d	Test	Meter		T346 Ant	D	dB(uVolts			1			
Marker	Frequency MHz	_	Dotostor	Factor	Preamp/			Margin	[dBuV/m] -	Margin	Height	Dolorit
No.		dBuv	Detector	[dB/m]	Cable dB	/meter)	Avg	(dB)	Peak	(dB)	[cm]	Polarit
	al 1000 - 300											
1	1330	49.84	PK	29.1	-35.2	43.74	53.97	-10.23	74	-30.26	400	Horz
2	1596	50.52	PK	29.5	-35	45.02	53.97	-8.95	74	-28.98	400	Horz
3	2127.333	49.83	PK	32.3	-34.2	47.93	53.97	-6.04	74	-26.07	400	Horz
	1000 - 3000M			25.		47 -				20. =	255	
4	1330.667	48.4	PK	29.1	-35.2	42.3	53.97	-11.67	74	-31.7	200	Vert
5	1595.333	53.39	PK	29.4	-35	47.79	53.97	-6.18	74	-26.21	300	Vert
6	2130	51.32	PK	32.3	-34.2	49.42	53.97	-4.55	74	-24.58	100	Vert
	Test	Meter		T346 Ant			E-Fields		E-Fields			
Marker	' '	_		Factor	Preamp/	dB(uVolts		Margin	[dBuV/m]	Margin	Height	
No.	MHz	dBuv	Detector	[dB/m]	Cable dB	/meter)	Avg	(dB)	Peak	(dB)	[cm]	Polarit
Horizonta	al 1000 - 300	0MHz										
7	3079.996	41.68	PK	33.3	-31.5	43.48	53.97	-10.49	74	-30.52	299	Horz
8	5859.008	42.23	PK	35.6	-30.8	47.03	53.97	-6.94	74	-26.97	100	Horz
9	9606.3	36.95	PK	37.5	-25.2	49.25	53.97	-4.72	74	-24.75	299	Horz
Vertical 3	3000 - 180001	MHz										
10	3805.789	42.55	PK	33.7	-32	44.25	53.97	-9.72	74	-29.75	100	Vert
11	7302.261	43.1	PK	36	-28.6	50.5	53.97	-3.47	74	-23.5	100	Vert
12	9362.98	38.4	PK	37.3	-25.9	49.8	53.97	-4.17	74	-24.2	400	Vert
	Test	Meter		T346 Ant			E-Fields		E-Fields			
Marker	Frequency	Reading		Factor	Preamp/	dB(uVolts	[dBuV/m]	Margin	[dBuV/m]	Margin	Height	
No.	MHz	dBuv	Detector	[dB/m]	Cable dB	/meter)	Avg	(dB)	Peak	(dB)	[cm]	Polarit
Horizonta	al 1000 - 300	0MHz					_					
13	11943.028	25.2	RMS	39	-24	40.2	53.97	-13.77	74	-33.8	100	Horz
14	16760.62	23.97	RMS	41.4	-21.4	43.97	53.97	-10	74	-30.03	200	Horz
	0000 - 18000											
15	11947.026	25.17	RMS	39	-24	40.17	53.97	-13.8	74	-33.83	200	Vert
16	16756.622	24.1	RMS	41.4	-21.3	44.2	53.97	-9.77	74	-29.8	300	Vert
PK - Peak	detector											
	si-Peak dete	ector										
	near Average											
_	g Average de											
	rage detecto SPR Average											
		DOTOCTOR										

11n HT20 Mode, 2462 MHz



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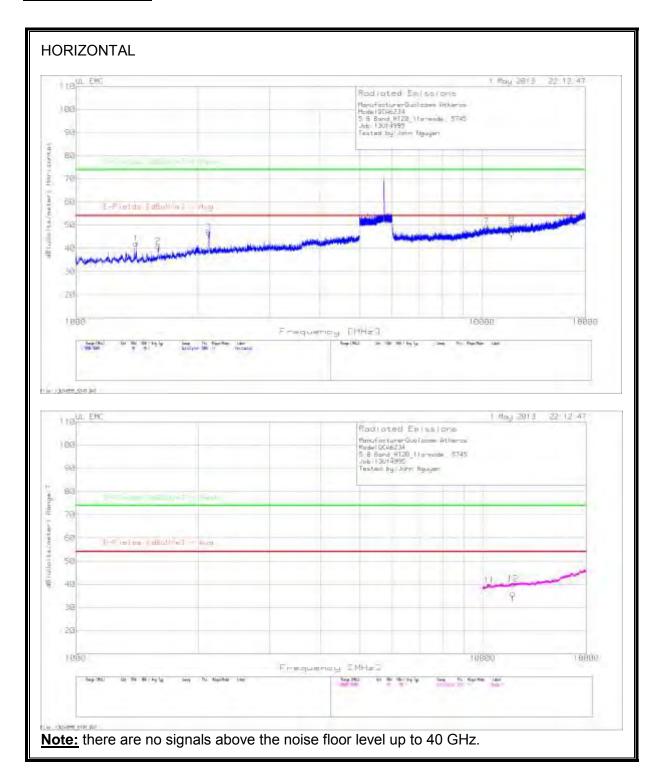


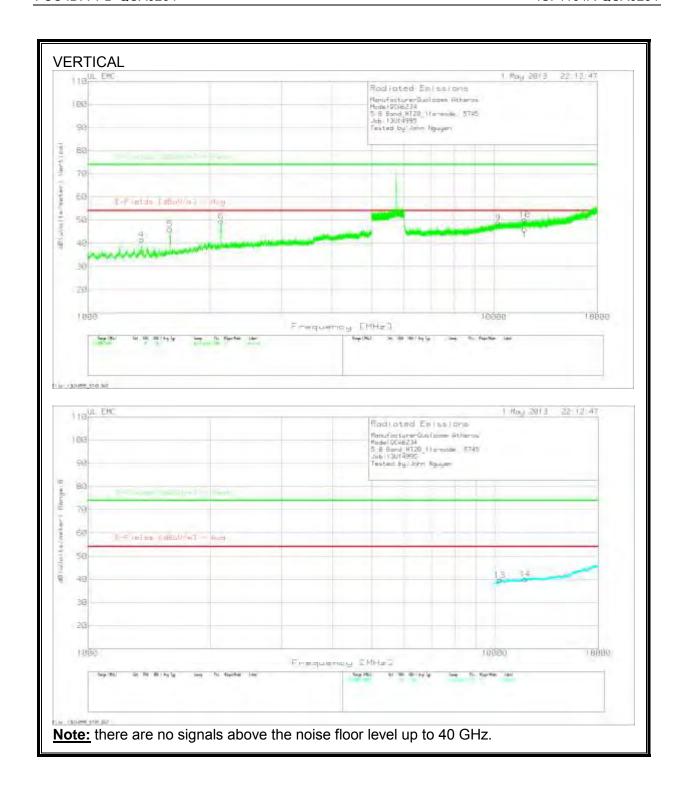
Manufactur	er:	Qualcomn	n Atheros									
Model:		QCA6234										
Setup:		11n HT20	Mode, Hig	h Channel								
Job:		13U14995										
Tested by:		Chris Xion	g									
Marker No.	Test Frequency (MHz)	Meter Reading (dBµV)	Detector	T346 Ant Factor [dB/m]	Preamp/ Cable dB	dB(uVolts /meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
Horizontal 1	.000 - 3000N	ИHz										
1	1598	53.41	PK	29.5	-34.9	48.01	53.97	-5.96	74	-25.99	400	Horz
2	*2126.667	51.13	PK	32.3	-34.2	49.23	53.97	-4.74	74	-24.77	400	Horz
Vertical 100	0 - 3000MH	7										
3	1599.333	53.38	PK	29.5	-34.9	47.98	53.97	-5.99	74	-26.02	300	Vert
4	*2124.667	54.1	PK	32.2	-34.2	52.1	53.97	-1.87	74	-21.9	200	Vert
5	2659.333	48.59	PK	33	-33.6	47.99	53.97	-5.98	74	-26.01	300	Vert
	*=Not in th	e restricte	d band									
Marker No.	Test Frequency (MHz)	Meter Reading (dBµV)	Detector	T346 Ant Factor [dB/m]	Preamp/ Cable dB	dB(uVolts /meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
Horizontal 1				[,]								
6	12499.472	37.77	PK	39.1	-24.9	51.97	53.97	-2	74	-22.03	100	Horz
Vertical 300												
7	*14066.885		PK	39.6	-26.4	51.9	53.97	-2.07	74	-22.1	100	Vert
	*=Not in th							-				
Marker No.	Test Frequency (MHz)	Meter Reading (dBμV)	Detector	T346 Ant Factor [dB/m]	Preamp/ Cable dB	dB(uVolts /meter)	E-Fields [dBuV/m] · Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
Horizontal 1												
8	16646.677	23.92	PK	41.4	-21.3	44.02	53.97	-9.95	74	-29.98	400	Horz
Vertical 100												
9	17548.226	23.85	PK	41.9	-20.7	45.05	53.97	-8.92	74	-28.95	300	Vert
Test Frequency (MHz)	Meter Reading (dBμV)	Detector	T345 Ant Factor [dB/m]	T145 Preamp Gain [dB]	Cable Factor [dB]	T160 BRF [dB]	dB(uVolts /meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	Height [cm]	Polarity	
Horizontal 1	000 - 18000	MHz										
12503.37	23.24	RMS	39.2	-32.5	11.8	0.4	42.14	53.97	-11.83	135	Horz	

TX ABOVE 1 GHz 802.11a MODE IN THE 5.8 GHz BAND 9.5.

SPURIOUS EMISSIONS WITH 50 OHM LOAD

11a Mode, 5745 MHz

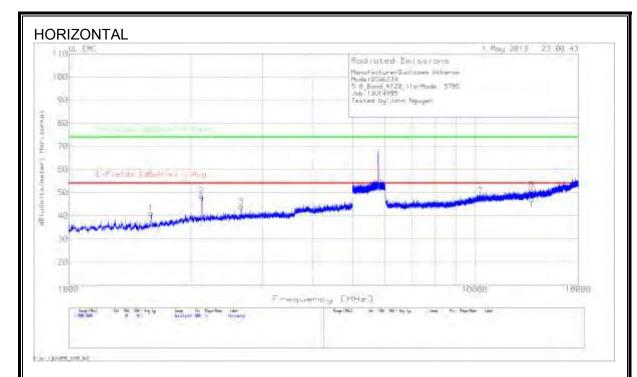


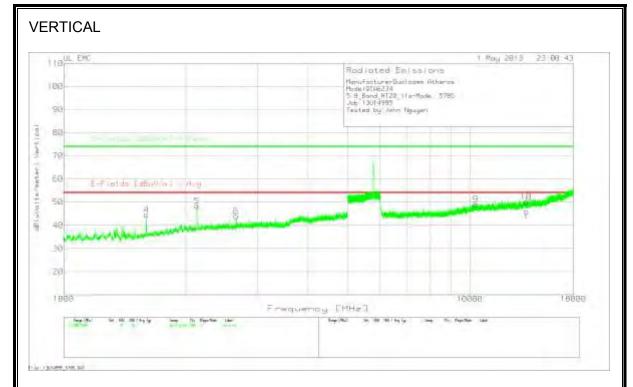


LnAv - Linear Average detector LgAv - Log Average detector Av - Average detector **DATE: JULY 1, 2013**

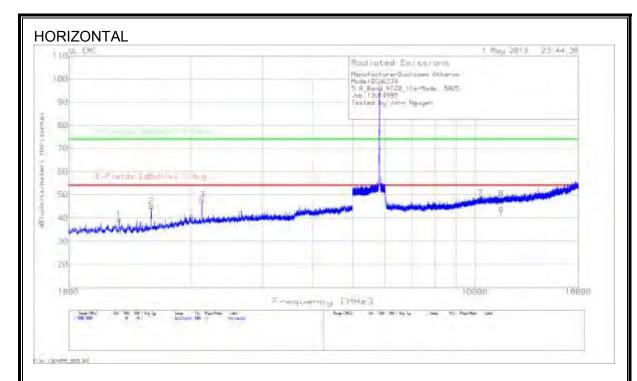
IC: 4104A-QCA6234

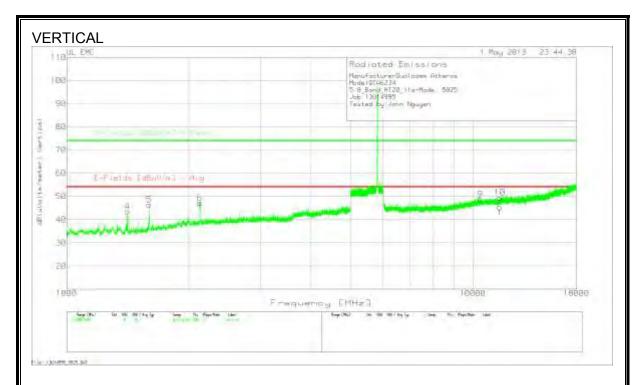
11a Mode, 5785 MHz





Model: 0	CA6234	mm Athe										
	_HT20_11a-N	/lode, 578 ⁰	5									
Job: 13U1												
	y: John Nguy	en										
resteu b	,											
	Test	Meter		T346 Ant	Preamp/		E-Fields		E-Fields			
Marker	Frequency	Reading		Factor	Cable	dB(uVolts	[dBuV/m]	Margin	[dBuV/m]	Margin	Height	
No.	MHz	dBuv	Detector	[dB/m]	5GHz LPF	/meter)	Avg	(dB)	Peak	(dB)	[cm]	Polari
Horizonta	al 1000 - 5000	MH7				. ,		. ,		. ,		
1	1595.333	46.38	PK	29.4	-34.6	41.18	53.97	-12.79	74	-32.82	400	Horz
2	*2125.333	50.66	PK	32.3	-34.4	48.56	53.97	-5.41	74	-25.44	300	Horz
3	2663.333	44.53	PK	33	-33.6	43.93	53.97	-10.04	74	-30.07	199	Horz
	L000 - 5000M		FK	33	-33.0	43.33	33.37	10.04	/	-30.07	133	11012
4	1598	49.51	PK	29.5	-34.5	44.51	53.97	-9.46	74	-29.49	300	Vert
5	*2128.667	50.51	PK	32.3	-34.4	48.41	53.97	-5.56	74	-25.59	300	Vert
6	2658.667	44.71	PK	33	-34.4	44.01	53.97	-9.96	74	-29.99	200	Vert
0	*=Not in the			33	-55.7	44.01	33.37	-5.50	74	-23.33	200	vert
	Test	Meter	Dallu	T346 Ant	Preamp/		E-Fields		E-Fields			
Marker				Factor		dB(uVolts		Margin	[dBuV/m]	Margin	Height	
No.	MHz	dBuv	Detector	[dB/m]	Hz HPF	/meter)	Avg	(dB)	Peak	(dB)	[cm]	Polari
			Detector	[ub/iii]	nz npr	/meter)	Avg	(ub)	Peak	(ub)	[ciii]	Polari
	al 6015 - 1800		514	20.0	25.0	40.55	50.07			25.44	400	
7	*10320.252	36.16	PK	38.3	-25.9	48.56	53.97	-5.41	74	-25.44	400	Horz
8	*13822.577	39.03	PK	39.4	-27.2	51.23	53.97	-2.74	74	-22.77	100	Horz
	5015 - 18000N		DI.	20.0	25.4	40.04	50.07	4.05	74	24.00	200	
9	*10329.24	36.11	PK	38.3	-25.4	49.01	53.97	-4.96	74	-24.99	200	Vert
10	*13782.63	37.75	PK	39.3	-27	50.05	53.97	-3.92	74	-23.95	300	Vert
	*=Not in the		band	T245 4 1			: II		: II			
	Test	Meter		T346 Ant	6GHz HPF		E-Fields		E-Fields			
Marker	Frequency	Reading	D-1-1-	Factor	Preamp/	. '	[dBuV/m]	Margin	[dBuV/m]	Margin	Height	D-11
No.	MHz	dBuv	Detector	[dB/m]	Cable dB	/meter)	Avg	(dB)	Peak	(dB)	[cm]	Polari
	10000 - 18000											
11	10335.972	26.93	PK	38.3	-25.4	39.83	53.97	-14.14	74	-34.17	100	Horz
12	13708.358	28.01	PK	39.3	-26.1	41.21	53.97	-12.76	74	-32.79	300	Horz
	10000 - 18000											
13	10297.975	27.11	PK	38.3	-25.9	39.51	53.97	-14.46	74	-34.49	200	Vert
14	13633.697	28.23	PK	39.2	-26.3	41.13	53.97	-12.84	74	-32.87	400	Vert
	detector											
	si-Peak dete											
	near Average											
_	g Average de											
Av - Ave	rage detecto	r										



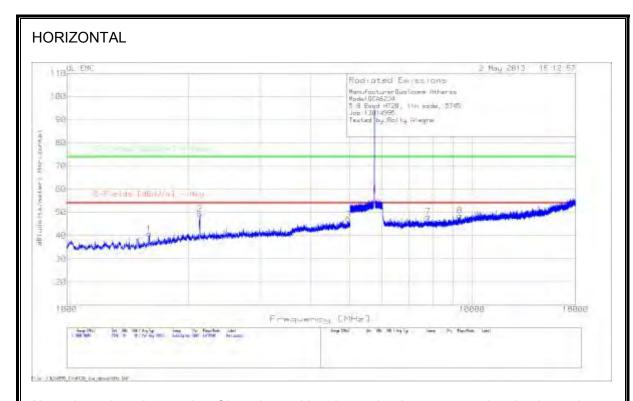


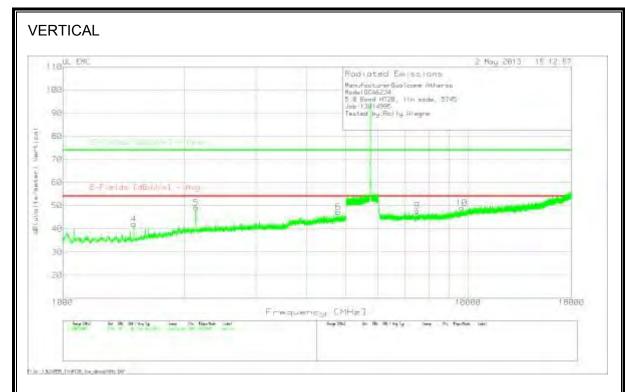
Model: QCA												
	IT20_11a-Mo	de, 5825										
Job: 13U149												
Tested by: J	John Nguyen	1										
	 											
	Test	Meter		T346 Ant			E-Fields	L	E-Fields	1 !	1!	1
	Frequency		1 !	Factor	Cable		[dBuV/m]	Margin	[dBuV/m]	Margin	Height	1
Marker No.		dBuv	Detector	[dB/m]	5GHz LPF	/meter)	Avg	(dB)	Peak	(dB)	[cm]	Polarity
	1000 - 5000M		<u> </u>			<u> </u>				<u> </u>	-	
1	1331.333	45.06	PK	29.1	-34.7	39.46	53.97	-14.51	74	-34.54	300	Horz
2	1600	50	PK	29.5	-34.4	45.1	53.97	-8.87	74	-28.9	400	Horz
3	*2131.333	49.92	PK	32.3	-34.3	47.92	53.97	-6.05	74	-26.08	199	Horz
	00 - 5000MHz		<u> </u>		<u> </u>	<u> </u>						1
4	1410	49.58	PK	28.9	-35	43.48	53.97	-10.49	74	-30.52	300	Vert
5	1597.333	51.47	PK	29.5	-34.5	46.47	53.97	-7.5	74	-27.53	400	Vert
6	*2124	49.39	PK	32.2	-34.4	47.19	53.97	-6.78	74	-26.81	300	Vert
	*=Not in the		d band								<u> </u>	
	Test	Meter		T346 Ant	Preamp/	1	E-Fields		E-Fields	1 !	1 !	1
	Frequency	_	1 . !	Factor	cable/6G	1 '	[dBuV/m]		[dBuV/m]	Margin	Height	1
Marker No.		dBuv	Detector	[dB/m]	Hz HPF	/meter)	Avg	(dB)	Peak	(dB)	[cm]	Polarit
	6015 - 18000N			-	1	1	<u> </u>	-		<u> </u>		
7	*10338.228		PK	38.3	-25.3	48.56	53.97	-5.41	74	-25.44	199	Horz
8	11623.513	35.38	PK	38.7	-25.8	48.28	53.97	-5.69	74	-25.72	199	Horz
	L5 - 18000MH	_								ليسا	-	
9	*10447.083		PK	38.4	-25.4	48.77	53.97	-5.2	74	-25.23	200	Vert
10	11651.475	36.49	PK	38.8	-25.8	49.49	53.97	-4.48	74	-24.51	300	Vert
	*=Not in the		d band									\perp
	Test	Meter	'		6GHz HPF		E-Fields	1	E-Fields	I = I	1	1
	Frequency		1	Factor	Preamp/		[dBuV/m]	Margin	[dBuV/m]	Margin	Height	1
Marker No.		dBuv	Detector	[dB/m]	Cable dB	/meter)	Avg	(dB)	Peak	(dB)	[cm]	Polarit
	000 - 18000M						\vdash			<u> </u>	-	
11	10405.3	26.6	PK	38.4	-25	40	53.97	-13.97	74	-34	399	Horz
12	11657.195	27.49	PK	38.8	-25.7	40.59	53.97	-13.38	74	-33.41	399	Horz
	000 - 18000M							-		<u> </u>		\perp
13	10422.298	26.19	PK	38.4	-25.3	39.29	53.97	-14.68	74	-34.71	400	Vert
14	11643.863	31.56	PK	38.8	-25.8	44.56	53.97	-9.41	74	-29.44	300	Vert
	000 - 18000MI	Hz	<u> </u>					-		<u> </u>		
Test	Meter	i '	T119 Ant			!	E-Fields	1 .	E-Fields	1 . !	1 '	1
Frequency		1	Factor			1	[dBuV/m]	Margin	[dBuV/m]	Margin	Height	١
MHz	dBuv	Detector		Cable	[dB]	/meter)	Avg	(dB)	Peak	(dB)	[cm]	Polarit
11664.06	21.88	RMS	38.6	-19.3	0.2	41.38	53.97	-12.59	74	-32.62	76	Vert
PK - Peak de												
	Peak detecto											
	ar Average d	etector										
LnAv - Linea	Average dete											

9.6. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.8 GHz BAND

SPURIOUS EMISSIONS WITH 50 OHM LOAD

11n HT20 Mode, 5745 MHz

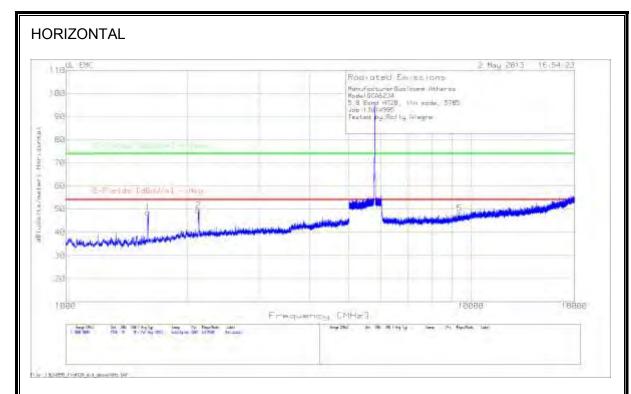


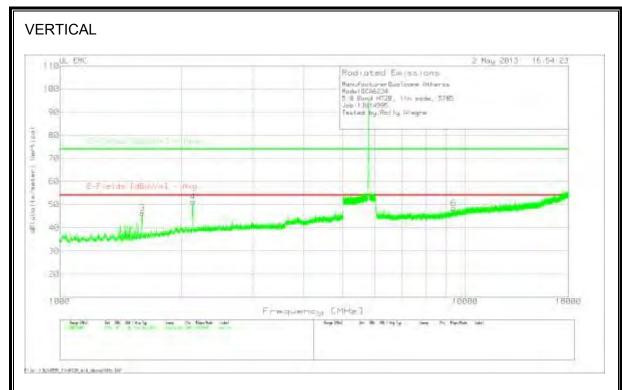


VERTICAL

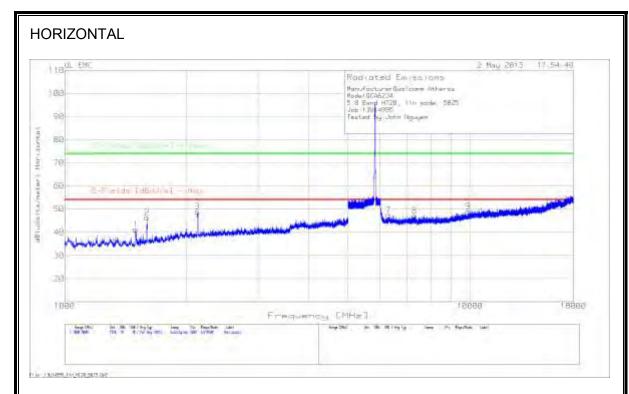
Manufact	urer:	Qualcomr	n Atheros									
Model:		QCA6234										
Configura	tion:	5.8 Band I	HT20, 11n m	node, 5745								
Job:		13U14995										
Tested by	:	Rolly Aleg	gre									
1000 - 500	0MHz											
	Test	Meter		T346 Ant	Preamp/		E-Fields		E-Fields			
Marker	Frequency	Reading		Factor	Cable	dB(uVolt	[dBuV/m	Margin	[dBuV/m	Margin	Height	
No.	MHz	dBuv	Detector	[dB/m]	5GHz LPF	s/meter)] - Avg	(dB)] - Peak	(dB)	[cm]	Polarit
1	1598.667	45.77	PK	29.5	-34.5	40.77	53.97	-13.2	74	-33.23	299	Horz
2	*2132	51.35	PK	32.3	-34.3	49.35	53.97	-4.62	74	-24.65	299	Horz
3	4950.667	43.41	PK	34.4	-30.8	47.01	53.97	-6.96	74	-26.99	400	Horz
4	1498.667	48.56	PK	28.8	-35.3	42.06	53.97	-11.91	74	-31.94	300	Vert
5	*2132.667	51.19	PK	32.3	-34.3	49.19	53.97	-4.78	74	-24.81	300	Vert
6	4786	43.64	PK	34.4	-30.7	47.34	53.97	-6.63	74	-26.66	100	Vert
6015 - 180	000MHz											
	Test	Meter		T346 Ant			E-Fields		E-Fields			
Marker	Frequency	Reading		Factor	cable/6G	dB(uVolt	[dBuV/m	Margin	[dBuV/m	Margin	Height	
No.	MHz	dBuv	Detector	[dB/m]	Hz HPF	s/meter)] - Avg	(dB)] - Peak	(dB)	[cm]	Polarit
7	7794.624	40.96	PK	36.2	-28.9	48.26	53.97	-5.71	74	-25.74	200	Horz
8	9334.568	37.49	PK	37.2	-26	48.69	53.97	-5.28	74	-25.31	100	Horz
9	7490.031	41.08	PK	36.1	-29.4	47.78	53.97	-6.19	74	-26.22	100	Vert
10	*9650.147	37.55	PK	37.6	-26.1	49.05	53.97	-4.92	74	-24.95	100	Vert
	*=Not in the	e restricted	d band									
PK - Peak												
	i-Peak detec											
	ear Average											
	Average de											
Av - Aver	age detector	ſ										

11n HT20 Mode, 5785 MHz

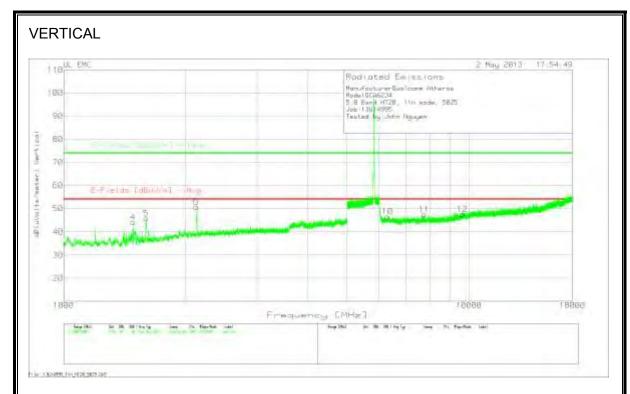




ModelQC	urerQualcor A6234											
•	HT20, 11n m	nda 5785										
Job:13U14	-	Jue, 3763										
	:Rolly Alegr	0										
rested by	.itoliy Alegi	_										
Horizonta	l 1000 - 5000	MHz										
	Test	Meter		T346 Ant	Preamp/		E-Fields		E-Fields			
Marker	Frequency	Reading		Factor	Cable	dB(uVolt	[dBuV/m	Margin	[dBuV/m	Margin	Height	
No.	MHz	dBuv	Detector	[dB/m]	5GHz LPF	s/meter)] - Avg	(dB)] - Peak	(dB)	[cm]	Polarit
1	1596.667	53.6	PK	29.5	-34.5	48.6	53.97	-5.37	74	-25.4	400	Horz
2	*2124.667	51.72	PK	32.2	-34.4	49.52	53.97	-4.45	74	-24.48	299	Horz
Vertical 1	000 - 5000MI	Hz										
	Test	Meter		T346 Ant	Preamp/		E-Fields		E-Fields			
Marker	Frequency	Reading		Factor	Cable	dB(uVolt	[dBuV/m	Margin	[dBuV/m	Margin	Height	
No.	MHz	dBuv	Detector	[dB/m]	5GHz LPF	s/meter)] - Avg	(dB)] - Peak	(dB)	[cm]	Polarit
3	1600.667	51.36	PK	29.5	-34.4	46.46	53.97	-7.51	74	-27.54	300	Vert
4	*2132.333	53.3	PK	32.3	-34.3	51.3	53.97	-2.67	74	-22.7	300	Vert
Horizonta	l 6015 - 1800	0MHz										
	Test	Meter		T346 Ant	Preamp/		E-Fields		E-Fields			
Marker	Frequency	Reading		Factor	cable/6G	dB(uVolt	[dBuV/m	Margin	[dBuV/m	Margin	Height	
No.	MHz	dBuv	Detector	[dB/m]	Hz HPF	s/meter)] - Avg	(dB)] - Peak	(dB)	[cm]	Polarit
5	9363.53	36.77	PK	37.3	-25.9	48.17	53.97	-5.8	74	-25.83	100	Horz
Vertical 6	015 - 18000N											
	Test	Meter			Preamp/		E-Fields		E-Fields			
	Frequency	Reading		Factor		dB(uVolt		Margin	[dBuV/m	Margin	Height	
No.	MHz	dBuv	Detector	[dB/m]	Hz HPF	s/meter)] - Avg	(dB)] - Peak	(dB)	[cm]	Polarit
6	9375.514	37.46	PK	37.3	-26.3	48.46	53.97	-5.51	74	-25.54	300	Vert
	*=Not in th	e restricte	d band									
PK - Peak												
	i-Peak dete											
	ear Average											
	Average de											
Av - Aver	age detecto	r										



DATE: JULY 1, 2013

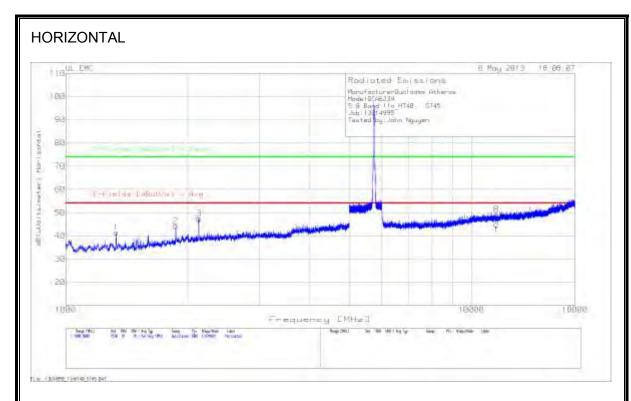


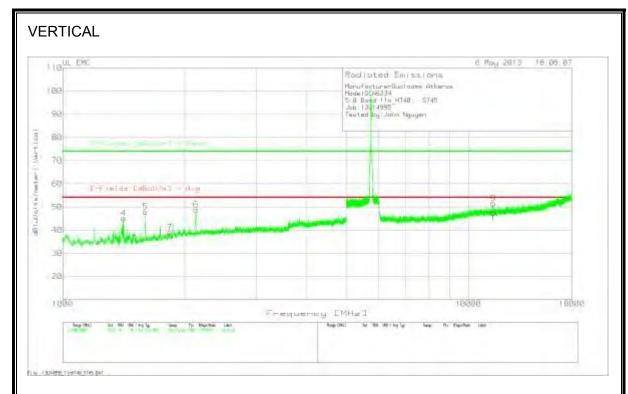
QCA6234											
HT20, 11n m	ode, 5825										
14995											
y: John Nguy	/en										
			- 15 A mA			~ ~! .!		~ ~! .!			
l I										-1-1-64	İ
	_	!			•		_		_	_	
		Detector	[dB/m]	5GHz LPF	/meter)	Avg	(dB)	Peak	(dB)	[cm]	Polarity
1496	47.82	PK	28.8	-35.3	41.32	53.97	-12.65	74	-32.68	400	Horz
1597.333	51.34	PK	29.5	-34.5	46.34	53.97	-7.63	74	-27.66	199	Horz
2126.667	51.06	PK	32.3	-34.4	48.96	53.97	-5.01	74	-25.04	300	Horz
1483.333	50.58	PK	28.8	-35.3	44.08	53.97	-9.89	74	-29.92	300	Vert
1598.667	50.78	PK	29.5	-34.5	45.78	53.97	-8.19	74	-28.22	300	Vert
2125.333	52.95	PK	32.3	-34.4	50.85	53.97	-3.12	74	-23.15	200	Vert
Test	Meter		I .			E-Fields		E-Fields			
Frequency	Reading	'	Factor	cable/6G	dB(uVolts	[dBuV/m]	Margin	[dBuV/m]	Margin	Height	İ
MHz	dBuv	Detector	[dB/m]	Hz HPF	/meter)	Avg	(dB)	Peak	(dB)	[cm]	Polarity
al 6015 - 180	00MHz										
10625.845	37.67	PK	38.5	-25.7	50.47	53.97	-3.5	74	-23.53	399	Horz
13306.266	37.16	PK	39	-25.7	50.46	53.97	-3.51	74	-23.54	200	Horz
10652.809	36.41	PK	38.5	-25.8	49.11	53.97	-4.86	74	-24.89	200	Vert
13307.265	36.95	PK	39	-25.7	50.25	53.97	-3.72	74	-23.75	100	Vert
Test	Meter		T346 Ant	6GHz HPF		E-Fields		E-Fields			
Frequency	Reading	'	Factor	Preamp/	dB(uVolts	[dBuV/m]	Margin	[dBuV/m]	Margin	Height	İ
	dBuv	Detector	[dB/m]	Cable dB	/meter)	Avg	(dB)	Peak	(dB)	[cm]	Polarity
MHz	ubuv	4									
MHz 10000 - 18000											
		PK	38.4	-25.7	45.69	53.97	-8.28	74	-28.31	100	Horz
10000 - 18000	0MHz	PK PK	38.4 39	-25.7 -25.4	45.69 47.72	53.97 53.97	-8.28 -6.25	74 74	-28.31 -26.28	100 400	Horz Horz
10000 - 18000 10590.617	0MHz 32.99 34.12										
10000 - 18000 10590.617 13270.394	0MHz 32.99 34.12										
10000 - 18000 10590.617 13270.394 10000 - 18000	0MHz 32.99 34.12 0MHz	PK	39	-25.4	47.72	53.97	-6.25	74	-26.28	400	Horz
10000 - 18000 10590.617 13270.394 10000 - 18000 10566.619	0MHz 32.99 34.12 0MHz 33.72	PK PK	39 38.4	-25.4 -25.4	47.72 46.72	53.97	-6.25 -7.25	74 74	-26.28 -27.28	400 300	Horz Vert
10000 - 18000 10590.617 13270.394 10000 - 18000 10566.619	0MHz 32.99 34.12 0MHz 33.72	PK PK	39 38.4	-25.4 -25.4	47.72 46.72	53.97	-6.25 -7.25	74 74	-26.28 -27.28	400 300	Horz Vert
10000 - 18000 10590.617 13270.394 10000 - 18000 10566.619 13300.392	0MHz 32.99 34.12 0MHz 33.72 34.51	PK PK	39 38.4	-25.4 -25.4	47.72 46.72	53.97	-6.25 -7.25	74 74	-26.28 -27.28	400 300	Horz Vert
10000 - 18000 10590.617 13270.394 10000 - 18000 10566.619 13300.392 c detector si-Peak dete	0MHz 32.99 34.12 0MHz 33.72 34.51	PK PK PK	39 38.4	-25.4 -25.4	47.72 46.72	53.97	-6.25 -7.25	74 74	-26.28 -27.28	400 300	Horz Vert
10000 - 18000 10590.617 13270.394 10000 - 18000 10566.619 13300.392	32.99 34.12 0MHz 33.72 34.51	PK PK PK	39 38.4	-25.4 -25.4	47.72 46.72	53.97	-6.25 -7.25	74 74	-26.28 -27.28	400 300	Horz Vert
1	y: John Nguy Test Frequency MHz al 1000 - 5000 1496 1597.333 2126.667 1000 - 5000M 1483.333 1598.667 2125.333 Test Frequency MHz al 6015 - 18000 10625.845 13306.266 5015 - 180000 10652.809 13307.265	Test Reading dBuv al 1000 - 5000MHz 1496 47.82 1597.333 51.34 2126.667 51.06 1000 - 5000MHz 1483.333 50.58 1598.667 50.78 2125.333 52.95 Test Reading dBuv al 6015 - 18000MHz 10625.845 37.67 13306.266 37.16 5015 - 18000MHz 10652.809 36.41 13307.265 36.95	Test Reading MHz Detector al 1000 - 5000MHz 1496 47.82 PK 1597.333 51.34 PK 1000 - 5000MHz 1483.333 50.58 PK 1598.667 50.78 PK 12125.333 52.95 PK 1598.667 50.78 PK 1598.667 80.000 - 5000MHz 1483.333 50.58 PK 1598.667 50.78 PK 1598.667 50.78 PK 1598.667 50.78 PK 160525.333 52.95 PK 160525.333 52.95 PK 160525.333 52.95 PK 160525.333 52.95 PK 160525.345 37.67 PK 13306.266 37.16 PK 13307.265 36.95 PK 13307.265 36.95 PK	Test Reading Buy Detector [dB/m] T346 Ant Factor [dB/m] T346 Ant Fa	Test	Test	Test	Test	Test	Test Meter Frequency Margin GB Margin Margin GB Margin Test Meter Frequency Reading MHz Margin GBuv Detector [dB/m] SGHz LPF Meter MHz Margin GBuv Margin Mar	

9.7. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.8 GHz BAND

SPURIOUS EMISSIONS WITH 50 OHM LOAD

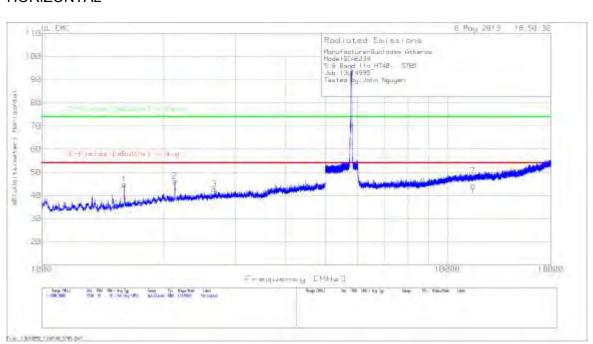
11n HT40 Mode, 5755 MHz

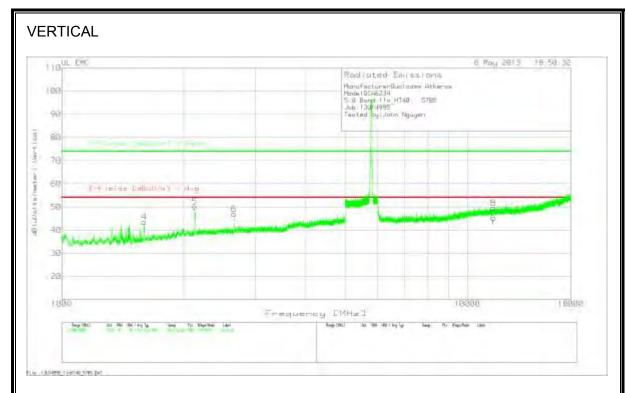




000MHz	dBuy	Detector	Factor [dB/m]	Preamp/ Cable 5GHz LPF	dB(uVoits/ meter)	E-Fields [dBuV/m] Avg	Margin (dil)	E-Fleids [d8uV/m] Peak	Margin (dB)	Height [cm]	Polarity	
						-	-					
1332	47.03	PK	29.1	-34.7	41.43	53.97	-12.54	74	-32.57	300	Haez	
1868	47.1	PK	31,3	-34,2	44.2	53,97	-9.77	74	-29.8	100	Horz	
*2179.333		PK	32.3	-34.4	47.55	53.97	-6.42	74	-26.45	100	Horz	
		- 0	1000		7 77 15 7	- 10 10	- XXX	- 50 -	5714977	1 - 20 - 1		
		7.1%			10075		110000		-		10000	
-		-					-		12.07.55			
			32.5	-54.8	48.89	35.97	-5.08	74	-25.11	100	vert	L
Test Frequency MHz	Meter Reading dBuv	Detector	T346 Ant Factor [dB/m]	Preamp/ Cable SGHz LPF	d8(uVoits/ meter)	E-Fields [d8uV/m] Avg	Margin (dil)	E-Fields [dBuV/m] Peak	Margin (d8)	Height [cm]	Polarity	
-	-				40.0	Television .	10000		24.2	-	122.2	
		pk.	38.7	-25.7	49.2	53,97	-4.27	74	-24.8	300	Horz	
11510,563	-	ÞK	38,7	-25.6	51.63	53.97	-2.34	74	-22.37	406	Vert	
Test	Meter		T346 Ant	6GHz HPF		E. Einleit		E Ciolda				
Frequency	Reading	Detector	Factor	Preamp/	dB(uVelts/	[dBoV/m]	Margin (dn)	[dBuV/m]	Margin (dB)	Height	Polarity	
MHz	dBuv	Detector	200000000000000000000000000000000000000		dB(uVolts/ meter)	The second second	Margin (dB)	The State of the S	Margin (dB)	Height [cm]	Polarity	
MHz 000 - 18000N	dBuv dH2	Detector	Factor [dB/m]	Preamp/ Cable dB	meter)	[dBuV/m] Avg	(dB)	[dBuV/m] Peak	(dB)	[cm]		
MHz 000 - 18000N 11530.541	dBuv /Hz 30,14		Factor	Preamp/	The second second	[dBoV/m]	175.00	[dBuV/m]		1000	Polarity Horz	
MHz 000 - 18000N 11530,541 000 - 18000N	dBuv 4H2 30,14 4Hz	PK	Factor [d6/m] 38.7	Preamp/ Cable dB -25.6	meter) 43.24	[dBoV/m] Avg 53.97	(dB) -10.73	[dBuV/m] Peak 74	(dB) -30,76	(cm) 300	Hórz	
MHz 000 - 18000N 11530.541	dBuv AH2 30,14 AH2 32,48		Factor [dB/m]	Preamp/ Cable dB	meter)	[dBuV/m] Avg	(dB)	[dBuV/m] Peak	(dB)	[cm]		
MHz 000 - 18000N 11530,541 000 - 18000N 11511.207	dBuv AH2 30,14 AH2 32,48	PK	Factor [d6/m] 38.7	Preamp/ Cable dB -25.6	meter) 43.24	[dBoV/m] Avg 53.97	(dB) -10.73	[dBuV/m] Peak 74	(dB) -30,76	(cm) 300	Hórz	Polarit
MHz 000 - 18000N 11530-541 000 - 18000N 11511-207 7600 - 18000 Meter Reading dBuv 23.39	dBuv MH2 30,14 MH2 32,48 MH2 Detector RMS	PK PK T345 Ant Factor	Factor [d8/m] 38.7 18.7 T145 Preamp	Preamp/ Cable dB -25.6 -25.6 Cable Factor	43.24 45.58 T192 HPF	[dBuV/m] Avg 53.97 53.97	-10.73 -8.39 E-Fields [dBuV/	[dBuV/m] Peak 74 74 Margin	-30,76 -28,42 E-Fields (dBuV/m	(cm) 800 400 Margin	Horz Vert Height	Polarity Horz
MHz 000 - 18000N 11530-541 000 - 18000N 11511-207 7600 - 18000 Meter Reading dBuy	dBuv MH2 30,14 MH2 32,48 MH2 Detector RMS	PK PK T345 Ant Factor [d8/m]	Factor [dB/m] 38.7 38.7 T145 Preamp Gain [dB]	Preamp/ Cable dB -25.6 -25.6 Cable Factor [dB]	43.24 45.58 T192 HPF [dB]	[dBuV/m] Avg 53.97 53.97 dB(uvolts/meter)	(dB) -10.73 -8.39 E-Fields [dBuV/m] - Avg	[dBuV/m] Peak 74 74 Margin (dB)	(dB) -30,76 -28,42 E-Fields (dBuV/m J-Peak	(cm) 300 400 Margin (dB)	Vert Height	
	1412.667 1598 *2130.667 *=Not in the Test Frequency MHz 6015 - 18000 11531.635 5 18000Ms 11510.563	1598 52.91 *2130.667 50.99 *=Not in the restricte Test Meter Frequency Reading dBuv 5015 - 18000MHz 11531.635 36.2 5 18000MHz 11510.663 38.53 Test Meter	1412.667 51.14 PK 1598 52.91 PK *2130.667 50.99 PK *=Not in the restricted band Test: Meter Frequency Reading MHz dBuv Detector 6015 - 18000MHI 11531.635 36.2 PK 5 18000MHz 11510.663 38.53 PK	1412.667 51.14 PK 28.9 1598 52.91 PK 29.5 *2130.667 50.99 PK 32.3 *=Not in the restricted hand Test: Meter T346 Ant Frequency Reading Factor MHz dBuv Detector [dB/m] 5015 - 18000MHz 11531.635 36.2 PK 38.7 5 18000MHz 11510.663 38.53 PK 38.7	1412.667 51.14 PK 28.9 -38.9 1598 52.91 PK 29.5 -34.5 *2130.667 50.99 PK 32.3 -34.4 *Not in the restricted hand Test: Meter T346 Ant Preump/ Frequency Reading Factor Cable MHz dBuv Detector [dB/m] 5GHz.1PF 5015 - 18000MHz 11531.635 36.2 PK 38.7 -25.7 5 18000MHz 11510.663 38.53 PK 38.7 -25.6	1412.667 51.14 PK 28.9 -34.9 45,14 1598 52.91 PK 29.5 -34.5 47.91 *2130.667 50.99 PK 32.3 -34.4 48.89 *=Not in the restricted band Test Meter Ta46 Ant Preump/ Frequency Reading Pactor (dB/m) SGHz 1PF meter) 6015 - 18000MHz 11531.635 36.2 PK 38.7 -25.7 49.2 5 18000MHz 11510.663 38.53 PK 38.7 -25.6 51.63	1412.667 51.14 PK 28.9 -34.9 45,14 53.97 1598 52.91 PK 29.5 -34.5 47.91 53.97 *2130.667 50.99 PK 32.3 -34.4 48.89 53.97 *=Not in the restricted band Test: Meter T346 Ant Preamp/ Factor Cable (dB/w/olfs/ [dBuv/m] Factor GB/m] SGHz LPF meter) Avg 8015 - 18000MHz 11531.635 36.2 PK 38.7 -25.7 49.2 53.97 5 18000MHz 11510.663 38.53 PK 38.7 -25.6 51.63 53.97	1412.667 51.14 PK 28.9 -34.9 45.14 33.97 -8.83 1598 52.91 PK 29.5 -34.5 47.91 53.97 -6.06 *2130.667 50.99 PK 32.3 -34.4 48.89 53.97 -5.08 *=Not in the restricted band Test: Meter Frequency Reading MHz dBuv Detector [dB/m] SGHz LPF meter) Avg (dB) 5015 - 18000MHz 11531.635 36.2 PK 38.7 -25.7 49.2 53.97 -4.77 5 18000MHz 11510.663 38.53 PK 38.7 -25.6 51.63 53.97 -2.34	1412.667 51.14 PK 28.9 -34.9 45.14 53.97 -8.83 74 1598 52.91 PK 29.5 -34.5 47.91 53.97 -6.06 74 *2130.667 50.99 PK 32.3 -34.4 48.89 53.97 -5.08 74 *=Not in the restricted band Test Meter T346 Ant Preamp/ Factor Cable dB(uVoits/ [dBuV/m] Margin [dBuV/m] Peak **Motion the description of th	1412.667 51.14 PK 28.9 -34.9 45.14 33.97 -8.83 74 -28.86 1598 52.91 PK 29.5 -34.5 47.91 53.97 -6.06 74 -26.09 *2130.667 50.99 PK 32.3 -34.4 48.89 53.97 -5.08 74 -25.11 **Not in the restricted band **Test: Meter T346 Ant Preamp/ Factor Cable dB(uVolts/ dBuV/m) Margin dBuV/m) Margin dBuV/m) Margin dBuV/m) Margin dBuV/m) Peak (dB) **S015 - 18000MHz 1412.667 51.14 PK 28.9 -34.9 45,14 53.97 -8.63 74 -28,86 300 1598 52.91 PK 29.5 -34,5 47.91 53.97 -6.06 74 -26.09 300 *2130.667 50.99 PK 32.3 -34.4 48.89 53.97 -5.08 74 -25.11 100 *= Not in the restricted band ** Test: Meter Frequency Reading MHz dBuv Detector [dB/m] SGHz.1PF meter) Avg (dB) Peak (dB] [cm] 5015 - 18000MHz	1412.667 51.14 PK 28.9 -34.9 45,14 53.97 -8.83 74 -28,86 300 Vert 1598 52.91 PK 29.5 -34.5 47.91 53.97 -6.06 74 -26.09 300 Vert 2130.667 50.99 PK 32.3 -34.4 48.89 53.97 -5.08 74 -25.11 100 Vert 3-Not in the restricted band Test: Meter Frequency Reading MHz dBuv Detector [dB/m] SGHz.1PF meter) Avg (dB) Peak (dB] [cm] Polarity 5015 - 18000MHz 11531.635 36.2 PK 38.7 -25.7 49.2 53.97 -4.77 74 -24.8 300 Horz 1510.663 38.53 PK 38.7 -25.6 51.63 53.97 -2.34 74 -22.37 400 Vert	

HORIZONTAL





Marker No.	Test Frequency MHz	Meter Reading dBuy	Detector	T346 Ant Factor [dB/m]	Preamp/ Cable 5GHz LPF	nB(uVolts /meter)	E-Fields [dBuV/m] Avg	Margin (dB)	E-Fields [dBuV/m] Peak	Margin (dB)	Height [cm]	Polarity	
ntal 1000 - 5	2HM000									1			
1	1598.667	49.76	PK	29,5	-34.5	44.75	53,97	-9,21	74	-29.24	300	Horz	
2	*2130	48.4	PK.	32.3	-34,4	46.3	53.97	-7.67	74	-27.7	300	Hotz	
3	2863.333	43.33	PK:	33	-33.6	42.73	53.97	-11.24	74	-31.27	200	Horz	
4	1596.667	48.43	- PK	29.5	-34.5	43,48	53.97	-10.54	74	-30.57	1790	Vert	
5	*2126.667	52.29	PK	12.3	-34,4	50.19	53,97	-3.78	74	-23.81	199	Vert	
- 6	2659.333	47.55	PK-	33	-33.6	46.95	53.97	-7.02	.74	-23,81	100	Vert	
-	*=Not in th			- 44	4410	10,00	2000	5100		41.00	-30	7416	
Market No.	Frequency MHz	Meter Reading dauv	Detector	T346 Ant Factor [dB/m]	Preamp/ Cable SGHz LPF	dB(uVolts /meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] Peak	Margin (dB)	Height [cm]	Pelarity	
	5015 - 18000/				-			1	-	10.00	- 201		
7	11565.59	35,42	PK:	38.7	-25.7	48.42	53.97	-5.55	74	-75.58	300	Hora	
1	5 - 18000MH			7 70 70	200	12.55	20.20	1 S 18 1		WA GE	- minute	VO.00	
B	11596,549	36,86	PK	38.7	-26	49,56	53.97	-4,41	74	-24.44	299	Vert	
Marker No.	Test Frequency MHz	Meter Reading dBuv	Detector	1346 Ant Factor [dB/m]	6GHz HPF Preamp/ Cable d8	JB(uVolts /meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [d8uV/m] Peak	Margin (dB)	Reight [cm]	Polarity	
Range:7 100	M00061 - 000	Hz											
-	11563.861	100 min (1-44)	PIE	38.8	-25.5	42.47	53.97	115	74	31,53	300	Hote	
9	11003.801	29.17	1-10										
Range:8 100	M00081 - 000	Hz								-			
			PK	39.7	-25.9	44.21	53.97	-9,76	74	-29.79	299	Vert	
Range:8 100 10	11591,202	Hz 31,41		39.7	-25.9	44.21	53.97	-9,76	74	-29.79	299	Vert	
Range:8 100 10 Horizontal	000 - 18000M 11591,202 7600 - 18000	Hz 31,41	PK			44.21	53.97		74		299	Vert	
Range:8 100 10	000 - 18000M 11591,202 7600 - 18000 Meter	Hz 31,41		29.7 T145 Preamp Gain [db]	-25.9 Cable Factor [d8]	44.21 7192 HPF [dB]	53.97 dB(uVolts/meter)	Efields	7d Margin (dB)	-29.79 E-Fields (dBuV/m J-Peak	299 Margin (dB)	Vert Height [cm]	Polarity
Range:8 100 10 Horizontal Test Frequency	7600 - 18000M 11591,202 7600 - 18000 Meter Reading	HZ 31.41 AHZ	PK T345 Ant Factor	T145 Preamp	Cable Factor	T192 HPF	dB(uVolts/	E-Fields [dBuV/m	Margin	E-Fields (dBuV/m	Margin	Height	Polarity Horz
Range:8 100 10 Horizontal Test Frequency MHz 11571.81	7600 - 18000M 11581.202 7600 - 18000 Meter Reading dBuy	Hz 31.41 MHz Detector RMS	PK T345 Ant Factor [dB/m] 38.8	T145 Preamp Gain [dlt] -33.6	Cable Factor [dB]	7192 HPF [dB]	dB(uVolts/	E-fields [dBuV/m] - Avg 53.97	Margin (dB)	E-Fields [dBuV/m]- Peak 74	Margin (dB)	Height [cm]	275
Range:8 100 10 Horizontal Test Frequency MHz 11571.81	7600 - 18000M 11581,202 7600 - 18000I Meter Reading dBuy 23:34 10 - 18000MH	Hz 31.41 MHz Detector RMS	PK T345 Ant Factor [dB/m]	T145 Preamp Gain (dB)	Cable Factor [dB]	7192 HPF [dB]	dB(uVolts/	E-Fields [dBuV/m] - Avg 53.97	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	275

REPORT NO: 13U14995-1 DATE: JULY 1, 2013 FCC ID: PPD-QCA6234 IC: 4104A-QCA6234

WORST-CASE BELOW 1 GHz 9.8.

Manufact	urer: Qualco	omm Athe	ros								
Model: QCA6234 2X2 MIMO 802.11 abgn+BT4.0											
											Job: 13U1
Tested by	: John Nguy	en									
				T408 Ant	T285	Cable		E-Fields			
Marker	Test	Meter		Factor	Preamp	Factor	dB(uVolts	[dBuV/m] ·	Margin	Height	
No.	Frequency	Reading	Detector	[dB/m]	[dB]	[dB]	/meter)	QPk	(dB)	[cm]	Polarity
Horizonta	l 30 - 1000M	lHz									
1	35.9405	42.35	PK	16.9	-27.9	0.5	31.85	40	-8.15	300	Horz
2	42.9721	44.66	PK	11.7	-28	0.6	28.96	40	-11.04	400	Horz
3	212.8221	51.86	PK	10.4	-28.8	1.2	34.66	43.52	-8.86	98	Horz
4	391.1586	48.9	PK	15.2	-29.4	1.7	36.4	46.02	-9.62	98	Horz
Vertical 3	0 - 1000MHz										
5*	35.698	48.54	PK	17.1	-28	0.5	38.14	40	-1.86	201	Vert
6	42.9721	49.1	PK	11.7	-28	0.6	33.4	40	-6.6	201	Vert
7	212.3372	46.65	PK	10.4	-28.8	1.2	29.45	43.52	-14.07	201	Vert
*AC Adap	ter noise										
PK - Peak											
QP - Quas	i-Peak dete	ctor									
LnAv - Lin	ear Average	detector									
LgAv - Log	Average de	etector									
Av - Aver	age detecto	r									

REPORT NO: 13U14995-1 DATE: JULY 1, 2013 FCC ID: PPD-QCA6234 IC: 4104A-QCA6234

10. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 7.2.2

Frequency of Emission (MHz)	Conducted Limit (dBuV)					
	Quasi-peak	Average				
0.15-0.5	66 to 56 °	56 to 46 *				
0.5-5	56	46				
5-30	60	50				

Decreases with the logarithm of the frequency.

TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.4.

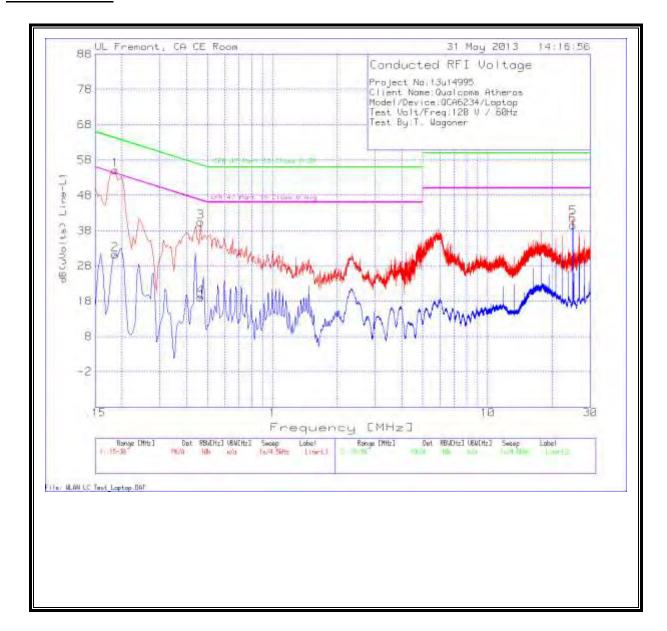
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

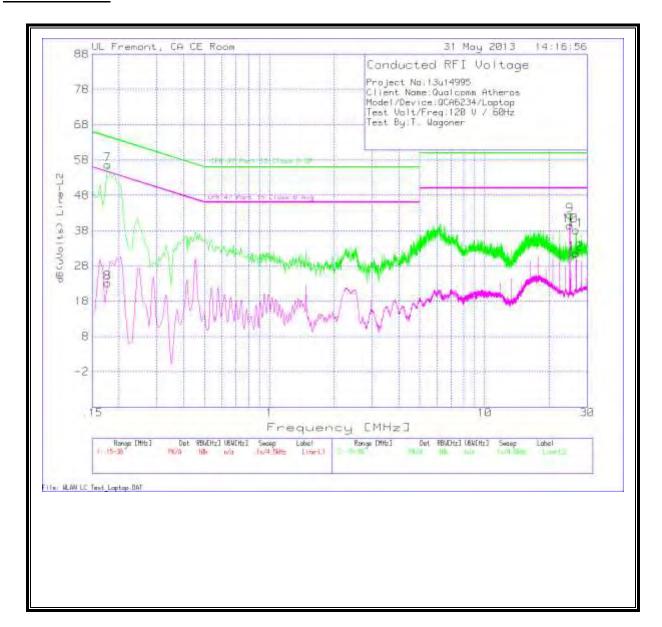
6 WORST EMISSIONS

Project No:									
Client Nam									
Model/Dev									
Test Volt/Fi	req:120 V /	60Hz							
Test By:T. V	Vagoner								
Line-L1 .15	- 30MHz								
Test Frequency	Meter Reading	Detector	T24 IL L1.TXT	LC Cables	dB(uVolts)	CFR 47 Part 15	Margin	CFR 47 Part 15	Margin
(MHz)	(dBuV)		(dB)	(dB)		Class B QP		Class B Avg	
0.186	55.02	PK	0.1	0	55.12	64.2	-9.08	-	-
0.186	31.23	Av	0.1	0	31.33	-	-	54.2	-22.87
0.465	40.34	PK	0.1	0	40.44	56.6	-16.16	-	
0.465	19.06	Av	0.1	0	19.16	-	-	46.6	-27.44
24.9675	40.83	PK	0.4	0.3	41.53	60	-18.47	-	-
24.9675	38.79	Av	0.4	0.3	39.49	-	-	50	-10.51
Line-L2 .15	- 30MHz								
Test Frequency (MHz)	Meter Reading (dBuV)	Detector	T24 IL L2.TXT (dB)	LC Cables 2&3.TXT (dB)	dB(uVolts)	CFR 47 Part 15 Class B QP	Margin	CFR 47 Part 15 Class B	Margin
0.177	56.51	PK	0.1	0	56.61	64.6	-7.99	Avg	-
0.177	23.09	Av	0.1	0	23.19	-	-1.55	54.6	-31.41
24.936	41.62	PK	0.5	0.3	42.42	60	-17.58	-	-31.41
24.936	38.61	Av	0.5	0.3	39.41	-	-17.36	50	-10.59
26.6595	37.3	PK	0.5	0.3	38.1	60	-21.9	-	-10.00
26.6595	30.71	Av	0.5	0.3	31.51	-	-	50	-18.49
PK - Peak do QP - Quasi-		ctor							
	ge detecto								



DATE: JULY 1, 2013

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DATE: JULY 1, 2013

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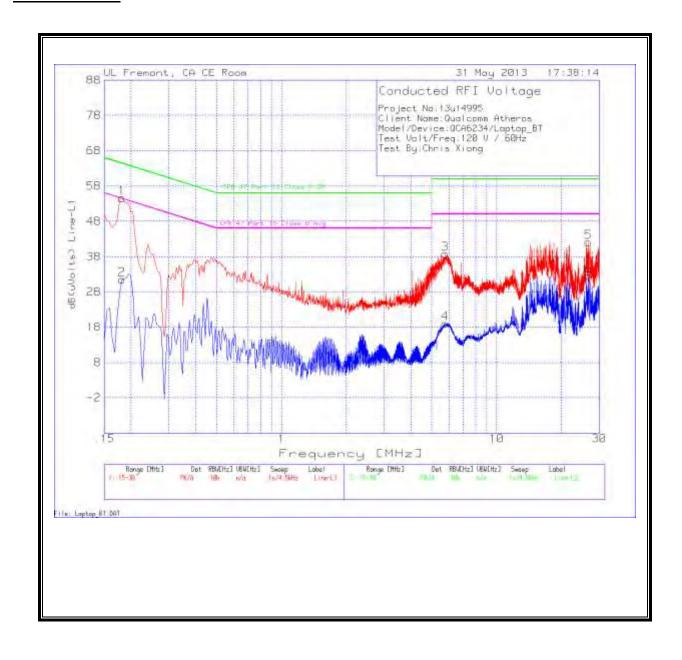
REPORT NO: 13U14995-1 DATE: JULY 1, 2013 FCC ID: PPD-QCA6234 IC: 4104A-QCA6234

6 WORST EMISSIONS

Laptop with EUT connected

Project No:		13U14995							
Client Name	2:	Qualcomm Atheros							
Model/Device:		QCA6234							
Test Volt/Freq:		120VAC/60Hz							
Test By: Chris Xiong									
Mode:		Blutooth \	Norst Case	, Laptop w	ith USB cal	ole to Blue	tooth adap	ter board	
Line-L1 .15 -	30MHz								
						CFR 47		CFR 47	
Test	Meter		T24 IL	LC Cables		Part 15		Part 15	
Frequency	Reading		L1.TXT	1&3.TXT	dB(uVolt	Class B		Class B	
MHz	dBuv	Detector	(dB)	(dB)	s)	QP	Margin	Avg	Margin
0.1815	54.54	PK	0.1	0	54.64	64.4	-9.76	-	-
0.1815	31.46	Av	0.1	0	31.56	-	-	54.4	-22.84
5.775	38.51	PK	0.1	0.1	38.71	60	-21.29	-	-
5.775			0.1	0.1	18.99	-	-	50	-31.0
26.7855			0.5	0.3	42.11	60	-17.89	-	-
26.7855	31.74	Av	0.5	0.3	32.54	-	-	50	-17.4
Line-L2 .15 -	30MHz								
						CFR 47		CFR 47	
Test	Meter		T24 IL	LC Cables		Part 15		Part 15	
Frequency	Reading		L2.TXT	2&3.TXT	dB(uVolt	Class B		Class B	
MHz	dBuv	Detector	(dB)	(dB)	s)	QP	Margin	Avg	Margin
0.1815	53.36	PK	0.1	0	53.46	64.4	-10.94	-	-
0.1815			0.1	0	27.68		-	54.4	-26.7
0.4515			0.1	0	38.6		-18.2		-
0.4515			0.1	0	26.36		-	46.8	-20.4
6.108			0.1	0.1	39.64	60	-20.36		-
6.108	20.19	Av	0.1	0.1	20.39	-	-	50	-29.6
PK - Peak de	etector								
QP - Quasi-l	eak detec	tor							

DATE: JULY 1, 2013 IC: 4104A-QCA6234



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