8.14.2. 99% BANDWIDTH

LIMITS

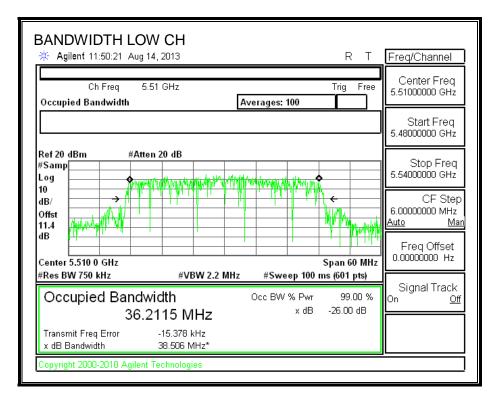
None; for reporting purposes only.

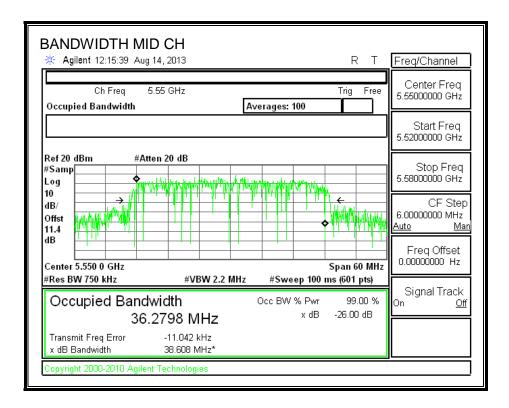
RESULTS

Channel	Frequency	99% Bandwidth
	(MHz)	(MHz)
Low	5510	36.2115
Mid	5550	36.2798
High	5670	36.2586

Page 175 of 354

99% BANDWIDTH





Page 176 of 354

BANDWIDTH HIGH CH Agilent 14:04:44 Aug 14, 2013			RТ	Freq/Channel
Ch Freq 5.67 GHz Occupied Bandwidth	Avera	ges: 100	Trig Free	Center Freq 5.67000000 GHz
				Start Freq 5.64000000 GHz
Ref 20 dBm #Atten 20 dB #Samp Log	MAT AND A MORE AND A MO	MARY WINKING TO		Stop Freq 5.7000000 GHz
dB/ Offst 11.4 dB				CF Step 6.00000000 MHz <u>Auto Man</u>
Center 5.670 0 GHz #Res BW 750 kHz #V	/BW 2.2 MHz	#Sweep 100 m	Span 60 MHz is (601 pts)	Freq Offset 0.00000000 Hz
Occupied Bandwidth 36.2586 N		:BW % Pwr xdB	99.00 % -26.00 dB	Signal Track On <u>Off</u>
Transmit Freq Error-26.872x dB Bandwidth38.628				
Copyright 2000-2010 Agilent Technolog	gies			

Page 177 of 354

8.14.3. 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 11.4 dB (including 10 dB pad and 1.4 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

Channel	Frequency (MHz)	Power (dBm)
Low	5510	13.76
Mid	5550	16.35
High	5670	15.97

Page 178 of 354

8.14.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (1)

For the band 5.5–5.7 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26–dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 11 dBm in any 1–MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

IC RSS-210 A9.2 (1)

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

Page 179 of 354

RESULTS

Bandwidth and Antenna Gain

Channel	Frequency	Min	Min	Directional
		26 dB	99%	Gain
		BW	BW	
	(MHz)	(MHz)	(MHz)	(dBi)
Low	5510	40.02	36.21	3.99
Mid	5550	40.37	36.28	3.99
High	5670	40.37	36.26	3.99

Limits

Channel	Frequency	FCC	IC	IC	Power	FCC	IC	PPSD
		Power	Power	EIRP	Limit	PPSD	PSD	Limit
		Limit	Limit	Limit		Limit	Limit	
	(MHz)	(dBm)						
Low	5510	24.00	24.00	30.00	24.00	11.00	11.00	11.00
Mid	5550	24.00	24.00	30.00	24.00	11.00	11.00	11.00
High	5670	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB) 0.00	Included in Calculations of Corr'd Power & PPSD
-------------------------	---

Output Power Results

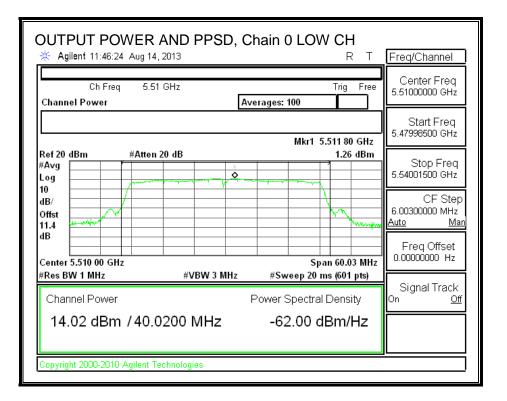
Channel	Frequency	Chain 0	Total	Power	Power
		Meas	Corr'd	Limit	Margin
		Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
Low	5510	14.02	14.02	24.00	-9.98
Mid	5550	16.60	16.60	24.00	-7.40
High	5670	16.08	16.08	24.00	-7.92

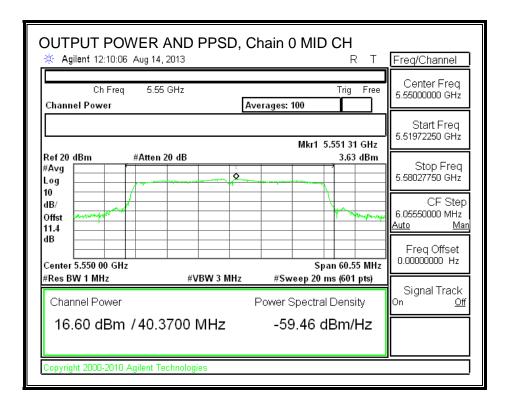
PPSD Results

Channel	Frequency	Chain 0	Total	PPSD	PPSD
		Meas	Corr'd	Limit	Margin
		PPSD	PPSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
Low	5510	1.26	1.26	11.00	-9.74
Mid	5550	3.63	3.63	11.00	-7.37
High	5670	3.20	3.20	11.00	-7.80

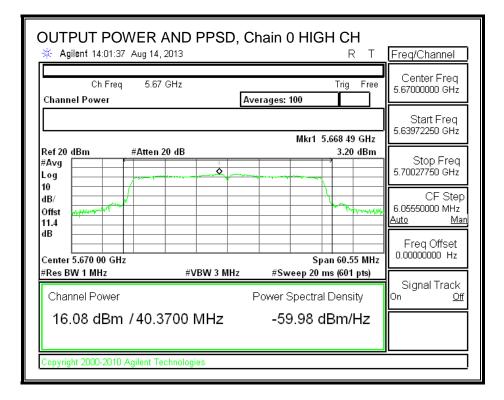
Page 180 of 354

OUTPUT POWER AND PPSD, Chain 0





Page 181 of 354



Page 182 of 354

8.14.5. PEAK EXCURSION

LIMITS

FCC §15.407 (a) (6)

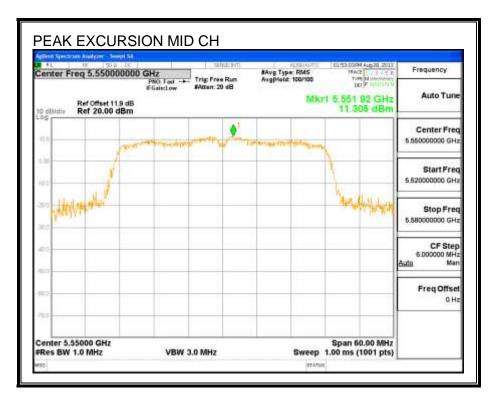
The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the peak transmit power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

RESULTS

Channel	Frequency	PK Level	PSD	DCCF	Peak Excursion	Limit	Margin
	(MHz)	(dBm)	(dBm)	(dB)	(dB)	(dB)	(dB)
Mid	5550	11.31	3.63	0.00	7.68	13	-5.33

Page 183 of 354

PEAK EXCURSION



Page 184 of 354

8.15. 802.11n HT40 2TX CDD MODE IN THE 5.6 GHz BAND

8.15.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

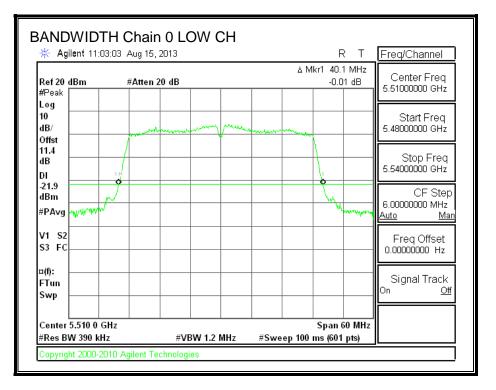
RESULTS

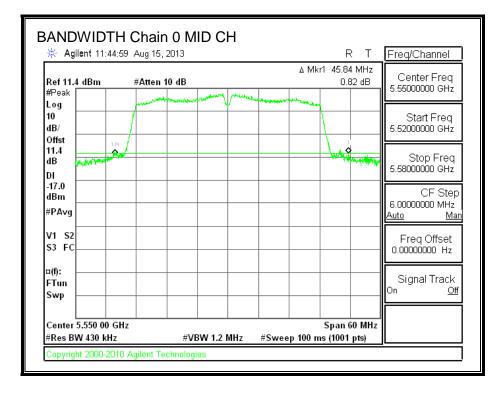
Channel	Frequency	26 dB BW	26 dB BW
		Chain 0	Chain 1
	(MHz)	(MHz)	(MHz)
Low	5510	40.10	39.50
Mid	5550	45.84	40.20
High	5670	43.86	39.90

Page 185 of 354

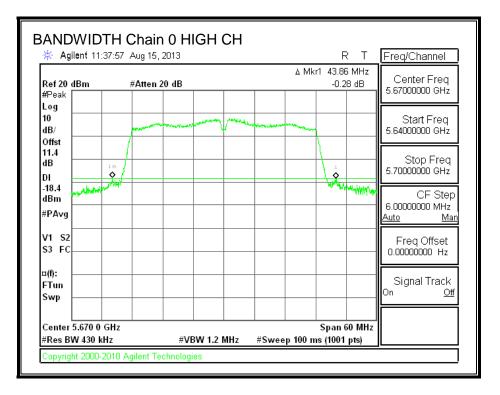
26 dB BANDWIDTH

26 dB BANDWIDTH, Chain 0

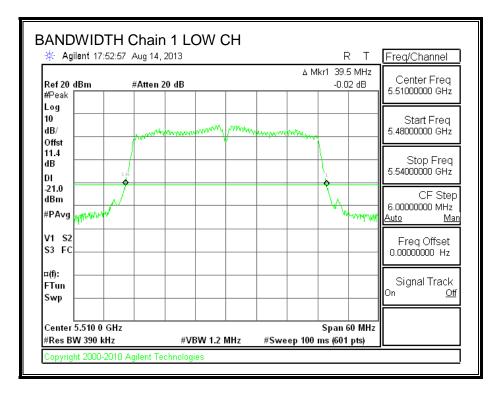




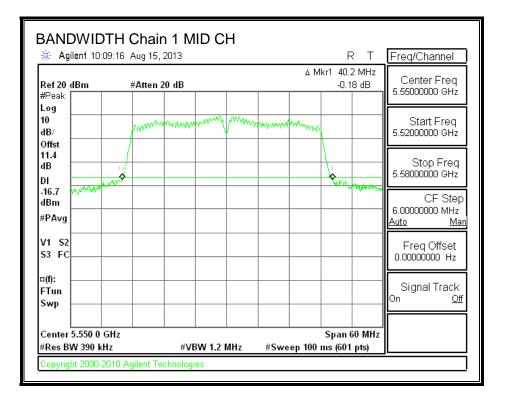
Page 186 of 354

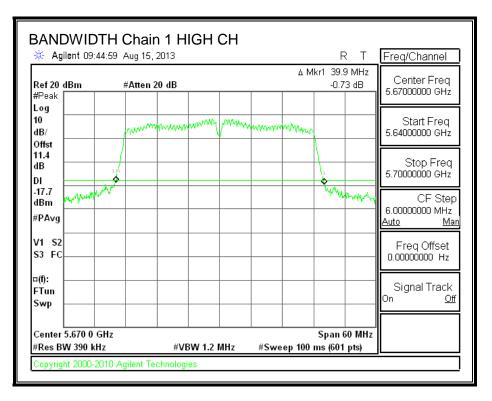


26 dB BANDWIDTH, Chain 1



Page 187 of 354





Page 188 of 354

8.15.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

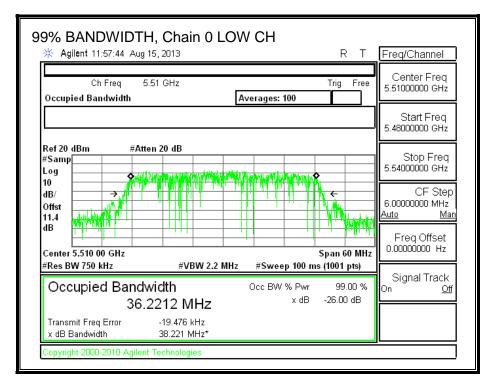
<u>RESULTS</u>

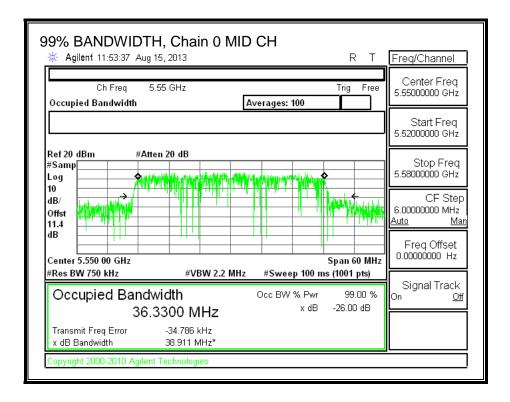
Channel	Frequency	99% BW	99% BW
		Chain 0	Chain 1
	(MHz)	(MHz)	(MHz)
Low	5510	36.2212	36.2240
Mid	5550	36.3300	36.2211
High	5670	36.2941	36.2240

Page 189 of 354

99% BANDWIDTH

99% BANDWIDTH, Chain 0

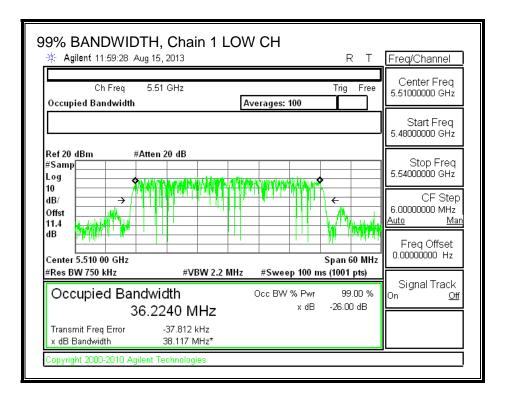




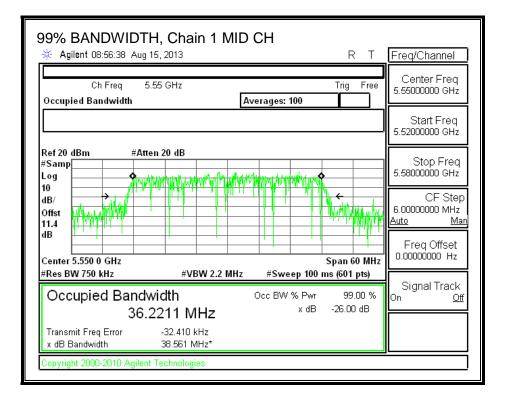
Page 190 of 354

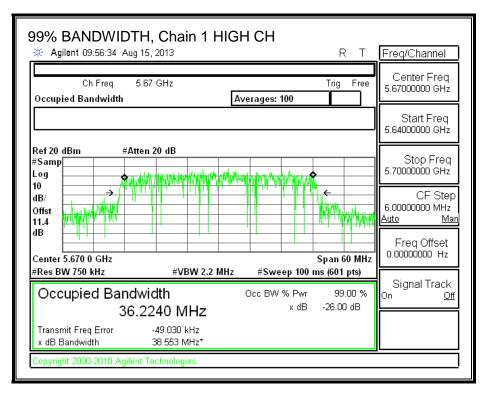
Agilent 11:55:12 Aug 15, 2013 R	T	Freq/Channel
Ch Freq 5.67 GHz Trig F Occupied Bandwidth Averages: 100	ree	Center Freq 5.67000000 GHz
		Start Freq 5.64000000 GHz
Ref 20 dBm #Atten 20 dB #Samp		Stop Freq 5.7000000 GHz
10 dB/ offst 11.4 dB/ dB/ dB/ dB/ dB/ dB/ dB/ dB/		CF Step 6.0000000 MHz <u>Auto Mar</u>
Start 5.640 00 GHz Stop 5.700 00 GI		Freq Offset 0.00000000 Hz
#Res BW 750 kHz #VBW 2.2 MHz #Sweep 100 ms (1001 pts Occupied Bandwidth Occ BW % Pwr 99.00 36.2941 MHz x dB -26.00 dB	%	Signal Track ^{On <u>Off</u>}
Transmit Freq Error -27.497 kHz x dB Bandwidth 38.378 MHz*		
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99% BANDWIDTH, Chain 1



Page 191 of 354





Page 192 of 354

8.15.3. 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 11.4 dB (including 10 dB pad and 1.4dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5510	11.79	11.78	14.80
Mid	5550	16.29	16.26	19.29
High	5670	15.22	15.25	18.25

Page 193 of 354

8.15.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (1)

For the band 5.5–5.7 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26–dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 11 dBm in any 1–MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

IC RSS-210 A9.2 (1)

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

DIRECTIONAL ANTENNA GAIN

For output power, the TX chains are uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

Chain 0	Chain 1	Uncorrelated Chains
Antenna	Antenna	Directional
Gain	Gain	Gain
(dBi)	(dBi)	(dBi)
3.66	3.99	3.83

For PPSD, the TX chains are correlated and the antenna gain is unequal among the chains. The directional gain is:

Chain 0	Chain 1	Correlated Chains				
Antenna	Antenna	Directional				
Gain	Gain	Gain				
(dBi)	(dBi)	(dBi)				
3.66	3.99	6.84				

Page 194 of 354

RESULTS

Bandwidth and Antenna Gain

Channel	Frequency	Min	Min	Uncorrelated	Correlated
		26 dB	99%	Directional	Directional
		BW	BW	Gain	Gain
	(MHz)	(MHz)	(MHz)	(dBi)	(dBi)
Low	5510	39.8	36.2	3.83	6.84
Mid	5550	40.2	36.2	3.83	6.84
High	5670	39.9	36.2	3.83	6.84

Limits

Channel	Frequency	FCC	IC	IC	Power	FCC	IC	PPSD
		Power	Power	EIRP	Limit	PPSD	PSD	Limit
		Limit	Limit	Limit		Limit	Limit	
	(MHz)	(dBm)						
Low	5510	24.00	24.00	30.00	24.00	10.16	11.00	10.16
Mid	5550	24.00	24.00	30.00	24.00	10.16	11.00	10.16
High	5670	24.00	24.00	30.00	24.00	10.16	11.00	10.16

Duty Cycle CF (dB)0.00Included in Calculations of Corr'd Power & PPSD

Output Power Results

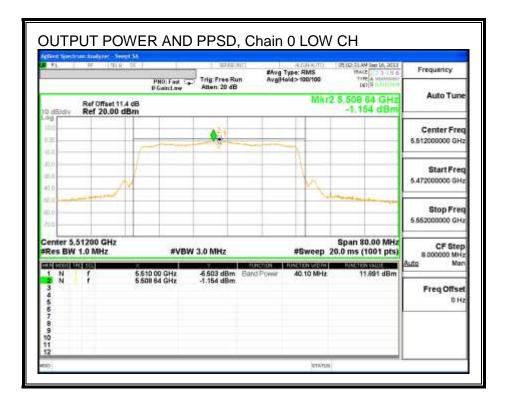
Channel	Frequency	equency Chain 0		Total	Power	Power
		Meas	Meas	Corr'd	Limit	Margi
		Devee	Daman	Device		n
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5510	11.90	12.18	15.05	24.00	-8.95
Mid	5550	16.39	16.68	19.55	24.00	-4.45
High	5670	16.43	15.49	19.00	24.00	-5.00

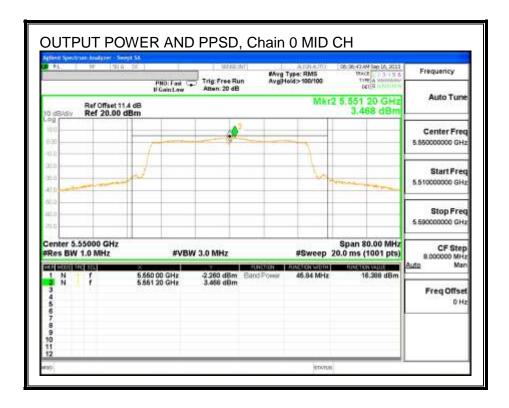
PPSD Results

Channel	Frequency	Chain 0	Chain 1	Total	PPSD	PPSD
		Meas	Meas Corr'd		Limit	Margi
				5505		n
		PPSD	PPSD	PPSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5510	-0.06	-0.24	2.86	10.16	-7.30
Mid	5550	5.20	4.39	7.82	10.16	-2.34
High	5670	3.66	3.02	6.36	10.16	-3.80

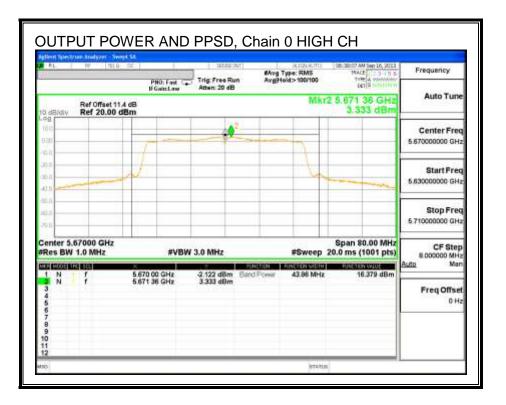
Page 195 of 354

OUTPUT POWER AND PPSD, Chain 0

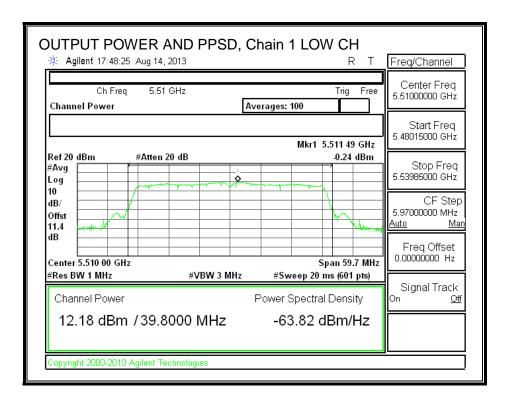




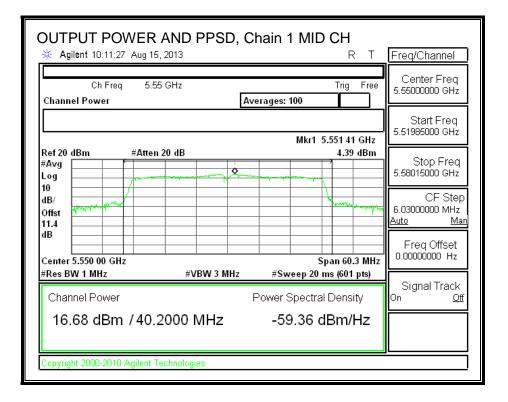
Page 196 of 354

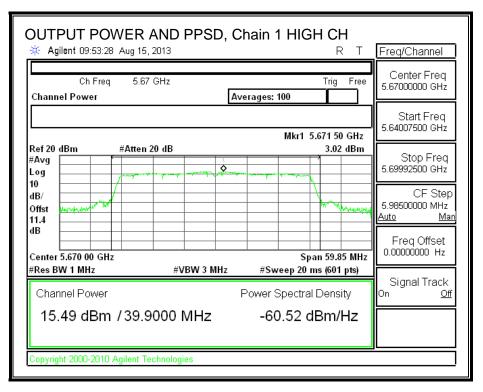


OUTPUT POWER AND PPSD, Chain 1



Page 197 of 354





Page 198 of 354

8.15.5. PEAK EXCURSION

LIMITS

FCC §15.407 (a) (6)

The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the peak transmit power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

RESULTS

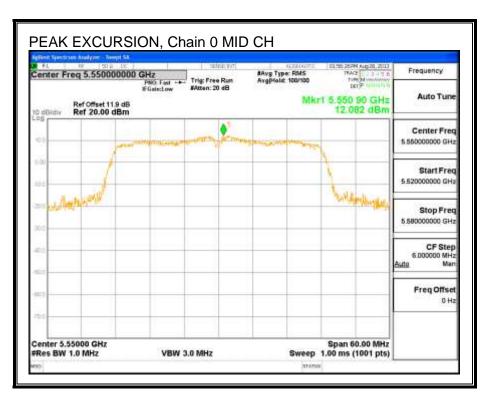
Chain 0

Channel	Frequency	PK Level	PSD	DCCF	Peak Excursion	Limit	Margin
	(MHz)	(dBm)	(dBm)	(dB)	(dB)	(dB)	(dB)
Mid	5550	12.08	5.20	0.00	6.88	13	-6.12

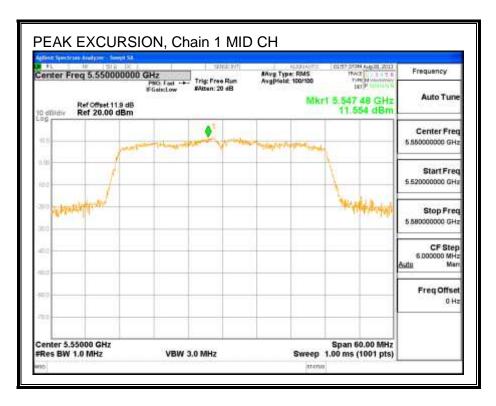
Chain 1

Channel	Frequency	requency PK Level PS		DCCF	Peak Excursion	Limit	Margin
	(MHz)	(dBm)	(dBm)	(dB)	(dB)	(dB)	(dB)
Mid	5550	11.55	4.39	0.00	7.16	13	-5.84

PEAK EXCURSION, Chain 0



PEAK EXCURSION, Chain 1



Page 200 of 354

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.

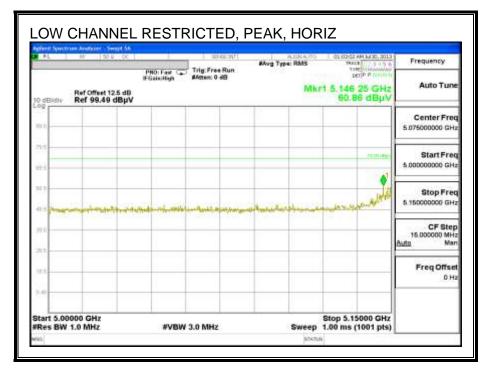
The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

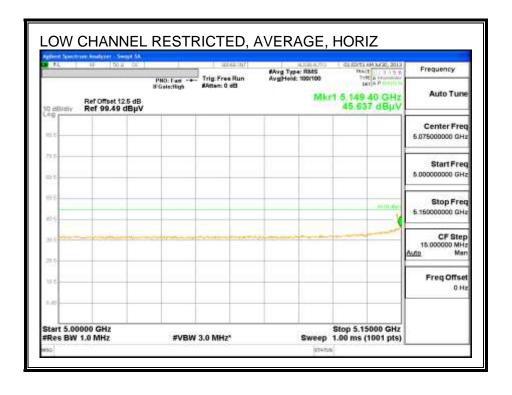
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

9.2. TRANSMITTER ABOVE 1 GHz

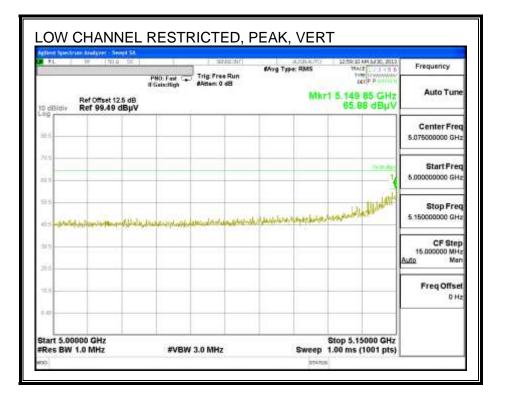
9.2.1. 802.11a SISO MODE IN THE 5.2 GHz BAND

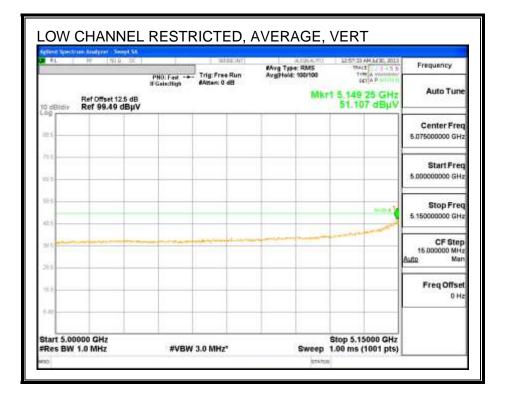
RESTRICTED BANDEDGE (LOW CHANNEL)



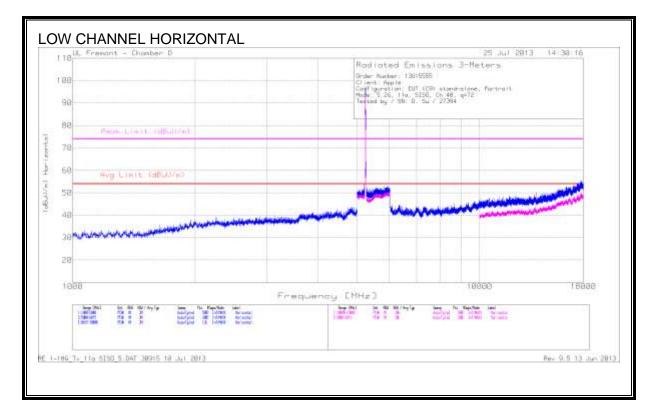


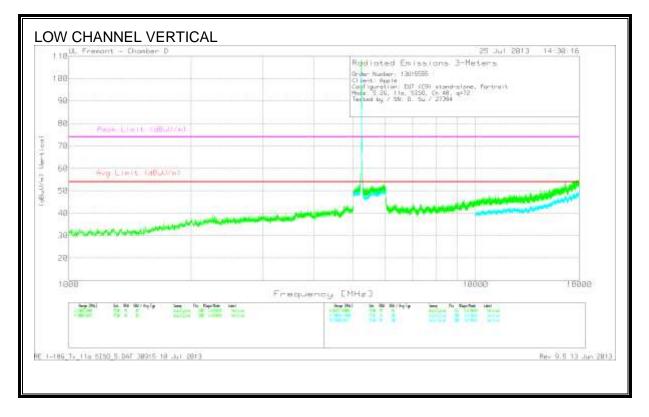
Page 202 of 354



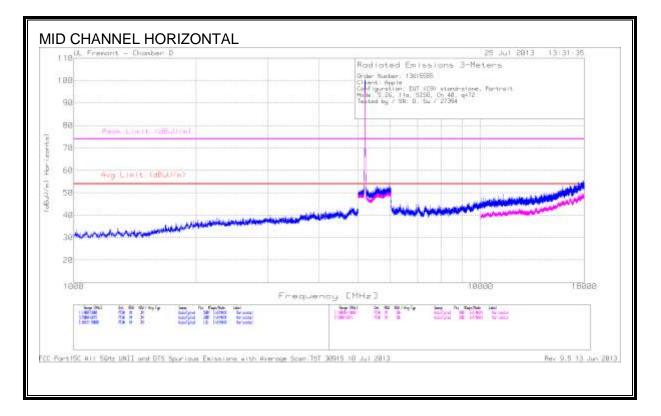


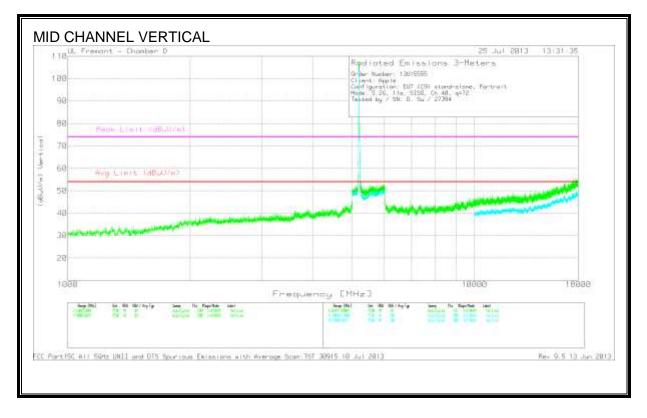
Page 203 of 354



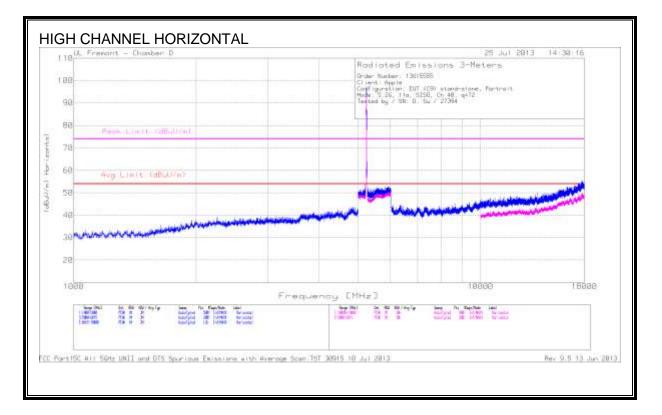


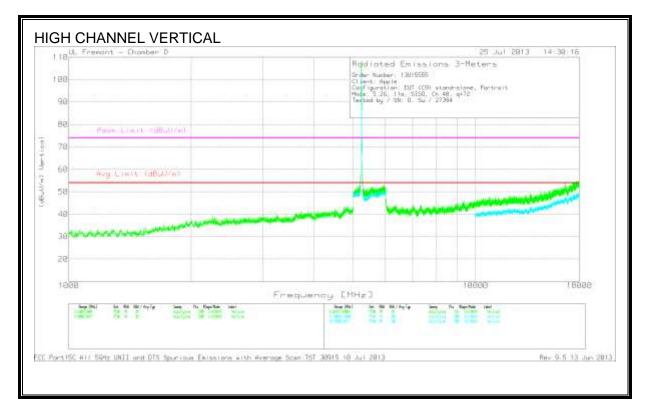
Page 204 of 354





Page 205 of 354

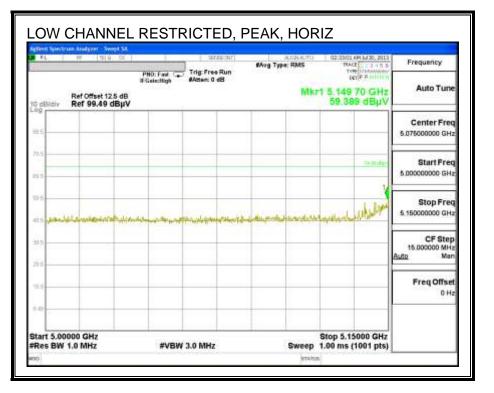


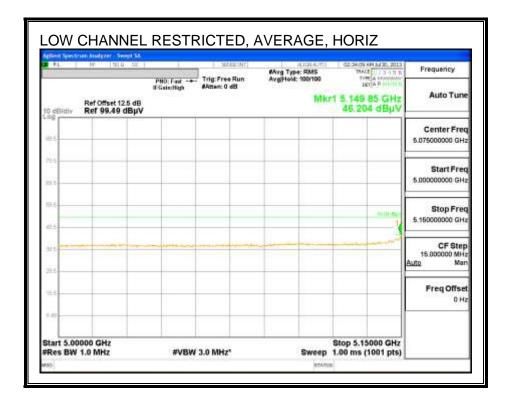


Page 206 of 354

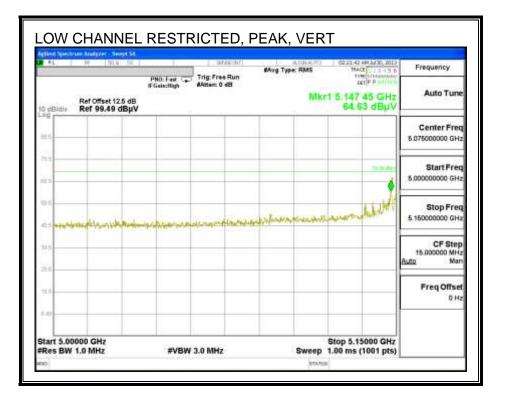
9.2.2. 802.11n HT20 2TX CDD MODE IN THE 5.2 GHz BAND

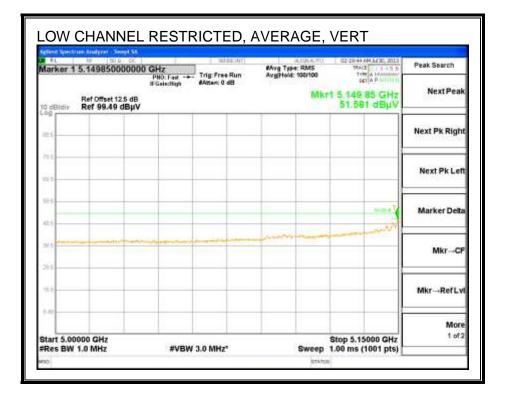
RESTRICTED BANDEDGE (LOW CHANNEL)



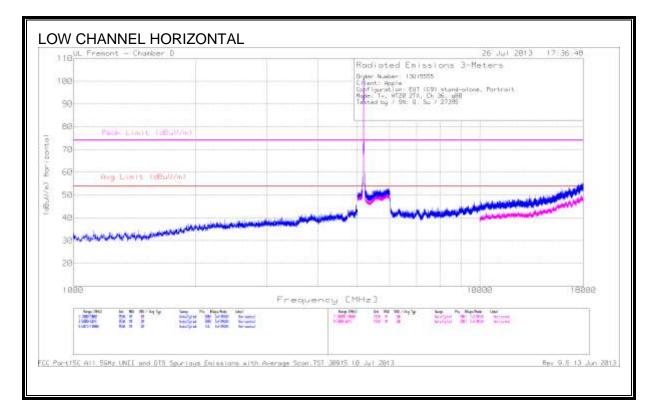


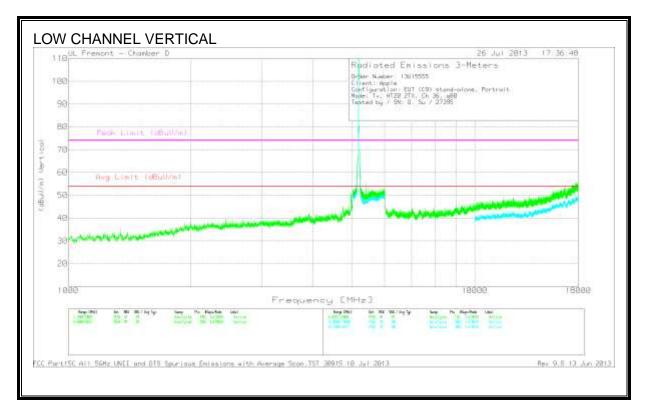
Page 207 of 354





Page 208 of 354





Page 209 of 354

<u>DATA</u>

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (db/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr [dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
4.958	47.5	РК	34.3	-30.8	0	51	-	-	74	-23	201	v
5.099	41.98	РК	34.5	-21.8	0	54.68	-	-	74	-19.32	201	V
5.396	42.91	РК	34.8	-22.1	0	55.61	-	-	74	-18.39	201	V

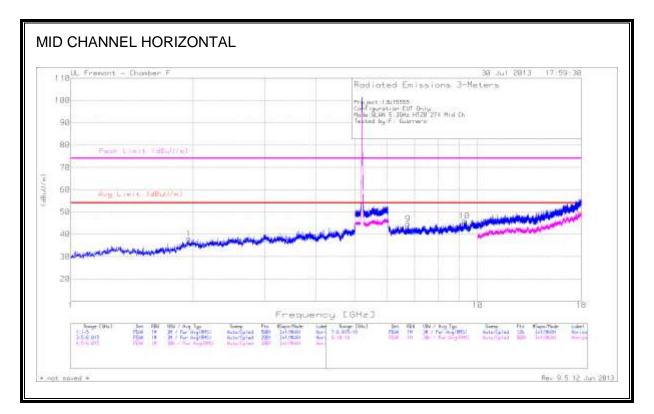
PK - Peak detector

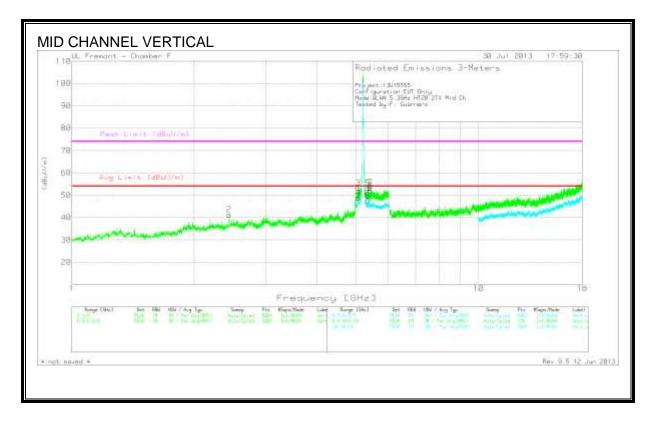
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (db/m)	Amp/Cbl /Fitr/Pad (dB)	DC Corr [dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4.961	26.33	Av	34.3	-30.8	0	29.83	53.97	-24.14	74	-44.17	293	279	V
5.099	22.92	Av	34.5	-21.8	0	35.62	53.97	-18.35	74	-38.38	300	333	V
5.396	20.14	Av	34.8	-22.1	0	32.84	53.97	-21.13	74	-41.16	296	361	V

Av - average detection

Page 210 of 354





Page 211 of 354

Marker	Frequency (GHz)	Meter Reading	Det	AF T120 (dB/m)	Amp/Cbl /Fltr/Pad (dB)	Corrected Reading	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
		(dBuV)				(dBuV/m)							
1	1.951	40.26	РК	31.4	-33.6	38.06	53.97	-15.91	74	-35.94	0-360	199	Н
2	2.436	42.47	РК	32.3	-33.4	41.37	53.97	-12.6	74	-32.63	0-360	101	V
3	5.057	41.33	РК	34.1	-22.1				74	-20.67	0-360	201	V
4	5.057	36.82	PK (VB)	34.1	-22.1	48.82	53.97	-5.15			0-360	199	V
5	5.352	40.92	РК	34.5	-22.2				74	-20.78	0-360	101	V
6	5.349	35.35	PK (VB)	34.5	-22.2	47.65	53.97	-6.32			0-360	100	V
7	5.419	40.82	РК	34.6	-22				74	-20.58	0-360	201	V
8	5.416	39.33	PK (VB)	34.6	-22	51.93	53.97	-2.04			0-360	199	V
9	6.748	38.78	РК	35.8	-29.9	44.68	53.97	-9.29	74	-29.32	0-360	100	н
10	9.287	35.52	РК	36.7	-26.2	46.02	53.97	-7.95	74	-27.98	0-360	100	н

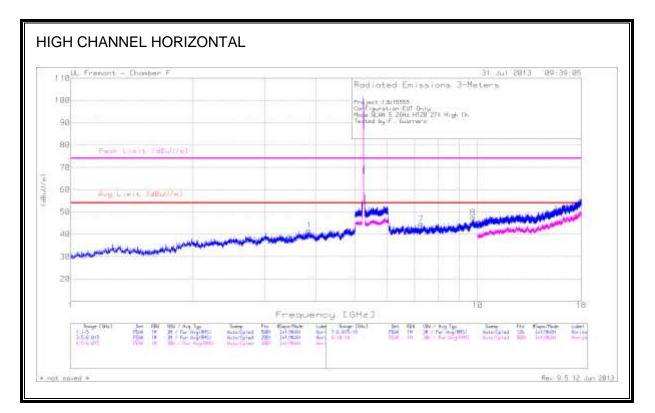
Notes: PK: Peak detector

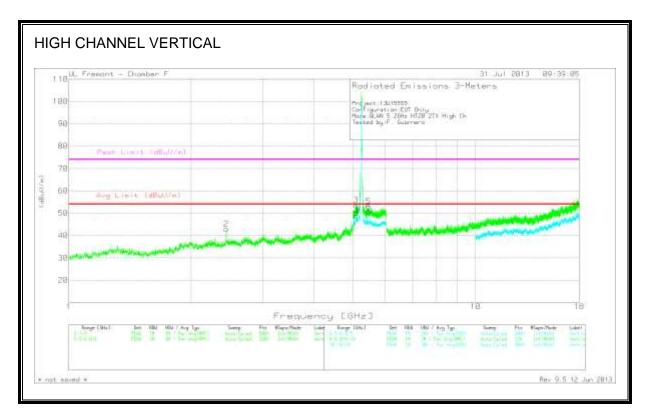
Radiated Emissions

Frequency	Meter	Det	AF T120	Amp/Cbl/	Corrected	Avg Limit	Margin	Peak Limit	Margin	Azimuth	Height	Polarity
			(dB/m)	Fltr/Pad		(dBuV/m)	(dB)	(dBuV/m)	(dB)			
(GHz)	Reading			(dB)	Reading					(Degs)	(cm)	
	(dBuV)				(dBuV/m)							
5.417	34.61	Av	34.6	-22	47.21	53.97	-6.76	74	-26.79	10	218	V

Av - Average detection

Page 212 of 354





Page 213 of 354

Marker	Frequency	Meter	Det	AF T120 (dB/m)	Amp/Cbl /Fltr/Pad	Corrected	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit	Margin (dB)	Azimuth	Height	Polarity
	(GHz)	Reading			(dB)	Reading			(dBuV/m)		(Degs)	(cm)	
		(dBuV)				(dBuV/m)							
1	3.853	40.08	РК	33.5	-31.8	41.78	53.97	-12.19	74	-32.22	0-360	98	Н
2	2.441	44.08	РК	32.3	-33.4	42.98	53.97	-10.99	74	-31.02	0-360	101	V
3	5.086	41.3	РК	34.1	-21.8				74	-20.4	0-360	199	V
4	5.087	36.35	PK (VB)	34.1	-21.8	48.65	53.97	-5.32			0-360	199	V
5	5.456	40.14	РК	34.7	-21.8				74	-20.96	0-360	199	V
6	5.458	37.94	PK (VB)	34.7	-21.8	50.84	53.97	-3.13			0-360	199	V
7	7.267	38.12	РК	35.7	-29.1	44.72	53.97	-9.25	74	-29.28	0-360	199	Н
8	9.748	35.83	РК	37.4	-25.7	47.53	53.97	-6.44	74	-26.47	0-360	100	н

Notes: PK: Peak detector

Frequency	Meter	Det	AF T120	Amp/Cbl/	Corrected	Avg Limit	Margin	Peak Limit	Margin	Azimuth	Height	Polarity
(GHz)	Reading		(dB/m)	Fltr/Pad (dB)	Reading	(dBuV/m)	(dB)	(dBuV/m)	(dB)	(Degs)	(cm)	
	(dBuV)				(dBuV/m)							
5.458	33.86	RMS	34.7	-21.8	46.76	53.97	-7.21	74	-27.24	4	363	V

RMS - RMS detection

Page 214 of 354

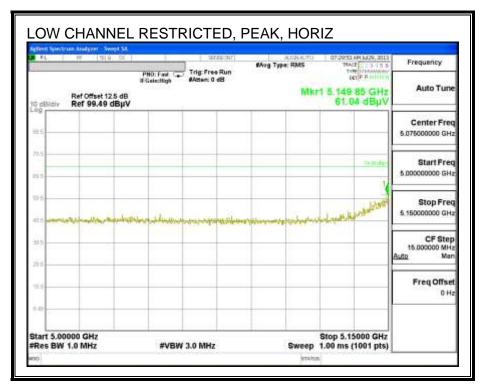
9.2.3. 802.11n HT20 2TX STBC MODE IN THE 5.2 GHz BAND

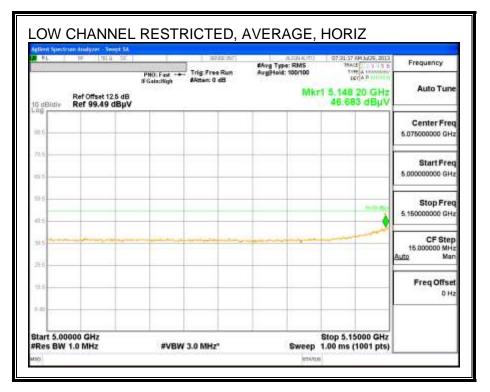
Covered by testing 11n HT20 CDD 2TX, total power across the two chains is higher than the power level the device will operate at.

Page 215 of 354

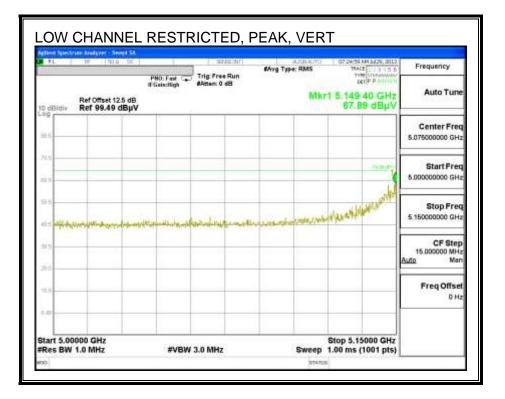
9.2.4. 802.11n HT40 SISO MODE IN THE 5.2 GHz BAND

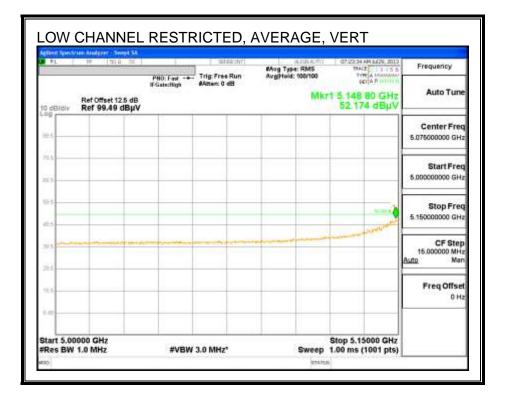
RESTRICTED BANDEDGE (LOW CHANNEL)



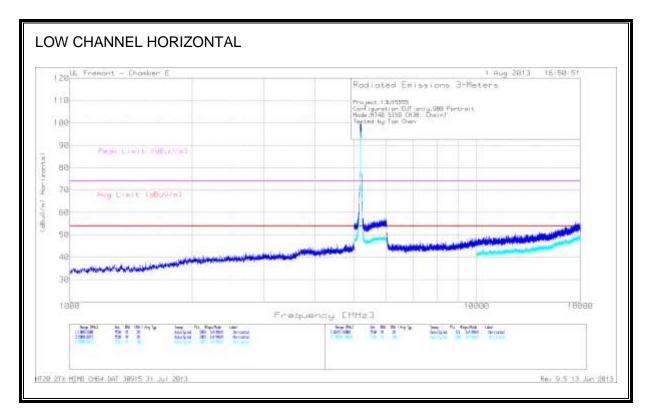


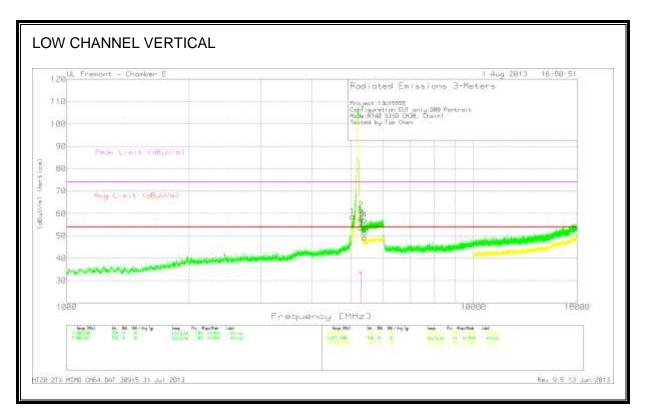
Page 216 of 354





Page 217 of 354





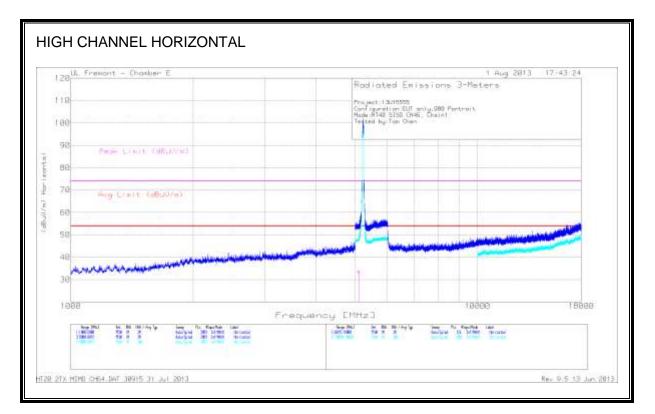
Page 218 of 354

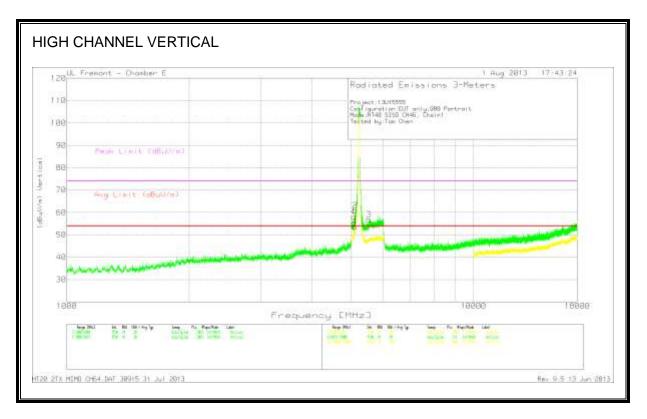
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl /10dB Pad (dB)	DC Corr [dB]	Correcte d Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
1	5.047	46.39	РК	34.5	-22.2	0	58.69			74	-15.31	100	v
	5.047	35.30	Av	34.5	-22.2	0	47.60	54	-6.40			100	V
*2	5.281	48.59	РК	34.7	-21.9	0	61.39	-	-	68.2	-6.8	200	v
*3	5.307	45.22	РК	34.7	-21.9	0	58.02	-	-	68.2	-10.2	100	v
4	5.396	44.39	РК	34.8	-22.1	0	57.09	-	-	74	-16.91	100	V
*5	5.285	40.78	PK (VB)	34.7	-21.9	0	53.58					100	V
6	5.394	36.42	PK (VB)	34.8	-22.1	0	49.12	54	-4.88			199	V

Notes: * : Not in Restricted Band

PK: Peak detector

Page 219 of 354





Page 220 of 354

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl /10dB Pad (dB)	DC Corr [dB]	Correcte d Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
1	5.081	45.43	РК	34.5	-21.9	0	58.03			74	-15.97	199	V
	5.081	34.33	Av	34.5	-21.9	0	46.87	54	-7.13			199	V
2	5.104	48.17	РК	34.5	-21.8	0	60.87			74	-13.13	100	V
*3	5.528	43.33	РК	34.9	-21.4	0	56.83	-	-	68.2	-11.37	199	V
4	5.104	40.82	PK (VB)	34.5	-21.8	0	53.52	54	-0.48			200	V

Notes: * : Not in Restricted Band

PK: Peak detector

Radiated Emissions

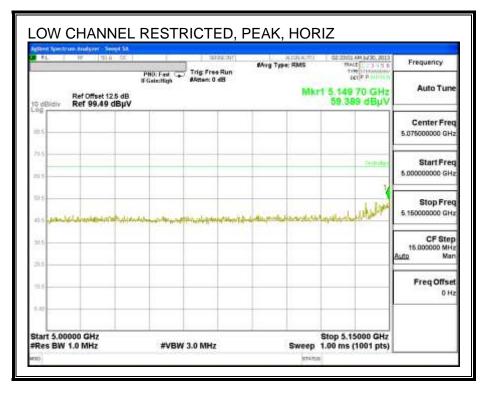
Frequency	Meter	Det	AF T346	Amp/Cbl	DC Corr	Correcte	Avg	Margin	Peak	Margin	Azimuth	Height	Polarity
			(dB/m)	/10dB	[dB]	d	Limit	(dB)	Limit	(dB)	(Degs)	(cm)	
(GHz)	Reading			Pad			(dBuV/m		(dBuV/m				
. ,	, in the second se			(dB)		Reading))				
	(dBuV)												
						(dBuV/m							
)							
5.104	20.72	Av	34.5	-21.8	.1	33.52	53.97	-20.45			195	303	V

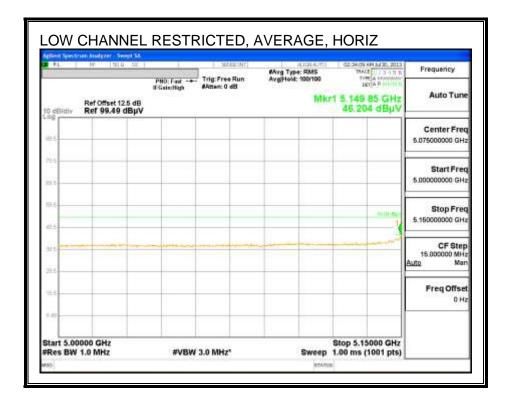
Av - average detection

Page 221 of 354

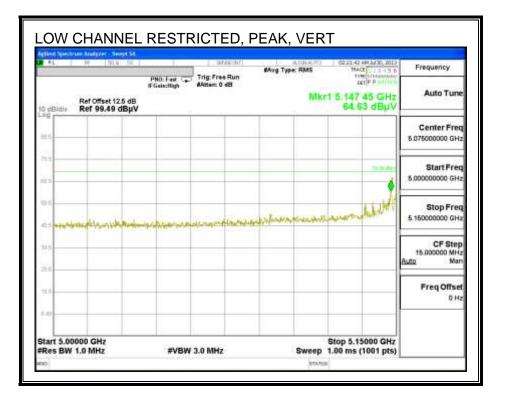
9.2.5. 802.11n HT40 2TX CDD MODE IN THE 5.2 GHz BAND

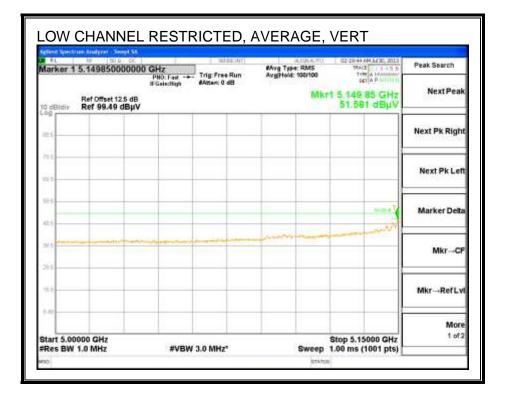
RESTRICTED BANDEDGE (LOW CHANNEL)



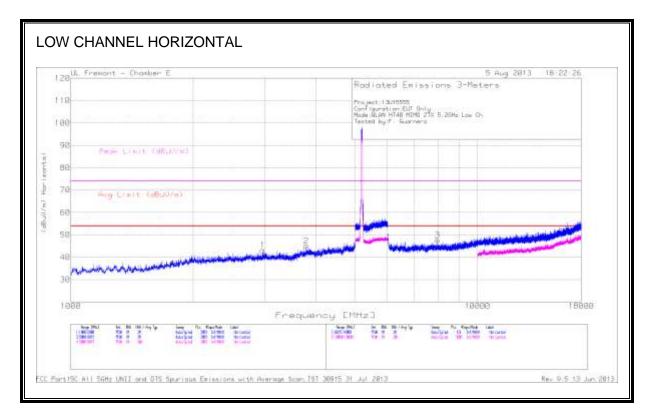


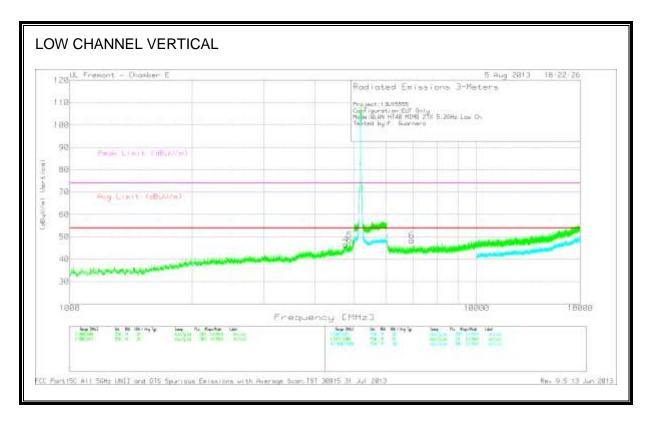
Page 222 of 354





Page 223 of 354





Page 224 of 354

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl 5GHz LPF dB	DC Corr [dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
1	2.964	42.63	РК	33.2	-32.7	0	43.13	53.97	-10.84	74	-30.87	100	н
2	3.796	43.86	РК	33.7	-32.5	0	45.06	53.97	-8.91	74	-28.94	199	н
3	7.966	39.67	РК	36.2	-28.2	0	47.67	53.97	-6.3	74	-26.33	199	Н

PK - Peak detector

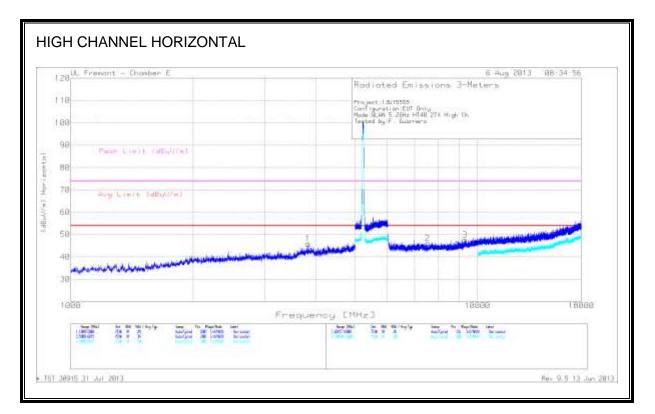
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl /6GHz HPF (dB)	DC Corr [dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
4	4.769	42.94	РК	34.4	-30.7	0	46.64	53.97	-7.33	74	-27.36	100	V
5	4.872	45.04	РК	34.4	-30.9	0	48.54	53.97	-5.43	74	-25.46	100	V
*6	6.921	42	РК	35.9	-29.5	0	48.4			68.2	-19.8	100	V

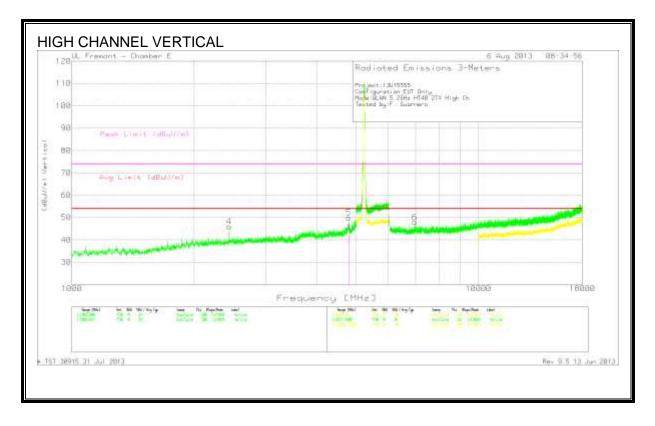
Notes: *: Not in Restricted Band

PK - Peak detector

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Page 225 of 354





Page 226 of 354

REPORT NO: 13U15555-8 FCC ID: BCGA1475

<u>DATA</u>

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl 5GHz LPF dB	DC Corr [dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/ m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
1	3.833	44.28	РК	33.7	-32	0	45.98	53.97	-7.99	74	-28.02	199	н
2	7.542	39.05	РК	36.1	-29	0	46.15	53.97	-7.82	74	-27.85	100	Н
3	9.31	36.6	РК	37.2	-26.1	0	47.7	53.97	-6.27	74	-26.3	199	н

PK - Peak detector

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl /6GHz HPF (dB)	DC Corr [dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/ m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
4	2.438	46.81	РК	32.6	-33.4	0	46.01	53.97	-7.96	74	-27.99	199	V
5	4.795	46.39	РК	34.4	-30.8	0	49.99	53.97	-3.98	74	-24.01	100	V
6	6.974	41.05	РК	36	-29.1	0	47.95	53.97	-6.02	74	-26.05	100	V

PK - Peak detector

Radiated Emissions

Frequen cy	Meter Reading	Det	AF T346 (dB/m)	Amp/Cbl 5GHz LPF dB	DC Corr [dB]	Correcte d	Avg Limit (dBuV/m	Margin (dB)	Peak Limit (dBuV/m	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
(GHz)	(dBuV)					Reading (dBuV/m)))				
4.794	42.96	RMS	34.4	-30.8	.1	46.66	53.97	-7.31	74	-27.34	210	218	V

RMS - RMS detection

Page 227 of 354

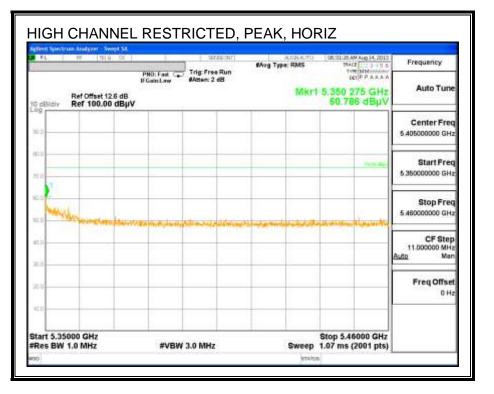
9.2.6. 802.11n HT40 2TX STBC MODE IN THE 5.2 GHz BAND

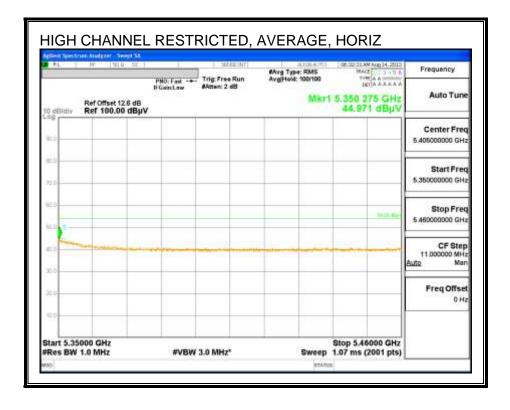
Covered by testing 11n HT40 CDD 2TX, total power across the two chains is higher than the power level the device will operate at.

Page 228 of 354

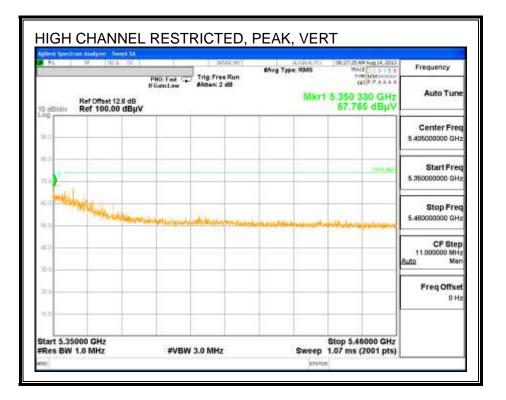
9.2.7. 802.11a SISO MODE IN THE 5.3 GHz BAND

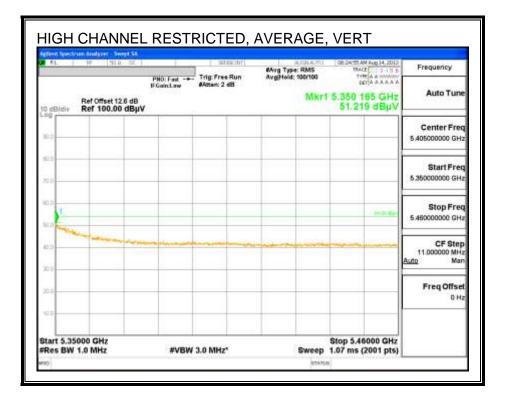
RESTRICTED BANDEDGE (HIGH CHANNEL)



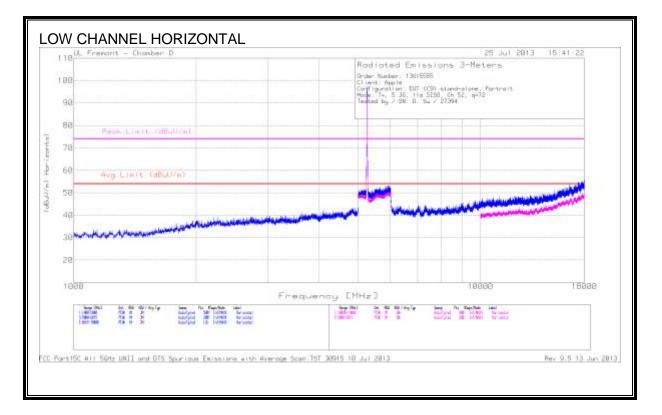


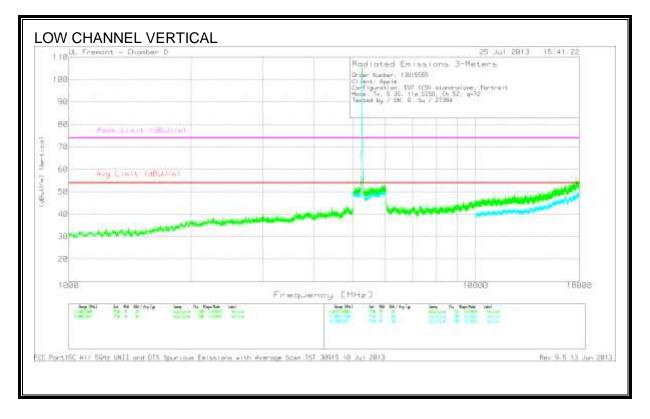
Page 229 of 354





Page 230 of 354





Page 231 of 354

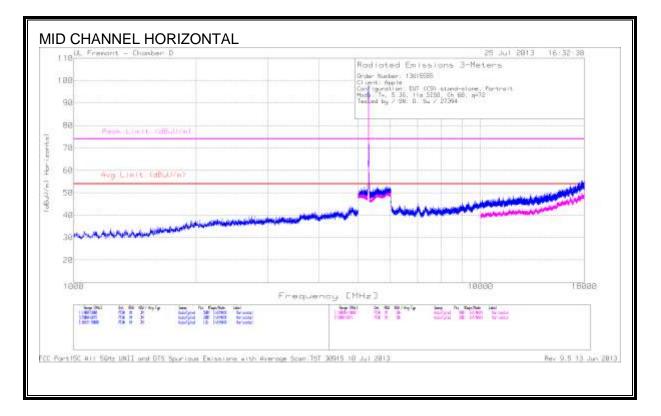
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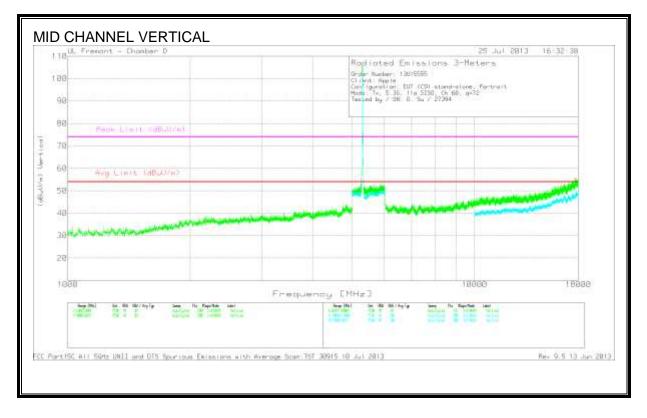
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (db/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr [dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
*5.889	39.15	РК	35.5	-21	0	53.65	-	-	68.2	-14.55	100	V

Notes: * : Not in Restricted Band

PK - Peak detector

Page 232 of 354





Page 233 of 354

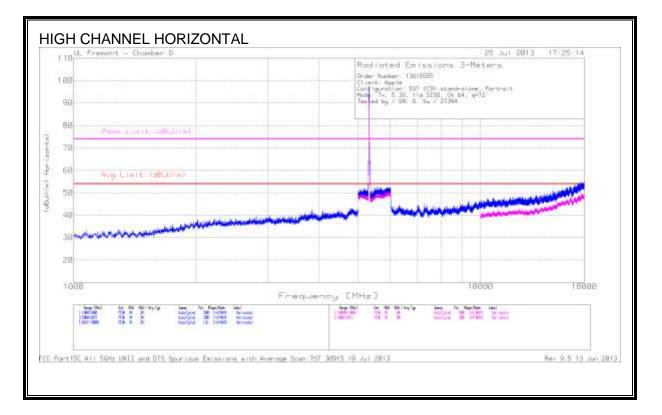
DATA

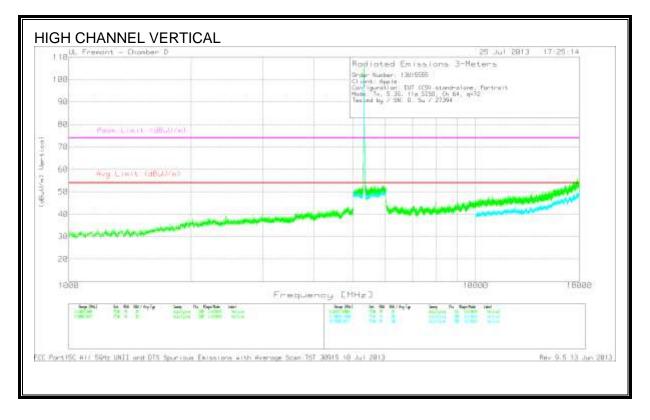
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (db/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr [dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
*5.929	39.4	РК	35.6	-21	0	54	-	-	68.2	-14.2	201	V

Notes: * : Not in Restricted Band

PK - Peak detector

Page 234 of 354





Page 235 of 354

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Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (db/m)	Amp/Cbl/ Fitr/Pad (dB)	DC Corr [dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
*5.678	39.67	РК	35.2	-21.6	0	53.27	-	-	68.2	-14.93	100	v

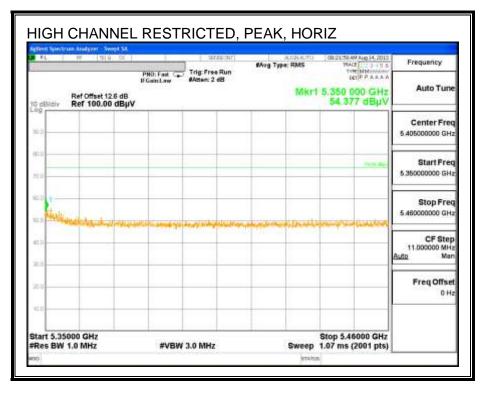
Notes: * : Not in Restricted Band

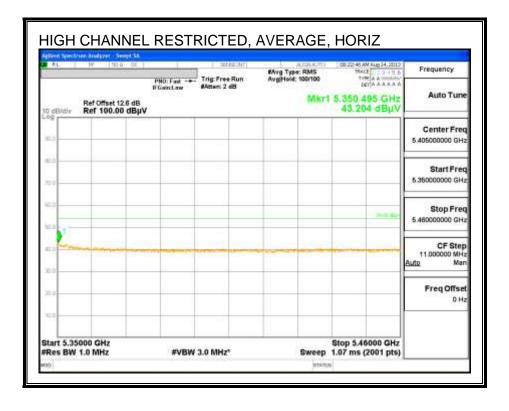
PK - Peak detector

Page 236 of 354

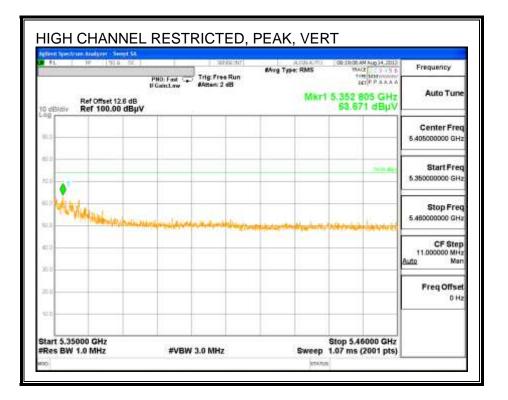
9.2.8. 802.11n HT20 2TX CDD MODE IN THE 5.3 GHz BAND

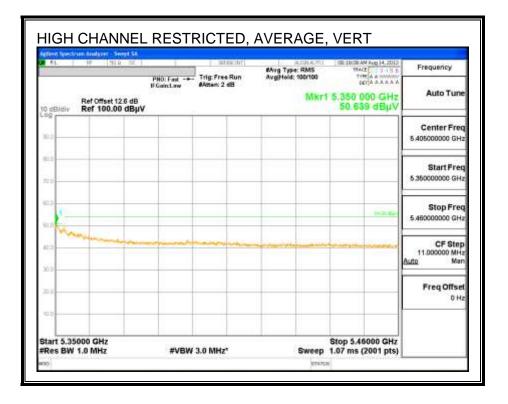
RESTRICTED BANDEDGE (HIGH CHANNEL)



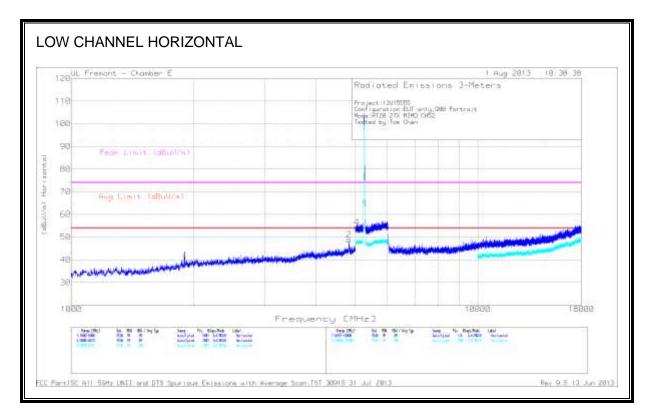


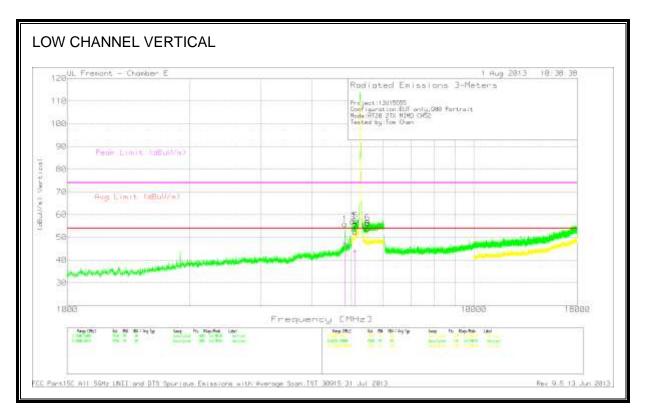
Page 237 of 354





Page 238 of 354





Page 239 of 354

DATA

Marker	Frequency (GHz)	Meter Reading	Det	AF T346 (dB/m)	Amp/Cbl/1 OdB Pad (dB)	DC Corr [dB]	Corrected Reading	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
		(dBuV)					(dBuV/m)						
2	4.822	45.05	РК	34.4	-30.7	0	48.75	54	-5.25	74	-25.25	199	н
1	4.822	52.1	РК	34.4	-30.7	0	55.8			74	-18.2	200	v
4	5.041	42.13	РК	34.4	-22.2	0	54.33			74	-19.67	199	Н
	5.041	31.03	Av	34.4	-22.2	0	43.23	54	-10.77			199	Н
3	5.041	44.79	РК	34.4	-22.2	0	56.99			74	-17.01	199	V
	5.041	35.09	Av	34.4	-22.2	0	47.29	54	-6.71			199	V
5	5.111	44.72	РК	34.5	-21.8	0	57.42			74	-16.58	100	V
*6	5.479	43.37	РК	34.8	-21.7	0	56.47			68.2	-11.73	100	v
7	5.111	39.7	PK (VB)	34.5	-21.8	0	52.4	54	-1.60			199	V

Note: * : Not in restricted band

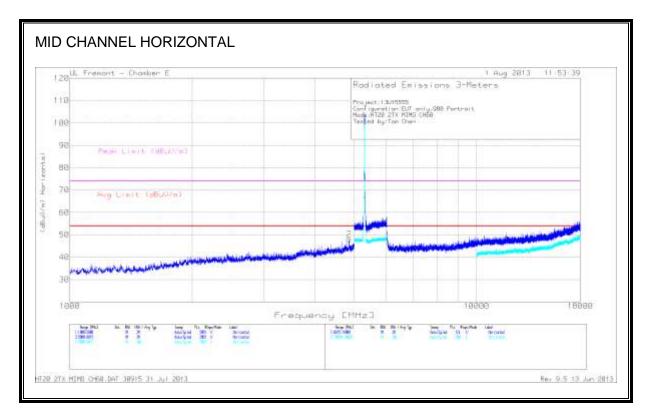
PK: Peak detector

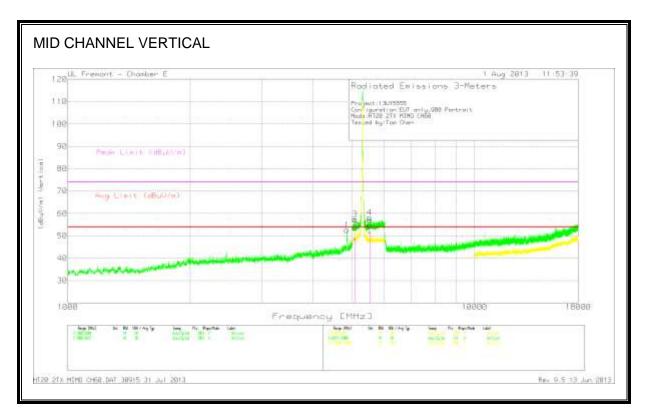
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl 5GHz LPF dB	DC Corr [dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4.822	43.52	Av	34.4	-30.7	.1	47.32	53.97	-6.65			202	335	V
5.105	31.12	Av	34.5	-21.8	.1	43.92	53.97	-10.05			239	367	V

Av - average detection

Page 240 of 354





Page 241 of 354

Marker	Frequency (GHz)	Meter Readi ng (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl 5GHz LPF dB	DC Corr [dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
2	4.859	44.73	РК	34.4	-31.1	0	48.03	54	-5.97	74	-25.97	335	н
1	4.852	49.32	РК	34.4	-31.1	0	52.62	54	-1.38	74	-21.38	200	V

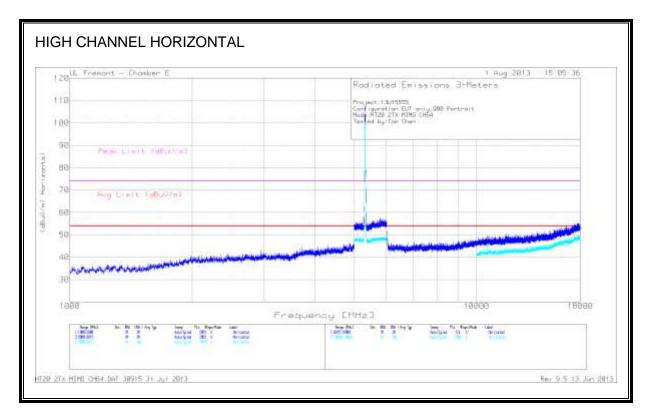
Marker	Frequency (GHz)	Meter Readi ng (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl /10dB Pad (dB)	DC Corr [dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
3	5.079	44.68	РК	34.5	-21.9	0	57.28	-	-	74	-16.72	100	V
*4	5.522	44.74	РК	34.9	-21.5	0	58.14	-	-	68.2	-15.86	199	V
5	5.079	41.21	PK (VB)	34.5	-21.9	0	53.81	54	-0.19			199	V
*6	5.521	41.37	PK (VB)	34.9	-21.5	0	54.77		-			100	V

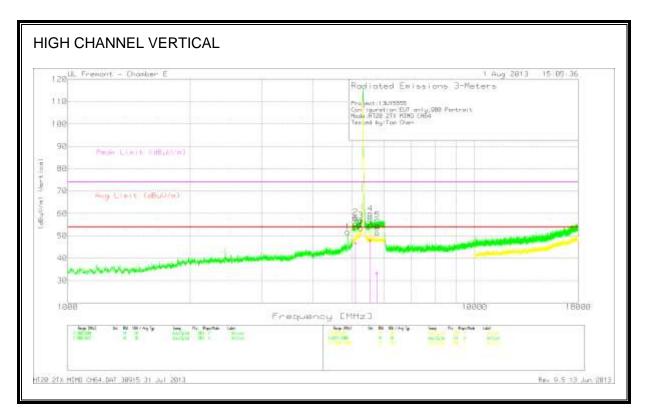
Notes: * : Not in Restricted Band

PK: Peak detector

Frequen cy (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl /10dB Pad (dB)	DC Corr [dB]	Correcte d Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5.079	36.04	Av	34.5	-21.9	.1	48.74	53.97	-5.23	74	-25.26	235	146	V

Av - average detection





Page 243 of 354

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl /10dB Pad (dB)	DC Corr [dB]	Correcte d Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
1	4.877	48.28	РК	34.4	-31	0	51.68	54	-2.32	74	-22.32	100	V
2	5.098	45.57	РК	34.5	-21.8	0	58.27			74	-15.73	100	V
*3	5.248	43.82	РК	34.7	-21.6	0	56.92			68.2	-11.25	199	V
*4	5.543	46.32	РК	34.9	-21.3	0	59.92			68.2	-8.28	100	V
*5	5.763	43.4	РК	35.4	-21.7	0	57.1			68.2	-11.1	199	V
6	5.098	42.69	РК	34.5	-21.8	0	55.39			74	-18.61	100	V
*7	5.244	40.25	РК	34.7	-21.5	0	53.45			68.2	-14.75	100	V
*8	5.542	41.65	РК	34.9	-21.4	0	55.15			68.2	-13.05	199	V
*9	5.764	37.62	РК	35.4	-21.7	0	51.32			68.2	-16.88	199	V

Notes: * : Not in Restricted Band

PK: Peak detector

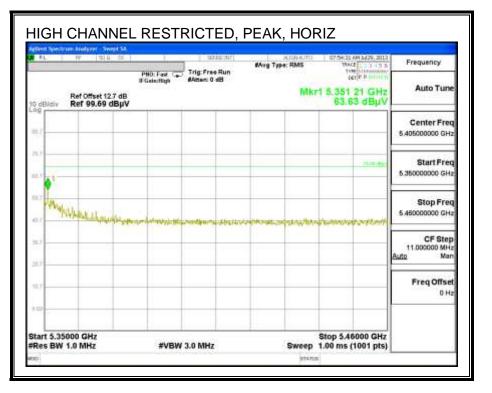
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl /10dB Pad (dB)	DC Corr [dB]	Correcte d Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5.097	33.89	Av	34.5	-21.8	.1	46.69	53.97	-7.28			191	170	v

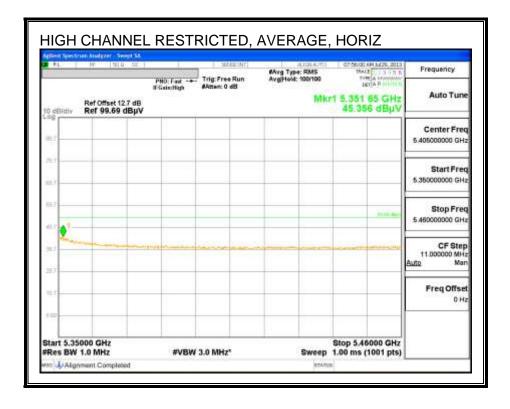
Av - average detection

Page 244 of 354

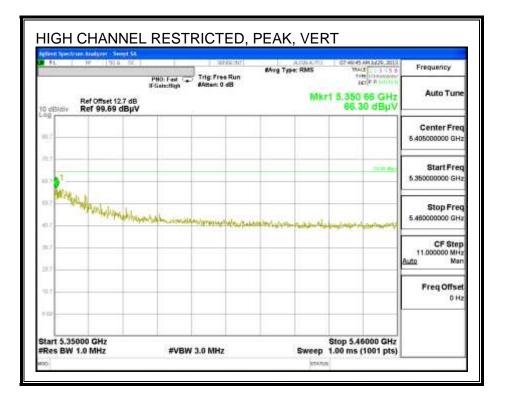
9.2.9. 802.11n HT40 SISO MODE IN THE 5.3 GHz BAND

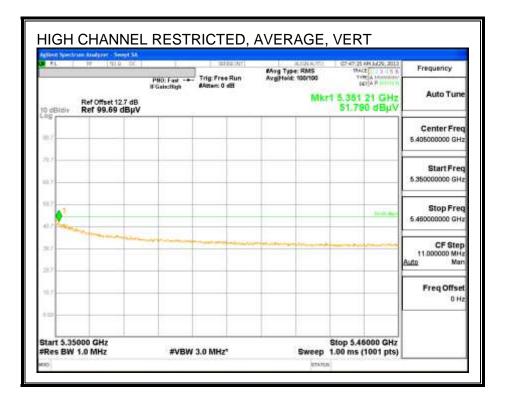
RESTRICTED BANDEDGE (HIGH CHANNEL)



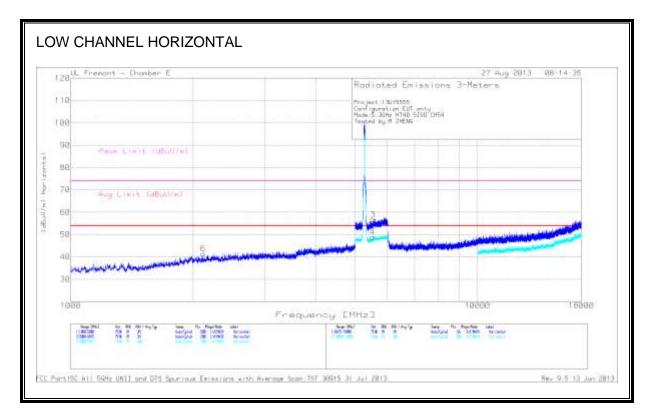


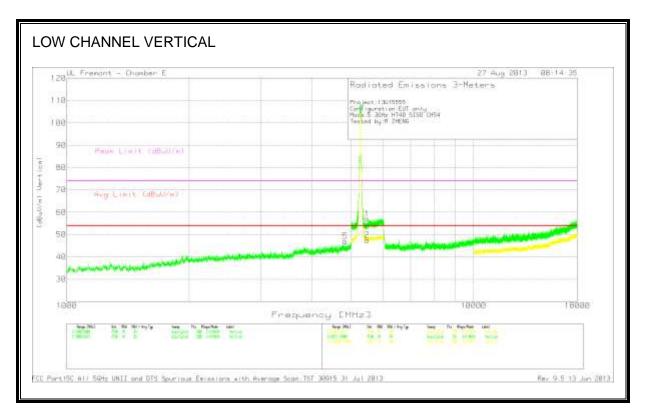
Page 245 of 354





Page 246 of 354





Page 247 of 354

Marker	Frequenc Y (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl /5GHz LPF	DC Corr [dB]	Correcte d Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
*6	2.116	43.14	РК	32.2	-33.9	0	41.44			68.2	-26.76	99	н
5	4.831	42.94	РК	34.4	-30.4	0	46.94	54	-7.06	74	-27.06	200	V

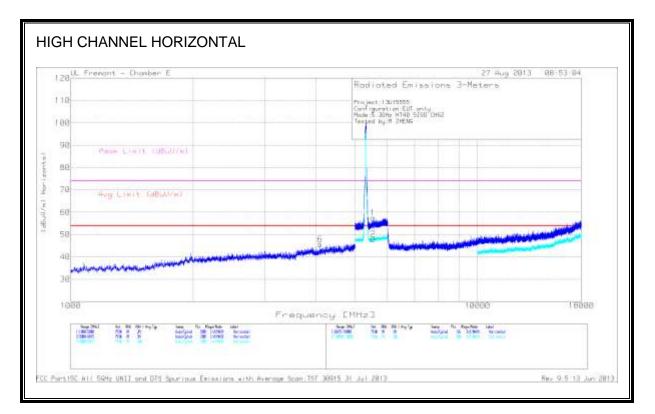
Marker	Frequenc Y (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl /10dB Pad	DC Corr [dB]	Correcte d Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
*3	5.526	42.72	РК	34.9	-21	0	56.62			68.2	-11.94	100	н
*4	5.525	35.01	PK (VB)	34.9	-21	0	48.91			68.2	-19.29	200	н
*1	5.477	43.45	Pk	34.8	-21.2	0	57.05			68.2	-11.15	199	V
*2	5.476	33.94	Pk (VB)	34.8	-21.2	0	47.54			68.2	-20.66	100	v

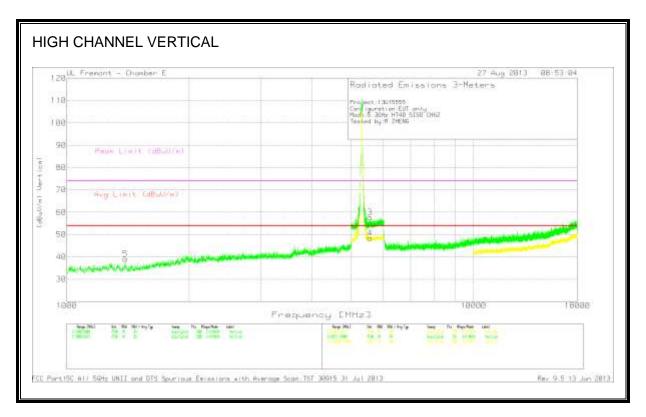
Notes: * : Not in Restricted Band

PK: Peak detector

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Page 248 of 354





Page 249 of 354

Marker	Frequenc Y (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl /5GHz LPF	DC Corr [dB]	Correcte d Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
6	4.102	42.5	РК	33.9	-30.8	0	45.6	54	-8.4	74	-28.4	199	н
5	1.394	44.29	РК	29	-34.2	0	39.09	54	-14.91	74	-34.91	200	V

Marker	Frequenc Y (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl /10dB Pad	DC Corr [dB]	Correcte d Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
*1	5.537	43.56	РК	34.9	-21	0	57.46	-	-	68.2	-10.74	100	н
*2	5.539	34.13	PK (VB)	34.9	-21	0	48.03	-	-	68.2	-20.17	100	н
*3	5.564	43.58	РК	35	-20.9	0	57.68	-	-	68.2	-10.52	199	V
*4	5.564	34.26	PK (VB)	35	-20.9	0	48.36	-	-	68.2	-19.84	200	v

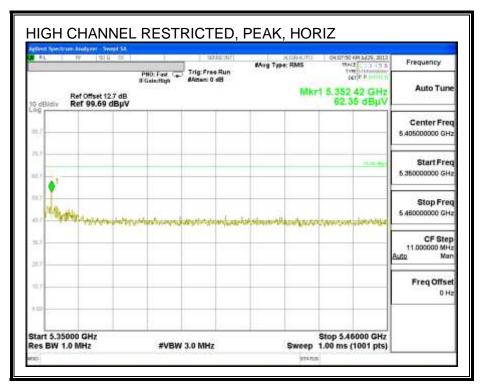
Notes: * : Not in Restricted Band

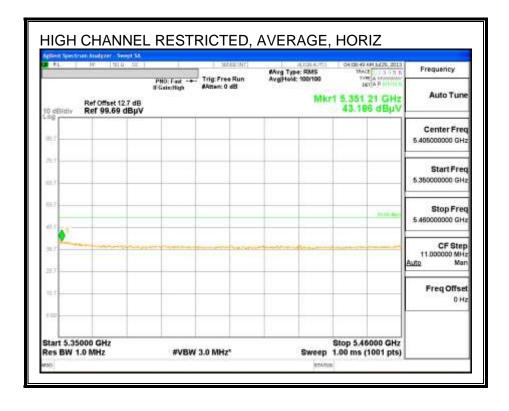
PK: Peak detector

Page 250 of 354

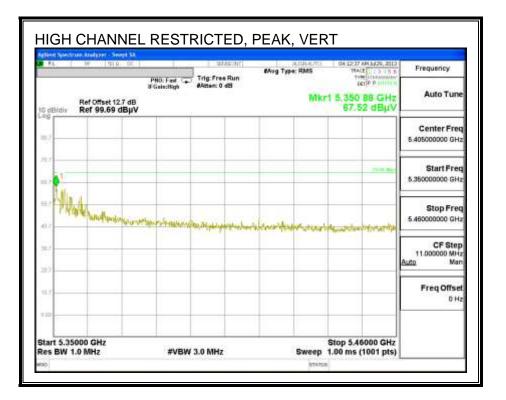
9.2.10. 802.11n HT40 2TX CDD MODE IN THE 5.3 GHz BAND

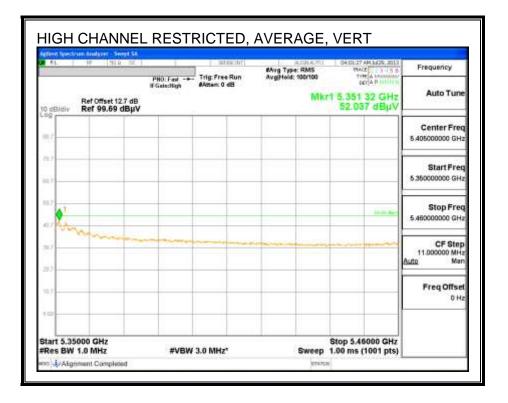
RESTRICTED BANDEDGE (HIGH CHANNEL)



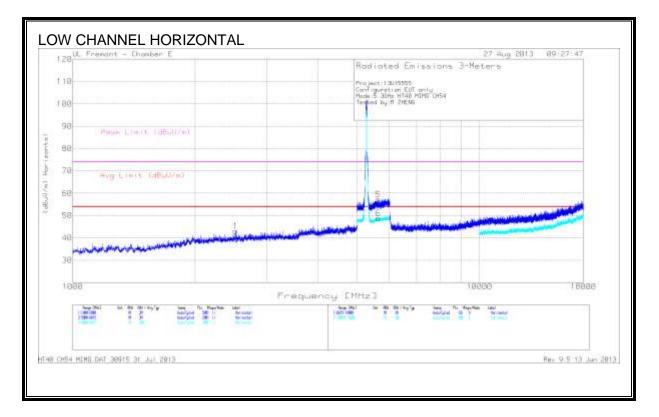


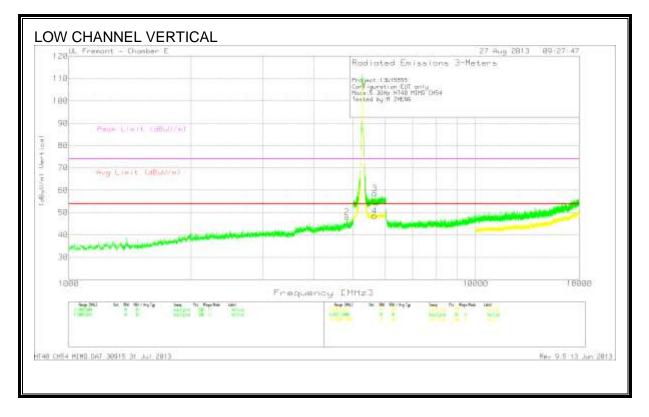
Page 251 of 354





Page 252 of 354





Page 253 of 354

Marker	Frequenc Y (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl /5GHz LPF	DC Corr [dB]	Correcte d Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
1	2.514	42.72	РК	32.7	-32.4	0	43.02	54	-10.98	74	-30.98	100	н
2	4.832	43.93	РК	34.4	-30.4	0	47.93	54	-6.07	74	-26.07	200	V

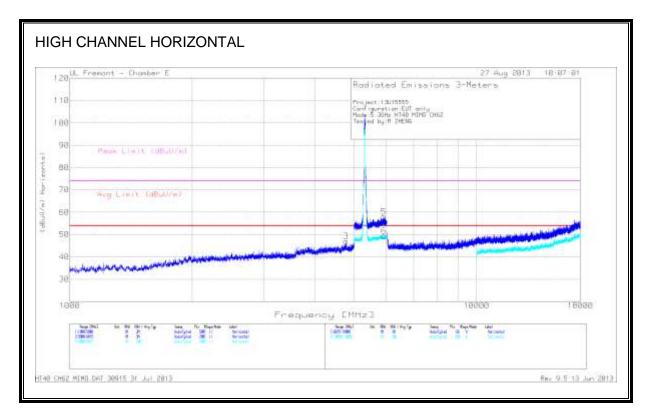
Marker	Frequenc Y (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl /10dB Pad	DC Corr [dB]	Correcte d Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
*5	5.634	43.04	РК	35.1	-21	0	57.14			68.2	-11.06	199	н
*6	5.636	34.64	Pk (VB)	35.1	-21	0	48.74			68.2	-19.46	101	Н
*3	5.644	44.5	РК	35.1	-21.1	0	58.5			68.2	-9.70	101	v
*4	5.643	34.54	(Pk (VB)	35.1	-21.1	0	48.54			68.2	-19.66	100	V

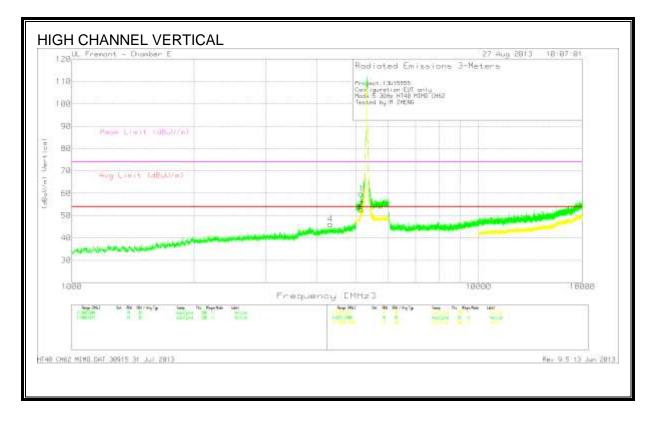
Notes: * : Not in Restricted Band

PK: Peak detector

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Page 254 of 354





Page 255 of 354

Marker	Frequenc Y (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl /5GHz LPF	DC Corr [dB]	Correcte d Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
3	4.777	42.62	РК	34.4	-30.1	0	46.92	54	-7.08	74	-27.08	199	н
4	4.324	43	РК	34.1	-31	0	46.1	54	-7.9	74	-27.9	101	V

Marker	Frequenc Y (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl /10dB Pad	DC Corr [dB]	Correcte d Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
*5	5.912	42.63	РК	35.7	-20.4	0	57.93			68.2	-10.27	199	н
*6	5.915	33.99	PK (VB)	35.7	-20.3	0	49.39					200	Н
1	5.143	46.53	РК	34.6	-21.4	0	59.73			74	-14.27	199	V
2	5.143	39.51	РК	34.6	-21.4	0	52.71	54	-1.29			199	V

Notes: *: Not in Restricted Band

PK: Peak detector

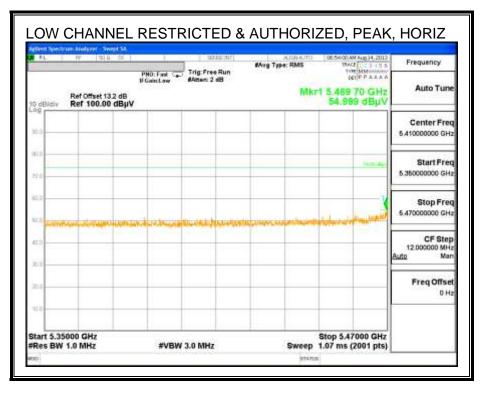
Horizontal 50	000 - 6015N	ЛНz											
	Meter			Amp/Cbl		Corrected							
Test	Reading		AF T346	/10dB	DC Corr	Reading	Avg Limit	Margin	Peak Limit	Margin	Azimuth	Height	
Frequency	(dBuV)	Detector	(dB/m)	Pad	[dB]	(dBuV/m)	(dBuV/m)	(dB)	(dBuV/m)	(dB)	[Degs]	[cm]	Polarity
5144.2095	32.57	Av	34.6	-21.4	0.1	45.87	53.97	-8.1	74	-28.13	360	166	Н

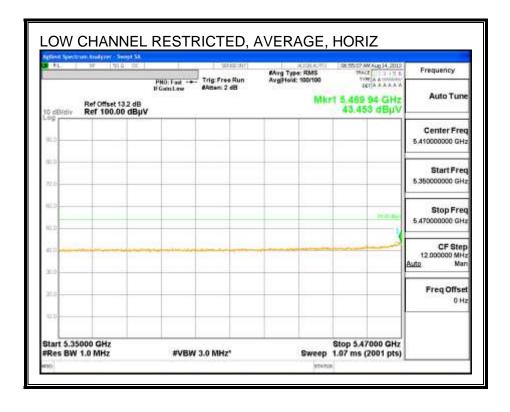
Av - Average detector

Page 256 of 354

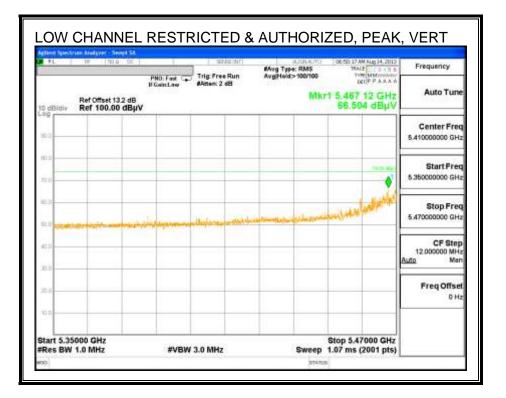
9.2.11. 802.11a SISO MODE IN THE 5.6 GHz BAND

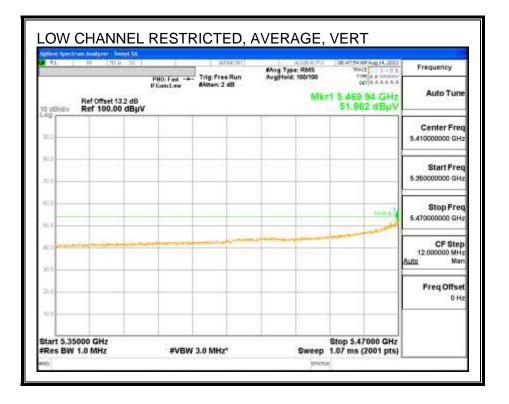
RESTRICTED & AUTHORIZED BANDEDGE (LOW CHANNEL)





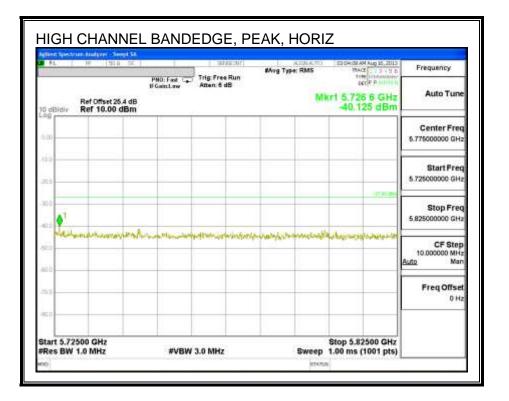
Page 257 of 354

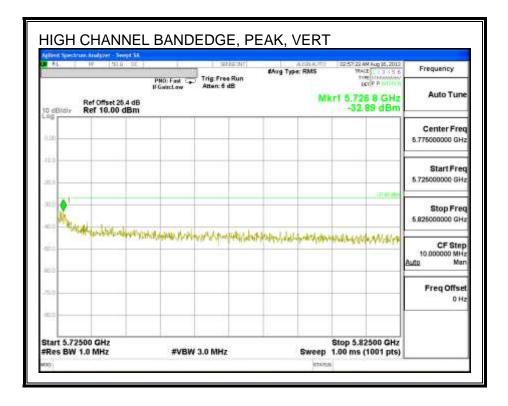




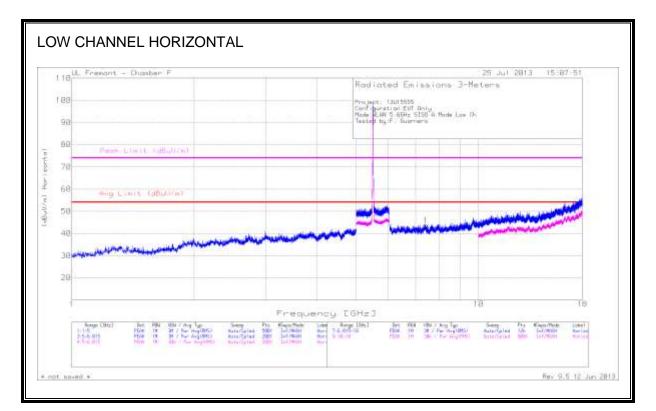
Page 258 of 354

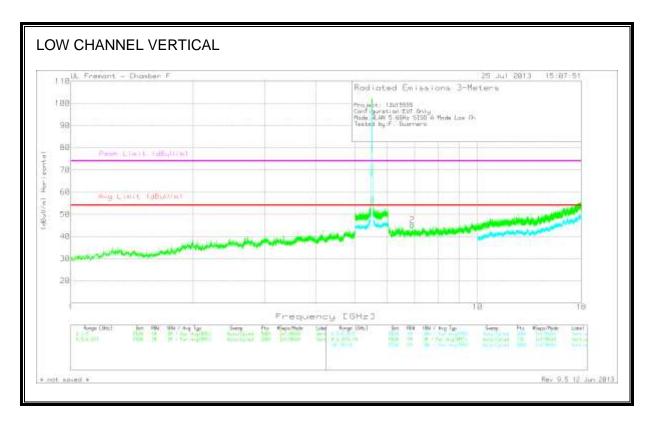
AUTHORIZED BANDEDGE (HIGH CHANNEL)





Page 259 of 354



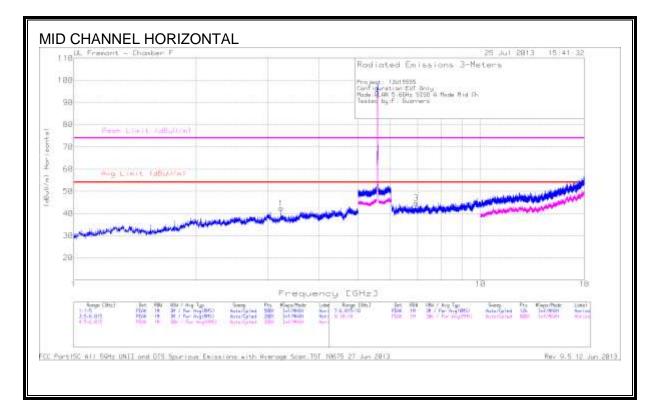


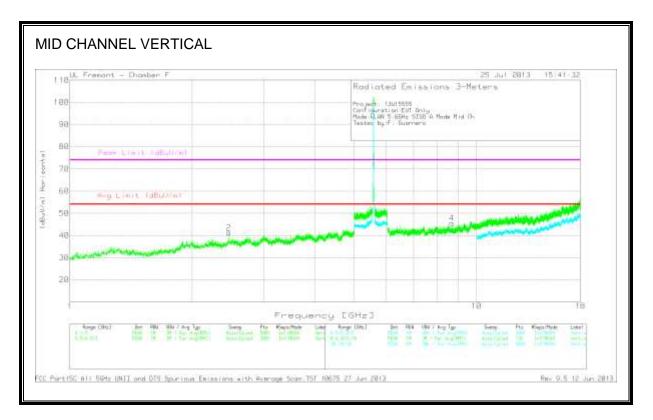
Page 260 of 354

Marker	Frequenc Y (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl /Fitr/Pad (dB)	Correcte d Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.415	37	РК	35.8	-29.2	43.6	53.97	-10.37	74	-30.4	0-360	201	н
2	6.905	39.31	РК	35.7	-29.8	45.21	53.97	-8.76	74	-28.79	0-360	199	V

PK - Peak detector

Page 261 of 354



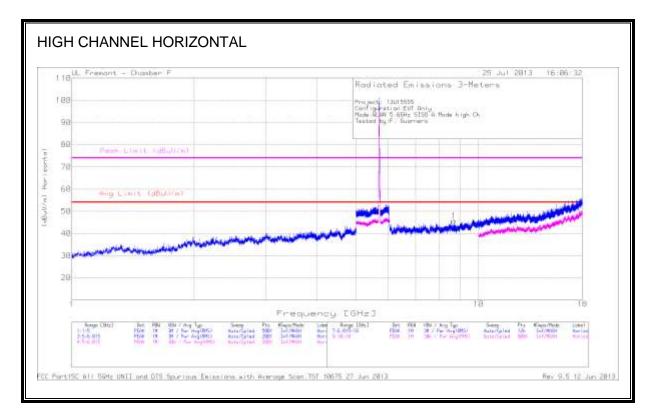


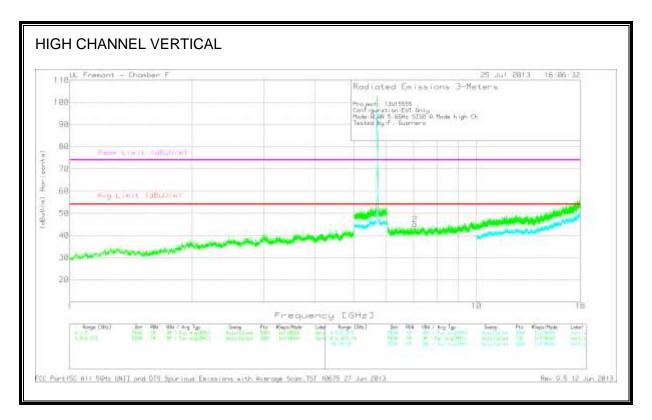
Page 262 of 354

Marker	Frequency (GHz)	Meter Reading	Det	AF T120 (dB/m)	Amp/Cbl /Fltr/Pad (dB)	Corrected Reading	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
		(dBuV)				(dBuV/m)							
1	3.233	41.8	РК	33.2	-32.7	42.3	53.97	-11.67	74	-31.7	0-360	98	н
2	2.462	42	РК	32.4	-33.2	41.2	53.97	-12.77	74	-32.8	0-360	101	V
3	6.942	38.37	РК	35.7	-29.4	44.67	53.97	-9.3	74	-29.33	0-360	199	Н
4	8.693	36.66	РК	36.1	-27.2	45.56	53.97	-8.41	74	-28.44	0-360	201	V

PK - Peak detector

Page 263 of 354





Page 264 of 354

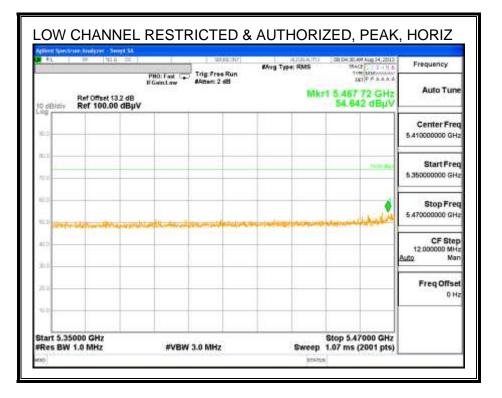
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/C bl/Fltr/ Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	8.689	36.88	РК	36.1	-27.3	45.68	53.97	-8.29	74	-28.32	0-360	100	н
2	7.06	38.41	РК	35.7	-29.1	45.01	53.97	-8.96	74	-28.99	0-360	100	V

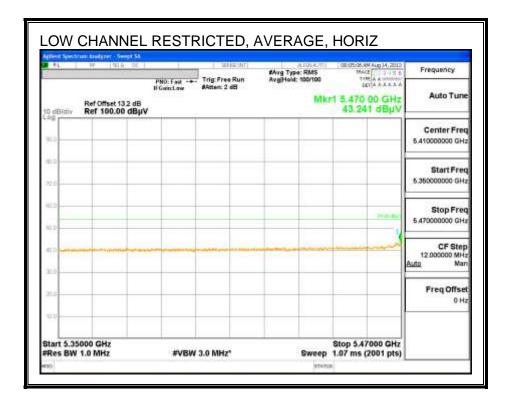
PK - Peak detector

Page 265 of 354

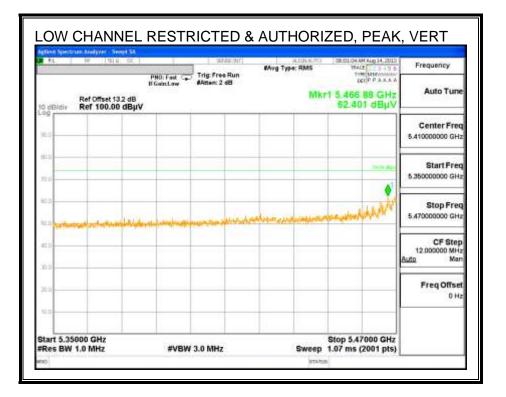
9.2.12. 802.11n HT20 2TX CDD MODE IN THE 5.6 GHz BAND

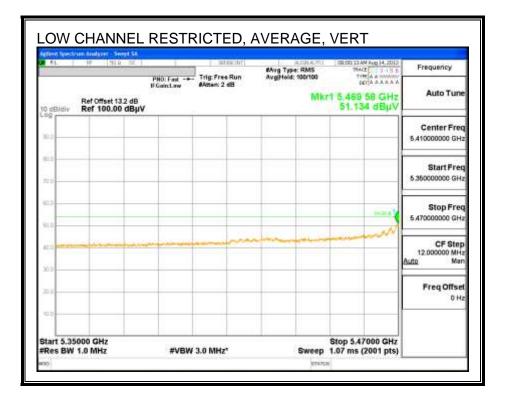
RESTRICTED & AUTHORIZED BANDEDGE (LOW CHANNEL)





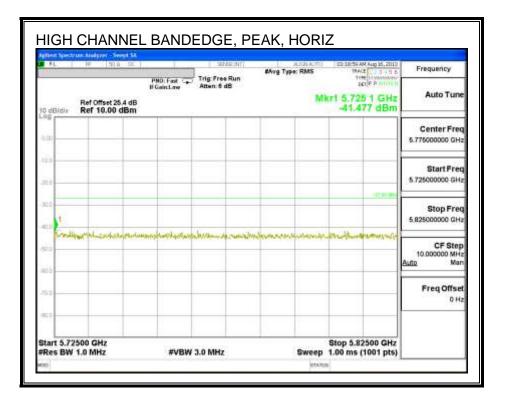
Page 266 of 354

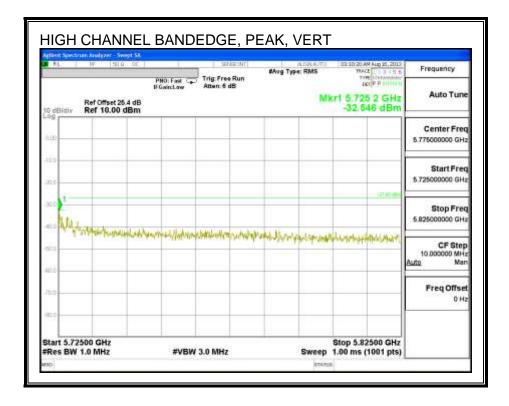




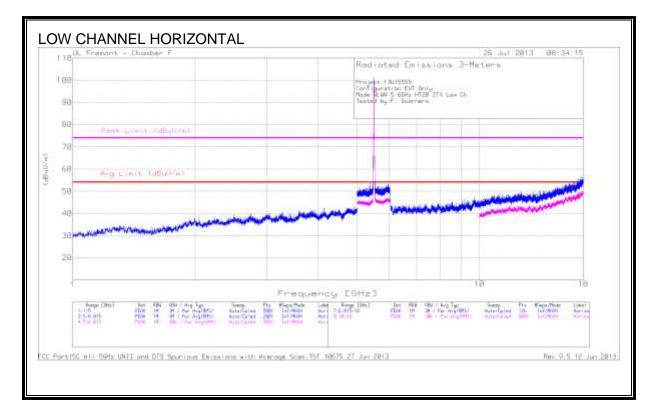
Page 267 of 354

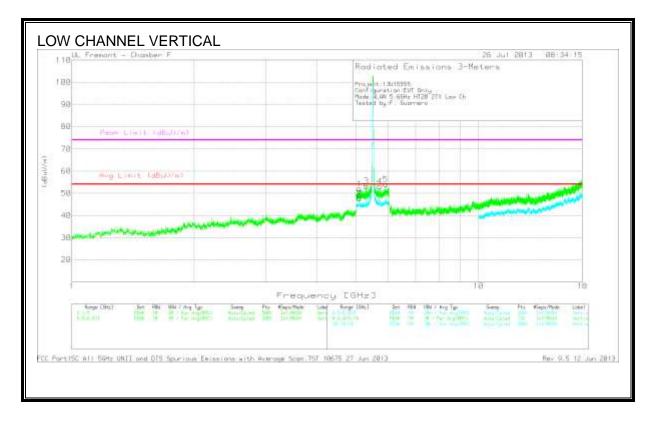
AUTHORIZED BANDEDGE (HIGH CHANNEL)





Page 268 of 354





Page 269 of 354

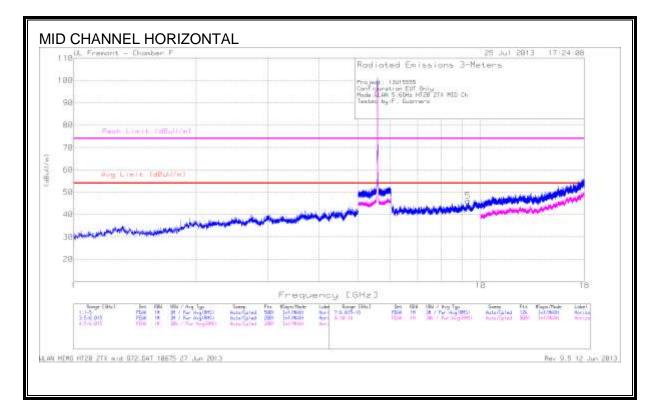
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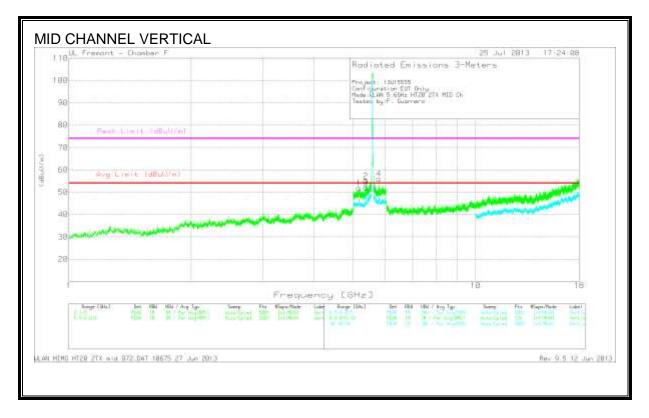
Marker	Frequency (GHz)	Meter Reading	Det	AF T120 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
		(dBuV)				(dBuV/m)							
1	5.094	39.6	РК	34.2	-21.8	52	1	-	74	-22	0-360	200	V
2	5.092	35.26	PK (VB)	34.1	-21.8	47.56	53.97	-6.41			0-360	199	V
*3	5.296	40.78	РК	34.4	-21.9	53.28			68.2	-14.92	0-360	101	V
*4	5.711	39.93	РК	34.9	-21.7	53.13			68.2	-15.07	0-360	200	V
*5	5.909	39.64	РК	35.2	-20.8	54.04			68.2	-14.16	0-360	200	V

Note: * : Not in restricted band

PK: Peak detector

Page 270 of 354





Page 271 of 354

Marker	Frequency (GHz)	Meter Reading	Det	AF T120 (dB/m)	Amp/Cbl /Fltr/Pad (dB)	Corrected Reading	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
		(dBuV)				(dBuV/m)							
*1	5.167	39.12	РК	34.3	-21.6	51.82			68.2	-16.38	0-360	100	v
2	5.373	42.45	РК	34.6	-22.1	54.95		-	74	-19.05	0-360	199	v
3	5.373	39.56	PK (VB)	34.6	-22.1	52.06	53.97	-1.91			0-360	200	V
*4	5.788	42.73	РК	35	-21.8	55.93			68.2	-12.27	0-360	199	v
5	9.309	35.57	РК	36.7	-26.1	46.17	53.97	-7.8	74	-27.83	0-360	100	н

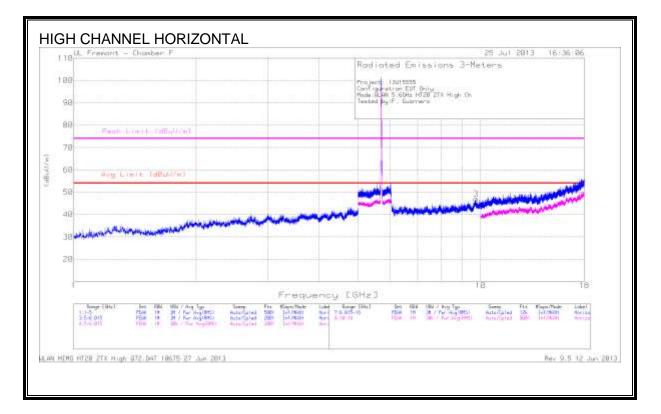
Note: * : Not in restricted band

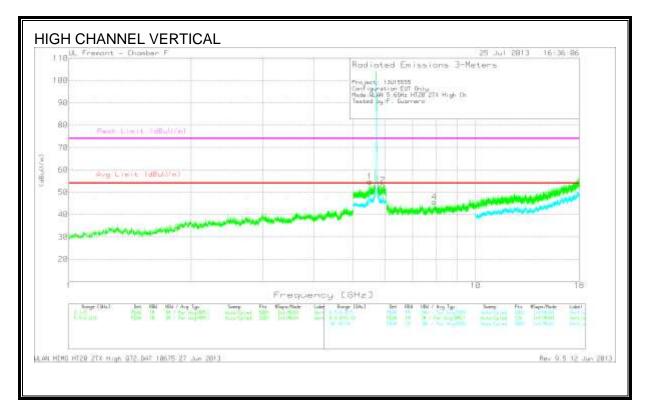
PK: Peak detector

Frequency	Meter	Det	AF T120 (dB/m)	Amp/Cbl/ Fltr/Pad	Corrected	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth	Height	Polarity
(GHz)	Reading			(dB)	Reading					(Degs)	(cm)	
	(dBuV)				(dBuV/m)							
5.373	37.41	Av	34.6	-22.1	49.91	53.97	-4.06	74	-24.09	307	164	v

Av - average detection

Page 272 of 354





Page 273 of 354

Marker	Frequency (GHz)	Meter Reading	Det	AF T120 (dB/m)	Amp/Cbl /Fltr/Pad (dB)	Corrected Reading	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
		(dBuV)				(dBuV/m)							
*1	5.49	41.74	РК	34.7	-21.7	54.74			68.2	-13.46	0-360	199	V
*2	5.915	38.93	РК	35.2	-20.9	53.23			68.2	-21	0-360	100	V
3	9.738	35.29	РК	37.4	-25.7	46.99	53.97	-6.98	74	-27.01	0-360	199	Н
4	7.913	37.93	РК	35.9	-28.2	45.63	53.97	-8.34	74	-28.37	0-360	201	V

Note: * : Not in restricted band

PK: Peak detector

Page 274 of 354

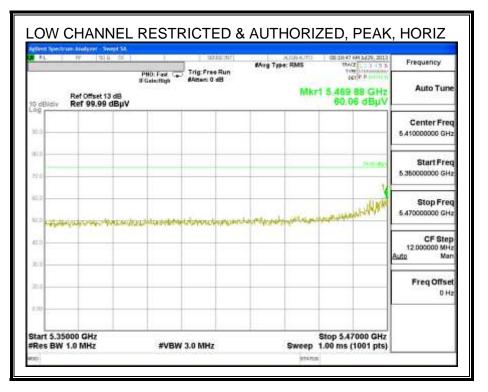
9.2.13. 802.11n HT20 2TX STBC MODE IN THE 5.6 GHz BAND

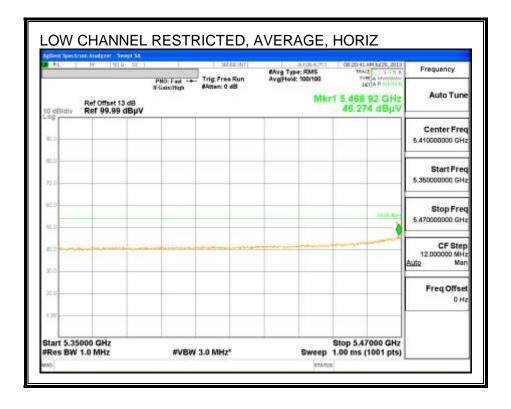
Covered by testing 11n HT20 CDD 2TX, total power across the two chains is higher than the power level the device will operate at

Page 275 of 354

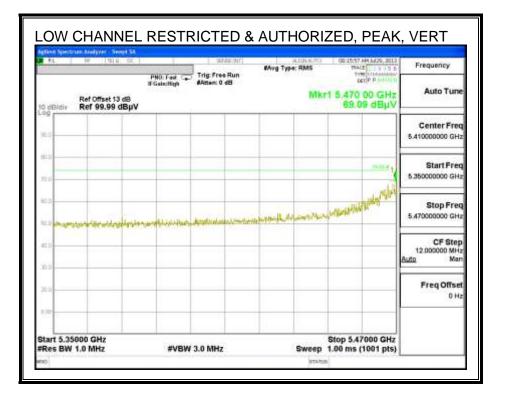
9.2.14. 802.11n HT40 SISO MODE IN THE 5.6 GHz BAND

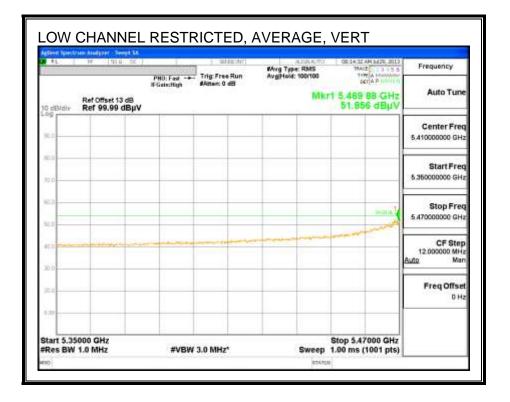
RESTRICTED & AUTHORIZED BANDEDGE (LOW CHANNEL)





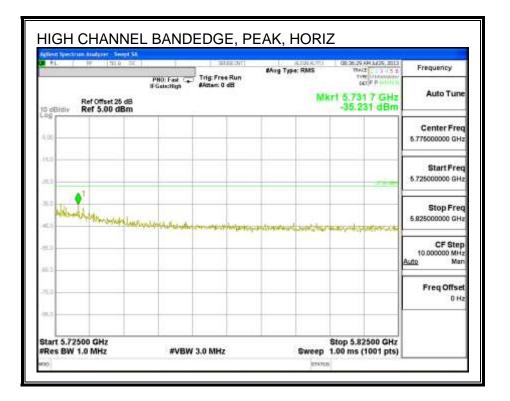
Page 276 of 354

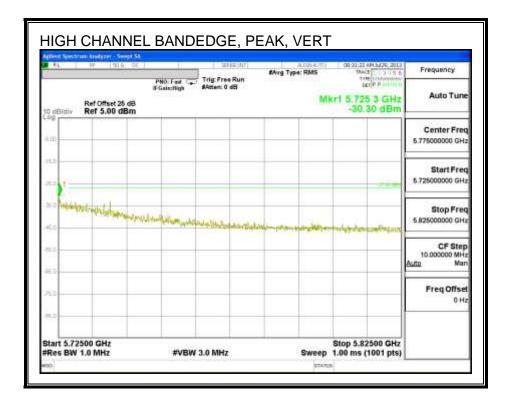




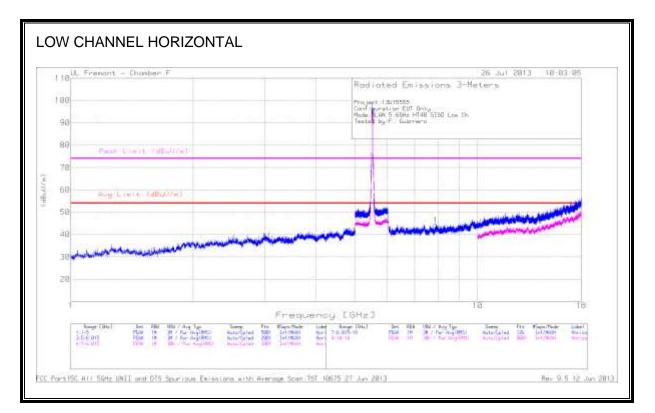
Page 277 of 354

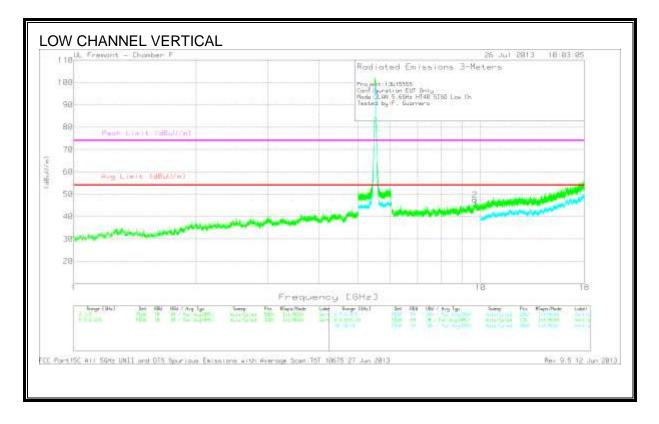
AUTHORIZED BANDEDGE (HIGH CHANNEL)





Page 278 of 354



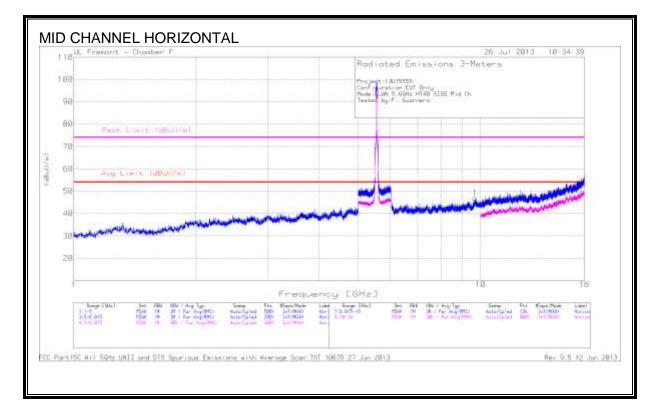


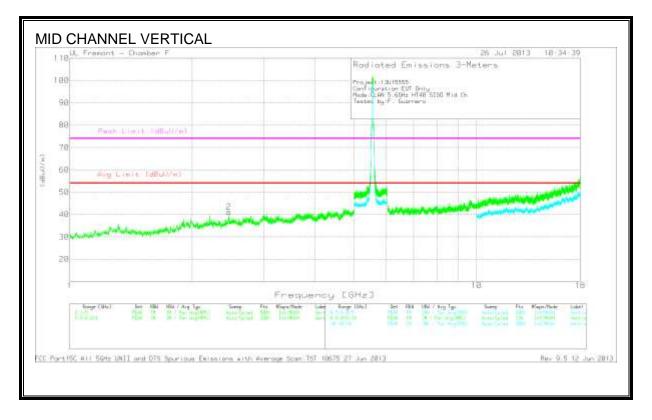
Page 279 of 354

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl /Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/ m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.89	36.71	РК	35.9	-28.4	44.21	53.97	-9.76	74	-29.79	0-360	100	н
2	9.685	35.92	РК	37.4	-25.8	47.52	53.97	-6.45	74	-26.48	0-360	100	V

PK - Peak detector

Page 280 of 354





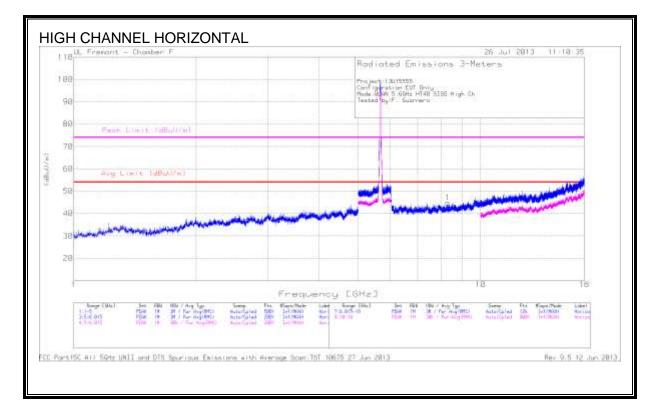
Page 281 of 354

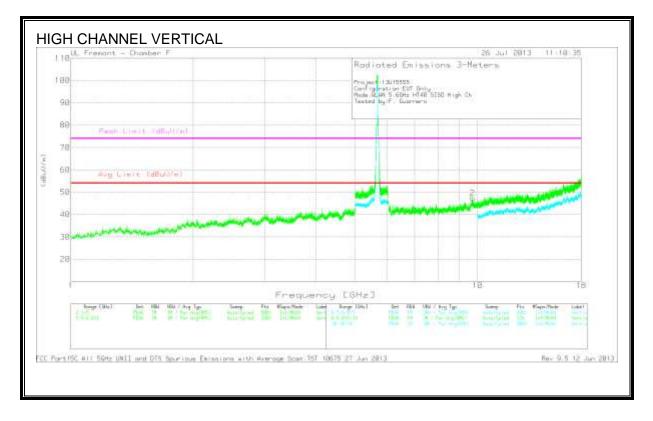
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl /Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.462	41.99	РК	32.4	-33.2	41.19	53.97	-12.78	74	-32.81	0-360	101	V
1	9.691	35.1	РК	37.4	-25.6	46.9	53.97	-7.07	74	-27.1	0-360	199	н

PK - Peak detector

Page 282 of 354

HARMONICS AND SPURIOUS EMISSIONS





Page 283 of 354

<u>DATA</u>

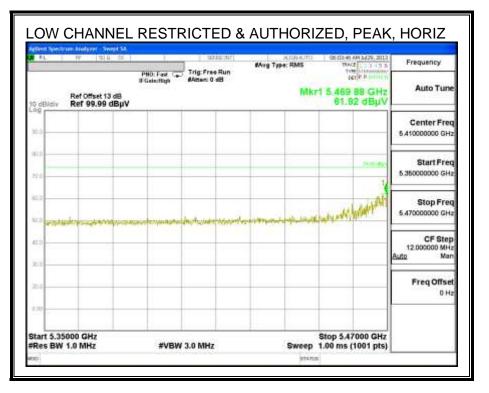
Mark	r Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl /Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	8.302	36.7	РК	36	-27.8	44.9	53.97	-9.07	74	-29.1	0-360	199	н
2	9.722	35.54	РК	37.4	-25.6	47.34	53.97	-6.63	74	-26.66	0-360	201	V

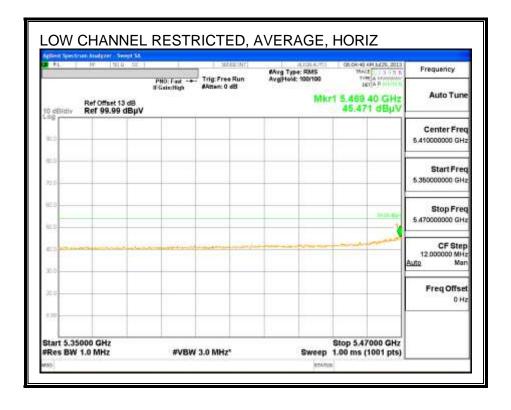
PK - Peak detector

Page 284 of 354

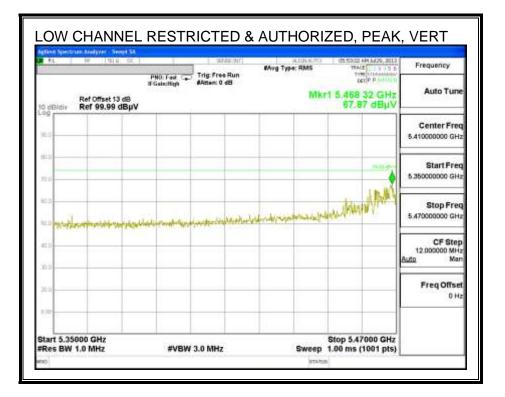
9.2.15. 802.11n HT40 2TX CDD MODE IN THE 5.6 GHz BAND

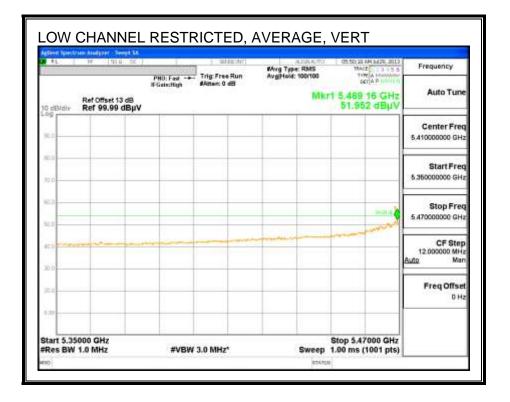
RESTRICTED & AUTHORIZED BANDEDGE (LOW CHANNEL)





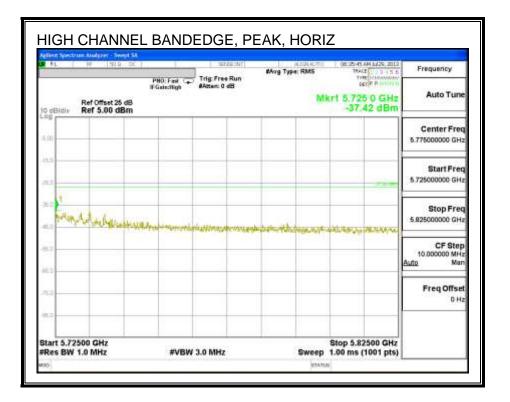
Page 285 of 354

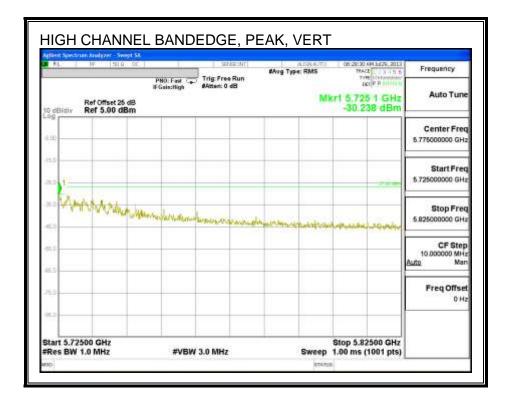




Page 286 of 354

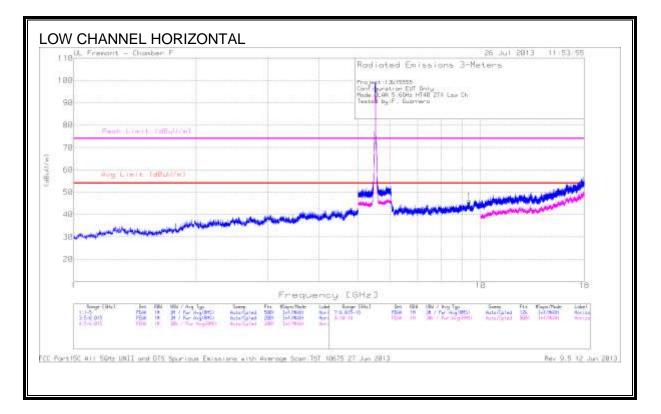
AUTHORIZED BANDEDGE (HIGH CHANNEL)

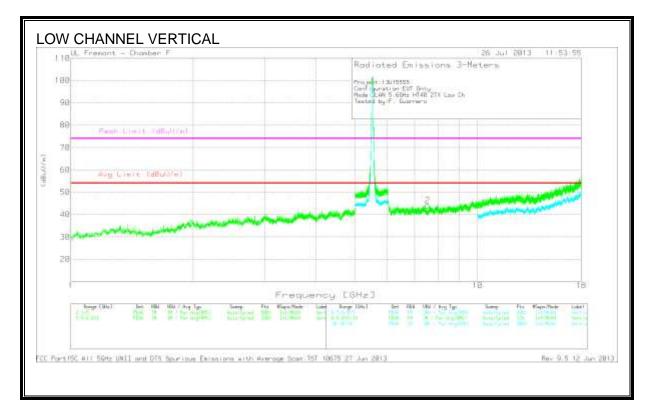




Page 287 of 354

HARMONICS AND SPURIOUS EMISSIONS





Page 288 of 354

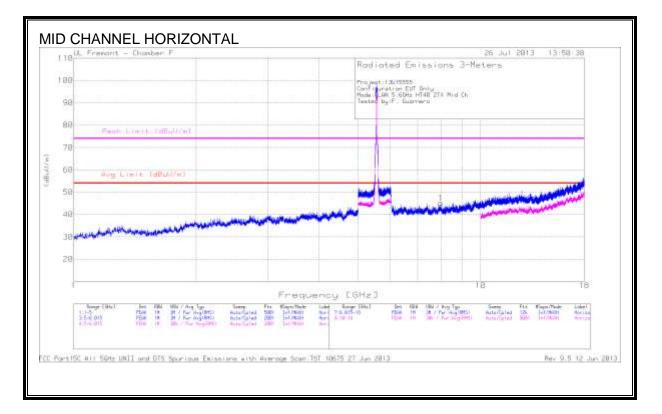
<u>DATA</u>

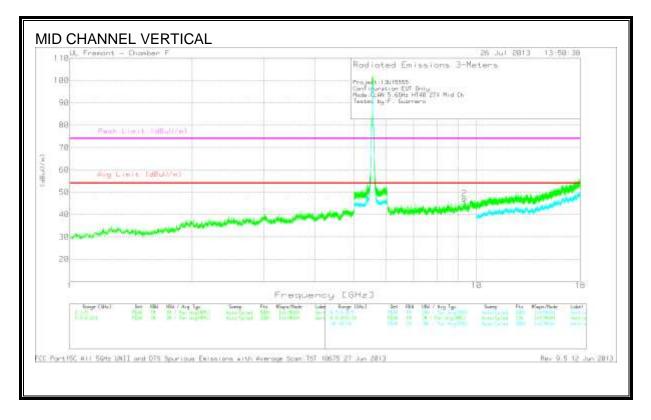
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl /Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	9.377	35.53	РК	36.9	-26.3	46.13	53.97	-7.84	74	-27.87	0-360	199	н
2	7.541	37.32	РК	35.8	-29	44.12	53.97	-9.85	74	-29.88	0-360	100	V

PK - Peak detector

Page 289 of 354

HARMONICS AND SPURIOUS EMISSIONS





Page 290 of 354

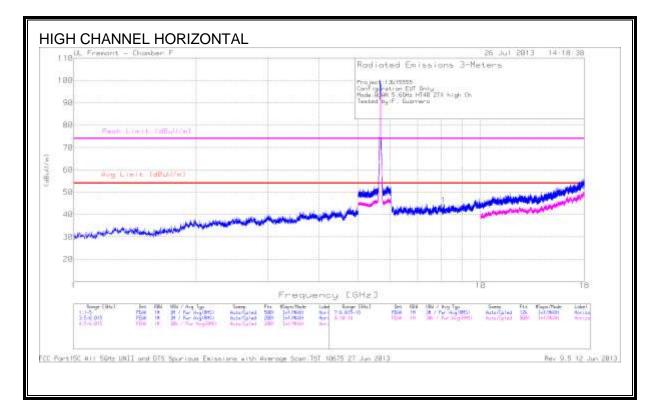
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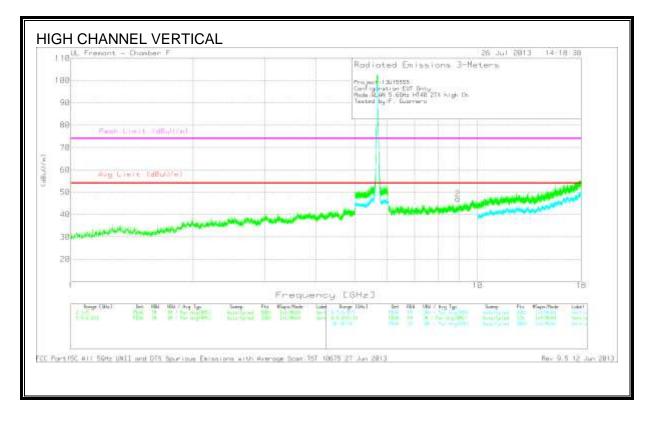
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl /Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/ m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.974	37.33	РК	36	-28.2	45.13	53.97	-8.84	74	-28.87	0-360	100	Н
2	9.339	36.3	РК	36.8	-25.9	47.2	53.97	-6.77	74	-26.8	0-360	100	V

PK - Peak detector

Page 291 of 354

HARMONICS AND SPURIOUS EMISSIONS





Page 292 of 354

<u>DATA</u>

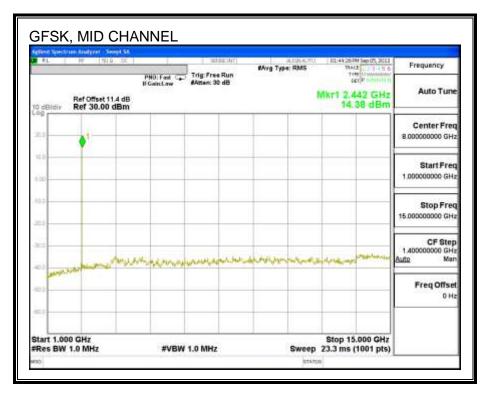
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl /Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	8.107	36.75	РК	36	-28.6	44.15	53.97	-9.82	74	-29.85	0-360	199	н
2	8.937	38.09	РК	36.3	-27.3	47.09	53.97	-6.88	74	-26.91	0-360	101	V

PK - Peak detector

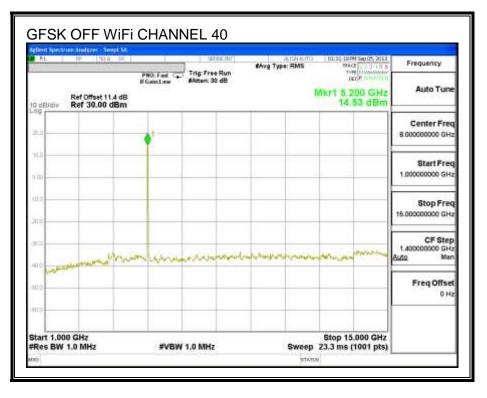
Page 293 of 354

9.2.16. 2.4GHz and 5GHz Band Co-Location

BLUETOOTH ON

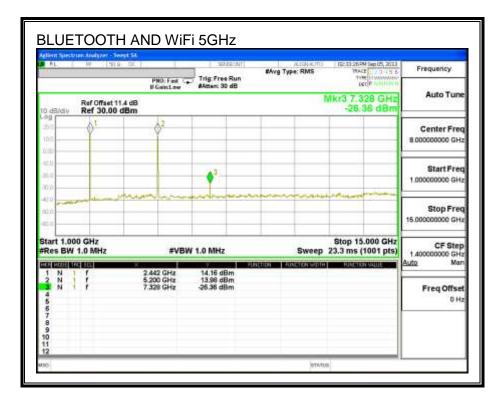


BLUETOOTH OFF WiFi ON



Page 294 of 354

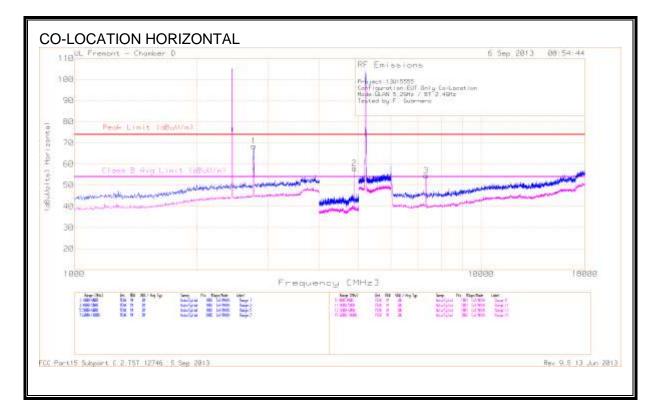
BLUETOOTH AND WIFI CO-LOCATION

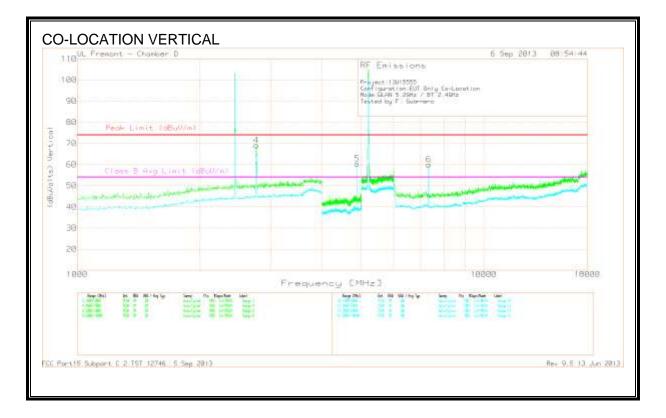


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Page 295 of 354

HARMONICS AND SPURIOUS EMISSIONS





Page 296 of 354

<u>DATA</u>

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (db/m)	Amp/Cbl/ Pad	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Class B Avg Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
*1	2.761	56.19	РК	32.9	-20.6	68.49	74	-5.51	-	-	100	Н
*2	4.883	50.96	РК	34.3	-27.3	57.96	74	-16.04	-	-	100	Н
*3	7.325	44.97	РК	35.9	-26.4	54.47	74	-19.53	-	-	100	Н

PK - Peak detector

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (db/m)	Amp/Cbl/ Fltr/Pad	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Class B Avg Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
*4	2.761	56.84	РК	32.9	-20.6	69.14	74	-4.86	-	-	100	V
*5	4.883	53.39	РК	34.3	-27.3	60.39	74	-13.61	-	-	100	V
*6	7.325	50.52	РК	35.9	-26.4	60.02	74	-13.98	-	-	100	V

PK - Peak detector

*For the Harmonics measurement, there is no need for the average reading since the peak reading passed with the peak limit. The average reading = peak reading – 20*log (1/duty cycle), and the 20*log (1/duty cycle) is greater than 20dB.

Page 297 of 354

9.3. WORST-CASE ABOVE 18 GHz

SPURIOUS EMISSIONS 18 TO 26 GHz (WORST-CASE CONFIGURATION, HORIZONTAL & VERTICAL)

UL EMC	28 Aug 2013 - 00:18:55
	RF Emissions
5	Pro ject : 13U15555
	Project:13U15555 Configuration.BJT BNIg Mode:GLauf 5, 2014 M120 21% Mig Ch
5	Tested by F. Guarnero
Peok Linit (dBull/m)	
Avg Limit (dBckV/m)	
5	
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Page 298 of 354

SPURIOUS EMISSIONS 26 TO 40 GHz (WORST-CASE CONFIGURATION, HORIZONTAL & VERTICAL)

5 UL EMC	28 Aug 2013 00:26:28
	RF Emissions Project: 13015555 Configuration: EUT UNig Mode Quant 5, 2014 H120 21X His Ch
5 Peok Liwit (dEuV/m)	Tested by:F. Guarnero
5 Team Links Capacity	
5	
5 Avg Limit (dBc///m)	
9	
5	
5	
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2 And the second s	iency EMHz]
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Page 299 of 354

SPURIOUS EMISSIONS 18 TO 26 GHz (WORST-CASE CONFIGURATION, HORIZONTAL & VERTICAL)

UL EMC	28 Aug 2813 88:44:57
	RF Emissions
	Project:13U15555 Configuration:EUT UNiy Mode:OLAN 5.36ks H128 21X Mia Ch Tested by F. Guarnero
Peok Linis (dBuV/m)	norman wanter water and the antipation which are wanter a source
5	
Avg Limit (dBuW/m)	
5	
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5	
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Page 300 of 354

SPURIOUS EMISSIONS 26 TO 40 GHz (WORST-CASE CONFIGURATION, HORIZONTAL & VERTICAL)

UL EMC	28 Aug 2813 - 88:37:14
	RF Emissions Project:13U15555 Configuration:EUT UNIy Hode:GLAN 5.3GHz HT28 2TX Mis Ch Tested by F. Guarnero
Peok Liwit (sEuU/w)	
Avg Limit (dBuW/m)	
Avg Limit (dBuW/m)	
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	Frequency chiza

Page 301 of 354

SPURIOUS EMISSIONS 18 TO 26 GHz (WORST-CASE CONFIGURATION, HORIZONTAL & VERTICAL)

	28 Aug 2813 88:54:15
5 UL EMC	RF Emissions
5	Project:13U15555 Configuration:EUT UNiy Mode:GLAM 5.664z HT28 2TX Mis Ch Tested by:F. Guarnero
5 Peak Limit (SBUU/m)	
5	
5 Avg Limit (dBuN/w)	
5	
5	and a state of the second second and the second second second and the second second second second second second
2 Carrow Charles and and a second	
5	
	Frequency EMHz]

Page 302 of 354

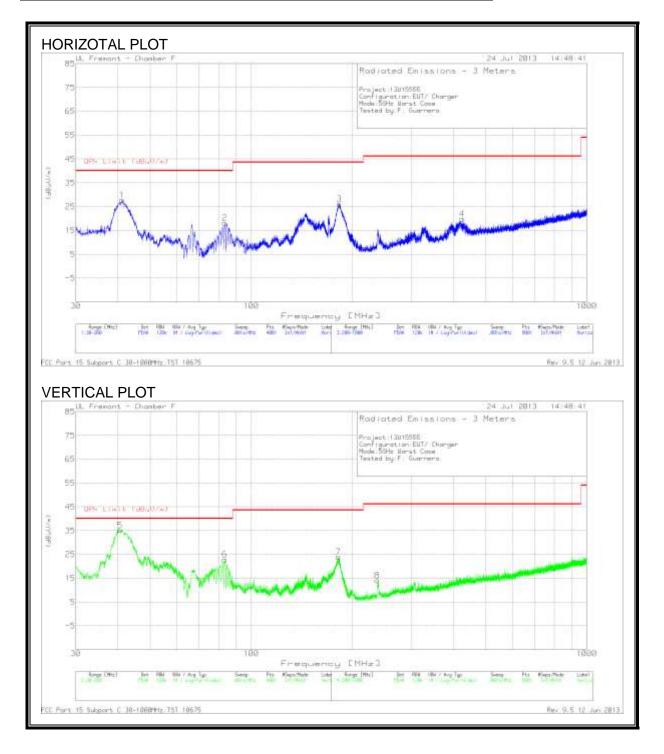
SPURIOUS EMISSIONS 26 TO 40 GHz (WORST-CASE CONFIGURATION, HORIZONTAL & VERTICAL)

UL EMC	28 Aug 2813 89:83:29
	RF Emissions Project:13013555 Configuration:EUT UNiy Mode:GLAM 5.604z HT20 2TX Mig Ch Tested by F. Guarnero
Peok Liwit (sBull/m)	en malan - nan manaku - an
Avg Limit (dBuW/m)	
5	
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Test. 757 30915 2 Aug 2013	Rev 9.5 13

Page 303 of 354

9.4. WORST-CASE BELOW 1 GHz

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



Page 304 of 354

Trace Markers

Marker	Frequency	Meter	Det	AF T122 (dB/m)	Amp/Cbl (dB)	Corrected	QPk Limit (dBuV/m)	Margin (dB)	Azimuth	Height	Polarity
	(MHz)	Reading				Reading			(Degs)	(cm)	
		(dBuV)				(dBuV/m)					
1	41.22	46.91	РК	12.9	-32	27.81	40	-12.19	0-360	400	Н
2	83.38	42.49	РК	7.4	-31.7	18.19	40	-21.81	0-360	200	Н
3	183.1275	46.16	РК	11.1	-31.1	26.16	43.52	-17.36	0-360	200	Н
5	40.625	53.73	РК	13.4	-32	35.13	40	-4.87	0-360	100	V
6	83.4225	47.16	РК	7.4	-31.7	22.86	40	-17.14	0-360	100	V
7	181.8525	44.05	РК	11.1	-31.2	23.95	43.52	-19.57	0-360	100	V
4	425.3	33.92	РК	16.4	-30.4	19.92	46.02	-26.1	0-360	100	Н
8	237.4	33.56	РК	11.5	-31	14.06	46.02	-31.96	0-360	401	V

PK - Peak detector

Radiated Emissions

Frequency	Meter	Det	AF T122 (dB/m)	Amp/Cbl ((dB)	Corrected	QPk Limit (dBuV/m)	Margin (dB)	Azimuth	Height	Polarity
(MHz)	Reading					Reading			(Degs)	(cm)	
	(dBuV)					(dBuV/m)					
40.6027	48.8	QP	13.4	-32		30.2	40	-9.8	62	185	V

QP - Quasi-Peak detector

FCC Part 15 Subpart C 30-1000MHz.TST 10675 Rev 9.5 12 Jun 2013

Page 305 of 354

10. AC POWER LINE CONDUCTED EMISSIONS

<u>LIMITS</u>

FCC §15.207 (a)

RSS-Gen 7.2.2

Frequency of Emission (MHz)	Conducted I	.imit (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.

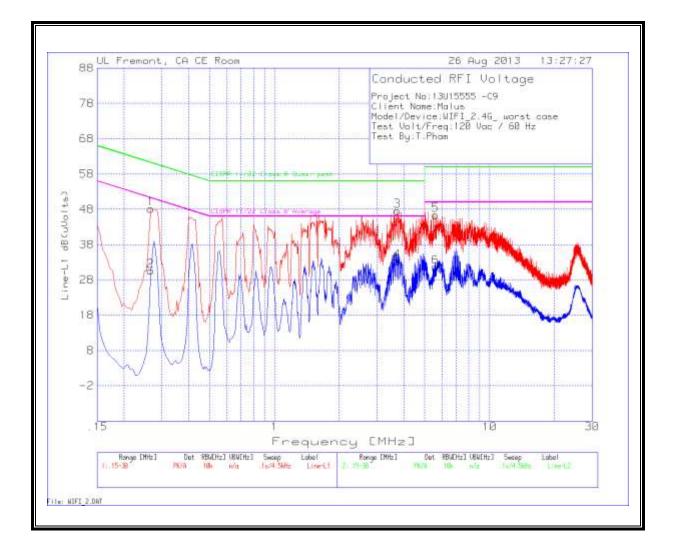
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

Page 306 of 354

LINE 1 RESULTS



WORST EMISSIONS

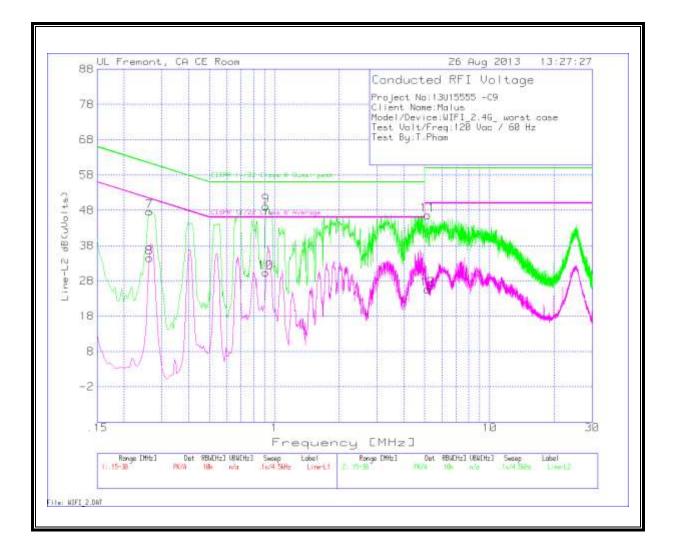
Line-L1	15 - 30M	Hz									
Trace Markers											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1 (dB)	LC Cables 1&3 (dB)	Corrected Reading dB(uVolts)	CISPR 11/22 Class B Quasi- peak	Margin to Limit (dB)	CISPR 11/22 Class B Average	Margin to Limit (dB)	
1	0.267	48	РК	0.1	0	48.1	61.2	-13.1	•	-	
2	0.267	30.46	Av	0.1	0	30.56	-	-	51.2	-20.64	
3	3.732	47.28	РК	0.1	0.1	47.48	56	-8.52			
4	3.732	33.07	Av	0.1	0.1	33.27		-	46	-12.73	
5	5.6175	46.15	РК	0.1	0.1	46.35	60	-13.65			
6	5.6175	31.4	Av	0.1	0.1	31.6	-	-	50	-18.4	

PK - Peak detector

Av - average detection

Page 307 of 354

LINE 2 RESULTS



WORST EMISSIONS

Line-L2	15 - 30M	Hz									
Trace Markers											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2 (dB)	LC Cables 2%3 (dB)	Corrected Reading dB(uVolts)	CISPR 11/22 Class B Quasi- peak	Margin to Limit (dB)	CISPR 11/22 Class B Average	Margin to Limit (dB)	
7	0.2625	47.52	РК	0.1	0	47.62	61.4	-13.78	-		
8	0.2625	34.36	Av	0.1	0	34.46	-	-	51.4	-16.94	
9	0.915	49.08	РК	0.1	0	49.18	56	-6.82			
10	0.915	30.27	Av	0.1	0	30.37			46	-15.63	
11	5.163	46.39	РК	0.1	0.1	46.53	60	-13.41	-		
12	5.163	25.35	Av	0.1	0.1	25.55	-	-	50	-24.45	

PK - Peak detector

Av - average detection

Page 308 of 354

11. DYNAMIC FREQUENCY SELECTION

11.1. OVERVIEW

11.1.1. LIMITS

INDUSTRY CANADA

IC RSS-210 is closely harmonized with FCC Part 15 DFS rules. The deviations are as follows:

RSS-210 Issue 7 A9.4 (b) (ii) Channel Availability Check Time: ...

Additional requirements for the band 5600-5650 MHz: Until further notice, devices subject to this Section shall not be capable of transmitting in the band 5600-5650 MHz, so that Environment Canada weather radars operating in this band are protected.

RSS-210 Issue 7 A9.4 (b) (iv) **Channel closing time:** the maximum channel closing time is 260 ms.

FCC

§15.407 (h) and FCC 06-96 APPENDIX "COMPLIANCE MEASUREMENT PROCEDURES FOR UNLICENSED-NATIONAL INFORMATION INFRASTRUCTURE DEVCIES OPERATING IN THE 5250-5350 MHz AND 5470-5725 MHz BANDS INCORPORATING DYNAMIC FREQUENCY SELECTION".

Page 309 of 354

Table 1: Applicability of DFS requirements prior to use of a channel

Requirement	Operational Mode					
	Master	Client (without radar detection)	Client (with radar detection)			
Non-Occupancy Period	Yes	Not required	Yes			
DFS Detection Threshold	Yes	Not required	Yes			
Channel Availability Check Time	Yes	Not required	Not required			
Uniform Spreading	Yes	Not required	Not required			

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational	Operational Mode					
	Master	Client	Client				
		(without DFS)	(with DFS)				
DFS Detection Threshold	Yes	Not required	Yes				
Channel Closing Transmission Time	Yes	Yes	Yes				
Channel Move Time	Yes	Yes	Yes				

Table 3: Interference Threshold values, Master or Client incorporating In-Service Monitoring

Maximum Transmit Power	Value
	(see note)
≥ 200 milliwatt	-64 dBm
< 200 milliwatt	-62 dBm
Note 1: This is the level at the input of the receiver as Note 2: Throughout these test procedures an addition of the test transmission waveforms to account for var will ensure that the test signal is at or above the dete response.	nal 1 dB has been added to the amplitude riations in measurement equipment. This

Table 4: DFS Response requirement values

Parameter	Value
Non-occupancy period	30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds
Channel Closing Transmission Time	200 milliseconds +
	approx. 60 milliseconds
	over remaining 10 second
	period

The instant that the *Channel Move Time* and the *Channel Closing Transmission Time* begins is as follows:

For the Short pulse radar Test Signals this instant is the end of the Burst.

For the Frequency Hopping radar Test Signal, this instant is the end of the last radar burst generated.

For the Long Pulse radar Test Signal this instant is the end of the 12 second period defining the radar transmission.

The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate channel changes (an aggregate of approximately 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.

Table 5 – Short Pulse Radar Test Waveforms

Radar	Pulse Width	PRI	Pulses	Minimum	Minimum			
Туре	(Microseconds)	(Microseconds)		Percentage of	Trials			
				Successful				
				Detection				
1	1	1428	18	60%	30			
2	1-5	150-230	23-29	60%	30			
3	6-10	200-500	16-18	60%	30			
4	11-20	200-500	12-16	60%	30			
Aggregate (Radar Types 1-4) 80% 12								

Table 6 – Long Pulse Radar Test Signal

	<u> </u>			1	1		
Radar	Bursts	Pulses	Pulse	Chirp	PRI	Minimum	Minimum
Waveform		per	Width	Width	(µsec)	Percentage	Trials
		Burst	(µsec)	(MHz)		of Successful	
						Detection	
5	8-20	1-3	50-100	5-20	1000-	80%	30
					2000		

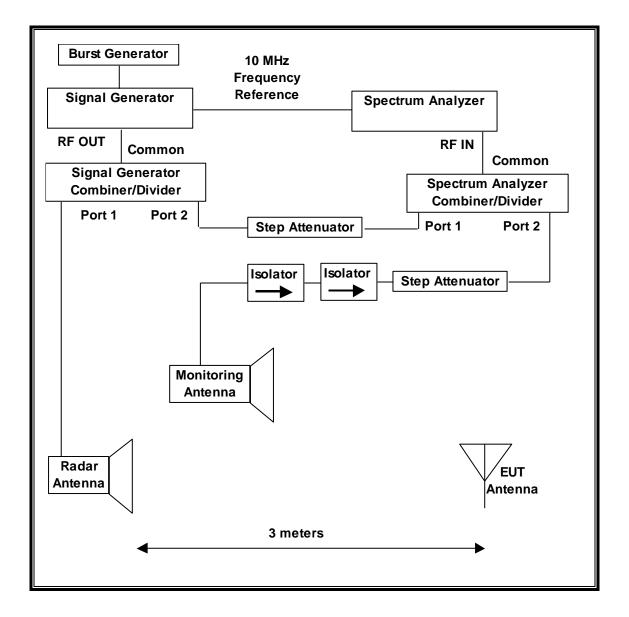
Table 7 – Frequency Hopping Radar Test Signal

Radar Waveform	Pulse Width (µsec)	PRI (µsec)	Burst Length (ms)	Pulses per Hop	Hopping Rate (kHz)	Minimum Percentage of Successful Detection	Minimum Trials
6	1	333	300	9	.333	70%	30

Page 311 of 354

11.1.2. TEST AND MEASUREMENT SYSTEM

RADIATED METHOD SYSTEM BLOCK DIAGRAM



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Page 312 of 354

SYSTEM OVERVIEW

The short pulse and long pulse signal generating system utilizes the NTIA software. The Vector Signal Generator has been validated by the NTIA. The hopping signal generating system utilizes the CCS simulated hopping method and system, which has been validated by the DoD, FCC and NTIA. The software selects waveform parameters from within the bounds of the signal type on a random basis using uniform distribution.

The short pulse types 2, 3 and 4, and the long pulse type 5 parameters are randomized at runtime.

The hopping type 6 pulse parameters are fixed while the hopping sequence is based on the August 2005 NTIA Hopping Frequency List. The initial starting point randomized at run-time and each subsequent starting point is incremented by 475. Each frequency in the 100-length segment is compared to the boundaries of the EUT Detection Bandwidth and the software creates a hopping burst pattern in accordance with Section 7.4.1.3 Method #2 Simulated Frequency Hopping Radar Waveform Generating Subsystem of FCC 06-96 APPENDIX. The frequency of the signal generator is incremented in 1 MHz steps from F_L to F_H for each successive trial. This incremental sequence is repeated as required to generate a minimum of 30 total trials and to maintain a uniform frequency distribution over the entire Detection Bandwidth.

The signal monitoring equipment consists of a spectrum analyzer. The aggregate ON time is calculated by multiplying the number of bins above a threshold during a particular observation period by the dwell time per bin, with the analyzer set to peak detection and max hold.

SYSTEM CALIBRATION

A 50-ohm load is connected in place of the spectrum analyzer, and the spectrum analyzer is connected to a horn antenna via a coaxial cable, with the reference level offset set to (horn antenna gain – coaxial cable loss). The signal generator is set to CW mode. The amplitude of the signal generator is adjusted to yield a level of –64 dBm as measured on the spectrum analyzer.

Without changing any of the instrument settings, the spectrum analyzer is reconnected to the Common port of the Spectrum Analyzer Combiner/Divider. The Reference Level Offset of the spectrum analyzer is adjusted so that the displayed amplitude of the signal is –64 dBm.

The spectrum analyzer displays the level of the signal generator as received at the antenna ports of the Master Device. The interference detection threshold may be varied from the calibrated value of –64 dBm and the spectrum analyzer will still indicate the level as received by the Master Device.

Page 313 of 354

ADJUSTMENT OF DISPLAYED TRAFFIC LEVEL

A link is established between the Master and Slave and the distance between the units is adjusted as needed to provide a suitable received level at the Master and Slave devices. The video test file is streamed to generate WLAN traffic. The monitoring antenna is adjusted so that the WLAN traffic level, as displayed on the spectrum analyzer, is at lower amplitude than the radar detection threshold.

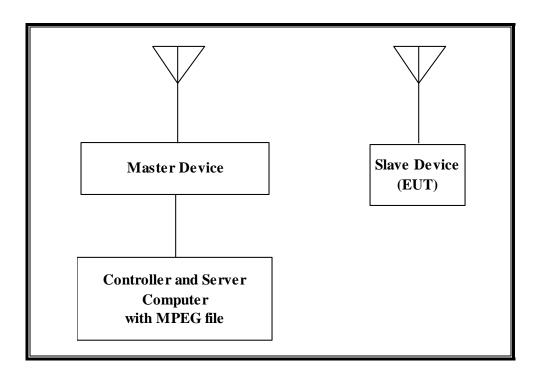
TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the DFS tests documented in this report:

TEST EQUIPMENT LIST								
Description	Manufacturer	Model	Asset Number	Cal Due				
Spectrum Analyzer, 26.5 GHz	Agilent / HP	E4440A	C01178	09/18/13				
Vector Signal Generator, 20GHz	Agilent / HP	E8267C	C01066	11/20/13				

11.1.3. SETUP OF EUT

RADIATED METHOD EUT TEST SETUP



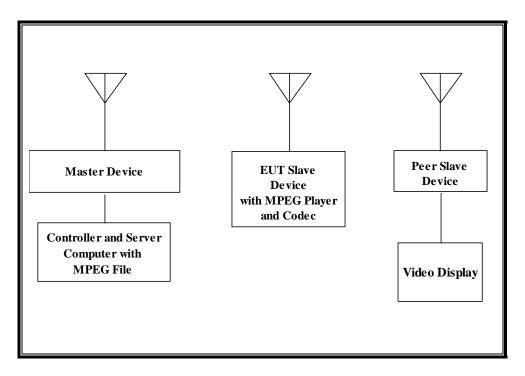
SUPPORT EQUIPMENT

The following support equipment was utilized for the DFS tests documented in this report:

PERIPHERAL SUPPORT EQUIPMENT LIST								
Description	Manufacturer	Model	Serial Number	FCC ID				
Wireless Access Point (Master Device)	Cisco	AIR-AP1252AG-A-K9	FTX130390D9	LDK102061				
AC Adapter (AP)	Delta Electronics	EADP-45BB B	DTH1049902N	DoC				
Notebook PC (Controller/Server)	Apple	MacBook Pro A1150	AOU257941	DoC				
AC Adapter (Controller/Server PC)	Delta Electronics	A1330	MV952157KAGKA	DoC				

11.1.4. SETUP OF EUT (CLIENT-TO-CLIENT COMMUNICATIONS MODE)

RADIATED METHOD EUT TEST SETUP



SUPPORT EQUIPMENT

The following support equipment was utilized for the DFS tests documented in this report:

PERIPHERAL SUPPORT EQUIPMENT LIST							
Description	Manufacturer	Model	Serial Number	FCC ID			
Wireless Access Point	Cisco	AIR-AP1252AG-A-	FTX130390D9	LDK102061			
(Master Device)		K9					
AC Adapter (AP)	Delta Electronics	EADP-45BB B	DTH1049902N	DoC			
Notebook PC	Apple	MacBook Pro A1150	AOU257941	DoC			
(Controller/Server)							
AC Adapter (Controller/Server	Delta Electronics	A1330	MV952157KAGKA	DoC			
PC)							
Apple TV (Peer Slave	Apple	A1469	V07JV1Z7FF54	BCGA1469			
Video Display	Dell	U2410f	CN-0FJ525N-	DoC			
			72872-1B5-AGAL				

11.1.5. ESCRIPTION OF EUT

The EUT operates over the 5250-5350 MHz and 5470-5725 MHz ranges.

The EUT is a Slave Device without Radar Detection.

The highest power level within these bands is 22.18 dBm EIRP in the 5250-5350 MHz band and 23.57 dBm EIRP in the 5470-5725 MHz band.

The only antenna assembly consists of 2 antennas with individual gains of 2.60dBi, and 2.11 dBi in the 5250-5350 MHz band and 3.66 dBi and 3.99 dBi in the 5470-5725 MHz band.

The rated output power of the Master unit is > 23dBm (EIRP). Therefore the required interference threshold level is -64 dBm. After correction for procedural adjustments, the required radiated threshold at the antenna port is -64 + 1 = -63 dBm.

The calibrated radiated DFS Detection Threshold level is set to –64 dBm. The tested level is lower than the required level hence it provides margin to the limit.

The EUT uses one transmitter/receiver chain connected to an antenna to perform radiated tests.

WLAN traffic is generated by streaming the video file TestFile.mp2 "6 ½ Magic Hours" from the Master to the Slave in full motion video mode using the media Safari web browser.

TPC is not required since the maximum EIRP is less than 500 mW (27 dBm).

The EUT utilizes the 802.11a/n architecture. Two nominal channel bandwidths are implemented: 20 MHz and 40 MHz.

The software installed in the EUT is 11B451.

UNIFORM CHANNEL SPREADING

This requirement is not applicable to Slave radio devices

Page 317 of 354

OVERVIEW OF MASTER DEVICE WITH RESPECT TO §15.407 (h) REQUIREMENTS

The Master Device is a Cisco Access Point, FCC ID: LDK102061. The minimum antenna gain for the Master Device is 3.5 dBi.

The rated output power of the Master unit is > 23dBm (EIRP). Therefore the required interference threshold level is -64 dBm. After correction for procedural adjustments, the required radiated threshold at the antenna port is -64 + 1 = -63 dBm.

The calibrated radiated DFS Detection Threshold level is set to –64 dBm. The tested level is lower than the required level hence it provides margin to the limit.

The software installed in the access point is 12.4(25d)JA1.

Page 318 of 354

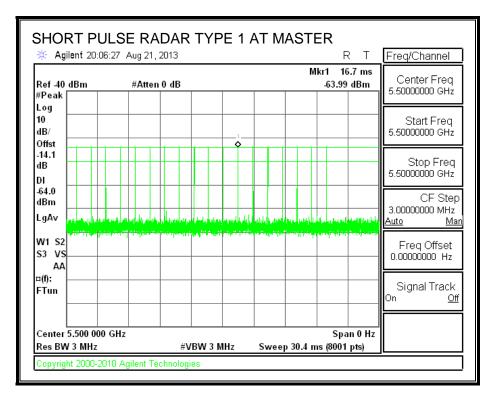
11.2. RESULTS FOR 20 MHz BANDWIDTH

11.2.1. TEST CHANNEL

All tests were performed at a channel center frequency of 5500 MHz.

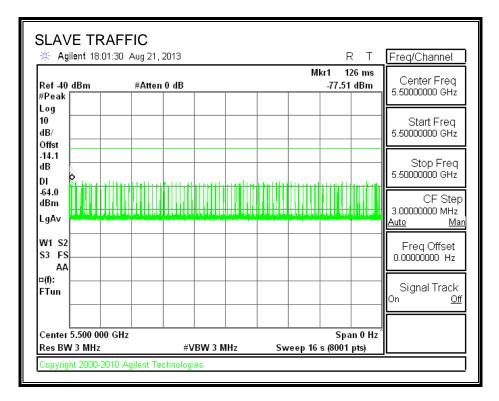
11.2.2. RADAR WAVEFORM AND TRAFFIC

RADAR WAVEFORM



Page 319 of 354

TRAFFIC



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11.2.3. OVERLAPPING CHANNEL TESTS

RESULTS

These tests are not applicable.

11.2.4. MOVE AND CLOSING TIME

REPORTING NOTES

The reference marker is set at the end of last radar pulse.

The delta marker is set at the end of the last WLAN transmission following the radar pulse. This delta is the channel move time.

The aggregate channel closing transmission time is calculated as follows:

```
Aggregate Transmission Time = (Number of analyzer bins showing transmission) * (dwell time per bin)
```

The observation period over which the FCC aggregate time is calculated begins at (Reference Marker + 200 msec) and ends no earlier than (Reference Marker + 10 sec).

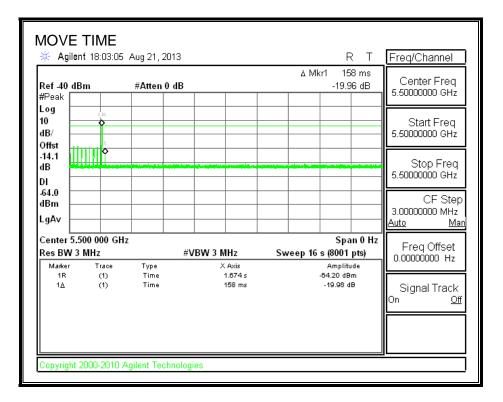
The observation period over which the IC aggregate time is calculated begins at (Reference Marker) and ends no earlier than (Reference Marker + 10 sec).

RESULTS

Agency	Channel Move Time	Limit
	(sec)	(sec)
FCC / IC	0.158	10

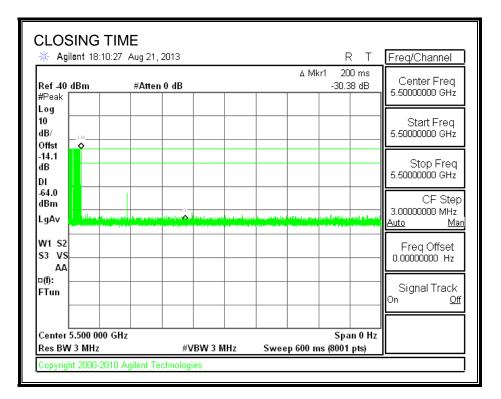
Agency	Aggregate Channel Closing Transmission Time	Limit
	(msec)	(msec)
FCC	0.0	60
IC	4.0	260

MOVE TIME



Page 322 of 354

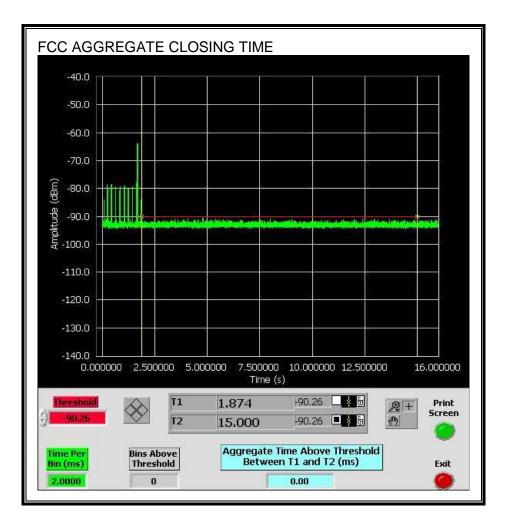
CHANNEL CLOSING TIME



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AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

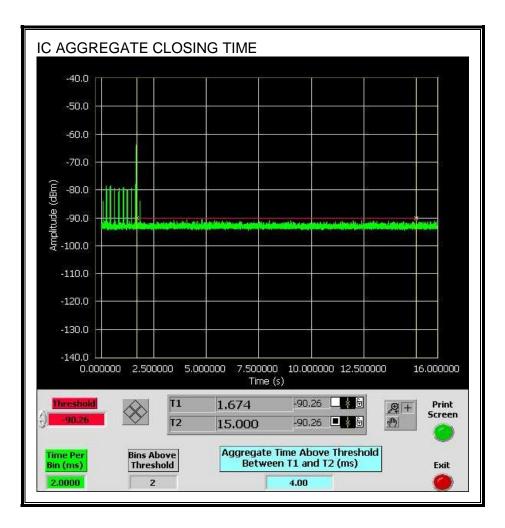
No transmission was observed during the FCC aggregate monitoring period.



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Page 324 of 354

Only intermittent transmissions are observed during the IC aggregate monitoring period.



Page 325 of 354

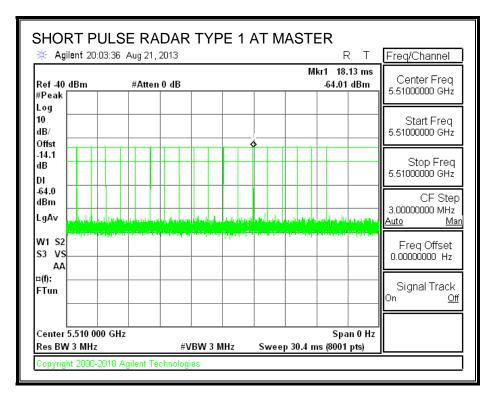
11.3. RESULTS FOR 40 MHz BANDWIDTH

11.3.1. TEST CHANNEL

All tests were performed at a channel center frequency of 5510 MHz.

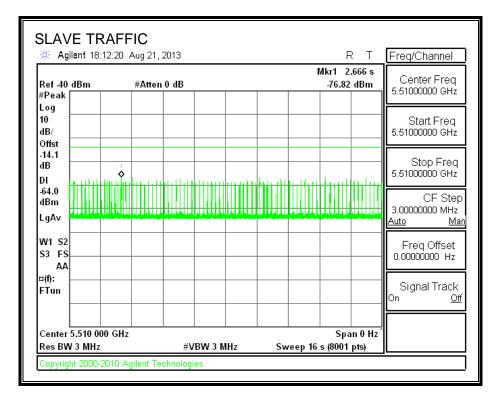
11.3.2. RADAR WAVEFORM AND TRAFFIC

RADAR WAVEFORM



Page 326 of 354

TRAFFIC



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Page 327 of 354

11.3.3. OVERLAPPING CHANNEL TESTS

RESULTS

These tests are not applicable.

11.3.4. MOVE AND CLOSING TIME

REPORTING NOTES

The reference marker is set at the end of last radar pulse.

The delta marker is set at the end of the last WLAN transmission following the radar pulse. This delta is the channel move time.

The aggregate channel closing transmission time is calculated as follows:

```
Aggregate Transmission Time = (Number of analyzer bins showing transmission) * (dwell time per bin)
```

The observation period over which the FCC aggregate time is calculated begins at (Reference Marker + 200 msec) and ends no earlier than (Reference Marker + 10 sec).

The observation period over which the IC aggregate time is calculated begins at (Reference Marker) and ends no earlier than (Reference Marker + 10 sec).

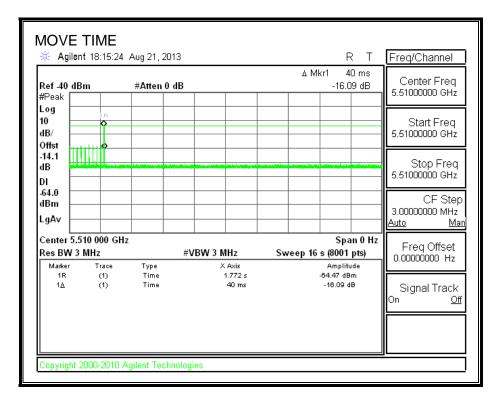
RESULTS

Agency	Channel Move Time	Limit
	(sec)	(sec)
FCC / IC	0.040	10

Agency	Aggregate Channel Closing Transmission Time	Limit
	(msec)	(msec)
FCC	0.0	60
IC	8.0	260

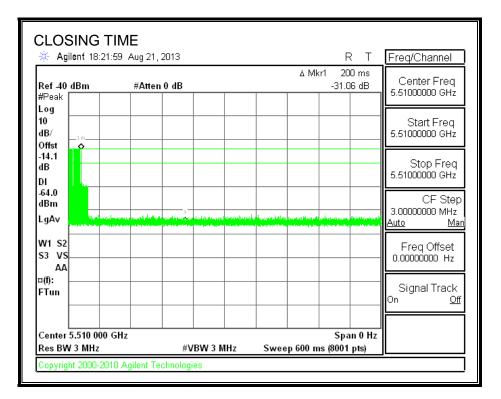
Page 328 of 354

MOVE TIME



Page 329 of 354

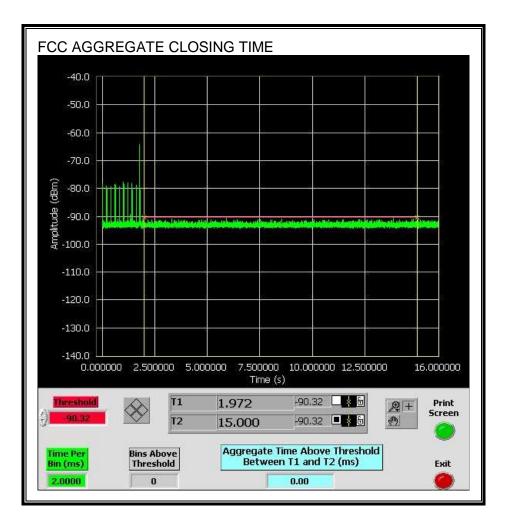
CHANNEL CLOSING TIME



Page 330 of 354

AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

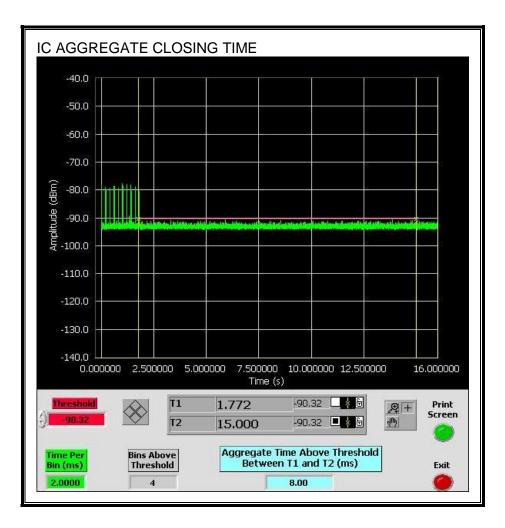
No transmission is observed during the FCC aggregate monitoring period.



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Page 331 of 354

Only intermittent transmissions are observed during the IC aggregate monitoring period.

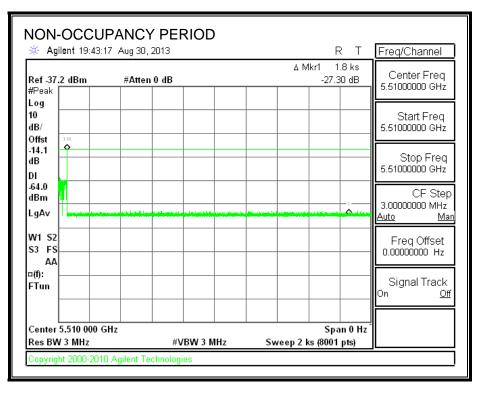


Page 332 of 354

11.3.5. NON-OCCUPANCY PERIOD

RESULTS

No EUT transmissions were observed on the test channel during the 30-minute observation time.



Page 333 of 354

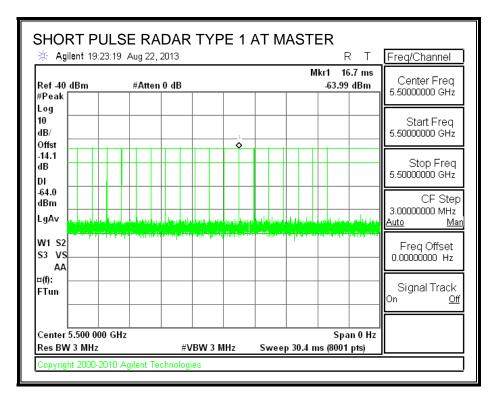
11.4. CLIENT-TO-CLIENT COMMUNICATIONS MODE RESULTS FOR 20 MHz BANDWIDTH

11.4.1. TEST CHANNEL

All tests were performed at a channel center frequency of 5500 MHz.

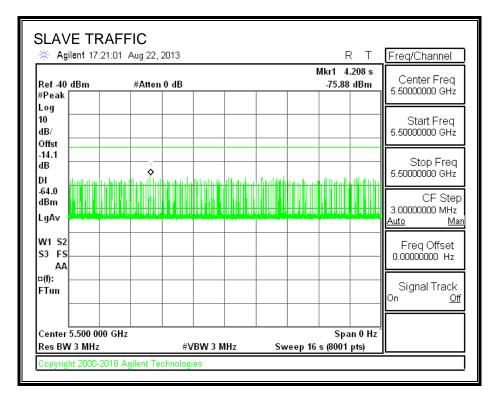
11.4.2. RADAR WAVEFORM AND TRAFFIC

RADAR WAVEFORM



Page 334 of 354

TRAFFIC



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Page 335 of 354

11.4.3. OVERLAPPING CHANNEL TESTS

RESULTS

These tests are not applicable.

11.4.4. MOVE AND CLOSING TIME

REPORTING NOTES

The reference marker is set at the end of last radar pulse.

The delta marker is set at the end of the last WLAN transmission following the radar pulse. This delta is the channel move time.

The aggregate channel closing transmission time is calculated as follows:

```
Aggregate Transmission Time = (Number of analyzer bins showing transmission) * (dwell time per bin)
```

The observation period over which the FCC aggregate time is calculated begins at (Reference Marker + 200 msec) and ends no earlier than (Reference Marker + 10 sec).

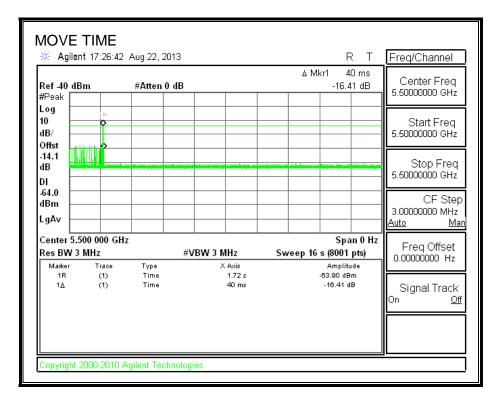
The observation period over which the IC aggregate time is calculated begins at (Reference Marker) and ends no earlier than (Reference Marker + 10 sec).

Agency	Channel Move Time	Limit
	(sec)	(sec)
FCC / IC	0.040	10

Agency	Aggregate Channel Closing Transmission Time	Limit
	(msec)	(msec)
FCC	0.0	60
IC	16.0	260

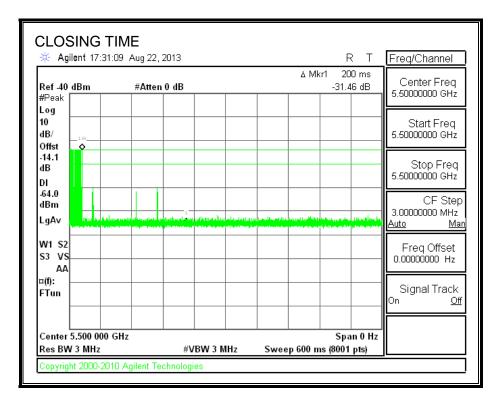
<u>RESULTS</u>

MOVE TIME



Page 337 of 354

CHANNEL CLOSING TIME

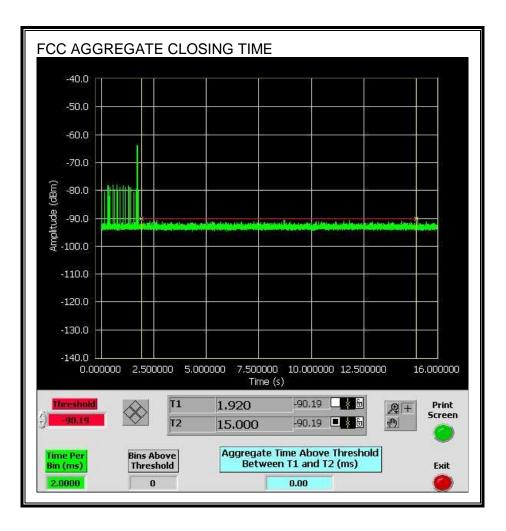


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Page 338 of 354

AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

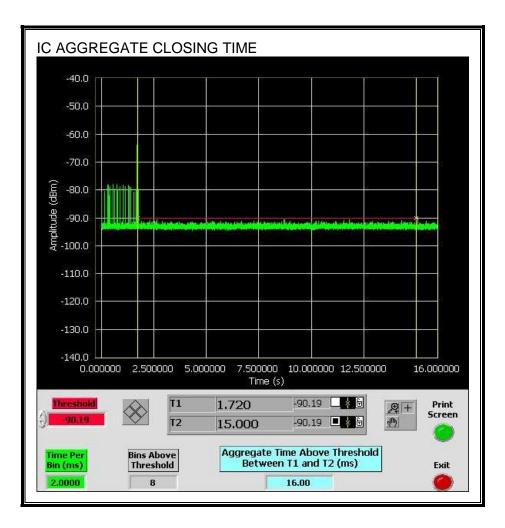
No transmissions are observed during the FCC aggregate monitoring period.



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Page 339 of 354

Only intermittent transmissions are observed during the IC aggregate monitoring period.



Page 340 of 354

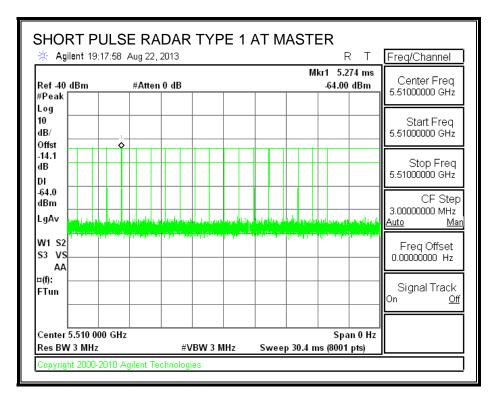
11.5. CLIENT-TO-CLIENT COMMUNICATIONS MODE RESULTS FOR 40 MHz BANDWIDTH

11.5.1. TEST CHANNEL

All tests were performed at a channel center frequency of 5510 MHz.

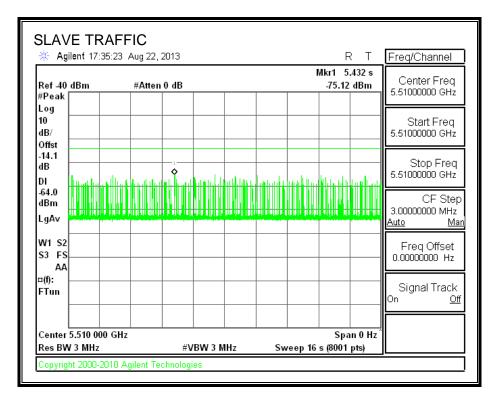
11.5.2. RADAR WAVEFORM AND TRAFFIC

RADAR WAVEFORM



Page 341 of 354

TRAFFIC



Page 342 of 354

11.5.3. OVERLAPPING CHANNEL TESTS

RESULTS

These tests are not applicable.

11.5.4. MOVE AND CLOSING TIME

REPORTING NOTES

The reference marker is set at the end of last radar pulse.

The delta marker is set at the end of the last WLAN transmission following the radar pulse. This delta is the channel move time.

The aggregate channel closing transmission time is calculated as follows:

```
Aggregate Transmission Time = (Number of analyzer bins showing transmission) * (dwell time per bin)
```

The observation period over which the FCC aggregate time is calculated begins at (Reference Marker + 200 msec) and ends no earlier than (Reference Marker + 10 sec).

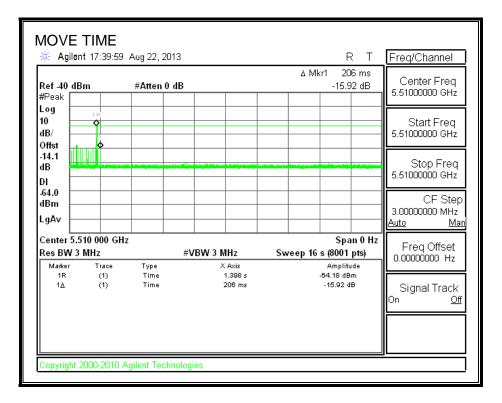
The observation period over which the IC aggregate time is calculated begins at (Reference Marker) and ends no earlier than (Reference Marker + 10 sec).

RESULTS

Agency	Channel Move Time	Limit
	(sec)	(sec)
FCC / IC	0.206	10

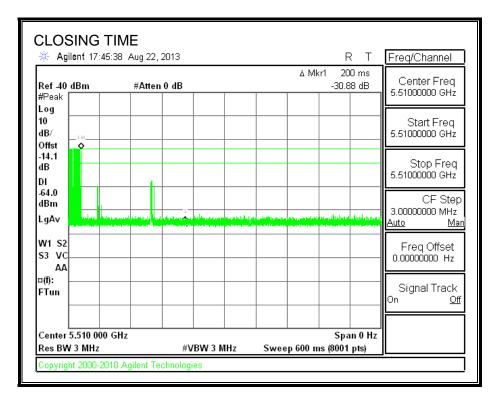
Agency	Aggregate Channel Closing Transmission Time	Limit
	(msec)	(msec)
FCC	2.0	60
IC	20.0	260

MOVE TIME



Page 344 of 354

CHANNEL CLOSING TIME

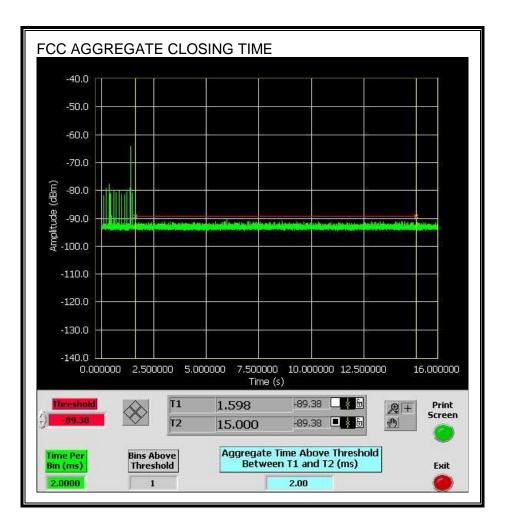


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Page 345 of 354

AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

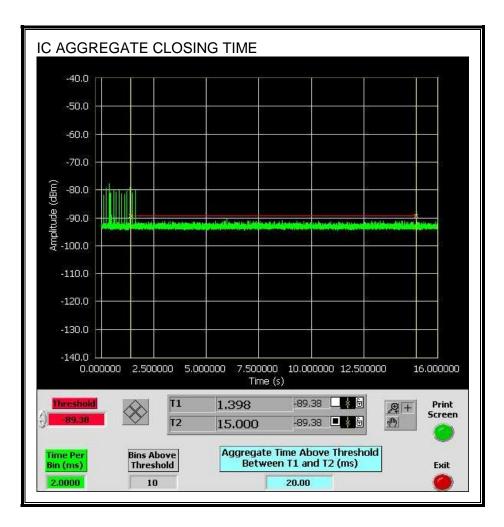
Only intermittent transmissions are observed during the FCC aggregate monitoring period.



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Page 346 of 354

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Page 347 of 354