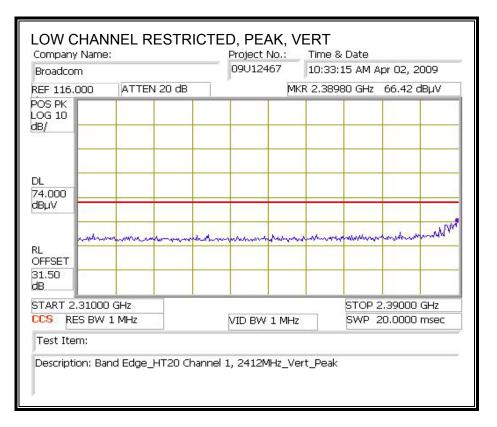
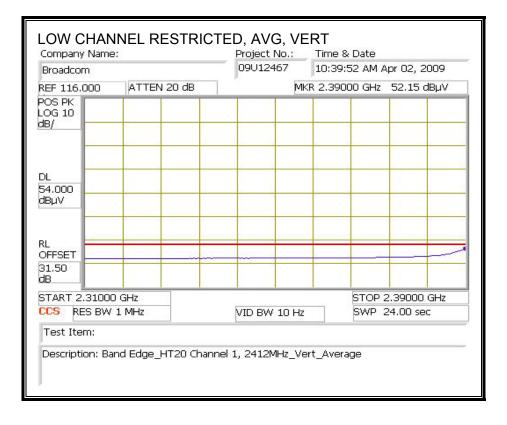
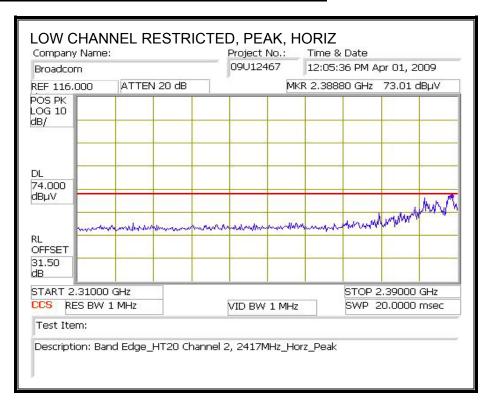
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

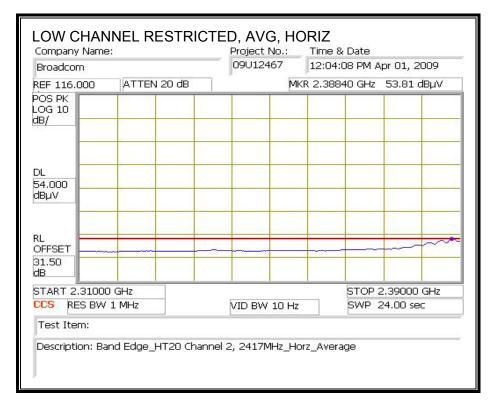




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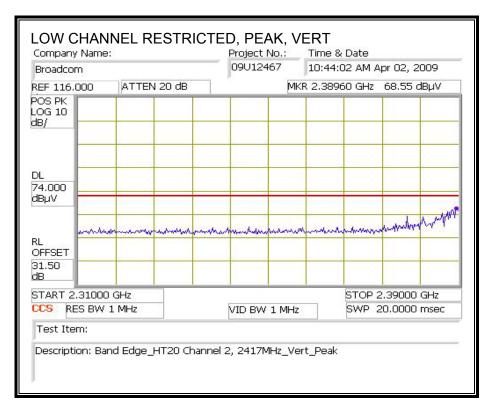
<u>CHANNEL 2, 2417MHz</u> <u>RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)</u>

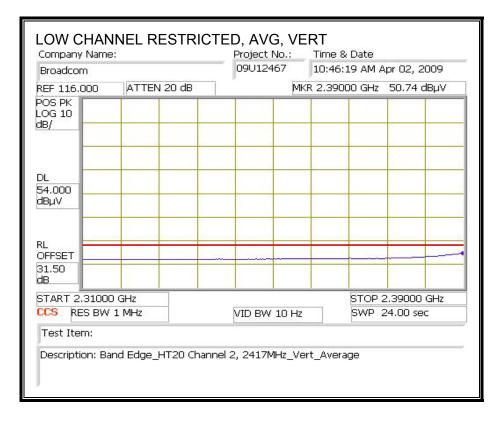




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RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

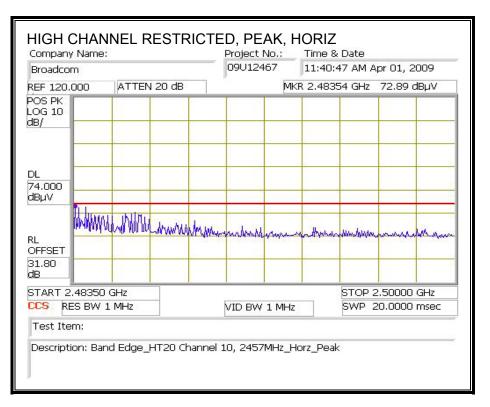


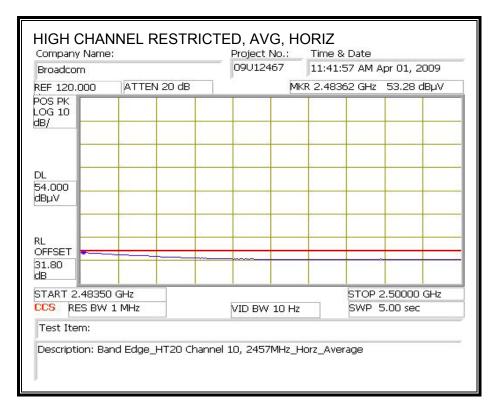


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CHANNEL 10, 2457 MHz

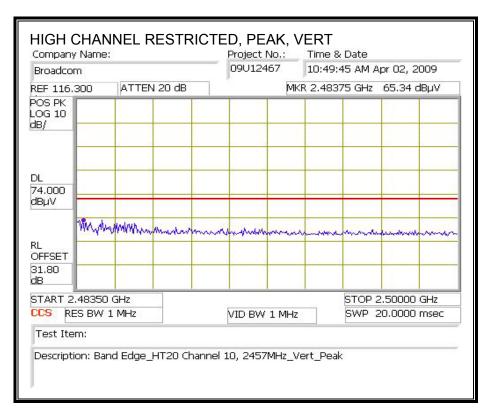
RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

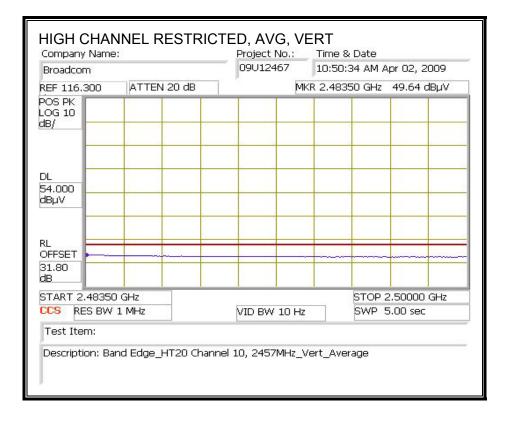




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RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)

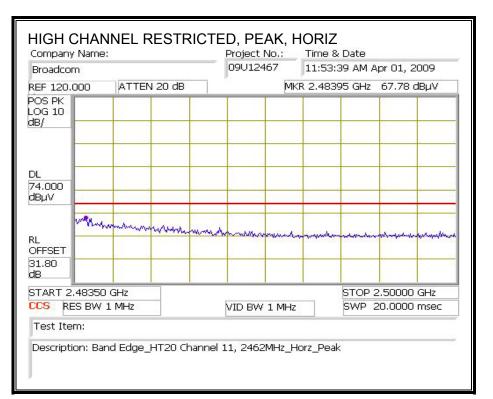


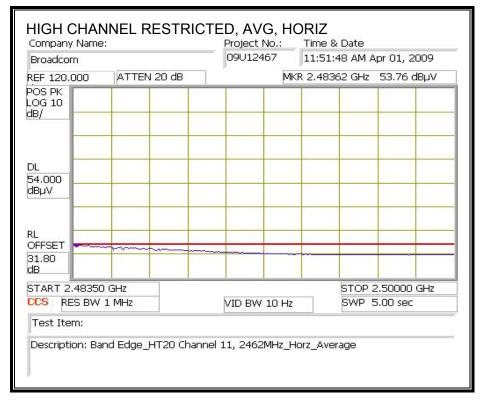


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CHANNEL 11, 2462 MHz

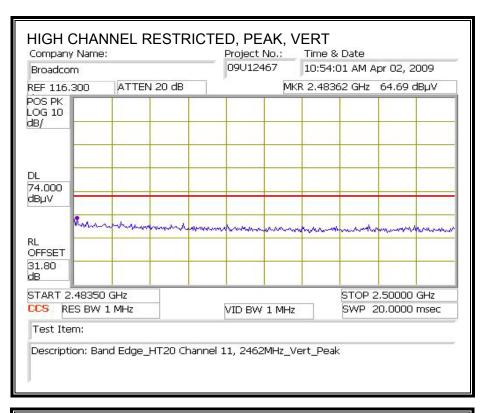
RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

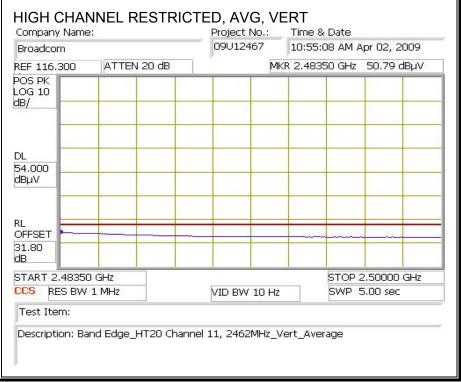




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RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)





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HARMONICS AND SPURIOUS EMISSIONS

					Comp	-	-		isurement ivices, Fre	mont 3m	Chamber				
Compan Project : Date: Fest En Configu Mode:	#: gineer:	1	Broadcom 09U12467 04/02/09 Vien Tran Access Poir Tx HT20 M	-	otop										
Fest Eq	uipmen	<u>it:</u>													
н	orn 1-	18GHz	Pre-an	nplifer	1-260	GHz	Pre-am	plifer	26-40GH	z	H	orn > 180	GHz		Limit
T60; S	5/N: 223	8@3m -	- T34 HP	98449B		-				-				-	FCC 15.205
3' d	uency Ca Cable 2 able 228	22807700		able 22 ble 228		500 •	20' cal 20' cab		807500 ⁷⁵⁰⁰ -		HPF		oject Filte 001	R Ave	ak Measurements BW=VBW=1MHz rage Measurements '=1MHz ; VBW=10Hz
f	Dist	Read Pk	•	AF	CL	Amp	D Corr		Peak	Avg	Pk Lim	-	1	Avg Mar	Notes
GHz	(m)	dBuV	dBuV	dB/m	dB	dB	dB	dB	dBuV/m	dBuV/m	dBuV/m	dBuV/m	dB	dB	(V/H)
ow Chan 824	mel, 241 3.0	2MHz 51.3	39.6	32.7	5.8	-34.8	0.0	0.0	54.9	43.3	74	54	-19.1	-10.7	Н
.824 .824	3.0	49.8	37.1	32.7	5.8	-34.8	0.0	0.0	53.4	43.5	74	54 54	-19.1	-13.3	v
	nel, 2437	MHz						1							
874	3.0	51.0	40.6	32.7	5.8	-34.8	0.0	0.0	54.7	44.3	74	54	-19.3	-9.7	Н
311	3.0	49.8	38.9	35.5	73	-34.1	0.0	0.0	58.4	47.5	74	54	-15.6	-6.5	H
874 311	3.0 3.0	46.1 49.3	35.1 36.2	32.7 35.5	5.8 7.3	-34.8 -34.1	0.0 0.0	0.0 0.0	49.8 57.9	38.8 44.8	74 74	54 54	-24.2 -16.1	-15.2 -9.2	v v
	unel, 246					-511	0.0		0,0	118					•
924	3.0	51.4	41.3	32.7	59	-34.8	0.0	0.0	55.2	45.1	74	54	- 18.8	- 8.9	Н
386	3.0	50.4	39.8	35.6	73	-34.1	0.0	0.0	59.2	48.6	74	54	-14.8	-5.4	H
924 386	3.0 3.0	46.7 50.1	35.3 37.2	32.7 35.6	59 73	-34.8 -34.1	0.0 0.0	0.0 0.0	50.5 58.9	39.1 46.0	74 74	54 54	-23.5 -15.1	-14.9 -8.0	v v
lev. 03.09											i				
	f	Measureme	nt Frequency	,		Amp	Preamp	Gain				Avg Lim	Average F	Field Strengt	h Limit
	Dist	Distance to				-	-		ct to 3 mete	rs		0	0	d Strength L	
		Analyzer Re				Avg			Strength @					Average L	
	AF	Antenna Fa				Peak	-		c Field Stre			<u> </u>		. Peak Limit	
	CL	Cable Loss				HPF	High Pas			0***			2.200 800 00	. 2 0040 254110	
	24	- 4010 2000													

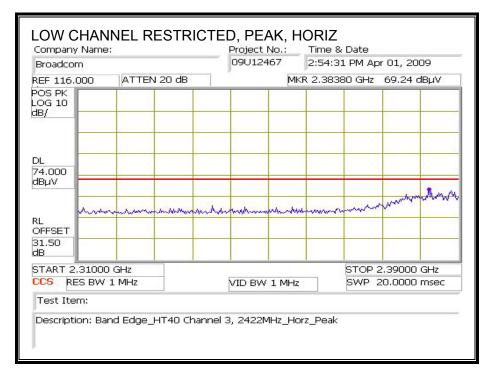
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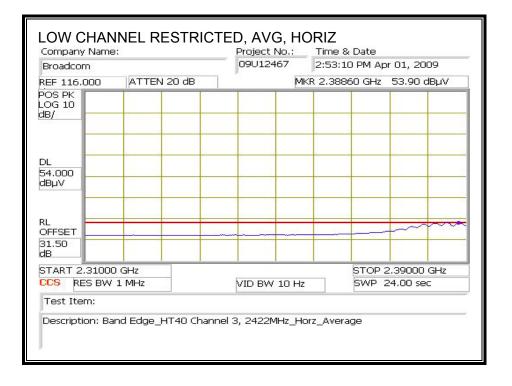
8.2.4. 802.11n HT40 MIMO MODE

MCS0

CHANNEL 2422 MHz

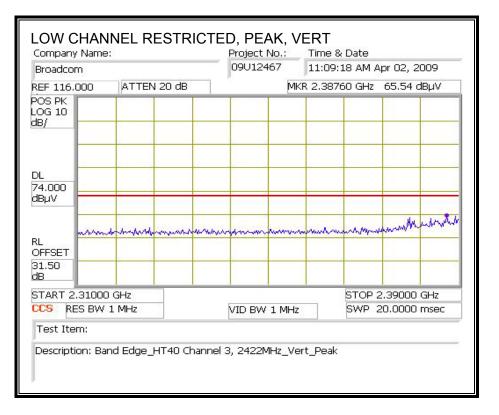
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

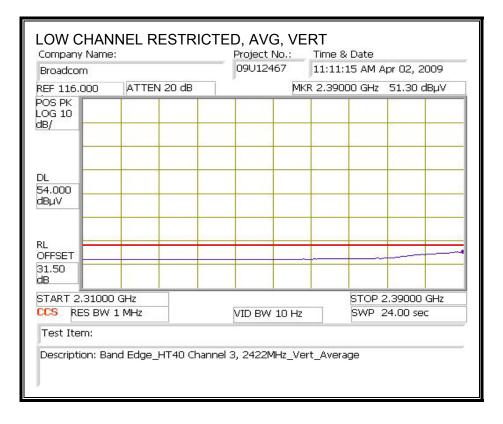




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RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

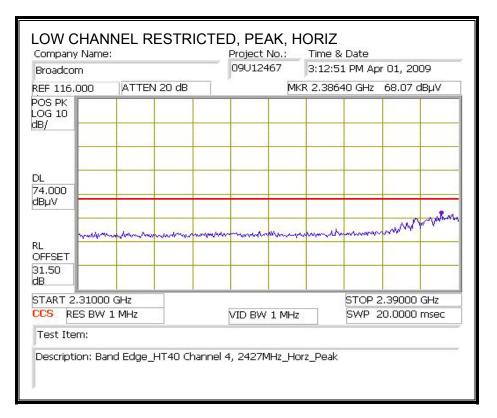


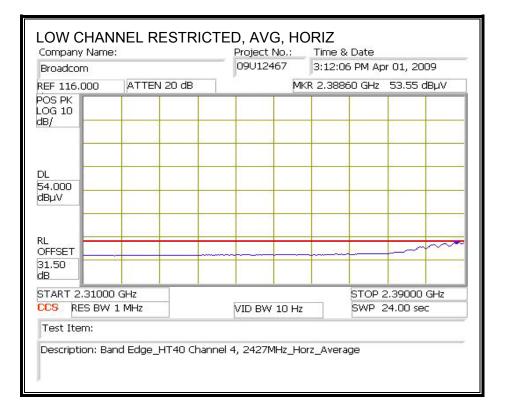


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CHANNEL 2427 MHz

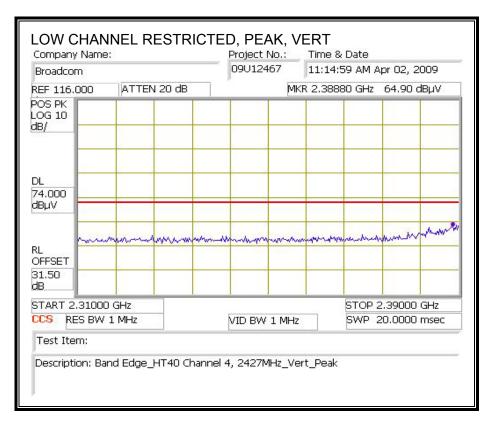
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

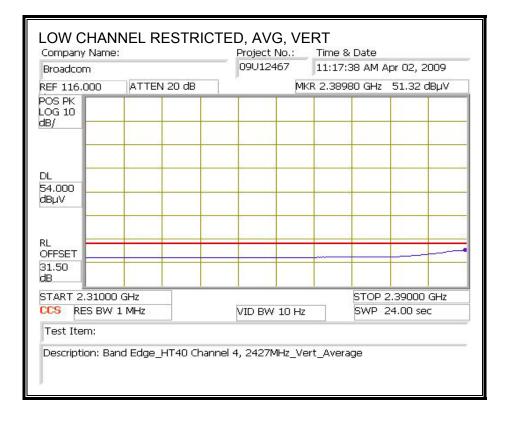




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RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



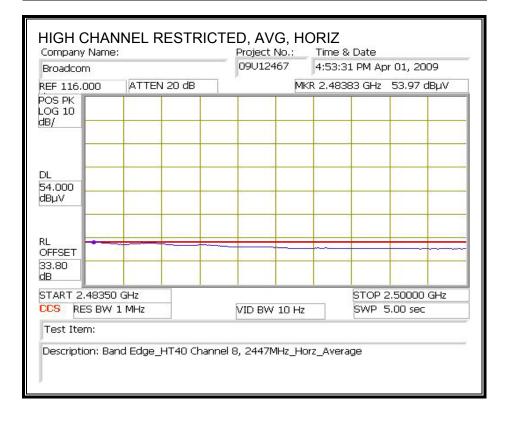


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CHANNEL 2447 MHz

RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

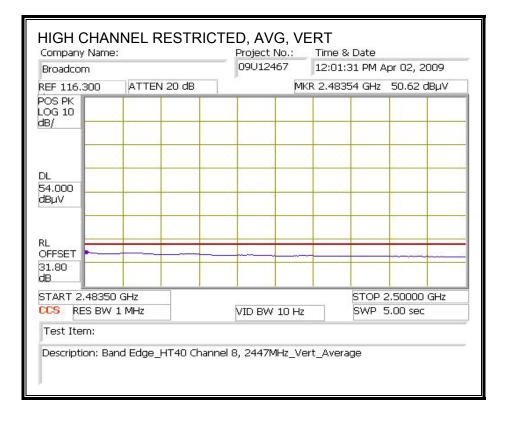
HIGH CHANNEL RESTRICTED, PEAK, HORIZ Company Name: Project No.: Time & Date 09U12467 4:54:59 PM Apr 01, 2009 Broadcom MKR 2.48395 GHz 66.56 dBµV REF 116.000 ATTEN 20 dB POS PK LOG 10 dB/ DL 74.000 dBµV and and the second and the second s RL OFFSET 33.80 dB. START 2.48350 GHz STOP 2,50000 GHz CCS RES BW 1 MHz SWP 20.0000 msec VID BW 1 MHz Test Item: Description: Band Edge_HT40 Channel 8, 2447MHz_Horz_Peak



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RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)

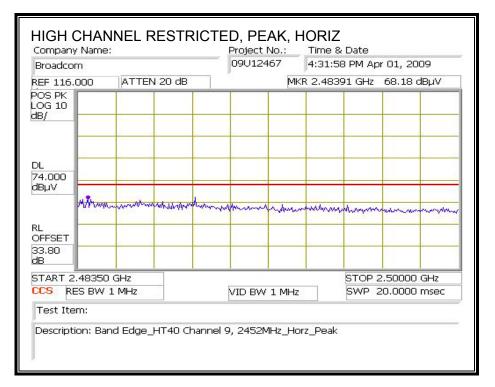
Broadcom		0901:	2467	12:00:30 PM Apr 02, 2009			
REF 116.300	ATTEN 20 d	1B	M	(R 2.483	75 GHz	64.46	dBµV
OS PK .OG 10 JB/							
DL 74,000 ΙΒμν							
RL DFFSET 31.80 JB	www.www.	manudrah	www.w	mabh	mprogram	muntan	
START 2.483	50 GHz N 1 MHz		V 1 MHz		STOP 2.50000 GHz SWP 20.0000 msec		
Test Item:							

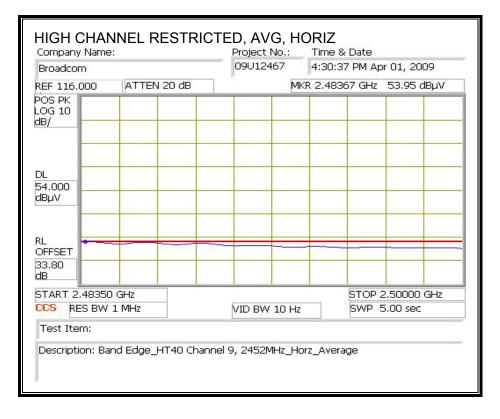


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CHANNEL 2452 MHz

RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

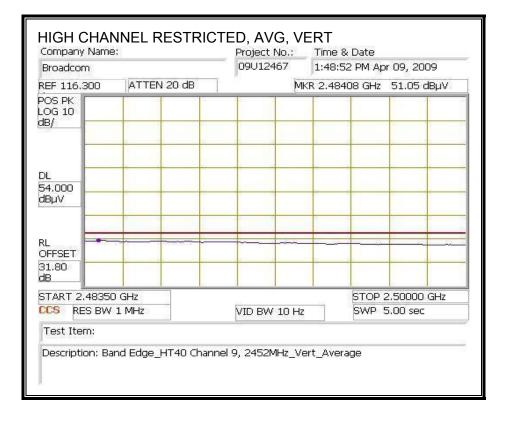




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RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)

09, 2009 65.03 dBµV
65.03 dBµV
Man Someron
.50000 GHz
0.0000 msec



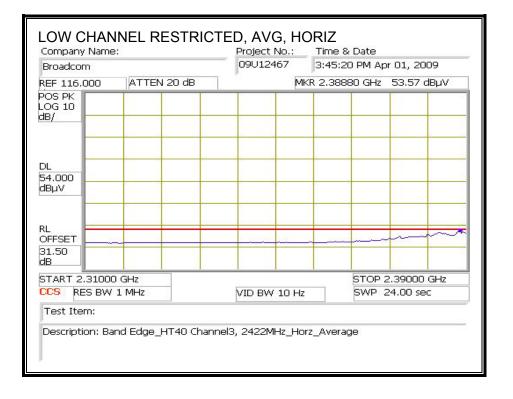
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MCS12

CHANNEL 2422 MHz

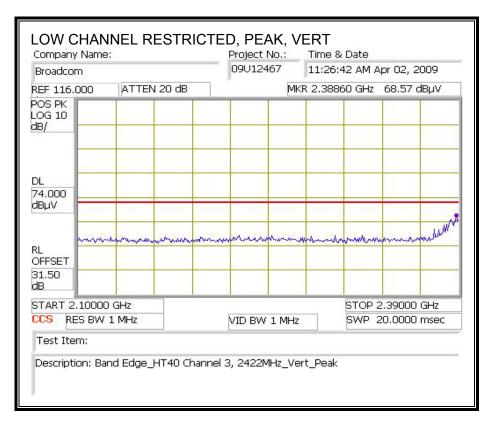
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

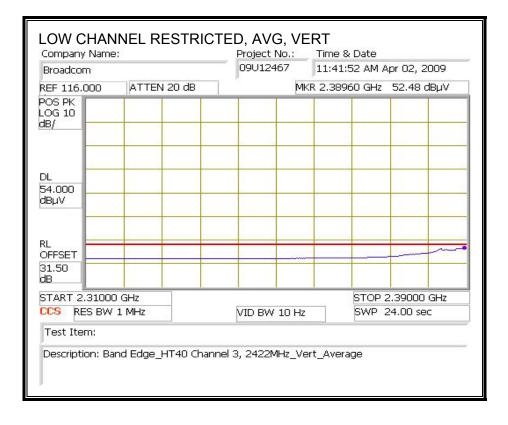
LOW CHANNEL RESTRICTED, PEAK, HORIZ Time & Date Company Name: Project No.: 09U12467 3:48:13 PM Apr 01, 2009 Broadcom REF 116.000 ATTEN 20 dB MKR 2.38420 GHz 73.16 dBµV POS PK LOG 10 dB/ DL 74.000 dBµV mathan month when the month when the the Manmanna RL OFFSET 31.50 dB. START 2.31000 GHz STOP 2.39000 GHz CCS RES BW 1 MHz VID BW 1 MHz SWP 20.0000 msec Test Item: Description: Band Edge_HT40 Channel3, 2422MHz_Horz_Peak



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RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

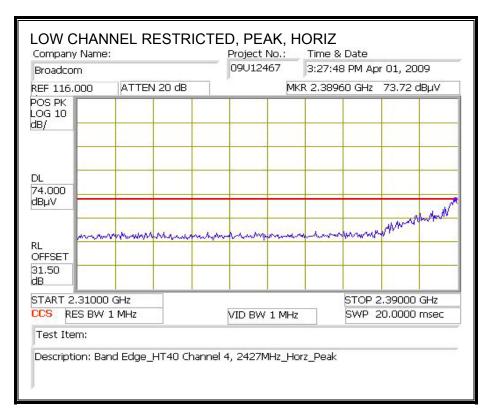


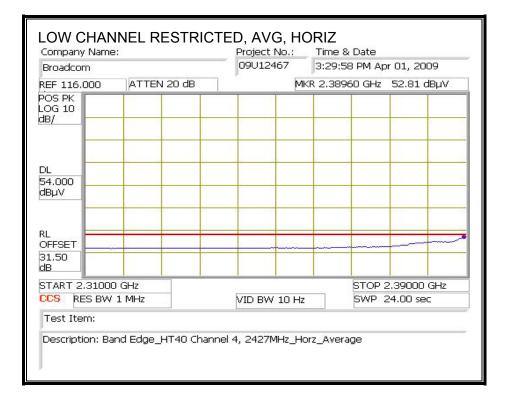


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CHANNEL 2427 MHz

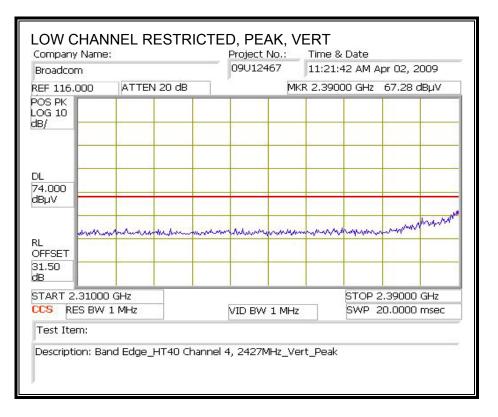
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

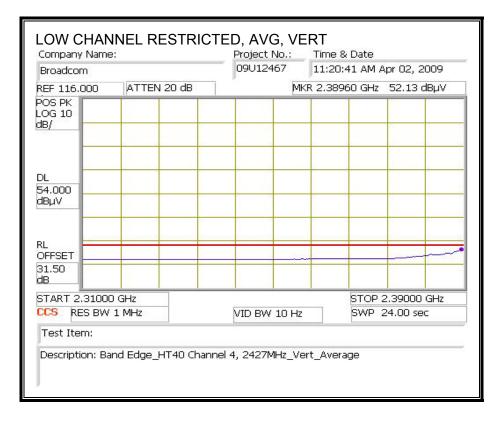




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RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



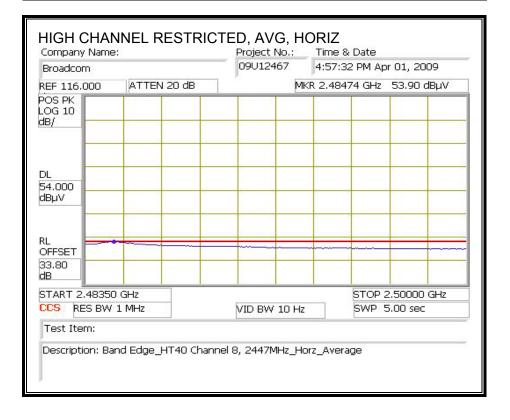


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CHANNEL 2447 MHz

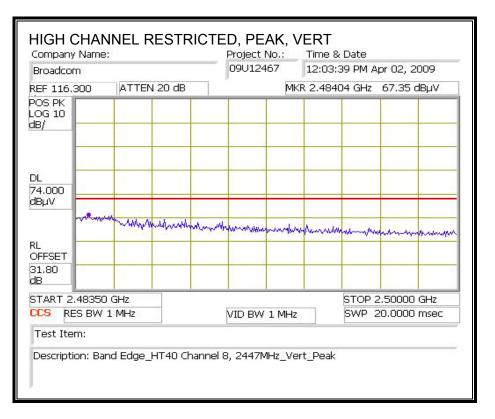
RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

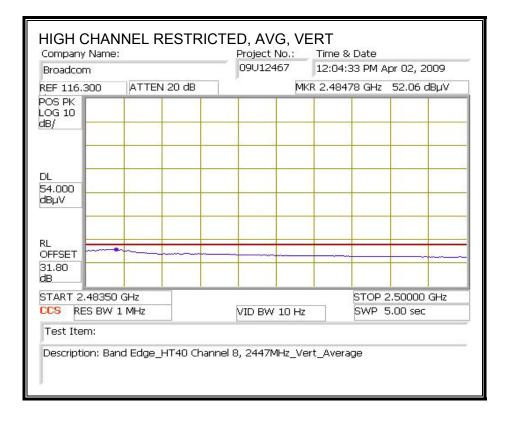
HIGH CHANNEL RESTRICTED, PEAK, HORIZ Company Name: Project No.: Time & Date 09U12467 4:58:27 PM Apr 01, 2009 Broadcom MKR 2.48486 GHz 72.57 dBµV REF 116.000 ATTEN 20 dB POS PK LOG 10 dB/ DL 74.000 www. marker www. dBµV month and mand the approximation RL OFFSET 33.80 dB. START 2.48350 GHz STOP 2,50000 GHz CCS RES BW 1 MHz SWP 20.0000 msec VID BW 1 MHz Test Item: Description: Band Edge_HT40 Channel 8, 2447MHz_Horz_Peak



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RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



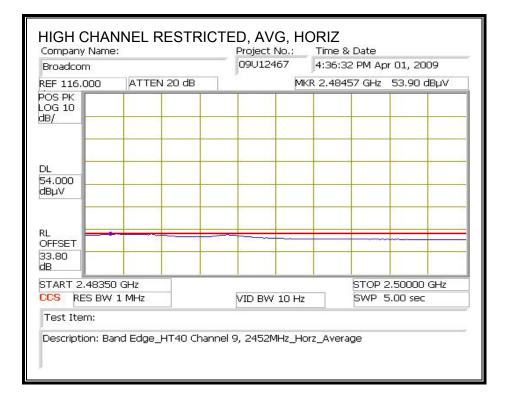


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CHANNEL 2452 MHz

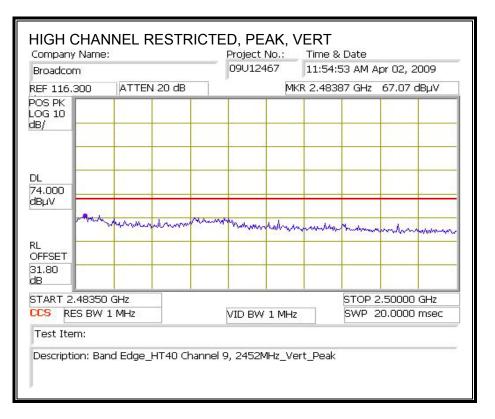
RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

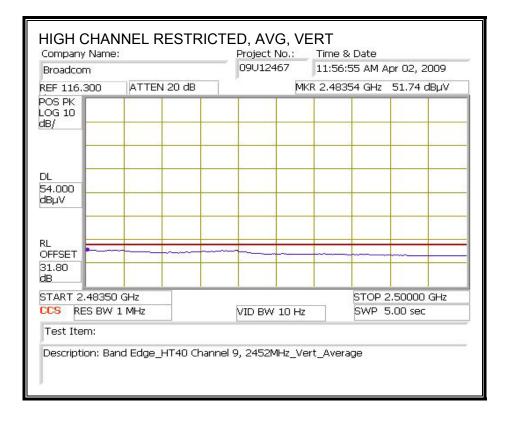
HIGH CHANNEL RESTRICTED, PEAK, HORIZ Company Name: Project No.: Time & Date 09U12467 4:37:31 PM Apr 01, 2009 Broadcom MKR 2.48618 GHz 72.07 dBµV REF 116.000 ATTEN 20 dB POS PK LOG 10 dB/ DL 74.000 dBµV minute White white the work of the work of the second of the seco RL OFFSET 33.80 dB. START 2.48350 GHz STOP 2,50000 GHz CCS RES BW 1 MHz SWP 20.0000 msec VID BW 1 MHz Test Item: Description: Band Edge_HT40 Channel 9, 2452MHz_Horz_Peak



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RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)





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HARMONICS AND SPURIOUS EMISSIONS - WORST CASE MCS 0

12' cable 22807600 20' cable 22807500 HPF Reject Filter 0 12' cable 22807600 20' cable 22807500 12' cable 22807600 12' cable 22807500	RBW=VBW=1MHz <u>Average Measurements</u> RBW=1MHz ; VBW=10Hz Avg Mar Notes
m T34 HP 8449B m Z0' cable 22807500 HPF Reject Filter 0 12' cable 22807600 20' cable 22807500 12' cable 22807600 12' cable 22807500 12' cable 22807600 12' cable 22807600 12' cable 22807600 12' cable 22807500 12' cable 22807600 12' cable 22807500 12' cable 22807500 12' cable 22807600 12' cable 22807500 12' cable 22807500 <td< th=""><th>FCC 15.205 FCC 15.205</th></td<>	FCC 15.205
m T34 HP 8449B m Z0' cable 22807500 HPF Reject Filter 0 12' cable 22807600 20' cable 22807500 12' cable 22807600 12' cable 22807500 12' cable 22807600 12' cable 22807600 12' cable 22807600 12' cable 22807500 12' cable 22807600 12' cable 22807500 12' cable 22807500 12' cable 22807600 12' cable 22807500 12' cable 22807500 <td< td=""><td>FCC 15.205 FCC 15.205</td></td<>	FCC 15.205
12' cable 22807600 20' cable 22807500 0 12' cable 22807600 20' cable 22807500 12' cable 22807600 20' cable 22807500 20' cable 22807500 20' cable 22807500 ad Pk Read Avg. AF CL Amp D Corr Fltr Peak Avg Pk Lim Avg Lim Pk Mar Avg I BuV dBuV dB/m dB dB dB dBuV/m dBuV/m dBuV/m dBuV/m dBuV/m dBuV/m dBuV/m dB dB dE 100 0.0 48.8 36.5 74 54 -25.2 -17. 3.2 30.7 32.7 5.8 -34.8 0.0 0.0 46.9 34.4 74 54 -25.2 -17. 4.3 32.8 32.7 5.8 -34.8 0.0 0.0 48.0 36.5 74 54 -25.2 -17. 4.3 32.8 32.7 5.8 -34.8 0.0 0.0 46.9 34.4 74 54 -25.0 -17. 3.0 32.2 35.5 <td>Peak Measurements RBW=VBW=1MHz Average Measurements RBW=1MHz ; VBW=10Hz Avg Mar Notes</td>	Peak Measurements RBW=VBW=1MHz Average Measurements RBW=1MHz ; VBW=10Hz Avg Mar Notes
12 cable 22807600 20' cable 22807500 11' reject interpretation ad Pk Read Avg. AF CL Amp D Corr Fltr Peak Avg Pk Lim Avg Lim Pk Mar Avg D BuV dBuV dB/u dB dB dB dB dB dBuV/m dBuV/m dBuV/m dBuV/m dB	RBW=VBW=1MHz Average Measurements RBW=1MHz; VBW=10Hz Avg Mar Notes
12 cable 22807600 20' cable 22807500 11' reject interpretation ad Pk Read Avg. AF CL Amp D Corr Fltr Peak Avg Pk Lim Avg Lim Pk Mar Avg D BuV dBuV dB/u dB dB dB dB dB dBuV/m dBuV/m dBuV/m dBuV/m dB	RBW=VBW=1MHz Average Measurements RBW=1MHz; VBW=10Hz Avg Mar Notes
ad Pk Read Avg. AF CL Amp D Corr Fltr Peak Avg Pk Lim Avg Lim Pk Mar Avg M BuV dBuV dB/m dB dB<	Average Measurements RBW=1MHz ; VBW=10Hz Avg Mar Notes
BuV dB/V dB/m dB dB </td <td></td>	
5.1 32.9 32.7 5.8 -34.8 0.0 0.0 48.8 36.5 74 54 -25.2 -17. 3.2 30.7 32.7 5.8 -34.8 0.0 0.0 46.9 34.4 74 54 -25.2 -17. 4.3 32.8 32.7 5.8 -34.8 0.0 0.0 46.9 34.4 74 54 -27.1 -19. 4.3 32.8 32.7 5.8 -34.8 0.0 0.0 46.9 34.4 74 54 -26.0 -17. 3.0 32.2 35.5 7.3 -34.1 0.0 0.0 46.9 34.6 74 54 -22.4 -13. 2.8 30.9 32.7 5.8 -34.8 0.0 0.0 46.5 34.6 74 54 -27.5 -19. 0.8 29.0 35.5 7.3 -34.1 0.0 0.0 49.4 37.6 74 54	
5.1 32.9 32.7 5.8 -34.8 0.0 0.0 48.8 36.5 74 54 -25.2 -17. 3.2 30.7 32.7 5.8 -34.8 0.0 0.0 46.9 34.4 74 54 -25.2 -17. 4.3 32.8 32.7 5.8 -34.8 0.0 0.0 46.9 34.4 74 54 -27.1 -19. 4.3 32.8 32.7 5.8 -34.8 0.0 0.0 46.9 36.5 74 54 -26.0 -17. 3.0 32.2 35.5 7.3 -34.1 0.0 0.0 46.0 36.5 74 54 -22.4 -13. 3.8 30.9 32.7 5.8 -34.8 0.0 0.0 46.5 34.6 74 54 -27.5 -19. 0.8 29.0 35.5 7.3 -34.1 0.0 0.0 49.4 37.6 74 54	dB (V/H)
3.2 30.7 32.7 5.8 -34.8 0.0 0.0 46.9 34.4 74 54 -27.1 -19. 4.3 32.8 32.7 5.8 -34.8 0.0 0.0 46.9 36.5 74 54 -26.0 -17. 3.0 32.2 35.5 7.3 -34.1 0.0 0.0 46.9 36.5 74 54 -26.0 -17. 3.0 32.2 35.5 7.3 -34.1 0.0 0.0 46.8 74 54 -27.5 -19. 2.8 30.9 32.7 5.8 -34.8 0.0 0.0 46.5 34.6 74 54 -27.5 -19. 0.8 29.0 35.5 7.3 -34.1 0.0 0.0 49.4 37.6 74 54 -27.5 -19.	-17.5 H
3.0 32.2 35.5 7.3 -34.1 0.0 0.0 51.6 40.8 74 54 -22.4 -13. 2.8 30.9 32.7 5.8 -34.8 0.0 0.0 46.5 34.6 74 54 -22.4 -13. 0.8 29.0 35.5 7.3 -34.1 0.0 0.0 46.5 34.6 74 54 -27.5 -19.	-19.6 V
3.0 32.2 35.5 7.3 -34.1 0.0 0.0 51.6 40.8 74 54 -22.4 -13. 2.8 30.9 32.7 5.8 -34.8 0.0 0.0 46.5 34.6 74 54 -22.4 -13. 0.8 29.0 35.5 7.3 -34.1 0.0 0.0 46.5 34.6 74 54 -27.5 -19.	
28 30.9 32.7 5.8 -34.8 0.0 0.0 46.5 34.6 74 54 -27.5 -19. 0.8 29.0 35.5 7.3 -34.1 0.0 0.0 49.4 37.6 74 54 -24.6 -16.	-17.5 H
0.8 29.0 35.5 7.3 -34.1 0.0 0.0 49.4 37.6 74 54 -24.6 -16.	
	-194 V
	-17.0 H
	-13.5 H
	-19.7 V -17.2 V
4.5	309 32.7 58 -34.8 0.0 0.0 46.5 34.6 74 54 -27.5 29.0 35.5 7.3 -34.1 0.0 0.0 49.4 37.6 74 54 -24.6 33.2 32.7 59 -34.8 0.0 0.0 48.3 37.0 74 54 -25.7

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8.3. RECEIVER ABOVE 1 GHz

8.3.1. 20 MHz BANDWIDTH IN THE 2.4 GHz BAND

					Comp			<i>.</i>	isurement ivices, Fre	mont 3m	Chamber				
Compan Project : Date: Test En Configu Mode: Test Eq	#: Igineer: ration:		Broadcom 09U12467 04/02/09 Vien Tran Access Poin Rx HT20 M	-	top										
Horn 1-18GHz Pre-amplifer 1-26GHz Pre-amplifer 26-40GHz Horn > 18GHz						Limit									
T60; S/N: 2238 @3m T34 HP 8449B RX RSS 210															
3' d	quency Ca cable 2 able 228	22807700		able 2 ble 228		500 •	20' cal 20' cab		807500 7500 -		HPF	Re ▼	ject Filte	R Ave	eak Measurements RBW=VBW=1MHz rage Measurements V=1MHz ; VBW=10Hz
f	1	1 1			CL	Amp	D Corr	Fltr	Peak						
	Dist	Read Pk	Read Avg.	AF	UL.	հար	DCOIT	THT	геак	Avg	Pk Lim	Avg Lim	Pk Mar	Avg Mar	Notes
GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	4B	dB	dB	dB	геак dBuV/m	0		0	Pk Mar dB	Avg Mar dB	Notes (V/H)
GHz	1	1 1	0		dB 2.6		1			0		dBuV/m 54			
GHz 197 460	(m) 3.0 3.0	dBuV 55.8 56.8	dBuV 36.8 38.6	dB/m 25.1 26.0	dB 2.6 2.9	dB -38.0 -37.6	dB 0.0 0.0	dB 0.0 0.0	dBuV/m 45.5 48.1	dBuV/m 26.5 29.9	dBuV/m 74 74	dBuV/m 54 54	dB -28.5 -25.9	dB -27.5 -24.1	(V/H) H H
GHz 197 460 437	(m) 3.0 3.0 3.0	dBuV 55.8 56.8 51.9	dBuV 36.8 38.6 48.9	dB/m 25.1 26.0 28.1	dB 2.6 2.9 3.9	dB -38.0 -37.6 -36.3	dB 0.0 0.0 0.0	dB 0.0 0.0 0.0	dBuV/m 45.5 48.1 47.6	dBuV/m 26.5 29.9 44.6	dBuV/m 74 74 74	dBuV/m 54 54 54	dB -28.5 -25.9 -26.4	dB -27.5 -24.1 -9.4	(V/H) H H H
GHz 197 460 437 197	(m) 3.0 3.0 3.0 3.0 3.0	dBuV 558 568 519 585	dBuV 36.8 38.6 48.9 44.6	dB/m 25.1 26.0 28.1 25.1	dB 2.6 29 39 2.6	dB -38.0 -37.6 -36.3 -38.0	dB 0.0 0.0 0.0 0.0	dB 0.0 0.0 0.0 0.0	dBuV/m 455 48.1 47.6 48.2	dBuV/m 26.5 29.9 44.6 34.3	dBuV/m 74 74 74 74 74	dBuV/m 54 54 54 54 54	dB -28.5 -25.9 -26.4 -25.8	dB -27.5 -24.1 -9.4 -19.7	(V/H) H H V
-	(m) 3.0 3.0 3.0	dBuV 55.8 56.8 51.9	dBuV 36.8 38.6 48.9	dB/m 25.1 26.0 28.1	dB 2.6 2.9 3.9	dB -38.0 -37.6 -36.3	dB 0.0 0.0 0.0	dB 0.0 0.0 0.0	dBuV/m 45.5 48.1 47.6	dBuV/m 26.5 29.9 44.6	dBuV/m 74 74 74	dBuV/m 54 54 54	dB -28.5 -25.9 -26.4	dB -27.5 -24.1 -9.4	(V/H) H H H
GHz 197 460 2437 197 460	(m) 3.0 3.0 3.0 3.0 3.0 3.0 3.0	dBuV 558 568 519 585 61.1	dBuV 36.8 38.6 48.9 44.6 39.8	dB/m 25.1 26.0 28.1 25.1 26.0	dB 2.6 2.9 3.9 2.6 2.9	dB -38.0 -37.6 -36.3 -38.0 -37.6	dB 0.0 0.0 0.0 0.0 0.0	dB 0.0 0.0 0.0 0.0 0.0	dBuV/m 455 48.1 47.6 48.2 52.4	dBuV/m 26.5 29.9 44.6 34.3 31.1	dBuV/m 74 74 74 74 74 74	dBuV/m 54 54 54 54 54 54 54	dB -28.5 -25.9 -26.4 -25.8 -21.6	dB -27.5 -24.1 -9.4 -19.7 -22.9	(V/H) H H V V
GHz 197 460 437 197 460 437	(m) 3.0 3.0 3.0 3.0 3.0 3.0 3.0	dBuV 55.8 56.8 51.9 58.5 61.1 48.6	dBuV 36.8 38.6 48.9 44.6 39.8	dB/m 25.1 26.0 28.1 25.1 26.0 28.1	dB 2.6 2.9 3.9 2.6 2.9	dB -38.0 -37.6 -36.3 -38.0 -37.6	dB 0.0 0.0 0.0 0.0 0.0	dB 0.0 0.0 0.0 0.0 0.0	dBuV/m 455 48.1 47.6 48.2 52.4	dBuV/m 26.5 29.9 44.6 34.3 31.1	dBuV/m 74 74 74 74 74 74	dBuV/m 54 54 54 54 54 54 54 54 54	dB -28.5 -25.9 -26.4 -25.8 -21.6 -29.7	dB -27.5 -24.1 -9.4 -19.7 -22.9	(V/H) H H V V V V
GHz 197 460 437 197 460 437	(m) 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 5.09	dBuV 55.8 56.8 51.9 58.5 61.1 48.6	dBuV 36.8 38.6 48.9 44.6 39.8 43.8 mt Frequency	dB/m 25.1 26.0 28.1 25.1 26.0 28.1	dB 2.6 2.9 3.9 2.6 2.9	dB -38.0 -37.6 -36.3 -38.0 -37.6 -36.3 -36.3 -36.3	dB 0.0 0.0 0.0 0.0 0.0 0.0 Preamp (dB 0.0 0.0 0.0 0.0 0.0 5ain	dBuV/m 455 48.1 47.6 48.2 52.4	dBuV/m 265 299 446 343 31.1 395	dBuV/m 74 74 74 74 74 74	dBuV/m 54 54 54 54 54 54 54 8 4 8 8 8 8 8 8 8	dB -28.5 -25.9 -26.4 -25.8 -21.6 -29.7 Average I	dB -27.5 -24.1 -9.4 -19.7 -22.9 -14.5	(V/H) H H V V V V
GHz .197 .460 .437 .197 .460 .437	(m) 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 5.09	dBuV 55.8 56.8 51.9 58.5 61.1 48.6 Measureme	dBuV 36.8 38.6 48.9 44.6 39.8 43.8	dB/m 25.1 26.0 28.1 25.1 26.0 28.1	dB 2.6 2.9 3.9 2.6 2.9	dB -38.0 -37.6 -36.3 -38.0 -37.6 -36.3 -36.3 -36.3	dB 0.0 0.0 0.0 0.0 0.0 Preamp (Distance	dB 0.0 0.0 0.0 0.0 0.0 Gain Corre	dBuV/m 455 48.1 47.6 48.2 52.4 44.3	dBuV/m 265 299 44.6 34.3 31.1 39.5	dBuV/m 74 74 74 74 74 74	dBuV/m 54 54 54 54 54 54 8 8 8 8 8 8 8 8 8 8 8	dB -28.5 -25.9 -26.4 -25.8 -21.6 -29.7 Average I Peak Fiel-	dB -27.5 -24.1 -9.4 -19.7 -22.9 -14.5	(V/H) H H V V V V
GHz .197 .460 .437 .197 .460 .437	(m) 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	dBuV 55.8 56.8 51.9 58.5 61.1 48.6 Measurement Distance to	dBuV 368 386 489 446 398 438 438	dB/m 25.1 26.0 28.1 25.1 26.0 28.1	dB 2.6 2.9 3.9 2.6 2.9	dB -38.0 -37.6 -36.3 -38.0 -37.6 -36.3 -36.3 Amp D Corr	dB 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Distance Average	dB 00 00 00 00 00 Gain Correct	dBuV/m 455 48.1 47.6 48.2 52.4 44.3	dBuV/m 265 299 446 343 31.1 395 rs 3 m	dBuV/m 74 74 74 74 74 74 74	dBuV/m 54 54 54 54 54 54 54 54 54 Kum Pk Lim Avg Lim	dB -28.5 -25.9 -26.4 -25.8 -21.6 -29.7 Average I Peak Fiel- Margin vs	dB -27.5 -24.1 -9.4 -19.7 -22.9 -14.5 Field Streng d Strengt I	(V/H) H H V V V V

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8.3.2. 40 MHz BANDWIDTH IN THE 2.4 GHz BAND

					Comp				asurement rvices, Fre	mont 3m	Chamber				
Compar Project Date: Test En Configu Mode: Test Eq	#: gineer: ration:		Broadcom 09U12467 04/02/09 Vien Tran Access Poin Rx HT40 M	-	top										
н		18GHz	Pre-ar	nplifer 9 8449B		GHz	Pre-am	plifer	26-40GH	z	н	orn > 18(GHz	•	Limit RX RSS 210
Hi Frequency Cables 3' cable 22807700 3' cable 22807700 12' cable 22807600									RBW=VBV			ak Measurements BW=VBW=1MHz age Measurements =1MHz; VBW=10Hz			
f	Dist	Read Pk	Read Avg.	AF	\mathbf{CL}	Amp	D Corr	Fltr	Peak	Avg	Pk Lim	Avg Lim	Pk Mar	Avg Mar	Notes
GHz	(m)	dBuV	dBuV	dB/m	dB	dB	dB	dB		dBuV/m			dB	dB	(V/H)
1.197	3.0	58.9	39.9	25.1	2.6	-38.0	0.0	0.0	48.6	29.6	74	54	-25.4	-24.4	H
1.460	3.0	55.8	37.6	26.0	2.9	-37.6	0.0	0.0	47.1	28.9	74	54	-26.9	-25.1	H
2.437 1.197	3.0 3.0	51.9 56.1	47.9 44.5	28.1 25.1	3.9 2.6	-36.3 -38.0	0.0 0.0	0.0 0.0	47.6 45.8	43.6 34.2	74 74	54 54	-26.4 -28.2	-10,4 -19,8	H V
1.460	3.0	53.2	37.8	25.1	2.0	-36.0	0.0	0.0	45.6	29.1	74	54 54	-20.2	-19.6	v
2.437	3.0	47.6	40.8	28.1	39	-36.3	0.0	0.0	43.3	36.5	74	54	-30.7	-17.5	v
Rev. 03.09	9.09 f	Measureme	ent Frequency	7		Amp	Preamp	Gain				Avg Lim	Average I	Field Strengtl	h Limit
	Dist	Distance to		,		•	-		ct to 3 mete	ers		-	0	d Strength Li	
		Analyzer R				Avg			Strength @					. Average Li	
	AF	Antenna Fa	0			Peak	-		k Field Stre			-	-	. Peak Limit	
	AF CL	Cable Loss				Peak HPF	High Pas			ngui		F K. IVIAT	TATAI SIII AS	. reak tamit	

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8.4. WORST-CASE BELOW 1 GHz

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

The Radiated Emission 30 – 1000MHz test is not to be performed by CCS.

Please see WRT310N v2 FCC 15C TX Low band emission test report 03_30_2009 from ADT lab.

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9. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 7.2.2

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

Decreases with the logarithm of the frequency.

TEST PROCEDURE

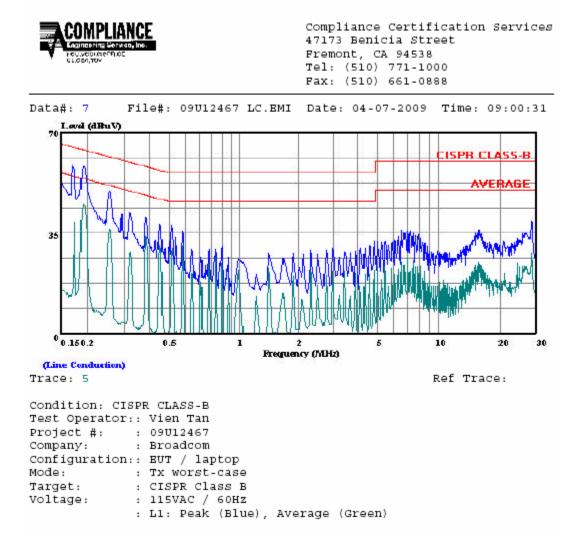
ANSI C63.4

RESULTS

6 WORST EMISSIONS

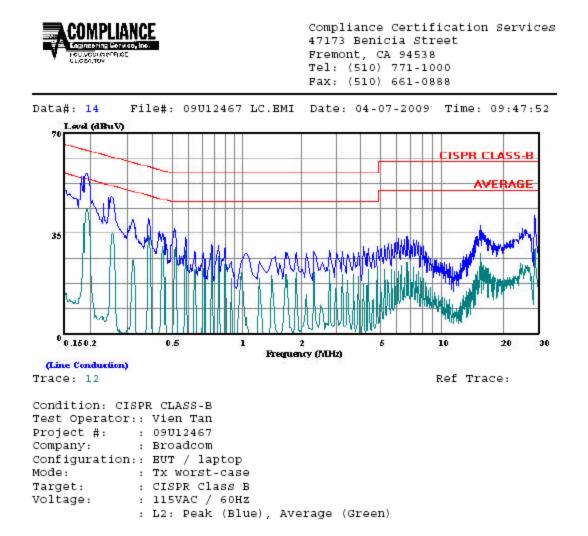
	CONDUCTED EMISSIONS DATA (115VAC 60Hz)											
Freq.		Closs	Limit	FCC_B	Margin		Remark					
(MHz)	PK (dBuV)	QP (dBuV)	AV (dBuV)	(dB)	QP	AV	QP (dB)	AV(dB)	L1/L2			
0.17	58.18		38.83	0.00	64.96	54.96	-6.78	-16.13	L1			
0.19	58.04		44.73	0.00	63.91	53.91	-5.87	-9.18	L1			
0.26	49.35		35.96	0.00	61.46	51.46	-12.11	-15.50	L1			
0.19	55.89		43.14	0.00	63.91	53.91	-8.02	-10.77	L2			
0.26	47.70		35.08	0.00	61.46	51.46	-13.76	-16.38	L2			
0.39	40.18		33.77	0.00	58.17	48.17	-17.99	-14.40	L2			
6 Worst I	Data											

LINE 1 RESULTS



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LINE 2 RESULTS



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10. MAXIMUM PERMISSIBLE EXPOSURE

FCC RULES

§1.1310 The criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified in §1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of §2.1093 of this chapter.

TABLE 1—LIMITS	FOR MAXIMUM P	ERMISSIBLE EXP	OSURE (MPE)								
Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm²)	Averaging time (minutes)							
(A) Limits for Occupational/Controlled Exposures											
0.3–3.0 3.0–30 30–300 300–1500 1500–100,000	614 1842/i 61.4	1.63 4.89/f 0.163	*(100) *(900/f²) 1.0 f/300 5	6 6 6 6							
(B) Limits	for General Populati	on/Uncontrolled Ex	posure								
0.3–1.34 1.34–30	614 824 <i>i</i> f	1.63 2.19/f	*(100) *(180/f ²)	30 30							

TABLE 1-LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)-Continued

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm²)	Averaging time (minutes)
30-300	27.5	0.073	0.2	30
300–1500 1500–100,000			f/1500 1.0	30 30

f = frequency in MHz
 * = Plane-wave equivalent power density NOTE 1 TO TABLE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occu-pational/controlled limits apply provided he or she is made aware of the potential for exposure. NOTE 2 TO TABLE 1: General population/uncontrolled exposures apply in situations in which the general public may be ex-posed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

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IC RULES

IC Safety Code 6, Section 2.2.1 (a) A person other than an RF and microwave exposed worker shall not be exposed to electromagnetic radiation in a frequency band listed in Column 1 of Table 5, if the field strength exceeds the value given in Column 2 or 3 of Table 5, when averaged spatially and over time, or if the power density exceeds the value given in Column 4 of Table 5, when averaged spatially and over time.

Table 5

Exposure Limits for Persons Not Classed As RF and Microwave Ex-
posed Workers (Including the General Public)

1 Frequency (MHz)	2 Electric Field Strength; rms (V/m)	3 Magnetic Field Strength; rms (A/m)	4 Power Density (W/m ²)	5 Averaging Time (min)
0.003–1	280	2.19		6
1–10	280/f	2.19/ <i>f</i>		6
10–30	28	2.19/ <i>f</i>		6
30–300	28	0.073	2*	6
300–1 500	1.585 <i>f</i> ^{0.5}	0.0042f ^{0.5}	f/150	6
1 500–15 000	61.4	0.163	10	6
15 000–150 000	61.4	0.163	10	616 000 /f ^{1.2}
150 000–300 000	0.158 <i>f</i> ^{0.5}	4.21 x 10 ⁻⁴ f ^{0.5}	6.67 x 10 ⁻⁵ f	616 000 /f ^{1.2}

* Power density limit is applicable at frequencies greater than 100 MHz.

Notes: 1. Frequency, f, is in MHz.

- 2. A power density of 10 W/m² is equivalent to 1 mW/cm^2 .
- A magnetic field strength of 1 A/m corresponds to 1.257 microtesla (μT) or 12.57 milligauss (mG).

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CALCULATIONS

Given

 $E = \sqrt{(30 * P * G)} / d$

and

S = E ^ 2 / 3770

where

E = Field Strength in Volts/meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power Density in milliwatts/square centimeter

Combining equations, rearranging the terms to express the distance as a function of the remaining variables, changing to units of Power to mW and Distance to cm, and substituting the logarithmic form of power and gain yields:

 $d = 0.282 * 10 ^ ((P + G) / 20) / \sqrt{S}$

where

d = MPE distance in cm P = Power in dBm G = Antenna Gain in dBi S = Power Density Limit in mW/cm^2

Rearranging terms to calculate the power density at a specific distance yields

 $S = 0.0795 * 10^{(P + G)} / 10) / (d^2)$

The power density in units of mW/cm² is converted to units of W/m² by multiplying by a factor of 10.

LIMITS

From FCC §1.1310 Table 1 (B), the maximum value of S = 1.0 mW/cm²

From IC Safety Code 6, Section 2.2 Table 5 Column 4, S = 10 W/m^2

RESULTS

(MPE distance equals 20 cm)

Mode	Band	MPE	Output	Antenna	FCC Power	IC Power
		Distance	Power	Gain	Density	Density
		(cm)	(dBm)	(dBi)	(mW/cm^2)	(W/m^2)
WLAN	2.4 GHz	20.0	26.65	4.51	0.26	2.60

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