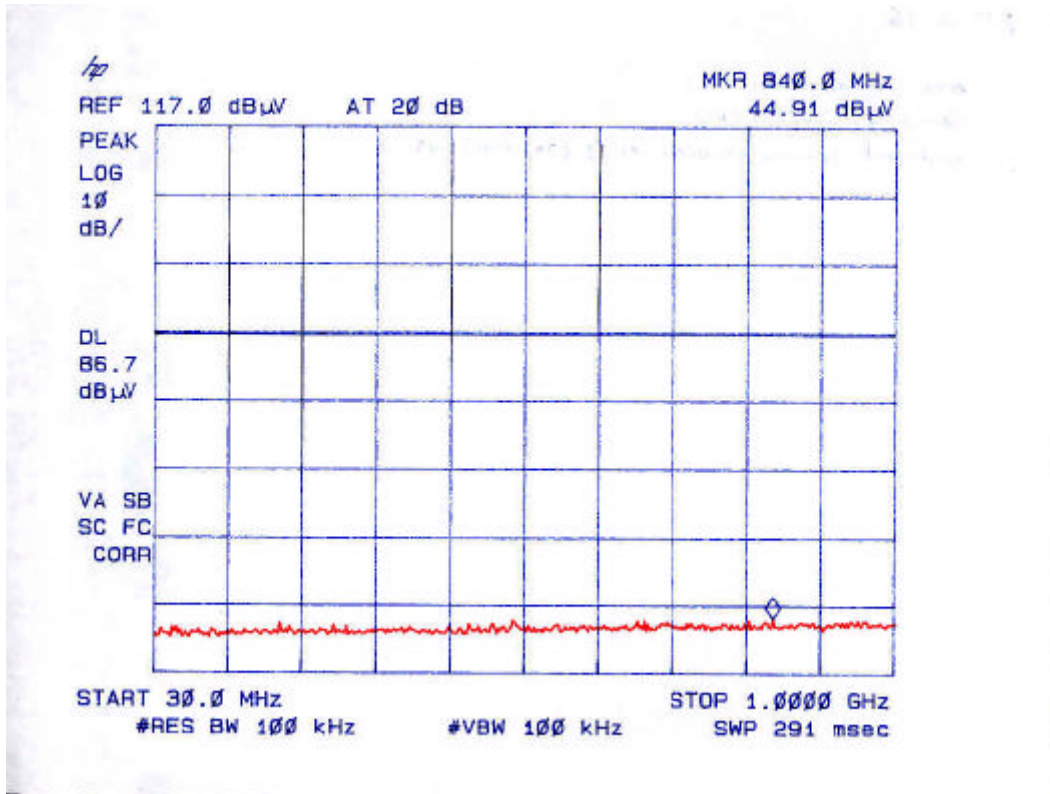
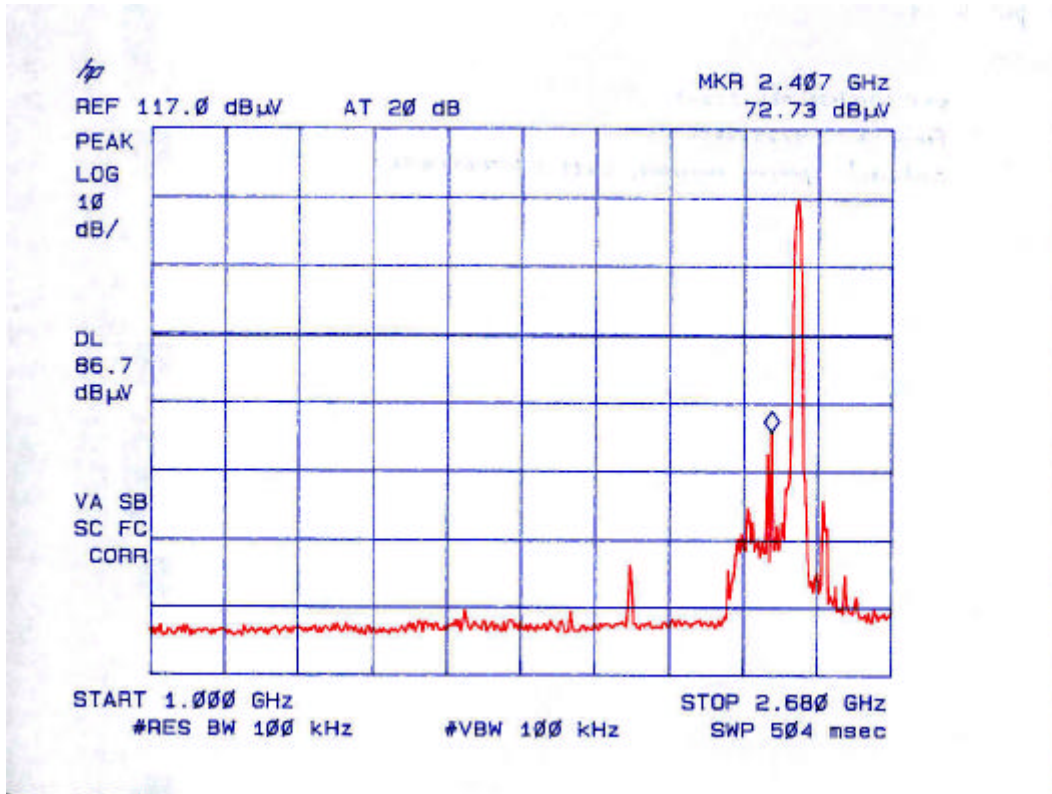


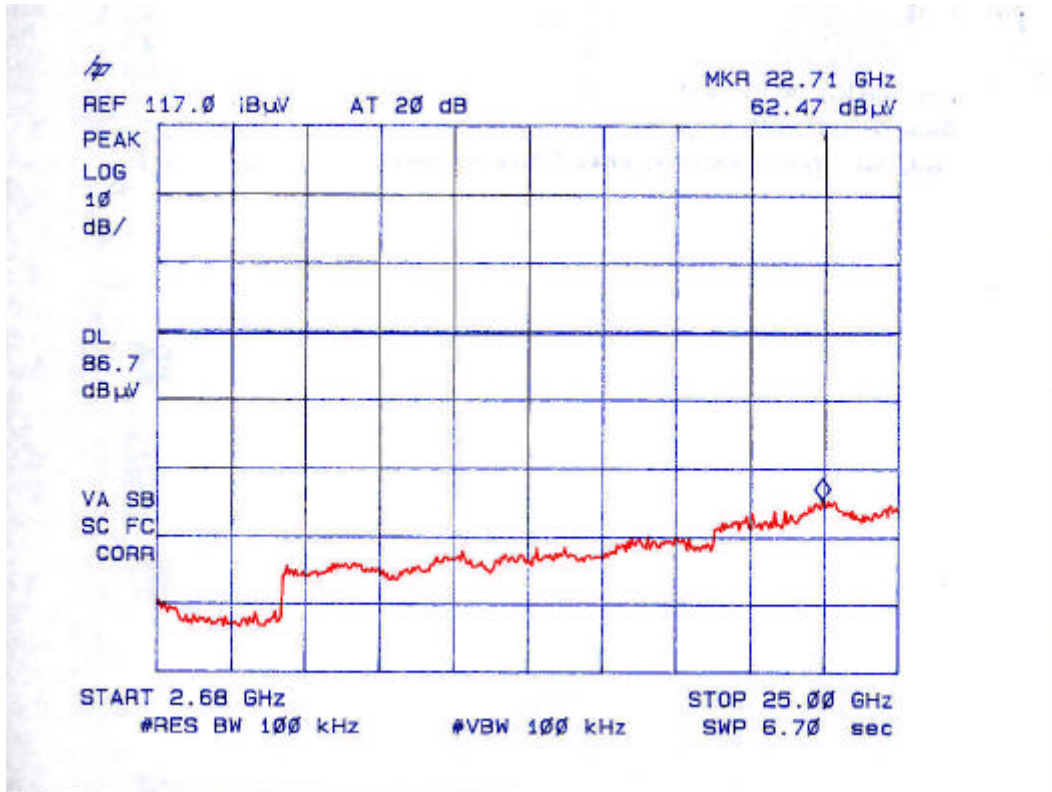
HIGH CHANNEL
CONDUCTED SPURIOUS EMISSIONS CH11 (30-1000MHz)



HIGH CHANNEL
CONDUCTED SPURIOUS EMISSIONS CH11 (1-2.68GHz)



HIGH CHANNEL
CONDUCTED SPURIOUS EMISSIONS CH11 (2.68-25GHz)

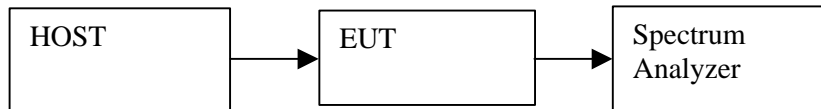


10.4. PEAK POWER SPECTRAL DENSITY

TEST SETUP

Detector Function Setting of Test Receiver

Frequency Range (MHz)	Detector Function	Resolution Bandwidth	Video Bandwidth
Above 1000	<input checked="" type="checkbox"/> Peak	<input checked="" type="checkbox"/> 3 kHz	<input checked="" type="checkbox"/> 10 kHz



TEST PROCEDURE

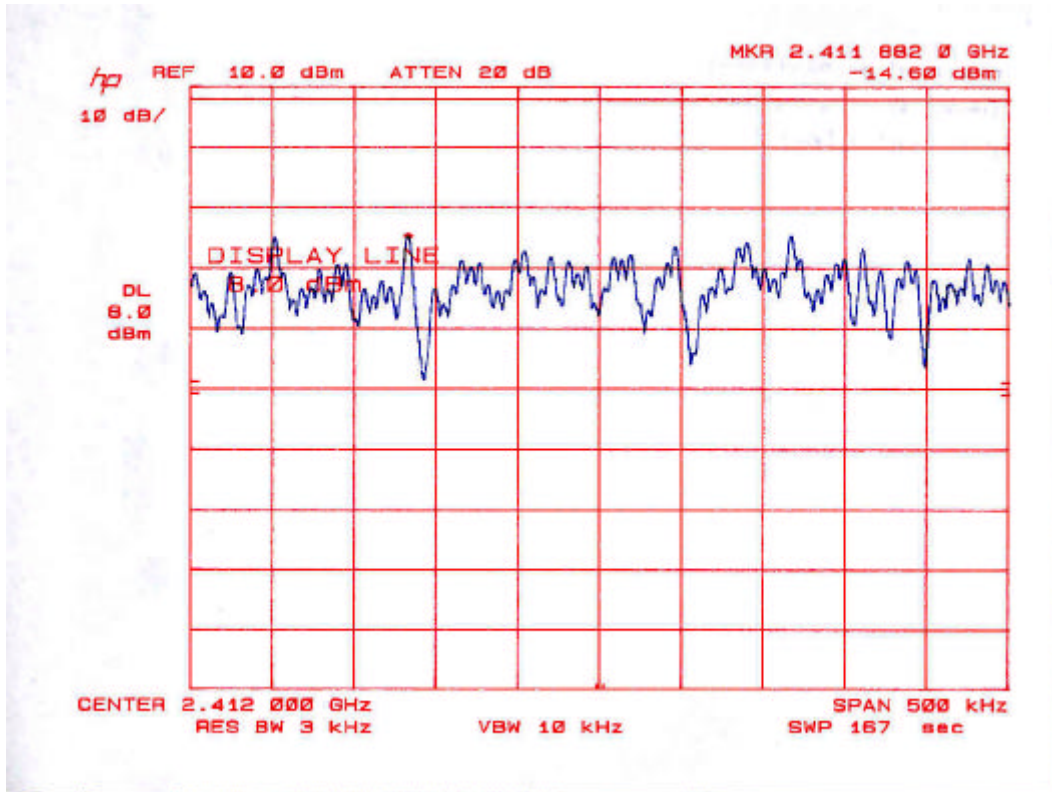
The transmitter output was connected to the spectrum analyzer. The bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3 kHz RBW and 10 kHz VBW, set sweep time=span/3kHz. The power spectral density was measured and recorded. The sweep time is allowed to be longer than span/3KHz for a full response of the mixer in the spectrum analyzer.

Result:

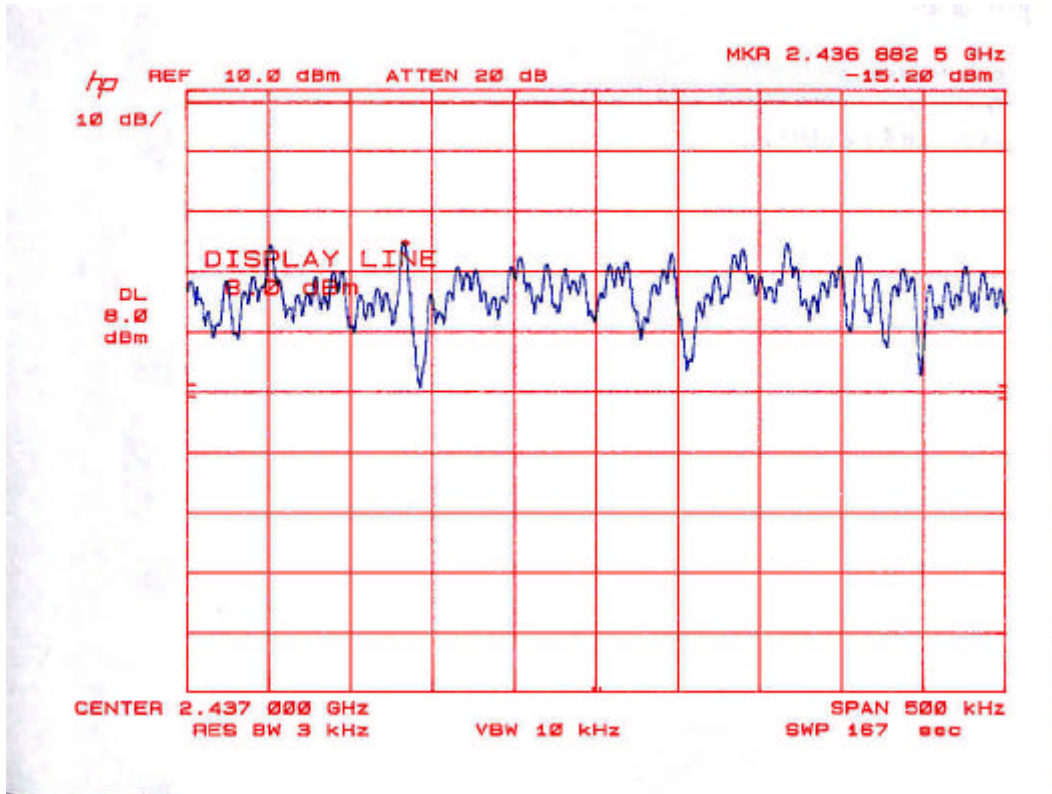
No non-compliance noted. See below plots for LOW, MID, HIGH channels

CHANNEL	FREQ (MHz)	RESULT (dBm)
LOW	2412	-14.6
MIDDLE	2437	-15.2
HIGH	2462	-15.2

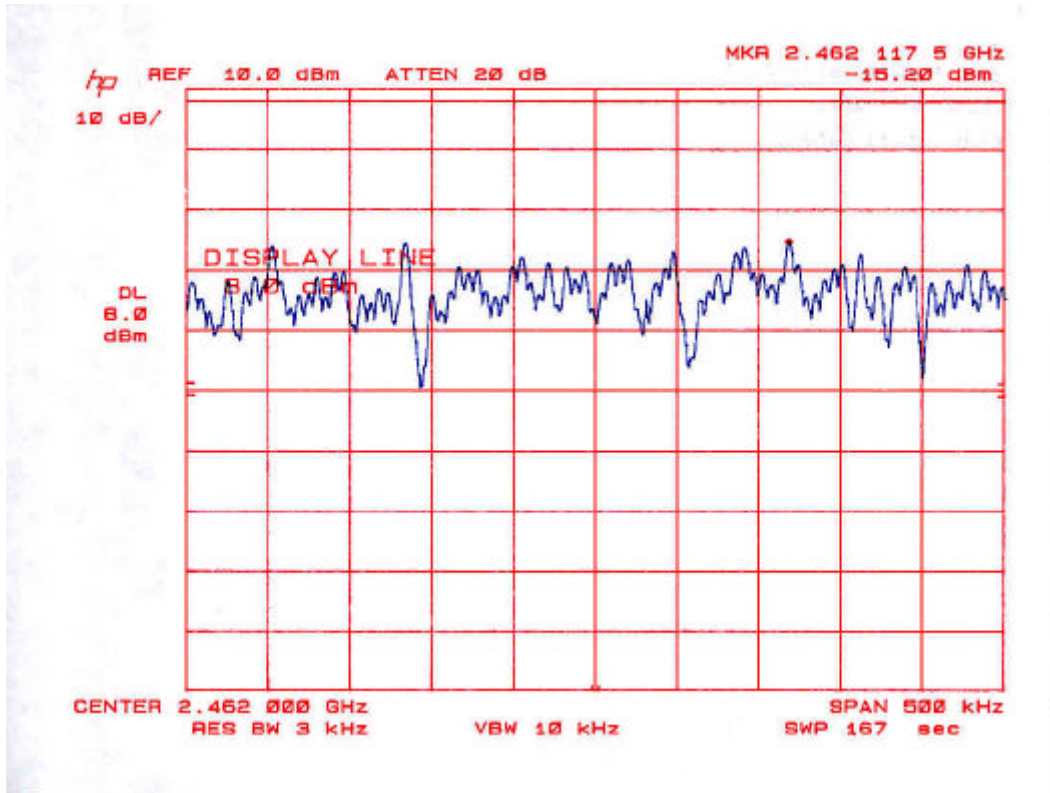
LOW CHANNEL
PSD CH1



MIDDLE CHANNEL
PSD CH6



HIGH CHANNEL
PSD CH11



10.5. RADIATED EMISSION

10.5.1. RADIATED EMISSION, BANDEDGES & RESTRICTED BANDS

TEST SETUP

Detector Function Setting of Test Receiver

Frequency Range (MHz)	Detector Function	Resolution Bandwidth	Video Bandwidth
30 to 1000	<input checked="" type="checkbox"/> Peak	<input checked="" type="checkbox"/> 100 KHz	<input checked="" type="checkbox"/> 100 KHz
	<input checked="" type="checkbox"/> Quasi Peak	<input checked="" type="checkbox"/> 1 MHz	<input checked="" type="checkbox"/> 1 MHz
Above 1000	<input checked="" type="checkbox"/> Peak	<input checked="" type="checkbox"/> 1 MHz	<input checked="" type="checkbox"/> 1 MHz
	<input checked="" type="checkbox"/> Average	<input checked="" type="checkbox"/> 1 MHz	<input checked="" type="checkbox"/> 10 Hz

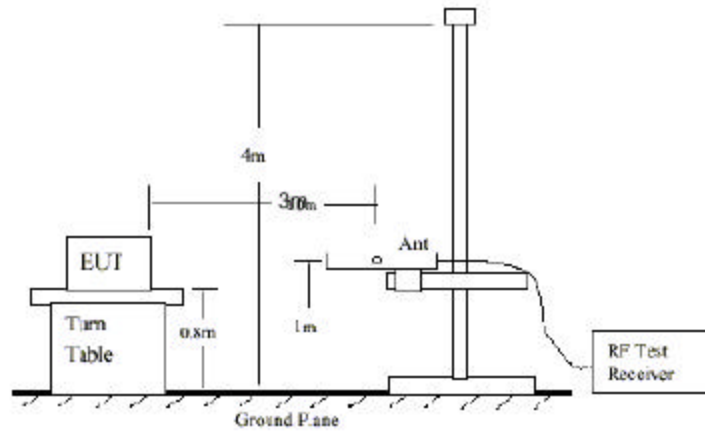


Fig 1: Radiated Emission Measurement 30 to 1000 MHz

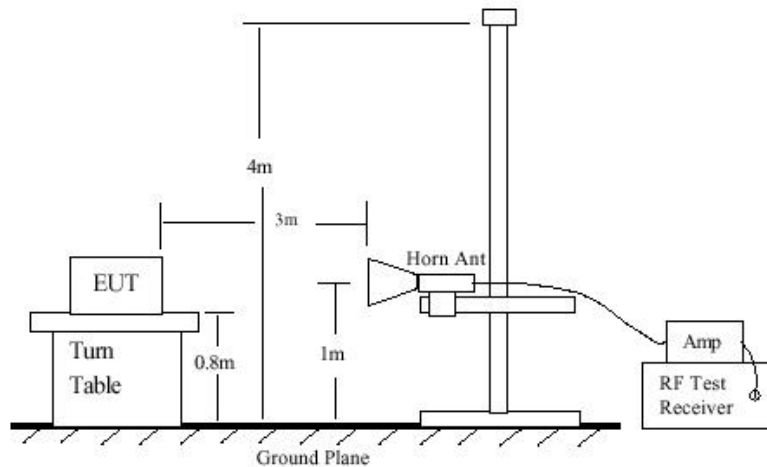


Fig 2: Radiated Emission Above 1000 MHz

TEST PROCEDURE


1. The EUT was placed on the turntable 0.8 meter above ground in 3 meter open area test site.
2. Set the resolution bandwidth to 100KHz in the test receiver and select Peak function to scan the frequency below 1 GHz.
3. Shift the interference-receiving antenna located in antenna tower upwards and downwards between 1 and 4 meters above ground and find out the local peak emission on frequency domain.
4. Locate the interference-receiving antenna at the position where the local peak reach the maximum emission.
5. Rotate the turntable and stop at the angle where the measurement device has maximum reading.
6. Shift the interference-receiving antenna again to detect the maximum emission of the local peak.
7. If the reading of the local peak under Peak function is lower than limit by 6dB, then Quasi Peak detection is not needed and this reading should be recorded. And if it is higher than Peak limit, then the test is fail. Others, switch the receiver to Quasi Peak

function, set the resolution bandwidth to 100kHz and repeat the procedures (3)~(6). If the reading is lower than limit, this reading should be recorded, otherwise, the test is fail.

8. Set the resolution and video bandwidth of the spectrum analyzer to 1MHz and repeat procedures (3)~(6) for frequency band from 1 GHz to 10 times carrier frequency.

9. If the reading for the local peak is lower than the Average limit, no further testing is needed in this local peak and this reading should be recorded. If it is higher than Average limit but lower than Peak limit, then set the resolution bandwidth to 1MHz and video bandwidth to 10Hz. Repeat procedures (3)~(6). If the maximum reading is lower than Average limit, then this reading should be recorded. If it is higher, then the test is fail.

RESULT

 <p>FCC, VCCI, CISPR, CE, AUSTEL, NZ UL, CSA, TUV, BSMI, DHHS, NVLAP</p> <p>561F MONTEREY ROAD, SAN JOSE, CA 95037-9001 PHONE: (408) 463-0885 FAX: (408) 463-0888</p>	<p><i>Project #:</i> 02U1399-1</p> <p><i>Report #:</i> 020703C1</p> <p><i>Date & Time:</i> 07/03/02 11:58 AM</p> <p><i>Test Engr:</i> Thanh Nguyen</p>
	<p><i>Company:</i> OTC WIRELESS< INC.</p> <p><i>EUT Description:</i> 2.4GHz 802.11b Radio Outdoor Package. Model # AirEZY2411-BT-9</p> <p><i>Test Configuration:</i> EUT, DC Injector</p> <p><i>Type of Test:</i> FCC Part 15, Class B</p> <p><i>Mode of Operation:</i> Rx</p>

[<< Main Sheet](#)

Freq. (MHz)	Reading (dBuV)	AF (dB)	Closs (dB)	Pre-amp (dB)	Level (dBuV/m)	Limit FCC_B	Margin (dB)	Pol (H/V)	Az (Deg)	Height (Meter)	Mark (P/Q/A)
440.00	51.40	16.50	3.18	27.59	43.49	46.00	-2.51	3mV	180.00	1.00	P
572.00	49.00	18.59	3.74	28.08	43.26	46.00	-2.74	3mV	180.00	1.00	P
616.00	48.00	19.24	3.92	28.10	43.05	46.00	-2.95	3mV	180.00	1.00	P
528.00	48.50	18.26	3.57	28.00	42.32	46.00	-3.68	3mV	180.00	1.00	P
748.50	43.60	21.32	4.40	27.93	41.40	46.00	-4.60	3mV	180.00	1.00	P
132.00	50.50	13.06	1.50	27.19	37.86	43.50	-5.64	3mV	180.00	1.00	P

No non-compliance noted. See data below.

07/03/02 FCC Measurement Compliance Certification Services, Morgan Hill Open Field Site																	
Equipment for 1-22 GHz HP8593EM Analyzer Miteq NSP2600-44 Preamp EMCO 3115 Antenna Cable: 13.0 feet FCC Measurement																	
Average Measurements: 1 MHz Resolution Bandwidth 10Hz Video Bandwidth								Peak Measurements: 1MHz Resolution Bandwidth 1MHz Video Bandwidth									
EUT S/N: Fundamental 2.412GHZ TX Signal																	
f	Dist	Read Peak	Read Avg.	AF	CL	Amp	D Corr	HPF	Peak	Avg	Peak Lim	Avg Lim	Peak Mar	Avg Mar	Notes		
GHz	feet	dBuV	dBuV	dB/m	dB	dB	dB		dBuV/m	dBuV/m	dBuV/m	dBuV/m	dB	dB			
2.412	3.3	81.5	63.4	27.9	3.3	0.0	-9.5	0.0	103.2	85.1							
2.412	3.3	75.5	60.2	27.9	3.3	0.0	-9.5	0.0	97.2	81.9							
4.824	3.3	41.8	40.0	32.6	5.0	-27.0	-9.5	1.0	43.8	42.0	74.0	54.0	-30.2	-12.0	Noise Floor		
7.236	3.3	46.4	42.1	36.6	6.3	-41.2	-9.5	1.0	39.6	35.3	74.0	54.0	-34.4	-18.7	Noise Floor		
9.640	3.3	46.4	41.0	37.3	7.4	-39.3	-9.5	1.0	43.3	37.9	74.0	54.0	-30.7	-16.1	Noise Floor		
12.060	3.3	47.1	41.0	39.0	8.2	-40.1	-9.5	1.0	45.8	39.7	74.0	54.0	-28.2	-14.3	Noise Floor		
14.470	3.3	49.9	41.0	39.0	9.1	-40.0	-9.5	1.0									
16.880	3.3	50.0					-9.5										
19.296	3.3	51.2					-9.5										
21.708	3.3	51.8					-9.5										
24.122	3.3	52.8		32.2	14.2	-44.3	-9.5	1.0	46.4	-6.4	74.0	54.0	-27.6	-60.4	Noise Floor		
* No other emissions were found within 20dB under the FCC limits up to 10 Harmonics.																	
f	Measurement Frequency					Amp	Preamp Gain					Avg Lim	Average Field Strength Limit				
Dist	Distance to Antenna					D Corr	Distance Correct to 3 meters					Pk Lim	Peak Field Strength Limit				
Read	Analyzer Reading					Avg	Average Field Strength @ 3 m					Avg Mar	Margin vs. Average Limit				
AF	Antenna Factor					Peak	Calculated Peak Field Strength					Pk Mar	Margin vs. Peak Limit				
CL	Cable Loss					HPF	High Pass Filter										

07/03/02 FCC Measurement Compliance Certification Services, Morgan Hill Open Field Site																	
Equipment for 1-22 GHz HP8593EM Analyzer Miteq NSP2600-44 Preamp EMCO 3115 Antenna Cable: 13.0 feet FCC Measurement																	
Average Measurements: 1 MHz Resolution Bandwidth 10Hz Video Bandwidth								Peak Measurements: 1MHz Resolution Bandwidth 1MHz Video Bandwidth									
EUT S/N: Fundamental 2.437GHZ TX Signal																	
f	Dist	Read Peak	Read Avg.	AF	CL	Amp	D Corr	HPF	Peak	Avg	Peak Lim	Avg Lim	Peak Mar	Avg Mar	Notes		
GHz	feet	dBuV	dBuV	dB/m	dB	dB	dB		dBuV/m	dBuV/m	dBuV/m	dBuV/m	dB	dB			
2.437	3.3	81.3	63.1	27.9	3.3	0.0	-9.5	0.0	103.1	84.9							
2.437	3.3	75.2	61.0	27.9	3.3	0.0	-9.5	0.0	97.0	82.8							
4.874	3.3	42.3	40.0	32.7	5.0	-27.0	-9.5	1.0	44.5	42.2	74.0	54.0	-29.5	-11.8	Noise Floor		
7.311	3.3	45.7	41.2	36.7	6.3	-41.1	-9.5	1.0	39.1	34.6	74.0	54.0	-34.9	-19.4	Noise Floor		
9.748	3.3	46.1	41.3	37.5	7.4	-39.3	-9.5	1.0	43.2	38.4	74.0	54.0	-30.8	-15.6	Noise Floor		
12.185	3.3	47.2	40.0	39.1	8.3	-40.2	-9.5	1.0	45.9	38.7	74.0	54.0	-28.1	-15.3	Noise Floor		
14.622	3.3	51.3	42.3	39.0	9.1	-40.0	-9.5	1.0									
17.059	3.3	50.3					-9.5										
19.496	3.3	51.3					-9.5										
21.933	3.3	51.8					-9.5										
24.370	3.3	52.8		32.4	14.4	-44.3	-9.5	1.0	46.8	-6.0	74.0	54.0	-27.2	-60.0	Noise Floor		
* No other emissions were found within 20dB under the FCC limits up to 10 Harmonics.																	
f	Measurement Frequency					Amp	Preamp Gain					Avg Lim	Average Field Strength Limit				
Dist	Distance to Antenna					D Corr	Distance Correct to 3 meters					Pk Lim	Peak Field Strength Limit				
Read	Analyzer Reading					Avg	Average Field Strength @ 3 m					Avg Mar	Margin vs. Average Limit				
AF	Antenna Factor					Peak	Calculated Peak Field Strength					Pk Mar	Margin vs. Peak Limit				
CL	Cable Loss					HPF	High Pass Filter										

07/03/02 FCC Measurement
 Compliance Certification Services, Morgan Hill Open Field Site

Equipment for 1-22 GHz
 HP8593EM Analyzer
 Miteq NSP2600-44 Preamp
 EMCO 3115 Antenna
 Cable: 13.0 feet
 FCC Measurement

Average Measurements: 1 MHz Resolution Bandwidth
 10Hz Video Bandwidth
 Peak Measurements: 1MHz Resolution Bandwidth
 1MHz Video Bandwidth

EUT S/N: Fundamental 2.462 GHZ TX Signal

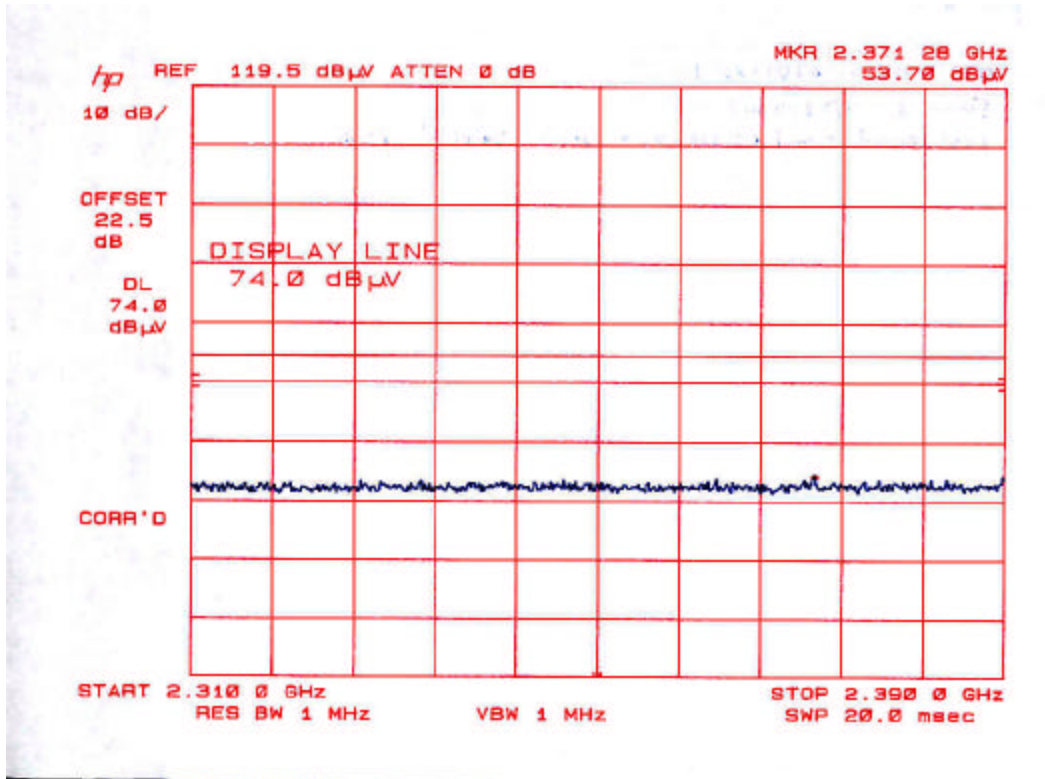
f GHz	Dist feet	Read Peak dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	HPF	Peak dBuV/m	Avg dBuV/m	Peak Lim dBuV/m	Avg Lim dBuV/m	Peak Mar dB	Avg Mar dB	Notes
2.462	3.3	82.1	64.1	27.9	3.4	0.0	-9.5	0.0	103.9	85.9					
2.462	3.3	76.3	62.0	27.9	3.4	0.0	-9.5	0.0	98.1	83.8					
4.924	3.3	43.6	41.3	32.8	5.0	-27.0	-9.5	1.0	45.9	43.6	74.0	54.0	-28.1	-10.4	Noise Floor
7.386	3.3	45.2	41.6	36.9	6.4	-41.0	-9.5	1.0	38.9	35.3	74.0	54.0	-35.1	-18.7	Noise Floor
9.848	3.3	46.1	42.1	37.7	7.5	-39.3	-9.5	1.0	43.4	39.4	74.0	54.0	-30.6	-14.6	Noise Floor
12.310	3.3	47.5	43.1	39.2	8.3	-40.3	-9.5	1.0	46.3	41.9	74.0	54.0	-27.7	-12.1	Noise Floor
14.772	3.3	52.1	44.0	39.0	9.1	-40.0	-9.5	1.0							
17.234	3.3	51.2					-9.5								
19.696	3.3	51.3					-9.5								
22.158	3.3	52.3					-9.5								
24.620	3.3	51.6		32.6	14.5	-44.3	-9.5	1.0	45.9	-5.7	74.0	54.0	-28.1	-59.7	Noise Floor

* No other emissions were found within 20dB under the FCC limits up to 10 Harmonics.

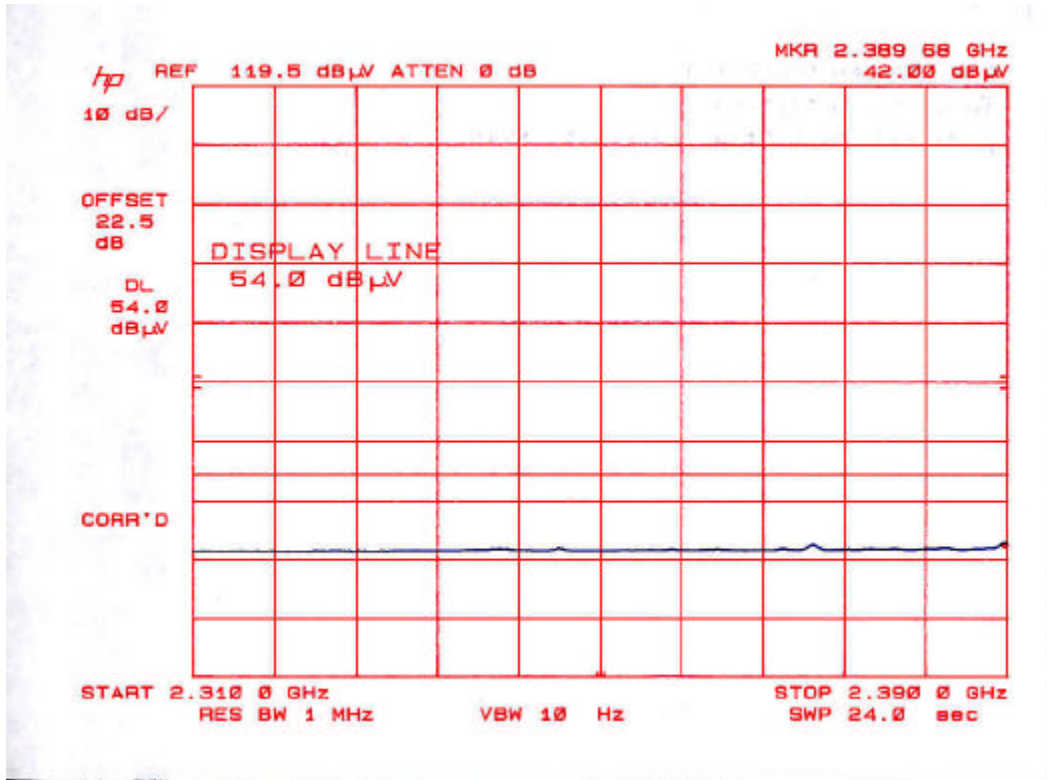
f	Measurement Frequency	Amp	Preamp Gain	Avg Lim	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Pk Lim	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Avg Mar	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Pk Mar	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter		

RESTRICTED BANDS: 2310 – 2390 MHz and 2483.5 – 2500 MHz

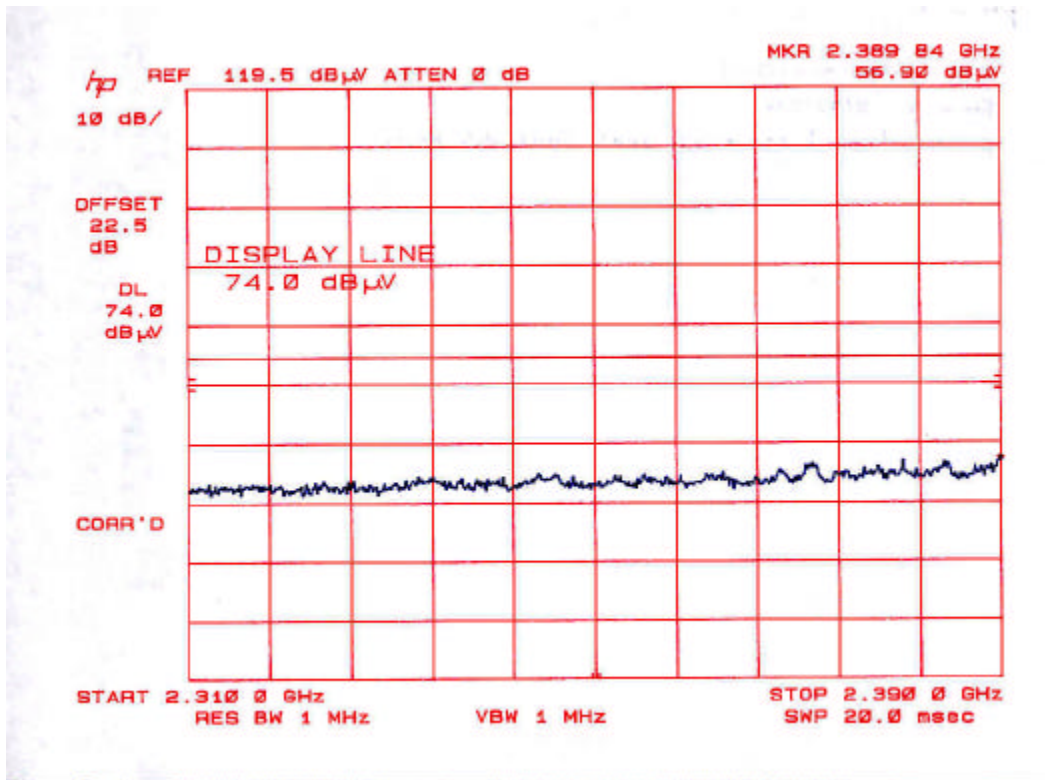
RESTRICTED BAND 2310-2390MHz, VERTICAL, PEAK



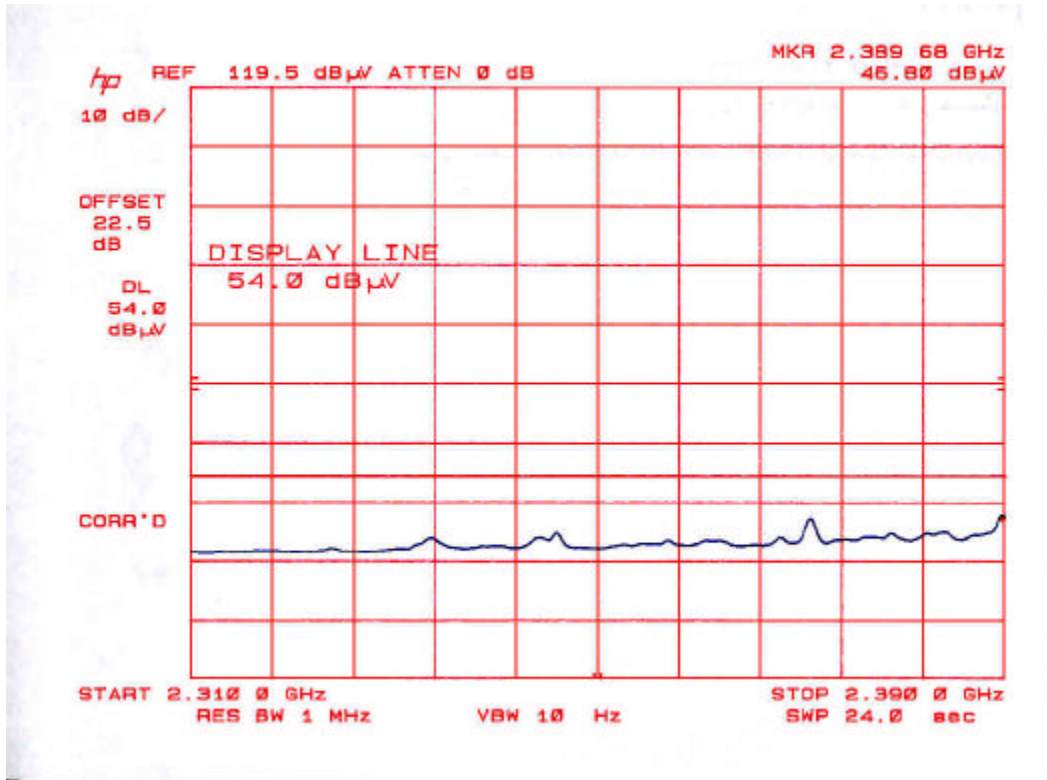
RESTRICTED BAND 2310-2390MHz, VERTICAL, AVERAGE



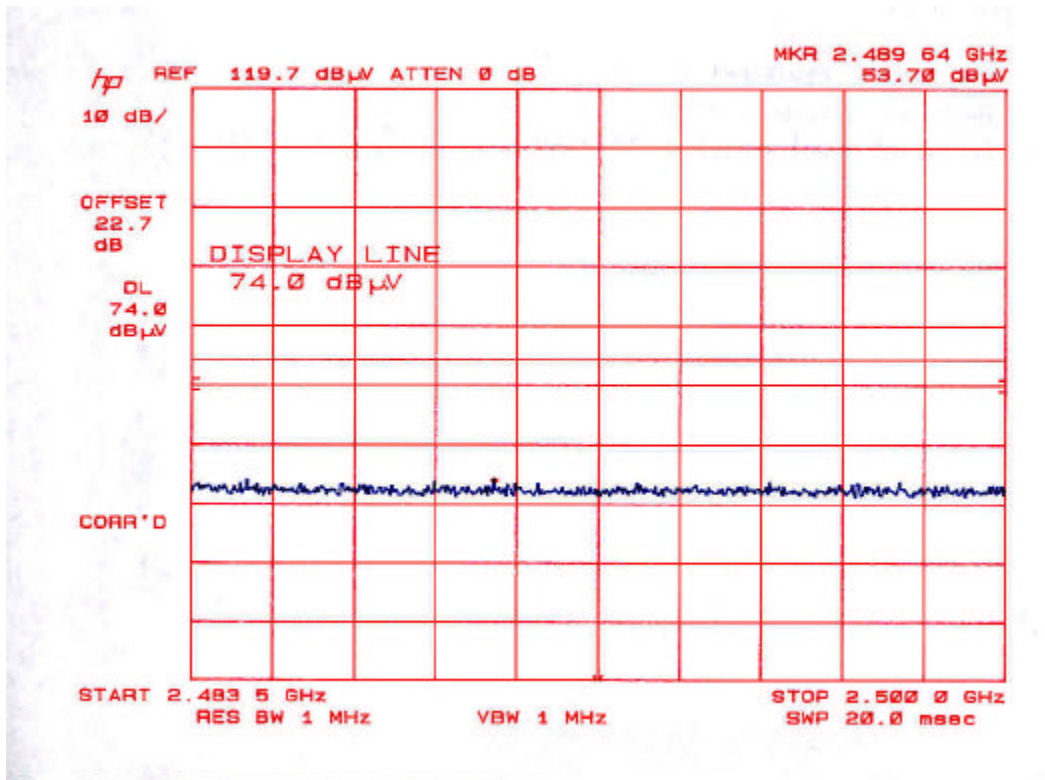
RESTRICTED BAND 2310-2390MHZ, HORIZONTAL, PEAK



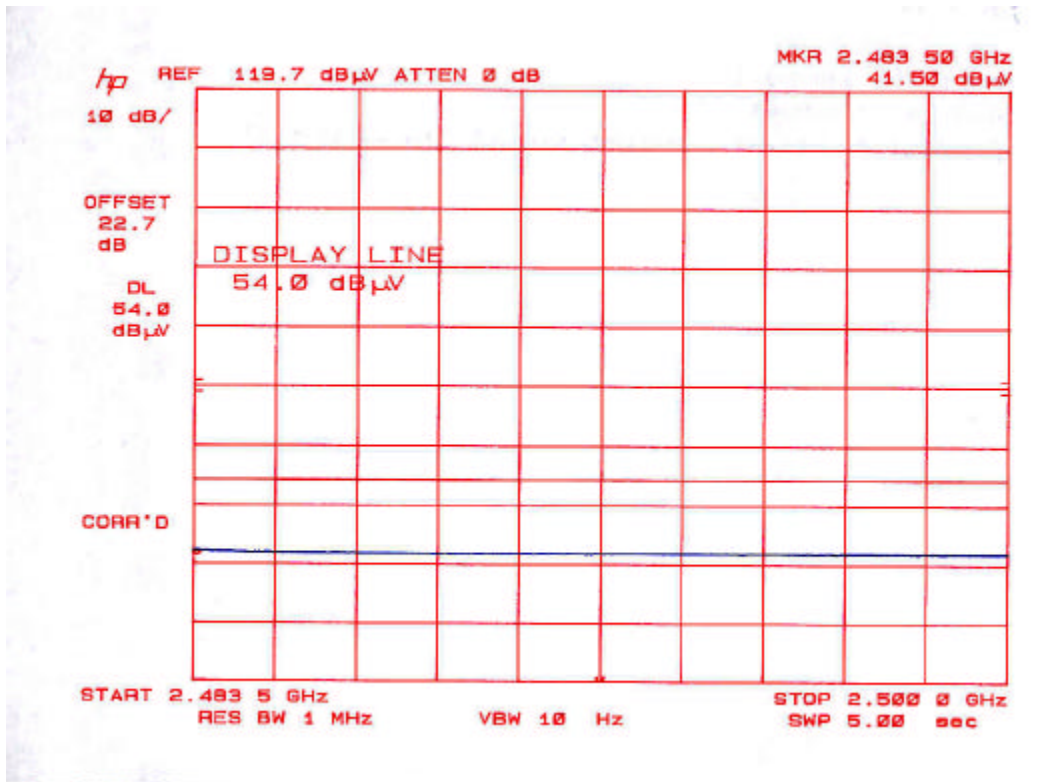
RESTRICTED BAND 2310-2390MHZ, HORIZONTAL, AVERAGE



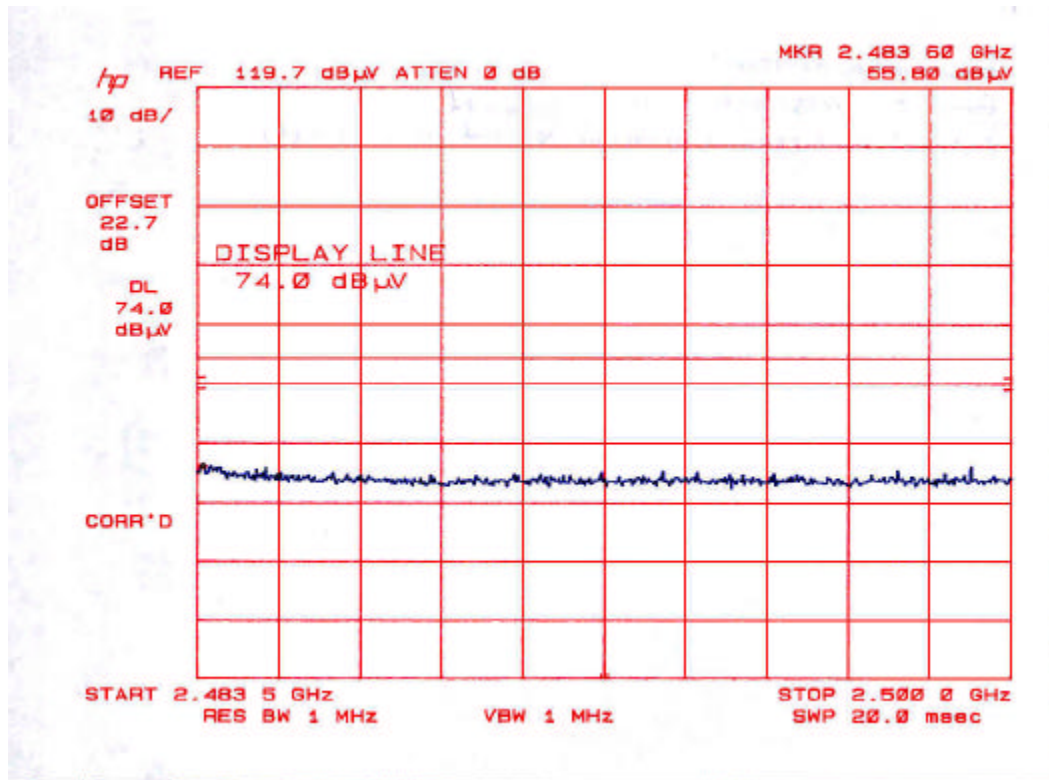
RESTRICTED BAND 2483.5-2500MHZ, VERTICAL, PEAK (CH11)



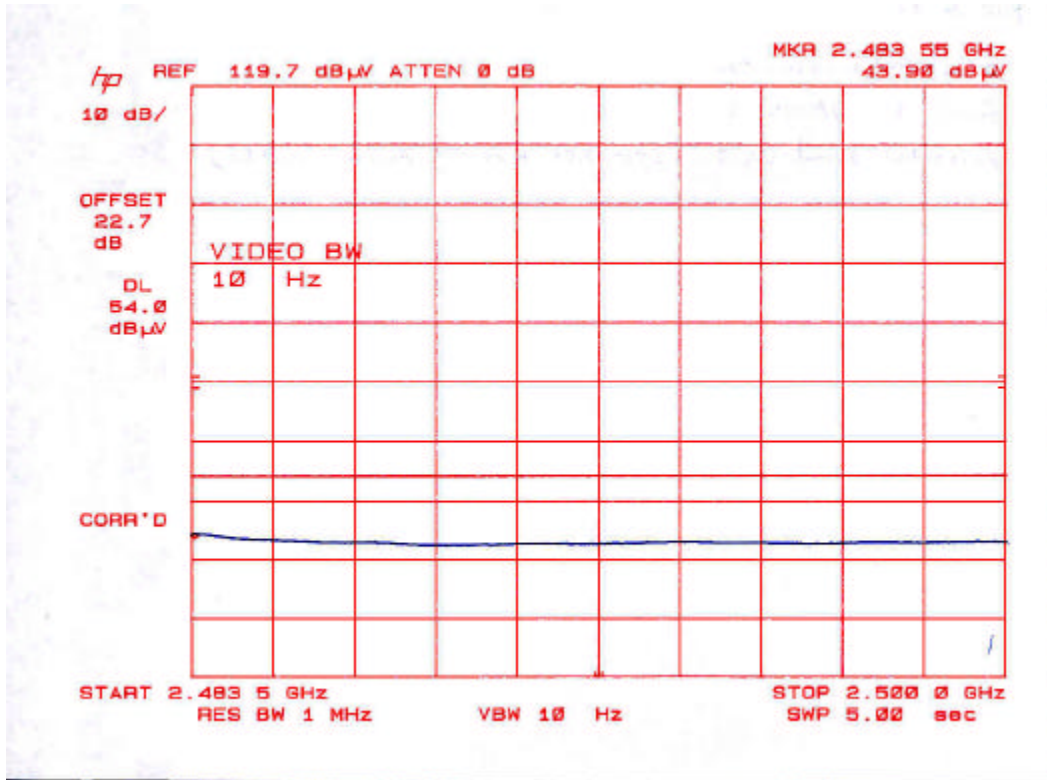
RESTRICTED BAND 2483.5-2500MHZ, VERTICAL, AVERAGE (CH11)



RESTRICTED BAND 2483.5-2500MHZ, HORIZONTAL, PEAK (CH11)



RESTRICTED BAND 2483.5-2500MHZ, HORIZONTAL, AVERAGE (CH11)

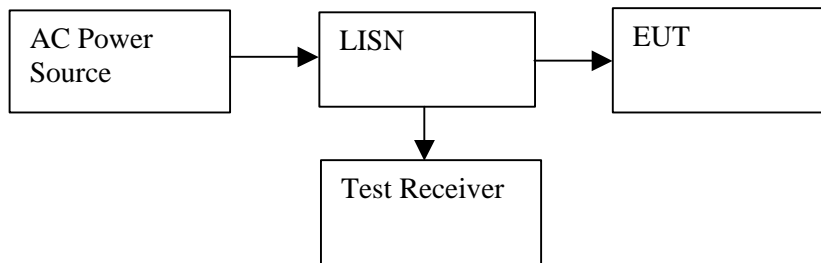


10.6. POWER LINE CONDUCTED EMISSION

TEST SETUP

Detector Function Setting of Test Receiver

Frequency Range (MHz)	Detector Function	Resolution Bandwidth	Video Bandwidth
450 KHz to 30 MHz	<input type="checkbox"/> Peak <input checked="" type="checkbox"/> Quasi Peak	<input checked="" type="checkbox"/> 10 KHz	<input checked="" type="checkbox"/> 10 KHz



TEST PROCEDURE

1. The EUT was placed on a wooden table 80 cm above the horizontal ground plane and 40 cm away from the vertical ground plane. The EUT was set to transmit / receive in a continuous mode.
2. Conducted disturbance was measured between the phase lead and the ground, and between the neutral lead and the ground. The frequency 0.450 - 30 MHz was investigated.

RESULT

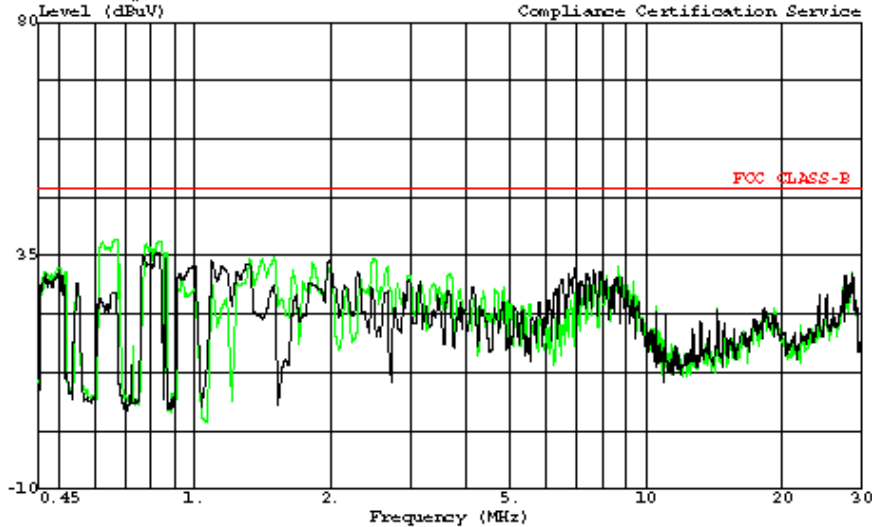
No non-compliance noted. See Line Conduction plot

CONDUCTED EMISSIONS DATA (115VAC 60Hz)										
Freq. (MHz)	Reading			Class (dB)	Limit QP	FCC B		Margin		Remark L1 / L2
	PK (dBuV)	QP (dBuV)	AV (dBuV)			AV	QP (dB)	AV (dB)		
0.45	34.83	--	--	0.00	48.00	--	-13.17	--	L1	
0.70	33.30	--	--	0.00	48.00	--	-14.70	--	L1	
0.92	30.95	--	--	0.00	48.00	--	-17.05	--	L1	
0.45	33.94	--	--	0.00	48.00	--	-14.06	--	L2	
0.69	32.51	--	--	0.00	48.00	--	-15.49	--	L2	
0.93	31.49	--	--	0.00	48.00	--	-16.51	--	L2	
6 Worst Data										



561F Monterey Road,
 San Jose, CA 95037 USA
 Tel: (408) 463-0885
 Fax: (408) 463-0888

Data#: 7 File#: 020703M.EMI Date: 07-03-2002 Time: 11:05:36
 Compliance Certification Service

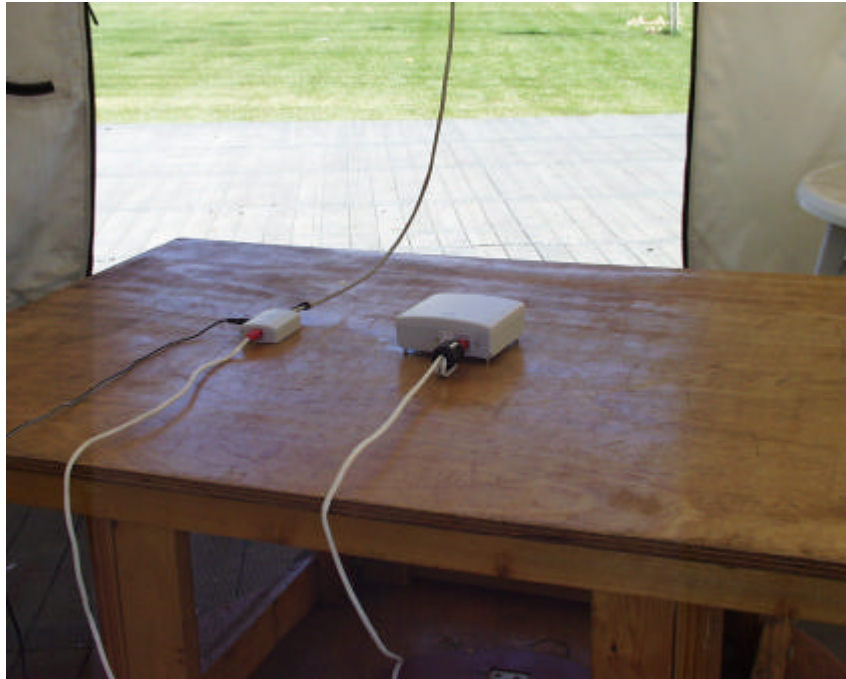


Trace: 3
 Project #: 02U1399-1
 Test Engineer: Thanh Nguyen
 Company: OTC Wireless, INC.
 EUT: 2.4GHz 802.11b Radio Outdoor Package
 Interface, Model: Air EZV2411-BT-9
 Test Config: EUT, Laptop, Printer, USB Mouse
 Type of Test: FCC Class B
 Mode of Op.: EUT at RCV mode.
 L1: (Black), L2: (Green)
 : 115VAC, 60Hz

CONDUCTED EMISSIONS DATA (115VAC 60Hz)									
Freq. (MHz)	Reading			Class (dB)	Limit		Margin		Remark L1 / L2
	PK (dBuV)	QP (dBuV)	AV (dBuV)		QP	AV	QP (dB)	AV (dB)	
25.25	38.38	--	--	0.00	48.00	--	-9.62	--	L1
18.82	37.95	--	--	0.00	48.00	--	-10.05	--	L1
6.26	37.03	--	--	0.00	48.00	--	-10.97	--	L1
18.69	40.29	--	--	0.00	48.00	--	-7.71	--	L2
26.26	39.61	--	--	0.00	48.00	--	-8.39	--	L2
11.76	37.72	--	--	0.00	48.00	--	-10.28	--	L2

10.7. SETUP PHOTOS

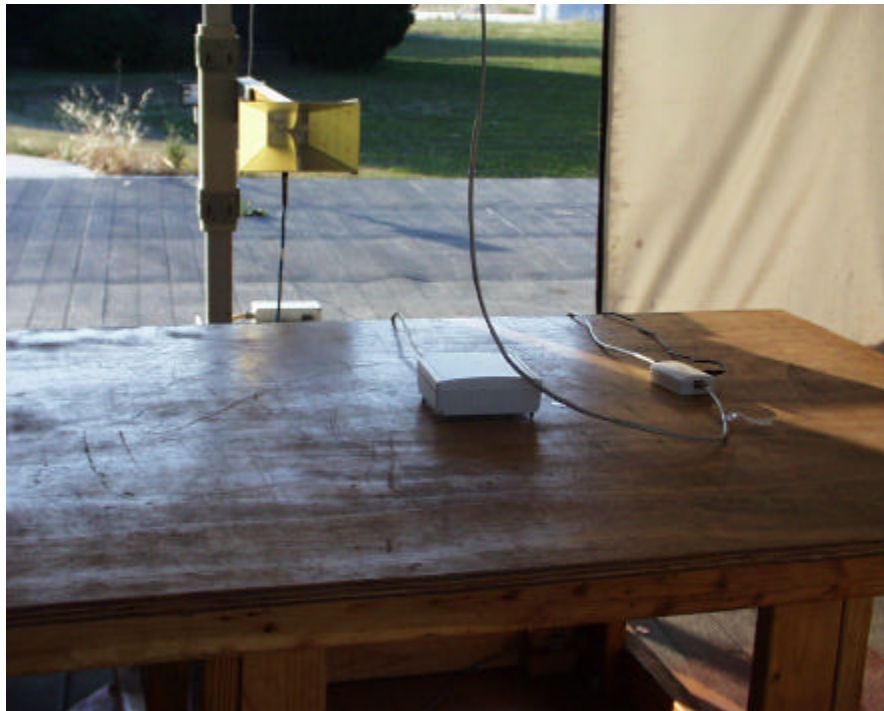
Radiated Emission below 1 GHz Measurement



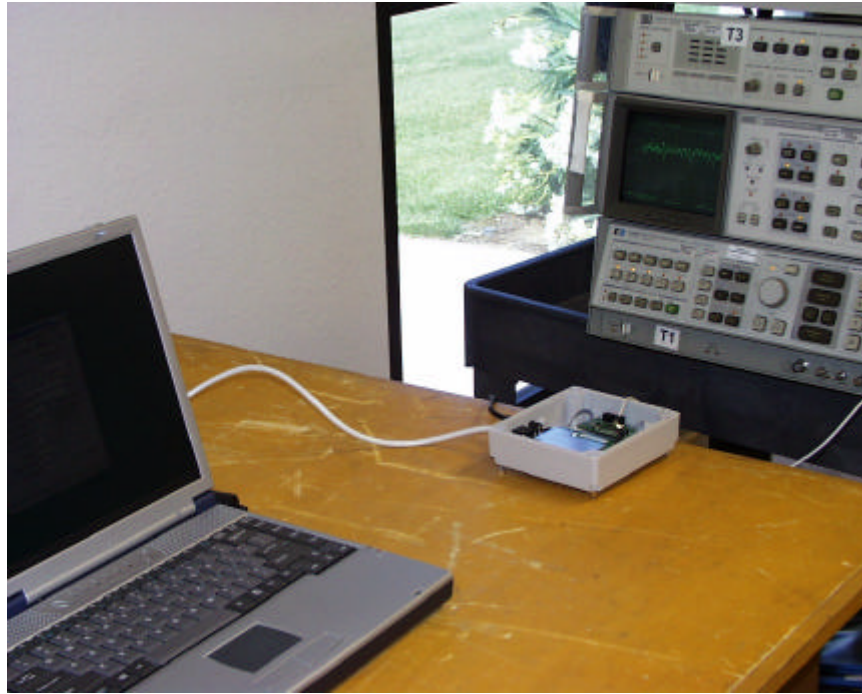
Conducted Emission Measurement



Radiated Emission above 1 GHz Measurement



Antenna Port Terminal and Bandedges Measurements





END OF REPORT