Conducted Test Setup Photo

Appendix B: Emission Test Results

Testing Laboratory: Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134, USA

Radiated Spurious Emissions

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

Using Vasona, configure the spectrum analyzer as shown below (be sure to enter all losses between the transmitter output and the spectrum analyzer). Place the radio in continuous transmit mode.

Span:	1GHz – 18 GHz
Reference Level:	80 dBuV
Attenuation:	10 dB
Sweep Time:	Coupled
Resolution Bandwidth:	1MHz
Video Bandwidth:	1 MHz for peak, 10 Hz for average
Detector:	Peak

Maximize Turntable (find worst case table angle), Maximize Antenna (find worst case height)

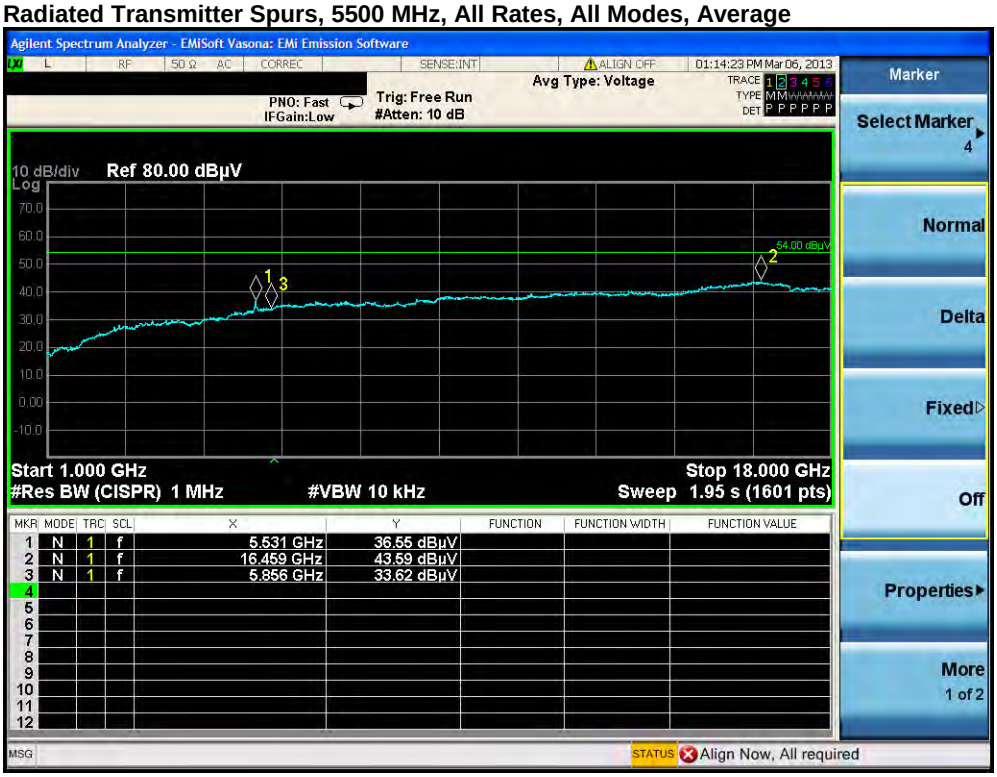
Save 2 plots: 1) Average Plot (Vertical and Horizontal), Limit= 54dBuV @3m
2) Peak plot (Vertical and Horizontal), Limit = 74dBuV @3m

Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands.

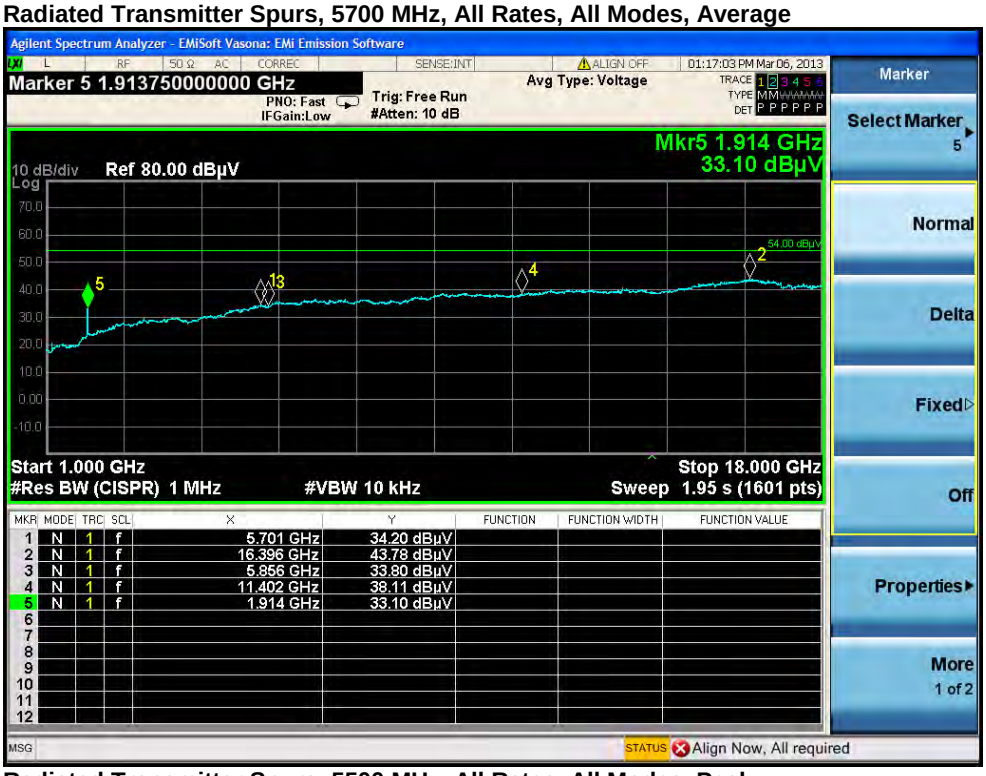
This report represents the worst case data for all supported operating modes and antennas. There are no measurable emissions above 18 GHz.

Frequency (MHz)	Mode	Data Rate (Mbps)	Spurious Emission Level (dBuV/m)	Limit (dBuV/m)
5500	Non HT-20, 6 to 54 Mbps	6	**<54**	**54**
	Non HT-20 Beam Forming, 6 to 54 Mbps	6	**<54**	**54**
	HT-20, M0 to M23	m0	**<54**	**54**
	HT-20 STBC, M0 to M7	m0	**<54**	**54**
	HT-20 Beam Forming, M0 to M23	m0	**<54**	**54**
5700	Non HT-20, 6 to 54 Mbps	6	**<54**	**54**
	Non HT-20 Beam Forming, 6 to 54 Mbps	6	**<54**	**54**
	HT-20, M0 to M23	m0	**<54**	**54**
	HT-20 STBC, M0 to M7	m0	**<54**	**54**
	HT-20 Beam Forming, M0 to M23	m0	**<54**	**54**
5500/5520	Non HT-40 Duplicate, 6-54 Mbps		**<54**	**54**
	HT-40, M0 to M23	6	**<54**	**54**
	HT-40 STBC, M0 to M7	m0	**<54**	**54**
	HT-40 Beam Forming, M0 to M23	m0	**<54**	**54**
5660/5680	Non HT-40 Duplicate, 6-54 Mbps	6	**<54**	**54**
	HT-40, M0 to M23	m0	**<54**	**54**
	HT-40 STBC, M0 to M7	m0	**<54**	**54**
	HT-40 Beam Forming, M0 to M23	m0	**<54**	**54**

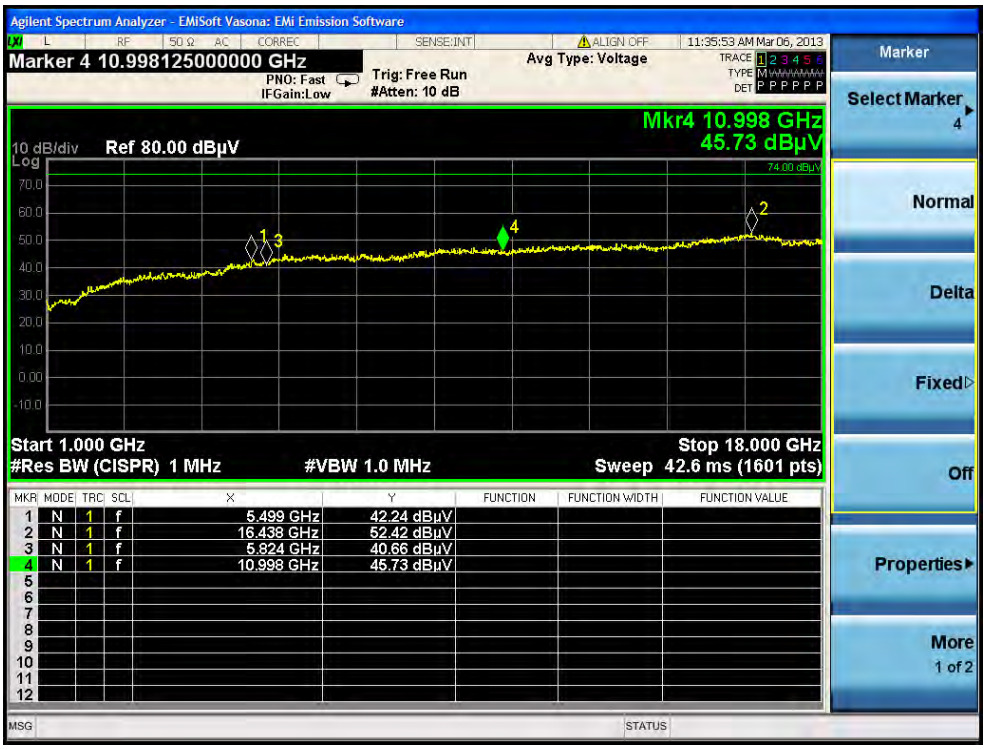
Radiated Transmitter Spurs, 5500 MHz, All Rates, All Modes, Average



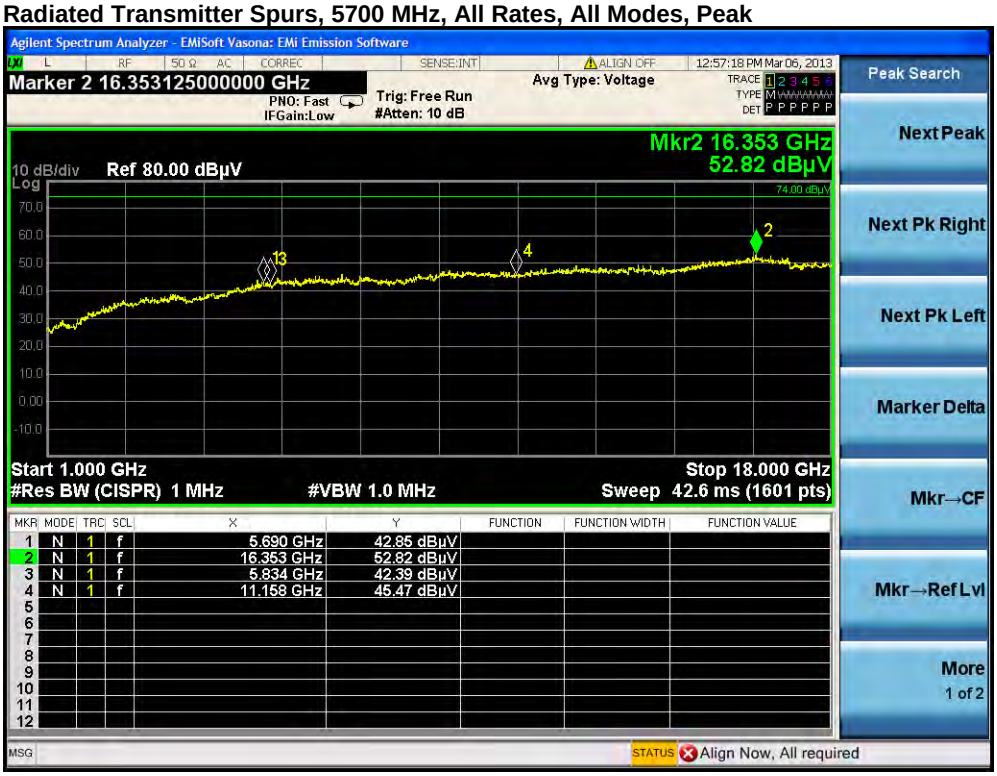
Radiated Transmitter Spurs, 5700 MHz, All Rates, All Modes, Average



Radiated Transmitter Spurs, 5500 MHz, All Rates, All Modes, Peak

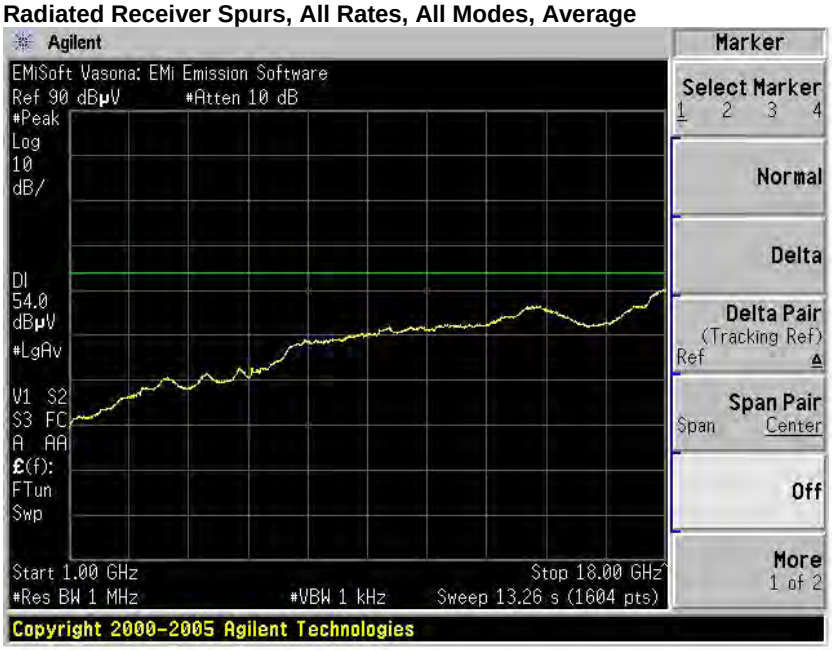


Radiated Transmitter Spurs, 5700 MHz, All Rates, All Modes, Peak

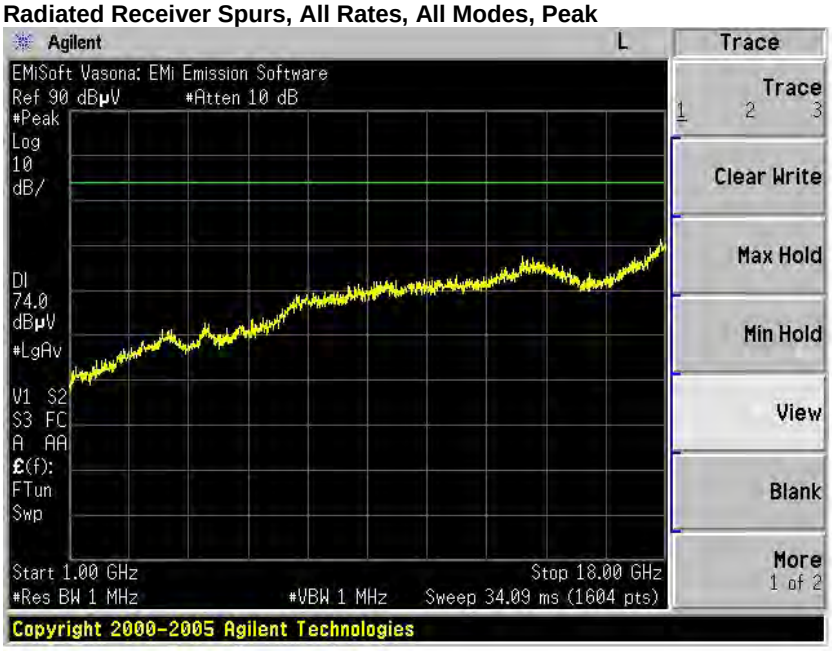


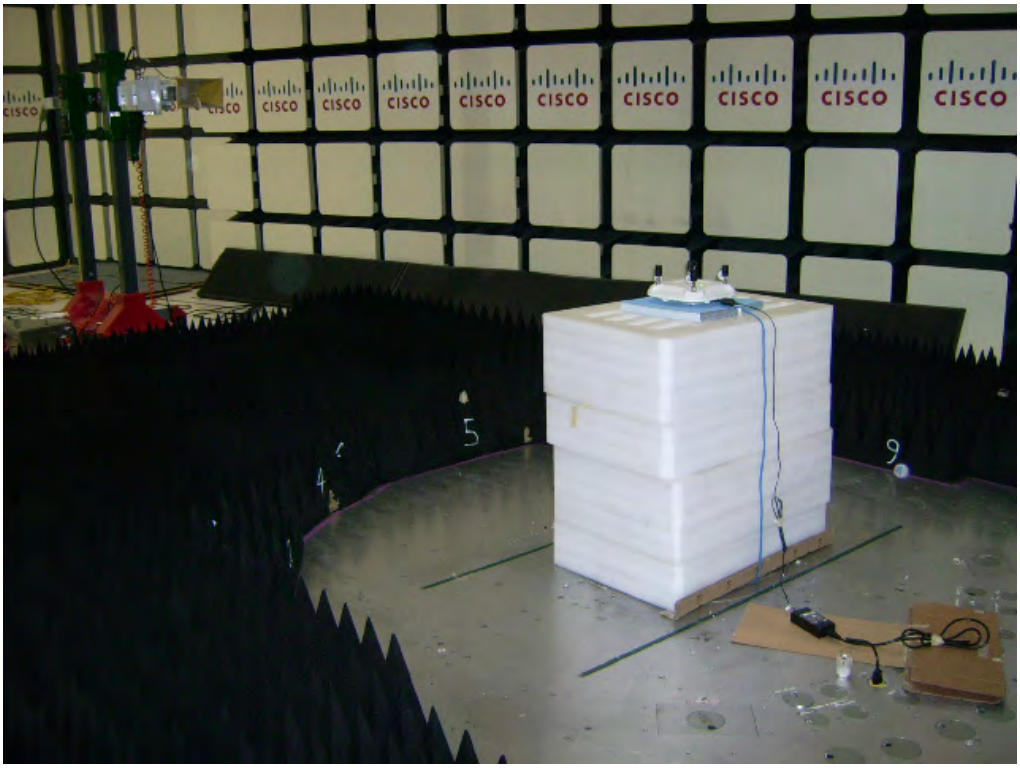
Receiver Radiated Spurious Emissions

Radiated Receiver Spurs, All Rates, All Modes, Average



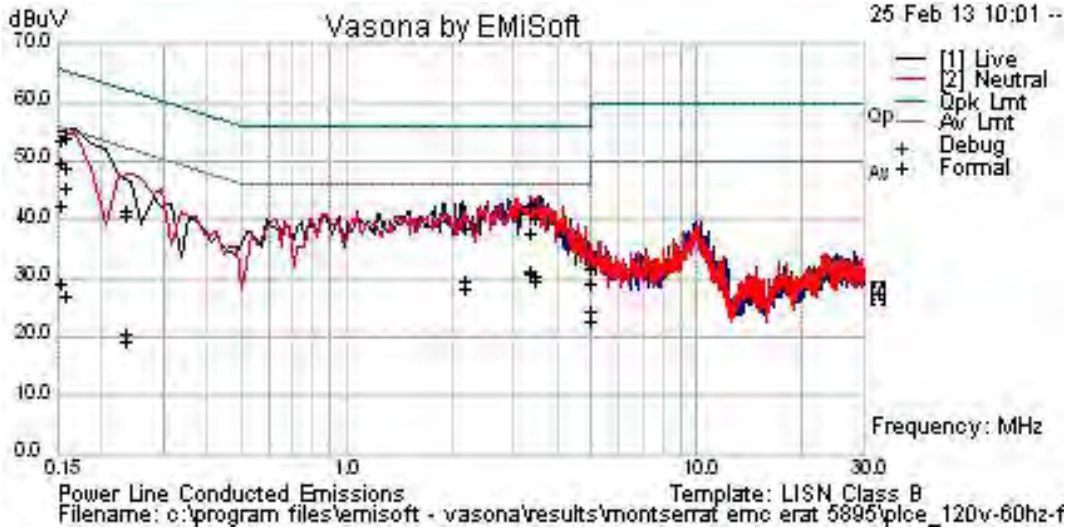
Radiated Receiver Spurs, All Rates, All Modes, Peak





Radiated Test Setup Photo

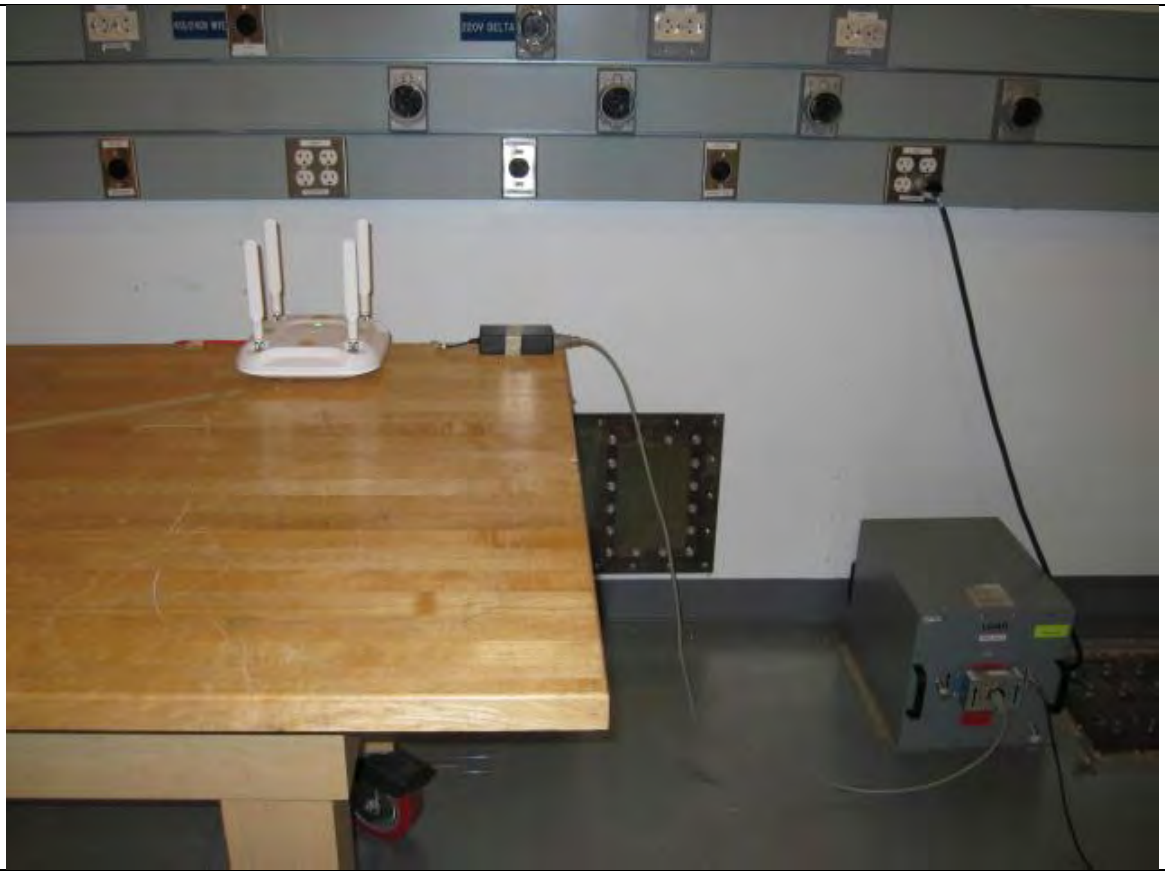
Conducted Emissions



Test Results Table

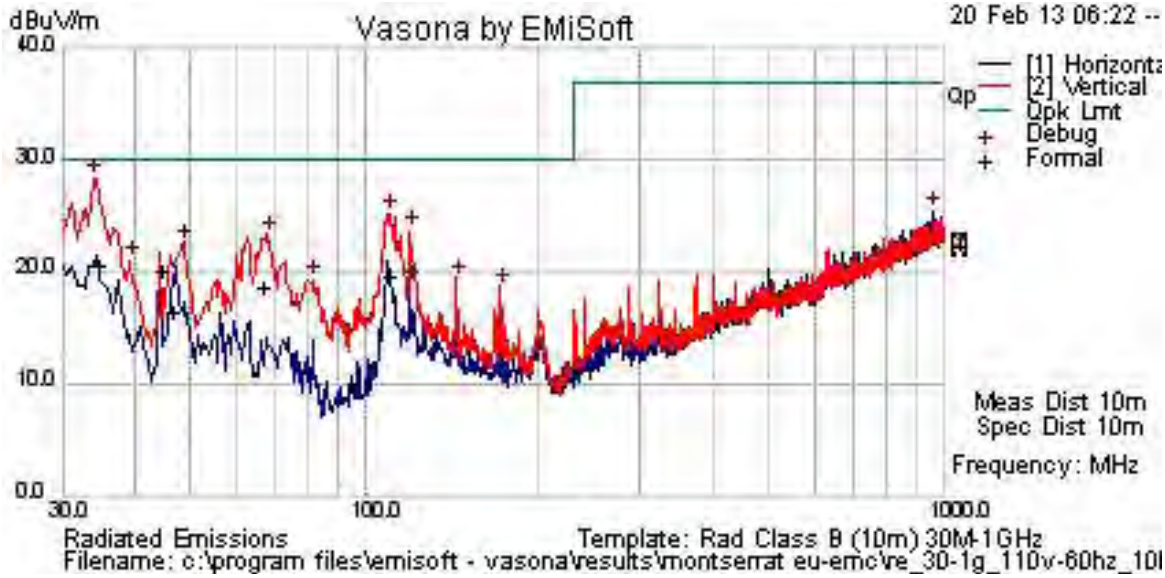
Frequency MHz	Raw dBuV	Cable Loss	Factors dB	Level dBuV	Measurement Type	Line	Limit dBuV	Margin dB	Pass /Fail	Comments
0.15736	24	21.3	0.1	45.4	Av	N	55.6	-10.2	Pass	
0.15736	32.8	21.3	0.1	54.2	Qp	N	65.6	-11.4	Pass	
0.15288	32	21.4	0.1	53.5	Qp	N	65.8	-12.4	Pass	
3.424	22.7	20	0	42.8	Qp	N	56	-13.2	Pass	
0.15288	21	21.4	0.1	42.4	Av	L	55.8	-13.4	Pass	
3.351	22.5	20	0.1	42.6	Qp	N	56	-13.4	Pass	
3.351	11.1	20	0.1	31.2	Av	N	46	-14.8	Pass	
3.351	10.9	20	0.1	30.9	Av	L	46	-15.1	Pass	
3.424	20.3	20	0	40.3	Qp	L	56	-15.7	Pass	
3.424	10.2	20	0	30.3	Av	N	46	-15.7	Pass	
0.15288	28.1	21.4	0.1	49.6	Qp	L	65.8	-16.3	Pass	
3.424	9.4	20	0	29.5	Av	L	46	-16.5	Pass	
2.158	9.4	20	0	29.5	Av	N	46	-16.5	Pass	
0.15736	27.5	21.3	0.1	48.9	Qp	L	65.6	-16.7	Pass	
2.158	18.6	20	0	38.7	Qp	N	56	-17.3	Pass	
2.158	18.6	20	0	38.6	Qp	L	56	-17.4	Pass	
2.158	8.5	20	0	28.5	Av	L	46	-17.5	Pass	
3.351	17.6	20	0.1	37.6	Qp	L	56	-18.4	Pass	
0.23346	20.6	20.9	0	41.5	Qp	L	62.3	-20.8	Pass	
0.23346	19.8	20.9	0	40.7	Qp	N	62.3	-21.6	Pass	
4.916	4.3	20	0	24.4	Av	N	46	-21.6	Pass	
4.916	2.5	20	0	22.6	Av	L	46	-23.4	Pass	
4.916	11.8	20	0	31.9	Qp	N	56	-24.1	Pass	

Frequency MHz	Raw dBuV	Cable Loss	Factors dB	Level dBuV	Measurement Type	Line	Limit dBuV	Margin dB	Pass /Fail	Comments
0.15288	7.8	21.4	0.1	29.2	Av	N	55.8	-26.6	Pass	
4.916	9	20	0	29.1	Qp	L	56	-26.9	Pass	
0.15736	5.7	21.3	0.1	27.1	Av	L	55.6	-28.5	Pass	
0.23346	-0.1	20.9	0	20.8	Av	N	52.3	-31.6	Pass	
0.23346	-1.5	20.9	0	19.4	Av	L	52.3	-32.9	Pass	



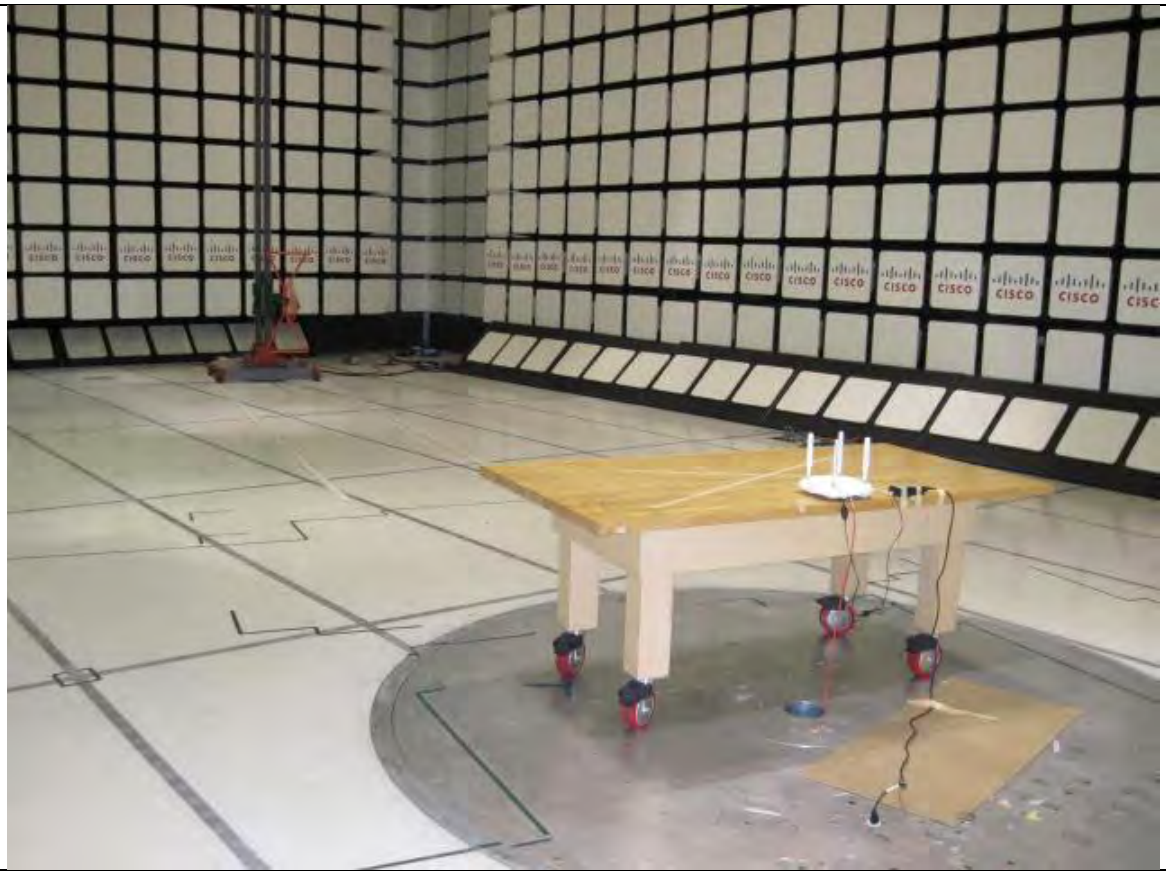
Title: Power Line Conducted Emissions Test Setup

Radiated emissions



Test Results Table

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
34.65	30.1	0.6	-10.1	20.6	Qp	V	124	218	30	-9.4	Pass	
44.239	36.6	0.7	-17.2	20.2	Qp	V	198	221	30	-9.8	Pass	
120.013	32.5	1.2	-13.6	20.2	Qp	V	135	87	30	-9.8	Pass	
110.373	33.2	1.2	-14.7	19.7	Qp	V	131	175	30	-10.3	Pass	
66.612	37.4	1	-19.7	18.6	Qp	V	102	271	30	-11.4	Pass	
46.154	33.9	0.7	-18.3	16.3	Qp	V	254	195	30	-13.7	Pass	



Title: Radiated Emissions 10m Test Distance