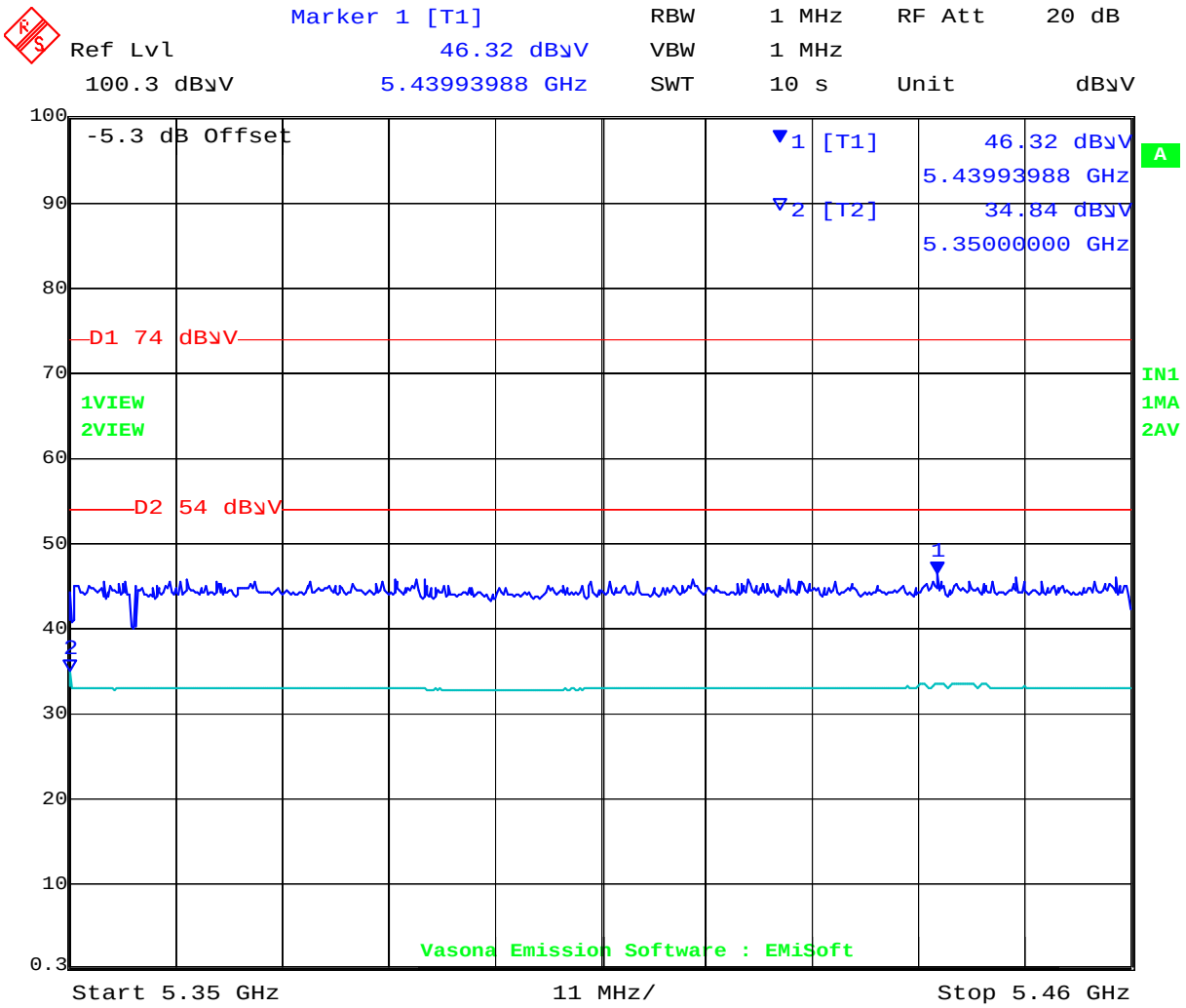
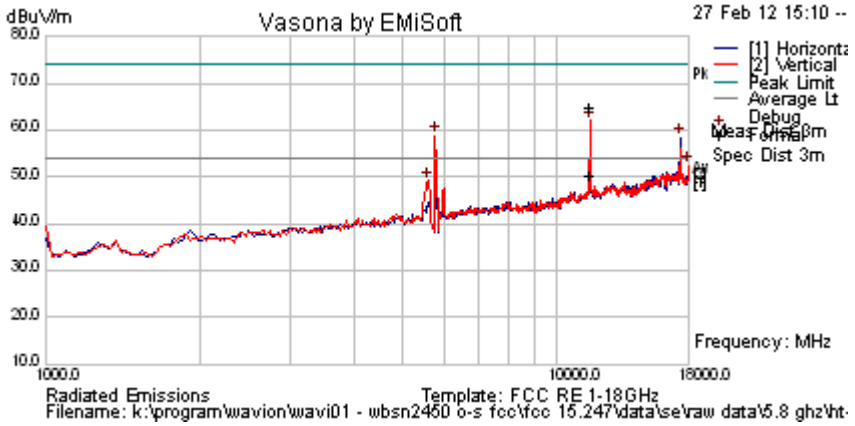
Band Edge



Test Freq.	5785 MHz	**Engineer**	GMH
Variant	802.11n; HT-20; 6.5 Mbit/s, MCS0	**Temp (ºC)**	21.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	25	**Press. (mBars)**	995
Antenna	8.5dBi Omni	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

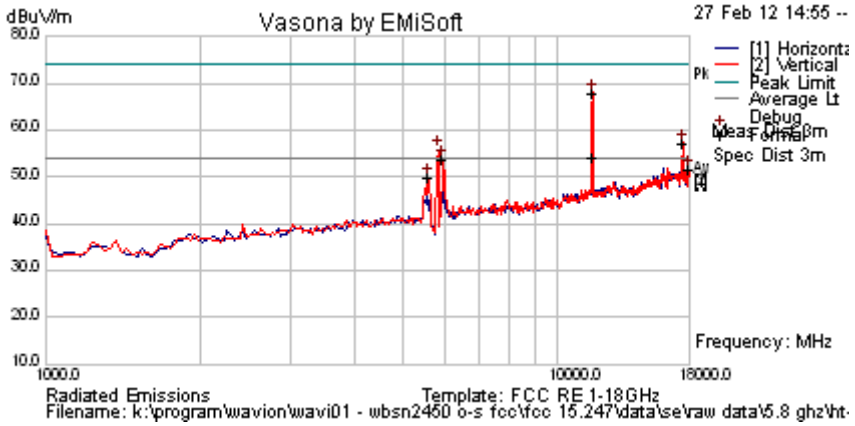


Formally measured emission peaks

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
11576.543	59.9	6.8	-2.0	64.7	Peak Max	V	114	1	74.0	-9.3	Pass	RB
11576.543	45.4	6.8	-2.0	50.2	Average Max	V	114	1	54.0	-3.9	Pass	RB
5769.539	63.4	4.8	-9.5	58.7	Peak [Scan]	V						FUND
17352.705	48.3	8.7	1.3	58.3	Peak [Scan]	H					Pass	NRB
18000.000	43.2	8.8	0.7	52.7	Peak [Scan]	V	150	0	54	-1.3	Pass	NOISE
5599.198	54.2	4.7	-9.7	49.2	Peak [Scan]	V	100	0	54	-4.8	Pass	BE

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Test Freq.	5825 MHz	**Engineer**	GMH
Variant	802.11n; HT-20; 6.5 Mbit/s, MCS0	**Temp (ºC)**	21.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	23 (Reduced Power)	**Press. (mBars)**	995
Antenna	8.5dBi Omni	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

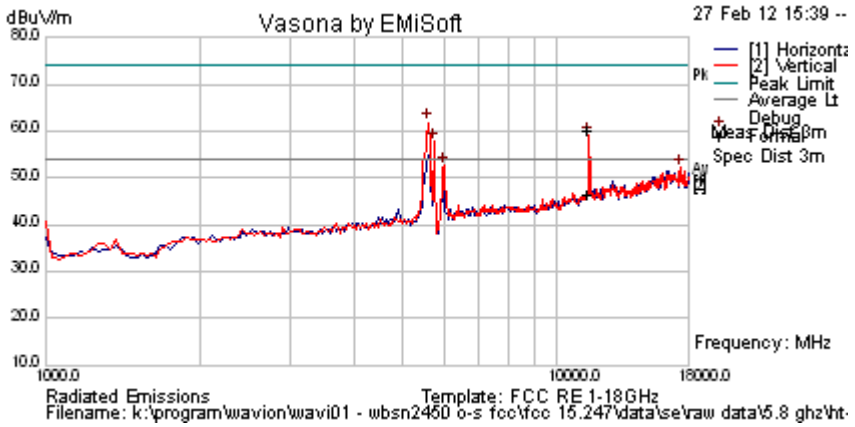


Formally measured emission peaks

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
11653.237	63.5	6.8	-2.3	68.1	Peak Max	V	106	3	74.0	-5.9	Pass	RB
11653.237	49.5	6.8	-2.3	54.0	Average Max	V	106	3	54.0	0.0	Pass	RB
17488.978	47.5	8.8	1.0	57.3	Peak [Scan]	V					Pass	NRB
5973.948	57.7	4.9	-8.7	53.9	Peak [Scan]	V						FUND
18000.000	42.1	8.8	0.7	51.6	Peak [Scan]	V	200	0	54	-2.4	Pass	NOISE
5565.130	54.9	4.7	-9.7	49.8	Peak [Scan]	V	100	0	54	-4.2	Pass	BE

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Test Freq.	5755 MHz	**Engineer**	GMH
Variant	802.11n; HT-40; 13.5 Mbit/s, MCS 0	**Temp (ºC)**	21.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	25	**Press. (mBars)**	995
Antenna	8.5 dBi Omni	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

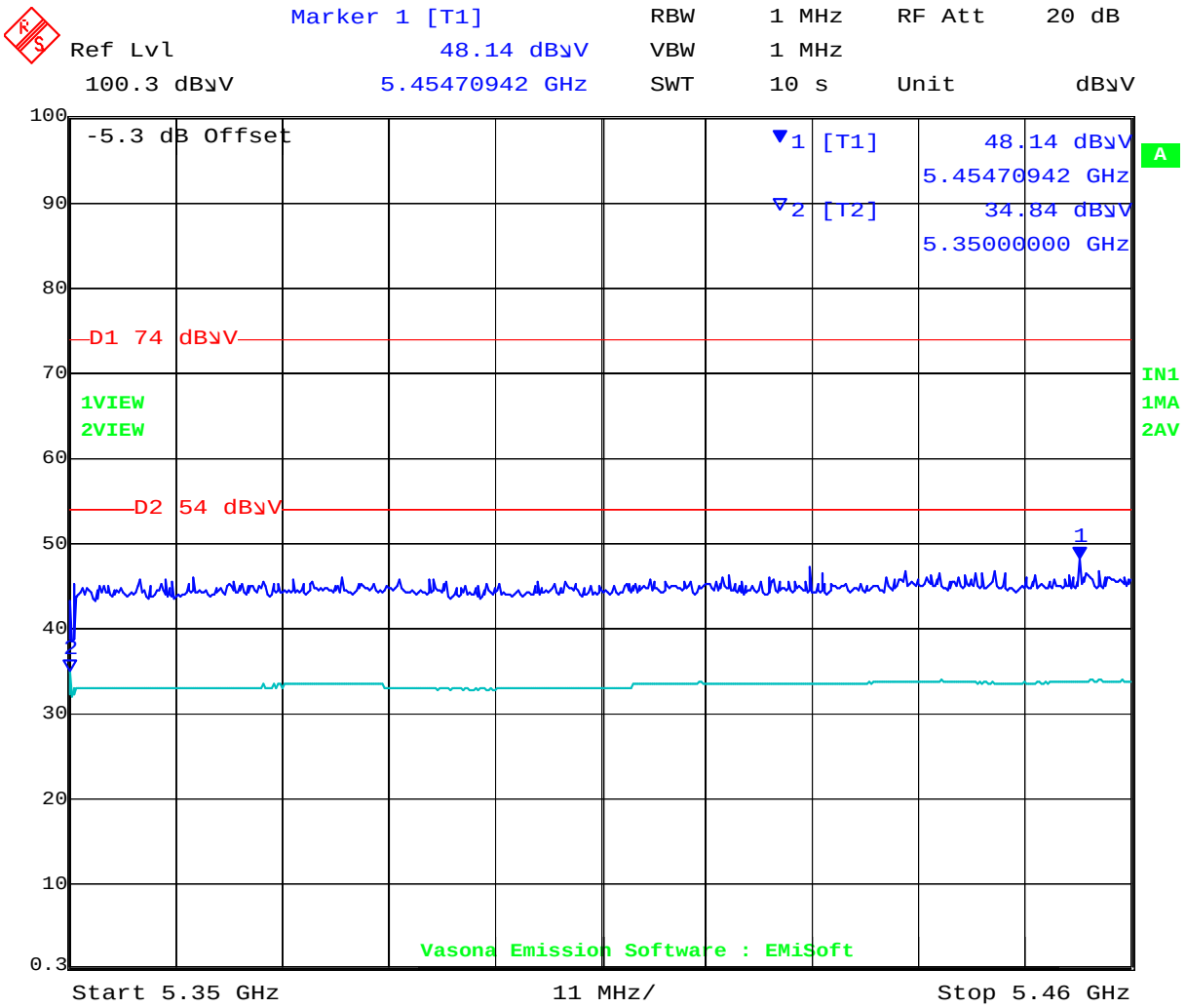


Formally measured emission peaks

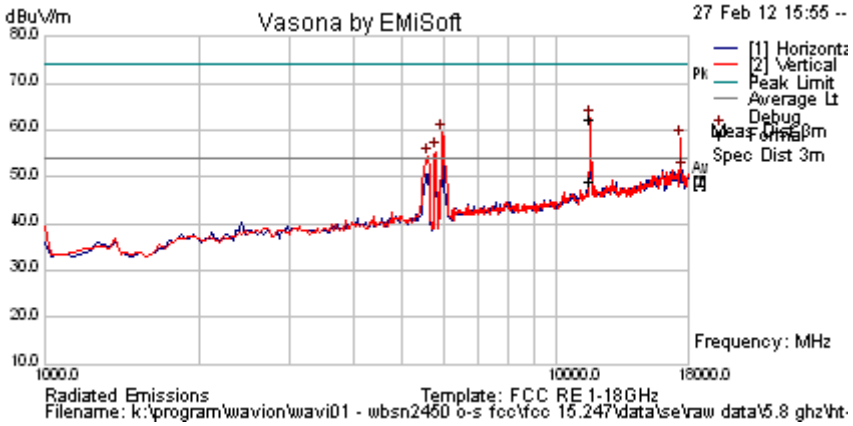
Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
11506.459	55.4	6.8	-1.9	60.2	Peak Max	V	146	37	74.0	-13.8	Pass	RB
11506.459	41.6	6.8	-1.9	46.5	Average Max	V	146	37	54.0	-7.6	Pass	RB
5599.198	66.8	4.7	-9.7	61.8	Peak [Scan]	V					Pass	BE
5735.471	62.6	4.8	-9.5	57.8	Peak [Scan]	V						FUND
6008.016	56.3	4.9	-8.6	52.6	Peak [Scan]	V					Pass	BE
17386.774	42.1	8.7	1.4	52.2	Peak [Scan]	V	200	0	54	-1.8	Pass	NOISE

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Band Edge



Test Freq.	5795 MHz	**Engineer**	GMH
Variant	802.11n; HT-40; 13.5 MCS	**Temp (ºC)**	21.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	25	**Press. (mBars)**	995
Antenna	8.5 dBi Omni	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			



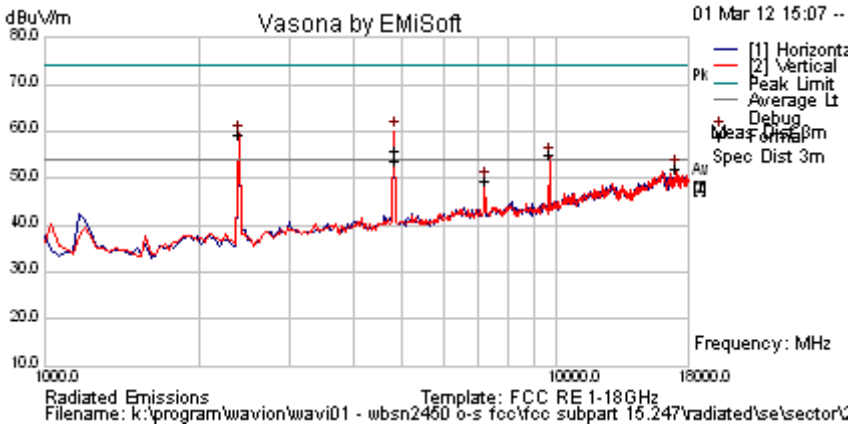
Formally measured emission peaks

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
11578.426	57.7	6.8	-2.0	62.4	Peak Max	V	118	0	74.0	-11.6	Pass	RB
11578.426	44.5	6.8	-2.0	49.2	Average Max	V	118	0	54.0	-4.8	Pass	RB
5973.948	63.2	4.9	-8.7	59.4	Peak [Scan]	V					Pass	BE
17386.774	48.1	8.7	1.4	58.2	Peak [Scan]	V					Pass	NRB
17557.114	41.8	8.8	0.8	51.3	Peak [Scan]	H	200	0	54	-2.7	Pass	NOISE
5599.198	59.3	4.7	-9.7	54.3	Peak [Scan]	V					Pass	BE
5803.607	60.0	4.8	-9.4	55.4	Peak [Scan]	V						FUND

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

5.1.6.2. Sector Antenna

Test Freq.	2412 MHz	**Engineer**	GMH
Variant	802.11b; 1 Mbs	**Temp (ºC)**	19.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	33
Power Setting	18.5 (Reduced Power)	**Press. (mBars)**	1011
Antenna	Sector 12 dBi	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

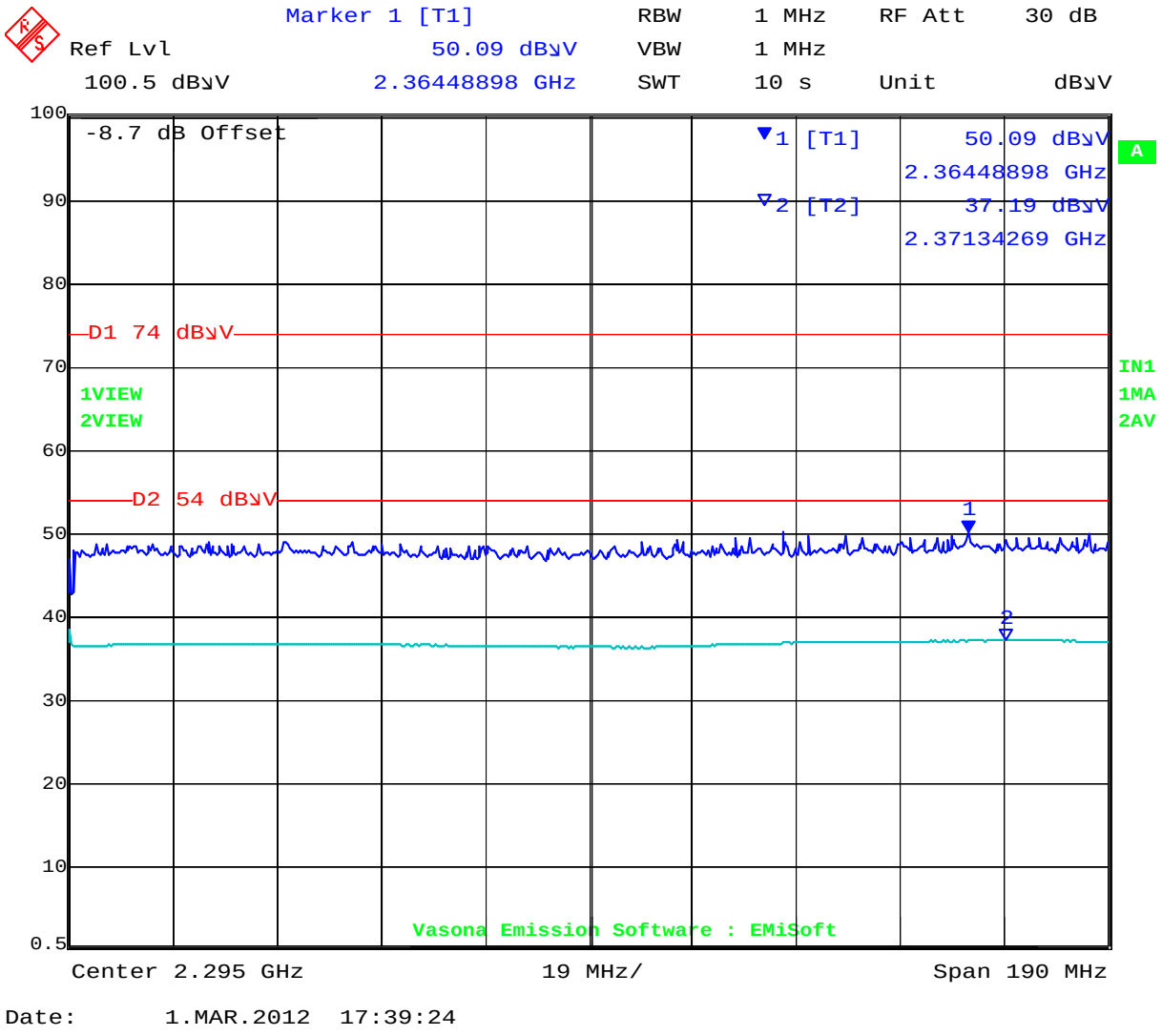


Formally measured emission peaks

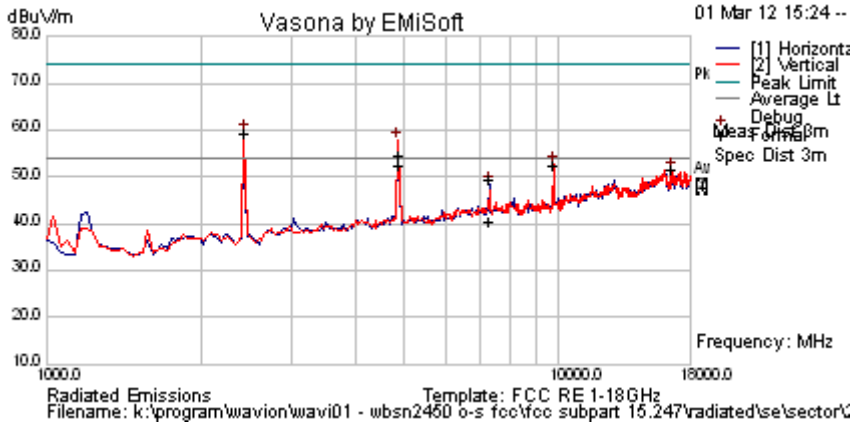
Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
4824.022	60.9	4.5	-9.7	55.7	Peak Max	V	118	149	74.0	-18.3	Pass	RB
4824.022	58.8	4.5	-9.7	53.6	Average Max	V	118	149	54.0	-0.4	Pass	RB
2396.794	68.2	3.0	-11.7	59.5	Peak [Scan]	V						FUND
9653.307	52.1	6.3	-3.5	54.9	Peak [Scan]	V					Pass	NRB
17080.160	43.1	8.5	0.4	52.0	Peak [Scan]	V	150	0	54	-2.1	Pass	NOISE
7234.469	50.0	5.4	-5.8	49.5	Peak [Scan]	V	150	0	54	-4.5	Pass	NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Band Edge



Test Freq.	2437 MHz	**Engineer**	GMH
Variant	802.11b; 1 Mbs	**Temp (ºC)**	19.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	33
Power Setting	21.0 (Reduced Power)	**Press. (mBars)**	1011
Antenna	Sector 12 dBi	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

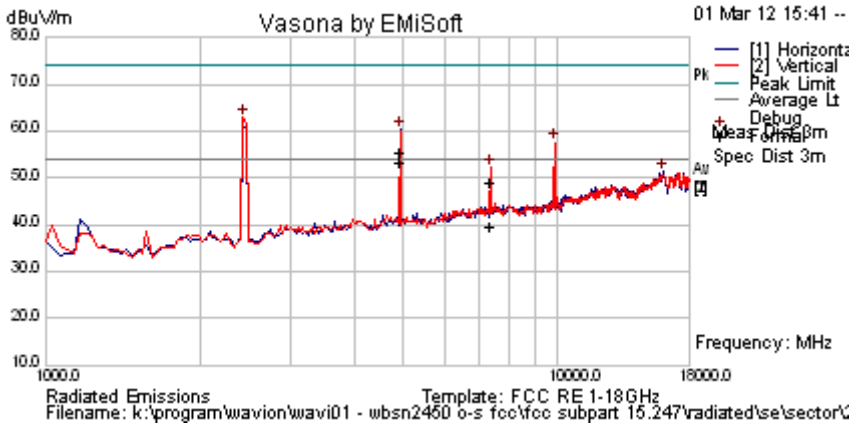


Formally measured emission peaks

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
4874.042	59.9	4.5	-9.7	54.7	Peak	H	202	-4	74.0	-19.3	Pass	RB
7309.424	49.9	5.4	-5.7	49.7	Peak Max	H	175	104	74.0	-24.3	Pass	RB
4874.042	57.5	4.5	-9.7	52.3	Average	H	202	-4	54.0	-1.7	Pass	RB
7309.424	40.5	5.4	-5.7	40.3	Average Max	H	175	104	54	-13.7	Pass	RB
2430.862	68.0	3.0	-11.6	59.4	Peak [Scan]	V						FUND
9755.511	50.0	6.4	-3.7	52.7	Peak [Scan]	V	100	0	54	-1.3	Pass	NRB
16569.138	42.2	8.8	0.5	51.4	Peak [Scan]	V	100	0	54	-2.6	Pass	NOISE

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Test Freq.	2462 MHz	**Engineer**	GMH
Variant	802.11b; 1 Mbs	**Temp (ºC)**	19.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	33
Power Setting	19.5 (Reduced Power)	**Press. (mBars)**	1011
Antenna	Sector 12 dBi	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

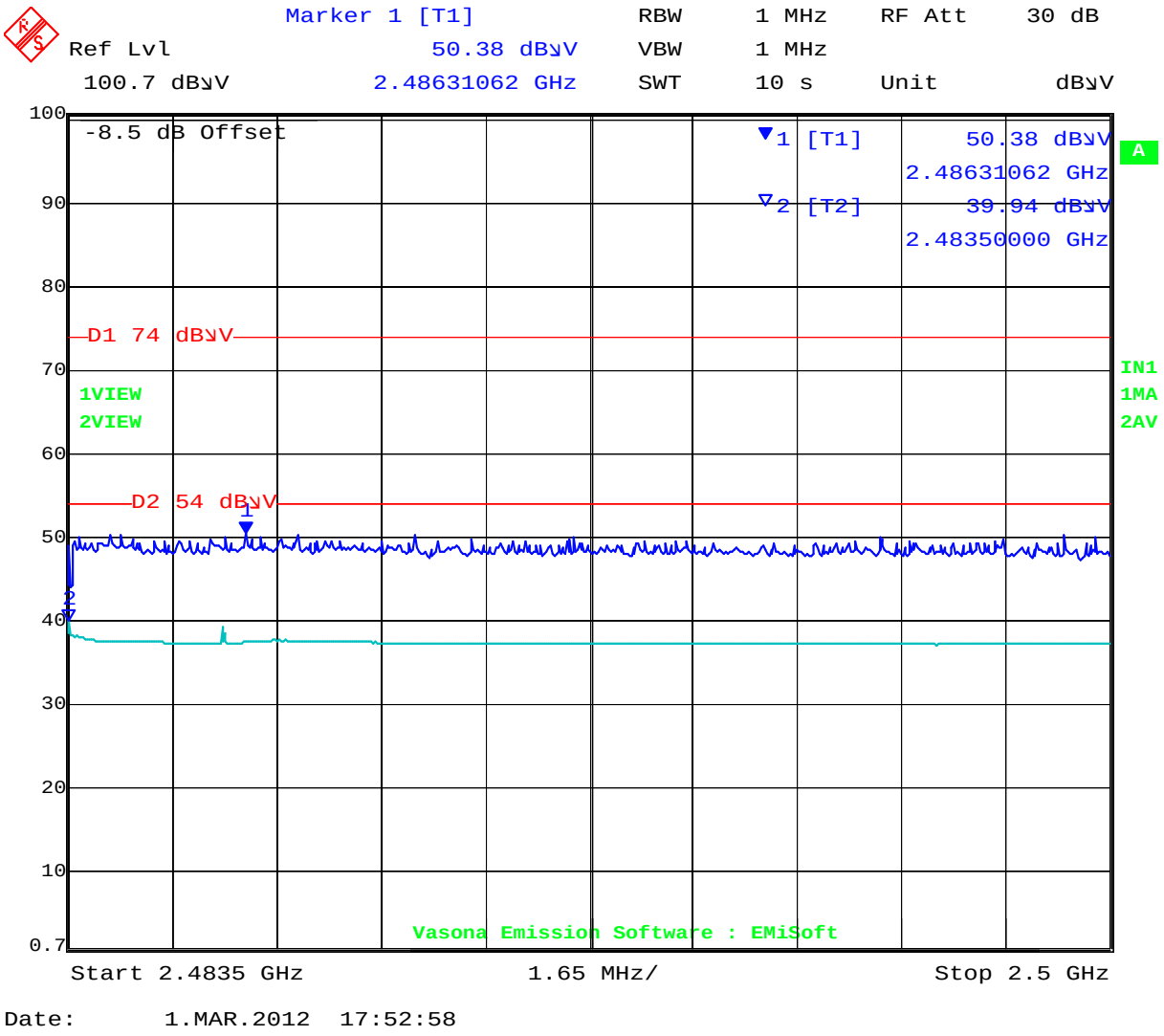


Formally measured emission peaks

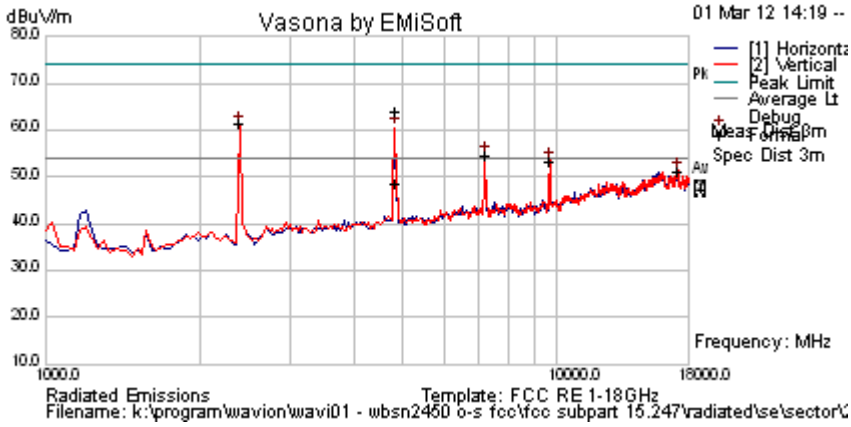
Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
4924.032	60.8	4.6	-9.8	55.5	Peak	H	202	269	74.0	-18.5	Pass	RB
7388.537	49.0	5.5	-5.5	49.0	Peak Max	V	99	9	74.0	-25.0	Pass	RB
7388.537	39.6	5.5	-5.5	39.6	Average Max	V	99	9	54.0	-14.4	Pass	RB
4924.032	58.4	4.6	-9.8	53.2	Average	H	202	269	54.0	-0.8	Pass	RB
2430.862	71.5	3.0	-11.6	63.0	Peak [Scan]	V						FUND
9857.715	54.6	6.4	-3.5	57.5	Peak [Scan]	V					Pass	NRB
16058.116	42.0	9.0	0.3	51.3	Peak [Scan]	H	200	0	54	-2.7	Pass	NOISE

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Band Edge



Test Freq.	2412 MHz	**Engineer**	GMH
Variant	802.11g; 6 Mbs	**Temp (ºC)**	20.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	33
Power Setting	21.5	**Press. (mBars)**	1010
Antenna	Sector 12 dBi	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

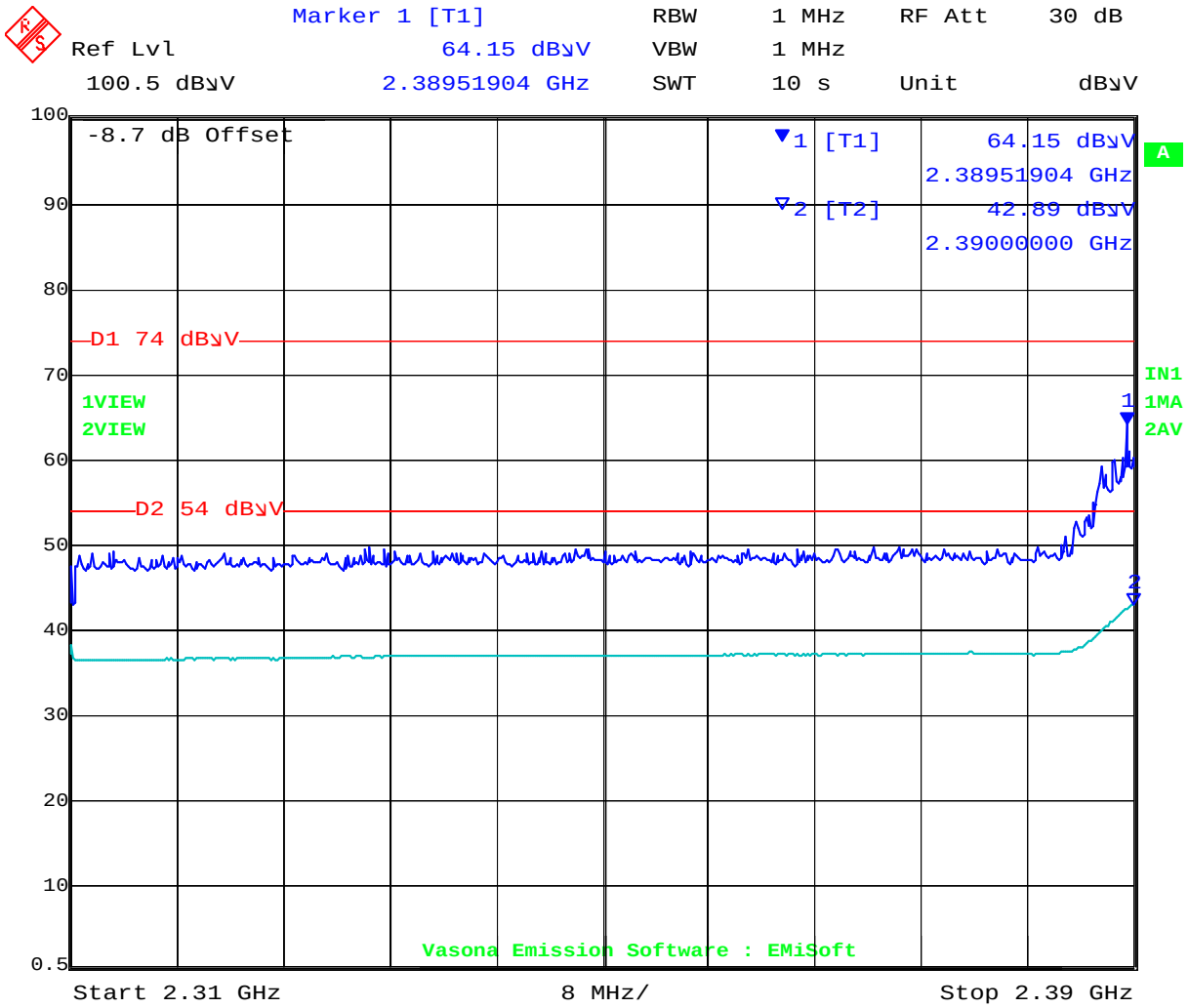


Formally measured emission peaks

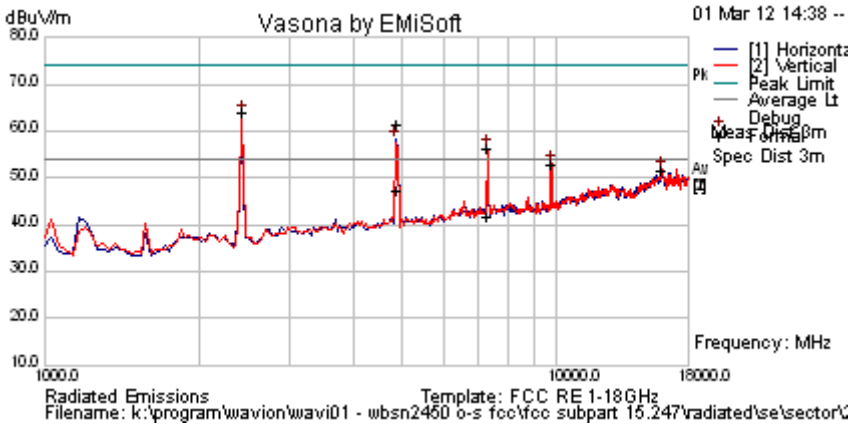
Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
4821.353	69.3	4.5	-9.7	64.1	Peak Max	V	202	0	74.0	-9.9	Pass	RB
4821.353	53.8	4.5	-9.7	48.6	Average Max	V	202	0	54.0	-5.4	Pass	RB
2396.794	70.0	3.0	-11.7	61.3	Peak [Scan]	H						FUND
7234.469	54.9	5.4	-5.8	54.5	Peak [Scan]	V					Pass	NRB
9653.307	50.8	6.3	-3.5	53.5	Peak [Scan]	V					Pass	NRB
17148.297	42.2	8.6	0.5	51.3	Peak [Scan]	H	200	0	54	-2.7	Pass	NOISE

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Band Edge



Test Freq.	2437 MHz	**Engineer**	GMH
Variant	802.11g; 6 Mbs	**Temp (ºC)**	20.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	33
Power Setting	21.5	**Press. (mBars)**	1010
Antenna	Sector 12 dBi	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

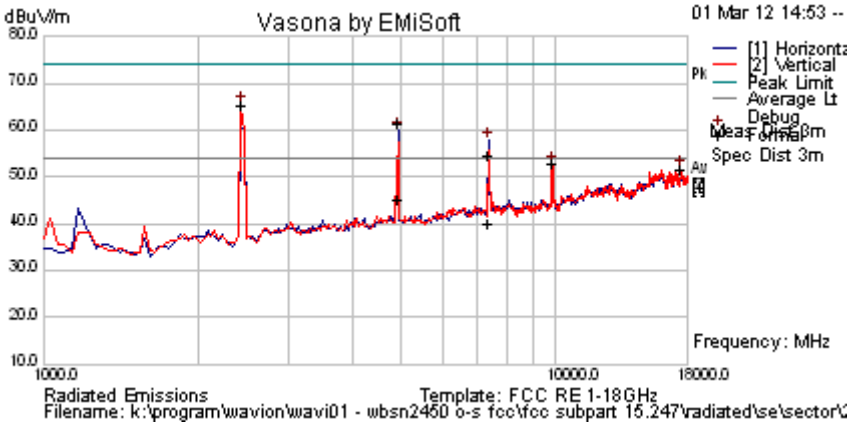


Formally measured emission peaks

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
4871.663	66.9	4.5	-9.7	61.7	Peak Max	H	150	81	74.0	-12.3	Pass	RB
7305.711	56.4	5.4	-5.7	56.1	Peak Max	V	112	197	74.0	-17.9	Pass	RB
4871.663	52.7	4.5	-9.7	47.5	Average Max	H	150	81	54	-6.5	Pass	RB
7305.711	41.9	5.4	-5.7	41.7	Average Max	V	112	197	54.0	-12.3	Pass	RB
2430.862	72.4	3.0	-11.6	63.9	Peak [Scan]	V						FUND
9755.511	50.4	6.4	-3.7	53.0	Peak [Scan]	V					Pass	NRB
15989.980	42.6	9.0	0.1	51.8	Peak [Scan]	V	150	0	54	-2.3	Pass	NOISE

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Test Freq.	2462 MHz	**Engineer**	GMH
Variant	802.11g; 6 Mbs	**Temp (ºC)**	20.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	33
Power Setting	21.5	**Press. (mBars)**	1010
Antenna	Sector 12 dBi	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

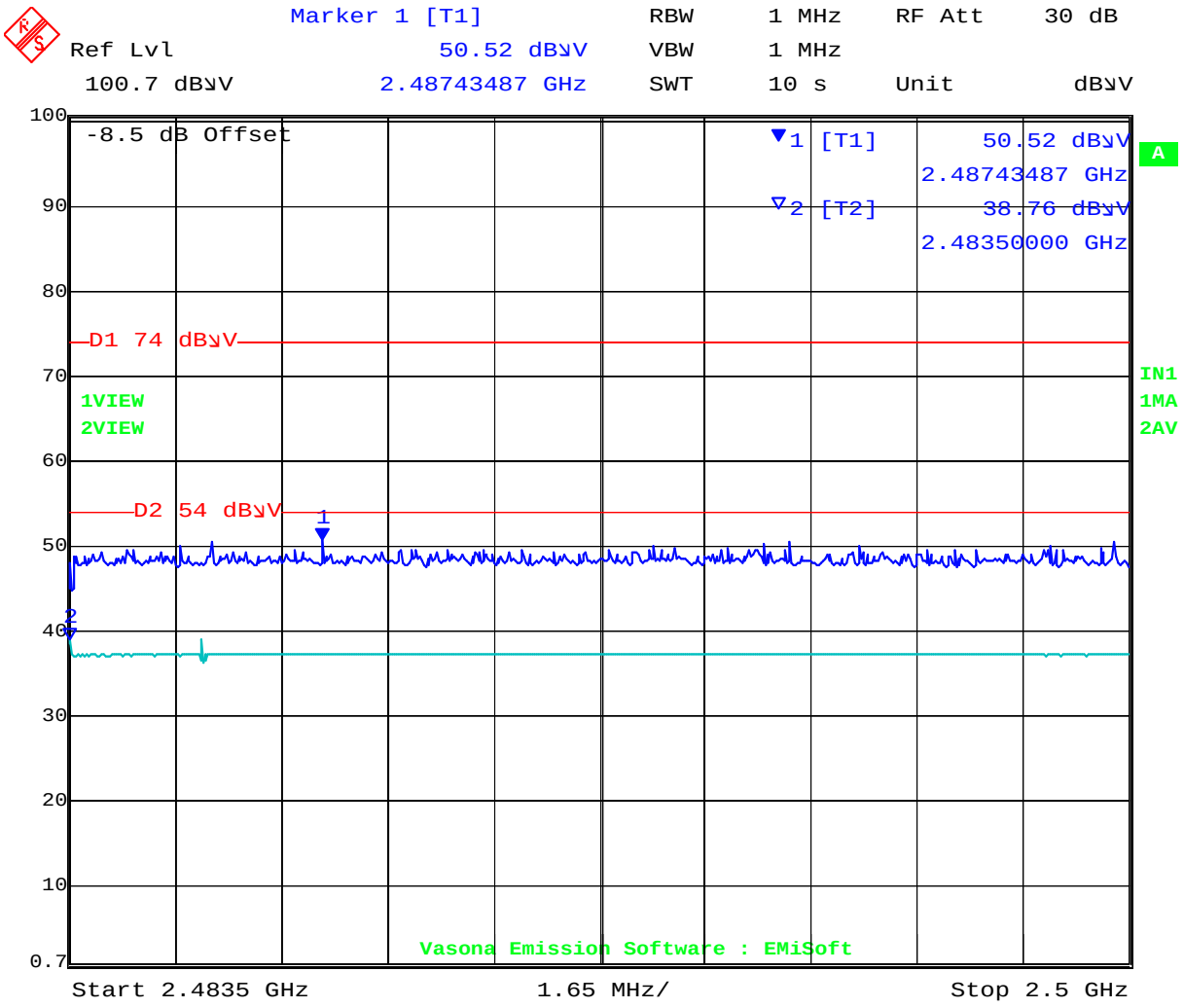


Formally measured emission peaks

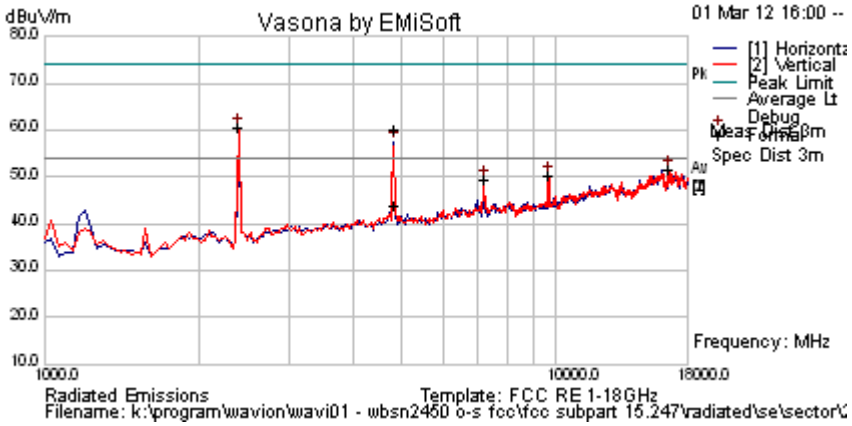
Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
4919.985	66.6	4.6	-9.8	61.4	Peak Max	H	147	109	74.0	-12.6	Pass	RB
7387.174	54.5	5.5	-5.5	54.5	Peak Max	H	172	104	74.0	-19.6	Pass	RB
4919.985	50.6	4.6	-9.8	45.4	Average Max	H	147	109	54	-8.6	Pass	RB
7387.174	40.0	5.5	-5.5	40.0	Average Max	H	172	104	54.0	-14.0	Pass	RB
2430.862	73.9	3.0	-11.6	65.4	Peak [Scan]	V						FUND
9857.715	49.8	6.4	-3.5	52.7	Peak [Scan]	V					Pass	NRB
17523.046	41.8	8.8	0.9	51.5	Peak [Scan]	V	200	0	54.0	-2.5	Pass	NOISE

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Band Edge



Test Freq.	2412 MHz	**Engineer**	GMH
Variant	802.11n; HT-20; 6.5 MCS	**Temp (ºC)**	20.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	33
Power Setting	21.5	**Press. (mBars)**	1010
Antenna	Sector 12 dBi	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

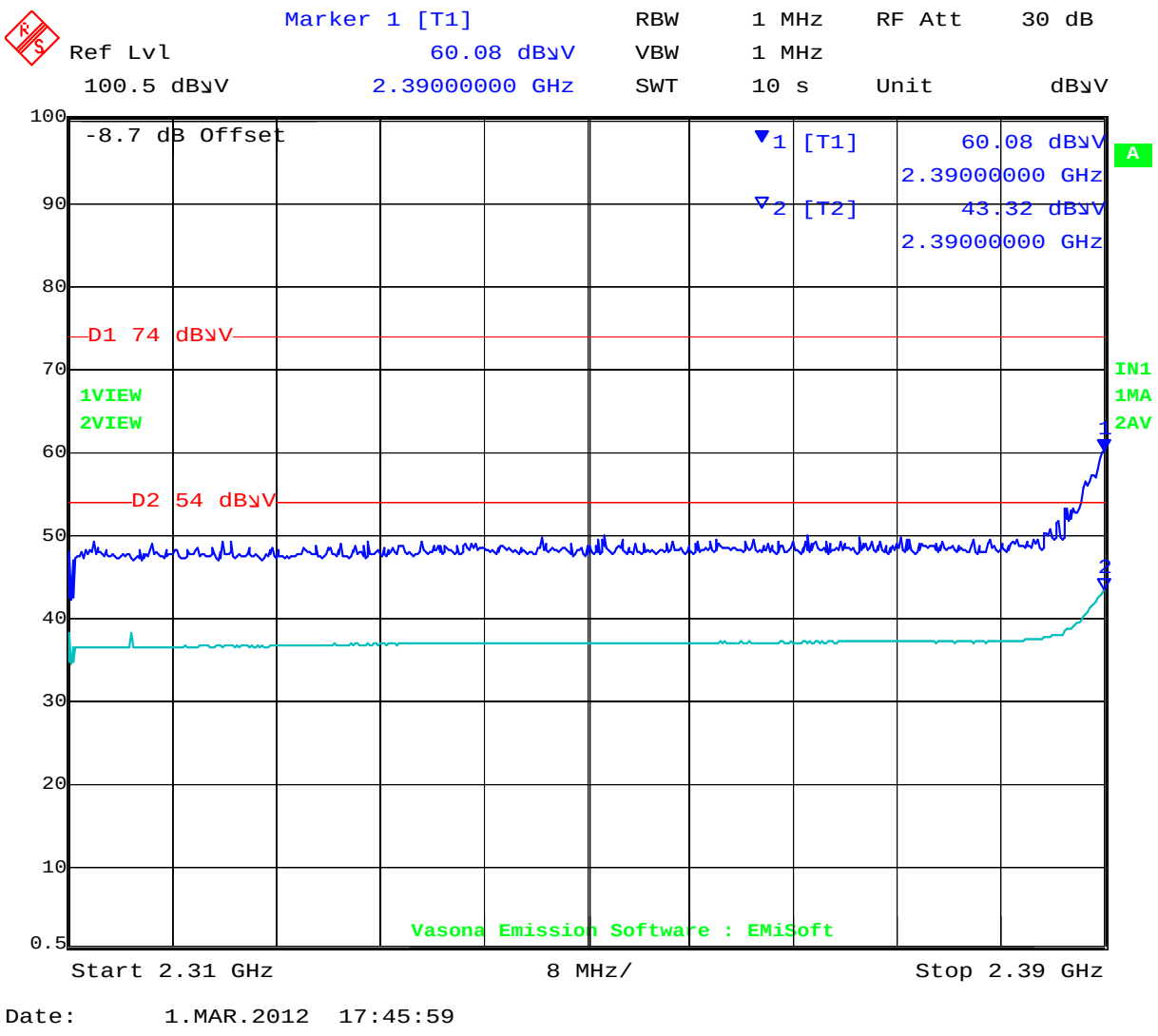


Formally measured emission peaks

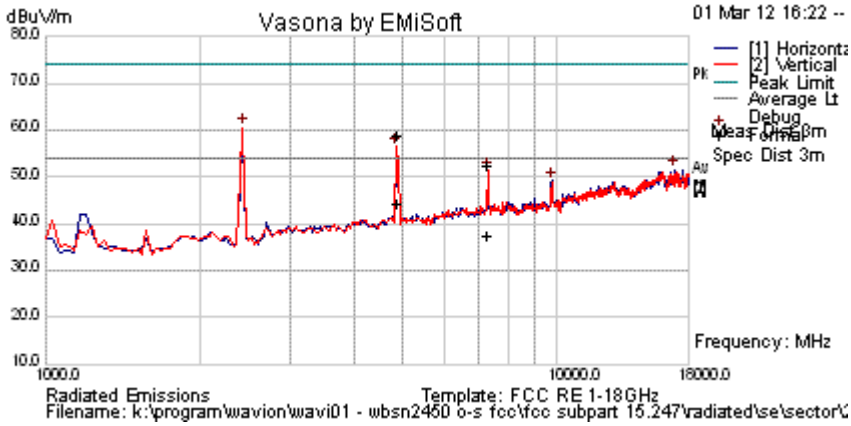
Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
4820.681	65.2	4.5	-9.7	60.0	Peak Max	H	192	274	74.0	-14.0	Pass	RB
4820.681	49.1	4.5	-9.7	43.9	Average Max	H	192	274	54.0	-10.1	Pass	RB
2396.794	69.2	3.0	-11.7	60.5	Peak [Scan]	V						
16569.138	42.3	8.8	0.5	51.5	Peak [Scan]	V	100	0	54.0	-2.5	Pass	NOISE
9653.307	47.4	6.3	-3.5	50.2	Peak [Scan]	H					Pass	NRB
7234.469	50.0	5.4	-5.8	49.6	Peak [Scan]	H					Pass	NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Band Edge



Test Freq.	2437 MHz	**Engineer**	GMH
Variant	802.11n; HT-20; 6.5 MCS	**Temp (ºC)**	20.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	33
Power Setting	21.5	**Press. (mBars)**	1010
Antenna	Sector 12 dBi	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

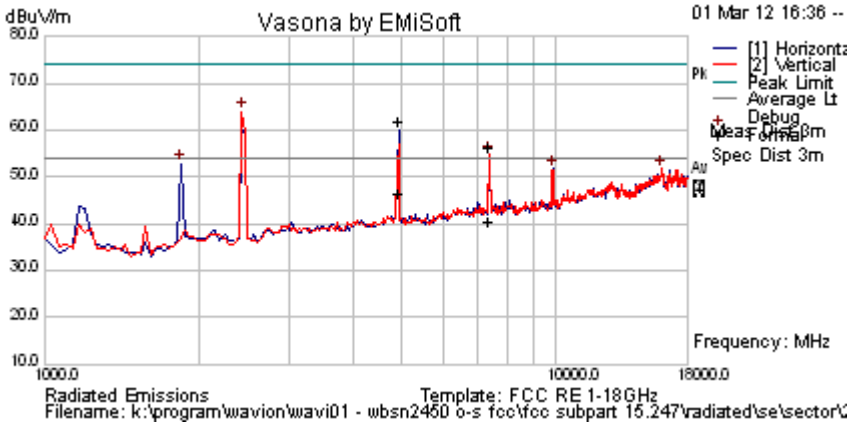


Formally measured emission peaks

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
4871.513	64.3	4.5	-9.7	59.1	Peak Max	V	199	0	74.0	-14.9	Pass	RB
7310.371	52.6	5.4	-5.7	52.3	Peak Max	V	142	173	74.0	-21.7	Pass	RB
4871.513	49.5	4.5	-9.7	44.3	Average Max	V	199	0	54.0	-9.7	Pass	RB
7310.371	37.6	5.4	-5.7	37.4	Average Max	V	142	173	54.0	-16.6	Pass	RB
2430.862	69.1	3.0	-11.6	60.5	Peak [Scan]	V						FUND
16875.752	42.3	8.6	0.7	51.5	Peak [Scan]	H	150	0	54	-2.5	Pass	NOISE
9755.511	46.5	6.4	-3.7	49.1	Peak [Scan]	H					Pass	NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Test Freq.	2462 MHz	**Engineer**	GMH
Variant	802.11n; HT-20; 6.5 MCS	**Temp (ºC)**	20.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	33
Power Setting	21.5	**Press. (mBars)**	1010
Antenna	Sector 12 dBi	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

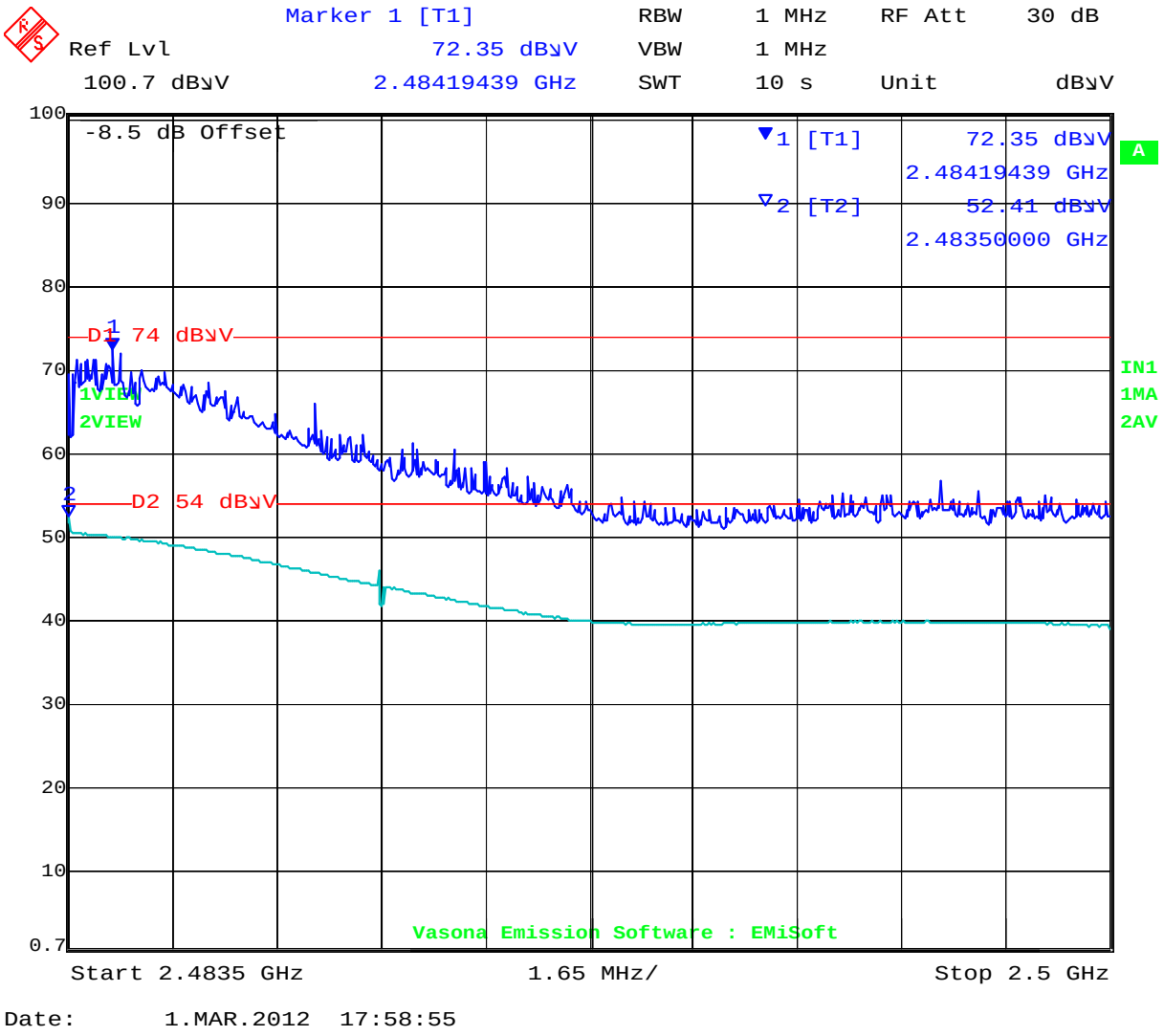


Formally measured emission peaks

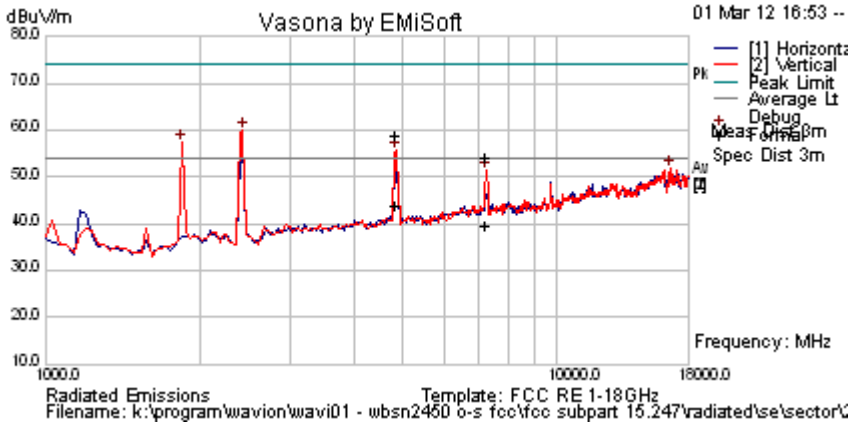
Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
4921.844	67.0	4.6	-9.8	61.8	Peak Max	H	202	273	74.0	-12.2	Pass	RB
7385.972	56.4	5.5	-5.5	56.4	Peak Max	V	165	198	74.0	-17.6	Pass	RB
4921.844	51.9	4.6	-9.8	46.7	Average Max	H	202	273	54.0	-7.4	Pass	RB
7385.972	40.3	5.5	-5.5	40.3	Average Max	V	165	198	54.0	-13.7	Pass	RB
2430.862	72.5	3.0	-11.6	63.9	Peak [Scan]	V						FUND
1851.703	62.6	2.7	-12.4	52.9	Peak [Scan]	H					Pass	NRB
9857.715	48.9	6.4	-3.5	51.8	Peak [Scan]	H					Pass	NRB
16058.116	42.5	9.0	0.3	51.8	Peak [Scan]	V	100	0	54	-2.2	Pass	NOISE

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Band Edge



Test Freq.	2422 MHz	**Engineer**	GMH
Variant	802.11n; HT-40; 13.5 MCS	**Temp (ºC)**	21
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	33
Power Setting	21.5	**Press. (mBars)**	1010
Antenna	Sector 12 dBi	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

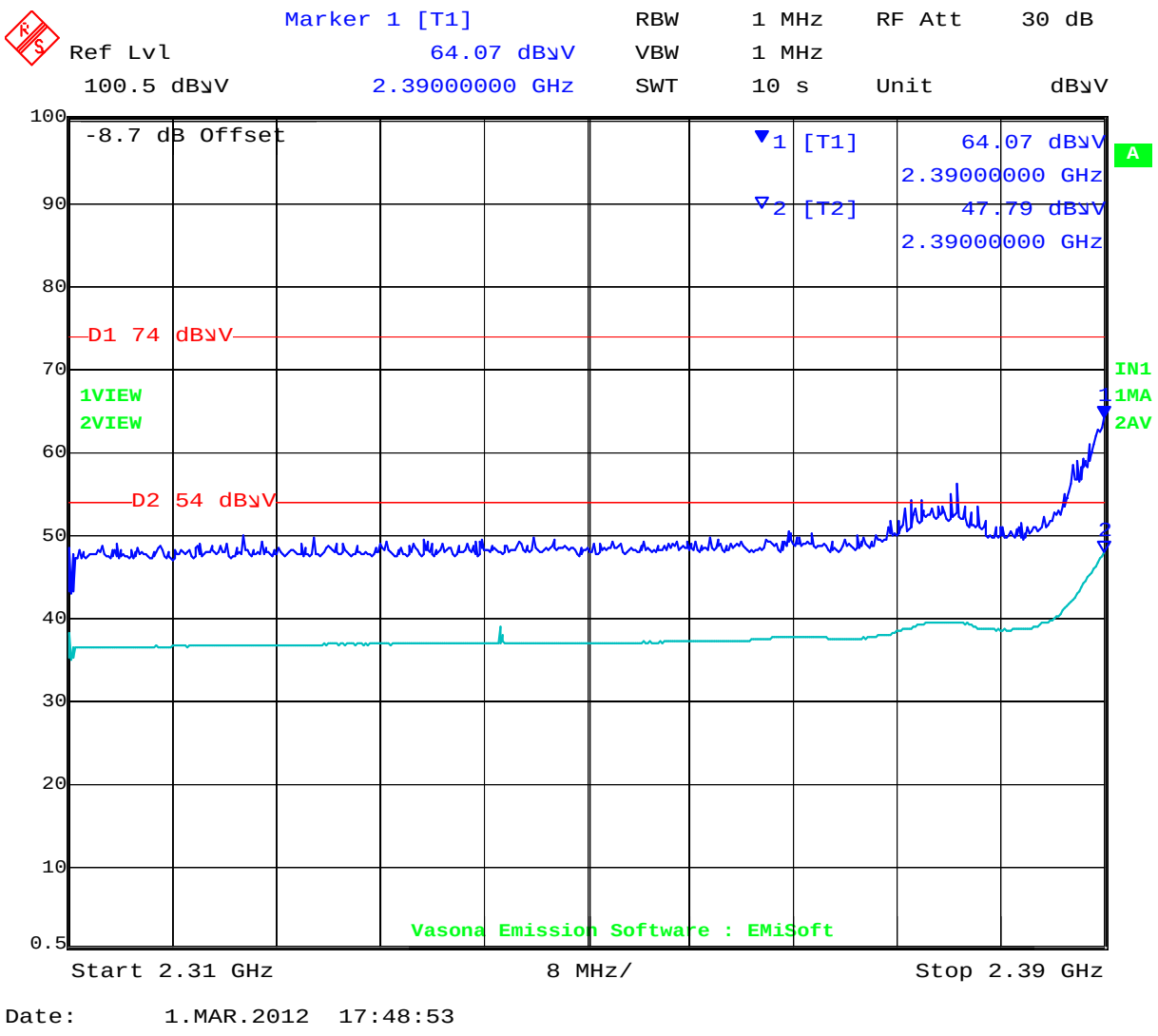


Formally measured emission peaks

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
4841.122	63.9	4.5	-9.7	58.7	Peak Max	V	199	0	74.0	-15.3	Pass	RB
7271.984	54.3	5.4	-5.8	54.0	Peak Max	V	133	175	74.0	-20.0	Pass	RB
4841.122	49.2	4.5	-9.7	44.0	Average Max	V	199	0	54	-10.0	Pass	RB
7271.984	40.0	5.4	-5.8	39.7	Average Max	V	133	175	54.0	-14.4	Pass	RB
2430.862	68.4	3.0	-11.6	59.8	Peak [Scan]	V						FUND
1851.703	67.0	2.7	-12.4	57.3	Peak [Scan]	V					Pass	NRB
16569.138	42.6	8.8	0.5	51.8	Peak [Scan]	V	200	0	54	-2.2	Pass	NOISE

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Band Edge



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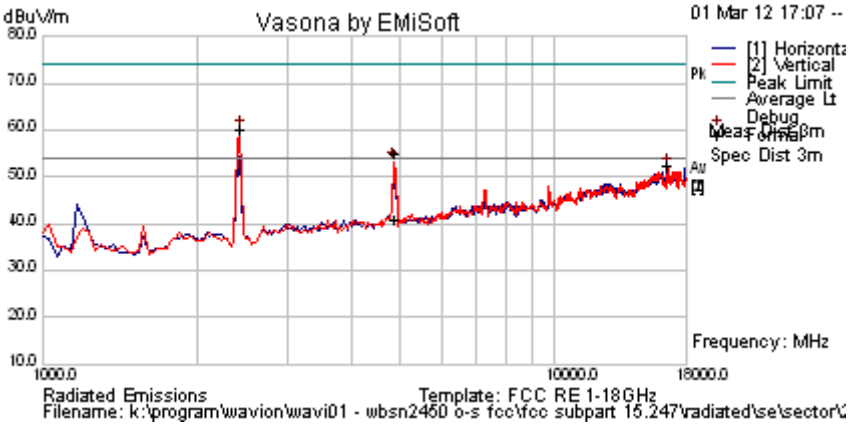
Test Freq.	2437 MHz	**Engineer**	GMH
Variant	802.11n; HT-40; 13.5 MCS	**Temp (ºC)**	21
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	33
Power Setting	21.5	**Press. (mBars)**	1010
Antenna	Sector 12 dBi	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

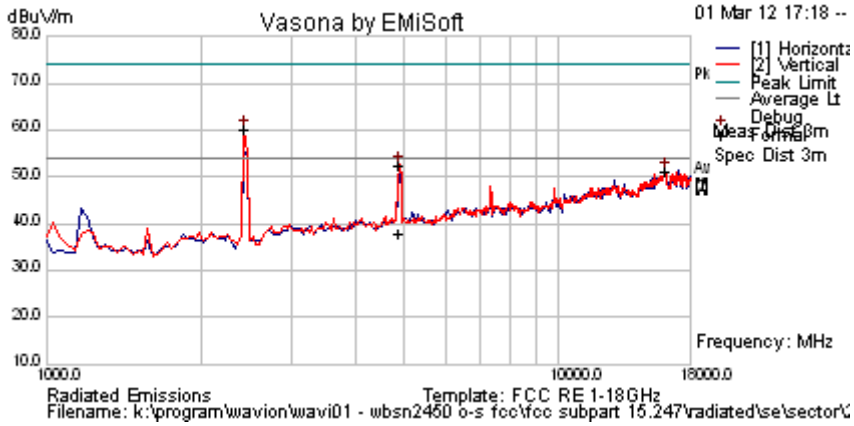


Formally measured emission peaks

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
4867.445	60.4	4.5	-9.7	55.2	Peak Max	V	202	0	74.0	-18.8	Pass	RB
4867.445	46.0	4.5	-9.7	40.8	Average Max	V	202	0	54.0	-13.2	Pass	RB
2430.862	68.8	3.0	-11.6	60.2	Peak [Scan]	V						FUND
16569.138	43.0	8.8	0.5	52.3	Peak [Scan]	H	100	0	54	-1.7	Pass	NRB

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Test Freq.	2452 MHz	**Engineer**	GMH
Variant	802.11n; HT-40; 13.5 MCS	**Temp (ºC)**	21
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	33
Power Setting	21.5	**Press. (mBars)**	1010
Antenna	Sector 12 dBi	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

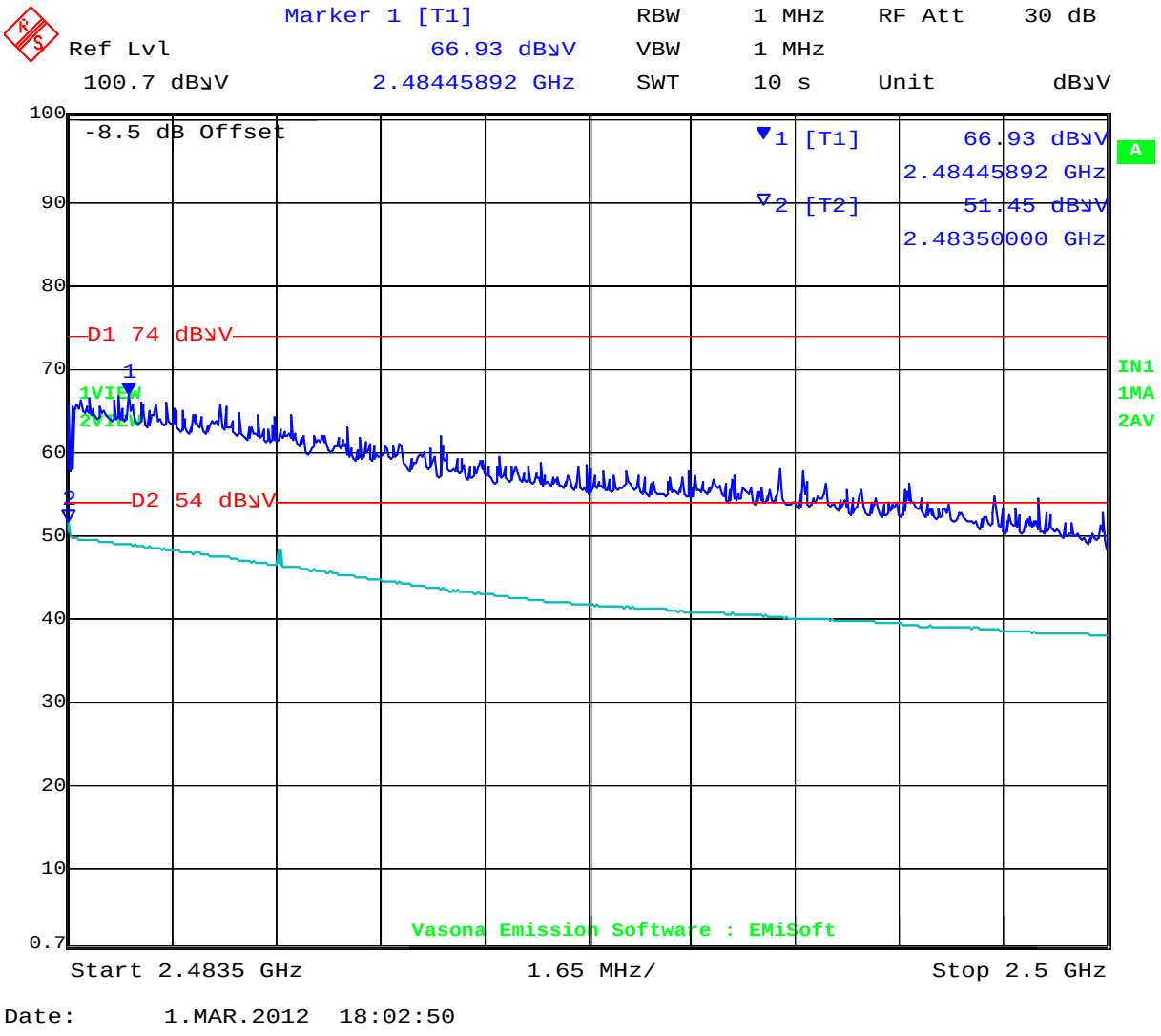


Formally measured emission peaks

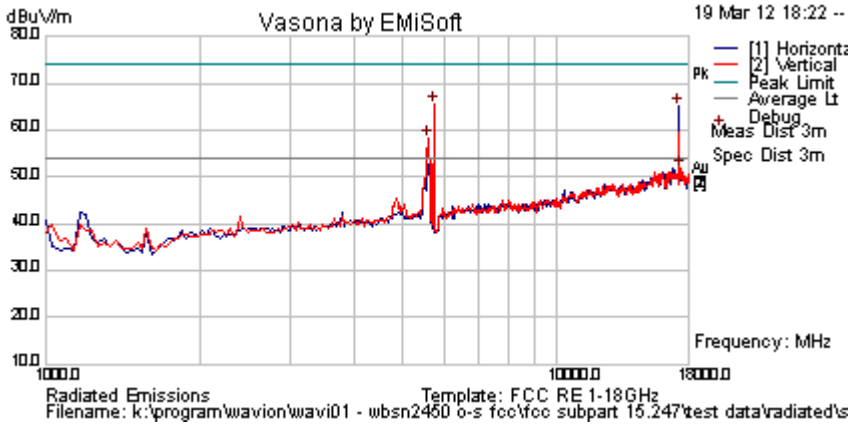
Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
4895.070	57.5	4.5	-9.7	52.3	Peak Max	V	194	0	74.0	-21.7	Pass	RB
4895.07	43.1	4.5	-9.7	37.9	Average Max	V	194	0	54.0	-16.2	Pass	RB
2430.862	69.0	3.0	-11.6	60.4	Peak [Scan]	V						FUND
16092.184	42.1	9.0	0.3	51.3	Peak [Scan]	V	100	0	54	-2.7	Pass	NOISE

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Band Edge



Test Freq.	5730.5 MHz	**Engineer**	GMH
Variant	5 MHz Bandwidth 6 Mbs	**Temp (ºC)**	21.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	32
Power Setting	15	**Press. (mBars)**	1002
Antenna	14 dBi Sector	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

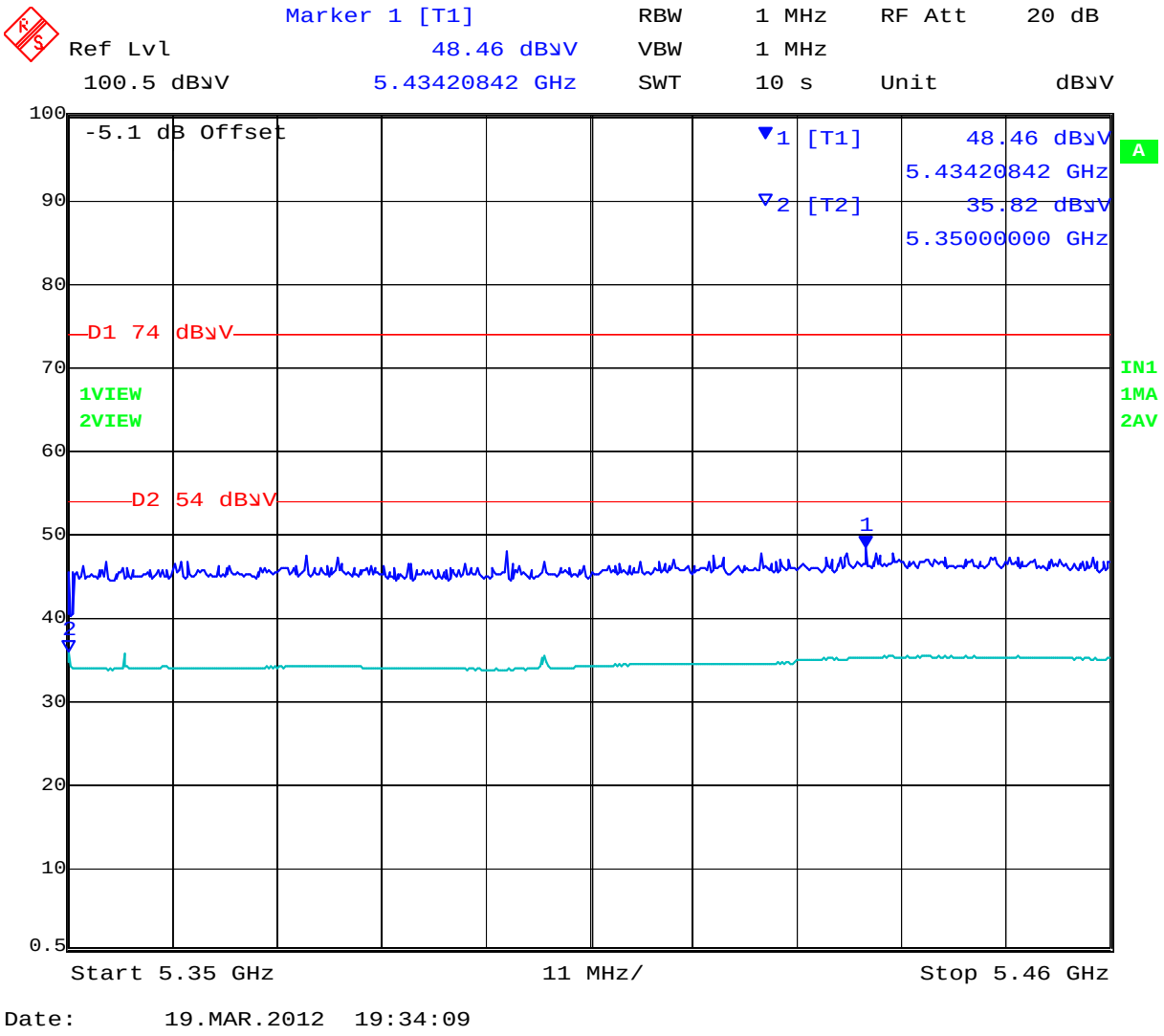


Formally measured emission peaks

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
5735.471	70.3	4.8	-9.5	65.5	Peak [Scan]	V						FUND
17216.433	55.5	8.6	0.9	65.0	Peak [Scan]	H					Pass	NRB
5599.198	63.3	4.7	-9.7	58.3	Peak [Scan]	V					Pass	BE
17386.774	41.6	8.7	1.4	51.7	Peak [Scan]	V	150	0	54	-2.3	Pass	NOISE

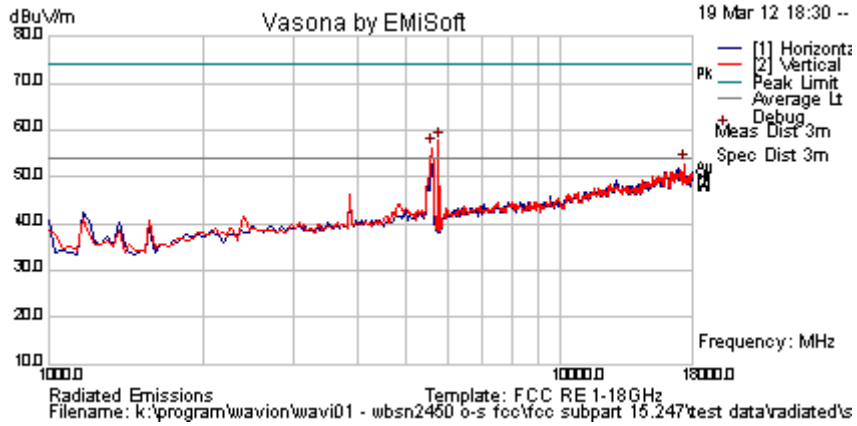
Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Restricted Band 5,350 – 5,460 MHz



5 MHz Band-Edge EUT Transmitting 5730.5 MHz

Test Freq.	5790.5 MHz	**Engineer**	GMH
Variant	5 MHz Bandwidth 6 Mbs	**Temp (ºC)**	21.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	32
Power Setting	16	**Press. (mBars)**	1002
Antenna	14 dBi Sector	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

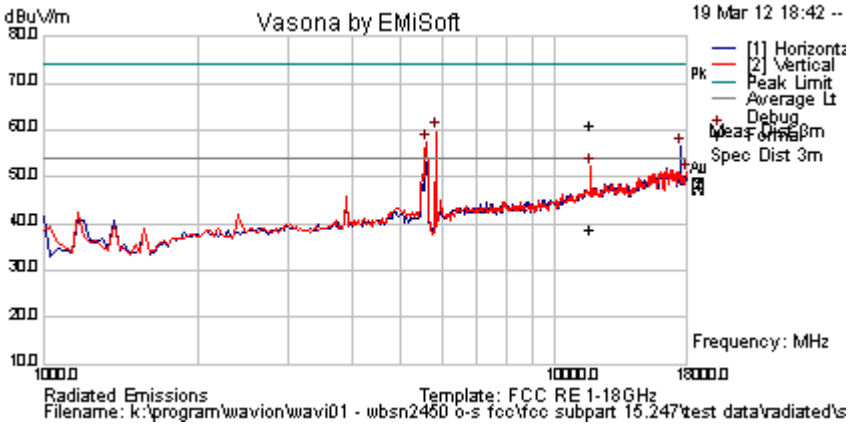


Formally measured emission peaks

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
5769.539	62.5	4.8	-9.5	57.8	Peak [Scan]	V						FUND
5599.1984	61.2	4.7	-9.7	56.2	Peak [Scan]	V					Pass	BE
17386.774	42.8	8.7	1.4	52.9	Peak [Scan]	V	150	0	54	-1.1	Pass	NOISE

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Test Freq.	5845.5 MHz	**Engineer**	GMH
Variant	5 MHz Bandwidth 6 Mbs	**Temp (ºC)**	21.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	32
Power Setting	16	**Press. (mBars)**	1002
Antenna	14 dBi Sector	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

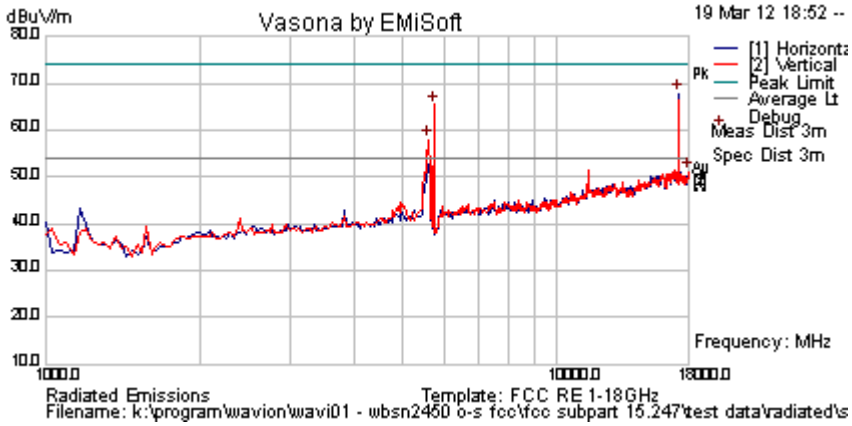


Formally measured emission peaks

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
11690.894	56.8	6.8	-2.4	61.2	Peak Max	V	98	196	74.0	-12.8	Pass	RB
11690.894	34.2	6.8	-2.4	38.7	Average Max	V	98	196	54.0	-15.3	Pass	RB
5837.675	64.1	4.8	-9.3	59.7	Peak [Scan]	V						FUND
5599.1984	62.5	4.7	-9.7	57.5	Peak [Scan]	V					Pass	BE
17557.114	46.8	8.8	0.8	56.4	Peak [Scan]	H					Pass	NRB
17965.932	41.5	8.8	0.7	51.0	Peak [Scan]	V	100	0	54	-3.0	Pass	NOISE

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Test Freq.	5735 MHz	**Engineer**	GMH
Variant	5 MHz Bandwidth 6 Mbs	**Temp (ºC)**	21.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	32
Power Setting	19	**Press. (mBars)**	1002
Antenna	14 dBi Sector	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

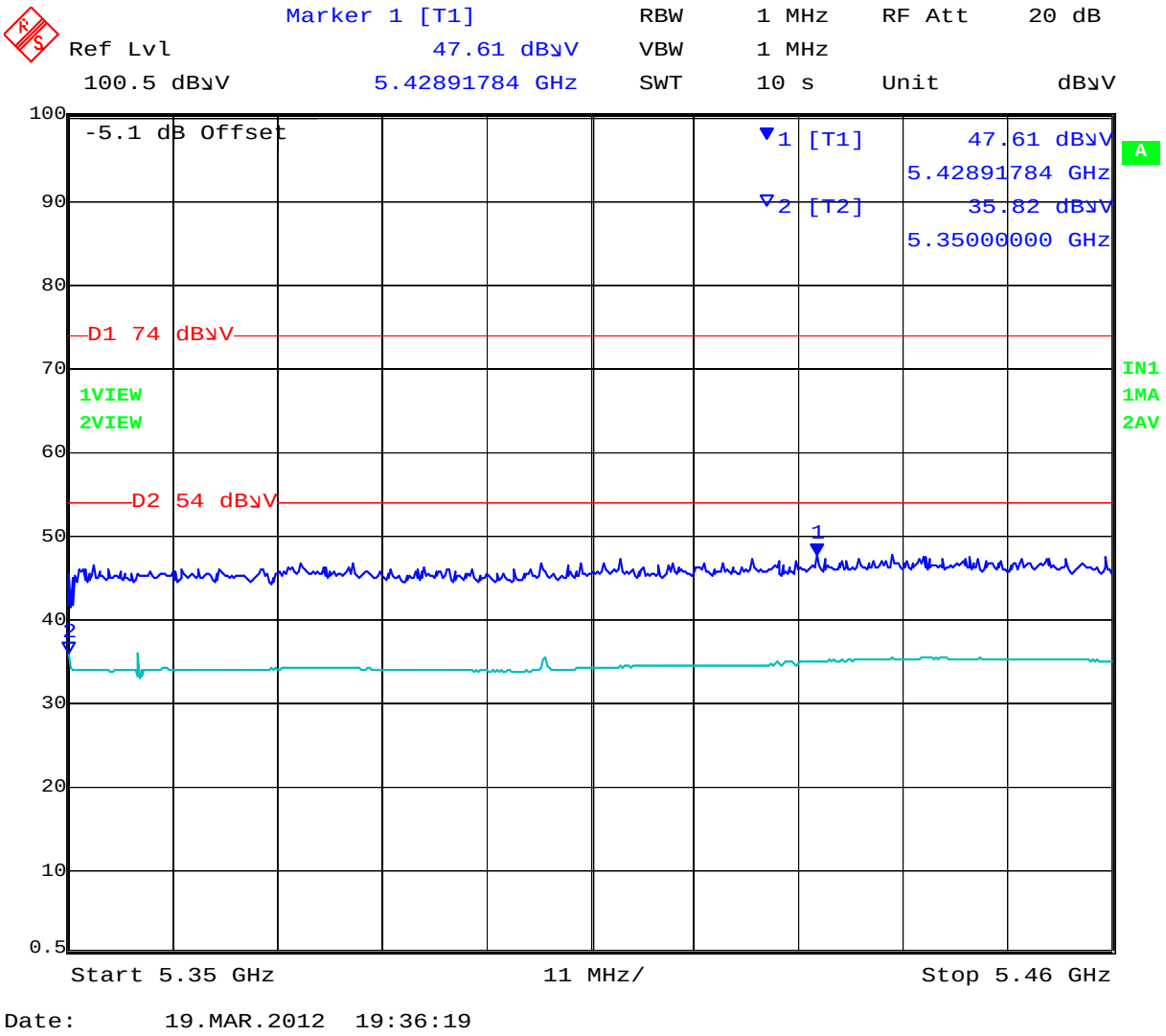


Formally measured emission peaks

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
17216.433	58.4	8.6	0.9	67.9	Peak [Scan]						Pass	NRB
5735.47094	70.3	4.8	-9.5	65.5	Peak [Scan]							FUND
5599.198	63.0	4.7	-9.7	57.9	Peak [Scan]						Pass	BE
18000.000	41.9	8.8	0.7	51.5	Peak [Scan]	V	100	0	54	-2.6	Pass	NOISE

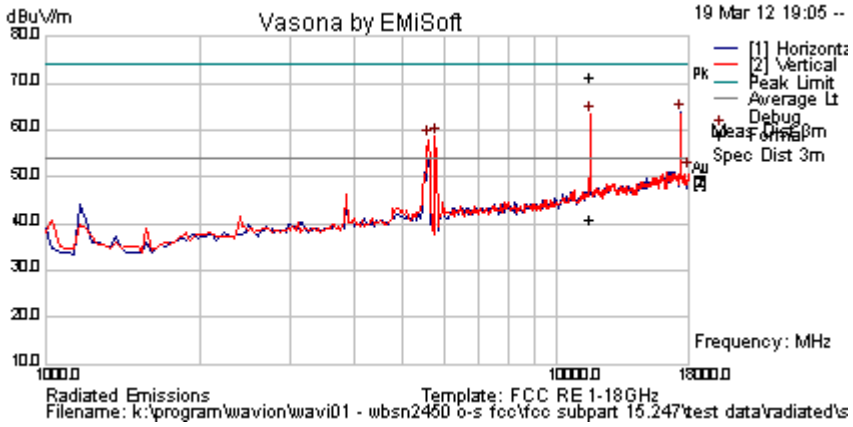
Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Restricted Band 5,350 – 5,460 MHz



10MHz Band-Edge EUT Transmitting 5735 MHz

Test Freq.	5785 MHz	**Engineer**	GMH
Variant	5 MHz Bandwidth 6 Mbs	**Temp (ºC)**	21.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	32
Power Setting	21	**Press. (mBars)**	1002
Antenna	14 dBi Sector	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

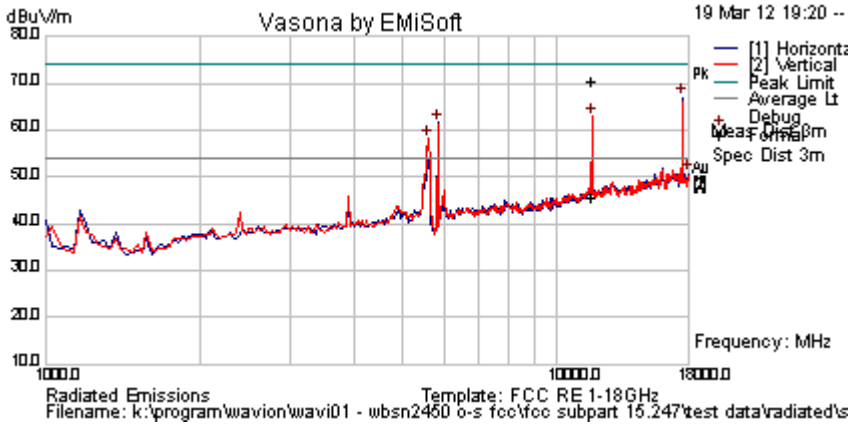


Formally measured emission peaks

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
11576.863	66.5	6.8	-2.0	71.3	Peak Max	V	98	199	74.0	-2.7	Pass	RB
11576.863	36.3	6.8	-2.0	41.1	Average Max	V	98	199	54.0	-12.9	Pass	RB
17386.774	53.7	8.7	1.4	63.8	Peak [Scan]	H					Pass	NRB
5769.539	63.4	4.8	-9.5	58.7	Peak [Scan]	V						FUND
5599.198	63.1	4.7	-9.7	58.1	Peak [Scan]	V					Pass	BE
18000.000	41.7	8.8	0.7	51.2	Peak [Scan]	V	200	0	54	-2.8	Pass	NOISE

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Test Freq.	5840 MHz	**Engineer**	GMH
Variant	5 MHz Bandwidth 6 Mbs	**Temp (ºC)**	21.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	32
Power Setting	21.5	**Press. (mBars)**	1002
Antenna	14 dBi Sector	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

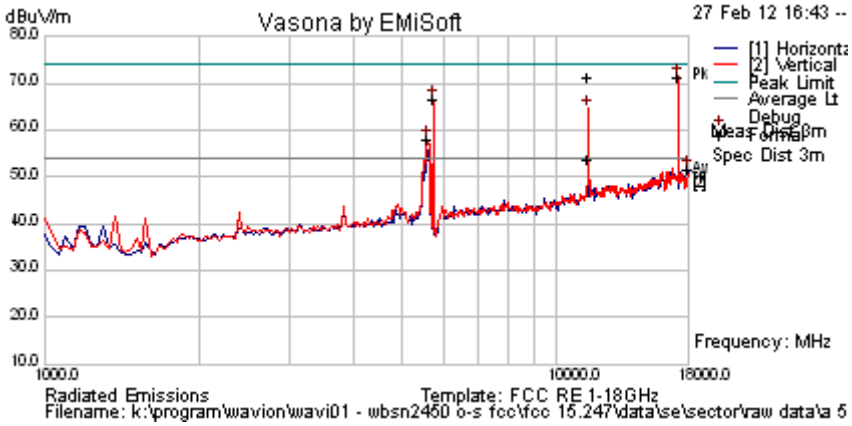


Formally measured emission peaks

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
11678.765	65.9	6.8	-2.4	70.3	Peak Max	V	108	198	74	-3.7	Pass	RB
11678.765	41.3	6.8	-2.4	45.8	Average Max	V	108	198	54	-8.2	Pass	RB
17523.046	57.3	8.8	0.9	67.0	Peak [Scan]	H					Pass	NRB
5837.675	66.2	4.8	-9.3	61.7	Peak [Scan]	H						FUND
5599.198	63.3	4.7	-9.7	58.2	Peak [Scan]	V					Pass	BE
18000.000	41.5	8.8	0.7	51.0	Peak [Scan]	H	200	0	54	-3.0	Pass	NOISE

Legend: TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Test Freq.	5745 MHz	**Engineer**	GMH
Variant	802.11a; 6 Mbs	**Temp (ºC)**	21.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	20 (Reduced Power)	**Press. (mBars)**	995
Antenna	14 dBi Sector	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

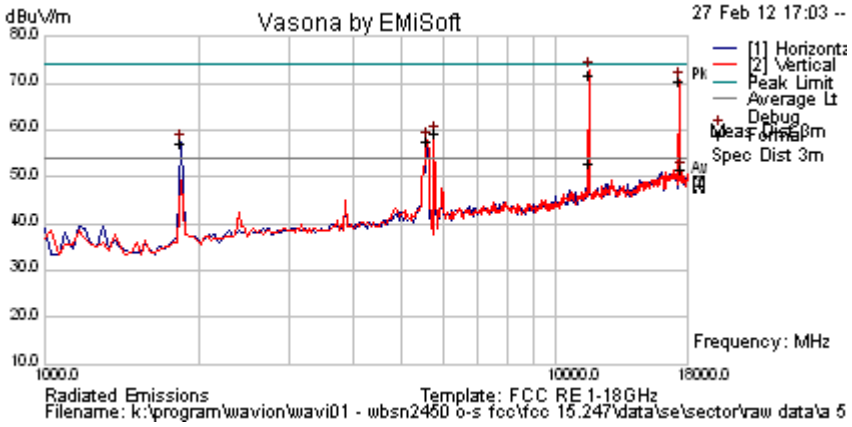


Formally measured emission peaks

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
11489.224	66.6	6.8	-2.0	71.4	Peak Max	V	105	197	74.0	-2.6	Pass	RB
11489.224	48.9	6.8	-2.0	53.7	Average Max	V	105	197	54.0	-0.3	Pass	RB
17250.501	61.8	8.6	1.0	71.4	Peak [Scan]	V	100	0	54	17.4	Fail	NRB
5735.471	71.3	4.8	-9.5	66.5	Peak [Scan]	V						FUND
5599.198	63.1	4.7	-9.7	58.1	Peak [Scan]	V					Pass	BE
18000.000	42.3	8.8	0.7	51.8	Peak [Scan]	H	150	0	54	-2.2	Pass	NOISE

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Test Freq.	5785 MHz	**Engineer**	GMH
Variant	802.11a; 6 Mbs	**Temp (ºC)**	21.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	21 (Reduced Power)	**Press. (mBars)**	995
Antenna	14 dBi Sector	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

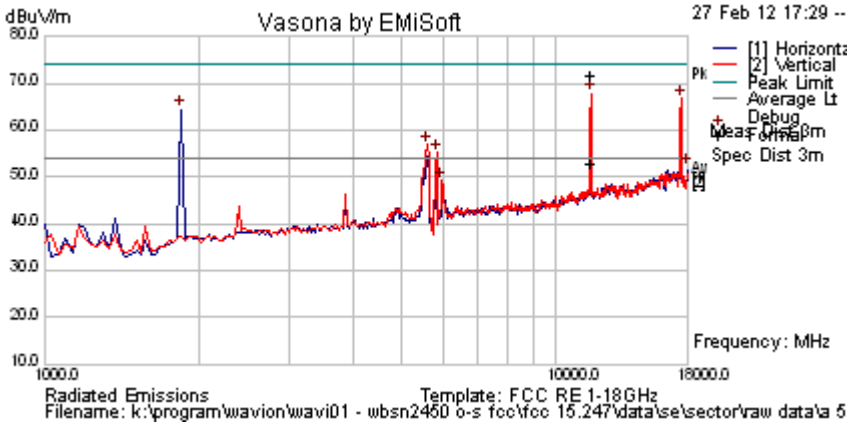


Formally measured emission peaks

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
11569.033	67.1	6.8	-2.0	71.9	Peak	V	98	191	74.0	-2.1	Pass	RB
11569.033	48.3	6.8	-2.0	53.1	Average	V	98	191	54.0	-0.9	Pass	RB
17352.705	60.7	8.7	1.3	70.7	Peak [Scan]	H	100	0	54	16.7	Fail	NRB
5769.539	63.8	4.8	-9.5	59.1	Peak [Scan]	V						FUND
5599.198	62.8	4.7	-9.7	57.8	Peak [Scan]	V					Pass	BE
1851.703	67.0	2.7	-12.4	57.2	Peak [Scan]	H	100	0	54	3.2	Pass	NRB
17523.046	41.8	8.8	0.9	51.4	Peak [Scan]	V	100	0	54	-2.6	Pass	NOISE

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Test Freq.	5825 MHz	**Engineer**	GMH
Variant	802.11a; 6 Mbs	**Temp (ºC)**	21.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	20.5 (Reduced Power)	**Press. (mBars)**	995
Antenna	14 dBi Sector	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

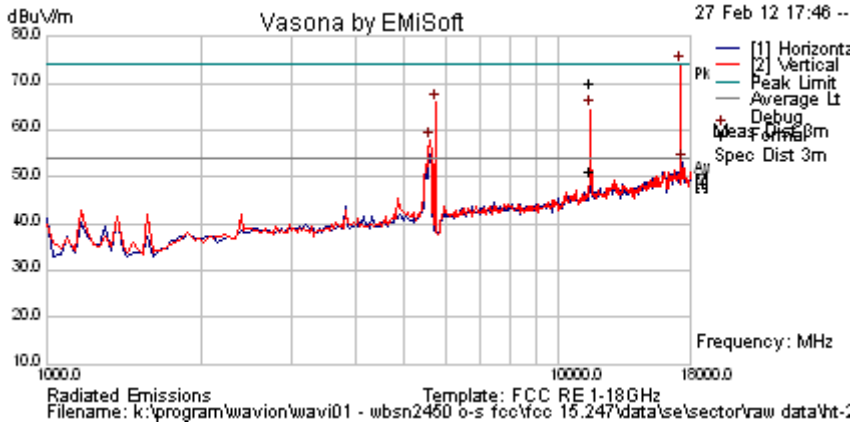


Formally measured emission peaks

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
11651.163	67.2	6.8	-2.3	71.8	Peak	V	98	193	74.0	-2.2	Pass	RB
11651.163	48.4	6.8	-2.3	53.0	Average	V	98	193	54.0	-1.0	Pass	RB
17488.978	56.9	8.8	1.0	66.7	Peak [Scan]	V	150	0	54	12.7	Pass	NRB
1851.703	74.2	2.7	-12.4	64.5	Peak [Scan]	H	100	0	54	10.5	Pass	NRB
5599.198	61.8	4.7	-9.7	56.8	Peak [Scan]	V					Pass	BE
5837.675	59.5	4.8	-9.3	55.1	Peak [Scan]	V						FUND
18000.000	42.4	8.8	0.7	51.9	Peak [Scan]	H	100	0	54	-2.1	Pass	NOISE
5973.948	53.1	4.9	-8.7	49.3	Peak [Scan]	V					Pass	BE

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Test Freq.	5745 MHz	**Engineer**	GMH
Variant	802.11n; HT-20; 6.5 Mbit/s, MCS0	**Temp (ºC)**	21.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	21 (Reduced Power)	**Press. (mBars)**	995
Antenna	Sector	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

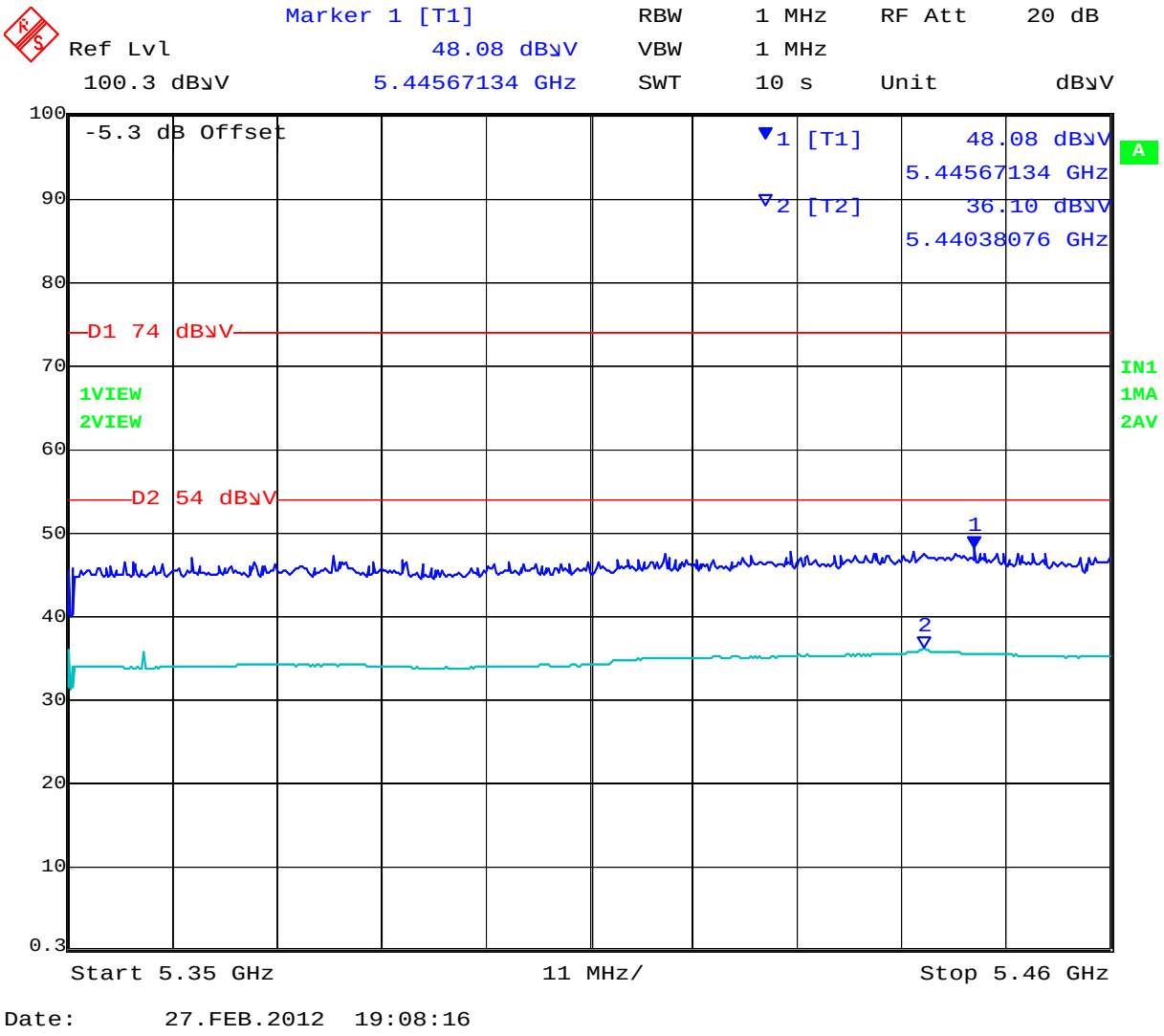


Formally measured emission peaks

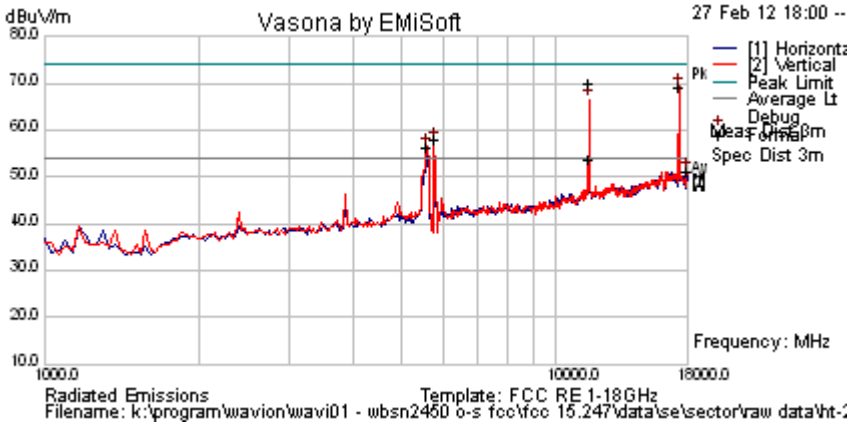
Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
11489.209	65.2	6.8	-2.0	70.0	Peak Max	V	113	188	74.0	-4.0	Pass	RB
11489.209	46.5	6.8	-2.0	51.3	Average Max	V	113	188	54.0	-2.7	Pass	RB
17250.501	64.5	8.6	1.0	74.1	Peak [Scan]	V					Pass	NRB
5735.471	70.6	4.8	-9.5	65.8	Peak [Scan]	V						FUND
5599.198	62.8	4.7	-9.7	57.8	Peak [Scan]	V					Pass	BE
17386.774	42.9	8.7	1.4	53.0	Peak [Scan]	H	150	0	54	-1.0	Pass	NOISE

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Band Edge



Test Freq.	5785 MHz	**Engineer**	GMH
Variant	802.11n; HT-20; 6.5 Mbit/s, MCS0	**Temp (ºC)**	21.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	23	**Press. (mBars)**	995
Antenna	Sector	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

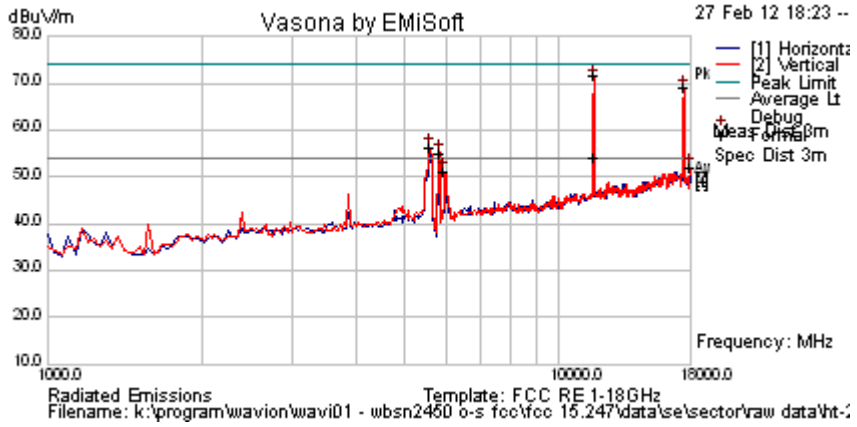


Formally measured emission peaks

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
11569.008	65.2	6.8	-2.0	70.0	Peak Max	V	108	195	74.0	-4.0	Pass	RB
11569.008	48.9	6.8	-2.0	53.7	Average Max	V	108	195	54.0	-0.3	Pass	RB
17352.705	59.2	8.7	1.3	69.2	Peak [Scan]	V					Pass	NRB
5769.539	62.6	4.8	-9.5	57.9	Peak [Scan]	V						FUND
5599.198	61.4	4.7	-9.7	56.4	Peak [Scan]	V					Pass	BE
18000.000	41.8	8.8	0.7	51.3	Peak [Scan]	H	100	0	54	-2.7	Pass	NOISE

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Test Freq.	5825 MHz	**Engineer**	GMH
Variant	802.11n; HT-20; 6.5 Mbit/s, MCS0	**Temp (°C)**	21.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	21 (Reduced Power)	**Press. (mBars)**	995
Antenna	Sector	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

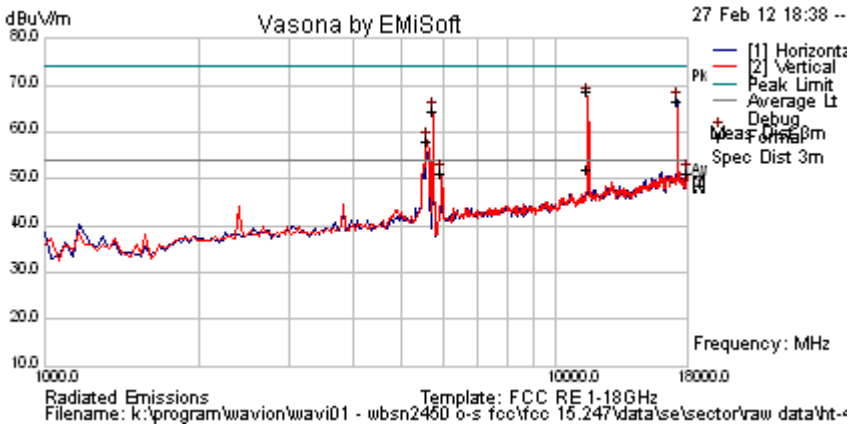


Formally measured emission peaks

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
11652.343	67.4	6.8	-2.3	71.9	Peak	V	98	191	74.0	-2.1	Pass	RB
11652.343	49.5	6.8	-2.3	54.0	Average	V	98	191	54.0	0.0	Pass	RB
17488.978	59.2	8.8	1.0	69.0	Peak [Scan]	V					Pass	NRB
5599.198	61.4	4.7	-9.7	56.3	Peak [Scan]	V					Pass	BE
5837.675	59.5	4.8	-9.3	55.1	Peak [Scan]	V						FUND
18000.000	42.4	8.8	0.7	52.0	Peak [Scan]	V	100	0	54	-2.1	Pass	NOISE
5973.948	55.0	4.9	-8.7	51.1	Peak [Scan]	V					Pass	BE

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Test Freq.	5755 MHz	**Engineer**	GMH
Variant	802.11n; HT-40; 13.5 Mbit/s, MCS 0	**Temp (ºC)**	21.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	22 (Reduced Power)	**Press. (mBars)**	995
Antenna	Sector	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			

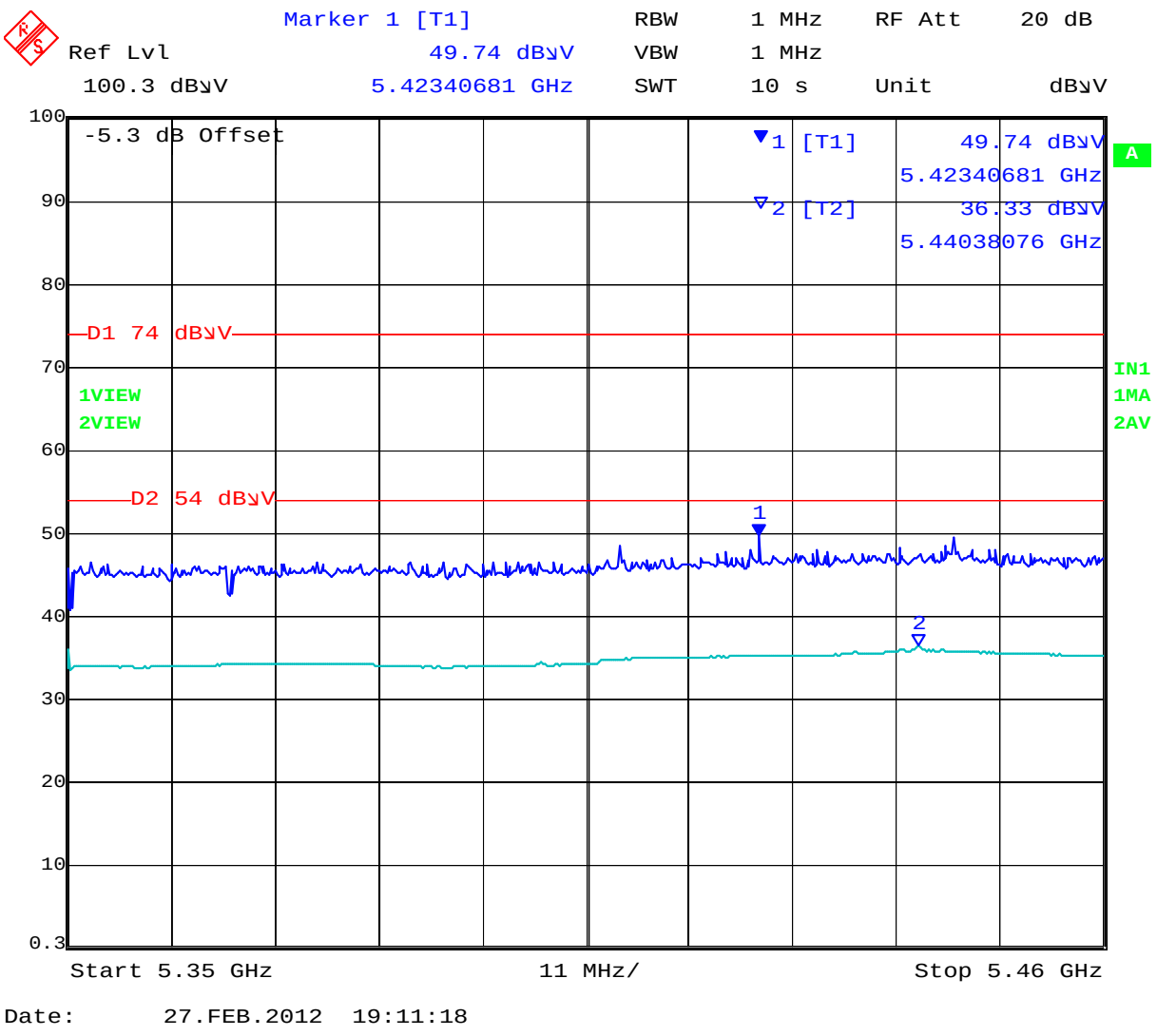


Formally measured emission peaks

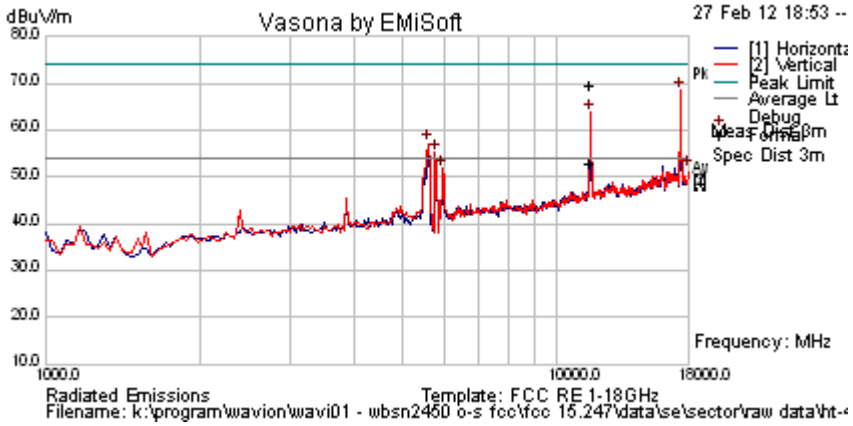
Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
11510.336	63.8	6.8	-1.9	68.7	Average.	V	98	197	74.0	-5.3	Pass	RB
11510.336	47.2	6.8	-1.9	52.0	Average	V	98	197	54.0	-2.0	Pass	RB
17250.501	57.2	8.6	1.0	66.8	Peak [Scan]	H					Pass	NRB
5735.471	69.2	4.8	-9.5	64.5	Peak [Scan]	V						FUND
5599.198	63.1	4.7	-9.7	58.1	Peak [Scan]	V					Pass	BE
18000.000	41.8	8.8	0.7	51.3	Peak [Scan]	V	100	0	54	-2.7	Pass	NOISE
5973.948	54.9	4.9	-8.7	51.1	Peak [Scan]	V					Pass	BE

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Band Edge



Test Freq.	5795 MHz	**Engineer**	GMH
Variant	802.11n; HT-40; 13.5 MCS	**Temp (ºC)**	21.5
Freq. Range	1000 MHz - 18000 MHz	**Rel. Hum.(%)**	31
Power Setting	22 (Reduced Power)	**Press. (mBars)**	995
Antenna	Sector	**Duty Cycle (%)**	100
Test Notes 1			
Test Notes 2			



Formally measured emission peaks

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
11587.770	64.8	6.8	-2.1	69.6	Peak Max	V	98	192	74.0	-4.4	Pass	RB
11587.77	48.0	6.8	-2.1	52.7	Average Max	V	98	192	54.0	-1.3	Pass	RB
17420.842	58.5	8.7	1.3	68.5	Peak [Scan]	V					Pass	NRB
5599.198	62.2	4.7	-9.7	57.1	Peak [Scan]	V					Pass	BE
5769.539	59.9	4.8	-9.5	55.2	Peak [Scan]	V						FUND
5973.948	55.6	4.9	-8.7	51.7	Peak [Scan]	V					Pass	BE
18000.000	42.1	8.8	0.7	51.6	Peak [Scan]	V	200	0	54	-2.4	Pass	NOISE

Legend:	TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission
	RB = Restricted Band (15.209 Limits); NRB = Non Restricted Band, Limit is 20dB below fundamental peak

Specification Limits

FCC §15.247(d) and RSS-210 §A8.5 In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

FCC §15.247(d)
If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified §15.209(a) is not required. In addition, 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(a)).

IC RSS-210 §A8.5 If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under section A8.4(4), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Tables 2 and 3 is not required. In addition, radiated emissions which fall in the restricted bands of Table 1 must also comply with the radiated emission limits specified in Tables 2 and 3.

IC RSS-Gen §4.7
The search for unwanted emissions shall be from the lowest frequency internally generated or used in the device (local oscillator, intermediate of carrier frequency), or from 30 MHz , whichever is the lowest frequency, to the 5th harmonic of the highest frequency generated without exceeding 40 GHz.

FCC §15.205 (a) Except as shown in paragraph (d) of 15.205 (a), only spurious emissions are permitted in any of the frequency bands listed.

FCC §15.205 (a) Except as shown in paragraphs (d) and (e) of this section, the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

FCC §15.209 (a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table.

§15.209 (a) Limit Matrix

Frequency(MHz)	Field Strength (μV/m)	Field Strength (dBμV/m)	Measurement Distance (meters)
30-88	100	40.0	3
88-216	150	43.5	3
216-960	200	46.0	3
Above 960	500	54.0	3

Laboratory Measurement Uncertainty for Radiated Emissions

Measurement uncertainty	+5.6/ -4.5 dB

Traceability

Method	Test Equipment Used
Measurements were made per work instruction WI-03 'Measurement of Radiated Emissions'	0088, 0158, 0134, 0304, 0311, 0315, 0310, 0312

5.1.6.3. Radiated Spurious Emissions (30M-1 GHz)

FCC, Part 15 Subpart C §15.205/ §15.209
Industry Canada RSS-210 §2.2

Test Procedure

Testing 30M-1 GHz was performed in a 3-meter anechoic chamber using a CISPR compliant receiver. Preliminary radiated emissions were measured on every azimuth and with the receiving antenna in both horizontal and vertical polarizations. To further maximize emissions the receive antenna was varied between 1 and 4 meters. The emissions are recorded with receiver in peak hold mode. Emissions closest to the limits are measured in the quasi-peak mode with the tuned receiver using a bandwidth of 120 kHz. Only the highest emissions relative to the limit are listed. The anechoic chamber test set-up is identified in Section 6 Test Set-Up Photographs.

Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Loss, and subtracting Amplifier Gain from the measured reading. In this test facility, the Antenna Factor, Cable Loss, and Amplifier Gains are loaded into the Rohde & Schwarz Receiver and the corrected field strength can be read directly on the receiver.

$$FS = R + AF + CORR$$

where:

FS = Field Strength
R = Measured Receiver Input Amplitude
AF = Antenna Factor
CORR = Correction Factor = CL – AG + NFL
CL = Cable Loss
AG = Amplifier Gain

For example:
Given a Receiver input reading of 51.5dBμV; Antenna Factor of 8.5dB; Cable Loss of 1.3dB; Falloff Factor of 0dB, an Amplifier Gain of 26dB and Notch Filter Loss of 1dB. The Field Strength of the measured emission is:

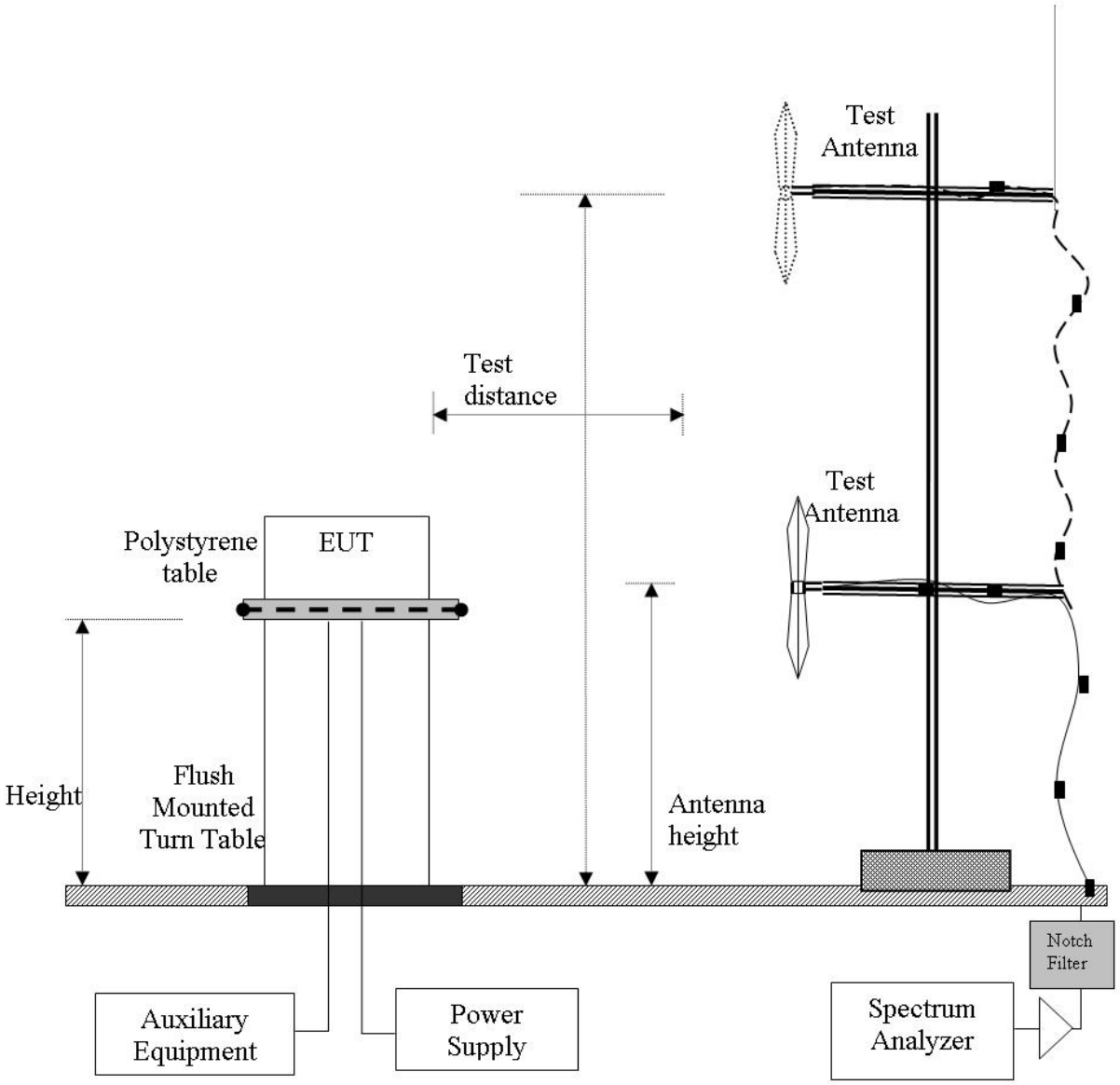
$$FS = 51.5 + 8.5 + 1.3 - 26.0 + 1 = 36.3 dB\mu V/m$$

Conversion between dBμV/m (or dBμV) and μV/m (or μV) are done as:

$$Level\ (dB\mu V/m) = 20 * Log\ (level\ (\mu V/m))$$

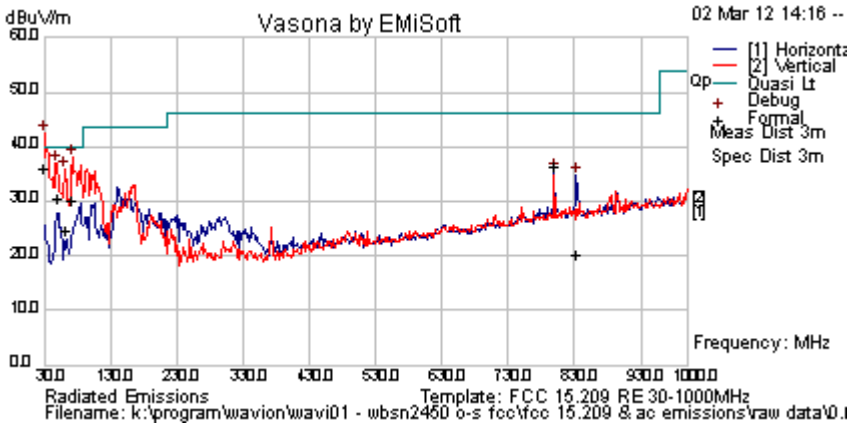
40 dBμV/m = 100μV/m
48 dBμV/m = 250μV/m

Radiated Emission Measurement Setup – Below 1 GHz



The EUT was powered via Power over Ethernet (POE).

Test Freq.	5260 MHz	**Engineer**	GMH
Variant	Digital Emissions	**Temp (ºC)**	21.5
Freq. Range	30 MHz - 1000 MHz	**Rel. Hum.(%)**	31
Power Setting	N/A	**Press. (mBars)**	1012
Antenna	OMNI		
Test Notes 1	POE Model #: POE61U-560DG, Input Voltage 100-240 ~ 2A, Output Voltage 56 Vdc 1.1A		
Test Notes 2	To bring EUT into compliance a 1m screened cable was required between POE and EUT		

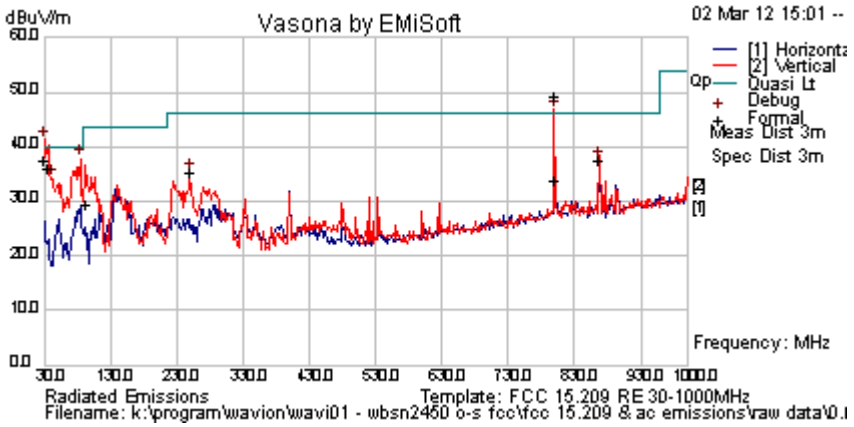


Formally measured emission peaks

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
30.326	42.0	3.4	-9.4	36.0	Quasi Max	V	133	303	40	-4.0	Pass	
72.863	48.8	3.9	-22.7	30.1	Quasi Max	V	124	19	40.0	-9.9	Pass	
50.536	49.6	3.7	-22.9	30.5	Quasi Max	V	98	75	40.0	-9.5	Pass	
63.691	44.0	3.9	-23.3	24.6	Quasi Max	V	166	82	40.0	-15.4	Pass	
800.009	37.6	7.2	-8.4	36.4	Quasi Max	H	104	311	46.0	-9.6	Pass	
834.982	21.1	7.2	-7.9	20.4	Quasi Max	H	144	224	46.0	-25.6	Pass	

Legend:	DIG = Digital Device Emission; TX = Transmitter Emission; FUND = Fundamental Frequency
	NRB = Non-Restricted Band, Limit is 20 dB below Fundamental; RB = Restricted Band

Test Freq.	5260 MHz	**Engineer**	GMH
Variant	Digital Emissions	**Temp (ºC)**	21.5
Freq. Range	30 MHz - 1000 MHz	**Rel. Hum.(%)**	31
Power Setting	17	**Press. (mBars)**	1012
Antenna	Sector Antenna		
Test Notes 1	The 800.005 MHz emission was measured in two modes 1).. As a digital emission and 2).. As an intentional radiator. This emission was related to the tranmitter and as such classed as a NRB emission. When the transmitter was stopped the emission amplitude was reduced but still present and therefore tested as a DIGITAL emission also. Both cases were found to be compliant		
Test Notes 2	POE Model #: POE61U-560DG, Input Voltage 100-240 ~ 2A, Output Voltage 56 Vdc 1.1A. To bring the EUT into compliance a 1m screened cable was required between POE and EUT		



Formally measured emission peaks

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
30.047	43.3	3.4	-9.1	37.5	Quasi Max	V	98	280	40	-2.5	Pass	DIG
37.030	47.0	3.5	-14.4	36.1	Quasi Max	V	115	268	40.0	-3.9	Pass	DIG
94.208	47.8	4.1	-22.5	29.4	Quasi Max	V	149	342	43.5	-14.1	Pass	DIG
249.417	49.1	5.0	-18.6	35.5	Peak [Scan]	V	144	268	46.0	-10.5	Pass	DIG
800.005	35.0	7.2	-8.4	33.8	Average	V	144	268	46.0	-12.2	Pass	DIG
800.005	50.5	7.2	-8.4	49.3	Quasi Max	V					Pass	NRB
867.975	37.8	7.2	-7.5	37.5	Peak [Scan]	V	144	268	46.0	-8.5	Pass	DIG

Legend:	DIG = Digital Device Emission; TX = Transmitter Emission; FUND = Fundamental Frequency
	NRB = Non-Restricted Band, Limit is 20 dB below Fundamental; RB = Restricted Band

Specification

Limits

§15.205 (a) Except as shown in paragraph (d) of 15.205 (a), only spurious emissions are permitted in any of the frequency bands listed.

§15.205 (a) Except as shown in paragraphs (d) and (e) of this section, the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

§15.209 (a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table.

§15.209 (a) and **RSS-Gen §2.2** Limit Matrix

Frequency(MHz)	Field Strength (μV/m)	Field Strength (dBμV/m)	Measurement Distance (meters)
30-88	100	40.0	3
88-216	150	43.5	3
216-960	200	46.0	3
Above 960	500	54.0	3

Laboratory Measurement Uncertainty for Radiated Emissions

Measurement uncertainty	+5.6/ -4.5 dB

Traceability

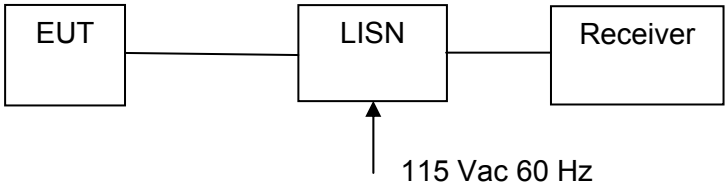
Method	Test Equipment Used
Measurements were made per work instruction WI-03 'Measurement of Radiated Emissions'	0088, 0158, 0134, 0304, 0311, 0315, 0310, 0312

5.1.7. AC Wireline Conducted Emissions (150 kHz – 30 MHz)

FCC, Part 15 Subpart C §15.207
Industry Canada RSS-Gen §7.2.2

Test Procedure
The EUT is configured in accordance with ANSI C63.4. The conducted emissions are measured in a shielded room with a spectrum analyzer in peak hold in the first instance. Emissions closest to the limit are measured in the quasi-peak mode (QP) with the tuned receiver using a bandwidth of 9 kHz. The emissions are maximized further by cable manipulation. The highest emissions relative to the limit are listed.

Test Measurement Set up

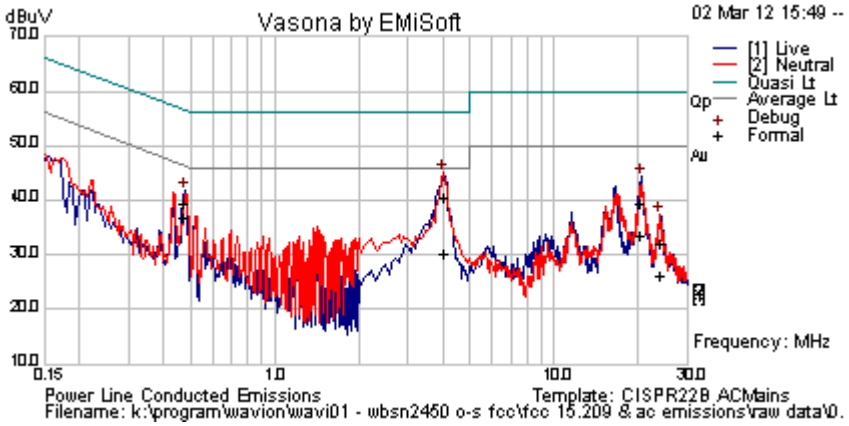


Measurement set up for AC Wireline Conducted Emissions Test

Measurement Results for AC Wireline Conducted Emissions (150 kHz – 30 MHz)

Ambient conditions.
Temperature: 17 to 23 °C Relative humidity: 31 to 57 % Pressure: 999 to 1012 mbar

Test Freq.	2412 MHz	**Engineer**	GMH
Variant	AC Line Emissions (120 Vac 60 Hz)	**Temp (ºC)**	21.5
Freq. Range	0.150 MHz - 30 MHz	**Rel. Hum.(%)**	31
Power Setting	17	**Press. (mBars)**	1012
Antenna	Sector		
Test Notes 1	POE Model #: POE61U-560DG, Input Voltage 100-240 ~ 2A, Output Voltage 56 Vdc 1.1A		
Test Notes 2	To bring the EUT into compliance a 1m screened cable was required between POE and EUT		



Formally measured emission peaks

Frequency MHz	Raw dBuV	Cable Loss	Factors dB	Level dBuV	Measurement Type	Line	Limit dBuV	Margin dB	Pass /Fail	Comments
0.478	29.3	9.9	0.1	39.3	Quasi Peak	Live	56.37	-17.1	Pass	
20.500	28.0	10.5	0.8	39.3	Quasi Peak	Live	60	-20.7	Pass	
24.051	20.5	10.6	0.9	32.0	Quasi Peak	Neutral	60	-28.0	Pass	
4.045	30.4	10.1	0.2	40.6	Quasi Peak	Neutral	56	-15.4	Pass	
0.478	26.9	9.9	0.1	36.9	Average	Live	46.37	-9.5	Pass	
20.500	22.1	10.5	0.8	33.4	Average	Live	50	-16.6	Pass	
24.051	14.8	10.6	0.9	26.3	Average	Neutral	50	-23.8	Pass	
4.045	19.9	10.1	0.2	30.2	Average	Neutral	46	-15.8	Pass	
0.436	31.3	9.9	0.1	41.3	Peak [Scan]	Neutral	47.14	-5.8	Pass	

Legend:	DIG = Digital Device Emission; TX = Transmitter Emission; FUND = Fundamental Frequency
	NRB = Non-Restricted Band, Limit is 20 dB below Fundamental; RB = Restricted Band

Specification

Limit

§15.207 (a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μΩ line impedance stabilization network (LISN), see §15.207 (a) matrix below. Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal.

RSS-Gen §7.2.2
The radio frequency voltage that is conducted back into the AC power lines in the frequency range of 0.15 MHz to 30 MHz shall not exceed the limits shown in the table below. The tighter limit applies at the frequency range boundaries.

§15.207 (a) and **RSS-Gen §7.2.2** Limit Matrix
The lower limit applies at the boundary between frequency ranges

Frequency of Emission (MHz)	Conducted Limit (dBμV)	
	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

Laboratory Measurement Uncertainty for Conducted Emissions

Measurement uncertainty	±2.64 dB

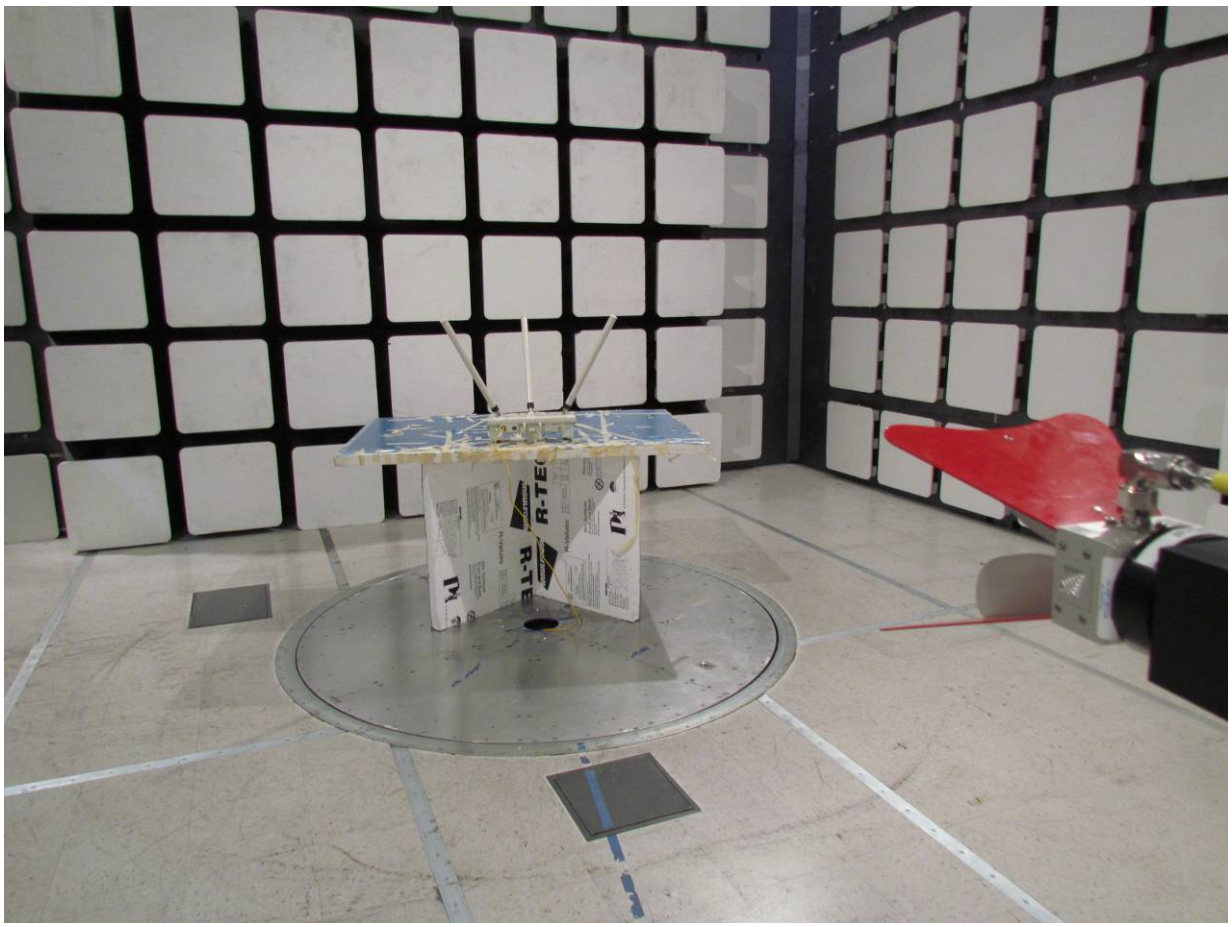
Traceability

Method	Test Equipment Used
Measurements were made per work instruction WI-EMC-01 'Measurement of Conducted Emissions'	0158, 0184, 0287, 0190, 0293, 0307

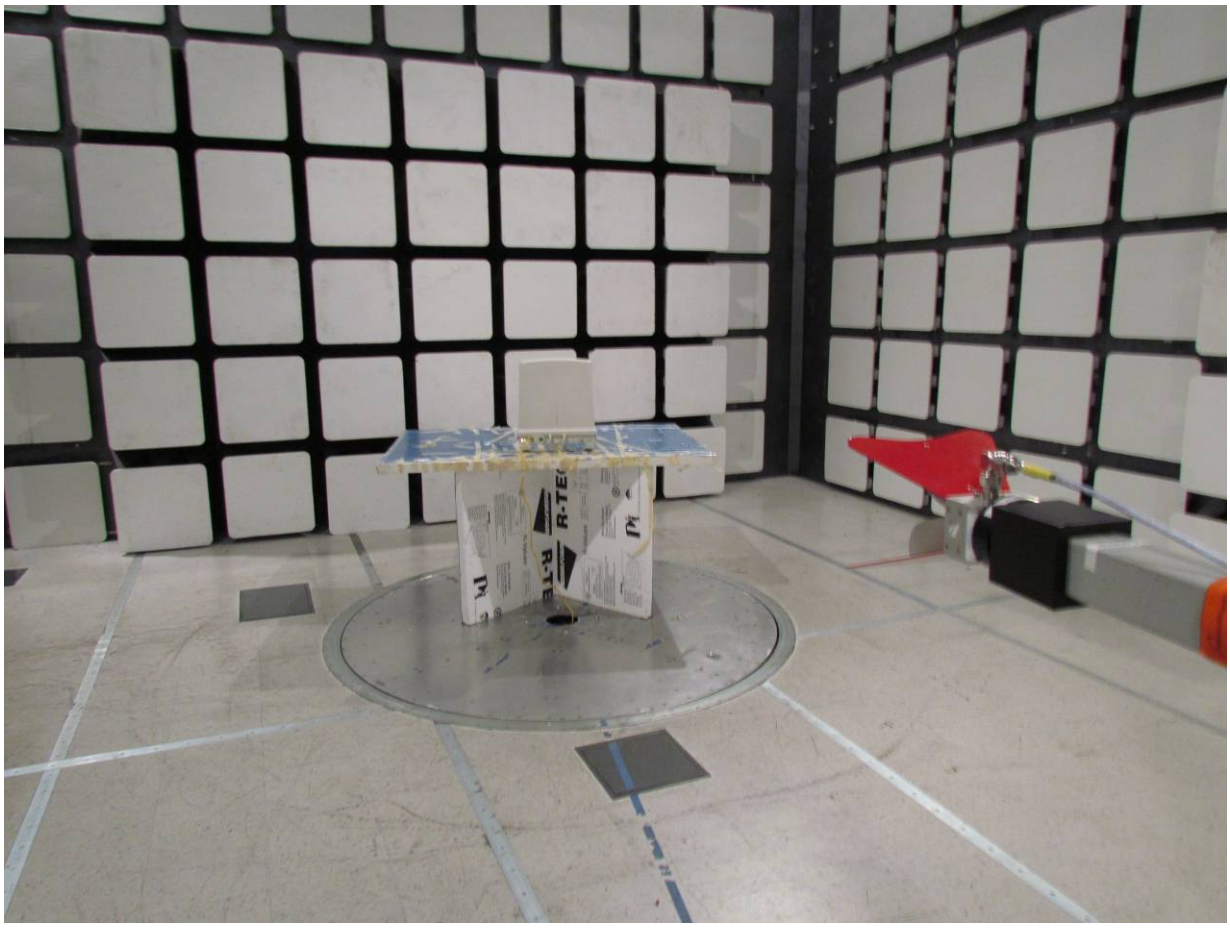
6. PHOTOGRAPHS

6.1. Conducted Test Setup

6.2. Radiated Test Setup > 1 GHz OMNI



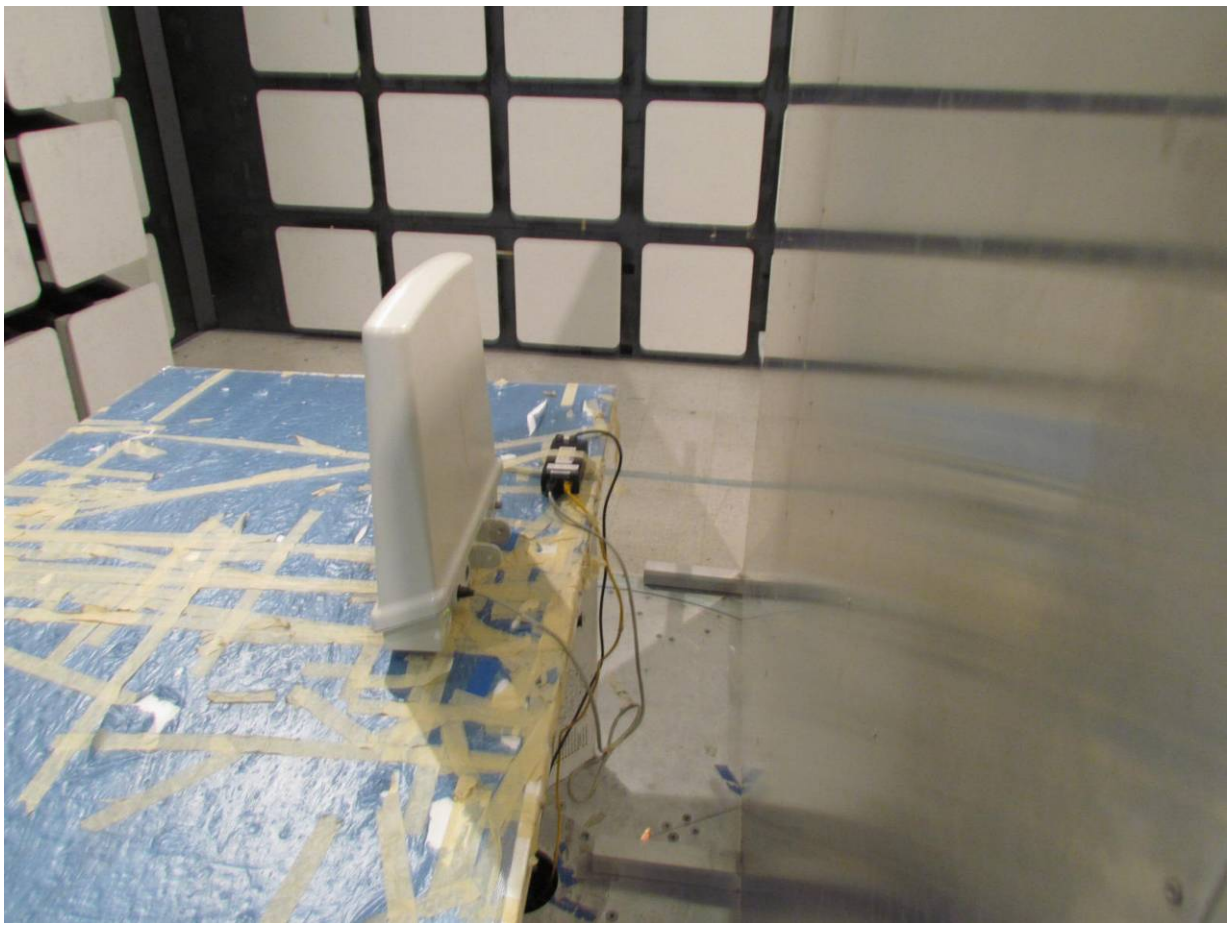
6.3. Radiated Test Setup > 1 GHz SECTOR



6.4. Radiated Test Setup below 1 GHz OMNI

6.5. Radiated Test Setup below 1 GHz SECTOR

6.6. AC Wireline Emissions



7. TEST EQUIPMENT DETAILS

Asset #	Instrument	Manufacturer	Part #	Serial #
0088	Spectrum Analyzer	Hewlett Packard	8564E	3410A00141
0134	Amplifier	Com Power	PA 122	181910
0158	Barometer /Thermometer	Control Co.	4196	E2846
0287	EMI Receiver	Rhode & Schwartz	ESIB 40	100201
0252	SMA Cable	Megaphase	Sucoflex 104	None
0310	2m SMA Cable	Micro-Coax	UFA210A-0-0787-3G03G0	209089-001
0312	3m SMA Cable	Micro-Coax	UFA210A-1-1181-3G0300	209092-001
0313	Coupler	Hewlett Packard	86205A	3140A01285
0314	30dB N-Type Attenuator	ARRA	N9444-30	1623
0070	Power Meter	Hewlett Packard	437B	3125U11552
0116	Power Sensor	Hewlett Packard	8485A	3318A19694
0117	Power Sensor	Hewlett Packard	8487D	3318A00371
0184	Pulse Limiter	Rhode & Schwartz	ESH3Z2	357.8810.52
0190	LISN	Rhode & Schwartz	ESH3Z5	836679/006
0293	BNC Cable	Megaphase	1689 1GVT4	15F50B001
0301	5.6 GHz Notch Filter	Micro-Tronics	RBC50704	001
0302	5.25 GHz Notch Filter	Micro-Tronics	BRC50703	002
0303	5.8 GHz Notch Filter	Micro-Tronics	BRC50705	003
0304	2.4GHzHz Notch Filter	Micro-Tronics	--	001
0307	BNC Cable	Megaphase	1689 1GVT4	15F50B002
0335	1-18GHz Horn Antenna	ETS- Lindgren	3117	00066580
0337	Amplifier	MiCOM Labs	--	--
0338	Antenna	Sunol Sciences	JB-3	A052907

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