

Device Description:

Harmony Gateway Console

Radio Type:

ZWAVE Protocol, 908.42 MHz, GFSK Modulation

Number And Type Of Antennas:

Single wire antenna integrated onto PCB.

Date:

09/21/2016

Tested By:

Jose Badia

Approved By:

Andrew Roussin

Test Specification:

FCC Part 15, Sub-part C and RSS210, Issue 8

Test Methods:

ANSI C63.10-2013

Spectrum Analyzer Settings:**Spectrum Analyzer Settings:*****Quasi-Peak***

RBW/VBW = 120K/1M for < 1G.

Average, Peak

RBW/VBW = 100K/300K for < 1G.

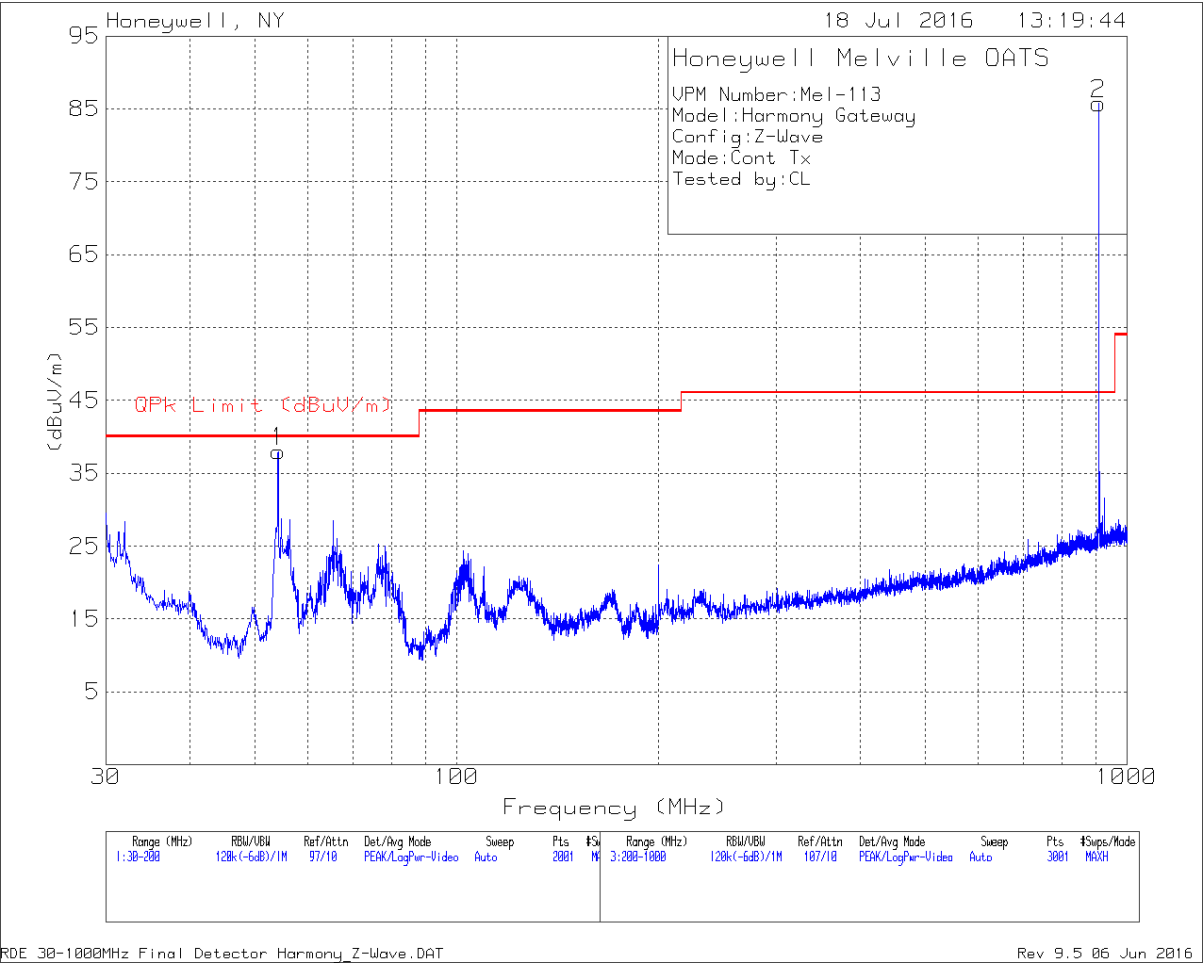
RBW/VBW = 1M/3M for > 1G.

ZWAVE RADIATED EMISSIONS CONT.

ZWAVE RADIATED EMISSIONS BELOW 1GHZ

Note: This is a 1m pre-scan to locate peaks only.

RBW/VBW128k (-6dB)/1M



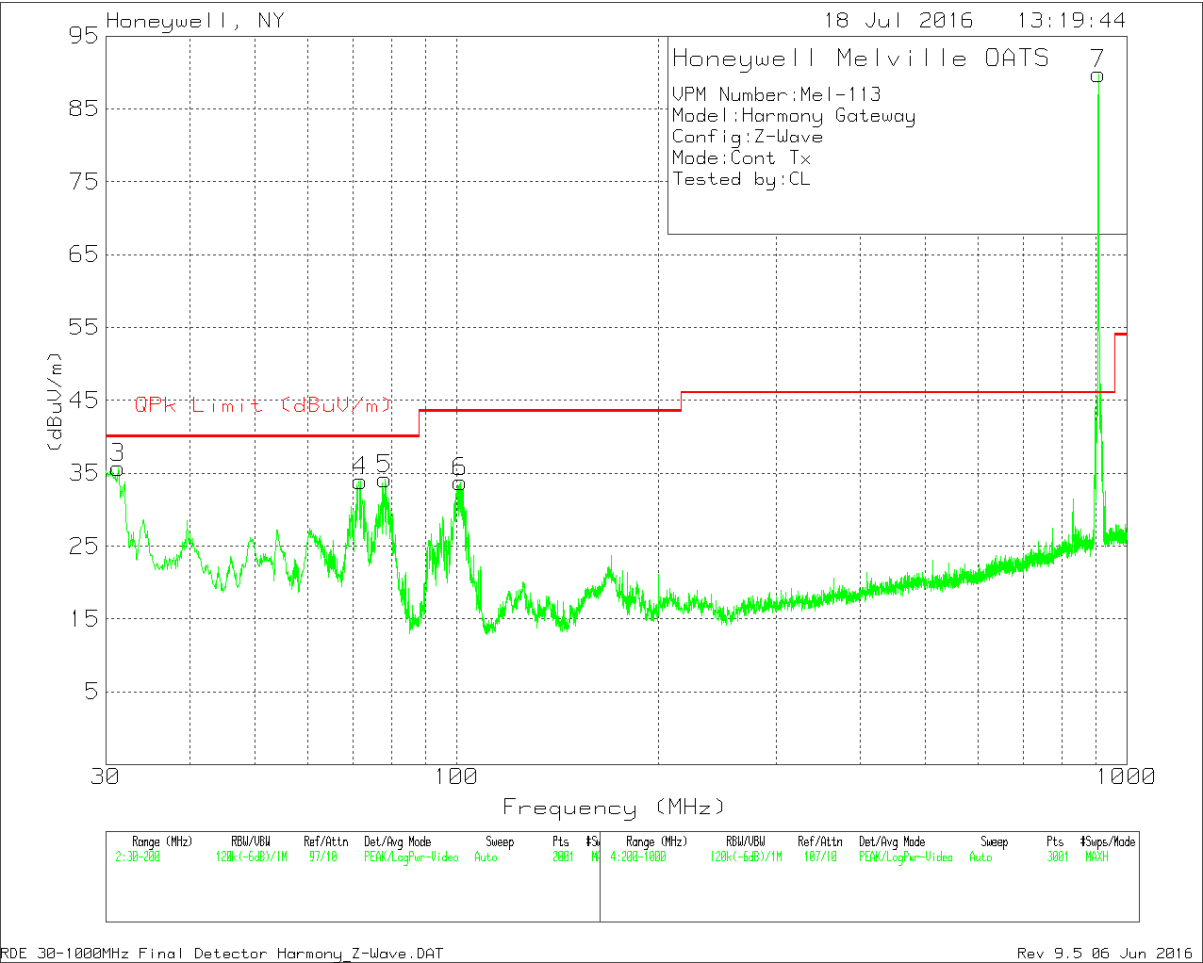
Horizontal Antenna

ZWAVE RADIATED EMISSIONS CONT.

ZWAVE RADIATED EMISSIONS BELOW 1GHZ CONT.

Note: This is a 1m pre-scan to locate peaks only.

RBW/VBW128k (-6dB)/1M



Vertical Antenna

ZWAVE RADIATED EMISSIONS CONT.

ZWAVE RADIATED EMISSIONS BELOW 1GHZ CONT.

Radiated Emissions

Note: highlighted frequencies are ambient; they appear measured on site with no equipment in place.

Frequency (MHz)	Meter Reading (dBuV/m)	Det	JB5 Antenna CF	Pre Amp #1	Corrected Reading (dBuV/m)	Av. Limit (uV/m)	Av. Limit (dBuV/m)	Pk. Limit (uV/m)	Pk. Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity	Rule Part For Limit
31.275	29.01	Qp	20.7	-29.1	20.61	100	40			-19.39	244	125	V	15.109
54.3023	42.91	Qp	7.4	-29.0	21.31	100	40			-18.69	73	330	H	15.109
72.127	57.27	Qp	8.1	-28.9	36.47	100	40			-3.53	292	397	V	15.109
78.28	37.94	Qp	7.8	-28.9	16.84	100	40			-23.16	14	166	V	15.109
908.4154	90.17	Pk	22.2	-27.5	84.87			50,000	94	-29.11	70	138	V	15.249
908.4163	91.99	Pk	22.2	-27.5	86.69			50,000	94	-27.29	354	128	H	15.249

Pk - Peak detector

Qp - Quasi-Peak detector

Av - Average detection

RDE 30-1000MHz Final Detector Harmony_Z-Wave.DAT

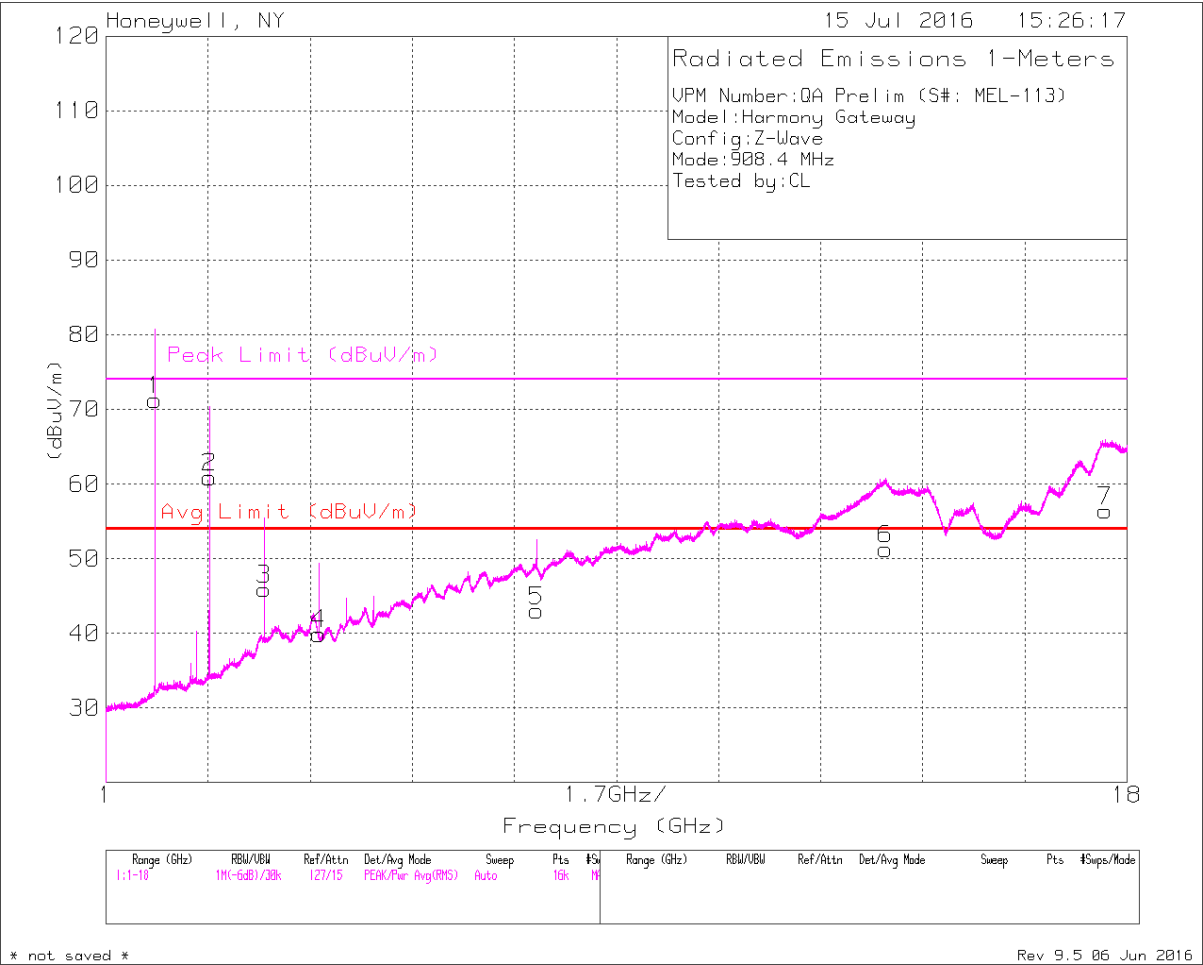
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ZWAVE RADIATED EMISSIONS CONT.

ZWAVE RADIATED EMISSIONS ABOVE 1GHZ

Note: This is a 1m pre-scan to locate peaks. It has a 3m distance correction factored in to the measured values.

RBW/VBW1M (-6dB)/30k



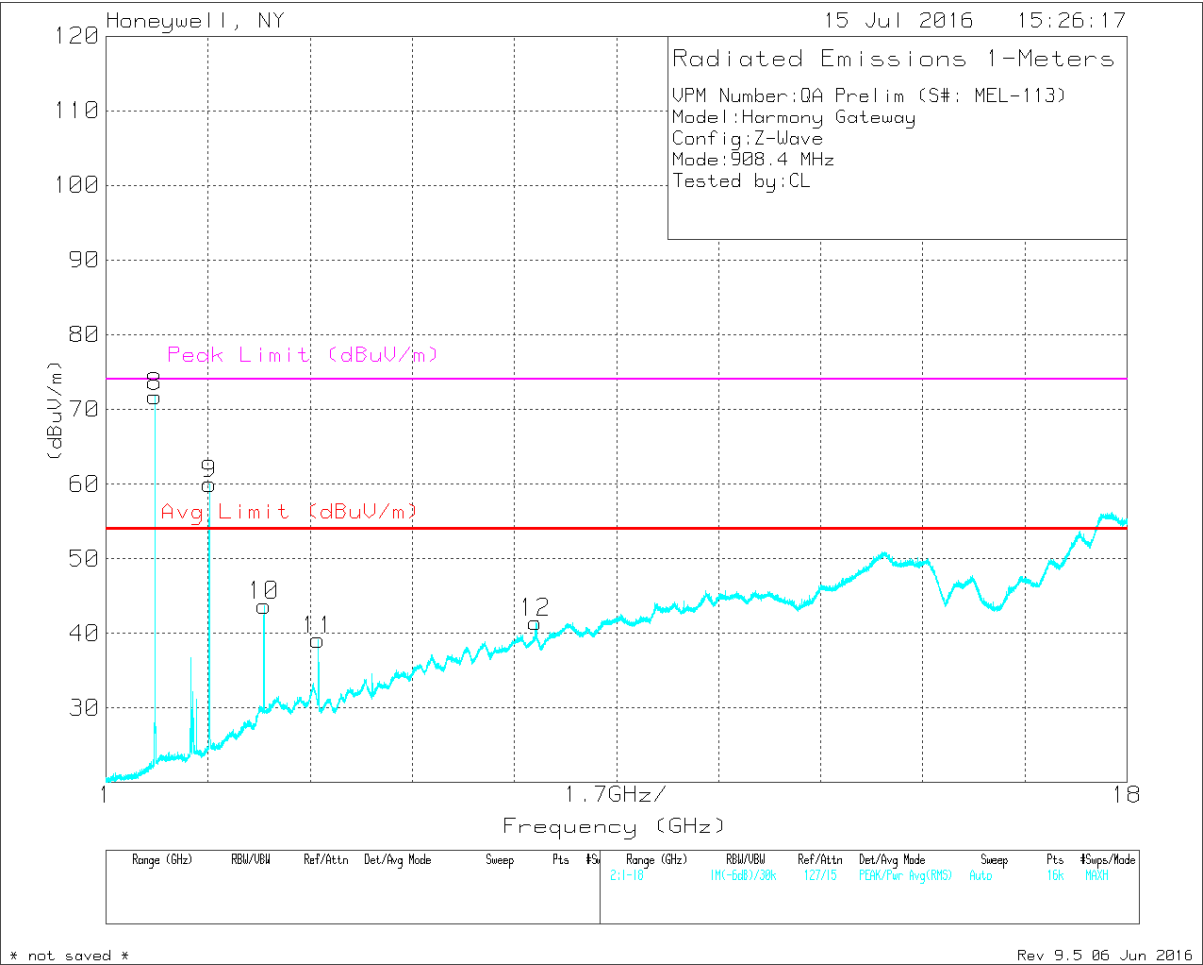
Horizontal Antenna

ZWAVE RADIATED EMISSIONS CONT.

ZWAVE RADIATED EMISSIONS ABOVE 1GHZ CONT.

Note: This is a 1m pre-scan to locate peaks. It has a 3m distance correction factored in to the measured values.

RBW/VBW1M (-6dB)/30k



Vertical Antenna

ZWAVE RADIATED EMISSIONS CONT.

ZWAVE RADIATED EMISSIONS ABOVE 1GHZ CONT.

Peak Values

Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m] Horn#1	Above 1GHz Pre Amp On	SMA CABLE	Corrected Reading (dBuV/m)	Pk. Limit (uV/m)	Pk. Limit (dBuV/m)	Pk. Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity	Rule Part For Limit
1.813	51.11	PK2	27.1	-43.1	7.2	42.31	5000	73.98	-31.67	307	334	H	15.249
1.816	51.54	PK2	27.1	-43.1	7.2	42.74	5000	73.98	-31.24	93	138	V	15.249
* 2.716	51.8	PK2	29.3	-44.6	8.8	45.30	5000	73.98	-28.68	351	148	H	15.249
* 2.725	51.53	PK2	29.3	-44.6	8.9	45.13	5000	73.98	-28.85	50	123	V	15.249
* 3.633	52.25	PK2	31.7	-42.7	10.2	51.45	5000	73.98	-22.53	5	234	H	15.249
* 3.633	52.12	PK2	31.7	-42.7	10.2	51.32	5000	73.98	-22.66	84	174	V	15.249
* 4.542	51.8	PK2	32.2	-43.4	11.3	51.90	5000	73.98	-22.08	116	173	H	15.249
* 4.542	51.86	PK2	32.2	-43.4	11.3	51.96	5000	73.98	-22.02	116	173	H	15.249
* 4.542	52.04	PK2	32.2	-43.4	11.3	52.14	5000	73.98	-21.84	257	392	V	15.249
* 5.45	51.67	PK2	34.4	-44.8	12.6	53.87	5000	73.98	-20.11	228	368	H	15.249
* 5.45	51.64	PK2	34.4	-44.8	12.6	53.84	5000	73.98	-20.14	127	355	V	15.249
6.359	51.47	PK2	34.8	-42.3	13.5	57.47	5000	73.98	-16.51	239	102	H	15.249
6.359	51.38	PK2	34.8	-42.3	13.5	57.38	5000	73.98	-16.60	350	308	V	15.249
* 7.268	51.69	PK2	36.5	-41.6	14.9	61.49	5000	73.98	-12.49	123	172	H	15.249
* 7.268	51.93	PK2	36.5	-41.6	14.9	61.73	5000	73.98	-12.25	316	337	V	15.249
* 8.175	51.81	PK2	37.1	-41.8	15.7	62.81	5000	73.98	-11.17	267	123	V	15.249
* 8.176	51.63	PK2	37.1	-41.8	15.7	62.63	5000	73.98	-11.35	276	366	H	15.249
* 9.083	51.98	PK2	37.5	-42.4	16.4	63.48	5000	73.98	-10.50	269	380	H	15.249
* 9.084	52.1	PK2	37.5	-42.4	16.4	63.60	5000	73.98	-10.38	344	221	V	15.249

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

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Average Values

Frequency (GHz)	Meter Reading (dBuV)	Det	AF [dB/m] Horn#1	Above 1GHz Pre Amp On	SMA CABLE	Corrected Reading (dBuV/m)	Av. Limit (uV/m)	Av. Limit (dBuV/m)	Av. Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity	Rule Part For Limit
1.817	41.55	MAV1	27.1	-43.1	7.2	32.75	500	53.97	-21.23	307	334	H	15.249
1.818	41.53	MAV1	27.2	-43.1	7.2	32.83	500	53.9794	-21.15	93	138	V	15.249
* 2.725	41.72	MAV1	29.3	-44.6	8.9	35.32	500	53.9794	-18.66	50	123	V	15.249
* 2.727	41.72	MAV1	29.3	-44.6	8.9	35.32	500	53.9794	-18.66	351	148	H	15.249
* 3.633	41.56	MAV1	31.7	-42.7	10.2	40.76	500	53.9794	-13.22	84	174	V	15.249
* 3.634	41.57	MAV1	31.7	-42.7	10.2	40.77	500	53.9794	-13.21	5	234	H	15.249
* 4.542	41.45	MAV1	32.2	-43.4	11.3	41.55	500	53.9794	-12.43	116	173	H	15.249
* 4.542	41.44	MAV1	32.2	-43.4	11.3	41.54	500	53.9794	-12.44	257	392	V	15.249
* 4.543	41.45	MAV1	32.2	-43.4	11.3	41.55	500	53.9794	-12.43	116	173	H	15.249
* 5.45	41.44	MAV1	34.4	-44.8	12.6	43.64	500	53.9794	-10.34	228	368	H	15.249
* 5.451	41.41	MAV1	34.4	-44.8	12.6	43.61	500	53.9794	-10.37	127	355	V	15.249
6.359	41.39	MAV1	34.8	-42.3	13.5	47.39	500	53.9794	-6.59	239	102	H	15.249
6.359	41.36	MAV1	34.8	-42.3	13.5	47.36	500	53.9794	-6.62	350	308	V	15.249
* 7.267	41.43	MAV1	36.5	-41.6	14.9	51.23	500	53.9794	-2.75	123	172	H	15.249
* 7.267	41.39	MAV1	36.5	-41.6	14.9	51.19	500	53.9794	-2.79	316	337	V	15.249
* 8.176	41.46	MAV1	37.1	-41.8	15.7	52.46	500	53.9794	-1.52	276	366	H	15.249
* 8.176	41.43	MAV1	37.1	-41.8	15.7	52.43	500	53.9794	-1.55	267	123	V	15.249
* 9.084	41.59	MAV1	37.5	-42.4	16.4	53.09	500	53.9794	-0.89	269	380	H	15.249
* 9.084	41.53	MAV1	37.5	-42.4	16.4	53.03	500	53.9794	-0.95	344	221	V	15.249

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

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