

04/30/03 **High Frequency Measurement**
Compliance Certification Services, Morgan Hill Open Field Site

Test Engr: VIEN TRAN
Project #: 03U1897-1
Company: Invensys Metering Syste**ms**
EUT Descrip.:240V Load Control Module TSTAT1 REV C board
FCC ID: Q12-EMSL-200
Test Target: FCC15.247
Mode Oper: Low Channel_Tx Hopping function stopped

Test Equipment:

EMCO Horn 1-18GHz	Pre-amplifier 1-26GHz	Spectrum Analyzer	Horn > 18GHz
T60; S/N: 2238 @3m	MiteqNSP2600-44	8593EM Analyzer	

Hi Frequency Cables

☐ (2 ft)
☐ (2 ~ 3 ft)
☒ (4 ~ 6 ft)
☒ (12 ft)

Peak Measurements:
1 MHz Resolution Bandwidth
1MHz Video Bandwidth

Average Measurements:
1 MHz Resolution Bandwidth
10Hz Video Bandwidth

f GHz	Dist feet	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	HPF	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes
0.905	9.8	75.4		1.2	0.8	-1.8	0.0	1.0	76.5	30.2	#N/A	#N/A	#N/A		H
2.715	9.8	45.7	33.0	30.1	2.3	-36.3	0.0	1.0	42.9	30.2	74.0	54.0	-31.1	-23.8	H, X, 3rd Har.
2.715	9.8	48.8	38.0	30.1	2.3	-36.3	0.0	1.0	46.0	35.2	74.0	54.0	-28.0	-18.8	H,Z
2.715	9.8	49.0	39.0	30.1	2.3	-36.3	0.0	1.0	46.2	36.2	74.0	54.0	-27.8	-17.8	H,Y
2.715	9.8	46.7	39.9	30.1	2.3	-36.3	0.0	1.0	43.9	37.1	74.0	54.0	-30.1	-16.9	V,Y
3.620	9.8	43.6	31.4	31.9	2.9	-36.2	0.0	1.0	43.1	30.9	74.0	54.0	-30.9	-23.1	V,Y (NF)
3.620	9.8	43.6	31.4	31.9	2.9	-36.2	0.0	1.0	43.1	30.9	74.0	54.0	-30.9	-23.1	H,Y (NF)
3.620	9.8	43.6	31.4	31.9	2.9	-36.2	0.0	1.0	43.1	30.9	74.0	54.0	-30.9	-23.1	H,Z (NF)
3.620	9.8	43.6	31.4	31.9	2.9	-36.2	0.0	1.0	43.1	30.9	74.0	54.0	-30.9	-23.1	V,Z(NF)
3.620	9.8	43.6	31.4	31.9	2.9	-36.2	0.0	1.0	43.1	30.9	74.0	54.0	-30.9	-23.1	V,X(NF)
3.620	9.8	43.6	31.4	31.9	2.9	-36.2	0.0	1.0	43.1	30.9	74.0	54.0	-30.9	-23.1	V,H,X(NF)
4.525	9.8	43.1	31.1	32.9	3.3	-36.1	0.0	1.0	44.2	32.1	74.0	54.0	-29.8	-21.9	V,H,X(NF)
4.525	9.8	43.1	31.1	32.9	3.3	-36.1	0.0	1.0	44.2	32.1	74.0	54.0	-29.8	-21.9	V,H,X(NF)
4.525	9.8	43.1	31.1	32.9	3.3	-36.1	0.0	1.0	44.2	32.1	74.0	54.0	-29.8	-21.9	V,H,Z(NF)
5.430	9.8	44.8	31.9	33.8	3.7	-36.1	0.0	1.0	47.1	34.2	74.0	54.0	-26.9	-19.8	V,H,Y(NF)
5.430	9.8	44.8	31.9	33.8	3.7	-36.1	0.0	2.0	48.1	35.2	74.0	54.0	-25.9	-18.8	V,H,X(NF)
5.430	9.8	44.8	31.9	33.8	3.7	-36.1	0.0	3.0	49.1	36.2	74.0	54.0	-24.9	-17.8	V,H,Z(NF)
6.330	9.8	45.0	32.1	34.9	4.1	-36.3	0.0	1.0	48.7	35.8	74.0	54.0	-25.3	-18.2	ALL NF
7.240	9.8	48.2	34.7	36.1	4.4	-36.3	0.0	1.0	53.3	39.9	74.0	54.0	-20.7	-14.1	ALL NF
8.150	9.8	48.7	35.7	37.3	4.7	-35.8	0.0	1.0	56.0	43.0	74.0	54.0	-18.0	-11.0	ALL NF
9.050	9.8	49.0	35.2	38.8	5.1	-35.3	0.0	1.0	58.5	44.7	74.0	54.0	-15.5	-9.3	ALL NF

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		