

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

Test Engr: VIEN TRAN
 Project #: 03U1897-1
 Company: Invensys Metering Sytems
 EUT Descrip.: 110V Load Control Module TSTAT1 REV C board
 FCC ID: Q12-EMSL-200
 Test Target: FCC15.247
 Mode Oper: Mid 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
0.915	9.8	75.4		3.6	0.8	-5.5	0.0	1.0	75.3		#N/A	#N/A	#N/A		H
2.745	9.8	47.7	33.0	30.2	2.4	-36.3	0.0	1.0	45.0	30.2	74.0	54.0	-29.0	-23.8	H, X, 3rd Har.
2.745	9.8	47.7	38.1	30.2	2.4	-36.3	0.0	1.0	45.0	35.3	74.0	54.0	-29.0	-18.7	V, X, 3rd Har.
2.745	9.8	48.6	37.4	30.2	2.4	-36.3	0.0	1.0	45.8	34.6	74.0	54.0	-28.2	-19.4	V,Z
2.745	9.8	48.6	40.8	30.2	2.4	-36.3	0.0	1.0	45.8	38.0	74.0	54.0	-28.2	-16.0	H,Z
2.745	9.8	46.5	36.7	30.2	2.4	-36.3	0.0	1.0	43.7	33.9	74.0	54.0	-30.3	-20.1	H,Y
2.745	9.8	50.4	42.7	30.2	2.4	-36.3	0.0	1.0	47.7	39.9	74.0	54.0	-26.3	-14.1	V,Y
3.660	9.8	45.1	31.9	31.9	2.9	-36.2	0.0	1.0	44.8	31.6	74.0	54.0	-29.2	-22.4	V,Y (NF)
3.660	9.8	44.6	31.9	31.9	2.9	-36.2	0.0	1.0	44.2	31.5	74.0	54.0	-29.8	-22.5	H,Y (NF)
3.660	9.8	44.4	31.9	31.9	2.9	-36.2	0.0	1.0	44.0	31.6	74.0	54.0	-30.0	-22.4	H,Z (NF)
3.660	9.8	44.6	31.8	31.9	2.9	-36.2	0.0	1.0	44.3	31.4	74.0	54.0	-29.7	-22.6	V,Z(NF)
3.660	9.8	44.7	31.9	31.9	2.9	-36.2	0.0	1.0	44.3	31.5	74.0	54.0	-29.7	-22.5	V,X(NF)
4.575	9.8	44.4	31.7	33.0	3.3	-36.1	0.0	1.0	45.5	32.8	74.0	54.0	-28.5	-21.2	V,H,X(NF)
5.490	9.8	44.5	31.9	33.8	3.7	-36.2	0.0	1.0	46.8	34.3	74.0	54.0	-27.2	-19.7	V,H,X(NF)
6.409	9.8	44.9	32.4	35.0	4.1	-36.3	0.0	1.0	48.6	36.1	74.0	54.0	-25.4	-17.9	V,H,X(NF)
7.320	9.8	48.2	34.8	36.2	4.4	-36.3	0.0	1.0	53.5	40.2	74.0	54.0	-20.5	-13.8	V,H,Z(NF)
8.235	9.8	49.3	35.7	37.5	4.8	-35.7	0.0	1.0	56.8	43.2	74.0	54.0	-17.2	-10.8	V,H,Y(NF)
9.150	9.8	48.4	35.1	38.8	5.1	-35.3	0.0	2.0	58.9	45.6	74.0	54.0	-15.1	-8.4	V,H,X(NF)
10.065	9.8	47.1	34.6	38.3	5.4	-35.5	0.0	3.0	58.3	45.8	74.0	54.0	-15.7	-8.2	V,H,Z(NF)
	9.8						0.0	1.0							ALL NF
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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								