



FCC, VCCI, CISPR, CE, AUSTEL, NZ
UL, CSA, TUV, BSMI, DHHS, NVLAP

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Project #: 03u2028-2
Report #: 030610C1
Date & Time: 06/10/03 9:53 AM
Test Engr: Chin Pang

Company: Invensys
EUT Description: Electric Meter
Test Configuration : EUT Only
Type of Test: FCC 15.247
Mode of Operation: Tx



Freq.	Reading	AF	Closs	Pre-amp	Level	Limit	Margin	Pol	Az	Height	Mark
(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	FCC_B	(dB)	(H/V)	(Deg)	(Meter)	(P/Q/A)
measured EUT field strength, at RBW=VBW=1MHz											
905.00	100.80	22.71	5.76	27.32	101.94	46.00	55.94	3mV	0.00	1.00	P
905.00	103.90	22.71	5.76	27.32	105.04	46.00	59.04	3mH	0.00	1.00	P
905.00	76.70	22.71	5.76		105.17	46.00	59.17	3mH	0.00	1.00	P
915.00	76.90	22.85	5.80		105.54	46.00	59.54	3mH	0.00	1.00	P
915.00	72.50	22.85	5.80		101.14	46.00	55.14	3mV	0.00	1.00	P
924.60	72.50	22.98	5.83		101.31	46.00	55.31	3mV	0.00	1.50	P
924.60	75.80	22.98	5.83		104.61	46.00	58.61	3mH	0.00	1.50	P
completed EUT scan, L, M and H channel											
Total data #: 7											
V.2c											

Test Engr:William Zhuang
Project #:03U2028
Company:Invensys
EUT Descrip.:Invensys Vcon-II Electric Meter
EUT M/N:EMST-100
Test Target:FCC 15.247
Mode Oper:Normal

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

Hi Frequency Cables

e (2 ft)	e (2 ~ 3 ft)	e (4 ~ 6 ft)	b (12 ft)
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Peak Measurements:

1 MHz Resolution Bandwidth
10Hz Video Bandwidth

Average Measurements:

1 MHz Resolution Bandwidth
10Hz Video Bandwidth

[illegible]

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		

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		

06/14/03 **High Frequency Measurement**
Compliance Certification Services, Morgan Hill Open Field Site

Test Engr: Chin Pang
 Project #: 03U2028-2
 Company: InvenSys
 EUT Descrip.: Electric Meter
 EUT M/N:
 Test Target: FCC 15.247
 Mode Oper: Tx

Test Equipment:

EMCO Horn 1-18GHz	Pre-amplifier 1-26GHz	Spectrum Analyzer	Horn > 18GHz
T59; S/N: 3245 @3m	T63 Miteq 646456	Agilent 8564E Analyzer	

Hi Frequency Cables

☐ (2 ft)	☒ (2 ~ 3 ft)	☐ (4 ~ 6 ft)	☒ (12 ft)
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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
Mid Channel															
0.915				3.6	1.1	-5.5		0.0							
1.830	9.8	50.3	39.6	27.6	2.0	-36.4	0.0	1.0	44.4	33.7	74.0	54.0	-29.6	-20.3	V
1.830	9.8	49.8	39.3	27.6	2.0	-36.4	0.0	1.0	43.9	33.4	74.0	54.0	-30.1	-20.6	H
2.745	9.8	65.0	35.0	30.2	2.8	-35.9	0.0	1.0	63.1	33.1	74.0	54.0	-10.9	-20.9	V
2.745	9.8	67.3	35.5	30.2	2.8	-35.9	0.0	1.0	65.4	33.6	74.0	54.0	-8.6	-20.4	H
3.660	9.8	45.0	33.0	32.0	3.4	-35.6	0.0	1.0	45.8	33.8	74.0	54.0	-28.2	-20.2	V, noise floor
3.660	9.8	44.5	33.0	32.0	3.4	-35.6	0.0	1.0	45.3	33.8	74.0	54.0	-28.7	-20.2	H, noise floor
High Channel															
0.925				5.9	1.1	-9.0		1.0							
1.849	9.8	49.4	36.2	27.7	2.0	-36.4	0.0	1.0	43.6	30.4	74.0	54.0	-30.4	-23.6	V
1.849	9.8	49.5	38.6	27.7	2.0	-36.4	0.0	1.0	43.7	32.8	74.0	54.0	-30.3	-21.2	H
2.774	9.8	45.0	32.0	30.2	2.9	-35.9	0.0	1.0	43.2	30.2	74.0	54.0	-30.8	-23.8	V
2.774	9.8	44.0	31.4	30.2	2.9	-35.9	0.0	1.0	42.2	29.6	74.0	54.0	-31.8	-24.4	H
3.698	9.8	42.5	31.2	32.0	3.4	-35.6	0.0	1.0	43.4	32.1	74.0	54.0	-30.6	-21.9	V, noise floor
3.698	9.8	43.2	31.8	32.0	3.4	-35.6	0.0	1.0	44.0	32.6	74.0	54.0	-30.0	-21.4	H, noise floor

No emissions were detected above 3rd harmonic

f	Measurement Frequency	Amp	Preamp Gain	Avg Lim	Average Field Strength Limit
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CL	Cable Loss	HPF	High Pass Filter		