Emissions & Immunity Report

EUT Name: PtranspondIT V1

EUT Model: V1

Prepared for:

Don Watts
Advanced Technologies Ramar

Prepared by:

Flextronics Compliance Laboratories
762 Park Avenue
Youngsville, NC 27596
Tel: (919) 554-0901
Fax: (919) 556-2043
http://www.flextronics.com/

Report/Issue Date: 10 January 2003
Report Number: 5117

Test Conditions.

All measurements made in a cast iron enclosure with a solid cover (no holes) buried in sand. The specific box used for this test is Model FYL4P-000, manufactured by Ford Meterbox Company. The box is round cross section, 10.5” diameter, and 10-13” high. Dimensions are inside measurements. The height is adjustable from 10” to 13” by raising the upper half of the housing which is threaded to the lower half. Measurements made at heights noted in the data.

SOP 1 Radiated Emissions **Tracking #** 5117 Page 1 of 1

EUT Name	Water Meter Transmitter	**Date**	9 December 2002
EUT Model	Ptranspondit V1	**Temp / Hum in**	70 Deg. F. / 28% RH
EUT Serial	A	**Temp / Hum out**	N/A
Standard	FCC Part 15	**Line AC / Freq**	N/A
Dist/Ant Used	3M	**Performed by**	Eugene Moses

Emission Freq (MHz)	ANT Polar (H/V)	ANT Pos (m)	Table Pos (deg)	FIM Value (dBuV)	Amp Gain (dB)	Cable Loss (dB)	ANT Factor (dB/m)	E-Field Value (dBuV/m)	Spec Limit (dBuV/m)	Spec Margin (dB)
Measurement made with EMCO dipole, 3121C-DB4. Transmitter taped to lid. Case extended 3 inches.										
920.00	H	1	313	48.94 qp	0.00	4.15	28.56	81.65	94.00	-12.35
920.00	V	1.5	98	56.57 qp	0.00	4.15	28.56	89.28	94.00	-4.72
Measurement made with EMCO dipole, 3121C-DB4. Transmitter taped to lid. Case extended 3 inches.										
919.90	H	1	0	47.77 qp	0.00	4.15	28.56	80.48	94.00	-13.52
919.80	V	1.56	269	57.84 qp	0.00	4.15	28.55	90.54	94.00	-3.46
Measurement made with EMCO 3115-5770. Transmitter taped to lid. Case extended 3 inches.										
1840.00	V	1	358	52.68 qp	36.08	6.31	28.30	51.21	54.00	-2.79
1840.00	V	1	358.	32.51 av	36.08	6.31	28.30	31.04	54.00	-22.96
Measurement made with EMCO 3115-5770. Transmitter taped to lid. Case extended 2 inches.										
1840.00	V	1	82	39.94 qp	36.08	6.31	28.30	38.47	54.00	-15.53
1840.00	V	1	82	32.30 av	36.08	6.31	28.30	30.83	54.00	-23.17
1840.00	H	1.24	165	36.84 qp	36.08	6.31	28.40	35.47	54.00	-18.53
1840.00	H	1.24	165.	32.08 av	36.08	6.31	28.40	30.71	54.00	-23.29
Measurement made with EMCO dipole, 3121C-DB4. Transmitter taped to lid. Case extended 2 inches.										
919.90	V	1.78	291	57.50 qp	0.00	4.15	28.56	90.21	94.00	-3.79
919.90	V	1.78	291	14.39 av	0.00	4.15	28.56	47.10	94.00	-46.90
919.80	H	1	21	56.35 qp	0.00	4.15	28.55	89.05	94.00	-4.95
919.80	H	1	21	31.91 av	0.00	4.15	28.55	64.61	94.00	-29.39
Spec Margin = E-Field Value - Limit, E-Field Value = FIM Value - Amp Gain + Cable Loss + ANT Factor $\pm$ Uncertainty										
Combined Standard Uncertainty $u_c(y)$ = $\pm$ 1.6dB Expanded Uncertainty $U = ku_c(y)$ k = 2 for 95% confidence										

Qp = Quasi-peak measurement

Av = Average measurement

1 Test Equipment Use List

Equipment	Manufacturer	Model #	Serial/Inst #	Last Cal dd/mm/yy	Next Cal dd/mm/yy
SOP 1 - Radiated Emissions (5 Meter Chamber)					
Amplifier, preamp	Agilent Technologies	8449B	3008A01480	7-Feb-02	7-Feb-03
Ant. Biconical	EMCO	3110B	3367	28-Nov-02	28-Nov-03
Antenna Loop	EMCO	6502	3336	10-Nov-02	10-Nov-03
Ant. Log Periodic	AH Systems	SAS-516	133	26-Nov-02	26-Nov-03
Antenna Horn	EMCO	3115	5770	18-Nov-03	18-Nov-03
Cable, Coax	Andrew	FSJ1-50A	031	28-Jan-02	28-Jan-03
Cable, Coax	Andrew	FSJ1-50A	034	6-Feb-02	6-Feb-03
Cable, Coax	Andrew	FSJ1-50A	045	29-Jan-02	29-Jan-03
Chamber, Semi-Anechoic	Braden Shielding	5 meter	A67631	15-Jul-02	15-Jul-03
Data Table, EMCWin	Flextronics EMC	EMCWin.dll	002	6-Jan-02	6-Jan-03
Spectrum Analyzer	Agilent Tec.	E7405A	US39440157	14-Aug-02	14-Aug-03

General Laboratory Equipment					
Antenna Loop	EMCO	6511	0004-1175	08/29/02	08/29/03
**Ant. Dipole Set BL 1-4	EMCO	3121C	9302-914	22-Jul-99	22-Jul-00
Meter, Multi	Extech	38096C	D023466	08/05/02	08/05/03
Meter, Multi	Fluke	79-3	69200606	08/05/02	08/05/03
Meter, Temp/Humid/Barom	Fisher	02-400	01	08/05/02	08/05/03

* Calibration of equipment past due for re-calibration will be performed expeditiously. If any equipment is found to be out of tolerance at that time, affected customers will be notified accordingly.

** For reference measurements only.