



Emissions & Immunity Report

EUT Name: PtranspondIT V1

EUT Model: V1

Prepared for:

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Prepared by:

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SOP 1 Radiated Emissions							Tracking # 5117A		Page 1 of 1		
EUT Name		Water Meter Transmitter					Date		10 December 2002		
EUT Model		Ptranspondit V1					Temp / Hum in		71 Deg. F / 25% 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 transmitter facing front of the box. Dipole antenna used for all data. EMCO 3121C-DB4											
919.90	V	1	0	60.45 qp	0.00	4.15	28.56	93.16	94.00	-0.84	
919.90	V	1	0	17.82 av	0.00	4.15	28.56	50.53	94.00	-43.47	
Measurement made with transmitter in center of the box. Dipole antenna used for all data. EMCO 3121C-DB4											
919.90	V	1	0	57.94 qp	0.00	4.15	28.56	90.65	94.00	-3.35	
919.90	V	1	0	17.14 av	0.00	4.15	28.56	49.85	94.00	-44.15	
919.90	H	1	0	43.81 qp	0.00	4.15	28.56	76.52	94.00	-17.48	
919.90	H	1	0	12.07 av	0.00	4.15	28.56	44.78	94.00	-49.22	
Measurement made with transmitter in the center of the box. Horn antenna used for all data. EMCO 3115-5770											
1840.00	H	1	0	27.58 av	36.08	6.31	28.40	26.21	54.00	-27.79	
1840.00	H	1	0	42.54 pk	36.08	6.31	28.40	41.17	54.00	-12.83	
Spec Margin = E-Field Value - Limit, E-Field Value = FIM Value - Amp Gain + Cable Loss + ANT Factor ± Uncertainty											
Combined Standard Uncertainty $u_c(y)$ = ± 1.6dB Expanded Uncertainty $U = ku_c(y)$ $k = 2$ for 95% confidence											
Notes: Test Conditions.											
All measurements were made in a cast iron enclosure with a solid cover (no holes) buried in sand. The specific box used for this test is Model MC102616-2, manufactured by Donaldson Company. The box is round cross section, 7" diameter, and 12" high. Dimensions are inside measurements.											

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.