

CERTIFICATION TEST REPORT  
FOR  
SMITH METER, INC.  
TCP-CO TRANSCEIVER  
FCC ID NO. NQ3TCP-CO

April 8, 1998

Prepared for: Smith Meter, Inc.  
1602 Wagner Avenue  
PO Box 10428  
Erie, PA 16514-0428

Measurements made  
and report prepared by:

*James R. Pollock*  
James R. Pollock

SMITH ELECTRONICS, INC.  
8200 SNOWVILLE RD.  
CLEVELAND, OH 44141  
440/526-4386

CERTIFICATE OF COMPLIANCE

1. Manufacturer: Smith Meter, Inc.  
1602 Wagner Avenue  
P.O. Box 10428  
Erie, PA 16514-0428
2. Contact: G. Bruce Kernes  
Smith Meter, Inc.  
814/898-5102
3. Regulation: CFR47-Part 15  
15.249
4. Measurement Method: ANSI C63.4-1992
5. EUT TCP-CO Transceiver  
FCC ID: NQ3TCP-CO
6. Type: Data Transceiver
7. Tuned Frequency: 916.65 MHz
8. Date of Test: March 9 & 10, 1998
9. Place of Test: Smith Electronics, Inc. Test  
Lab, 8200 Snowville Rd.,  
Brecksville, OH. Open Field  
Site at 8200 Snowville Rd.,  
Brecksville, OH

10. Statement of Compliance:

I hereby certify that measurements of radio frequency  
emissions from the Smith Meter, Inc., TCP-CO transceiver were  
performed by me on March 9 & 10, 1998, and that the results  
of the measurements confirmed that the unit tested is capable  
of compliance with the above regulations.

4-8-98

Date

James R. Pilkoh Pres.  
Signature, Title

TABLE 1  
 FUNDAMENTAL AND SPURIOUS EMISSIONS  
 TCP-CO TRANSMITTER

Freq. (MHz)	Value (dBuV)	AF (dB)	CL (db)	Field Strength (dBuV/m) (uV/m)	Limit (uV/m)
*916.65	60 @3m	29.1	1.7	90.8 34,700	50,000
1833.3	29.1 @1m	28.0	0.3	57.4 741	1,500
2749.95	15.0 @1m	30.0	0.4	45.4 186	1,500
3666.6	26.1 @1m	33.0	0.4	59.5 944	1,500
4583.25	25.4 @1m	33.0	0.5	58.9 881	1,500
5499.9	19.5 @1m	36.0	0.5	56.1 638	1,500
6416.55	15.0 @1m	36.0	0.7	51.7 385	1,500
7333.2	<24.0 @1m	37.0	0.8	61.8 <1,230	1,500
8249.85	<24.0 @1m	38.0	0.8	62.8 <1,380	1,500
9166.5	<24.0 @1m	38.0	1.0	63.0 <1,412	1,500

\* = Fundamental Frequency

AF = Antenna Factor

CL = Coax Loss Factor

Measured values reported above are average values. The fundamental value was determined using the FI detector of the receiver, while the harmonic values used a 300 Hz VBW setting on the spectrum analyzer. All harmonic measurements used a BW value of 1 MHz. Linear extrapolation was used for converting 3 m limits to the measurement distance.

Peak measurements were also made. With sufficiently strong signals, peak/average values were typically about 6 dB. When the signal was close to the noise floor, the maximum peak/average value was about 10 dB.

## TEST INFORMATION

### SUMMARY

The prototype model of the Smith Meter, TCP-CO transmitter has been shown to be capable of complying with those requirements of the Federal Communications Commission for a certified intentional radiator under Part 15.249 and also those of an unintentional radiator and receiver.

### EQUIPMENT UNDER TEST

TCP-CO Transmitter

### MANUFACTURER

Smith Meter, Inc.  
1602 Wagner Avenue  
P.O. Box 10428  
Erie, PA 16514-0428

### TEST DATES

March 9 & 10, 1998

### TEST LABORATORY

Smith Electronics, Inc.  
8200 Snowville Road  
Cleveland, OH 44141  
(440) 526-4386

### MEASUREMENT EQUIPMENT

Hewlett-Packard Spectrum Analyzer  
Type 8568B with 8560A RF Section  
S/N 2216A02120  
85662A Display Section  
S/N 2152A03686  
85650A Quasi-Peak Adapter  
S/N 2043A00350  
Calibrated 5/97

Singer Stoddart EMI Field Intensity  
Meter Model NM 37/57  
S/N 0366-06168  
Calibrated 5/97

Hewlett-Packard Spectrum Analyzer  
Model 8593EM, S/N 3536A00147  
Calibrated 8/97

ANTENNAS

EMCO Biconical Antenna  
Model 3104  
Freq. Range 20 - 200 MHz

EMCO Log-Periodic Antenna  
Model 3146  
Freq. Range 200 - 1000 MHz

Stoddart Tuned Dipole Antenna  
Model 91598-2  
Freq. Range 400 - 1000 MHz

EMCO Double Ridged Guide Horn  
Model 3115  
Freq. Range 1 - 18 GHz

MISCELLANEOUS

Hewlett-Packard Preamplifier  
Model 8447D S/N 1725A01282

12.2 m RG-214/U coaxial cable

0.6 m RG-214/U coaxial cable