TEST REPORT

Revised Data in Stand Alone Configuration

Equipment Tested:

Utility Meter Transmitter
Model 50ESS
Serial Number 4577

Itron Test Facility
2401 North State Street
Waseca, Minnesota 56093

Revised Data in Stand Alone Configuration

ATTACHMENT A

EUT: Encoder/Transmitter
Model : 50ESS
Serial No.: 4577

FCC Part 15.249
Radiated Emissions-Transmitter
Test Dates: June 7 & 8, 2002
Engineer: Robert A. Sleen

Freq. MHz	Ant. Pos.	Level dBm	[1]	Level dBuV	Ant. Factor dB	Cable Loss dB	[2] [3] **Corrected Level dBuV/m**	Limit dBuV/m	Duty Cycle Factor dB	[4] Final Limit dBuV/m	Margin dB
916.5	V	**-45.0**	P	**62.0**	28.6	1.6	**92.1**	94.0		94.0	1.9
916.5	H	**-51.0**	P	**56.0**	28.6	1.6	**86.1**	94.0		94.0	7.9
1833.0	V	**-75.8**	P	**31.2**	28.5	2.4	**62.1**	54.0	-13.0	67.0	4.9
1833.0	H	**-81.7**	P	**25.3**	28.5	2.4	**56.2**	54.0	-13.0	67.0	10.8
2749.5	V	**-90.8**	P	**16.3**	31.5	3.0	**50.8**	54.0	-13.0	67.0	16.2
2749.5	H	**-87.7**	P	**19.3**	31.5	3.0	**53.8**	54.0	-13.0	67.0	13.2
3666.0	V	**-84.0**	P	**23.1**	33.8	3.5	**60.4**	54.0	-13.0	67.0	6.6
3666.0	H	**-80.0**	P	**27.0**	33.8	3.5	**64.4**	54.0	-13.0	67.0	2.6
4582.6	V	**-92.1**	P	**14.9**	34.9	4.2	**53.9**	54.0	-13.0	67.0	13.1
4582.6	H	**-91.4**	P	**15.6**	34.9	4.2	**54.6**	54.0	-13.0	67.0	12.4
5499.1	V	**-100.8**	P	**6.3**	36.3	4.5	**47.0**	54.0	-13.0	67.0	20.0
5499.1	H	**-103.2**	P	**3.8**	36.3	4.5	**44.6**	54.0	-13.0	67.0	22.4
6415.6	V	-98.0	NF	9.0	36.9	4.5	*50.3*	54.0	-13.0	67.0	
6415.6	H	-98.0	NF	9.0	36.9	4.5	*50.3*	54.0	-13.0	67.0	
7332.1	V	-96.3	NF	10.7	38.2	6.3	*55.2*	54.0	-13.0	67.0	
7332.1	H	-96.3	NF	10.7	38.2	6.3	*55.2*	54.0	-13.0	67.0	
8248.6	V	-95.9	NF	11.1	39.3	6.7	*57.1*	54.0	-13.0	67.0	
8248.6	H	-95.9	NF	11.1	39.3	6.7	*57.1*	54.0	-13.0	67.0	
9165.1	V	-97.0	NF	10.0	40.3	7.3	*57.6*	54.0	-13.0	67.0	
9165.1	H	-97.0	NF	10.0	40.3	7.3	*57.6*	54.0	-13.0	67.0	

Notes:
[1] QP = Quasi-peak, P = Peak, NF = Noise Floor of the Spectrum Analyzer
[2] The Spectrum Analyzer settings are as follows:
Fundamental - Resolution Bandwidth = 120 kHz; Video Bandwidth = 300 kHz; Span = 10 MHZ.
Harmonics - Resolution Bandwidth = 1 MHz; Video Bandwidth = 1 MHz; Span = 50 MHZ.
[3] "Corrected Level" numbers in bold are RF signal levels.
"Corrected Level" numbers in italics are noise floor and as such indicate that there is no RF signal at that level. The "Antenna Correction Factor" and the "Cable Loss" have been factored in with the noise floor levels in order to demonstrate what the "Corrected Level" of an RF signal at the noise floor level would have been equal to.
[4] The "Final Limit", in the case of the harmonics, represents 13 dB above the average limit in FCC part 15.249. Refer to Attachment B; Pulsed Operation (Part 15.35 (b)).

Revised Data in Stand Alone Configuration

ATTACHMENT A cont.

EUT:	Encoder/Transmitter	**FCC Part 15.109**	
Model :	50ESS	**Radiated Emissions**	
Serial Number:	4577	**Test Dates:**	June 8 & 9,2002
		Engineer:	Robert A. Sleen

Freq. MHz	Ant. Pos.	Level dBm	[1]	Level dBuV	[4] Ant. Factor dB	Cable Loss dB	[2] [3] **Corrected Level dBuV/m**	Limit dBuV/m	Duty Cycle Factor dB	Final Limit dBuV/m	Margin dB
294.80		**-91.8**	P	15.2	14.3	0.83	**30.4**	46		46	15.6
319.50		**-94.8**	P	12.2	15.4	0.86	**28.5**	46		46	17.5
319.80		**-95.8**	P	11.2	15.4	0.86	**27.5**	46		46	18.5
460.74		**-92.6**	P	14.4	17.8	1.05	**33.2**	46		46	12.8
466.88		**-99.5**	P	7.5	18.0	1.06	**26.6**	46		46	19.4
473.01		**-88.7**	P	18.3	18.3	1.08	**37.7**	46		46	8.3
479.17		**-98.7**	P	8.3	18.4	1.09	**27.8**	46		46	18.2
485.30		**-89.6**	P	17.4	18.4	1.16	**36.9**	46		46	9.1
491.44		**-98.8**	P	8.2	18.3	1.18	**27.7**	46		46	18.3
497.59		**-85.8**	P	21.2	18.3	1.19	**40.7**	46		46	5.3
503.74		**-96.6**	P	10.4	18.4	1.20	**30.0**	46		46	16.0
509.88		**-88.3**	P	18.7	18.5	1.20	**38.5**	46		46	7.5
522.16		**-89.8**	P	17.2	18.8	1.21	**37.3**	46		46	8.7
534.45		**-91.0**	P	16.0	19.0	1.21	**36.2**	46		46	9.8
546.72		**-88.0**	P	19.0	19.2	1.22	**39.3**	46		46	6.7
559.02		**-88.1**	P	18.9	19.2	1.22	**39.4**	46		46	6.6
565.16		**-92.5**	P	14.5	19.3	1.23	**35.0**	46		46	11.0
571.31		**-90.1**	P	16.9	19.3	1.23	**37.5**	46		46	8.5
583.61		**-88.7**	P	18.3	19.4	1.23	**38.9**	46		46	7.1
589.74		**-93.0**	P	14.0	19.5	1.24	**34.7**	46		46	11.3
595.89		**-88.7**	P	18.3	19.6	1.24	**39.1**	46		46	6.9
602.03		**-93.7**	P	13.3	19.7	1.24	**34.2**	46		46	11.8
608.16		**-90.1**	P	16.9	19.9	1.25	**38.0**	46		46	8.0
614.32		**-97.3**	P	9.7	20.1	1.26	**31.1**	46		46	14.9
620.46		**-90.4**	P	16.6	20.4	1.27	**38.3**	46		46	7.7
626.60		**-93.1**	P	13.9	20.5	1.28	**35.7**	46		46	10.3
632.75		**-91.0**	P	16.0	20.7	1.29	**38.0**	46		46	8.0
638.88		**-96.5**	P	10.5	20.8	1.30	**32.6**	46		46	13.4
645.03		**-92.2**	P	14.8	20.9	1.30	**37.0**	46		46	9.0
651.17		**-95.7**	P	11.3	21.0	1.31	**33.7**	46		46	12.3

Notes:

[1] QP = Quasi-peak, P = Peak, NF = Noise Floor of the Spectrum Analyzer

[2] The Spectrum Analyzer settings are as follows:
30 to 1000 MHz - Resolution Bandwidth = 120 kHz; Video Bandwidth = 300 kHz; Span = 10 MHz.
Above 1000 MHz - Resolution Bandwidth = 1 MHz; Video Bandwidth = 1 MHz; Span = 50 MHz.

[3] "Corrected Level" numbers in bold are RF signal levels.
"Corrected Level" numbers in italics are noise floor and as such indicate that there is no RF signal at that level.
The "Antenna Correction Factor" and the "Cable Loss" have been factored in with the noise floor levels in order to demonstrate what the "Corrected Level" of an RF signal at the noise floor level would have been equal to.

[4] The Antennas used were as follows:
30 to below 300 MHz. - Biconical: AN 16230
200 to 1000 MHz. - Log Periodic: AN 12005

Revised Data in Stand Alone Configuration

ATTACHMENT A cont.

EUT:	Encoder/Transmitter	**FCC Part 15.109**	
Model :	50ESS	**Radiated Emissions**	
Serial Number:	4577	**Test Dates:**	June 8 & 9,2002
		Engineer:	Robert A. Sleen

Freq. MHz	Ant. Pos.	Level dBm	[1]	Level dBuV	[4] Ant. Factor dB	Cable Loss dB	[2] [3] **Corrected Level dBuV/m**	Limit dBuV/m	Duty Cycle Factor dB	Final Limit dBuV/m	Margin dB
657.32		**-92.4**	P	14.6	21.3	1.32	**37.2**	46		46	8.8
663.46		**-98.6**	P	8.4	21.5	1.33	**31.3**	46		46	14.7
669.60		**-92.2**	P	14.8	21.8	1.34	**37.9**	46		46	8.1
675.75		**-96.3**	P	10.7	22.0	1.35	**34.1**	46		46	11.9
681.89		**-89.2**	P	17.8	22.2	1.36	**41.3**	46		46	4.7
688.03		**-95.7**	P	11.3	22.3	1.37	**34.9**	46		46	11.1
694.16		**-92.6**	P	14.4	22.5	1.37	**38.2**	46		46	7.8
700.32		**-98.9**	P	8.1	22.6	1.38	**32.1**	46		46	13.9
706.46		**-95.2**	P	11.8	22.6	1.39	**35.8**	46		46	10.2
712.59		**-101.1**	P	5.9	22.5	1.40	**29.9**	46		46	16.1
718.74		**-94.1**	P	12.9	22.5	1.40	**36.9**	46		46	9.1
731.04		**-97.4**	P	9.6	22.4	1.42	**33.5**	46		46	12.5
737.17		**-98.2**	P	8.8	22.4	1.42	**32.5**	46		46	13.5
743.32		**-97.0**	P	10.0	22.3	1.43	**33.8**	46		46	12.2
749.47		**-98.4**	P	8.6	22.2	1.44	**32.2**	46		46	13.8
755.60		**-97.5**	P	9.5	22.3	1.44	**33.2**	46		46	12.8
761.75		**-98.3**	P	8.7	22.3	1.45	**32.5**	46		46	13.5
767.90		**-98.4**	P	8.6	22.4	1.45	**32.5**	46		46	13.5
774.02		**-99.9**	P	7.1	22.5	1.46	**31.1**	46		46	14.9
780.18		**-97.1**	P	9.9	22.6	1.47	**33.9**	46		46	12.1
786.32		**-99.7**	P	7.3	22.7	1.47	**31.5**	46		46	14.5
792.46		**-99.8**	P	7.2	22.8	1.48	**31.5**	46		46	14.5
798.60		**-98.7**	P	8.3	22.9	1.49	**32.7**	46		46	13.3
804.75		**-98.3**	P	8.7	23.0	1.49	**33.1**	46		46	12.9
810.88		**-102.0**	P	5.0	23.0	1.50	**29.6**	46		46	16.4
823.18		**-100.3**	P	6.7	23.2	1.51	**31.3**	46		46	14.7
829.33		**-103.5**	P	3.5	23.2	1.51	**28.3**	46		46	17.7
903.06		**-104.1**	P	2.9	24.3	1.56	**28.8**	46		46	17.2
933.74		**-102.5**	P	4.5	24.1	1.61	**30.3**	46		46	15.7
939.89		**-101.7**	P	5.3	24.1	1.61	**31.0**	46		46	15.0
958.36		**-101.5**	P	5.5	24.0	1.62	**31.2**	46		46	14.8

Notes:

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Test Setup