

## Report of Measurements

Measurements for the Intentional Radiator, and OBW were made in accordance with the procedures and reporting requirements at:

Honeywell's OATS ( FCC No: 152762 & IC No:573F-1 )  
which is located at:  
2 Corporate Center Drive, Melville, NY 11747.

Measurements were made in accordance with the procedure and reporting requirements of ANSI C63.4-2003.

The Test Set-Up (C63.4 section 10.1.3) is shown in EXHIBIT 5-2; "Test Setup Photos". The sequence of testing (C63.4 section 10.1.7) for radiated emissions is as follows: A preliminary scan was conducted with the receiver antenna close to the EUT in order to identify the emission characteristics of the EUT (C63.4 section 8.3.1.1). The antenna and EUT were then placed at the proper separation with the EUT positioned on a non-conducting turntable. The EUT was rotated on the turntable to maximize the received signal strength, then the receiver antenna height was varied to further maximize the received reading. Thereafter, the device was again rotated to a peak output position and the antenna height was re-adjusted for maximum received signal. This procedure was re-iterated until there was no further increase in signal level. This procedure was performed with the EUT rotating in three orthogonal planes (C63.4 section 13.1.4.1) to generate a final maximum reading which is recorded on the radiated emissions result sheet. Similar measurements were made on the receiver to ensure compliance as an unintentional radiator.

See "Exhibit 6" for list of test equipment (C63.4 section 10.1.4)

Note, The Spectrum Analyzer resolution bandwidths set as follows;  
(Video Bandwidth is always set 3X greater than RBW)

For occupied bandwidth measurements, RBW = 100kHz,  
(This is in accordance with the minimum RBW allowed by C63.4, which requires RBW greater than 5% of the FCC required occupied bandwidth spec of 0.25% of center frequency).

For radiated emissions below 1 GHz, the RBW = 100kHz.  
Detector function set to peak.

For radiated emissions above 1 GHz, the RBW = 1MHz.  
Detector function set to peak.

**RADIATED EMISSIONS** are recorded in "EXHIBIT 5-3" for the transmitter, and in "EXHIBIT 5-5" for the receiver.

**OCCUPIED BANDWIDTH** is recorded in "EXHIBIT 5-4".

### **EMISSIONS SUMMERY SHEET**

Freq. (MHz)	Antenna Polarity (V/H)	Meter Reading (dB uV)	Cable/Amp Factor (dB)	Antenna Factor (dB/m)	Conv. Reading (uV/M)	Corr. Reading & Duty Cycle ORIGINAL 10.90%	Corr. Reading & Duty Cycle 05-13-2008 10.90%	Corr. Reading & Duty Cycle ORIGINAL 12%	Corr. Reading & Duty Cycle 05-13-2008 12%	Corr. Reading & Duty Cycle ORIGINAL 15.80%	Corr. Reading & Duty Cycle 05-13-2008 15.80%	FCC 3M LIMIT (uV/M):
345	h	74.10	2.6	15.15	39129.1	3401.2	4265.1	3741.9	4695.5	4939.2	6182.4	7292
690	h	24.20	3.7	19.63	238	32.9	25.9	36.1	28.6	47.7	37.6	729
1035	h	25.50	4.7	22.87	450.3	56.4	49.1	62.1	54	82	71.1	500
1380	h	19.67	5.5	25.79	353.2	75.3	38.5	82.8	42.4	109.3	55.8	500
1725	h	26.50	6.3	28.19	1120.7	115.2	122.2	126.8	134.5	167.4	177.1	729
2070	h	20.17	7	31.34	842.4	116.6	91.8	128.3	101.1	169.3	133.1	729
2415	h	18.00	7.6	32.45	798.9	146.8	87.1	161.5	95.9	213.1	126.2	729
2760	h	19.20	8.5	33.08	1094	157.3	119.2	173	131.3	228.4	172.8	500
3105	h	19.30	9	32.22	1061.7	164.7	115.7	181.2	127.4	239.1	167.7	729
3450	h	19.20	10.7	32.86	1374	209.7	149.8	230.7	164.9	304.5	217.1	729

Freq. (MHz)	Antenna Polarity (V/H)	Meter Reading (dB uV)	Cable/Amp Factor (dB)	Antenna Factor (dB/m)	Conv. Reading (uV/M)	Corr. Reading & Duty Cycle ORIGINAL 17.40%	Corr. Reading & Duty Cycle 05-13-2008 17.40%	Corr. Reading & Duty Cycle ORIGINAL 18.50%	Corr. Reading & Duty Cycle 05-13-2008 18.50%	Corr. Reading & Duty Cycle ORIGINAL 22.80%	Corr. Reading & Duty Cycle 05-13-2008 22.80%	FCC 3M LIMIT (uV/M):
345	h	59.71	2.6	15.15	7464.5	5442.5	1298.8	5783.2	1380.9	2805	1701.9	7292
690	h	25.40	3.7	19.63	273.2	52.6	47.5	55.9	50.5	161.2	62.3	729
1035	h	27.00	4.7	22.87	535.2	90.3	93.1	96	99	165	122	500
1380	h	19.20	5.5	25.79	334.6	120.4	58.2	128	61.9	125.3	76.3	500
1725	h	17.67	6.3	28.19	405.5	184.4	70.6	196	75	241.5	92.5	729
2070	h	18.21	7.0	31.34	672.2	186.6	117	198.2	124.4	77.3	153.3	729
2415	h	17.67	7.6	32.45	769.1	234.9	133.8	249.6	142.3	97.3	175.4	729
2760	h	18.00	8.5	33.08	952.8	251.7	165.8	267.4	176.3	104.2	217.2	500
3105	h	19.30	9.0	32.22	1061.7	263.5	184.7	280	196.4	77.3	242.1	729
3450	h	19.30	10.7	32.86	1390.0	335.6	241.9	356.6	257.1	110.4	316.9	729

Date : 05/13/2008

Tested by : G. Barbato

Approved by :K.Addy

Test Sample (model) : 5800RP LATEST REVISION

Test method: ANSI C63.4 - 2004

Test specification: FCC Part 15, Sub-part C and RSS 210 , Issue 7

Notes: (1) Fo = 345MHz. (2) Detector = Peak (3) Frequency range scanned to 4 GHz.

Emissions not reported were more than 20dB below the specified unit.

[(Meter reading + Cable/Amp factor + Antenna factor) / 20 ]

(4) Conv. Reading = 10

(5) Corr. Reading = Conv. Reading X Duty Cycle

(6) Six Highest Emissions Recorded

Freq. (MHz)	Antenna Polarity (V/H)	Meter Reading (dB uV)	Cable/Amp Factor (dB)	Antenna Factor (dB/m)	Conv. Reading (uV/M)	Duty Cycle (%)	Corr. Reading (uV/M)	Limit @ 3M (uV/M)
30			CABLE "A" + "B"	04/02/2008 BICONILOG S/N:00029390				729
345	h	74.10	2.6	15.15	39129.1	10.9%	4265.1	7292
690	h	24.20	3.7	19.63	238.0	10.9%	25.9	729
1035	h	25.50	4.7	22.87	450.3	10.9%	49.1	500
1380	h	19.67	5.5	25.79	353.2	10.9%	38.5	500
1725	h	26.50	6.3	28.19	1120.7	10.9%	122.2	729
2070	h	20.17	7.0	31.34	842.4	10.9%	91.8	729
2415	h	18.00	7.6	32.45	798.9	10.9%	87.1	729
2760	h	19.20	8.5	33.08	1094.0	10.9%	119.2	500
3105	h	19.30	9.0	32.22	1061.7	10.9%	115.7	729
3450	h	19.20	10.7	32.86	1374.0	10.9%	149.8	729
4000			CABLE "A" + "B"	04/02/2008 BICONILOG S/N:00029390				

Date : 05/13/2008

Tested by : G. Barbato

Approved by :K.Addy

Test Sample (model) : 5800RP LATEST REVISION

Test method: ANSI C63.4 - 2004

Test specification: FCC Part 15, Sub-part C and RSS 210 , Issue 7

Notes: (1) Fo = 345MHz. (2) Detector = Peak (3) Frequency range scanned to 4 GHz.

Emissions not reported were more than 20dB below the specified unit.

[(Meter reading + Cable/Amp factor + Antenna factor) / 20 ]

(4) Conv. Reading = 10

(5) Corr. Reading = Conv. Reading X Duty Cycle

(6) Six Highest Emissions Recorded

Freq. (MHz)	Antenna Polarity (V/H)	Meter Reading (dB uV)	Cable/Amp Factor (dB)	Antenna Factor (dB/m)	Conv. Reading (uV/M)	Duty Cycle (%)	Corr. Reading (uV/M)	Limit @ 3M (uV/M)
30			CABLE "A" + "B"	04/02/2008 BICONILOG S/N:00029390				729
345	h	74.10	2.6	15.15	39129.1	12.0%	4695.5	7292
690	h	24.20	3.7	19.63	238.0	12.0%	28.6	729
1035	h	25.50	4.7	22.87	450.3	12.0%	54.0	500
1380	h	19.67	5.5	25.79	353.2	12.0%	42.4	500
1725	h	26.50	6.3	28.19	1120.7	12.0%	134.5	729
2070	h	20.17	7.0	31.34	842.4	12.0%	101.1	729
2415	h	18.00	7.6	32.45	798.9	12.0%	95.9	729
2760	h	19.20	8.5	33.08	1094.0	12.0%	131.3	500
3105	h	19.30	9.0	32.22	1061.7	12.0%	127.4	729
3450	h	19.20	10.7	32.86	1374.0	12.0%	164.9	729
4000			CABLE "A" + "B"	04/02/2008 BICONILOG S/N:00029390				

Date : 05/13/2008

Tested by : G. Barbato

Approved by :K.Addy

Test Sample (model) : 5800RP LATEST REVISION

Test method: ANSI C63.4 - 2004

Test specification: FCC Part 15, Sub-part C and RSS 210 , Issue 7

Notes: (1) Fo = 345MHz. (2) Detector = Peak (3) Frequency range scanned to 4 GHz.

Emissions not reported were more than 20dB below the specified unit.

[(Meter reading + Cable/Amp factor + Antenna factor) / 20 ]

(4) Conv. Reading = 10

(5) Corr. Reading = Conv. Reading X Duty Cycle

(6) Six Highest Emissions Recorded

Freq. (MHz)	Antenna Polarity (V/H)	Meter Reading (dB uV)	Cable/Amp Factor (dB)	Antenna Factor (dB/m)	Conv. Reading (uV/M)	Duty Cycle (%)	Corr. Reading (uV/M)	Limit @ 3M (uV/M)
30			CABLE "A" + "B"	04/02/2008 BICONILOG S/N:00029390				729
345	h	74.10	2.6	15.15	39129.1	15.8%	6182.4	7292
690	h	24.20	3.7	19.63	238.0	15.8%	37.6	729
1035	h	25.50	4.7	22.87	450.3	15.8%	71.1	500
1380	h	19.67	5.5	25.79	353.2	15.8%	55.8	500
1725	h	26.50	6.3	28.19	1120.7	15.8%	177.1	729
2070	h	20.17	7.0	31.34	842.4	15.8%	133.1	729
2415	h	18.00	7.6	32.45	798.9	15.8%	126.2	729
2760	h	19.20	8.5	33.08	1094.0	15.8%	172.8	500
3105	h	19.30	9.0	32.22	1061.7	15.8%	167.7	729
3450	h	19.20	10.7	32.86	1374.0	15.8%	217.1	729
4000			CABLE "A" + "B"	04/02/2008 BICONILOG S/N:00029390				

Date : 05/13/2008

Tested by : G. Barbato

Approved by :K.Addy

Test Sample (model) : 5800RP LATEST REVISION

Test method: ANSI C63.4 - 2004

Test specification: FCC Part 15, Sub-part C and RSS 210 , Issue 7

Notes: (1) Fo = 345MHz. (2) Detector = Peak (3) Frequency range scanned to 4 GHz.

Emissions not reported were more than 20dB below the specified unit.

[(Meter reading + Cable/Amp factor + Antenna factor) / 20 ]

(4) Conv. Reading = 10

(5) Corr. Reading = Conv. Reading X Duty Cycle

(6) Six Highest Emissions Recorded

Freq. (MHz)	Antenna Polarity (V/H)	Meter Reading (dB uV)	Cable/Amp Factor (dB)	Antenna Factor (dB/m)	Conv. Reading (uV/M)	Duty Cycle (%)	Corr. Reading (uV/M)	Limit @ 3M (uV/M)
30			CABLE "A" + "B"	04/02/2008 BICONILOG S/N:00029390				729
345	h	59.71	2.6	15.15	7464.5	17.4%	1298.8	7292
690	h	25.40	3.7	19.63	273.2	17.4%	47.5	729
1035	h	27.00	4.7	22.87	535.2	17.4%	93.1	500
1380	h	19.20	5.5	25.79	334.6	17.4%	58.2	500
1725	h	17.67	6.3	28.19	405.5	17.4%	70.6	729
2070	h	18.21	7.0	31.34	672.2	17.4%	117.0	729
2415	h	17.67	7.6	32.45	769.1	17.4%	133.8	729
2760	h	18.00	8.5	33.08	952.8	17.4%	165.8	500
3105	h	19.30	9.0	32.22	1061.7	17.4%	184.7	729
3450	h	19.30	10.7	32.86	1390.0	17.4%	241.9	729
4000			CABLE "A" + "B"	04/02/2008 BICONILOG S/N:00029390				

Date : 05/13/2008

Tested by : G. Barbato

Approved by :K.Addy

Test Sample (model) : 5800RP LATEST REVISION

Test method: ANSI C63.4 - 2004

Test specification: FCC Part 15, Sub-part C and RSS 210 , Issue 7

Notes: (1) Fo = 345MHz. (2) Detector = Peak (3) Frequency range scanned to 4 GHz.

Emissions not reported were more than 20dB below the specified unit.

[(Meter reading + Cable/Amp factor + Antenna factor) / 20 ]

(4) Conv. Reading = 10

(5) Corr. Reading = Conv. Reading X Duty Cycle

(6) Six Highest Emissions Recorded

Freq. (MHz)	Antenna Polarity (V/H)	Meter Reading (dB uV)	Cable/Amp Factor (dB)	Antenna Factor (dB/m)	Conv. Reading (uV/M)	Duty Cycle (%)	Corr. Reading (uV/M)	Limit @ 3M (uV/M)
30			CABLE "A" + "B"	04/02/2008 BICONILOG S/N:00029390				729
345	h	59.71	2.6	15.15	7464.5	18.5%	1380.9	7292
690	h	25.40	3.7	19.63	273.2	18.5%	50.5	729
1035	h	27.00	4.7	22.87	535.2	18.5%	99.0	500
1380	h	19.20	5.5	25.79	334.6	18.5%	61.9	500
1725	h	17.67	6.3	28.19	405.5	18.5%	75.0	729
2070	h	18.21	7.0	31.34	672.2	18.5%	124.4	729
2415	h	17.67	7.6	32.45	769.1	18.5%	142.3	729
2760	h	18.00	8.5	33.08	952.8	18.5%	176.3	500
3105	h	19.30	9.0	32.22	1061.7	18.5%	196.4	729
3450	h	19.30	10.7	32.86	1390.0	18.5%	257.1	729
4000			CABLE "A" + "B"	04/02/2008 BICONILOG S/N:00029390				

Date : 05/13/2008

Tested by : G. Barbato

Approved by :K.Addy

Test Sample (model) : 5800RP LATEST REVISION

Test method: ANSI C63.4 - 2004

Test specification: FCC Part 15, Sub-part C and RSS 210 , Issue 7

Notes: (1) Fo = 345MHz. (2) Detector = Peak (3) Frequency range scanned to 4 GHz.

Emissions not reported were more than 20dB below the specified unit.

[(Meter reading + Cable/Amp factor + Antenna factor) / 20 ]

(4) Conv. Reading = 10

(5) Corr. Reading = Conv. Reading X Duty Cycle

(6) Six Highest Emissions Recorded

Freq. (MHz)	Antenna Polarity (V/H)	Meter Reading (dB uV)	Cable/Amp Factor (dB)	Antenna Factor (dB/m)	Conv. Reading (uV/M)	Duty Cycle (%)	Corr. Reading (uV/M)	Limit @ 3M (uV/M)
30			CABLE "A" + "B"	04/02/2008 BICONILOG S/N:00029390				729
345	h	59.71	2.6	15.15	7464.5	22.8%	1701.9	7292
690	h	25.40	3.7	19.63	273.2	22.8%	62.3	729
1035	h	27.00	4.7	22.87	535.2	22.8%	122.0	500
1380	h	19.20	5.5	25.79	334.6	22.8%	76.3	500
1725	h	17.67	6.3	28.19	405.5	22.8%	92.5	729
2070	h	18.21	7.0	31.34	672.2	22.8%	153.3	729
2415	h	17.67	7.6	32.45	769.1	22.8%	175.4	729
2760	h	18.00	8.5	33.08	952.8	22.8%	217.2	500
3105	h	19.30	9.0	32.22	1061.7	22.8%	242.1	729
3450	h	19.30	10.7	32.86	1390.0	22.8%	316.9	729
4000			CABLE "A" + "B"	04/02/2008 BICONILOG S/N:00029390				

“The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz.....Bandwidth is determined at the points 20 dB down from the modulated carrier.”

MEASURED OBW : 615.23 KHz

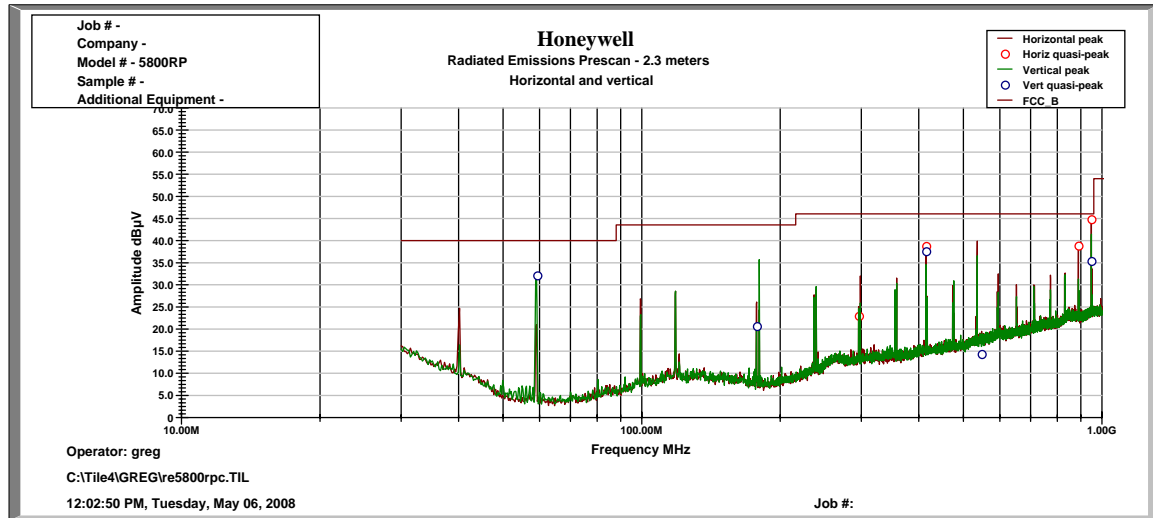
dBm



## 15.109 Radiated Emission Limits.

- (a) Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

FREQUENCY	FIELD STRENGTH
IN MHZ:	IN $\mu\text{V} / \text{M}$ :
30-88.....	100
88-216.....	150
216-960.....	200
Above 960.....	500



## 15.107 Conducted Limits.

(a) Except for Class A digital devices, for equipment that is designed to be connected to The public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50  $\mu$ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the band edges.

-----  
 Conducted limit (dB $\mu$ V)

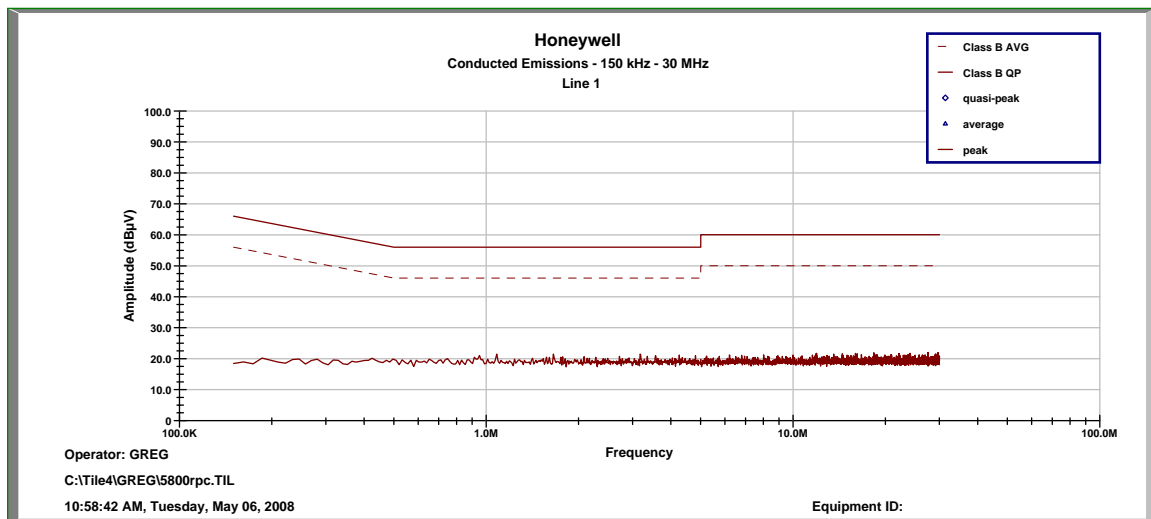
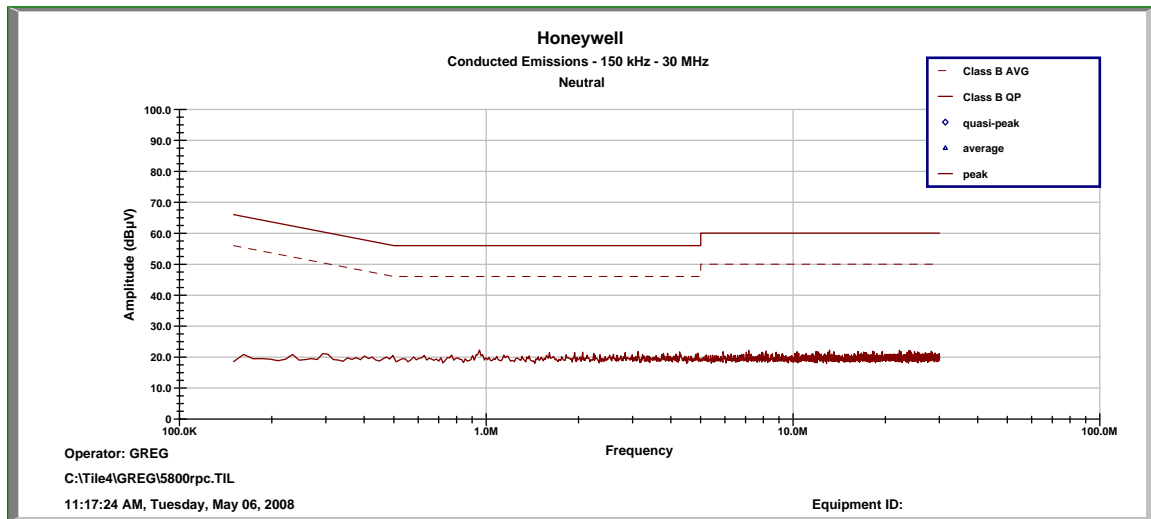
Frequency of emission (MHz) Quasi-peak Average

-----  
 0.15-0.5..... 66 to 56\* ..... 56 to 46\*

0.5-5..... 56..... 46

5-30..... 60..... 50  
 -----

Decreases with the logarithm of the frequency.



Section 15.231 and ANSI C63.4  
This is a list of all test equipment used.

Test Equipment list for Honeywell OATS:

Equipment	Mfg	Model	Cal Date	Cal Due
Spectrum Analyzer	TEKTRONIX	2784	10/16/07	10/16/08
Antenna ('Biconilog')	ETS Lindgren	3149	04/02/08	04/02/09

Test Equipment list for Honeywell Conducted Emissions:

1. Spectrum Analyzer Agilent HP8593E Cal. on: 2/16/08 Cal. due: 2/16/09
2. Surge Suppressor Agilent HP11947A Cal. on: 5/02/08 Cal. due: 5/02/09
3. Line Impedance Stabilization Network Com-Power LI-115 Cal. on: 2/13/08 Cal. due: 2/13/09

If you need any additional information from Honeywell please contact:

Greg Barbato RF Engineer  
(Acting for Kenneth Eskildsen)  
Phone (Direct): (516) 577-5863  
Email: [greg.barbato@honeywell.com](mailto:greg.barbato@honeywell.com)