



# REGULATORY TEST REPORT

**TITLE:** New Powerline Conducted Emissions Limits

**AUTHOR:** Drew Rosenberg

| REV | CCO | DESCRIPTION OF CHANGE | DATE | APPROVALS   |
|-----|-----|-----------------------|------|-------------|
|     |     | INITIAL RELEASE       |      | Engineering |
|     |     |                       |      | Engineering |

## REVISION HISTORY

|  |  |  |  |             |
|--|--|--|--|-------------|
|  |  |  |  | Engineering |
|  |  |  |  | Engineering |
|  |  |  |  | Engineering |

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**Summary**

*Test Data Summary*

**FCC Part 15.207 update**  
**Powerline conducted emissions rule changes**  
(Itron Products that were compliant with no design changes required)

**Units Tested:**

| FCC ID    | Description          | Model   | Serial number tested |
|-----------|----------------------|---------|----------------------|
| EO951ESS  | Invensys Solid State | 51ESS   | 20000303             |
| EO941ER-1 | 41 Series ERT®       | 41ER    | 43122489, 40672899   |
| EO945ES-1 | 45 Series ERT®       | 45EN/ER | 42098397, 44211042   |
| EO945ER-1 | 45 Series ERT®       | 45ES    | 41992554, 42695481   |

*Note: None of these devices were redesigned to meet the new 15.207 rules.  
All are the same design as was used for the current grant.*

| Rule                       | Description                   | Pass/Fail |
|----------------------------|-------------------------------|-----------|
| 15.207/RSS-210 Sec. 6.6(a) | Powerline conducted emissions | Pass      |

| Cognizant Personnel           |                                     |
|-------------------------------|-------------------------------------|
| <u>Drew Rosenberg</u><br>Name | <u>Regulatory Engineer</u><br>Title |
| <u>Mark Kvamme</u><br>Name    | <u>Senior Technician</u><br>Title   |



**TCB Submittal Checklist**

*Item list for TCB evaluation*

| <b>Item</b>                                       | <b>Completed</b> | <b>Confidential</b> |
|---|------------------|---------------------|
| Test Report                                       | Yes              | No                  |
| Test Setup Photos – Powerline Conducted Emissions | Yes              | No                  |

**Test 1: 15.207 / RSS-210 Sec. 6.6(a)**

*Powerline Conducted Emissions*

Measure the AC powerline conducted emissions from 150kHz to 30 MHz using a 50μH/50Ω line impedance stabilization network (LISN) according to the procedure specified in ANSI C63.4. Verify that no emissions exceed the following limits:

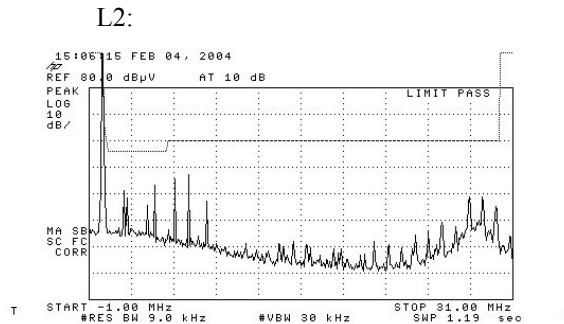
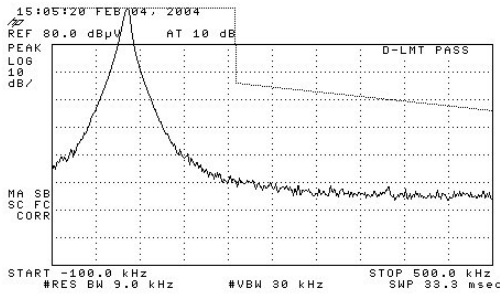
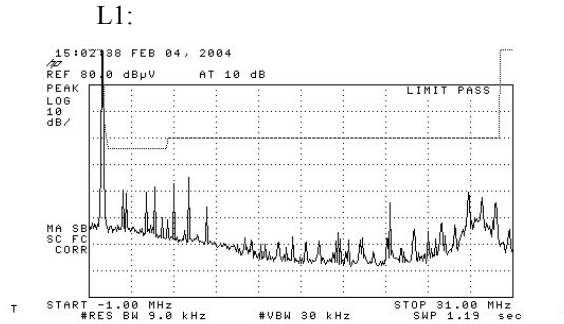
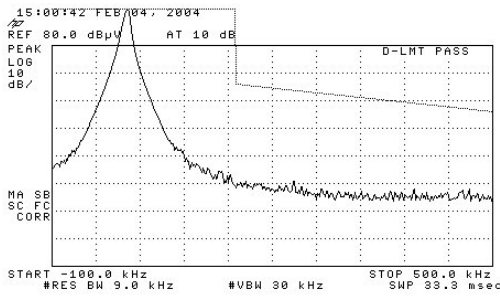
| Frequency (MHz) | Quasi-Peak (dBμV) | Average (dBμV) |
|-----------------|-------------------|----------------|
| 0.15-0.5        | 66 to 56*         | 56 to 46*      |
| 0.5-5           | 56                | 46             |
| 5-30            | 60                | 50             |

\*Decreases with the logarithm of frequency

| Equipment Used | Serial Number | Cal Date | Cal Due |
|----------------|---------------|----------|---------|
| HP 8593E       | 3543A02032    | 09/04    | 09/06   |
| EMCO 3925/2    | 6552          | 01/05    | 01/07   |

| Date     | Temp/Humidity °F / % | Tested by   |
|----------|----------------------|-------------|
| 2/4/2005 | 54 / 16              | Mark Kvamme |
| 1/4/1004 | 59 / 20              | Mark Kvamme |

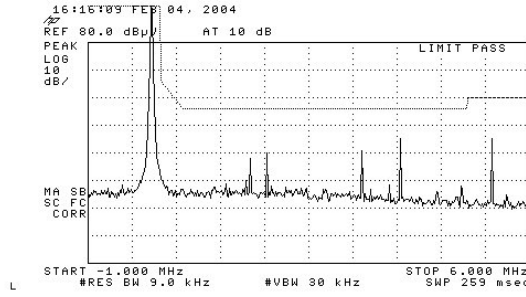
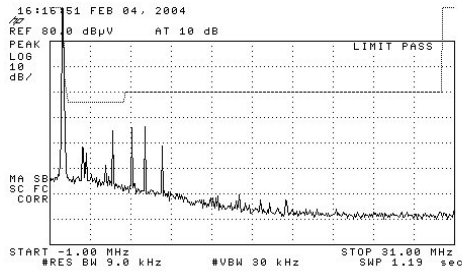
FCC ID: EO951ESS (240VAC only)



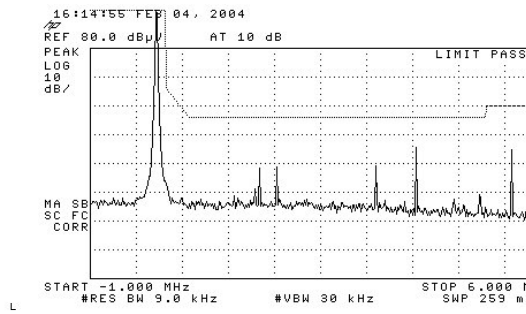
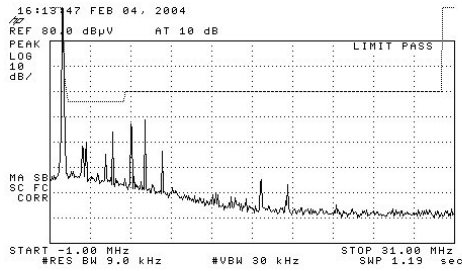


FCC ID: EO941ER-1

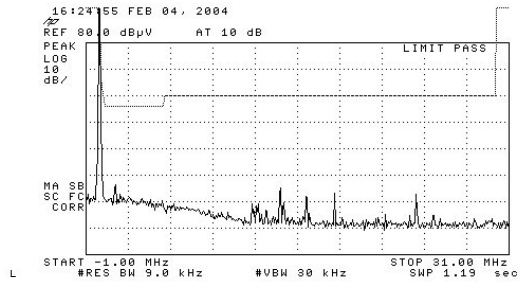
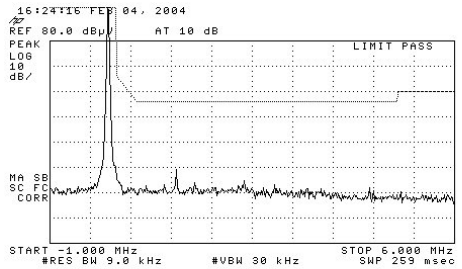
SN: 431122489 – 240VAC L1



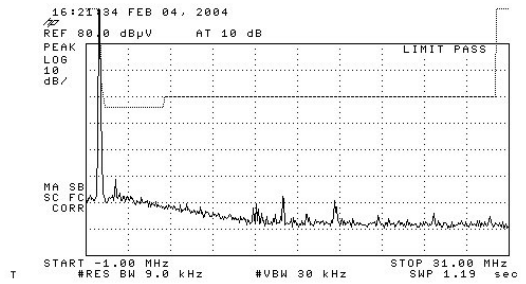
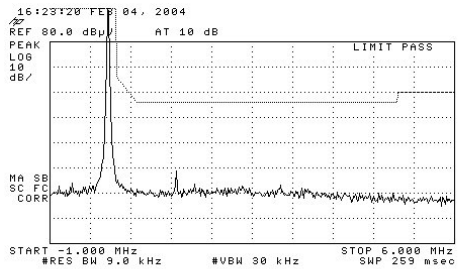
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SN: 40672899 – 120VAC L1



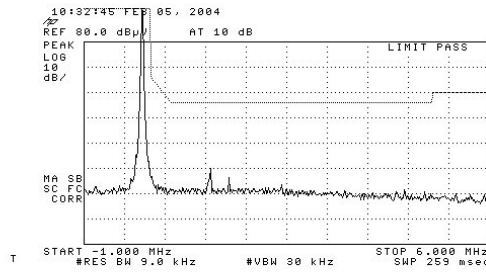
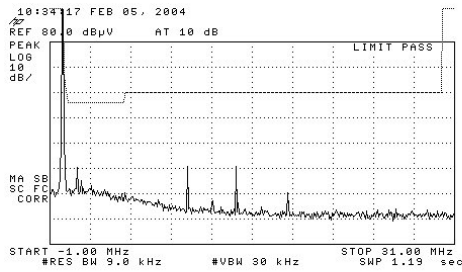
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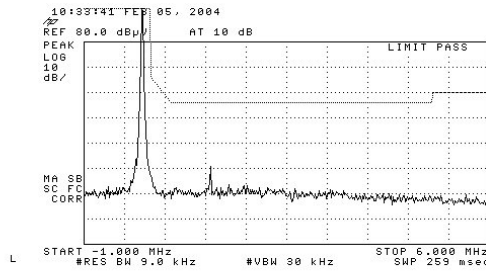
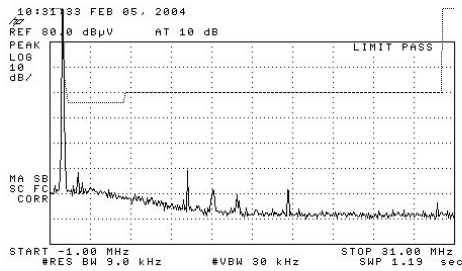


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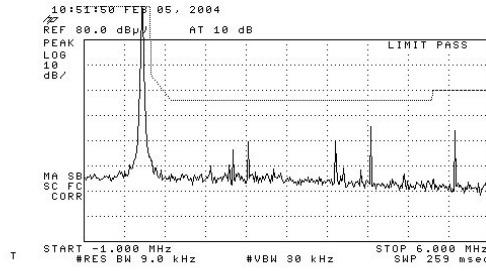
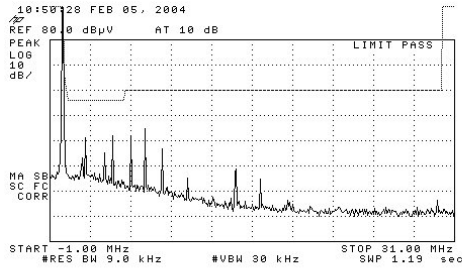
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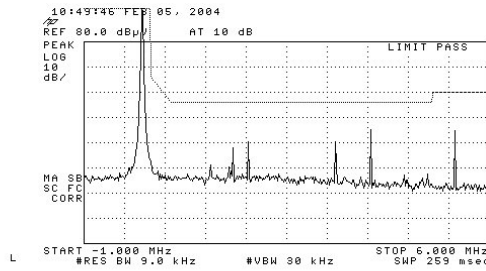
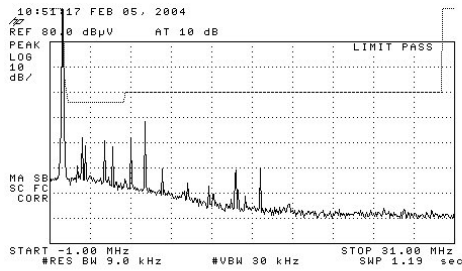
SN: 42098397 – 120VAC L2



SN: 44211042 – 240VAC L1



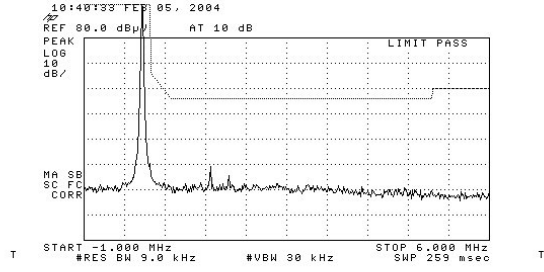
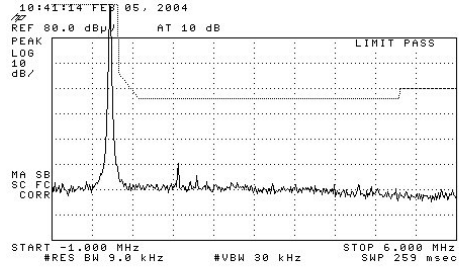
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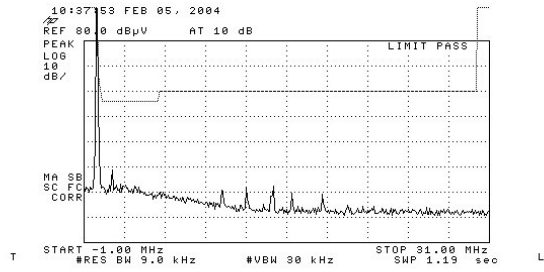
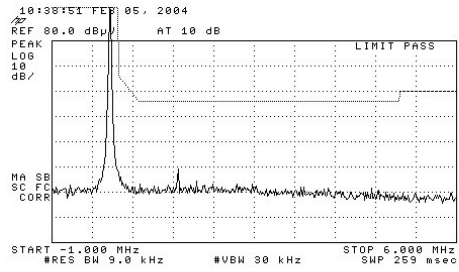


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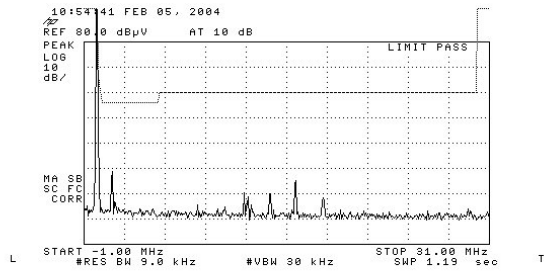
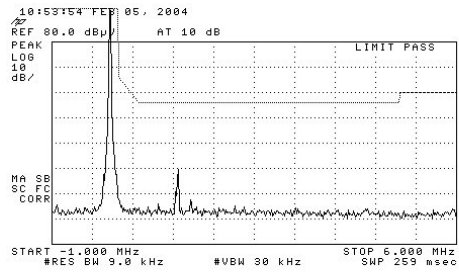
SN: 41992554 – 120VAC L1



SN: 41992554 – 120VAC L2



SN: 42695481 – 240VAC L1



SN: 42695481 – 240VAC L2

