



# SH7727-20 Radiated Emissions Scan: 30 MHz – 1 GHz

## White Paper 244

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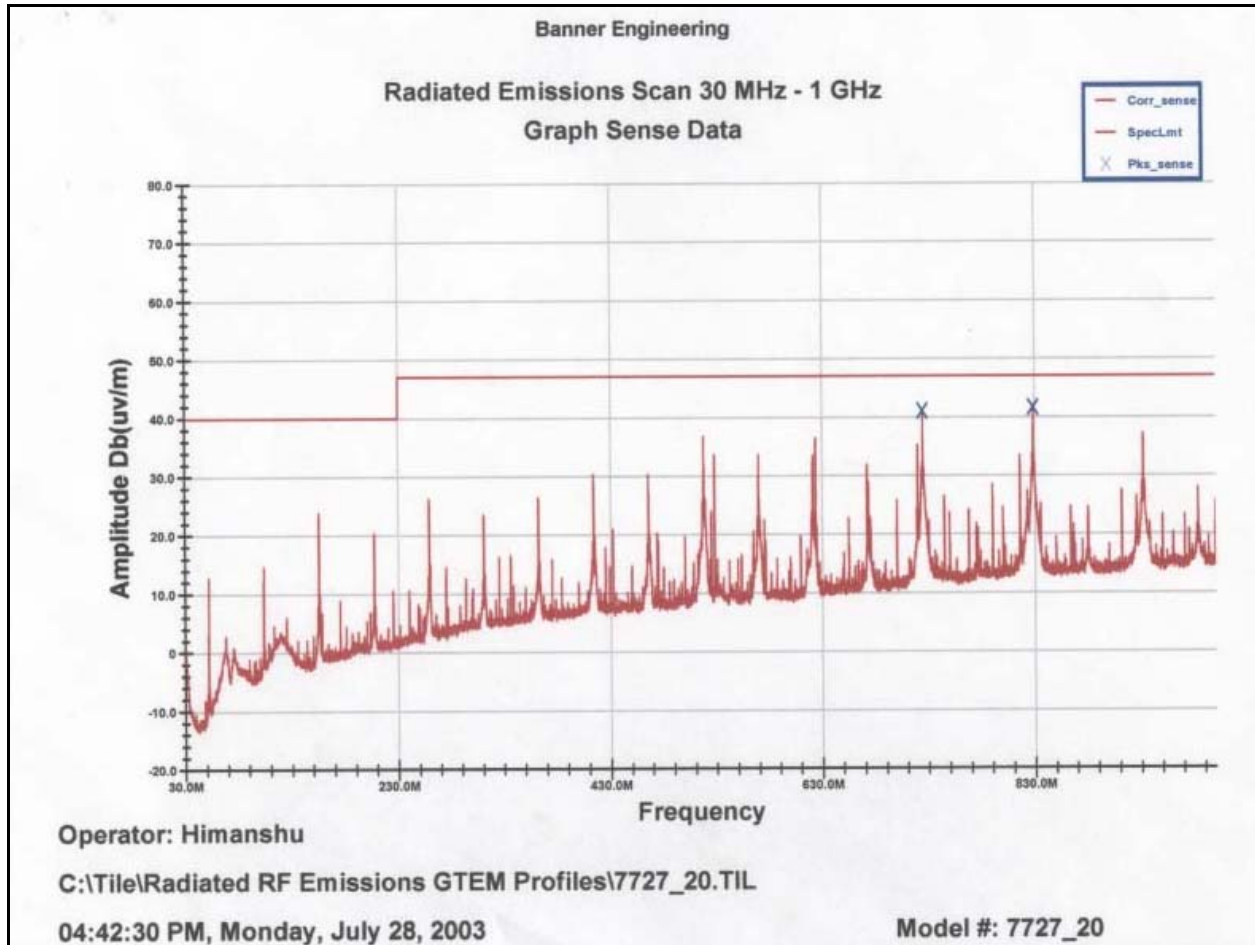
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### REVISION HISTORY

| REV | EDITOR                        | DESCRIPTION                      | APPROVAL | DATE  |
|-----|-------------------------------|----------------------------------|----------|-------|
| A   | Eric Harnisch                 | Release                          | ELH      | 09/03 |
| B   | Erik Reynolds,<br>James Wicks | Reformat to White Paper Document | ECR      | 07/04 |

# 1 SH7727-20 Radiated Emissions Scan: 30 MHz – 1 GHz

## 1.1 Test Results



**Figure 1.1: SH7727-20 Test Results**

The horizontal line across the graph denotes the maximum emissions level for FCC Class A. FCC Class B level is 10dB lower than Class A (shown).

## 2 FCC Class A Testing

### 2.1 Test Equipment

The SH7727 Card Engine was pre-scanned to the FCC Class A standard using a PC Workstation running TILE software, and the following:

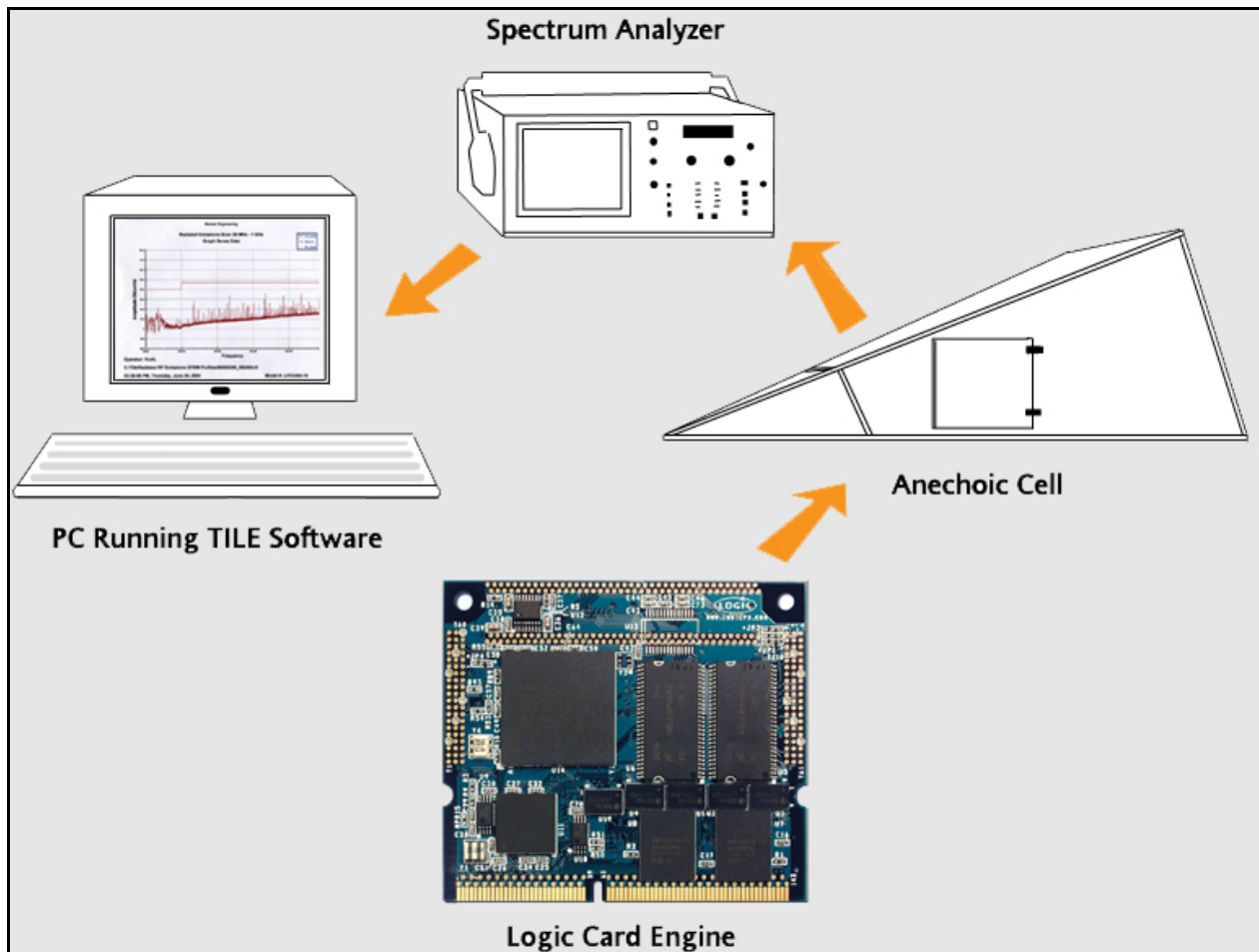
| Model Number | Manufacturer    | Description       | Serial Number | Calibration Date |
|--------------|-----------------|-------------------|---------------|------------------|
| HP8591 EM    | Hewlett Packard | Spectrum Analyzer | 3509A00168    | 4/6/2004         |

|             |                 |                              |           |               |
|-------------|-----------------|------------------------------|-----------|---------------|
| HP8447<br>F | Hewlett Packard | OPT Space H64 Amplifier      | 311A06087 | 5/10/2004     |
| 5305        | EMCO            | 5300 Series Anechoic Chamber | 9412-1126 | None Required |

## 2.2 Test Setup

The test results were obtained by running the card engine on a modified low cost EVB Board (FCC board). The modified board consisted only of a DB-9 serial port connection and power jack. All other headers and connectors were taken off of the layout and not populated for this FCC board. This was done to minimize as much as possible the radiation from the baseboard and to focus on emissions generated by the card engine.

The card engine was placed in the Anechoic Cell and the radiation emissions were measured by the Spectrum Analyzer. Data was then sent to the PC Workstation where the custom TILE software program calculated the numbers and populated the results in easy to read graphs.



**Figure 2.1: Test Results Diagram (Card Engine Baseboard Not Shown)**