



i.MX31 SOM-LV Radiated Emissions Scan: 30 MHz – 1 GHz White Paper 382

Logic PD // Products
Published: June 2008
Last revised: July 2010

This document contains valuable proprietary and confidential information and the attached file contains source code, ideas, and techniques that are owned by Logic Product Development Company (collectively "Logic PD's Proprietary Information"). Logic PD's Proprietary Information may not be used by or disclosed to any third party except under written license from Logic Product Development Company.

Logic Product Development Company makes no representation or warranties of any nature or kind regarding Logic PD's Proprietary Information or any products offered by Logic Product Development Company. Logic PD's Proprietary Information is disclosed herein pursuant and subject to the terms and conditions of a duly executed license or agreement to purchase or lease equipment. The only warranties made by Logic Product Development Company, if any, with respect to any products described in this document are set forth in such license or agreement. Logic Product Development Company shall have no liability of any kind, express or implied, arising out of the use of the Information in this document, including direct, indirect, special or consequential damages.

Logic Product Development Company may have patents, patent applications, trademarks, copyrights, trade secrets, or other intellectual property rights pertaining to Logic PD's Proprietary Information and products described in this document (collectively "Logic PD's Intellectual Property"). Except as expressly provided in any written license or agreement from Logic Product Development Company, this document and the information contained therein does not create any license to Logic PD's Intellectual Property.

The Information contained herein is subject to change without notice. Revisions may be issued regarding changes and/or additions.

© Copyright 2010, Logic Product Development Company. All Rights Reserved.

Revision History

REV	EDITOR	DESCRIPTION	APPROVAL	DATE
A	JCA	Initial release	JCA	06/12/08
B	JCA	-Added Table 2.2 for frequencies generated during test	NJK	07/27/10

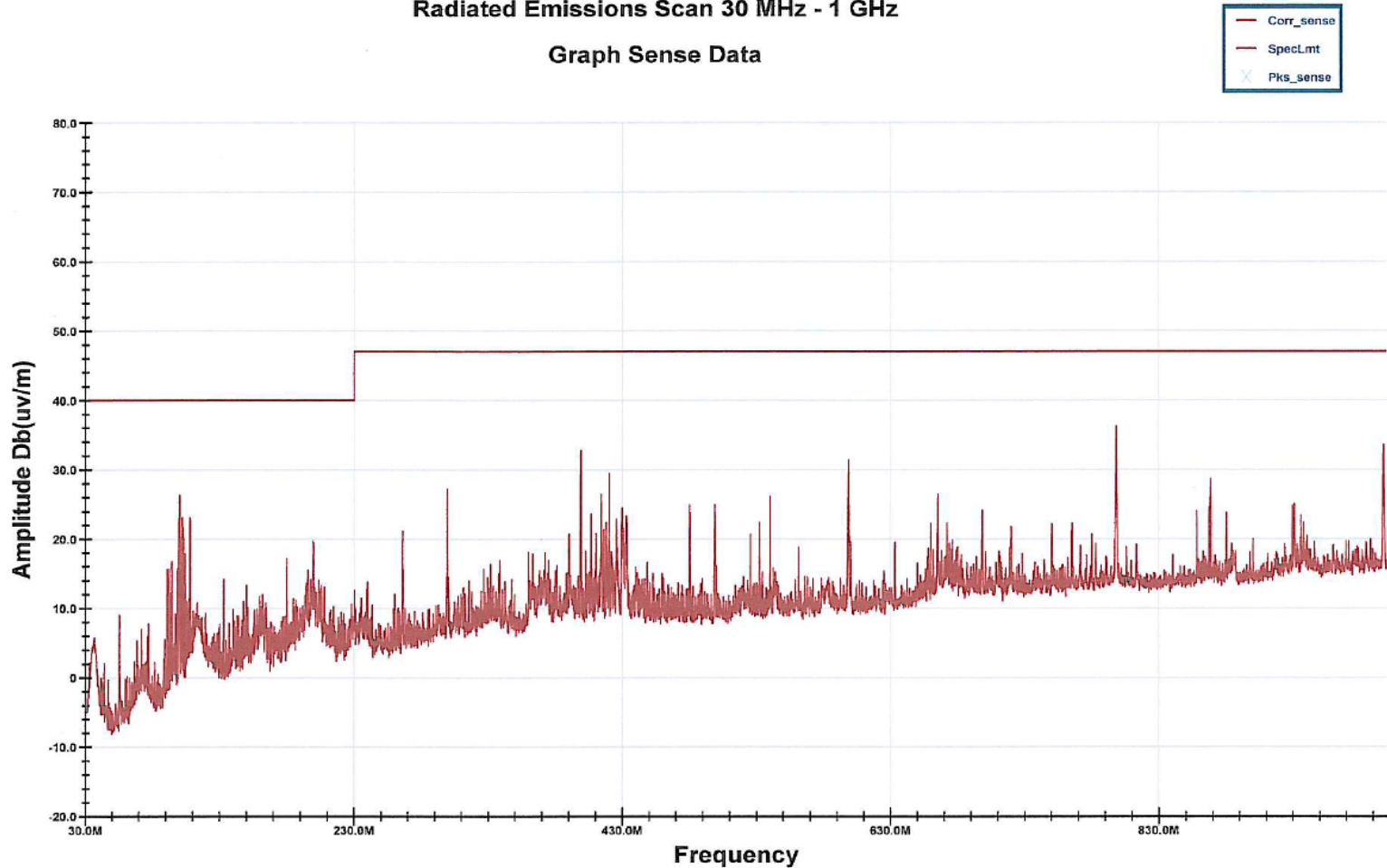
1 i.MX31 SOM-LV Radiated Emissions Pre-Scan: 30 MHz – 1 GHz

1.1 Pre-Scan Test Results

Banner Engineering

Radiated Emissions Scan 30 MHz - 1 GHz

Graph Sense Data



Operator: Paul O

C:\Tile4\Radiated RF Emissions GTEM Profiles\iMX31-SOM.TIL

07:57:32 AM, Thursday, May 03, 2007

Model #: iMX31-SOM Dev Kit

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 i.MX31 SOM-LV was pre-scanned to the FCC Class A standard using a PC workstation running TILE software, and the equipment listed in Table 2.1.

Table 2.1: Test Equipment Details

Model Number	Manufacturer	Description	Serial Number	Calibration Date
HP8591EM	Hewlett Packard	Spectrum Analyzer	3509A00168	4/6/2007
HP8447F	Hewlett Packard	OPT Space H64 Amplifier	311A06087	4/6/2007
5305	EMCO	5300 Series Anechoic Chamber	9412-1126	None Required

2.2 Test Setup

The test results were obtained by running the SOM-LV 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 SOM-LV.

The SOM-LV 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.

Table 2.2 lists the known frequencies generated on the i.MX31 SOM-LV with the functional test code running.

Table 2.2: Frequencies Generated with Functional Test Code Running

Source	Frequency (MHz)
SERPLL	220.1
USBPLL	240
MCU_CLK	399
HSP_CLK	133
MAX_CLK	133
IPG_CLK	66.5
NFC_CLK	19