DM3730/AM3703 Torpedo SOM Radiated Emissions Scan

White Paper 520

Logic PD // Products
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Revision History

REV	EDITOR	DESCRIPTION	APPROVAL	DATE
A	SO, NJK	-Initial Release	PO, NJK	12/29/11

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1 DM3730/AM3703 Torpedo SOM Radiated Emissions Scans

The DM3730/AM3703 Torpedo SOM passes FCC class B threshold levels. This does not guarantee FCC validation for end-product designs; final testing and passage is the responsibility of the customer.

2 Test Setup

The following configurations of the DM3730/AM3703 Torpedo SOM were scanned for unintentional radiated emissions:

- SOMDM3730-20-2780AGCR (commercial temperature)
- SOMDM3730-20-1780AGIR (industrial temperature)

The test results were obtained by running the DM3730/AM3703 Torpedo SOM on a standard Zoom DM3730 Torpedo Development Kit baseboard, powered by the standard kit 5V power supply; no other cables were connected to the kit during the test. The unit under test used software that looped through the RAM and NAND flash interfaces.

The tests were conducted at the Northwest EMC[1] test facility. All scans were done in a calibrated anechoic chamber.

Table 2.1 lists the known frequencies generated on the DM3730/AM3703 Torpedo SOM with the functional test code running.

Table 2.1: Frequencies Generated while Running Functional Test Code

Source	Frequency
DPLL1	600 MHz
DPLL3	200 MHz
DPLL4	864 MHz
DPLL5	120 MHz
LPDDR interface	200 MHz (400 MHz actual)
GPMC bus	200 MHz (internal frequency)
System oscillator	26 MHz

[1] http://www.nwemc.com/

2.1 30 MHz to 1 GHz Scans

Test Specifications	Class B	Test Method	
FCC 15.109(g) (CISPR 22:1997):2011		ANSI C63.4:2003	
Run #	2	Test Distance (m)	10
Antenna Height(s)	1, 1.5, 2, 2.5, 3 (m)	Results	Pass

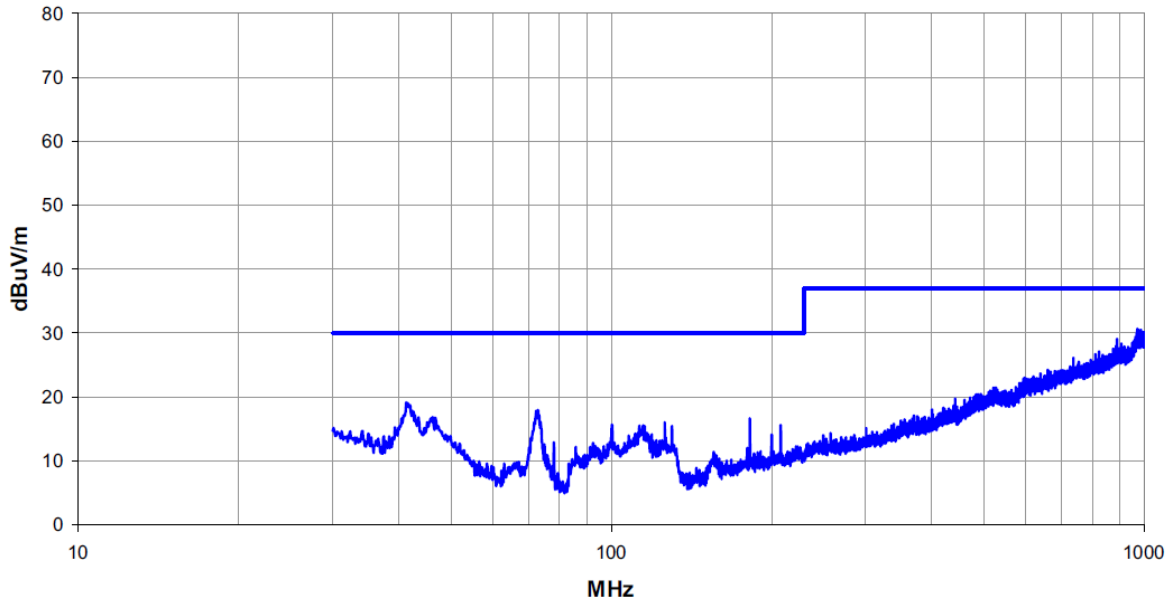

Figure 2.1: RE Scan Class B Test Results for SOMDM3730-20-2780AGCR

Test Specifications		Class B		Test Method			
FCC 15.109(g) (CISPR 22:1997):2011				ANSI C63.4:2003			
Run #	1	Test Distance (m)	10	Antenna Height(s)	1, 1.5, 2, 2.5, 3 (m)	Results	Pass

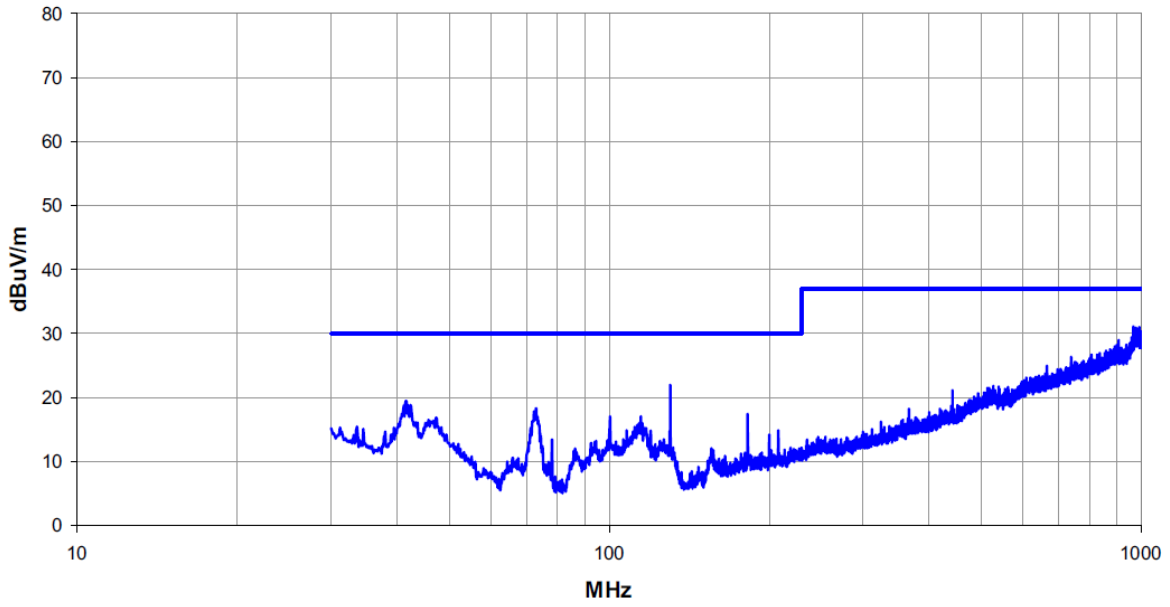

Figure 2.2: RE Scan Class B Test Results for SOMDM3730-20-1780AGIR

2.2 High Frequency: 1 GHz to 10 GHz Scans

Both configurations of the DM3730/AM3703 Torpedo SOM were also tested from 1 GHz to 10 GHz. No excessive harmonics were observed in either testing; therefore, test results for these scans have not been provided.

3 Summary

These radiated emissions scans provide a baseline for the performance of the DM3730/AM3703 Torpedo SOM alone. Radiated emissions testing of a final product designed around the DM3730/AM3703 Torpedo SOM is the responsibility of the developer.