

Report Number: 06-0105

Issue Date: July 6, 2006

Customer: Nivis, LLC

Model: Nivis NRD Module Model IC-NRD2-01-01

2.16 Radiated Emissions for Digital Device & Receiver (47 CFR 15.109a)

Radiated emissions were evaluated from 30 to 14500 MHz while the EUT was placed into a Receive mode of operation. Measurements were made with the analyzer's bandwidth set to 120 kHz measurements made less than 1 GHz and 1 MHz for measurements made greater than or equal to 1 GHz. The results for less than 1 GHz are shown in Table 8.

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**TABLE 8a. RADIATED EMISSIONS DATA
(Digital Device & Receiver)**

CLASS B

Measurements 30 MHz – 1 GHz

Radiated Emissions									
Test By:	Test:	Radiated Emissions Data (Digital Device & Receiver)			Client:		Nivis, L.L.C.		
	Project:	06-0105		Class:	Configuration:		P9-06 w/ dual band		
Frequency	Test Data	AF	Test Data	AF+CA-AMP	Results	Limits	Distance /	Margin	PK = n
(MHz)	(dBm)	Table	(dBuV)	(dB)	(uV/m)	(uV/m)	Polarity	(dB)	/ QP
228.40	-82.5	2lp3mv	24.5	13.9	83.2	200.0	3m./VERT	7.6	PK = n
256.70	-80.8	2lp3mv	26.2	15.7	123.8	200.0	3m./VERT	4.2	PK = n
319.8	-83.5	2lp3mv	23.5	18.2	121.7	200.0	3m./VERT	4.3	PK = n
787.7	-90.3	2lp3mv	16.7	26.2	139.2	200.0	3m./VERT	3.1	PK = n

SAMPLE CALCULATIONS:

RESULTS uV/m @ 3m

$$\text{Antilog } ((-82.5 + 13.9 + 107)/20) = 83.2$$

$$\text{CONVERSION FROM dBm TO dBuV} = 107 \text{ dB}$$

$$\text{Margin in dB} = 20 / \log (43.3 / 200.0) = 13.3 \text{ dB}$$

Test Date: May 31, 2006

Tested by

Signature: 

Name: Austin Thompson

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**TABLE 8b. RADIATED EMISSIONS DATA
(Digital Device & Receiver)****CLASS B****Measurements 1 GHz – 5 GHz (PEAK)**

Frequency (MHz)	Receiver Reading (dBm) @3m	Correction Factor (dB)	Corrected Reading (uV/m)	FCC Limit (uV/m) @3m	Margin Below FCC Limit (dB) @3m
No Emissions seen within 20 dB of the Limit.					

Test Date: May 31, 2006**Tested by****Signature:****Name:** Austin Thompson

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**TABLE 8c. RADIATED EMISSIONS DATA
(Digital Device & Receiver)****CLASS B****Measurements 1 GHz – 5 GHz (AVERAGE)**

Frequency (MHz)	Receiver Reading (dBm) @3m	Correction Factor (dB)	Corrected Reading (uV/m)	FCC Limit (uV/m) @3m	Margin Below FCC Limit (dB) @3m
No Emissions seen within 20 dB of the Limit.					

Test Date: May 31, 2006**Tested by
Signature:****Name: Austin Thompson**

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2.17 Power Line Conducted Emissions for Digital Device and Receiver FCC Section 15.107

The conducted voltage measurements have been carried out in accordance with FCC Section 15.107, with a spectrum analyzer connected to a LISN and the EUT placed into an idle condition or a continuous mode of receive. Similar results were seen as compared to the EUT in a transmit mode of operation. **Therefore, please refer to the results as shown in Table 8.**

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2.18 Channel Separation

The transmitter was placed into a typical frequency hopping mode of operation. Using an RBW and UBW of 30 kHz, the delta between 2 peaks was measured and the distance between them was noted. Characteristics of the time of occupancy are shown in Figure 9 and Table 9.

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TABLE 9

CHANNEL SEPARATION

Channel Separation
338 kHz

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Figure 10.
Channel Separation FCC Section 15.247(a)(1)(ii)

