-6dBc Occupied Bandwidth / RSS 210 99% Occupied Bandwidth

Test Conditions / Setup

Customer: **Dust Networks**
Specification: **-6 dB Bandwidth / RSS 210 99% Bandwidth**
Work Order #:   **93690**   Date: 10/10/2012
Test Type: **Conducted Emissions**   Time: 13:19:00
Equipment: **802.15.4 Wireless Mesh Mote**   Sequence#: 2
Manufacturer: Dust Networks   Tested By: E. Wong
Model: ETERNA1   110V 60Hz
S/N: 000D67

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02869	Spectrum Analyzer	E4440A	2/12/2011	2/12/2013
T3	AN02946	Cable	32022-2-2909K-36TC	8/8/2011	8/8/2013

Equipment Under Test (= EUT):*

Function	Manufacturer	Model #	S/N
802.15.4 Wireless Mesh Mote*	Dust Networks	ETERNA1	000D67

Support Devices:

Function	Manufacturer	Model #	S/N
Eterna Serial Programmer	Dust Networks	NA	NA
Laptop	Lenovo	X61	7675CTO

Test Conditions / Notes:

The EUT seeking modular approval is installed atop a blank support PCB as intended. Placed on the test bench, the EUT is connected to a support laptop via a section of data cable and Serial Programmer. The Support laptop issues command to exercise the EUT, setting the EUT in continuous transmit mode. Emission profile measured at the antenna port.
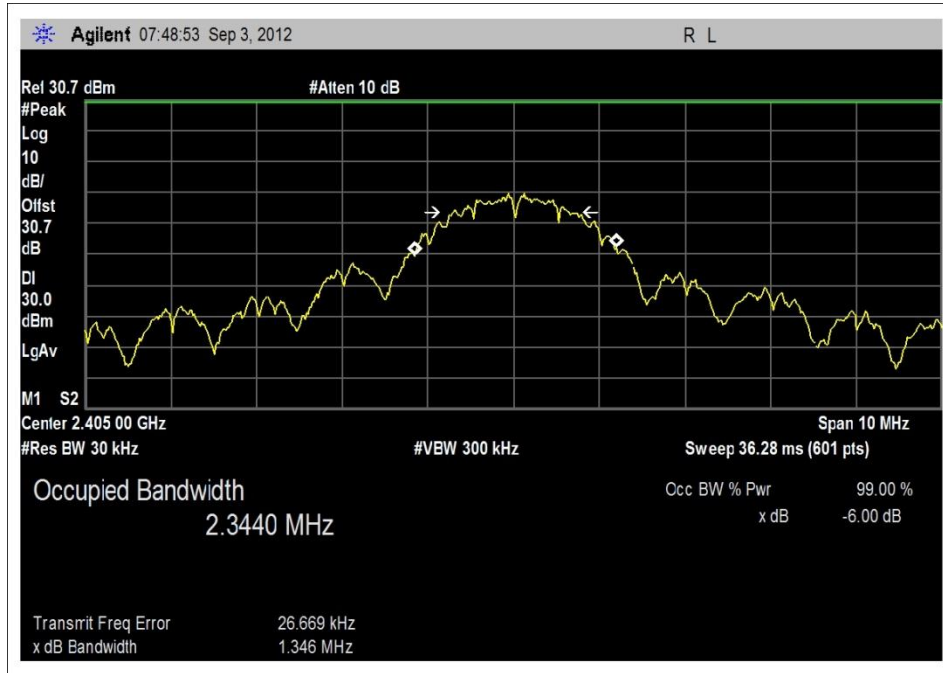
Modulation: 802.15.4
Freq range: 2405-2475MHz

Freq: 2405MHz, 2440MHz, 2475MHz
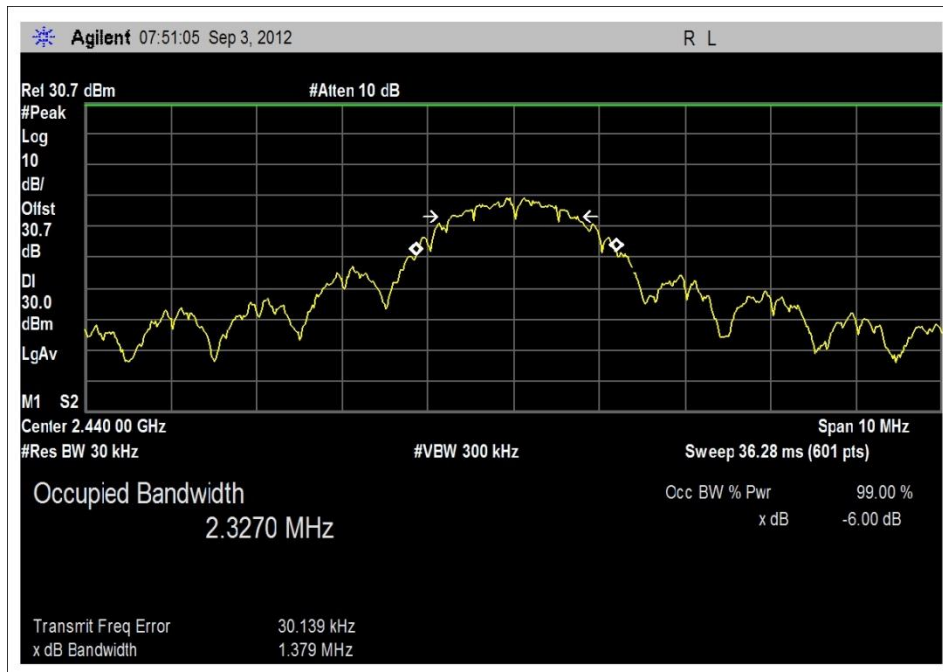Firmware power setting = 8dBm

Measurement procedure In Accordance With FCC document KDB558074 D01 DTS Meas Guidance V02, 7.1

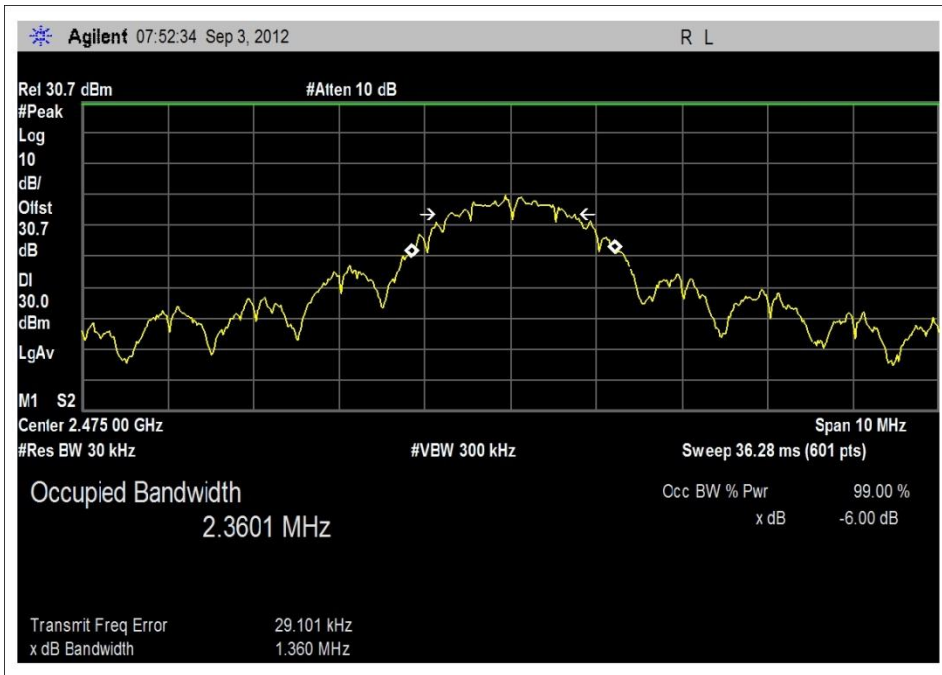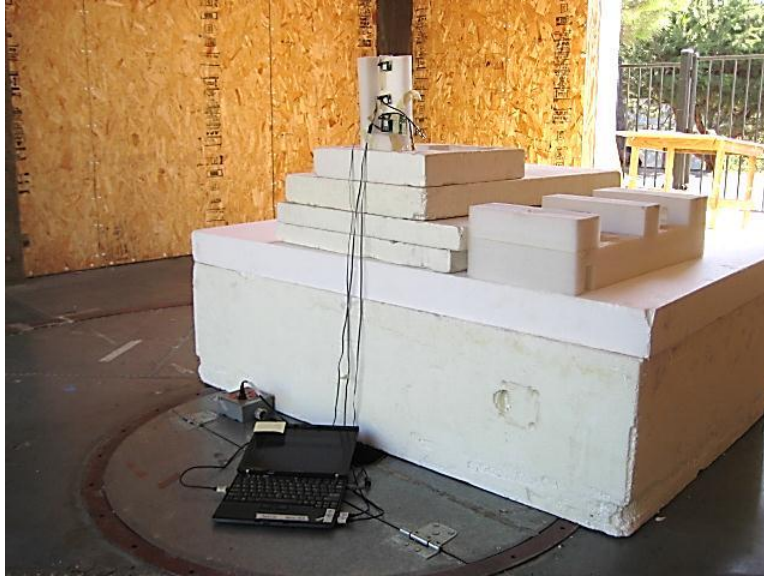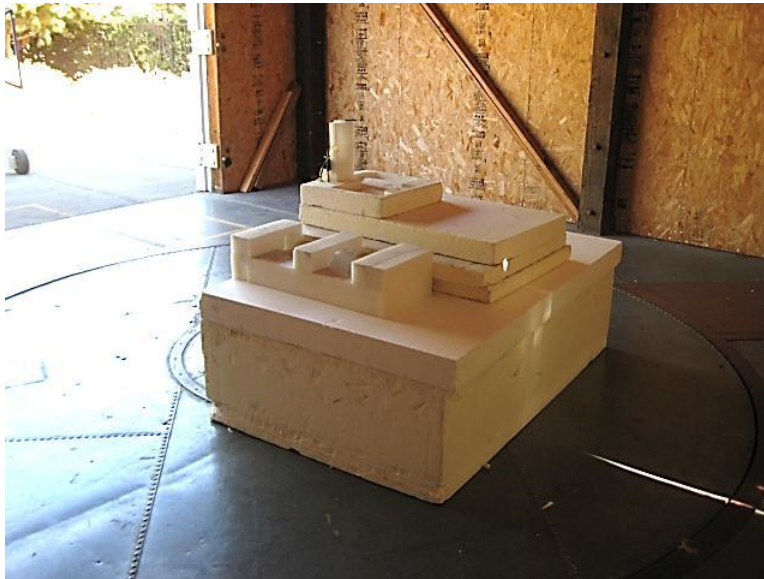Test environment conditions: 21°C, 52% Relative Humidity, 100kPa

Test Plots

Agilent 07:48:53 Sep 3, 2012   R L

Ref 30.7 dBm   #Atten 10 dB
#Peak
Log
10
dB/
Offst
30.7
dB
DI
30.0
dBm
LgAv

M1 S2
Center 2.405 00 GHz   Span 10 MHz
#Res BW 30 kHz   #VBW 300 kHz   Sweep 36.28 ms (601 pts)

Occupied Bandwidth   Occ BW % Pwr   99.00 %
      2.3440 MHz   x dB   -6.00 dB

Transmit Freq Error   26.669 kHz
x dB Bandwidth   1.346 MHz

2405MHz

Agilent 07:51:05 Sep 3, 2012   R L

Ref 30.7 dBm   #Atten 10 dB
#Peak
Log
10
dB/
Offst
30.7
dB
DI
30.0
dBm
LgAv

M1 S2
Center 2.440 00 GHz   Span 10 MHz
#Res BW 30 kHz   #VBW 300 kHz   Sweep 36.28 ms (601 pts)

Occupied Bandwidth   Occ BW % Pwr   99.00 %
      2.3270 MHz   x dB   -6.00 dB

Transmit Freq Error   30.139 kHz
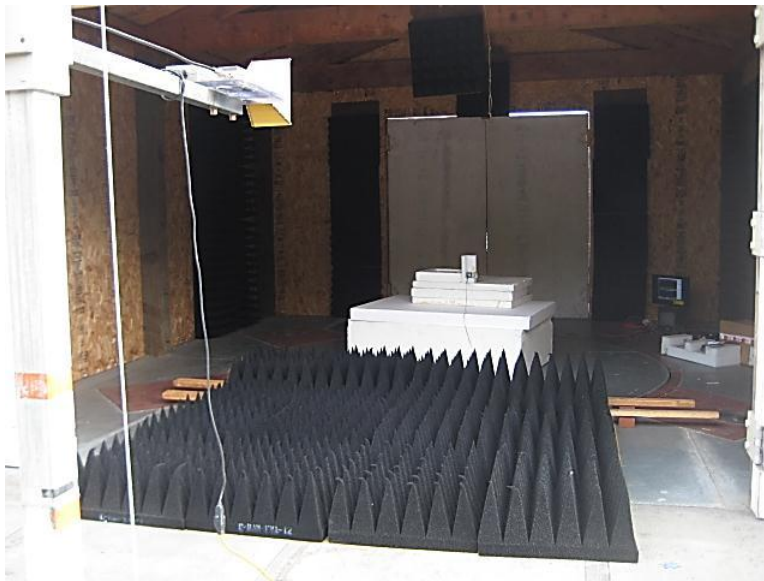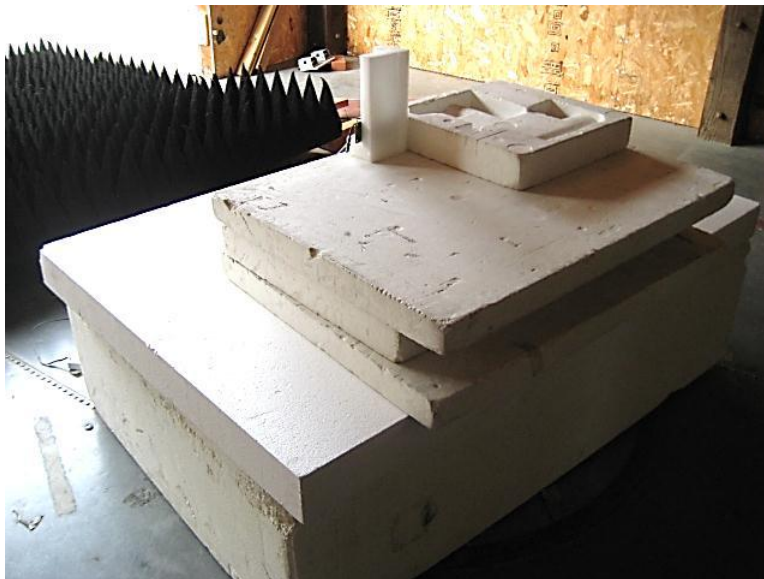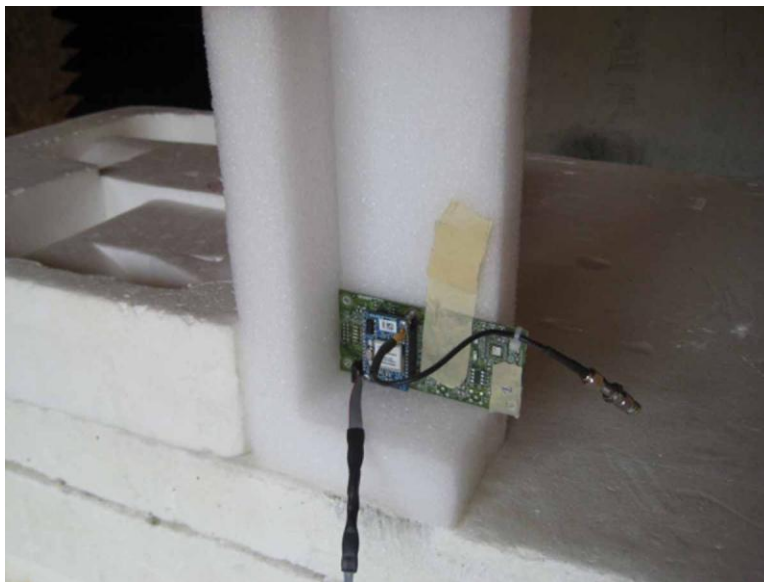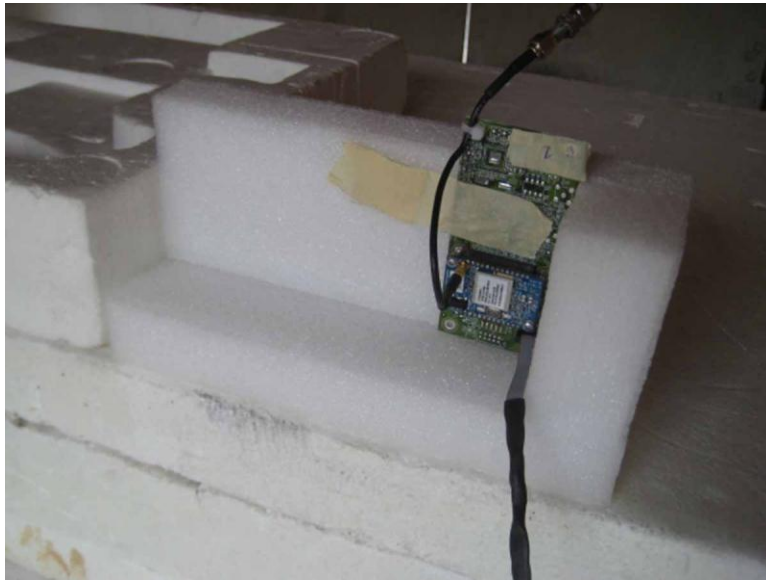x dB Bandwidth   1.379 MHz

2440MHz

2475MHz

Test Setup Photos

9kHz-1GHz

9kHz-1GHz

1-25GHz

1-25GHz

X AXIS

Y AXIS

Z AXIS