

Briggs, Mark

From: Zaffar, Aliza
Sent: Tuesday, July 23, 2012 12:58 PM
To: Briggs, Mark
Cc: Tsou, Chi
Subject: RE: AN12T0494 QDS-BRCM1066 Broadcom FCC application - final review Q&A

Mark, please find follow-up answers in purple to the remaining questions

Thank you,
Aliza

WIFI NII and DTS reports

7. I do not understand what antennas were connected during testing. Please explain the type and gain on each port for MIMO and SISO tests.
- J0 was connected to 631-1744-Wi-Fi1
 - J1 was connected to 631-2082-Wi-Fi2 & Bluetooth
 - J2 was connected to 631-1771-Wi-Fi3

Antenna Name	Description
631-1744-Wi-Fi1	IFA
631-2082-Wi-Fi2 & Bluetooth	IFA
631-1771-Wi-Fi3	IFA

In regards to the antenna connection for SISO, these information should already be in the reports; however, I will provide it again.

- For 2.4GHz SISO J2 was connected to 631-1771-Wi-Fi3 (highest gain antenna in 2.4GHz band)
 - For 5GHz SISO J2 was connected to 631-1771-Wi-Fi3 (highest gain antenna in all 5GHz bands)
- For Bluetooth modes antenna 631-2082-WiFi2 was used (1.11dBi).

8. There is no data to show compliance with the -27dBm/MHz limit at 5725MHz (radiated or conducted).
Added to report.

TCB: Please explain how the limit and measurement data was determined for the plots on pages 471, 474, 480. If this is performed as a radiated measurement the limit is 68.3dBuV/m and the site factor would be the cable loss, antenna factor minus preamplifier gain (if used).

Follow-up ANSWER: Here are the analyzer setting and procedure for doing this test which was a radiated measurement for EUT with antennas connected:

RBW = 1 MHz
VBW = 3 MHz
EUT channel = High
Analyzer START = 5725 MHz
Analyzer STOP = 5825 MHz
Peak Detector

Amplitude Unit = dBm

Internal Attenuation = 10 dB

RL Offset = AF + Cable loss – Distance Factor – Amplifier Gain + 11.8

Display Line = - 27 dBm/MHz EIRP Peak = Limit

Max Hold

11.8 factor comes from the conversion from dBm to dBuV/m:

$\text{dBuV/m} = [\text{dBm at receiver} + 107] + \text{AF} + \text{CL} - \text{Distance Factor} - \text{Amplifier Gain}$

$\text{dBm eirp} = \text{dBuV/m} - 95.2 = [\text{dBm} + 107 - 95.2] + \text{AF} + \text{CL} - \text{DF} - \text{Amplifier Gain}$

$\text{dBm eirp} = \text{dBm at receiver} + 11.8 + \text{AF} + \text{CL} - \text{DF} - \text{Amplifier Gain}$