From: "Tom Meyers" <TomM@gmsinc.com>
To: "Jackie Pillai" <jackie@mflom.com>
Date: Thu, 12 Jun 2008 16:35:23 -0700
Subject: **RE: p0840008_TCB**

Hi Jackie!

I will attempt to answer their concerns.

Your tune up procedure states the device is tuned to 200mW, your manual *said* 200mw, your operational description says 200mW, your report says 851mW.

From Tom M.: The power is the Average Power as measured with a Power Meter. The peaks happen so in frequently that they are useless in determining the link range. All calculations for all Vendors use the Average Power for C-OFDM waveforms.

Also, since the actual output of the device is more than 4 times the rated/stated output, are the schematic components sufficient to sustain such operation?

From Tom M.: First, let me say the peak power is occuring less than 0.3 % of the time and for a very short duration. The SZA-5044 has a gain of ~33 dB. The Absolute max input power for a 50 Ohm load is +15 dBm. If we have a peak output of 29.29 dBm, the input to the amp is -3.7 dBm. Well below the max input level. The Absolute max input power for a 10:1 VSWR is +2 dBm. If we have a peak output of 29.29 dBm, the input to the amp is -3.7 dBm. We are still 5 dB below the max input level.

Would not a 4 times increase in power over the rated power mean something in the schematics is not right? Has this been considered? The applicant cannot simply ignore the fact that the tested device produces 4 times the power out as the rated device. 4 times the transmitter power relates to significantly more than 4 times the actual power used in the final PA's. Design parameters may generally yield a 50 to 100% safety margin, but 4 times the power is greater than 100%. For example the PA (U603) is said to be a SIRENZA MICRODEVICES,SZA-5044 with an 802.11a Pout max of 21.5 dBm. You are running this device at more than 4 times what it appears to be rated for. Shouldn't there be a concern on the functionality of the device?

From Tom M; This device is designed for OFDM waveforms. The 22 dBm output rating is for average power at 5.8 GHz, not peak. The P1dB point is ~30 dBm. The absolute max output power level is +48 dBm according to the descussion above. We have plenty of margin and we are confident that we have a solid design. Not just on paper, but through extensive long duration testing of prototype products.

Is there something wrong with the PA in the test item causing an inappropriately high output? Has this been checked with another sample to make sure the output is consistent with expectations?

From Tom M.: The data is correct and the design if fine. I am impressed that you would take the time to ensure the reliability of our product. .

I thank you for your concern!

Tom M.