



Jennifer Sanchez <jennifer@ubnt.com>

www.acbcert.com ATCB012146 | SWX-AF24 | 6545A - AF24 | | Model: AF24

Rick Keniuk <rick.keniuk@ubnt.com>

Tue, Jun 5, 2012 at 9:22 AM

Reply-To: rick.keniuk@ubnt.com

To: Jennifer Sanchez <jennifer@ubnt.com>

Cc: Gary Schulz <gary.schulz@ubnt.com>, Greg Bedian <greg.bedian@ubnt.com>

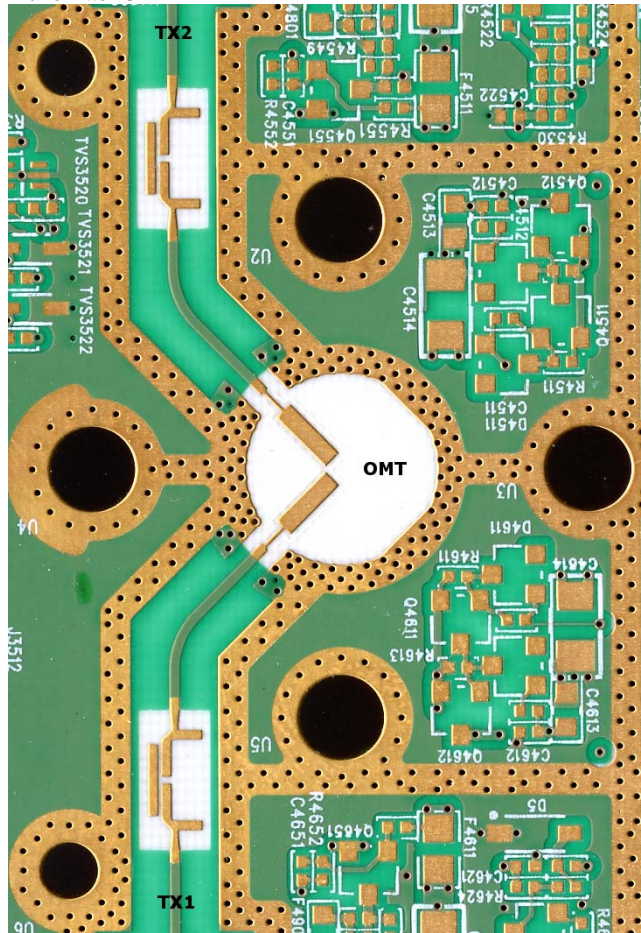
Rich,

In reply to the first question:

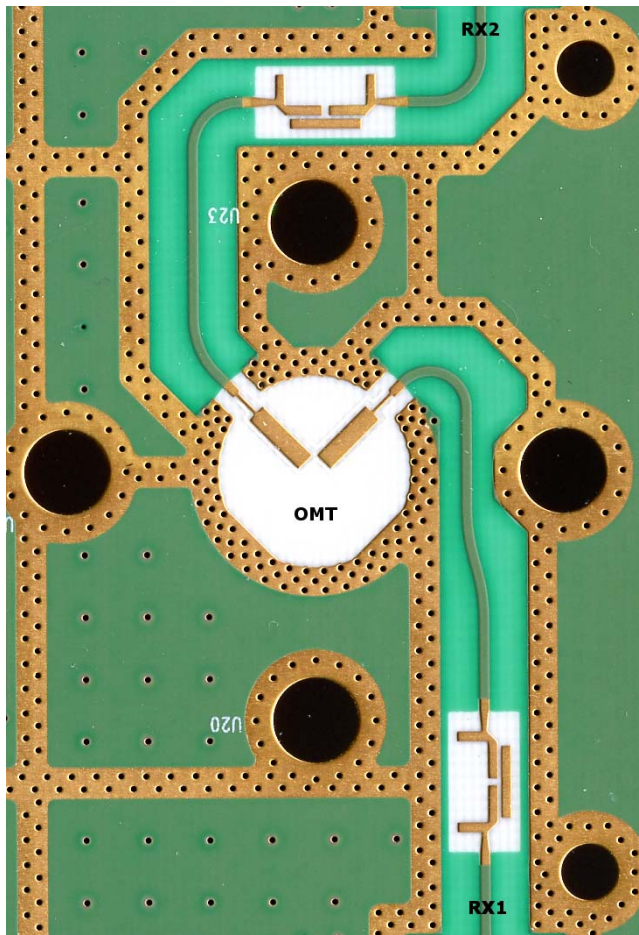
(a) Please describe the polarization of each transmitted and received signal. The operational description uses the words "The multiple input multiple output (MIMO) radio has two identical transmitters and two identical receivers in antenna polarization quadrature to double the transmission capability of the RF channel." We've not been able to find an explanation or definition of quadrature polarization. Please elaborate on this matter for both the transmitted and received signals.

I may have used the wrong words for the description of 2 cross polarized antenna probes in our PCB etched OMT. The antennas are 90° cross polarized (orthogonal) to maximize the isolation of the 2 independent MIMO channels. The transmitters/receivers are identical in hardware but each sends its own uncorrelated data.

Transmitter OMT



Receiver OMT



The second question:

(a) The operational description states that there are two transmitters but I only see measurements on a high and low channel not for transmitter 1 and transmitter 2 in the submitted test report. Please explain why. We understand what procedure you have used to measure emissions from this device. What we are trying to understand is that this procedure is applicable for the device in question.

I did not feel that the differences in the power spectral density warranted a second set of plots. The hardware is extremely balanced in its performance (this is required to allow recovery of the independent data streams). The two transmitters send independent data streams, but the modulation type (880 carrier OFDM with QPSK/256QAM modulation) at any time is the same on transmitter1 and transmitter2.

I can test the second transmitter if you wish and send you the added plots.

Please feel free to contact me (I am available for phone calls also) if you have further questions.

Rick Keniuk
Ubiquiti Networks, Inc. (Chicago Design Center)
1250 S. Grove Av. Suite 100
Barrington, IL 60010-5010

Office Ph: 847-387-6794
Cell Ph: 708-334-8215

[Quoted text hidden]