

John Kennedy

From: Frank Raffaeli [Frank.Raffaeli@ni.com]
Sent: Tuesday, July 15, 2008 3:30 PM
To: John Kennedy
Subject: 0299-EX-ST-2008 application : new attachment with calculations worksheet
Attachments: 0299-EX-ST-2008_attach_v3.pdf

Mr. Kennedy,

Thank you for your assistance and guidance with the path loss and ERP calculations. I confess I needed a primer on "ERP vs. EIRP". I've reviewed the definitions given in FS-1037C, as well as my notes from our discussion yesterday. I've come up with a worksheet on the calculations for the experiment. Please see page 2 of the attachment to this email for the details.

Summary - for a 3 dBi gain antenna at the transmitter:

Maximum TPO = 316 pW

Maximum ERP = 384.6 pW

I've changed the STA application body in the 'antenna' section to match the numbers above. In order to validate my math, I reviewed three different Tx antenna scenarios on page 2 of the attachment. I noticed the ERP was identical between the three examples. This makes intuitive sense to me, since although each scenario has a different transmitter power, the received antenna power is the same in all three cases; therefore the ERP's should also match.

Please substitute the updated attached file in place of any existing attachments on the 0299-EX-ST-2008 application.

I'll try to reach you later today to validate my work. Thanks for your detailed assistance.

Regards,

Frank W. Raffaeli

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