

Louis A. Feudi

From: Tim Maguire [Tim.Maguire@fcc.gov]
Sent: Monday, May 07, 2007 11:56 AM
To: Joe Dichoso; Timothy R. Johnson; Louis A. Feudi
Cc: Jeff Tobias; Rashmi Doshi; Steven Dayhoff; Tim Harrington; William Hurst
Subject: RE: RE: Proposed Test Plan for SHU

Joe,
I agree, this sounds reasonable.
Thanks,
Tim

Tim Maguire
Electronics Engineer
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-----Original Message-----

From: Joe Dichoso
Sent: Mon 5/7/2007 10:36 AM
To: 'Timothy R. Johnson'; 'Louis A. Feudi'; Joe Dichoso; Tim Maguire
Cc: Jeff Tobias; Rashmi Doshi; Steven Dayhoff; Tim Harrington; William Hurst
Subject: RE: RE: Proposed Test Plan for SHU

Tim,

I don't want to speak for the Wireless Bureau but I wouldn't have an issue with if the information requested in Item 5 is used to ensure compliance with the field strength limits. In other words, if the professional installation configurations ensured non-overlap of identical signals by indicating antenna separation distances AND antenna direction and antenna type in order to comply with the field strength limits, this could be acceptable if the grant was conditioned accordingly and WB approves.

-Joe

From: Timothy R. Johnson [mailto:tjohnson@atcb.com]
Sent: Friday, May 04, 2007 10:02 PM
To: Joe Dichoso; Louis A. Feudi
Cc: Tim Maguire; Jeff Tobias; Rashmi Doshi; Steven Dayhoff; Tim Harrington; Joe Dichoso; William Hurst
Subject: RE: RE: Proposed Test Plan for SHU

Joe or Tim M,

I'm letting the lab handle most of the test matrix, but I wanted to get clarification of one ite.....You mentioned aggregate power, but remember the limits here are in field strength and the antennas will be installed a far distance apart from each other (reasonable to say 100'+, but we can get GE to define this as we move forward) and would NOT be expected to have direct additive contribution from the antenna elements themselves. If the manufacturer is specifying a minimum distance apart, for purposes of testing where multiple antennas TX the same info, can the additional antennas be terminated and measurements made this way? This would allow proper investigation of case radiation, a

single antenna element, and contributions made by cables as well. Note that a typical path loss would expect to have > 20 dB drop between installation points and therefore expected to have negligible direct contribution from additional antenna elements themselves when installed per the manufactures requirements (and also professional installation would apply as well)

If this is not acceptable, then I would propose locating additional TX radiated elements away at the specified minimum distance given by the manufacturer. However this would overly tend to complicate test setup issues, especially when dealing with > 2 simultaneous elements.

Any guidance you can provide on this issue would be appreciated.

Thank You,

Tim

At 02:22 PM 5/4/2007 -0400, Joe Dichoso wrote:

Hello Louis,

Here are the comments to the test plan. You can submit the changes at www.fcc.gov/labhlep if you need a confirmation of the final plan.

Thanks all,

Joe

- 1) When measuring the fundamental field strength, a Quasi-peak (QP) detector is used if the bandwidth of the signal is less than the bandwidth of the QP instrumentation. The bandwidth of the QP instrumentation is based on the frequency of measurement. E.g. Per ANSI C63.4, the QP detector bandwidth is 100 kHz from 30-1000 MHz and 1 MHz above 1 GHz. When the emission bandwidth is greater than the QP instrumentation bandwidth, an average detector is used and the RBW of the analyzer must be greater than the emission bandwidth.
- 2) When an Access point is connected to multiple antennas and is sending the same information on the same channel to all antennas, the field strength to all connected antennas must be aggregated and compared to the field strength limit.
- 3) Please specify all antennas and the FCC identifiers of the access points used with the device.
- 4) For out of band emissions tests, test each modulation type and each antenna type, test at the maximum input on the lowest, a middle and the highest channel. The lowest and highest channels is to show compliance at the bandedges. The grant will list each emission designator and the allowed frequency range from the lowest to the highest center frequency.
- 5) Provide the professional installation instructions to ensure that it agrees with the test plan. Make any necessary corrections or modifications to ensure that they agree. The instructions should include the type of access point, antenna and output power adjustments necessary to meet all appropriate limits.
- 6) The test plan indicates an input range of 5-15 dBm, testing must be done at maximum input.
- 7) FYI. The test plan indicates an output of 17 dBm. With a 0 dBi antenna, the EIRP would be 17 dBm and would not meet the field strength limit.

From: Louis A. Feudi [mailto:lfeudi@ustech-lab.com <mailto:lfeudi@ustech-lab.com>]
Sent: Tuesday, April 24, 2007 9:13 AM
To: Joe Dichoso; 'Timothy R. Johnson'
Cc: Tim Maguire; Jeff Tobias
Subject: RE: RE: Proposed Test Plan for SHU

Joe,

Hello.

Word Document attached.

Lou

From: Joe Dichoso [mailto:Joe.Dichoso@fcc.gov <mailto:Joe.Dichoso@fcc.gov>]

Sent: Tuesday, April 24, 2007 8:53 AM

To: Timothy R. Johnson; LFeudi@ustech-lab.com

Cc: Tim Maguire; Jeff Tobias

Subject: RE: RE: Proposed Test Plan for SHU

Tim,

Can you please send me the test plan as a word document so that comments can be made directly on it.

Thanks,

Joe

From: Timothy R. Johnson [mailto:tjohnson@atcb.com <mailto:tjohnson@atcb.com>]

Sent: Tuesday, April 24, 2007 3:14 AM

To: Joe Dichoso; LFeudi@ustech-lab.com

Cc: Tim Maguire; Jeff Tobias; tjohnson@atcb.com

Subject: Fwd: RE: Proposed Test Plan for SHU

Joe,

Attached is a test plan generated by U.S. Tech and their client for the GE Part 95 application previously discussed. Please help comment on the proposed plan. Note I am sending due to this being related to our previous Certification questions but am actually not involved with the test matrix side of this. However any particular concerns please address to Lou Feudi @ U.S. Tech, LFeudi@ustech-lab.com and simply keep me copied to stay in the loop. I have also copied Tim Maguire and Jeff Tobias in case you require any discussion with them as well.

Many thanks for the previous help on this.....

Timothy R. Johnson, NARTE Certified EMC Engineer (No. EMC-002205-NE)

Examining Engineer

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X-Ninja-PIM: Scanned by Ninja

X-Ninja-Antispam: Policy 1 - Allowed - Final Score - 0,0,-45 (-45)

X-Ninja-AttachmentFiltering: Policy 3 - no action (inbound)

From: Louis A. Feudi <lfeudi@ustech-lab.com>

To: 'Timothy R. Johnson' <tjohnson@AmericanTCB.com>

Cc: 'Sandi' <smcenery@ustech-lab.com>, 'Alan Ghasiani'

<aghasiani@ustech-lab.com>, "'Zielinski, Lee (GE Healthcare)'"

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Subject: RE: Proposed Test Plan for SHU

Date: Mon, 23 Apr 2007 15:28:54 -0400

X-Mailer: Microsoft Office Outlook 11

Thread-Index: AceAUoVa5hoY4RoRRFCkIf6hmDbQvAAA24vAAVMyeTAAB3y4cAAHHeQg

X-OriginalArrivalTime: 23 Apr 2007 19:29:48.0281 (UTC) FILETIME=[C16DBE90:01C785DD]

Tim

As we discussed, the test plan is attached in PDF format.

Please forward to Joe Dichoso at FCC, since he is expecting this from you.

Call with any further questions.

Lou