**Thomas Cokenias <tom@tncokenias.org>** **Mon, Aug 10, 2009 at 12:39 PM**
To: Tim Dwyer <Timothy_Dwyer@ieee.org>

Hi Tim,

Answers follow questions, I think I caught it all.

best regards

Tom

On Aug 7, 2009, at 7:59 AM, Tim Dwyer wrote:

> Tom,
>
> I reviewed it and thought I sent a notice. I can't verify at the moment as the CCS site/server seems to be down.
>
> For information purposes, the questions are included below, but if I find that somehow I didn't send the notice, I will send it again. Please send your replies back to the official CCS notice when you get it. Thanks.
>
> AN09T9447 Arcadian V72ABSR757 B1 TNB
>
> Wireless Access Base Station

| | | |
|---|---|---|
| AN09T9447 | Review | Checklist |

> Q1: Confidentiality has been requested for internal photos and user manual. These exhibits cannot be granted confidentiality by the TCB without KDB approval from FCC. We can submit KDB to FCC, however based on wording of confidentiality request and past experience, it is almost certain that FCC will deny the request. Please advise if these documents should he handled not confidential or if the KDB should be submitted.

ANS1 The photos and the manual have been removed from the request for confidentiality.

> Q2: RF exposure MPE data was included in the test report, however no antenna gain, antenna description, or antenna list was included. It is not clear for purposes of grant issue and conditions if specific antennas will be provided with the product or selected by the installer at time of installation. Please clarify whether RF exposure will be evaluated at time of licensing or in the case that specific antenna(s) will be provided with the product, please provide a list of antennas and specifications, i.e. antenna type and gain.

ANS2 The MPE was calculated for the maximum gain antenna recommended for this product. The specification for this antenna is attached. The user manual includes the MPE distance on page 3. The user manual also lists the maximum erp allowed for this radio, states the antenna gain this product was qualified with, and that higher gain antenna should not be used

> Q3: Please confirm that information will be provided to installers in order to maintain compliance with the applicable EIRP power limitations of 47CFR 27.50.

ANS3 Per ANS2, this is on page of the manual, attached.

Q4: Additional to item 2, the test report page s 13 and 14 states that a 2 m safer distance warning is required in the user manual. The user manual does not include any RF exposure statements. Please reconcile this difference.

ANS4 Per ans 2 and 3, this has been reconciled

Q5: Frequency ranges entered in the application form are 757.132- 757.867 and 757.17- 757.83 MHz. These appear to be consistent with information on page 6 of the test report and downstream specifications in the manual, however measurements at 787 MHz are reported on Pages 8-10 of the report. Please correct or explain.

ANS5 This error was corrected, see attached revised report

Q6: Test report Section 7.1 general and header information refers to Peak Output Power measurements. The data sections refer to Average Output power. Please correct this inconsistency in the test report and clarify if results are peak or average.

ANS6 This error was corrected, see attached revised report

Q7: The tests were carried out some time ago i.e.over 12 months. Please confirm that the product tested is identical in all respects to the product documented in the filing and that will be marketed under the grant of approval. Additionally, please confirm that it is understood that changes made to the product may be subject to additional permissive change application.

ANS7 Tests were actually performed in July 2009, the original report had a cut and paste error. This has been corrected in the attached revised report.

# Fwd: Rev2 of the test report FW: pls review AN09T9447. Need Express Service

2 messages

**Thomas Cokenias <tom@tncokenias.org>** **Tue, Aug 11, 2009 at 8:37 AM**
To: Tim Dwyer <Timothy_Dwyer@ieee.org>
Cc: Hillel Hendler <hillel.hendler@arcadiannetworks.com>

Hi Tim,

The output power was actually measured with a Boonton RF power meter. Attached please find a revised report from Hermon Labs, a test setup photo of the power measurement, an excerpt from the revised equipment list, and part of the email thread for this project, including highlighted Question 6 items.

When measuring maximum composite power over the EBW of the signal, a spectrum analyzer with channel power integration function may be used, with sample detector and 100 power averages. The result obtained by this method is the same as one would obtain with an average reading RF power meter, as long as the signal EBW does not exceed the IF bandwidth of the meter head. The maximum EBW for this radio is 330 kHz, the Boonton RF sensor head IF BW is on the order of 10-15 MHz. For this TX, therefore, the power meter used is an appropriate instrument for measuring maximum composite RF power as it captures all the signal components over the entire EBW.

If you have questions or need further information today please call my cell. I will be at customer doing on site testing and I am not sure what the email situation will be there, will have iPhone so text/emails with no large attachments should work.

best regards

Tom

Begin forwarded message:

> **From:** "Hillel Hendler" <hillel.hendler@arcadiannetworks.com>
> **Date:** August 11, 2009 2:42:23 AM PDT
> **To:** "Thomas Cokenias" <tom@tncokenias.org>
> **Cc:** "Arnon Afgin" <arnon.afgin@arcadiannetworks.com>
> **Subject: FW: Rev2 of the test report FW: pls review AN09T9447. Need Express Service**
>
> Hi Tom,
>
> Attached is the updated test report - Pages 7, 8, 10, 87 corrected for the power meter.
>
> It was a mistake in the test report. The measurements were taken with a RMS Power meter (see below), as shown also in photograph 2 of the Set Up Photographs file. The spectrum analyzer was used to demonstrate the 100 % duty cycle only and not for the power measurements.
>
> I believe that this is the final revision.
> Please update status.
>
> Best regards
>
> Hillel
>
> **Hillel Hendler**
> ***Phone:*** +972 (0) 3 9769847

***Mobile:*** +972 (0) 54 4588984
***E-Mail:*** < mailto: hillel.hendler@arcadiannetworks.com

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-----Original Message-----
**From:** Michael Nikishin
**Sent:** Tuesday, August 11, 2009 9:34 AM
**To:** Marina Chernyavsky
**Cc:** 'Hillel Hendler'
**Subject:** RE: pls review AN09T9447. Need Express Service

Marina,

Please correct the test report as described below and release the new revision.

To measure the maximum composite output power over the full BW we used RF power meter with a thermocouple power sensor (RMS). The RF bandwidth is limited by the power sensor 0.01 to 18 GHz which is much wider than the emission BW of the transmitter. Here is the equipment description:

| frmListEquipmentSub | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **HLNo** | **Equipment Description** | **Manufacturer** | **Model** | **Ser. No.** | **OML** | **Last Cal.** | **Next Cal** | **Last Chk** | **Next Chk** |
| 2875 | Power meter RF | Boonton Electronics Corp. | 42220A | 341703AC | P-2 | 20/02/2009 | 20/02/2010 | | |
| 2876 | Power sensor, thermocouple, 0.01 to 18 GHz, -30 to20 dBm | Boonton Electronics Corp. | 51100 (9E) | 26029 | | 20/02/2009 | 20/02/2010 | | |

The set up is shown also in photograph 2 of the set up photographs file.

Occasionally we reported only the spectrum analyzer in the list of equipment used. The spectrum analyzer was used to demonstrate the 100 % duty cycle only and not for the power measurements.

List of equipment will be updated and a new revision of the test report will be released.

Best regards,

**Michael Nikishin**

**Group Manager**

**EMC & Radio**

**Hermon Laboratories Ltd.**

Hatachana St., POB 23

Binyamina 30500 Israel

www.hermonlabs.com

Phone: +972 4 626 8440

Mobile: +972 54 330 2245

Fax: +972 4 628 8277

nikishin@hermonlabs.com

**From:** Tim Dwyer <Timothy_Dwyer@ieee.org>

**Date:** August 10, 2009 4:39:19 PM PDT

**To:** Thomas Cokenias <tom@tncokenias.org>

**Subject: Re: pls review AN09T9447. Need Express Service**

Hi Tom,

Except for Item 6, all replies are OK.

For item 6, there is still mixed reference to peak and average measurements and it is not clear if measurements were carried out according to the requirements in Part 27. Section 7.1 of the test report should clearly confirm that the measurement methods and results are according to specifications of 27.50(b)(11) i.e. true maximum composite measurement for the emission in question over the full bandwidth of the channel.

27.50(b)(11) "For transmissions in the 757–758, 775–776, 787–788, and 805–806 MHz bands, maximum composite transmit power shall be measured over any interval of continuous transmission using instrumentation calibrated in terms of RMSequivalent voltage. The measurement results shall be properly adjusted for any instrument limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, etc., so as to obtain a true maximum composite measurement for the emission in question over the full bandwidth of the channel.

**3 attachments**

**image001.jpg**
17K

**image001.jpg**
17K

**ARCRAD_FCC.19829_rev2.pdf**
896K

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**Tim Dwyer <Timothy_Dwyer@ieee.org>** **Tue, Aug 11, 2009 at 8:52 AM**
To: Thomas Cokenias <tom@tncokenias.org>

Hi Tom,

Email explanation is ok now. I need to check the report & assuming it is ok will forward to certifier shortly.

Best regards,

Tim

[Quoted text hidden]

[Quoted text hidden]

Occasionally we reported only the spectrum analyzer in the list of equipment used. The spectrum analyzer was used to demonstrate the 100 % duty cycle only and not for the power measurements.

List of equipment will be updated and a new revision of the test report will be released.

Best regards,

**Michael Nikishin**

**Group Manager**

**EMC & Radio**

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Hatachana St., POB 23

Binyamina 30500 Israel

www.hermonlabs.com

Phone: +972 4 626 8440

Mobile: +972 54 330 2245

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nikishin@hermonlabs.com

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**To:** Thomas Cokenias <tom@tncokenias.org>

**Subject: Re: pls review AN09T9447. Need Express Service**

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Tim Dwyer
Quasi-Peak Wireless
766 Pucker Street
Coventry, CT 06238 USA
(860) 558-1791
email: tdwyer@quasi-peak.com
timothy_dwyer@ieee.org
web: www.quasi-peak.com