Chris Harvey

From: Claire Hoque [choque@CCSEMC.com]
Sent: Tuesday, January 18, 2005 2:15 PM
To: Chris Harvey -TCB
Cc: Chuck Cowden; Michael Heckrotte; Nancy Omron; Mike Kuo
Subject: RE: answer to further questions: Firetide Inc. , FCC ID: REP-1500R-1, Assessment NO.: AN04T4317, Notice#1, 04U2975
Importance: High

Hi Chris,

Here is client's answer for your last question.

It is an antenna field pattern showing the gain of our antenna in the 5.2GHz frequency. The gain pattern clearly shows the max gain to be well below 6Db which is the level below which any antenna is always acceptable.
This antenna pattern is all that is available from the manufacturer as they only advertise the antenna for use in the 5.8 spectrum. We are had them test the antenna in 5.2 and 5.4 spectrum to determine that it would be ok for us to use in spite of it's degraded performance. We tested the output in your lab and had the manufacturer run these pattern tests especially for us. I'm not sure what more I can do here. There is no marketing data sheet for the antenna in the 5.2 spectrum. Nevertheless, we have provided all the measurement information and tested the antenna in your lab. Please help me understand what they need beyond this detailed information?

Pls let us know your suggestion, thanks,

Claire

-----Original Message-----
From: Chris Harvey [mailto:Chrisharveyemc@comcast.net]
Sent: Friday, January 14, 2005 10:11 AM
To: Claire Hoque
Cc: Chuck Cowden; Michael Heckrotte; Nancy Omron; Mike Kuo
Subject: RE: answer to further questions: Firetide Inc. , FCC ID: REP-1500R-1, Assessment NO.: AN04T4317, Notice#1, 04U2975

Claire,

I have received and reviewed the additional documentation for the above referenced application. I still do not find the information regarding the Antenna gain and specifications in the 5.2GHz band as requested in the original question #4.

> 4. The Antenna specifications submitted document 8dBi at 5.8GHz bands but report states that this antenna has 4.5dBi gain at 5.2 GHz and. There is a photo of the antenna in the internal photo exhibit. Please provide the antenna specification that includes the 5.2GHz band.

Please provide this antenna specification information including the antenna gain.

Please contact me if you have any questions.

Best regards,

Chris Harvey
Chris Harvey EMC Consultants, LLC
charvey@ieee.org

cell 443-622-3300

-----Original Message-----
From: Claire Hoque [mailto:choque@CCSEMC.com]
Sent: Wednesday, January 12, 2005 7:26 PM
To: Chris Harvey -TCB; Chris Harvey
Cc: Chuck Cowden; Michael Heckrotte; Nancy Omron; Mike Kuo
Subject: answer to further questions: Firetide Inc. , FCC ID: REP-1500R-1, Assessment NO.: AN04T4317, Notice#1, 04U2975
Importance: High

Hi Chris,

Here are the answers to address your 12/19/04 questions.

2) Each application for Certification must stand alone. The FCC policy is that the schematics for all the RF circuitry be submitted for each Certification application, regardless of whether the RF module has been previously certified. Pls ask client to provide

schematics for NI3-AT53V216.
<answer>pls see the attachment, pls keep it confidential.
<<5354mparies2F schematics.pdf>>
4) The Antenna Specification did not provide any additional information except the VSWR from 5.3 to 6.3 GHz. My #4 question below still needs to be addressed.

<answer>pls see the attachment, pls keep it confidential.
<<Antenna1GP-5808 5 .2GHz.doc>>
5) You state that the antenna connection is permanent and would be destroyed if removed. Please describe this in more detail, because the use of an N connector anywhere in the RF path is considered a standard connection (even on the lightning arrestor) unless a permanent connection (according to FCC definition) is used. If an epoxy is used, please provide detailed information on the epoxy (data sheet) and an indication of who applies the epoxy (manufacturer before shipping?). If the Lightning arrestor is part of this Certification, please provide a photograph of this along with the antenna.

<answer>pls see the attachment.
<<AntAssembly4.jpg>>

Thanks,

Claire
-----Original Message-----
From: Chris Harvey [mailto:Chrisharveyemc@comcast.net]
Sent: Sunday, December 19, 2004 8:04 PM
To: Claire Hoque; Chris Harvey
Cc: Chuck Cowden; Michael Heckrotte; Nancy Omron; Mike Kuo
Subject: RE: answer: Firetide Inc. , FCC ID: REP-1500R-1, Assessment NO.: AN04T4317, Notice#1, 04U2975

Claire, thank you for getting this information to me. I have reviewed the additional information and still have some questions:

1) Thank you for the authorization letter.
2) Each application for Certification must stand alone. The FCC policy is that the schematics for all the RF

circuitry be submitted for each Certification application, regardless of whether the RF module has been previously certified.

3) Thank you for the revised Installation manual.
4) The Antenna Specification did not provide any additional information except the VSWR from 5.3 to 6.3 GHz. My #4 question below still needs to be addressed.

5) You state that the antenna connection is permanent and would be destroyed if removed. Please describe this in more detail, because the use of an N connector anywhere in the RF path is considered a standard connection (even on the lightning arrestor) unless a permanent connection (according to FCC definition) is used. If an epoxy is used, please provide detailed information on the epoxy (data sheet) and an indication of who applies the epoxy (manufacturer before shipping?). If the Lightning arrestor is part of this Certification, please provide a photograph of this along with the antenna.

Please let me know if you have any questions or comments.

Best regards,

Chris Harvey
Chris Harvey EMC Consultants, LLC
charvey@ieee.org
cell 443-622-3300
charvey-tcb@ccsemc.com

-----Original Message-----
From: Claire Hoque [mailto:choque@CCSEMC.com]
Sent: Wednesday, December 15, 2004 3:18 PM
To: Chris Harvey
Cc: Chuck Cowden; Michael Heckrotte; Nancy Omron; Mike Kuo
Subject: answer: Firetide Inc. , FCC ID: REP-1500R-1, Assessment NO.: AN04T4317, Notice#1, 04U2975

Hi Chris,
Here are the answers.
1. This application has been submitted by CCS however a Letter of Authorization from Firetide to CCS has not been submitted. Please provide the letter of authorization to act as the agent for Firetide.

<answer>Letter of Authorization is attached.
<<Authoriztion Letter.pdf>>
2. Review of the schematic appears to indicate that all circuits except for the Radio Card are included. Please either indicate where in the schematic the RF circuitry is documented or update the schematic.

<answer>The Radio Card is an approved FCC device (FCC ID NI3-AT53V216). The schematics of the RF Circuitry are
available to the FCC under that FCC ID. I have attached a copy of the FCC Grant for this device.
<<FCC - OET TCB Form 731 Grant of Equipment Authorization.pdf>>
3. The specifications in the Hardware Installation Manual only indicate the 5.25 – 5.35GHz band and not the 5.8GHz band. Please update the manual exhibit (draft or markup is OK) to include the correct technical specifications for this device.

<answer>The Hardware Installation Manual has been updated to reflect this change and a copy is attached.
<<HotPoint 1500R Installation Guide.pdf>>
4. The Antenna specifications submitted document 8dBi at 5.8GHz bands but report states that this antenna has 4.5dBi gain at 5.2 GHz and. There is a photo of the antenna in the internal photo exhibit. Please provide the antenna specification that includes the 5.2GHz band.

<answer>pls see the attached antenna specification that includes the 5.2GHz band.
<<Antenna1GP-5808 5.4.pdf>>

5. The Theory of Operation states that the antenna connector is a Reverse Polarity TNC connector; however the antenna specification document indicates that an N connector is used. Please correct this discrepancy.

<Mike H>There is a coaxial cable with a type N connector at one end and a reverse polarity TNC connector at the other end.

The end of the cable with the N connector is permamantly attached to the antenna such that the connectors would

be destroyed upon dissambly. Thus the antenna / coaxial feed cable assembly has a non-standard connector.

<Firetide>We provide an "Antenna Assembly" wherein the Antenna is permanently connected to a lightening protector which is permanently connected to a 2 foot coax cable with a Reverse Polarity TNC Male connector on the end. The entire assembly is attached to our outdoor box using the Reverse Polarity TNC connector as stated in the Theory of Operation. Photos of the Antenna assembly have been taken at CCS and the Antenna assembly is already described in the Theory of Operation. I have attached a copy of the original Theory of Operations document.
<<OpsTheory1500R-0101.pdf>>
Thanks,
Claire