

Marianne Bosley

From: natarajan-s.suresh@psbcorp.com
Sent: Wednesday, November 21, 2001 6:06 AM
To: Chris Harvey
Cc: Chris Harvey; Marianne Bosley
Subject: RE: RFNet Technologies FCC ID: PXP000001

Dear Chris, The client has re configured the low-pass filter in the design to reduce the power. With the reduction the highest power measured is 16.51dBm. Please refer the report attached. We have remeasured the restricted band and I have tabulated the results as per attachment. I hope with this it satisfies all the requirements of TCB. Please garnt the certificate as soon as possible.

(See attached file: rfnet_rb.xls)(See attached file: R02220.doc)

Regards

Suresh

Chris Harvey <CHarvey@metlabs.com> on 13/11/2001 02:29:54 AM

To: "natarajan-s.suresh@psbcorp.com" <natarajan-s.suresh@psbcorp.com>, Chris Harvey <CHarvey@metlabs.com>
cc: Marianne Bosley <MBosley@metlabs.com>, Chris Harvey <CHarvey@metlabs.com>
Subject: RE: RFNet Technologies FCC ID: PXP000001

Suresh,

I have had the opportunity to re-review the Peak and Average Spurious Emissions Plots provided in Annex F. I have made some sample calculations to determine compliance and wish for you to review my calculations and inform me if this is correct.

Per plot#3 Channel 1 / 2Mbps, 2nd Harmonic 4.8GHz
Average Measured uncorrected value = 30.95 dBuV/m @ 1 meter
Correction factor at approximately 4.5 GHz = 19 dB (includes antenna and cable losses)
Amplifier Gain = 30dB

Corrected Average Measurement at 4.8GHz = 30.95 dBuV/m - 30 dB + 19dB = 19.95 dBuV/m @ 1 meter, Limit = 54dBuV/m @ 3 meters
Corrected Peak Measurement at 4.8GHz = 62 dBuV/m - 30 dB + 19dB = 51dBuV/m @ 1 meter, Limit = (54+20)dBuV/m @ 3 meters

Please provide this level (or more detail) of calculations for each of the spurious emissions, including the emissions in the restricted bands.

At this time the above measured corrected values pass the appropriate spurious emissions limits. In the future I would ask that you perform all the calculations in the test report.

In addition, we have noted that the RF Power output from this device as measured with the Peak Power Meter indicates an output of 273mW, which exceeds the maximum allowable RF Power Output the TCB authorization. Per our phone conversation this morning, you were going to discuss with rfNet the possibility reducing the RF Power to below 200 mW (new data to be submitted as evidence), which is the maximum allowable for TCB approval at 2.4GHz. We will await your

Best regards,

Chris Harvey

> -----Original Message-----

> From: natarajan-s.suresh@psbcorp.com

> [SMTP:natarajan-s.suresh@psbcorp.com]

> Sent: Friday, November 09, 2001 7:51 PM

> To: Chris Harvey

> Cc: Marianne Bosley; Chris Harvey

> Subject: RE: RFNet Technologies FCC ID: PXP000001

>

>

> Dear Chris, I have resend the data of the restricted band on 2/11/2001 as

> follows

>

> "Dear Marianne,

>

> The restricted band spurious emission plot and the correction factor is

> attached below. Basically, the Spurious emission below 1 GHZ was tabulated

> in the results under 15.209. However for above 1GHz the maximised plot and

> average value for 2nd harmonic is shown in the graph. The value shown in

> the graph is with out correction factor.

> Even though our procedure does state 120kHz above 1GHz, we conducted the

> measurement with 1MHz bandwidth.

>

>

>

> I am sending the remeasured peak power data in the subsequent mail.

>

> Regards

>

> Suresh"

>

> If you have not received it, please find attached the data of restricted

> band measurement from 30MHz to 25GHz

> From 30-1000MHz we use 120kHz bandwidth and above 1GHz we use 1MHz

> bandwidth. The plot clearly shows the spurious and harmonics of

> transmitting signal. We have also indicated the average value of the 2nd

> harmonics to show it below the 15.209 limit. In addition we have attached

> the correction factor at the end of the document. The plot is the peak

> trace from our spectrum analyser.

>

> In any case I would like to talk to you on Monday 12 Nov 2001, 9AM your

> time to clarify if any other things need to be satisfied.

>
> (See attached file: Spurious and Restricted Band Plots1.doc)
>
> Regards
>
> Suresh
>
>
>
>
> Chris Harvey <CHarvey@metlabs.com> on 10/11/2001 04:15:01 AM
>
> To: "natarajan-s.suresh@psbcorp.com"
> <natarajan-s.suresh@psbcorp.com>,
> Marianne Bosley <MBosley@metlabs.com>
> cc: Chris Harvey <CHarvey@metlabs.com>
> Subject: RE: RFNet Technologies FCC ID: PXP000001
>
>
> Suresh, the reviewing engineer is not yet satisfied with the response in
> regards to the Peak Radiated Emissions in the Restricted Bands:
>
> 1. As requested in the last sentence of question number (1) of our email
> dated 11/1/01, please provide the peak radiated emission data for
> harmonics/spurs located in restricted bands (i.e., the 2nd harmonic),
> pursuant to Sections 15.35(b) and 15.247(c) of the FCC Rules.
>
> Please let me know if this is not clear or if you have any questions.
>
> I apologize about the turn-around time on this request, however we have
> had
> several absences lately as well as a 2 day seminar we were presenting
> here
> at MET.
>
> Best regards,
>
> Chris Harvey
>
> Chris Harvey
> EMC Lab Director, MET Laboratories, Inc.
> 1-800-638-6057 x-310
> charvey@metlabs.com
>
>
> > -----Original Message-----
> > From: natarajan-s.suresh@psbcorp.com
> > [SMTP:natarajan-s.suresh@psbcorp.com]
> > Sent: Wednesday, November 07, 2001 3:55 AM
> > To: Marianne Bosley
> > Cc: Chris Harvey
> > Subject: Re: RFNet Technologies FCC ID: PXP000001
> >
> >
> > Dear Chris, Marianne Bosley, Please update me on the status of
> > resubmission

> > on the peak power and restricted band measurement. If every thing Ok,
> > Please let us know when we can get the certificate.
> >
> > Regards
> >
> > Suresh
> >
> >
> >
> >
> > Marianne Bosley <MBosley@metlabs.com> on 01/11/2001 03:08:41 AM
> >
> > To: "'natarajan-s.suresh@psbcorp.com'"
> > <natarajan-s.suresh@psbcorp.com>
> > cc:
> > Subject: RFNet Technologies FCC ID: PXP000001
> >
> >
> > Hello Sir,
> >
> > The reviewing engineer has reviewed all of the additional data that you
> > submitted and has the following issues for you to address:
> >
> > 1. The raw radiated emission data (emissions over 1 GHz in restricted
> > bands) that is referenced in the email dated 10/24/01 was not received
> > for
> > review. However, in Section 2.2 of document TGTM-056-154, it is stated
> > that
> > the RBW used to measure radiated emissions over 1 GHz was 120 kHz. If
> > this
> > is the case, then it must be remeasured, using a RBW of 1 MHz, as
> > required
> > by Section 15.35(b). Also, please provide both peak and average
> > radiated
> > data, pursuant to that same Section.
> >
> > 2. The peak power data which was submitted was measured with a RBW of 3
> > MHz.
> > The 6 dB bandwidth of the fundamental emission is over 10 MHz.
> > Pursuant
> > to
> > the test procedure for DSSS systems issued by the FCC, please remeasure
> > the
> > output power using a peak power meter.
> >
> > Please address and respond. Thank you and have a good day.
> >
> > Regards,
> >
> >
> > Marianne
> >
> > Marianne T. Bosley
> > EMC Administrator
> > 410-354-3300, ext. 412
> >

> >
> >
> >
>

> << File: Spurious and Restricted Band Plots1.doc >>



rfnet_rb.xls



R02220.doc