

Chris Harvey

From: Chris Harvey [Chrisharveyemc@comcast.net]
Sent: Friday, June 11, 2004 4:50 AM
To: 'Àì¿ë¼'; 'Helen Zhao'
Cc: 'ÀìÀçÃµ'; '±èÁ±¼ö'; 'Chris Harvey'
Subject: RE: Re : RE: Re : FW: Additional Information for AN04T3811 FCC ID: BEJREAP10WHE

Yong-Sub, thank you for the explanation. This is all the information I need to complete this application.

Best regards,

Chris Harvey

-----Original Message-----

From: Àì¿ë¼ [mailto:ysleea@lge.com]
Sent: Thursday, June 10, 2004 10:03 PM
To: Helen Zhao; Chrisharveyemc@comcast.net
Cc: ÀìÀçÃµ; ±èÁ±¼ö
Subject: Re : RE: Re : FW: Additional Information for AN04T3811 FCC ID: BEJREAP10WHE

Hello Helen and Chris Harvey,

I understand what Chris Harvey said.

Look 4 page and 14 page of test report_repeater_E_band.pdf file, and you will see that LG's product use only 5MHz frequency band.

Transmitting of frequency range:

- Downlink : 1965 ~ 1970 MHz =====> 5MHz band
- Uplink : 1885 ~ 1890 MHz =====> 5MHz band

I tested under condition where 3 signals were simultaneously injected into the amplifier in order to determine the intermodulation products from the combined signals of CH 725, 750, 775.

The E-band repeater use only 3 channels of CH 725, 750, 775.

The 3 signals of CH 725, 750, 775 in are adjacent with each other, so if these signal inject the amplifier simultaneously, the combined signal look like only one signal.

If you want to see little more accurate tested plots under small band span of spectrum analyzer, I will send you the combined 3 channels' signals plots under small band span.

If you have any questions , let me know those.

Thanks
Yong-Sub.

----- ?? ??? -----
??? : Helen Zhao <HZhao@CCSEMC.com>
??? : ????? ?????? ??? ??????(ysleea@lge.com,
82-2-2630-3093)
? ? : 04/6/11 9:53:56 AM

? ? : RE: Re : FW: Additional Information for AN04T3811 FCC ID: BEJREAP 10WHE

Dear Young-sub,

Would you please take a look at our reviewer's opinion?

Thank you,
Helen

-----Original Message-----

From: Chris Harvey [mailto:Chrisharveyemc@comcast.net]
Sent: Thursday, June 10, 2004 5:33 PM
To: 'Helen Zhao'
Cc: 'Kuo Mike'
Subject: RE: Re : FW: Additional Information for AN04T3811 FCC ID: BEJREAP10WHE

Helen, I have looked at the plots, but I can only resolve one intended RF signal. The intermodulation should be a condition where 3 signals are injected into the amplifier in order to determine the intermodulation products from the combined signals. Please have LG explain the plots indicating the frequencies used for the intermodulation test. They should be able to provide the test procedure and frequency information to meet the FCC requirements. They should have plots where all 3 signals and the intermodulation products are able to be resolved.

I am including an example of a plot showing several RF signals, and although not a perfect example of Intermod, I can clearly resolve 4 intended RF signals to determine the intermodulation products. It would be best to zoom in closer to all the signals to see that 2 of these signals are close together at one end of the band and one is far away from the others, at the other end of the band.

Please let me know how I can help to get this completed. I was trying to be very clear in my original request.

Best regards,

Chris Harvey

-----Original Message-----

From: ysleea@lge.com [mailto:ysleea@lge.com]
Sent: Wednesday, June 09, 2004 1:41 AM
To: Helen Zhao
Cc: ???; ???
Subject: Re : FW: Additional Information for AN04T3811 FCC ID: BEJREAP10WHE

Hello Helen,

Always, thank you for your kindness.

I resend you the amended Appendix-A file about repeater(BEJREAP10WHE).

When the E-band is completed, I will send you test results for the other 3-band(A/B/D-band).

Thanks,

Yong-Sub.

----- ?? ??? -----
??? : Helen Zhao <HZHAO@CCSEMC.COM>
??? : ????? ?????? ??? ?????(ysleea@lge.com,
82-2-2630-3093)
? ? : 04/6/9 9:22:05 AM
? ? : FW: Additional Information for AN04T3811 FCC ID: BEJREAP10WHE

Hello Young-Sub,

Please kindly check whether you provide us the Intermodulation plots or not. Attached please find the FCC guidance documents.

Thanks,
Helen

-----Original Message-----
From: Chris Harvey [mailto:Chrisharveyemc@comcast.net]
Sent: Tuesday, June 08, 2004 4:12 PM
To: 'Helen Zhao'; 'Chris Harvey'
Subject: RE: Additional Information for AN04T3811 FCC ID: BEJREAP10WHE

Helen, I have reviewed all the information and could find all the information except for the Intermodulation plots from item 3 below. Have I just missed the information or is it still missing?

I have attached the FCC guidance document for testing Amplifiers and Boosters for your reference. Please contact me if you have any questions regarding this requirement for the Intermodulation test compliance.

Best regards,

Chris Harvey

-----Original Message-----
From: Helen Zhao [mailto:HZhao@CCSEMC.com]
Sent: Tuesday, June 08, 2004 12:35 PM
To: Chris Harvey
Subject: RE: Additional Information for AN04T3811 FCC ID: BEJREAP10WHE

Good Morning Chris!

Would you please advise whether you finish the review or not? The client is checking the status with me.

Thank you and you have a nice trip in Singapore!

Helen

-----Original Message-----

From: Helen Zhao

Sent: Thursday, June 03, 2004 4:45 PM

To: Chris Harvey

Subject: RE: Additional Information for AN04T3811 FCC ID: BEJREAP10WHE

Hello Chris,

Re LG Electronics submission Assessment No: AN04T3811 FCC ID: BEJREAP10WHE below is the answer. Please kindly review. If you have any questions, please let me know. Thank you!

The above referenced application has been reviewed and the following information is necessary in order to continue the review:

- 1) If CCS is providing responses for this TCB application, please have LG Electronics provide a letter of Authorization which should be submitted as an exhibit in this application. [Helen Zhao] Please see Agent Authorization letter.
- 2) On test report page 12 of 45, the upper frequency of the uplink channel 775 is listed as 1988.75MHz. If this is incorrect, please correct this frequency.
[Helen Zhao] Please see the revised test report.
- 3) This device appears to be capable of receiving and re-transmitting more than one single channel simultaneously. If this can handle 3 or more channels simultaneously, please perform a 3 tone intermodulation test, and if this can only handle 2 channels simultaneously, please perform a 2 tone intermodulation test. Since this is being approved only for CDMA modulation, this needs only to be performed using a properly CDMA modulated signal(s). Please show a plot of the input signal. [Helen Zhao] Please see the revised test plots
- 4) The test report 'template' information seems to be referencing a test for an FCC Pt. 22 handset, as several of the test descriptions imply that the RF connector is just for testing purposes (page 9), RF Power test implies a radiated test (page 5), Modulation Characteristics (page 7), as well as other areas. Please update the entire test report to reflect the tests and test procedures for a Pt. 24 Repeater. [Helen Zhao] The report has been updated.
- 5) The Users Manual exhibit submitted only covers the software.

Please provide the hardware operators manual (which can be held confidential if requested and it is not released to the public). [Helen Zhao] Please see the operational manual.

The items indicated above must be submitted before processing can continue on the above referenced application. Failure to provide the requested information within 30 days of the original e-mail date may result in application dismissal and forfeiture of the filing fee. Also, please note that partial responses increase processing time and should not be submitted. Any questions about the content of this correspondence should be directed to the e-mail address listed below the name of the sender.

Best regards,

Chris Harvey - Amplifier & Booster basic items.pdf - Intermod Test for AmplifierRepeater.rtf - InterModulation Test justification.doc