

## Chris Harvey

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**From:** natacha.chen@tw.bureauveritas.com  
**Sent:** Thursday, June 16, 2011 6:01 AM  
**To:** charvey-tcb@ccsemc.com  
**Cc:** CHARVEY@IEEE.ORG; lucy.tsai@ccsemc.com  
**Subject:** Re: D-Link Corporation, //KA2IR645A1 //AN11T0417 Notice #1  
**Attachments:** pic08932.gif; OpDes (beam forming)\_KA2IR645A1.pdf

Hello Chris,  
Can you please check below responses?

Best Regards,



Natacha Chen  
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2011/06/16 上午 04:44

To: Natacha Chen/TWN/VERITAS@VERITAS  
cc: <[CHARVEY@IEEE.ORG](mailto:CHARVEY@IEEE.ORG)>, <[lucy.tsai@ccsemc.com](mailto:lucy.tsai@ccsemc.com)>  
Subject: D-Link Corporation, //KA2IR645A1 //AN11T0417 Notice #1

Ref

Dear Natacha,

You are listed as the Technical Contact for the above referenced TCB application. The following items need to be resolved before the review can be continued:

1. The User's Manual on page 5 of 129 indicates that this device is an 802.11B/G/N Dual Band Router, but the application is being filed in the 2400-2483.5MHz band. Please confirm the bands of operation for this device and update any exhibits needed.

RE: The device is WLAN device which supports 802.11 b/g/n (HT-20 & HT-40).

2. The Test Report indicates that this device is a 2x2 Spatial MIMO using Beam Forming, using only 1 Horizontal and one Vertical antenna of the 6 available antennas. The application does not provide much technical detail of the beam Forming technology or process. Please provide additional details of the Beam Forming technology used in this device.

RE: Please check detailed description for Beam Forming as attachment.

(See attached file: OpDes (beam forming)\_KA2IR645A1.pdf)

3. The test report documents the individual antenna element gains and the Effective Legacy Gain for any pair (max of 7.1dBi), but does not address any beam-forming array antenna gain. The MPE calculation exhibit indicates that the maximum Beam Forming gain is also 7.1dBi.

RE: The Beam Forming is based on beamforming matrix given in the IEEE802.11n standards. The antenna is not array antenna.

4. Please ensure that this device and its antenna have been properly described and tested in accordance with FCC KDB # 662911 regarding Multiple Outputs and multiple antennas.

RE: We followed KDB662911 requirements to perform tests.

Due to the possible impact to the testing after addressing this KDB, the review will be halted until the responses to these questions has been received.

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. Revised documentation should not be emailed, but instead should be submitted through "Add Attachment" function at the UL-CCS website. Please have your Assessment Number and FCC ID/IC Certification number handy. You may use the following link: <https://cert.ccsemc.com/filing/>

Best regards,

Chris Harvey

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