

Jennifer Sanchez

From: Jennifer Sanchez
Sent: Thursday, May 28, 2009 11:30 AM
To: Jeffrey Hazen
Cc: Shawn McMillen; Angela Kekovski; Jenn Warnell; Jennifer Sanchez
Subject: RE: Technical Review Request: 26417 DTC - FCC TCB
Attachments: EMC26417-MPE_Rev1.pdf; Label_Rev1.pdf; Tx theory of operation.pdf; EMC26417-FCC90_Rev2.pdf

Hi Jeff,

Please see DTC's & the test engineers responses below to your inquiry.

Test Lab Response:

- FCC Rule Part 90.210(b) states the following regarding the emissions mask: "the power of any emission must be attenuated below the un-modulated carrier power (P) as follows". Please confirm that the peak emissions mask level in EMC26417-FCC90 Rev 1.pdf, section 5.1 (pp 38-45 of 83), is set to the un-modulated carrier power level. It was not possible to produce an un-modulated carrier in the EUT. Under 90.210 it is possible to use a modulated carrier as a reference.
- The EMC26417-FCC90 Rev 1.pdf test report does not appear to specify what resolution bandwidth was used to take the plots in section 6.2. Please indicate where this might be found. Please see revised report, section 6.2 under Test Procedures.
- The antenna data sheet provided shows a maximum antenna gain of 9.4 dBi; however, the MPE calculation for the DTC transmitter shows a maximum antenna gain of 6 dBi. Please justify this discrepancy. Please see revised MPE Report.

DTC Response:

It could not be determined what the minimum power level for the device is. FCC Rule Part 2.1033(c)(6) states that the technical report should state the range of power levels, and this could not be found in the supporting documentation. Please indicate where this might be found. The power output for the device is 1 watt minimum and the maximum will be what MET labs measured. This could be rounded to 1.2 watts max. Does this need to be in the manual or in one of the filling documents.

Per 15.19 (a)(1), the following statement needs to be included on the FCC label:

This device complies with part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference. Attached is the new FCC Label document.

Per 2.1033(c)(13), the following information could not be found in the supporting documentation:

(13) For equipment employing digital modulation techniques, a detailed description of the modulation system to be used, including the response characteristics (frequency, phase and amplitude) of any filters provided.

The emission designator is listed as 7M7W7D; however, the second to the last character can only be a number from 0 to 3, per Rule Part 90.207(a). Please

- 0--No modulation.
- 1--Digital modulation, no subcarrier.
- 2--Digital modulation, modulated subcarrier.
- 3--Analog modulation.

The emission designator per Part 90.207 would be 7M7W2D. FCC Chapter 47 calls it 7M7W7D. Both are valid I believe. I was told that using the highest order designator would include the lesser ones. I'm not sure that is a good idea. Perhaps you could check. Here are the 5 bandwidth modes that can be used in the MBOX4DS.

Part 47	Part 90
1M2W7D	1M2W2D
2M4W7D	2M4W2D
5M8W7D	5M8W2D
6M7W7D	6M7W2D
7M7W7D	7M7W2D

By including the lesser bandwidth modes, the unit can operate closer to the frequency band limits than the widest bandwidth can.

Also attached is a theory of operation for the transmitter from a previous filing. See if it fits the bill.

The gain for the patch antenna is 9.4 dBi.

J. Sanchez
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From: Jeffrey Hazen
Sent: Tuesday, May 26, 2009 10:52 AM
To: Jennifer Sanchez
Cc: Angela Kekovski; Jenn Warnell
Subject: RE: Technical Review Request: 26417 DTC - FCC TCB

Hi Jennifer,

Enclosed are my RTs for this job. I have a follow-up RT for the customer after I hear back from the Test engineer regarding MPE. The customer's test report needs to be updated with the correct MPE

Jennifer Sanchez

From: Jennifer Sanchez
Sent: Thursday, May 28, 2009 1:54 PM
To: Jeffrey Hazen
Cc: Shawn McMillen; Jenn Warnell; Angela Kekovski; Jennifer Sanchez
Subject: RE: Technical Review Request: 26417 DTC - FCC TCB
Importance: High
Attachments: EMC26417-FCC90_Rev3.pdf

Hi Jeff,

Please see the revised report attached.

The customer will update the MPE distance in the manual as requested.

Thanks!

J. Sanchez

TCB Administrator

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From: Jeffrey Hazen
Sent: Thursday, May 28, 2009 1:41 PM
To: Jennifer Sanchez
Cc: Shawn McMillen; Jenn Warnell; Angela Kekovski
Subject: RE:

Hi Jennifer,

Please respond to the customer with the following:

We will update the test report with the power range of operation, so this will be included in the filing. If desired, this can be also included in one of the user manual/FCC statement documents.

The MPE calculation of the test report states that the minimum separation for the device t

Regards,

Jeff Hazen

5/28/2009