

## Rich Fabina

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**From:** Timothy R. Johnson [tjohnson@acbcert.com]  
**Sent:** Thursday, September 05, 2013 6:09 PM  
**To:** rich Fabina  
**Subject:** Fwd: Response to Inquiry to FCC (Tracking Number 608014) (TCB)

As crazy as it sounds...Here is your answer..

You may extrapolate the limit.....and for 15.209 you'll probably get < 0.001% additive power density.

Then apply a PBA.

Tim

Date: Thu, 5 Sep 2013 17:20:13 -0400  
From: <oetech@fccsun27w.fcc.gov>  
To: <hotline@acbcert.com>  
Subject: Response to Inquiry to FCC (Tracking Number 608014) (TCB)  
X-OriginalArrivalTime: 05 Sep 2013 21:20:13.0621 (UTC) FILETIME=[B5B0A650:01CEAA7D]  
X-MS-Exchange-Organization-Antispam-Report: IPOnAllowList  
X-MS-Exchange-Organization-SCL: -1  
X-MS-Exchange-Organization-AuthSource: SERVER7.usacb.acbcert.com  
X-MS-Exchange-Organization-AuthAs: Anonymous  
X-Auto-Response-Suppress: DR, OOF, AutoReply



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**Office of Engineering and Technology**

**Inquiry on 08/30/2013 :**

**Inquiry:**

Your earliest response to this is appreciated.

We have run into 2 different cases this week - where a device is co-located with a low frequency TX (i.e. around 127 kHz for one case) that is < 300 kHz combined and another device such as:

a) 2.4 GHz DTS TX

or

b) Cellular TX.

Note the 127 kHz TX is NOT a charging device and is simply a low power TX device under 15.209. Additionally in these cases the device is obviously a mobile device and NOT portable. Currently we do not have enough information of hand to determine if the 127 kHz TX operates continuously or not. However regardless is it extremely low power. The concern is how to evaluate co-location MPE given there are not any limits for < 300 kHz. There is no way to sum ratios of the power density/Limit when a limit is not specified.

The KDB regarding wireless charging allows desktop extrapolation of the 300 kHz limit down to 100 kHz at a 10 cm evaluation distance. However this actually requires near field measurements to be made and compared to this limit. For portable charging devices with closely coupled inductive techniques - this seems logical as far field measurements would not give a good picture for portable considerations. However for a simple NON CHARGING 15.209 TX used in mobile applications - this seems excessive. For purposes of evaluating co-located MPE for a mobile device with a simple 15.209 TX can we simply extrapolate the 300 kHz and use for purposes of evaluating the sum of MPE ratios is < 1? If not, kindly explain how to handle.

Thank You,

Tim Johnson - ACB

**FCC response on 09/05/2013**

It is our understanding that the exposure conditions are for two mobile transmitting devices, one around 127 kHz and the other in the 800 or 2450 MHz range, and there is simultaneous transmission. Both transmitters and the host are all operating with at least 20 cm separation from persons to qualify for the mobile exposure limits.

It is assumed that both transmitters are collocated in the same host. For the 127 kHz transmitter, you may apply the 300 kHz MPE limit to determine compliance. Since it is a 15.209 device, the maximum output power is expected to be low; therefore, it is likely that it is categorically excluded from routine MPE evaluation; therefore, you may be able to estimate the MPE and then apply the procedures in section 7.2 of KDB 447498 to determine simultaneous transmission MPE compliance.

Please let us know if you have issues in apply the procedures in section 7.2 of KDB 447498.

Please be aware of the 127 kHz transmitter is on the TCB exclusion list. You will need to submit the specific details for the host and all transmitter information, collocation configurations, MPE compliance analysis and results through a KDB inquiry to request to use PBA for TCB approval.

**Attachment Details:**

Do not reply to this message. Please select the [Reply to an Inquiry Response](#) link from the OET Inquiry System to add any additional information pertaining to this inquiry.

Timothy R. Johnson, iNARTE Certified EMC Engineer (No. EMC-002205-NE) and Wireless Device Certification Professional (No. WDCP-100101)

Examining Engineer

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