

Scott McCutchan

From: Mike [mike@celectronics.com]
Sent: Friday, May 27, 2005 9:28 AM
To: Scott McCutchan; Kyle Fujimoto (Kyle Fujimoto)
Subject: FW: Response to Inquiry to FCC (Tracking Number 595593)

Here is the response from the FCC regarding omni-directional antennas.

Best Regards,

Mike Christensen
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-----Original Message-----

From: Generic Office of Engineering Technology [mailto:oetech@fccsun27w.fcc.gov]
Sent: Friday, May 27, 2005 7:03 AM
To: mike@celectronics.com
Subject: Response to Inquiry to FCC (Tracking Number 595593)

Inquiry:

I have a couple of questions regarding what is considered an antenna type under FCC Part 15.204. I have a client who is certifying a device with multiple antennas, all of which are of the omni-directional whip type. However, even though they are omni-directional whips, inside their rubber covering they are either $\frac{1}{2}$ wave dipole, $\frac{1}{2}$ wave monopole and possible $\frac{1}{4}$ wave dipole or monopole. My understanding is that we only need to test the highest gain of each type of antenna and that antenna type is defined as having a similar in-band and out of band radiation pattern. At what point do variations of omni-directional whip (or rubber duckey) antennas become defined as different types? Under the definition of 15.204, would an omni-directional whip antenna be considered an antenna type as defined by the FCC even though this antenna may be also be a $\frac{1}{2}$ wave dipole, $\frac{1}{4}$ wave dipole, $\frac{1}{4}$ wave monopole or $\frac{1}{2}$ wave monopole? If so, I would think we should only need to test the omni-directional whip with the highest gain. Is this correct? It should be noted that the radiation pattern data for the expected frequency of use looks very similar regardless of whether it is a monopole or dipole style, however, I do not have any data, nor have I ever seen data for any antenna, that shows the out of band radiation pattern. Thank you for your help. Best Regards, Mike Christensen Lab Manager Compatible Electronics, Inc. - Brea Division Phone: 714-579-0500 Fax: 714-579-1850 www.celectronics.com

Response:

We agree that in this case you only need to test the omni-directional whip with the highest gain.

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