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Currently Displaying Inquiry Tracking Number: 759532

Contact Information:

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Inquiry Details on 05/02/2016:

First category: PBA Submittal
Second category: Special Circumstances (PBA)
Third category:
Subject: Guidance/Power control Mechanism
Inquiry:

MiCOM labs is seeking guidance on how to handle a mechanism that is employed within a product we have received for certification. The product is a point to point transmitter employing the use of 16 transmitters. The system utilizes two spatial steams along with dividing the 16 transmitter into 8 horizontal and 8 vertical polarized antennas. The device utilizes a power control mechanism which constantly reads RF power at each Antenna port and continuously adjusts the amplitude and phase of the signals of each transmitter to maintain the best link while maintaining compliance with the regulatory limits for the output power; as such each transmitter will transmit at different amplitudes when transmitting in a real world situation. When making an output power measurement on this system how exactly does FCC take into account the use of a mechanism which adjusts the

output power based on control mechanisms such as this? Please see attached for more information.

FCC Response on 05/05/2016:

Dear Mr. Aguilar,

Provided that the output power requirements apply to the total power out of all ports, please have the manufacturer clarify a few points in the two suggested options:

Option 1: Given the dynamic nature of individual power assignments to each antenna port, is it possible to make conducted measurement prior to power split into two streams and two polarizations? This way, it might be possible to artificially enforce the RF board to transmit at maximum power while conducted measurement is done and not to have to worry about individual antenna ports and their assigned power.

Option 2: Is it possible that all antenna ports transmit at the same power level at any given point in time? If so, you might be able to make one single measurement (out of one port) while that port is transmitting max power and then multiply that measured power (in power units and not in dB) by 8 which is the number of antenna ports that transmit with the same, let's say horizontal, polarization. And repeat the same process for other ports that transmit with vertical polarizations. This method, if in fact possible, will give a conservative estimate.

Best Regards,

Laboratory Division
Office of Engineering and Technology
FCC

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