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Supplement to EMC Test Report for Motorola portable cellular phone (FCC ID IHDT56KE1)

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Summary of FCC request for additional information

There was a request for additional information regarding Motorola's EMC Test Report for Motorola portable cellular phone (FCC ID IHDT56KE1). The requested information is addressed below in the same numbering sequence received.

1. Thank you for your email. Regarding your response to question 2, you state that the reason for the discrepancy is that the conducted output power is an average value, while the EIRP is a peak measurement. If all of the conducted measurements are average, and all of the EIRP measurements are peak, this is a moot point, and does not address the actual question: how can the PCS EDGE conducted output be 3 dB lower than the PCS GSM conducted output, while the EDGE EIRP is higher than the GSM EIRP?

Response:

1. PCS EDGE has a large Peak-to-Average Ratio (PAR) while the PAR for PCS GMSK is rather small. Unlike GMSK modulation, which has a relatively constant envelope signal, 8PSK modulations use an amplitude varying signal. An 8PSK-modulated signal has a PAR of 3.2 dB – 3.4 dB for a single carrier and around 9 dB for a typical multicarrier signal. Because of the PAR, the PCS EDGE peak radiated power can be much greater than the PCS EDGE RMS radiated power. The PAR can cause the PCS EDGE measured peak radiated power to be greater than the PCS GSM measured peak radiated power.