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Supplement to SAR Test Report for Motorola portable cellular phone (FCC ID IHDT5ZG1).

Prepared by:

Paul Moller, Principal Staff Engineer

Motorola Personal Communications Sector Product Safety Laboratory

Libertyville, IL

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1. Summary of FCC request for additional information

There was a request for additional information regarding relationship between the use of the product and the SAR test data submitted with the Report for Motorola's portable cellular phone (FCC ID IHDT5ZG1) dated February 4, 2000. The requested information may be summarized as follows:

The users manual indicated there is a hands-free vehicle kit that includes a required external antenna. Please clarify and address MPE compliance or qualification for categorical exclusion.

2. External Antenna Option Evaluation

The Motorola Personal Communications Sector Product Safety Laboratory has evaluated the portable cellular phone (FCC ID IHDT5ZG1) external antenna option for the need to conduct SAR evaluation. Given the design, recommended installation and how the phone operates with this option; when properly installed and used with this option, the phone/option combination satisfies the criteria to be considered a 'mobile device' as defined in Federal Communications Commission section 47 CFR § 2.1091 titled "Radio frequency radiation exposure evaluation: mobile devices."

In section § 2.1091, paragraph (b) defines a mobile device as "a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons." The 800MHz TDMA StarTAC transceiver is intended to be installed into a vehicle such that the transceiver is physically secured at one location according to the Universal Hands-Free Car Kit StarTAC & V3600 Series Cellular Phones Installation Guideline. The antenna is to be located outside of the vehicle and its location should be such that at least 40 cm of conductive horizontal surface extends in all directions from the center of the antenna. Based on the installation of the transceiver and the antenna, the transmitters radiating structure is more than 20 centimeters from the user. Thus, the 800MHz TDMA StarTAC is a "mobile device" as defined in section § 2.1091 paragraph (b). The installation guide describes the recommended installation of both the transceiver and the external antenna.

Paragraph (c) gives the descriptions of types of mobile devices that are subject to routine environmental evaluation for RF exposure based on frequencies of operation and transmit EIRP. The 800MHz TDMA StarTAC operates at a transmit frequency of 824 to 849MHz. It has a transmit conducted power of less than 0.6 Watt. The mobile antenna supplied with the transceiver has a maximum gain of 5dBi, and minimum cable loss of 1.56dB at 800MHz, also there is a loss of 3dB in the coupling of the antenna to the cable, together resulting in a maximum EIRP of 0.50 Watts. Since the transceivers transmit frequency is 800MHz and its EIRP with the supplied antenna is below 1.5 Watts, the 800MHz TDMA StarTAC is "categorically excluded from routine environmental evaluation" per paragraph (c), and thus SAR evaluation is not required.