MITSUBISHI DIGITAL ELECTRONICS AMERICA, INC.
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February 24, 1999

Mr. J. Dichoso
Application Processing Branch
Federal Communications Commission
7435 Oakland Mills Road
Columbia, MD 21046

Subject: **Submitting Additional Information Regarding Class II Permissive Change for Cellular Telephone Transceiver**
FCC ID: BGBMT261F01A
Correspondence Reference No.: 6108
731 Confirmation No.: EA92845

Dear Mr. Dichoso:

We are writing in response to your e-mail dated 2-12-99.

1. Antenna Gain - The nominal gain of both antenna is O dB.

2. Test Method - Attached is the correct Measurement Procedure used to determine compliance of Subpart 2.993(a) and 24.238(a). The actual (new) antenna was used for these measurements.

We believe this resolves all outstanding items.

Thank you for your prompt attention to this Application

Sincerely,

R. Gruhlke
General Manager
Regulatory Liaison Division
RG/e
cc: MDEA-Wireless, Mr. T. Sims
encls

US TECh

A Tradition in Testing Services

February 23, 1999

Mitsubishi Consumer Electronics America, Inc.
ATTN: Simon Jung
CMT Group
2001 Cherry Drive
Braselton, GA 30517

Dear Mr. Jung:

Enclosed please find Mitsubishi's file copy of the change to the MT821 Spurious Emissions Data. Please replace this page in your original file copy. This supplement will take precedence over any previous version and should be considered an accurate reflection of the test data. US Tech's files have been updated to reflect this change.

If you have any questions, or need further assistance, please don't hesitate to call. Thank you for your business.

Sincerely,

Tim R. Johnson
Compliance Engineer- Lab Manager

MEASUREMENT PROCEDURE Subpart 2.993(a) and 24.238(a)

Field Strength of Spurious Radiation

Radiated spurious emissions were evaluated for frequencies outside the occupied band while the EUT was transmitting into its actual antenna. Spurious emissions were evaluated from 30 MHz to 19 GHz at an EUT to antenna distance of 3 meters. Measurements for 30 to 1000 MHz were made with the analyzer's bandwidth set to 120 kHz. Measurements above 1000 MHz were made with the analyzer's bandwidth set to 1 MHz. The power output of the EUT was measured at the antenna terminals and the following values obtained: 691.8 mW (1.85020 GHz), 724.4 mW (1.88000 GHz), and 794.3 mW (1.90973 GHz). This level is used in the following calculations for the purpose of comparing the fundamental to the spurious radiation measurements as shown in Table 1. Since the EUT was a hand held device, it was rotated about all axis in order to obtain the highest possible spurious emission at each frequency measured.

The spurious measurements made are compared to the level the transmitter would produce at 3 meters if connected to an ideal 1/2 wave dipole using:

$$E = \frac{(30\ Pt\ Gt)^{1/2}}{d} \text{ volts per meter}$$

E = Field intensity (volts per meter)

Pt = Measured power output of transmitter (watts)

Gt = Gain of antenna (1.64 for 1/2 wave dipole)

d = distance (meters)

Example: The 0.6918 watt transmitter would produce

$$\frac{[(30)(0.6918)(1.64)]^{1/2}}{3.0} \text{ volts per meter} = 1{,}944{,}695 \text{ uV/m @ 3m}$$

converting uV/m to dBm @ 3 meters yields

20 log (1,944,695) - 107 = 18.8 dBm @ 3 meters for the low channel.

Similiar calculations were performed in order to obtain 19.0 dBm @ 3 meters for the middle channel and 19.4 dBm for the high channel.

FCC Minimum Standard

$43 + 10 \log_{10} (P)$ = attenuation below carrier (dB) = Minimum Attenuation in dB