



Intertek Testing Services

ETL SEMKO

From: Ollie Moyrong, Intertek Testing Services
omoyrong@itsqs.com

To: Joe Dichoso
jdichoso@fcc.gov
FCC Application Processing Branch

Subject: Further request for Information

Re: FCC ID BGBMT345XFOR6A

Applicant: Mitsubishi Electric Corp.

Correspondence Ref. Number: 15557

731 Confirmation Number: EA98081

Date of Original E-Mail: 8/11/2000

Dear Mr. Joe Dichoso,

Below are our responses to your concerns regarding the above mentioned application:

1. All body-worn SAR measurements were made with the Mitsubishi brand belt-clip attached to the phone. The statement in the manual has been revised to reflect this. Please see attached page from the manual (Manual page 17).
3. Section 3.2 of the test report has been amended to include the composition of ingredients used in the tissue equivalent material for testing body-worn SAR (for both bands) and for testing head SAR in the PCS band. Please see attached pages from the SAR test report.
4. The Data Table in Section 3.3 of the Part 22/24 Test Report, with columns titled "Nominal Peak Output Power" and "Tolerance", were listed for informational purposes only. These limits are in reference to the Industrial Standard IS-137.

All tests including SAR were performed at the measured peak output power of:

25.2 dBm AMPS Cellular
27.5 dBm TDMA Cellular
26.8 dBm TDMA PCS

The measured power is the maximum output power. According to the manufacturer, this level is not to be exceeded in production units.

Also, the 731 form has been revised to reflect the correct rated RF power output. Please notify us if you require additional clarification. Thank you.

Best regards,

Ollie Moyrong



Intertek Testing Services NA, Inc.

1365 Adams Court, Menlo Park, CA 94025

Telephone 650-463-2900 Fax 650-463-2910 Home Page www.etlsemko.com



SAFETY INFORMATION

EXPOSURE TO RADIO FREQUENCY SIGNALS

Your wireless handheld portable telephone is a low power radio transmitter and receiver. When it is ON, it receives and also sends out radio frequency (RF) signals.

In August 1996, the Federal Communications Commissions (FCC) adopted RF exposure guidelines with safety levels for hand-held wireless phones. These guidelines are consistent with the safety standards previously set by both U.S. and international standards bodies:

- *ANSI C95.1 (1992)
- *NCRP Report 86 (1986)
- *ICNIRP (1996)

* American National Standards Institute; National Council on Radiation Protection and Measurements; International Commission on Non-Ionizing Radiation Protection

Those standards were based on comprehensive and periodic evaluations of the relevant scientific literature. For example, over 120 scientists, engineers, and physicians from universities, government health agencies, and industry reviewed the available body of research to develop the ANSI Standard (C95.1).

The design of your phone complies with the FCC guidelines (and those standards).

Your phone has been tested and meets the limits for radio frequency (RF) exposure set by the FCC for normal handheld use next to the ear or worn on the body using a Mitsubishi brand belt clip accessory specified for this phone, and used as intended. Operation of the phone in other situations such as in shirt pockets or non-Mitsubishi brand belt clips or holsters have not been tested. Therefore operation of the phone in non-tested situations may not meet the limits for RF exposure set by the FCC and must be avoided.

ANTENNA CARE

Use only the supplied or an approved replacement antenna. Unauthorized antennas, modifications, or attachments could damage the phone and may violate FCC regulations.

PHONE OPERATION

NORMAL POSITION: Hold the phone as you would any other telephone with the antenna pointed up and over your shoulder.

3.2 Tissue Simulating Liquid

Brain	
Ingredient	Frequency (800 – 900 MHz)
Water	40.3 %
Sugar	56.0 %
Salt	2.5 %
HEC	1.0 %
Bactericide	0.2 %

The dielectric parameters were verified prior to assessment using the HP 85070A dielectric probe kit and the HP 8753C network Analyzer. The dielectric parameters were:

Frequency (MHz)	ϵ_r^*	σ^* (mho/m)	ρ^{**} (kg/m ³)
900	41.9 $\pm$ 5%	0.835 $\pm$ 10%	1000

* worst case uncertainty of the HP 85070A dielectric probe kit

** worst case assumption

Brain	
Ingredient	Frequency (1900 MHz)
Water	53.9 %
Sugar	44.9 %
Salt	0 %
HEC	1.0 %
Bactericide	0.2 %

The dielectric parameters were verified prior to assessment using the HP 85070A dielectric probe kit and the HP 8753C network Analyzer. The dielectric parameters were:

Frequency (MHz)	ϵ_r^*	σ^* (mho/m)	ρ^{**} (kg/m ³)
1900	40.7 $\pm$ 5%	1.85 $\pm$ 10%	1000

* worst case uncertainty of the HP 85070A dielectric probe kit

** worst case assumption

Muscle	
Ingredient	Frequency (800 – 850 MHz)
Water	54.05 %
Sugar	45.05 %
Salt	0.1 %
Bactericide	0.8 %

The dielectric parameters were verified prior to assessment using the HP 85070A dielectric probe kit and the HP 8753C network Analyzer. The dielectric parameters were:

Frequency (MHz)	ϵ^*	σ^* (mho/m)	ρ^{**} (kg/m ³)
835	56.1 ± 5%	0.95 ± 10%	1000

* worst case uncertainty of the HP 85070A dielectric probe kit

** worst case assumption

Muscle	
Ingredient	Frequency (1900 MHz)
Water	54.5 %
Sugar	44.3 %
Salt	0 %
HEC	1.0 %
Bactericide	0.2 %

The dielectric parameters were verified prior to assessment using the HP 85070A dielectric probe kit and the HP 8753C network Analyzer. The dielectric parameters were:

Frequency (MHz)	ϵ^*	σ^* (mho/m)	ρ^{**} (kg/m ³)
1900	45.0 ± 5%	1.85 ± 10%	1000

* worst case uncertainty of the HP 85070A dielectric probe kit

** worst case assumption

Note: The amount of each ingredient specified in the tables are not the exact amounts of the final test solution. The final test solution was adjusted by adding small amounts of either water, sugar, and/or salt to calibrate the solution to meet the proper dielectric parameters.

SECTION IV - Enter FCC ID from Page 1, Section I

1.(a) Instead of Applicant, FCC is authorized to mail original Grant to: (See instructions)

Firm name, INTERTEK TESTING SERVICES
 number, street, 1365 ADAMS COURT
 City, State/Country, MENLO PARK, CALIFORNIA, U.S.A.
 ZIP/Postal Code 94025

(b) Name, Title and Mail Stop, if any, of person at above address to receive Grant: (If 1.(a) is completed, this item must be completed)

DAVID CHERNOMORDIK

2.(a) Technical contact:
 Firm name, INTERTEK TESTING SERVICES
 contact person, DAVID CHERNOMORDIK
 number, street, 1365 ADAMS COURT
 City, State/Country, MENLO PARK, CALIFORNIA, U.S.A.
 ZIP/Postal Code 94025

(b) Telephone No. (Area/Country/City code, No. and Ext.)

(650) 463-2900

(c) FAX No. (Area/Country/City code and No.)

(650) 463-2910

(d) Internet e-mail address:

(e) Non-Technical contact:
 Firm name, MITSUBISHI
 contact person, 5355 Mira Sorrentos Place
 number, street, San Diego, California
 City, State/Country, 92121
 ZIP/Postal Code

(f) Telephone No. (Area/Country/City code, No. and Ext.)

(g) FAX No. (Area/Country/City code and No.)

(h) Internet e-mail address:

3. Does this application include a request for confidentiality for any portion(s) of the data contained in this application pursuant to 47 CFR §0.459 of the Commission's Rules? If "Yes" see instructions.

☒ Yes☐ No

4. Does the applicant request that the Commission defer grant of this application pursuant to 47 CFR §0.457(d)(1)(ii)? (See instructions)

☐ Yes☒ No

5. Type of equipment authorization requested: (check one box only)

☐ Certification☒ Type Acceptance☐ Notification

6.(a) Equipment Code and description: (See instructions, page 4)

(b) Equipment will be operated under FCC Rule Part(s):

24, 22

☐ P ☐ C ☐ E PART 24 LICENSES PORTABLE TX HELD TO EAR

7. Application is for: (Check one box only)

☒ 1. Original equipment
(See instructions)☐ 2. Change in identification of presently authorized equipment☐ 3. Class II permissive change or modification of presently authorized equipment
(See instructions)

ORIGINAL FCC ID

Grant date

8. EQUIPMENT SPECIFICATIONS: (See instructions)

(a) Frequency range in MHz	(b) Rated RF power output in watts	(c) Frequency tolerance % , Hz, ppm	(d) Emission designator (See 47 CFR §2.201 and §2.202)	(e) Microprocessor model number
824 - 849	0.33 (AMPS)	+/- 2.5 ppm	40K0F8W	N/A
824 - 849	0.56 (TDMA)	+/- 200 Hz	40K0F1D	N/A
1850 - 1910	0.48 (TDMA)	+/- 200 Hz	30K0GXW	N/A

9. Is the equipment in this application:

(a) a composite device subject to more than one type of equipment authorization?

☐ Yes☒ No

(b) part of a system that operates with, or is marketed with, another device that requires an equipment authorization?

☐ Yes☒ No

If either of the above questions is answered "Yes" complete items 10.(a) and (b). (See instructions)