



MOTOROLA

Date: May 4, 2004

Subject: Request for additional information regarding FCC ID: IHDT56EJ1 (Portable Cellular/PCS Transceiver (GSM/WCDMA) with Embedded Bluetooth Transceiver)

Reference:

Application Received: 4/14/2004
 Correspondence Reference Number: 240503A.IHD
 Confirmation Number: TC4130
 Date of Original Email: 5/3/2004

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Questions and responses follow:

1. The tissue parameters shown on the 1900 MHz GSM right touch and right tilt SAR plots, taken on 3/20/04, are not listed in the Table on p.4 of the SAR report. Please address.

Response: Please see the updated table below:

<i>f</i> (MHz)	Tissue type	Limits / Measured	Dielectric Parameters		
			ϵ_r	σ (S/m)	Temp (°C)
835	Head	Measured, 19-Mar-04	42.9	0.93	18.4
		Recommended Limits	41.5 ±5%	0.90 ±5%	18-25
	Body	Measured, 22-Mar-04	55	0.98	18.5
		Recommended Limits	55.2 ±5%	0.97 ±5%	18-25
1880	Head	Measured, 20-Mar-04	39.1	1.44	18.9
		Measured, 20-Mar-04	38.9	1.47	18.9
		Measured, 20-Mar-04	38.2	1.45	18.9
		Recommended Limits	40.0 ±5%	1.40 ±5%	18-25
	Body	Measured, 21-Mar-04	51.3	1.48	19
		Measured, 23-Mar-04	51.3	1.57	19.1
		Recommended Limits	53.3 ±5%	1.52 ±5%	18-25

2. Please verify that "MAP" mode was used on the power meter to measure the WCDMA EIRP (and not the "BAP" mode used to measure the GSM levels).

Response: Yes, this is confirmed. The revised test report is updated.

3. Page 8 of the EMC report lists the maximum WCDMA EIRP = 23.82 dBm, but p.9 lists it as 22.83 dBm. Which is correct?

Response: The maximum WCDMA EIRP is 23.82 dBm. The revised test report is corrected.

4. Please specify the exact tuning range (center frequency of the low channel thru the center frequency of the hi channel) for WCDMA operation (the tuning range shown on p.3 of the SAR report incorrectly lists the GSM tuning range).

Response: The exact tuning range for WCDMA operation is:

WCDMA 1900 (Region 2)

<u>Transmit / Reverse / Uplink</u> 1850 to 1910 MHz Frequency (MHz) = UARFCN ÷ 5 where: 9262 ≤ UARFCN ≤ 9538 Region 2 additional channels: Frequency (MHz) = UARFCN ÷ 5 + 1850.1 where: UARFCN=12,37,62,87,112,137,162, 187,212,237,262,287 Channel spacing = 5 MHz Channel raster = 200 kHz	<u>Receive / Forward / Downlink</u> 1930 to 1990 MHz Frequency (MHz) = UARFCN ÷ 5 where: 9662 ≤ UARFCN ≤ 9938 Region 2 additional channels: Frequency (MHz) = UARFCN ÷ 5 + 1850.1 where: UARFCN=412,437,462,487,512,537, 562,587,612,637,662,687 Uplink / Downlink frequency separation = 80 MHz
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Please see the updated table for the SAR report below:

Device description

FCC ID Number	IHDT56EJ1				
Serial number	L850510060				
Mode(s) of Operation	GSM850	GSM1800	GSM1900	UMTS	BlueTooth
Modulation Mode(s)	GSM	GSM	GSM	WCDMA	BlueTooth
Maximum Output Power Setting	31.00dBm	30.00dBm	30.00dBm	22.00dBm	0 dBm
Duty Cycle	1:8	1:8	1:8	1:1	1:1
Transmitting Frequency Rang(s)	824.2-848.8 MHz	1710.2-1784.8MHz	1850.2-1909.8MHz	1852.4-1907.6MHz	2400.0-2483.5MHz
Production Unit or Identical Prototype (47 CFR §2..908)	Identical Prototype				
Device Category	Portable				
RF Exposure Limits	General Population / Uncontrolled				

5. Pages 23-25 and 28-30 of the Bluetooth test report all list apparently non-compliant peak radiated spurious emission levels at 2388 MHz (i.e., greater than 74 dBuV/m @ 3m). It appears that, due to the wide range used on these plots, the marker incorrectly labeled the fundamental emission as being outside of the authorized band. Please address.

Response: Please refer to the revised Bluetooth test report (EJ-EX06A revised).

6. What is the gain of the Bluetooth antenna?

Response: The Bluetooth antenna gain is -2.7 dBi

7. Please provide schematic diagrams for the Bluetooth transmitter.

Response: Please refer to new submission EJ-EX05A.

8. FYI: for the Bluetooth spurious radiated emissions below 1 GHz, Section 15.209 does not allow the use of the alternate CISPR 22 limits. Section 15.209 limits must be applied for all frequency bands.

Response: Agreed.