Exhibit 11 – RF Exposure Information

Motorola Customer Premise Equipment (CPE)

FCC ID: MIJZEPCPE-USB-01

Model No. LT 20M-00

This exhibit presents a discussion of the Motorola Zephyr CPE Transceiver relative to the RF Exposure requirements for transmitters approved for use in the Local Multipoint Distribution Service as defined in FCC Parts 1, 2 and 101 and Office of Engineering Technology Bulletin 65.

11.0 RF Exposure Requirements for LMDS Transmitters

Some transmitters approved for operation for Local Multipoint Distribution Service (LMDS) under FCC Part 101 are subject to an Environmental Evaluation as defined in Part 1, Paragraph 1.1307, and are required to display warning labels. FCC Part 2 also provides requirements for some transmitters with specific usage. This exhibit provides information relating to the specific requirements for the Motorola Zephyr CPE Transceiver for compliance with the RF Exposure requirements of FCC Parts 1, 2 and 101, and FCC Office of Engineering and Technology (OET) Bulletin 65.

11.1 Environmental Assessment

FCC Part 1, Paragraph 1.1307 and OET Bulletin 65, Appendix A, Table 1, state that "Routine Environmental Evaluation" must be performed for LMDS transmitters if:

a) for non-building-mounted antennas, the height above ground level to the lowest point of the antenna is less than 10 meters AND the power is greater than 1640 Watts EIRP
b) for building-mounted antennas, the power is greater than 1640 Watts EIRP. The Zephyr CPE transmitter at maximum rated operating power has an EIRP of 50.1 Watts, considerably less than that required for an Environment Assessment.

However, an Environmental Assesment was performed on the Motorola CPE. Figure 11-1 is a copy of that assesment. As can be seen from this assesment the RF exposure levels do not exceed the 1mW/cm^2 level for uncontrolled environments.

11.2 Radio Frequency Radiation Exposure Evaluation Assessment

FCC Part 2, Paragraph 2.1091 defines the requirements for a radio frequency radiation exposure evaluation for mobile devices and 2.1093 defines the same for portable devices. The Zephyr CPE is neither mobile nor portable and is therefore considered exempt from these requirements.

11.3 Effective Isotropic Radiated Power (EIRP) and Power Density Calculations

The maximum EIRP from the Zephyr CPE transmitter is 50.1 Watts (+17 dBW), based on a maximum power output of 0.016 Watts (-18dBW) and an antenna gain 35 dBi. The maximum on-axis power density of High Gain transmitter was measured at 0.35 mW/cm^2.

11.4 Labeling Requirements

Part 1, Paragraph 1.1307, Table 1 specifies that LMDS *subscriber transceivers* are required to have a label which provides adequate notice regarding potential radio frequency hazards relative to the limits of Part 1, Paragraph 1.1310. Figure 11-2 shows the label that is to be placed on the CPE and Figure 11-3 shows the location of the label on the CPE.

RF Energy Exposure Assessment Record

Product or Equipment Name: LMDS (Zephyr ODU) Date: 12/22/99

Program/Project Contact Person: Curtis Eickerman Phone: 441-4974

M/D: R1106

Location of Product/Equipment: Unit tested in Hayden EMC Lab Anechoic Chamber

1. RF Emitting Product or Equipment Description

Manufacturer: Motorola

Model: LT 20M-00 (ODU) Serial Number: Prototype #4

Describe the product or equipment, the environment(s) where it is used, and information about operators and others who might be exposed to its emitted RF energy.

The unit is a wideband datalink for point to multipoint data communications. The transmitter is located within the antenna housing. It is used for line-of-sight operation. The unit will be roof-mounted on a short mast (generally less than 3 meters) to clear any nearby obstructions. The unit will operate 24 hrs per day and 7 days per week. The only people who may be exposed are those doing maintenance work on the roof, or the LMDS operators during set-up and alignment.

Frequencies of Operation (GHz): 31.225-31.300 GHz

Maximum Output Power Level (Watts): 16 mW typical (63 W EIRP)

Modulation Characteristics: 16 QAM, QPSK, TDMA

If pulsed; Pulse duration: Indeterminant Pulse repetition frequency (PRF): Indeterminant

Duty cycle: Controlled by data modem in normal operation. 100% for this test at – 16 mW out.

Antenna description: Directional antenna enclosed in radome.

Antenna gain: 36 dBi typical

Failure Modes

Are there credible failure modes in the product or equipment (hardware, software) or operations (controls, procedures, human error) that could cause the average output power to increase above the normal operating level?

Yes No X If Yes, describe the failure mode, probability of occurrence of the failure, and the expected level of output power.

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Figue 11-1 RF Energy Exposure Assesment Record (1 of 3)

RF Energy Exposure Assessment Record

Product or Equipment Name: LMDS (Zephyr ODU) Date: 12/22/99

2. Maximum Permissible Exposure (MPE) Levels

MPE Levels based on ANSI/IEEE C95.1-1992 and 47 CFR 1.1310, Table 1 requirements, unless otherwise specified.

	Frequency (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Plane Wave Equiv. Power Density (S) (mW/cm^2)	Specific Absorption Rate (SAR) (mW/g)
Controlled Environment	31225-31300	N/A	N/A	5.0	N/A
Uncontrolled Environment	31225-31300	N/A	N/A	1.0	N/A

3. Measurement Results

Applicable Document: Radio Frequency (RF) Energy Exposure Test Procedure, Rev E.

	Frequency (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Plane Wave Equiv. Power Density (S) (mW/cm^2)	Specific Absorption Rate (SAR) (mW/g)
Controlled Environment	31225-31300	N/A	N/A	0.35 **	N/A
Uncontrolled Environment	31225-31300	N/A	N/A	0.35 **	N/A

** All measurements taken at distance of 20cm unless otherwise noted.
Additional measurements: 0.28 mW/cm^2 at 0.4 meter, 0.22 mW/cm^2 at 1.0 meters, 0.25 mW/cm^2 at 1.5 meters, and 0.22 mW/cm^2 at 2 meters.

Is the Maximum Permissible Exposure Level for an uncontrolled environment exceeded?

Yes No X If Yes, provide drawings to show the boundaries of the Restricted Access Area.

Is the Maximum Permissible Exposure Level for a controlled environment exceeded?

Yes No X If Yes, define and implement necessary controls.

4. RF Energy Measurement Equipment

Manufacturer	Description	Model	Asset No.	Date of Last Cal.	Cal. Due Date
Narda	Electromagnetic Survey Meter	8718	G58802	02/16/99	02/28/00
Narda	Probe, E-Field	8741	G52451	7/2/98	7/31/99

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Figue 11-2 RF Energy Exposure Assesment Record (2 of 3)

RF Energy Exposure Assessment Record

Product or Equipment Name: LMDS (Zephyr ODU) Date: 12/22/99

Measurements made by: Jim Dykema Date: 12/22/99

5. Required Hazard Controls

Fully describe all hazard controls to be implemented. Provide drawings and other attachments, as necessary, to describe Restricted Access Areas.

None required for its present configuration and intended state of use.

6. Review & Approval

Bob Skalka
Project Leader
Date:

Jerry Trybus
Program / Product Manager
Date:

John Miller
Division Product Safety Representative
Date:

Dick Caldwell
Responsible Area Manager
Date:

Brent Marking
PRMS RF Engineer
Date:

Alexander Britain
Radiation Safety Officer
Date:

Figue 11-3 RF Energy Exposure Assesment Record (3 of 3)

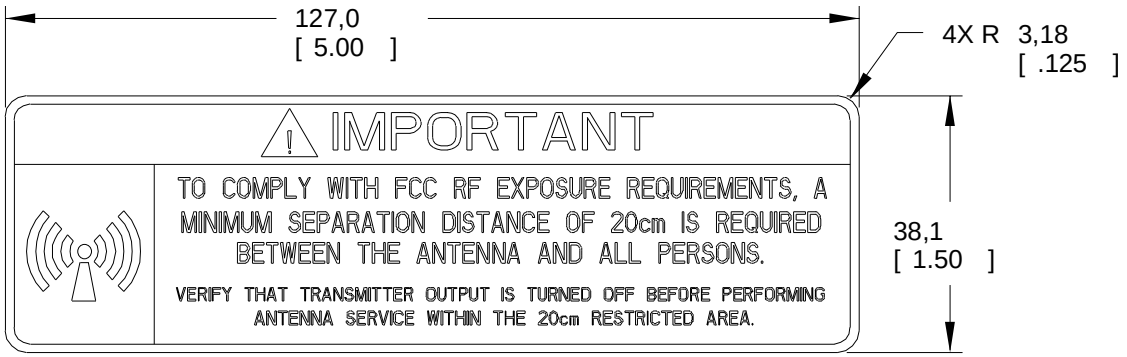


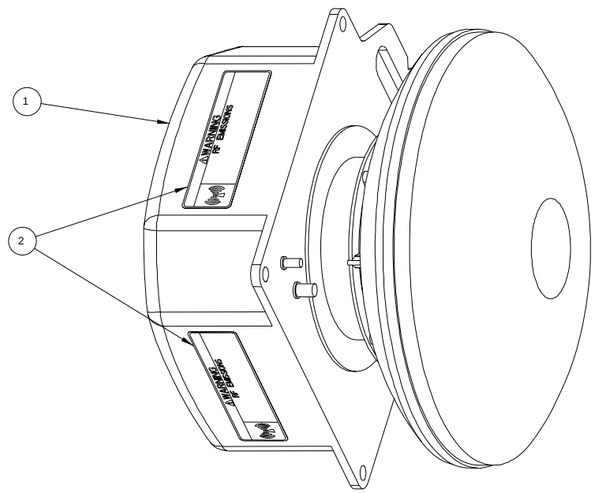
Figure 11-2 RF Exposure Label

REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED

NOTES:

1. INSTALL LABEL, FIND NUMBER 2 ON TWO SURFACES OF CPE, FIND NUMBER 1 APPROXIMATELY WHERE SHOWN.

CAD MAINTAINED. CHANGES SHALL BE INCORPORATED BY THE DESIGN ACTIVITY.



PART NO: 01-P57490J 001

SEE SEPARATE PARTS LIST

SYM	SIZE	QTY
HOLE LIST		

ASME Y14.1M -1992 DWG FORMAT - 10/98

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN MILLIMETERS
TOLERANCES ON:
0 PLACE ± | 1 PLACE ± 0.1 | 2 PLACE ± 0.03
ANGLES ± 0.5 °
THIRD ANGLE PROJECTION

NEXT ASSY	USED ON
APPLICATION	LMDS EURUS

CONTR	
ISS	
APPROVALS	
DWN R.WELSON 00-02-29	
CHKR	
QA	
MATL	
MFG	
ENG	

MOTOROLA, INC.
SCOTTSDALE, ARIZONA 85252-1417

TITLE
LABEL LOCATION ASSEMBLY,
EURUS CPE

SIZE	CAGE CODE	DWG NO
A2	94990	01-P57490J

SCALE 1/2	WT	SHEET 1 OF 1

MODEL: 01-P57490J_CPE_LABEL_ASSY
PRO/E: 01-P57490J

DWGN 01-P57490J
SH 1

Figue 11-3 RF Exposure Label Location