RF SAFETY COMPLIANCE STATEMENT AND LABEL

for ODU-24 UBT-1 LM
FCC-ID: THB-05HAA00105ABL

The **ODU-24 UBT-1 LM** is considered a **Subscriber Unit.** Under the terms specified in Table 1 Transmitters, Facilities and Operations Subject to Routine Environmental Evaluation" of **47 CFR 1.1307**, the limits for "(Local Multipoint Distribution Service (subpart L of part 101) and 24 GHz (subpart G of part 101) for *Building-mounted antennas* is defined at an EIRP of 1640 Watt. When this limit is exceeded, a routine environmental evaluation has to be performed for the site.

The **ODU-24 UBT-1 LM** attached to antennas with diameters from **0,26 m to 0,6 m** can provide a maximum EIRP of 1202 Watt. For installations with antennas of up to 0,6 m, a routine environmental evaluation is not required.

The **ODU-24 UBT-1 LM** attached to an antenna with diameter of **1,2 m** can provide a maximum EIRP of 4074 Watt. For installations with the 1,2-m-antenna, a routine environmental evaluation is required.

The **ODU-24 UBT-1 LM** will be installed on a building-mounted antenna and should fall under the limits for Maximum Permissible Exposure (MPE) for General Population/Uncontrolled Exposures listed under **Table 1.B of 47 CFR 1.1310**. The limit listed for the frequency range 1500 MHz to 100,000 MHz is 1 mW/cm² (= 10 W/m²).

OET Bulletin 65 Edition 97-01 provides in Section 2 "Prediction Methods" a specific evaluation for Aperture Antennas. Antennas of this type are applied to the **ODU-24 UBT-1 LM**, thus the method of evaluation is applicable. The method differentiates between near-field and far-field. The following table shows the evaluation for those types of antennas, which can be used with the **ODU-24 UBT-1 LM.**

Frequency	f		25,15 GHz			
Wavelength	λ		0,0119 m			
Tx-Power	P_{TX}		19,0 dBm			
Power into antenna	P		0,079 Watt			
Antenna diameter	D		0,26 m	0,30 m	0,60 m	1,20 m
Antenna gain	g		34,3 dBi	35,4 dBi	41,8 dBi	47,1 dBi
Aperture efficiency	$\eta = \frac{G\lambda^2/4\pi}{\pi D^2/4}$	OET Bulletin 65 (14)	57%	55%	60%	51%
EIRP	$P \cdot G$		214 Watt	275 Watt	1202 Watt	4074 Watt
Transition Near-Field to Far-Field	$R_f = \frac{D^2}{4\lambda}$	OET Bulletin 65 (12)	1,42 m	1,89 m	7,55 m	30,18 m
Max. power density in Near-Field	$S_{nf} = \frac{16\eta P}{\pi D^2}$	OET Bulletin 65 (13)	**3,44 W/m²**	**2,50 W/m²**	**0,68 W/m²**	**0,14 W/m²**
Transition region	$R_{ff} = \frac{0{,}6D^2}{\lambda}$	OET Bulletin 65 (16)	3,40 m	4,53 m	18,11 m	72,43 m
Max. power density in Far-Field	$S_{ff} = \frac{P \cdot G}{4\pi \cdot R^2}$	OET Bulletin 65 (18)	**1,47 W/m²**	**1,07 W/m²**	**0,29 W/m²**	**0,06 W/m²**
Routine Environmental Evaluation			**not required**	**not required**	**not required**	**required**

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With all antennas from 0,26 m to 1,2 m, the **ODU-24 UBT-1 LM** complies with the limits of 1 mW/cm² (=10 W/m²) for Maximum Permissible Exposure (MPE) for General Population/Uncontrolled Exposures listed under **Table 1.B of 47 CFR 1.1310** at all distances in front of the antenna.

Label Information:

The following notice of FCC Radio-frequency exposure limits will be placed on the parabolic antennas with **diameters from 0,26 m to 0,6 m**:

THIS ANTENNA HAS TO BE OPERATED WITH THE **ODU-24 LBT-1 LM** OR **ODU-24 UBT-1 LM**.
THIS CONFIGURATION COMPLIES WITH FCC RADIO FREQUENCY EXPOSURE LIMITS AS SPECIFIED IN 47CFR1.1310 AT ALL DISTANCES BETWEEN ANTENNA AND ALL PERSONS.
ROUTINE ENVIRONMENTAL EVALUATION AS SPECIFIED IN 47CFR1307 IS NOT REQUIRED

The following notice of FCC Radio-frequency exposure limits will be placed on the parabolic antennas with **diameter of 1,2 m:**

THIS ANTENNA HAS TO BE OPERATED WITH THE **ODU-24 LBT-1 LM** OR **ODU-24 UBT-1 LM**.
THIS CONFIGURATION COMPLIES WITH FCC RADIO FREQUENCY EXPOSURE LIMITS AS SPECIFIED IN 47CFR1.1310 AT ALL DISTANCES BETWEEN ANTENNA AND ALL PERSONS.

ATTENTION:
ROUTINE ENVIRONMENTAL EVALUATION AS SPECIFIED IN 47CFR1307 IS REQUIRED

Backnang, 10. Aug. 2005

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