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RF Exposure Evaluation Report

APPLICANT	UNIFICATION CO., LTD.
	5F, NO.6, WU-KUNG 5 RD. HSINCHUANG CITY, TAIPEI TAIWAN
FCC ID	LEA-R01VHF
MODEL NUMBER	R01VHFT
PRODUCT DESCRIPTION	VHF REPEATER - FIXED MOUNTED
STANDARD APPLIED	CFR 47 Part 2.1091
PREPARED BY	Cory Leverett

We, TIMCO ENGINEERING, INC. would like to declare that the device has been evaluated in accordance with 47 CFR Part 2.1091 and meets the requirements.

The attached report shall not be reproduced except in full without the written approval of TIMCO ENGINEERING, INC.

Applicant: UNIFICATION CO., LTD.
FCC ID: LEA-R01VHF
Report: V:\U\UNIFICATION_LEA\438ZAUT16\438ZAUT16RF EXP MPE RPT_REV2.DOCX

GENERAL REMARKS

Attestations

This equipment has been evaluated in accordance with the standards identified in this report. To the best of my knowledge and belief, these evaluations were performed using the procedures described in this report.

I attest that the necessary evaluations were made, under my supervision, at:

Timco Engineering Inc.
849 NW State Road 45
Newberry, FL 32669



Authorized Signatory Name: _____

Cory Leverett

Engineering Project Manager

Date: 8/ 5/ 2016

Applicant: UNICATION CO., LTD.

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RF Exposure Requirements

General information

Device type: VHF REPEATER - FIXED MOUNTED

Antenna

The manufacturer does not specify an antenna, but a typical antenna has a gain of up to 10.65 dBi

Configuration	Antenna p/n	Type	Max. Gain (dBi)
Fixed mounted	Any	omni	10.65 dBi

MPE Calculation:

The minimum separation distance is calculated as follows:

$$E(V/m) = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power density: } P_d(mW/cm^2) = \frac{E^2}{3770}$$

The limit for general uncontrolled exposure environment is shown in FCC rule Part 1.1310, Table 1.

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**Minimum Separation Distance for Mobile or Fixed Devices
General Population/Uncontrolled Exposure**

Insert values in yellow highlighted boxes to determine Minimum Separation Distance

Max Power	100	W	<i>equals</i>	Max Power	100000	mW
Duty Cycle	100	%	<i>equals</i>	Duty Factor	1	numeric
Antenna Gain	10.65	dBi	<i>equals</i>	Gain numeric	11.61449	numeric
Duplexer/Coax Loss	3.15	dB		Gain - Coax Loss	5.623413	numeric
Power Density	0.2	mW/cm ²				

Enter power Density from the chart to the right

Rule Part 1.1310, Table 1 (B)

Frequency	174	MHz		Frequency range	Power density	Enter this value
				MHz	mW/cm ²	mW/cm ²
				0.3-1.34	100	100
				1.34-30	180/f ²	0.0
				30-300	0.2	0.2
				300-1,500	f/1500	0.1
				1,500-100,000	1	1

f = frequency in MHz

Minimum Separation Distance	473 cm	4.73 m
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Minimum Separation in Inches 186.0863 Inches