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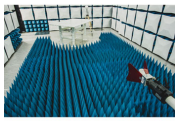

RF EXPOSURE EVALUATION
Maximum Permissible Exposure [MPE]

Applicant Name:
Council Rock Enterprises LLC
11 Centre Park
Rochester, NY 14614
United States

Date of Testing:
03/25/2021 - 05/13/2021
Test Site/Location:
PCTEST Lab. Columbia, MD, USA
Test Report Serial No.:
1M2104020027-02.2AL52

FCC ID:	**2AL52E15008A**
Applicant:	**Council Rock Enterprises LLC**

Application Type:	Class II Permissive Change
Model:	CR008A
EUT Type:	Cellular Module
FCC Classification:	PCS Licensed Transmitter (PCB)
FCC Rule Part:	FCC Part 1 (§1.1310) and Part 2 (§2.1091)
Test Procedure(s):	KDB 447498 D01
Class II Permissive Change:	Adding LTE Band 8 Frequency
Original Grant Date:	04/28/2021

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in FCC KDB 447498 D01. Test results reported herein relate only to the item(s) tested.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Randy Ortanez
President

ACCREDITED
CERT #2041.01

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1.0 RF EXPOSURE EVALUATION – MAXIMUM PERMISSIBLE EXPOSURE (MPE)

1.1 Introduction

This document is prepared to show compliance with the RF Exposure requirements as required in §1.1310 of the FCC Rules and Regulations.

The limit for Maximum Permissible Exposure (MPE), specified in FCC §1.1310, is listed in Table 1-1. According to FCC §1.1310: the criteria listed in the following table shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified in §1.1307(b).

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time (Minutes)
(A) Limits For Occupational / Control Exposures (f = frequency)				
30-300	61.4	0.163	1.0	6
300-1500	…	…	f/300	6
1500-100,000	…	…	5.0	6
(B) Limits For General Population / Uncontrolled Exposure (f = frequency)				
30-300	27.5	0.073	0.2	30
300-1500	…	…	f/1500	30
1500-100,000	…	…	1.0	30

Table 1-1. Limits for Maximum Permissible Exposure (MPE)

1.2 EUT Description

The EUT (FCC ID: 2AL52E15008A) is an LTE modem. This MPE evaluation will only cover RF exposure for LTE Band 8 operation. RF Exposure is evaluated to the Mobile Device requirements for General Population/Uncontrolled Exposure.

1.3 Procedure

The procedure used to determine the RF power density was based upon a calculation for determining compliance with the MPE requirements. The power generated by each transmitter used in this product was initially measured by a spectrum analyzer and the powers were recorded.

Through use of the Friis transmission formula, the following MPE evaluations are calculations based on maximum power and maximum antenna gain allowed to achieve power density compliance for the General Population Exposure case while remaining under the 1.5W categorical exclusion limit in 2.1091(c)(1)(i).

Friis Transmission Formula

Friis transmission formula: $P_d = (P_{out}*G) / (4\pi r^2)$

Where,

P_d = Power Density (mW/cm^2)
P_{out} = output power to antenna (mW)
G = gain of antenna in linear scale
π = 3.1416
r = distance between observation point and center of the radiator (cm)

Frequency	899	MHz		
Limit	0.599	mW/cm^2		
Distance (cm), R =	20	cm		
Power (dBm), P =	24.0	dBm	251.19	mW
TX Ant Gain (dBi), G =	9.90	dBi		
Power Density (S) =	**0.488**	mW/cm^2	(at 20cm)	

Table 1-2. Maximum Calculated MPE Data for 899MHz (General Population/Uncontrolled Exposure)

1.4 Summary of Results

Frequency Band [MHz]	Maximum Antenna Gain [dBi]	MPE @ 20cm (mW/cm^2)	Test Result
899	9.90	0.488	PASS

Table 1-3. Maximum Permissible Exposure Summary Table

2.0 CONCLUSION

This device meets the mobile General Population limits with the antenna gains and at the distances specified in this report per §2.1091 of the FCC Rules and Regulations. An appropriate RF exposure compliance statement will be placed in the user's manual.