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RF Exposure Evaluation Report

APPLICANT	BUILDING 36 TECHNOLOGIES, LLC
	35 HIGHLAND CIRCLE SUITE 300 NEEDHAM MA 02494 USA
FCC ID	2AC3T-H200BRA
MODEL NUMBER	B36-H200-B
PRODUCT DESCRIPTION	GATEWAY
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.

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: 4/16/2015

A handwritten signature in black ink is written over a purple circular stamp. The stamp contains the text "TIMCO ENGINEERING INC." around its perimeter. The signature is a cursive-style name, likely "Cory Leverett".

RF Exposure Requirements

General information

Device type: GATEWAY

Devices that operate under Part 90 of this chapter are subject to RF exposure evaluation prior to equipment authorization or use.

Antenna

The manufacturer does not specify an antenna, but a typical antenna has a gain of 0 dBi.

Configuration	Antenna p/n	Type	Max. Gain (dBi)
Integrated	PCB Trace	Di-Pole	2.15

Operating configuration and exposure conditions:

The conducted output power is shown in the table below. Typical use qualifies for a maximum duty cycle factor of 100%.

Operation: The EUT uses a fixed PCB trace antenna, therefore there is no cable loss.

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 1.11310, Table 1.

**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	0.0039	W	<i>equals</i>	Max Power	3.9	mW
Duty Cycle	100	%	<i>equals</i>	Duty Factor	1	numeric
Antenna Gain	2.81	dBi	<i>equals</i>	Gain numeric	1.909853	numeric
Coax Loss	0	dB		Gain - Coax Los	1.909853	numeric
Power Density	0.6	mW/cm ²				

Enter power Density from the chart to the right

Rule Part 1.1310, Table 1

Frequency rang	Power den	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	0.6
1,500-100,000	1	1

f = frequency in MHz

Minimum Separation Distance	1 cm	0.01 m
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Minimum Separation in Inches 0.391008 Inches