

RF Exposure Exhibit

Project Number: 4323973

Report Number: 4323973EMC02 **Revision Level:** 1

Client: MICHELIN NORTH AMERICA (US) INC.

Equipment Under Test: MICHELIN TRACK CONNECT

Model: MTC-V1

FCC ID: FI5-EX2-01

Applicable Standards: 47 C.F.R. §§ 2.1091 and 2.1093; FCC KDB 447498

FCC OET Bulletin 65 Supplement

Exhibit Date: 22 April 2019

Remarks: This report details the results of the testing carried out on one sample, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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1 General Information

1.1 Client Information

Name: MICHELIN NORTH AMERICA (US) INC.
Address: One Parkway South
City, State, Zip, Country: Greenville, SC 29615 USA

1.1 Test Laboratory

Name: SGS North America, Inc.
Address: 620 Old Peachtree Road NW, Suite 100
City, State, Zip, Country: Suwanee, GA 30024, USA

Accrediting Body: A2LA
Type of lab: Testing Laboratory
Certificate Number: 3212.01

1.2 General Information of EUT

Product Marketing Name (PMN): MICHELIN TRACK CONNECT
Model Number (HVIN): MTC-V1
Firmware Version ID (FVIN): V2.0
Serial Number: 20180308.0245

Frequency Range: 2402 – 2480 MHz
Data Modes: Bluetooth Low Energy – GFSK
Antenna: Internal PCB Trace, -2dBi

Rated Voltage: 5 VDC
Test Voltage: 5 VDC

Sample Received Date: 6/6/2018
Dates of testing: 8/2/2018-8/28/2018

1.3 Operating Modes and Conditions

The EUT was programmed by the manufacturer to transmit on low, mid and high channels in all necessary modulation and modes of operation.

2 RF Exposure

2.1 Test Result

Test Description	Product Specific Standard	Test Result
RF Exposure	FCC Part 1.1310	Compliant

2.2 Test Method

Using the maximum power (including tune-up tolerances), the power density was calculated. Maximum antenna gain was assumed for this exercise.

2.3 Single transmission RF Exposure Levels

Average Power at the antenna:	1.4 dBm
Average Power at the antenna:	1.38 mW
Antenna gain:	-2 dBi
Distance of interest:	20 cm

Estimated RF Power Density: 0.0017 W/m²

	Controlled Environment	Uncontrolled Environment
Limit of Maximum Permissible Exposure (MPE)	50 W/m ²	10 W/m ²
Distance to Compliance From Centre of Antenna	0.05 inches 0.12 cm	0.1 inches 0.26 cm
In Compliance at distance of interest?	Yes	Yes

$$10^{\frac{P_{dBm}+G_{Antenna}}{10}} * \frac{1 \text{ W}}{1000 \text{ mW}} * \frac{1}{4\pi r^2} = P_{density} \text{ W/m}^2$$

$$10^{\frac{1.4 \text{ dBm} + -2 \text{ dB}}{10}} * \frac{1 \text{ W}}{1000 \text{ mW}} * \frac{1}{4\pi(0.2\text{m})^2} = 0.0017 \frac{\text{W}}{\text{m}^2}$$

3 Revision History

Revision Level	Description of changes	Revision Date
DRAFT	--	
0	Initial release	11 October 2018
1	Removed unnecessary frequency information from calculations table. Added formula and showed work for Power Density calculations. Added Exhibit Date and Revision history.	22 April 2019