

STARRY, INC.

MPE REPORT

SCOPE OF WORK

MPE CALCULATION – COMET 24

REPORT NUMBER

104749253BOX-007

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MPE REPORT
(FULL COMPLIANCE)

Report Number: 104749253BOX-007

Project Number: G104749253

Report Issue Date: February 2, 2022

Model(s) Tested: COMET 24

Standards: FCC Part 1 Subpart I, February 2022

Procedures Implementing the National Environmental Policy Act of 1969
§1.1307 Actions that may have a significant environmental effect, for which Environmental Assessments (EAs) must be prepared.

ISED RSS-102 Issue 5, March 19, 2015

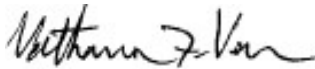
Radio Frequency (RF) Exposure Compliance of Radiocommunication Apparatus
(All Frequency Bands)

Tested by:
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Client:
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1 Introduction and Conclusion

This evaluation report covers for a mobile device subject to routine environmental evaluation for RF exposure. A mobile device is defined as a transmitting device designed to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons.

The evaluation indicated in section 2.0 were performed on the product constructed as described in section 4.0. The remaining sections are the verbatim text from the actual evaluation during the investigation. These sections include the evaluation name, the specified Method, and Results. No additions, deviations, or exclusions have been made from the standard(s) unless specifically noted.

Based on the results of our investigation, we have concluded the product evaluated **complies** with the requirements of the standard(s) indicated. The results obtained in this report pertain only to the item(s) evaluated. Intertek does not make any claims of compliance for samples or variants which were not evaluated.

2 Evaluation Summary

Section	Test full name	Result
3	Client Information	-
4	Description of Equipment Under Evaluation and Variant Models	-
5	System Setup and Method	-
6	Power Density Calculation (FCC §1.1310)	Compliant
7	Revision History	-

3 Client Information

This EUT was evaluated at the request of:

Client: Starry, Inc.
 38 Chauncy St, Suite 200
 Boston, MA 02111
 USA

Contact: Robert White
Telephone: (617) 297-9559
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4 Description of Equipment Under Test and Variant Models

Manufacturer: Starry, Inc.
 38 Chauncy St, Suite 200
 Boston, MA 02111
 USA

Description of Equipment Under Test (provided by client)

The equipment under test is a Multipoint Radio with integrated Bluetooth Low Energy (BLE) and 5 GHz transmitters. The BLE radio is used only during installation to add technicians for a very short period. The 24 GHz is active during that time and establishing a link / passing traffic. The BLE does not operate after installation is completed, except on site visit, which is rare. 5 GHz radio is always associated. It sends beacons 100% of the time on 5 GHz. It operates at the same time as the 24 GHz, and for a very short period of time with the BLE.

Equipment Under Test Power Configuration			
Rated Voltage	Rated Current	Rated Frequency	Number of Phases
54 Vdc	-	-	-

Variant Models:

The following variant models have been identified by the manufacturer as being electrically identical models, depopulated models, or with reasonable similarity to the model(s) tested. Intertek does not make any claims of compliance for samples or variants which were not tested.

None

5 Power Density Calculation

5.1 Requirement(s)

FCC §1.1310 Radiofrequency radiation exposure limits

Table 1 below sets forth limits for Maximum Permissible Exposure (MPE) to radiofrequency electromagnetic field.

Table 1 to §1.1310(e)(1) – Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power Density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	842/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

F = frequency in MHz

* = Plane-wave equivalent power density

5.2 Method

An MPE evaluation was performed in order to show that the device was compliant with FCC §2.1091 and ISSED RSS-102. The maximum power density was calculated for each transmitter at a separation distance of 20 cm. The calculation was performed using the maximum gain from the internal and external antennas declared by the manufacturer.

The maximum permissible exposure (MPE) is predicted by using the following equation:

$$S = PG/4\pi R^2$$

where: S = power density (in appropriate units, e.g. mW/cm²)

P = power input to the antenna (in appropriate units, e.g., mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

5.3 Calculation:

Technology	Frequency (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	EIRP Power (dBm)	EIRP Power (mW)	PD @ 60cm (mW/cm ²)	FCC PD Limits (mW/cm ²)	% of FCC Limit
24 GHz Radio	24270	-	-	46.52	44874.54	0.9919	1	99.19
5 GHz Radio	5795	16.19	5.50	21.69	147.57	0.0033	1	0.33
BLE	2402	9.02	1.10	10.12	10.28	0.0002	1	0.02

Total %: 99.54

*Output power data were taken from Intertek test reports 104723800BOX-001, 104749253BOX-008, and 104749253BOX-001

5.4 Results:

The sample tested was found to Comply. Based on calculation presented in §5.3, the safety distance is 60 cm to comply with the limits for general population / uncontrolled exposure.

6 Revision History

Revision Level	Date	Report Number	Prepared By	Reviewed By	Notes
0	02/02/2022	104749253BOX-007_RF Exposure	VFV <i>VFV</i>	KPS <i>KPS</i>	Original Issue