

# CommScope Technologies LLC RF Exposure Exhibit

**SCOPE OF WORK**

EMC TESTING – Band 5 Radio Module, Model: RPM-A5A11-B05

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**RF Exposure Exhibit  
(mobile devices)**

**Report Number: 104326151MPK-002**

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**Report Issue Date: October 30, 2020**

**Product Designation: Band 5 Radio Module**

**Model Tested: RPM-A5A11-B05**

**FCC ID: QHYRPM-A5A11-B05**

**to**

**47CFR 2.1091**

**for**

**CommScope Technologies LLC**

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<b>Report No. 104326151MPK-002</b>	
<b>Equipment Under Test:</b>	Band 5 Radio Module
<b>Trade Name:</b>	CommScope Technologies LLC
<b>Model(s) Tested:</b>	RPM-A5A11-B05
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<b>Applicable Regulation:</b>	47CFR 2.1091

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### 1.0 RF Exposure Summary

Test	Reference FCC	Result
Radio frequency Radiation Exposure Evaluation	47 CFR§2.1091	Complies

### 2.0 RF Exposure Limits

In this document, we evaluate the RF Exposure to human body due the intentional transmission from the transmitter (EUT). The limits for Maximum Permissible Exposure (MPE) specified in FCC 1.1310 was followed.

#### 2.1 FCC Limits

According to FCC 1.1310 table 1: 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)

#### LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (minutes)
<b>(A)Limits For Occupational / Control Exposures</b>				
0.3 – 3.0	614	1.63	*100	6
3.0 – 30	1842/f	4.89/f	*900/f <sup>2</sup>	6
30-300	61.4	0.163	1.0	6
300 - 1500	...	...	F/300	6
1500 - 100,000	...	...	5	6
<b>(B)Limits For General Population / Uncontrolled Exposure</b>				
0.3 – 1.34	614	1.63	*100	30
1.34 – 30	824/f	2.19/f	*180/f <sup>2</sup>	30
30 – 300	27.5	0.073	0.2	30
300 - 1500	...	...	F/1500	30
1500 - 100,000	...	...	1.0	30

F = Frequency in MHz

\* = plane wave equivalent density

### 3.0 Test Results (Mobile Configuration)

#### 3.1 Classification

Radio is installed inside a mobile host device. The antenna of the product, under normal use condition, is at least 20 cm away from the body of the user and accessible to the end user. Warning statement to the user for keeping at least 20 cm or more separation distance with the antenna should be included in user's manual.

#### 3.2 EIRP calculations

The EUT, Model: RPM-A5A11-B05 consists of Band 5 Radio module only. For RF exposure compliance refer reports # 104326151MPK-001.

#### 3.3 Maximum RF Power

Frequency Range (MHz)	RF Output (dBm)	Antenna Gain <sup>1</sup> (dBi)	Note
864 - 894	21.58	3.0	Conducted power measurements were taken from Report # 104326151MPK-001.

<sup>1</sup>As declared by the manufacturer.

**3.4 RF Exposure Calculation**

**3.4.1 RF Exposure calculation for RPM-A5A11-B05 radio.**

Calculations for this report are based on highest power measured for each band.

Frequency Range (MHz)	EIRP <sup>1</sup> (dBm)	EIRP <sup>1</sup> (mW)	Power Density (mW/cm <sup>2</sup> ) @20 cm	FCC Limit (mW/cm <sup>2</sup> )	Results
869 - 894	24.58	287.1	0.0571	0.596	Complies

<sup>1</sup>Note: Antenna gains below 0 are considered as 0dBi.

## **Appendix A: Power Density Calculation**

The Power Density can be calculated using the formula

$$S = \text{EIRP} / 4\pi D^2$$

Where: S is Power Density in mW/cm<sup>2</sup>

D is the distance from the antenna in cm.



**4.0 Document History**

<b>Revision/ Job Number</b>	<b>Writer Initials</b>	<b>Reviewer Initials</b>	<b>Date</b>	<b>Change</b>
1.0/ G104326151	ML	KV	October 30, 2020	Original document