

CommScope Technologies LLC RF Exposure Exhibit

SCOPE OF WORK

EMC TESTING – Band 30 Radio Module; Model: RPM-A5A11-B30

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**RF Exposure Exhibit
(mobile devices)****Report Number: 104326151MPK-006****Project Number: G104326151****Report Issue Date: November 18, 2020****Product Designation: Band 30 Radio Module****Model Tested: RPM-A5A11-B30****FCC ID: QHYRPM-A5A11-B30****to****47CFR 2.1091****for****CommScope Technologies LLC****Tested by:**

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Report No. 104326151MPK-006	
Equipment Under Test:	RP5000 20MHz SSA 2x2 Radio Module B30
Trade Name:	CommScope Technologies LLC
Model(s) Tested:	RPM-A5A11-B30
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Applicable Regulation:	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 ²)	Average Time (minutes)
(A)Limits For Occupational / Control Exposures				
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 - 1500	...	...	F/300	6
1500 - 100,000	...	...	5	6
(B)Limits For General Population / Uncontrolled Exposure				
0.3 – 1.34	614	1.63	*100	30
1.34 – 30	824/f	2.19/f	*180/f ²	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-B30 consists of Band 30 Radio module only. For RF exposure compliance refer reports # 104326151MPK-005.

3.3 Maximum RF Power

Frequency Range (MHz)	RF Output (dBm)	Antenna Gain ¹ (dBi)	Note
2350-2360	20.99	5	Conducted power measurements were taken from Report # 104326151MPK-005.

¹As declared by the manufacturer.

3.4 RF Exposure Calculation

3.4.1 RF Exposure calculation for RPM-A5A11-B30 radio.

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

Frequency Range (MHz)	EIRP ¹ (dBm)	EIRP ¹ (mW)	Power Density (mW/cm ²) @20 cm	FCC Limit (mW/cm ²)	Results
2350-2360	25.99	397.2	0.079	1.0	Complies

¹Note: 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/cm²

D is the distance from the antenna in cm.

4.0 Document History

Revision/ Job Number	Writer Initials	Reviewer Initials	Date	Change
1.0/ G104326151	ML	KV	November 18, 2020	Original document