



Statement of compliance to Maximum Permissible Exposure (MPE)

Applicant : RAE Systems Inc.
3775 N. 1st St., San Jose, California USA 95134.

Manufacturer : RAE Systems Inc.
3775 N. 1st St., San Jose, California USA 95134.

Equipment : AreaRAE Pro, AreaRAE Plus

Type/Model : PGM-6560D(AreaRAE Pro),
PGM-6520D(AreaRAE Plus)

Test Result : Pass

According to §2.1091, §2.1093 and §1.1307(b), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission’s guidelines.

The $S = PG / (4\pi R^2)$

Where S = power density in mW/cm²

P = transmit power in mW

G = numeric gain of transmit antenna

R = distance (cm)

ISM band freewave modem and WIFI modem, they could not work at the same time

WIFI+Mesh+BLE can work at the same time.

For BLE, as we can see from the test report 160502874SHA-007

Frequency band (MHz)	Max power		Antenna Gain		R	S
2400-2483.5MHz	-10.53dBm	0.0885mW	-1.5dBi	0.71	20cm	0.0000125

For Mesh,as we can see from the test report 160502874SHA-005

Frequency band (MHz)	Max power		Antenna Gain		R	S
902MHz-928MHz	12.93dBm	19.63mW	3.0dBi	1.99	20cm	0.0077

For WIFI, as we can see from the test report 160502874SHA-006

Frequency band (MHz)	Max power		Antenna Gain		R	S
2400-2483.5MHz	12.45dBm	17.57mW	4.9dBi	3.09	20cm	0.0108



For the device can support simultaneous transmission, according to 447498 D01 General RF Exposure Guidance v06,

The sum of the MPE ratios = $0.0000125/1.0 + 0.0077/0.61 + 0.0108/1.0 = 0.0184$

This level is below the simultaneous transmission MPE test exclusion requirements (≤ 1.0).

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Freewave 900+Mesh+BLE can work at the same time.

For Freewave, as we can see from FCC ID: KNYAMM0921TT:

Frequency band (MHz)	Max power		Antenna Gain		R	S
915MHz	-	9.911mW	12.0dBi	15.84	20cm	0.0312

For BLE, as we can see from the test report 160502874SHA-007

Frequency band (MHz)	Max power		Antenna Gain		R	S
2400-2483.5MHz	-10.53dBm	0.0885mW	-1.5dBi	0.71	20cm	0.0000125

For Mesh, as we can see from the test report 160502874SHA-005

Frequency band (MHz)	Max power		Antenna Gain		R	S
902MHz-928MHz	12.93dBm	19.63mW	3.0dBi	1.99	20cm	0.0077


For the device can support simultaneous transmission, according to 447498 D01 General RF Exposure Guidance v06,

The sum of the MPE ratios = $0.0000125/1.0 + 0.0077/0.61 + 0.0108/1.0 + 0.0312/0.61 = 0.0588$


This level is below the simultaneous transmission MPE test exclusion requirements (≤ 1.0).

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FCC ID: SU3-6560D
IC:20969-6560D

Appendix I

Definition below must be outlined in the User Manual:

To satisfy FCC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation. To ensure compliance, operations at closer than this distance is not recommended.