



RF Exposure Evaluation Report

| | |
|-----------------------------|--|
| APPLICANT | KP ELECTRONIC SYSTEMS LTD. |
| FCC ID | H78KPRFM200U |
| MODEL NUMBER | RFM200UN |
| PRODUCT DESCRIPTION | BASE STATION TRANSCEIVER |
| DATE SAMPLE RECEIVED | 12/16/2019 |
| FINAL TEST DATE | 12/30/2019 |
| TEST RESULTS | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL |

| Report Number | Report Version | Description | Issue Date |
|-----------------------------|-----------------------|--------------------------------------|-------------------|
| 3438AUT19 MPETestReport_ | Rev1 | Initial Issue | 1/6/2020 |
| | Rev2 | Revised DC Power and output power | 4/15/2020 |

THE ATTACHED REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN APPROVAL OF TIMCO ENGINEERING, INC.



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GENERAL REMARKS

Summary

The device under test does:

- Fulfill the general approval requirements as identified in this test report and was selected by the customer.
- Not fulfill the general approval requirements as identified in this test report

Attestations

This equipment has been tested in accordance with the standards identified in this test report. To the best of my knowledge and belief, these tests were performed using the measurement procedures described in this report.

All instrumentation and accessories used to test products for compliance to the indicated standards are calibrated regularly in accordance with ISO 17025 requirements.

I attest that the necessary measurements were made at:

Timco Engineering Inc.
849 NW State Road 45
Newberry, FL 32669
Designation #: US1070

Prepared by:



Name and Title Tim Royer, Project Manager / EMC Engineer

Date 1/6/2020

GENERAL INFORMATION

| | | | |
|-----------------------------|---|--|--|
| EUT Description | BASE STATION TRANSCEIVER | | |
| Model Number | RFM200UN | | |
| Modified for Testing | <input type="checkbox"/> If so, Explain: | | |
| Antenna Connector | <input checked="" type="checkbox"/> UHF | <input type="checkbox"/> BNC | <input checked="" type="checkbox"/> N |
| | <input type="checkbox"/> TNC | <input type="checkbox"/> SMA | <input checked="" type="checkbox"/> Other |
| EUT Power Source | <input type="checkbox"/> AC Power (110-120 V) | <input checked="" type="checkbox"/> DC Power (12.5 V) | <input type="checkbox"/> DC Battery (7.4 V) |
| | <input type="checkbox"/> Engineering Prototype | <input checked="" type="checkbox"/> Pre-Production | <input type="checkbox"/> Post-Production |
| Test Item | <input type="checkbox"/> Engineering Prototype | <input checked="" type="checkbox"/> Pre-Production | <input type="checkbox"/> Post-Production |
| Type of Equipment | <input checked="" type="checkbox"/> Fixed | <input type="checkbox"/> Mobile | <input type="checkbox"/> Portable |

ANTENNA INFORMATION

| Antenna is Provided | Type | Max Gain (dBi) |
|---------------------|------|----------------|
| No | n/a | 0.0 |

RF POWER OUTPUT

Maximum Power Output: 5 W.

MPE CALCULATION

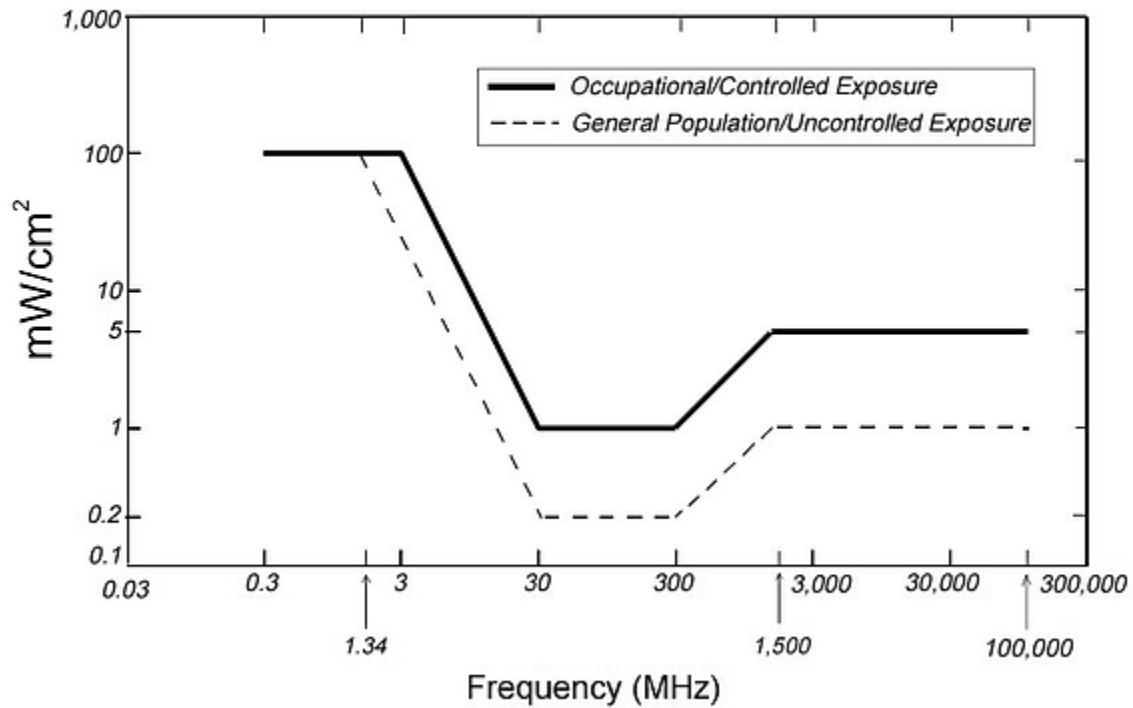
The minimum separation distance is calculated as follows:

$$E(V/m) = \frac{\sqrt{30 \times P \times G}}{d}$$

$$\text{Power density: } P_d(mW/cm^2) = \frac{E^2}{3770}$$

MPE LIMITS

*Figure 1. FCC Limits for Maximum Permissible Exposure (MPE)
Plane-wave Equivalent Power Density*

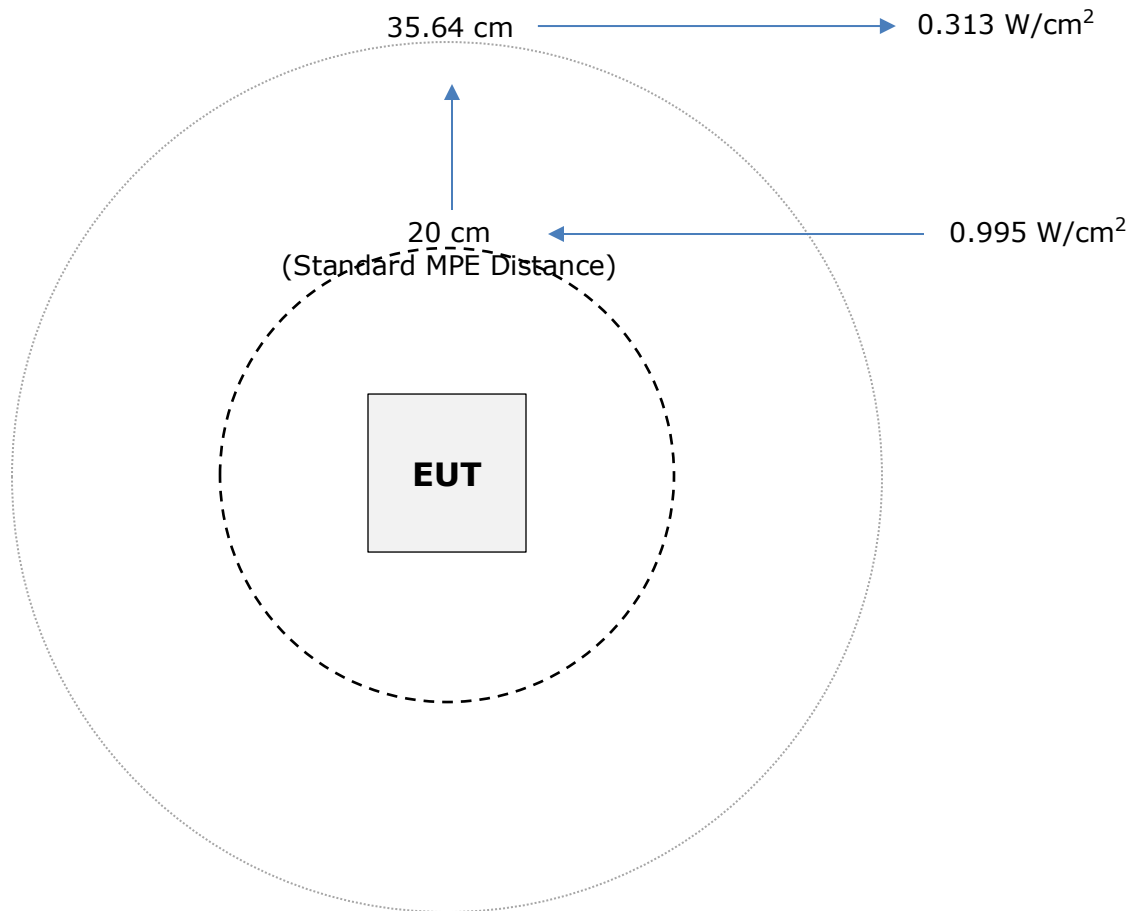


MPE Table

General Uncontrolled Exposure

The limit for General Uncontrolled Exposure Environment is calculated as shown in FCC Pt. 1.1310, Table B:

| Variable | Value |
|-----------------------------|--------------------------|
| Max Power | 5 W |
| Frequency Range | 430 - 471 MHz |
| Duty Cycle (at full power) | 100% |
| Max Antenna Gain | 0 dBi |
| Coax Loss | 0 dB |
| Power Density | 0.3133 W/cm ² |
| Minimum Separation Distance | 35.64 cm |



General Controlled Exposure

The limit for General Controlled Exposure Environment is calculated as shown in FCC Pt. 1.1310, Table A:

| Variable | Value |
|-----------------------------|-------------------------|
| Max Power | 5 W |
| Frequency Range | 430 - 470 MHz |
| Duty Cycle (at full power) | 100% |
| Max Antenna Gain | 0 dBi |
| Coax Loss | 0 dB |
| Power Density | 1.566 W/cm ² |
| Minimum Separation Distance | 15.94 cm |

