

US Tech Test Report:
FCC ID:
IC:
Test Report Number:
Issue Date:
Customer:
Model:

FCC Part 15 Certification
O7P-2531F
10147A-2531F
14-0212
September 19, 2014
Inventek Systems
ISM2531-USB-F

Maximum Public Exposure to RF (MPE)

According to 1.1307 (b)(1), systems operating under the provision of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

The maximum exposure level to the public from the RF power of the EUT shall not exceed the SAR Test Exclusion Threshold limits cited in Annex A of KDB 447498 D01 General RF Exposure Guidance v05r02. Since the EUT can be considered a dongle USB device, KDB 447498 D02 SAR Procedures for Dongle Xmtr v02 has also been considered. A test distance, d, of 5 mm from the EUT was applied.

Measured maximum output power: +15.51 dBm
Highest Gain Antenna: 4.35 dBi

Transmitter Duty Cycle (from Test Report):
1.425 mS ON time/ 100 mS OFF time= 1.425% (time-based average)

Source based time average is equal to $15.51 \text{ dBm} + 4.35 \text{ dBi} = 19.86 \text{ dBm}$ or
 $96.82 \text{ mW} * 1.425\% = 1.38 \text{ mW}$

Per CFR 47 Part 2.1093, the time-based value will be used to determine compliance with the low threshold limit. For this device the limit is 10 mW at a distance of 5 mm.

$1.38\text{mW} \ll 10 \text{ mW}$

EUT meets low threshold requirement.

Appendix A

SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and ≤ 50 mm

Approximate SAR Test Exclusion Power Thresholds at Selected Frequencies and Test Separation Distances are illustrated in the following Table. The equation and threshold in section 4.3.1 must be applied to determine SAR test exclusion.

| MHz | 5 | 10 | 15 | 20 | 25 | mm |
|------|----|----|-----|-----|-----|-----------------------------------|
| 150 | 39 | 77 | 116 | 155 | 194 | SAR Test Exclusion Threshold (mW) |
| 300 | 27 | 55 | 82 | 110 | 137 | |
| 450 | 22 | 45 | 67 | 89 | 112 | |
| 835 | 16 | 33 | 49 | 66 | 82 | |
| 900 | 16 | 32 | 47 | 63 | 79 | |
| 1500 | 12 | 24 | 37 | 49 | 61 | |
| 1900 | 11 | 22 | 33 | 44 | 54 | |
| 2450 | 10 | 19 | 29 | 38 | 48 | |
| 3600 | 8 | 16 | 24 | 32 | 40 | |
| 5200 | 7 | 13 | 20 | 26 | 33 | |
| 5400 | 6 | 13 | 19 | 26 | 32 | |
| 5800 | 6 | 12 | 19 | 25 | 31 | |

| MHz | 30 | 35 | 40 | 45 | 50 | mm |
|------|-----|-----|-----|-----|-----|-----------------------------------|
| 150 | 232 | 271 | 310 | 349 | 387 | SAR Test Exclusion Threshold (mW) |
| 300 | 164 | 192 | 219 | 246 | 274 | |
| 450 | 134 | 157 | 179 | 201 | 224 | |
| 835 | 98 | 115 | 131 | 148 | 164 | |
| 900 | 95 | 111 | 126 | 142 | 158 | |
| 1500 | 73 | 86 | 98 | 110 | 122 | |
| 1900 | 65 | 76 | 87 | 98 | 109 | |
| 2450 | 57 | 67 | 77 | 86 | 96 | |
| 3600 | 47 | 55 | 63 | 71 | 79 | |
| 5200 | 39 | 46 | 53 | 59 | 66 | |
| 5400 | 39 | 45 | 52 | 58 | 65 | |
| 5800 | 37 | 44 | 50 | 56 | 62 | |

Note: 10-g Extremity SAR Test Exclusion Power Thresholds are 2.5 times higher than the 1-g SAR Test Exclusion Thresholds indicated above. These thresholds do not apply, by extrapolation or other means, to occupational exposure limits.