

**SAR Exclusion Calculation****Project: C9970****Report number: C16752TR2****Date: 10<sup>th</sup> July 2026****Customer Details**

|                     |                              |
|---------------------|------------------------------|
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**Equipment Under Test: SS200LR (915MHz) Irradiance Meter****FCC ID: 2BV6F-SS200LR****Operating frequency bands: SRD: 902MHz to 928MHz****RF Modules: SRD, 902 to 928MHz Module**

### SAR Exclusion Calculation - FCC

The calculation is according to the FCC Knowledge Database (KDB) document KDB 447498 D01 General RF Exposure Guidance V06.

Section 4.3.1 General SAR Test Exclusion Bands was applied.

Section 4.3.1 a) for 100MHz to 6GHz and test separation distances  $\leq 50\text{mm}$  was specifically applied where applicable. According to this section the SAR test exclusion thresholds are determined by the following:

$$\text{Threshold} = \left[ \frac{P(\text{mW})}{d(\text{mm})} \right] \cdot \sqrt{f(\text{GHz})}$$

Where

$P$  is the maximum power of the channel including tune-up tolerance in mW

$d$  is the minimum test separation distance in mm

$f$  is the RF channel frequency in GHz

This evaluation of the threshold is compared to the threshold limit.

- a. Limit for 1-g head or body worn devices: threshold limit  $\leq 3$
- b. Limit for 10-g extremity worn devices: threshold limit  $\leq 7.5$

Since the device is hand-held the limit b applies.

Section 4.3.1 b)(1) for 100MHz to 1500MHz and test separation distances  $> 50\text{mm}$ , was specifically applied where applicable. According to this section the SAR test exclusion thresholds are determined by the following:

$$\text{Threshold (mW)} = \left[ \left[ \frac{x}{\sqrt{f(\text{GHz})}} \right] \cdot 50 \right] + \left[ (d(\text{mm}) - 50) \cdot \left( \frac{f(\text{MHz})}{150} \right) \right]$$

When separation distance  $> 50\text{ mm}$  and the device output power is less than the calculated result (power threshold, mW) shown in the above equation, the SAR testing exclusion is applied.

where  $x$  is 3 for head or body worn devices and  $x$  is 7.5 for extremity worn devices.

Section 4.3.1 b)(2) for 1500MHz to 6GHz and test separation distances >50mm, was specifically applied where applicable. According to this section the SAR test exclusion thresholds are determined by the following:

$$\text{Threshold (mW)} = \left[ \left[ \frac{x}{\sqrt{f(\text{GHz})}} \right] \cdot 50 \right] + [(d(\text{mm}) - 50) \cdot 10]$$

When separation distance > 50 mm and the device output power is less than the calculated result (power threshold, mW) shown in the above equation, the SAR testing exclusion is applied.

The minimum test separation distance was considered to be 2.5mm for the SRD (distance from the antenna to users hand) as declared by the customer and in consultation with Section 4.2.2 *Body-worn accessory exposure conditions*.

#### Short Range Device – 902 to 928MHz

The device is a hand-held device with a declared interaction distance of 2.5mm, as such the device is to be assessed as a portable device in accordance with section 4.3.1a) of KDB 447498 D01 General RF Exposure Guidance V06.

When the minimum test separation distance is <5mm a distance of 5mm is applied.

For this apparatus, the calculated threshold was evaluated using a distance of 5.0mm, and the results are tabulated in the table below.

The power level values were taken from the results obtained in test report: C16751TR3 with antenna gain value of 4.07dBi taken from Antenova SRFC025 data sheet.

| Frequency (GHz) | Power (mW) | Dist (mm) | Calculated Threshold | Threshold Limit |
|-----------------|------------|-----------|----------------------|-----------------|
| 0.915           | 6.1        | 5.0       | 1.19                 | 7.5             |
| 0.920           | 5.8        | 5.0       | 1.11                 | 7.5             |
| 0.924           | 5.8        | 5.0       | 1.12                 | 7.5             |

Table 1 Calculation of threshold SRD

#### Conclusion

**For the required stated distances, the apparatus met the exclusion requirements for SAR testing (FCC). A further SAR assessment will not be required.**

**SAR Exclusion Calculation - ISED****Standard:****RSS-102 Radio Frequency (RF) ~Exposure Compliance of Radio communication Apparatus (All Frequency Bands)**

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From RSS-102: 6.3 SAR exemption limits

SAR evaluation is required if the separation distance between the user and/or bystander and the antenna and/or radiating element of the device is less than or equal to 20 cm, except when the device operates at or below the applicable output power level (adjusted for tune-up tolerance) for the specified separation distance defined in Table 11.

Table 11: Power limits for exemption from routine SAR evaluation based on the separation distance

| Frequency (MHz) | ≤ 5 mm(mW) | 10 mm (mW) | 15 mm(mW) | 20 mm(mW) | 25 mm(mW) | 30 mm(mW) | 35 mm(mW) | 40 mm(mW) | 45 mm(mW) | > 50 mm(mW) |
|-----------------|------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-------------|
| ≤ 300           | 45         | 116        | 139       | 163       | 189       | 216       | 246       | 280       | 319       | 362         |
| 450             | 32         | 71         | 87        | 104       | 124       | 147       | 175       | 208       | 248       | 296         |
| 835             | 21         | 32         | 41        | 54        | 72        | 96        | 129       | 172       | 228       | 298         |
| 1900            | 6          | 10         | 18        | 33        | 57        | 92        | 138       | 194       | 257       | 323         |
| 2450            | 3          | 7          | 16        | 32        | 56        | 89        | 128       | 170       | 209       | 245         |
| 3500            | 2          | 6          | 15        | 29        | 50        | 72        | 94        | 114       | 134       | 158         |
| 5800            | 1          | 5          | 13        | 23        | 32        | 41        | 54        | 74        | 102       | 128         |

For limb-worn devices where the 10 gram of tissue applies, the exemption limits for routine evaluation in table 11 are multiplied by a factor of 2.5.

For controlled-use devices where the 8 W/kg for 1 gram of tissue applies, the exemption limits for routine evaluation in table 11 are multiplied by a factor of 5.

When the operating frequency of the device is between two frequencies located in table 11, linear interpolation shall be applied for the applicable separation distance. If the separation distance of the device is between two distances located in table 11, linear interpolation may be applied for the applicable frequency. Alternatively, the limit corresponding to the smaller distance may be employed.

**SRD**

The power level values were taken from the results obtained in test report: C16751TR3 with antenna gain value of 4.07dBi taken from Antenova SRFC025 data sheet

| Frequency (GHz) | Max EIRP (dBm) | Max EIRP (mW) | Dist (mm) | Exemption Limit (mW)* | SAR Test required |
|-----------------|----------------|---------------|-----------|-----------------------|-------------------|
| 0.915           | 7.83           | 6.1           | ≤ 5       | 19.9                  | No                |
| 0.920           | 7.67           | 5.8           | ≤ 5       | 19.8                  | No                |
| 0.924           | 7.66           | 5.8           | ≤ 5       | 19.7                  | No                |

\*21mW at 835MHz, 6mW at 1900MHz, values are interpolated.

**Conclusion**

For the required stated distances, the apparatus met the exclusion requirements for SAR testing (ISED). A further SAR assessment will not be required.

Prepared by:



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