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COMMERCIAL-IN-CONFIDENCE

# SAR EXCLUSION DOCUMENT

Document 75942063-09 Issue 01

**SOL8SDR-C-470043 (MODULE) 4.9 GHz Transmitter:**

FCC Standalone SAR Test Exclusion Considerations (KDB 447498 D01) Section 4.3.1 b)

100 MHz – 6 GHz – Separation Distance >50 mm

The SAR test exclusion threshold for frequency range 1500 MHz to 6 GHz with test separation distances >50 mm is determined by:

Step a) Threshold result from Formula in Section 4.3.1 a);

Step b) requires formula to be re-arranged to give power allowed at numeric threshold at 50 mm test separation distance:

Power Allowed At Numeric Threshold =  $\{(\text{Numeric Threshold} / \sqrt{f_{\text{(GHz)}}}) \times 50 \text{ mm Separation Distance}\}$  mW

- Numeric threshold = 3 for Head/Body or 7.5 for Extremities
- f (GHz) is the RF channel transmit frequency in GHz.
- Power and distance are rounded to the nearest mW and mm before calculation.
- The result is rounded to one decimal place for comparison

Step b) 2) 1500MHz to 6GHz

Power threshold =  $\{[\text{Power allowed at numeric threshold for 50 mm \{Formula Step A\}}] + [(\text{test separation distance} - 50 \text{ mm}) \cdot 10]\}$  mW

- Power and distance are rounded to the nearest mW and mm before calculation.
- The result is rounded to one decimal place for comparison

Approved by

  
Simon Bennett  
Authorised Signatory

Date 02 July 2018

SAR Exclusion Result:

Frequency (MHz)	Maximum Power (Tune up Value) * (mW)	Test Separation Distance (mm)	SAR Exclusion Power Threshold (mW)	SAR Test Exclusion (Yes/No)
4940	100	100	567.5	Yes
4990	100	100	567.1	Yes

\*Tune-up value is the maximum declared output power of the device

The SAR exclusion threshold has been evaluated using the formula described above from information supplied by the manufacturer below. Based on the calculation above, the EUT is categorically excluded from SAR testing.

## Manufacturer's Declaration of Product information (extract):

Product Description:	SOFTWARE DEFINED RADIO (SDR-C ) Module
Model number:	SOL8SDR-C-470043 (MODULE)

## Frequency Band 1:

Antenna length (cm):	7	Centimetres (cm)
Frequency range:		
Bottom frequency:	4940	MHz
Middle frequency:	4965	MHz
Top frequency:	4990	MHz

Maximum power (input to the antenna including a tolerance):	0.1	W
Antenna gain (or maximum gain allowed):	2	dBi

Or

Field Strength Measurement		dBμA/M
Measurement Distance		cm

Separation distance from antenna to the user/bystander:	10	cm
Transmitter Duty Cycle:	33	%