



For Question,
Please Contact with WSCT
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RF Exposure evaluation

FCC ID: 2AKWC-E35

Product: TPMS Sensor

Model No.: E35

Additional Model No.: N/A

Trade Mark: N/A

Issued for:

Display & Technology Limited

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According to KDB447498D01 General RF Exposure Guidance v06

4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot$

$[\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,
where $f(\text{GHz})$ is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation¹⁷

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion

$$\text{eirp} = \text{pt} \times \text{gt} = (\text{E} \times \text{d})^2 / 30$$

where:

pt = transmitter output power in watts,

gt = numeric gain of the transmitting antenna (unitless),

E = electric field strength in V/m, $\text{---}10^{((\text{dBuV/m})/20)/10^6}$,,

d = measurement distance in meters (m)---3m,

So $\text{pt} = (\text{E} \times \text{d})^2 / 30 / \text{gt}$





The worst case (refer to report E35 WSCT-NVLAP-R&E191200025A) is below:

For FM:

Mode	Pmax	Distance	f(GHz)	Calculati on Result	Standalone SAR test exclusion Threshold	SAR test exclusion
	(mW)	(mm)				
FM	0.00	<5.00	0.434	0.00	3.00	Yes

0.00<3.0 for 1-g SAR

So the SAR report is not required.

Note:

According to the RF report: E35 WSCT-NVLAP-R&E191200025A results 69.49 dBuV/m,
Plug it into the formula :

$$\begin{aligned}
 P_t &= (E \times d)^2 / 30 / g_t \\
 &= (10^{(69.49/20)} / 10^6 \times 3)^2 / 30 / g_t \\
 &= 0.0000027(W)
 \end{aligned}$$

So Pmax=0.0000027 x 10³ =0.00 (mW)

