



MPE/RF EXPOSURE EVALUATION REPORT

FCC CFR 47 Part 1.1310

SONO01 FCC MPE Rev A

Company: Sonos Inc.

Model Name: S26

MPE/RF EXPOSURE EVALUATION REPORT

FROM



Company: Sonos Inc.

Model Name: S26

To: FCC CFR 47 Part 1.1310

Test Report Serial No.: SONO01_FCC_MPE

This report supersedes: NONE

Applicant: Sonos, Inc
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This Test Report is Issued Under the Authority of:

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MiCOM Labs is an ISO 17025 Accredited Testing Laboratory

1. MAXIMUM PERMISSIBLE EXPOSURE

Calculations for Maximum Permissible Exposure Levels

$$\text{Power Density} = P_d (\text{mW/cm}^2) = \text{EIRP} / (4 * \pi * d^2)$$

$$\text{EIRP} = P * G$$

P = Peak output power (mW)

G = Antenna numeric gain (numeric)

d = Separation distance (cm)

$$\text{Numeric Gain} = 10 ^ { (G (\text{dBi}) / 10)}$$

The calculations in the table below use the highest conducted power values together with the highest antenna gain specified for the EUT. These calculations represent worst case in terms of the exposure levels.

Freq. Band (MHz)	Ant Gain (dBi)	Numeric Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated Power Density (mW/cm ²) @ 20cm	Power Density Limit (mW/cm ²)	Min Calculated safe distance for Limit (cm)	Calculated Power Density (mW/cm ²) @ Safe Distance
2400.0 - 2483.5 (BLE)	6.10	4.07	-2.49	0.56	0.0005	1.00	1.00	1.00
2400.0 - 2483.5 (WiFi)	9.34	8.59	26.39	435.91	0.75	1.00	18.00	1.00
5725.0 - 5850.0	5.90	3.89	23.84	242.32	0.33	1.00	9.00	1.00

The Sonos Inc S26 contains 2 radio modules;- 2.4GHz/5GHz 802.11 and 2.4GHz BLE. The following assessment is for worst case exposure conditions with both radios transmitting simultaneously;-

Assessment for simultaneous operation:

Freq. Band (MHz)	Ant Gain (dBi)	Numeric Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated Power Density E _i (mW/cm ²) @ 20cm	Power Density Limit E _{ref} (mW/cm ²)	E _i /E _{ref}
2400.0 - 2483.5 (BLE)	6.10	4.07	-2.49	0.56	0.0005	1.00	0.0005
2400.0 - 2483.5 (WiFi)	9.34	8.59	26.39	435.91	0.75	1.00	0.75
Total Evaluation							0.75

The **Total Evaluation** was calculated using the formula:

$$\sum_{i=1}^n E_i / E_{ref} \leq 1$$

Where

E_i: calculated power density for transmitter

E_{ref}: power density limit

Note: for mobile or fixed location transmitters the minimum separation distance is 20cm, even if calculations indicate the MPE distance to be less.

Specification - Maximum Permissible Exposure Limits

The Limit is defined in Table 1 of FCC §1.1310.



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