

29 July 2020

SAR / RF Exposure Letter

FCC ID: 2AFD2-SHC

To whom it may concern,

We, STC Germany GmbH, hereby declare that the DALI SOUND HUB COMPACT is exempt for RF exposure SAR evaluation with Exposure Compliance requirements of § 2.1091 Radiofrequency radiation exposure evaluation: mobile devices.

Applied Standard

- e-CFR Title 47 Chapter I Subchapter A §2.1091
- e-CFR Title 47 Chapter I Subchapter A §1.1310 (d)

Types of Evaluation

- § 1.1310 (d) RF Exposure Evaluation

Requirements:

Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500	-/-	-/-	f/300	6
1,500-100,000	-/-	-/-	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1,500	-/-	-/-	f/1500	30
1,500-100,000	-/-	-/-	1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

Calculation

RF Function	Unit	Bluetooth	5 GHz KLEERNET	-/-
Max. conducted RF output power (P)	dBm	11.24	16.7	-/-
Measurement uncertainty	dB	1.36	1.36	-/-
Max. Duty cycle	%	100	100	
Average total radiated power (P')	mW	18.20	63.97	-/-
Power density in 20 cm distance (P' @ 20 cm)	mW/cm ²	0.004	0.013	-/-
Min. distance for compliance with Power density Limit	cm	1.20	2.26	-/-
Limit Power density (P _{max'})	mW/cm ²	1.0	1.0	-/-
Result		Pass	Pass	-/-

RF data based on FCC-ISED Reports 0028 fcc-ised-res-rep and STC RES - Test RF output power dated 25.05.2020.

Combinated Tx at the same time [separation distance of 20 cm]

Comparison with limit	Calculation	TX BLT 2.4 GHz	TX KLEERNET 5 GHz	Combined $\Sigma P' n / P_{max'n}$
Comparison with limit at specified distance: P' @ 20 cm / Limit Power density	$P' @ 20 \text{ cm} / P_{max'}$	0.004	0.013	0.016
Limit*	-/-	1.00	1.00	1.00
Result		Pass	Pass	Pass

*1 $\geq \Sigma P' n / P_{max'n}$

Description:

Max. RF output power (P):

max. conducted RF power

Average total radiated Power (P'):

max. RF output power taking into account the measurement uncertainty, transmission time

Calculation of Power density

 $P_{\text{density}} = P' / (4 \times \pi \times d^2)$

P_{density} = Power density [mW/cm²]

P' = Average total radiated power [mW]

d = distance to radiation source [cm]

It is deemed that the EUT complies with the provisions of the e-CFR Title 47 Chapter I Subchapter A Part 1, § 1.1310, since Average total radiated power at 20 cm separation distance compliance with the RF-Exposure limit

Thank you for your attention to this matter

A handwritten signature in blue ink, reading 'Anton Tropmann'.

Tropmann Anton
Head of Laboratory
STC Germany (formerly PKM electronic GmbH)