

MPE exemption letter 22_1_0099401T008a

MPE exemption letter according Interim procedure KDB 447498 D04

Customer	Product	Model	Type	HW Status	SW status	FCC ID
TIRECHECK GmbH Schmelzofenvorstadt 33 89520 Heidenheim Deutschland Mr. Timo Oppold timo.oppold@tirecheck.com	Tire Pressure Sensor	030218	030218, 030985	A7	0.9.2	YMY-030218

Declared minimum distance to human body according to customer ≥ 20 cm according customer's document "230113_030218_MPE Information Requirements.pdf".

The customer thus declares that the device is not body-worn.

RF Exposure Test Exemptions for Single Source

According 1.1307(b)(3)(i)(C) Option C – ERP frequencies above 300 kHz but at distances $R > \lambda/2\pi$ can be exempted as follows:

TABLE B.1—THRESHOLDS FOR SINGLE RF SOURCES
SUBJECT TO ROUTINE ENVIRONMENTAL EVALUATION

RF Source Frequency			Minimum Distance			Threshold ERP
f_L MHz		f_H MHz	$\lambda_L / 2\pi$		$\lambda_H / 2\pi$	W
0.3	–	1.34	159 m	–	35.6 m	1,920 R ²
1.34	–	30	35.6 m	–	1.6 m	3,450 R ² /f ²
30	–	300	1.6 m	–	159 mm	3.83 R ²
300	–	1,500	159 mm	–	31.8 mm	0.0128 R ² f
1,500	–	100,000	31.8 mm	–	0.5 mm	19.2R ²
Subscripts L and H are low and high; λ is wavelength. From § 1.1307(b)(3)(i)(C), modified by adding Minimum Distance columns.						

Calculation based on external document "230113_030218_MPE Information Requirements.pdf" provided by customer.

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Bluetooth LE

Exemption acc. TABLE 1 TO § 1.1307(b)(3)(i)(C) — SINGLE RF SOURCES SUBJECT TO ROUTINE ENVIRONMENTAL EVALUATION															
Band	Technology	Frequency (MHz)	$\lambda/2\pi$ (m)	R (m)	$R \geq \lambda/2\pi$ fulfilled	Maximum Rated Conducted Output Power (dBm)	Maximum Tolerance (dBm)	Minimum Path Loss to Antenna (dB)	Maximum Antenna Gain (dBi)	Duty cycle (%)	ERP (dBm)	ERP (dBm)	ERP (W)	Threshold ERP (W)	MPE Exemption fulfilled
2.4 GHz	Bluetooth LE	2402.0	0.020	0.200	yes	6.0	1.0	0.0	1.5	100.0	8.5	6.4	0.004	0.768	yes
		2442.0	0.020	0.200	yes						8.5	6.4	0.004	0.768	yes
		2480.0	0.019	0.200	yes						8.5	6.4	0.004	0.768	yes

Remark: none

Conclusion:

RF Exposure Test Exemptions for Single Source fulfilled.

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Version	Applied changes	Date of release
--	Initial release	2023-Feb-28