

BNetzA-CAB-02/21-102



## SAR Test exclusion documentation according to FCC KDB 447498

Report identification number: 1-5443/22-01-03 Exclusion (FCC)

<b>contains the module with the following certification numbers</b>	
FCC ID	OKY12117601A01A

This test report is electronically signed and valid without handwritten signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

### Document authorised:



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**EUT technologies:**

Technologies:	Max. declared cond. AVG Power (Peak)	Max. measured EIRP	Antenna gain
NFC 13.56 MHz	23 dBm (=200 mW)	26.9 dBμV (Peak)@30m = -48.5 dBm	< 0 dBi

**NOTE:**

The measured PEAK EIRP according proofs that the EUT antenna gain is far below 0dBi and that considering the max. declared output power is by far larger than the EIRP. Conducted values will be used for the RF exposure calculation. EIRP values are for information only.

Test results for EIRP taken from CTC advanced GmbH report 1-4929/22-01-06

Max. output power for the 13.56 MHz circle is 200 mW according customer declaration.

The technical duty cycle of 19.3% is not applied as correction factor as the EUT even without its consideration is below the exclusion threshold. (Duty cycle can be seen in Annex A of this document.)

**NFC:**

(c) (2) Standalone SAR test exclusion below 100 MHz < 50mm

$$0.5 \times (\text{Threshold}_{100\text{MHz}}) \times (1 + \log(100/f))$$

where

- Threshold<sub>1-g;10-g</sub> is 3 for 1-g; 7.5 for 10-g
- f is the RF channel transmit frequency
- Threshold<sub>100MHz,50mm</sub> is Threshold<sub>1-g;10-g</sub> × d / f<sup>0.5</sup> ; with f = 100MHz and d=50mm

The table below gives the calculated maximal power that could be used for source based time averaged conducted power, adjusted for tune up tolerance. If this is below the calculated value SAR testing is excluded.

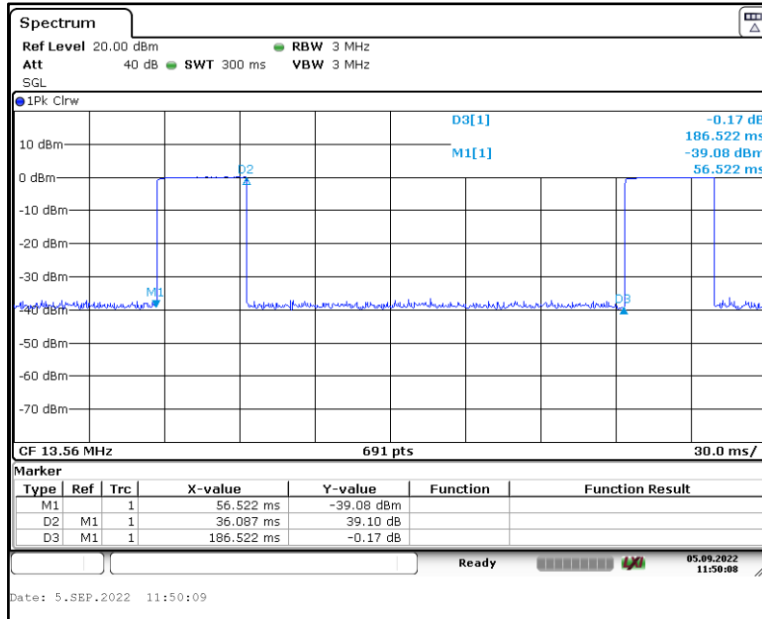
frequency [MHz]	Threshold <sub>1-g;10-g</sub>	Threshold <sub>100MHz,50mm</sub>	Powerlimit [mW]	P <sub>max-declared</sub>		Exclusion
				[dBm]	[mW]	
13.56	3	474.34	442.97	23.00	199.5	yes

**This prediction demonstrates the following:**

The power density levels for FCC that are larger than the minimum safety-distances stated above, are below the maximum levels allowed by regulations.

**Annex A: Duty cycles**

**Duty cycle 13.56 MHz of the EUT:**



Duty Cycle 19.3%