

SAR Test exclusion documentation according to FCC KDB 447498, RSS-102



BNetzA-CAB-13/21-08

This SAR test exclusion document is referring to the Test report identification no. FCC: 24013033_Rev.00 and IC: 24013034_Rev.00.

module with the Certification numbers	
FCC ID	2BG52-FA12DSSTX
IC ID	32673-FA12DSSTX
HVIN (Hardware Version Identification Number)	FA12 DSS-TX
PMN (Product Marketing Name)	FA12 DSS-TX
FVIN (Firmware Version Identification Number)	FA12 DSS-TX SVN420
HMN (Host Marketing Name)	---

Equipment under Test (EUT)					
EUT	Tech.	EUT operating modes	Operating Frequency	Max. output Power.	Antenna Gain
FA12 DSS-TX	RFID	OP1 (continuous transmitting mode)	125 kHz	-27.6 dBm**	0 dBi

** measurement result is taken from TÜV Nord HF Test report no. FCC: 24013033_Rev.00 / IC: 24013034_Rev.00

Calculation:

$$E_{\text{measured}} = 20.53 \text{ dB}\mu\text{V/m @ 3-meter OP1}$$

$$E_{\text{calculated}} = E_{\text{measured}} + 40 \log (3\text{m} / 0,2\text{m}) = 67.57 \text{ dB}\mu\text{V/m}$$

According to ANSI 63.10-2013,
 $\text{Power}_{\text{EIRP}} = E_{\text{meas.}} + 20 \log (d_{\text{meas}}) - 104.7 \text{ dB} = -27.6 \text{ dBm} - \text{OP1}$

SAR test exclusion according to KDB 447498 (General RF Exposure Guidance v06)

SAR test exclusion for RFID

According to KDB 447498 subsection 4.3.1 c) and the table in Appendix C, the EUT is exempted from SAR evaluation.

RFID Freq. [MHz]	EUT operating modes	d _{separation} [mm]	Power measured. [mW]	Power limit [mW]	Exclusion [Yes/No]
125	OP1	190	0.0017	1059.0	Yes

SAR test exclusion according to RSS-102 Issue 5 Section 2.5.2
Section 4 Table 2

According to RSS-102 Issue 5, if the EUT operates at or below the applicable Internal Electric Field Strength (adjusted for tune-up tolerance) for the specified separation distance greater than 20 cm of the section 2.5.2, then it is exempted from SAR evaluation. Transmitters operating between 0.003-10 MHz, meeting the exemption from routine RF Exposure evaluation, shall demonstrate compliance to the instantaneous limits in Section 4.

SAR test exclusion for RFID

Equipment under Test (EUT)				
EUT	Tech.	EUT operating modes	Operating Frequency	Max. output Electric Field Strength at shortest possible distance (20 cm)
FA12 DSS-TX	RFID	OP1 (continuous transmitting mode)	125 kHz	0.024 V/m**

** measurement result is taken from TÜV Nord HF Test report no. FCC: 24013033_Rev.00 / IC: 24013034_Rev.00

Calculation:

$E_{\text{measured}} = 20.53 \text{ dB}\mu\text{V/m @ 3 meter}$

$E_{\text{calculated}} = E_{\text{measured}} + 40\log(3\text{m} / 0,2\text{m}) = 67.57 \text{ dB}\mu\text{V/m} = 0.024 \text{ V/m @ 20 centimeter}$

RFID Freq. [kHz]	EUT operating modes	d _{separation} [mm]	Internal Electric Field Strength [V/m]	Electric Field Strength Limit Uncontrolled Environment [V/m]	Exclusion [Yes/No]
125	OP1	200	0.024	16.875	Yes

ATTESTATION: I attest that the EUT meets the exemption from the routine evaluation limits in section 4.3.1 “Standalone SAR test exclusion considerations” of KDB 447498 as well as meets the exemption from the routine evaluation limits in section 2.5 “Exemption Limits for Routine Evaluation” of RSS-105 issue 5; that the Technical Brief was prepared and the information contained therein is correct; that the device evaluation was performed or supervised by me; that applicable measurement methods and evaluation methodologies have been followed; and that the device meets the SAR and/or RF field strength limits of FCC KDB 447498 and RSS-102 issue 5.

Signature	
Name	Mr. Ralf Trepper
Designation	Laboratory-Manager
Date of issue	2024-08-01