

RF Exposure Estimation

1. Introduction

Applicant:	Rollease Acmeda Inc
Address:	750 East Main Street, 7th Floor, Stamford, CT 06902 USA
Product:	RF White 1 Channel Decorator Surface Mount Switch
FCC ID:	2AGGZMTRFWS1FLUSH
Model No.:	MTRF-WS1-FLUSH
Reference RF report #	709502503916-00A

2. B.2 Blanket 1 mW Blanket Exemption

According to KDB 447498 D04, the 1 mW Blanket Exemption of § 1.1307(b)(3)(i)(A) applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power of no more than 1 mW, regardless of separation distance. The 1 mW blanket exemption applies at separation distances less than 0.5 cm, including where there is no separation. This exemption shall not be used in conjunction with other exemption criteria other than those for multiple RF sources in paragraph § 1.1307(b)(3)(ii)(A). The 1 mW exemption is independent of service type and covers the full range of 100 kHz to 100 GHz, but it shall not be used in conjunction with other exemption criteria or in devices with higher-power transmitters operating in the same time-averaging period. Exposure from such higher-power transmitters would invalidate the underlying assumption that exposure from the lower-power transmitter is the only contributor to SAR in the relevant volume of tissue.

3. RF Exposure Evaluation

Per the test report included herein, for 433.92MHz

According to C63.10-2020 Annex G

$$\text{EIRP} = p_t \times g_t = (E \times d)^2 / 30 \quad (\text{G.1})$$

where

p_t is the transmitter output power in watts

g_t is the numeric gain of the transmitting antenna (dimensionless)

E is the electric field strength in V/m

d is the measurement distance in meters (m)

$$\text{ERP} = \text{EIRP} / 1.64 = (E \times d)^2 / (30 \times 1.64) = (E \times d)^2 / 49.2 \quad (\text{G.2})$$

Transmitter output power for 433.92MHz Function

Field strength (E):	82.95 (dBuV/m) = 0.014044 (V/m)
Measurement distance (D):	3 (m)
Transmitter output power (TP):	0.000036081 (W)
Transmitter output power (TP):	0.036081 (mW)



We used the maximum ERP/EIRP to perform RF exposure exemption evaluation.

	Evaluation method	Exempt Limit (mW)	Verdict
☒	Blanket 1 mW Blanket Exemption	1mW	Yes
☐	MPE-based Exemption (ERP)	7mW (ERP)	N/A
☐	SAR-based Exemption (Pth)	3060mW	N/A

So, the device is qualified for SAR test exemption, the exemption report is in lieu of the SAR report.

- TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch

Reviewed by:

Prepared by:

Tested by:

Hui Tong



Yongqing ZHENG

Doujun XU

Hui TONG

Yongqing ZHENG

Doujun XU

EMC Section Manager
Date: September 05, 2025

EMC Project Engineer
Date: September 05, 2025

EMC Test Engineer
Date: September 05, 2025

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-----End of Test Report-----