

RF Exposure Evaluation Report

Application No.: SUCR2606000489MO
FCC ID: 2AGCDJACSM500
Applicant: JACS Solutions, Inc.
Address of Applicant: 809 Pinnacle Drive, Suite R, Linthicum Heights, MD 21090, USA
Manufacturer: JACS Solutions, Inc.
Address of Manufacturer: 809 Pinnacle Drive, Suite R, Linthicum Heights, MD 21090, USA
Equipment Under Test (EUT):
EUT Name: M500-NA 5G Module
Model No.: M500-NA
Trade Mark: JACS
Standard(s) : FCC Rules 47 CFR §2.1091
KDB 447498 D04 interim General RF Exposure Guidance v01
Date of Receipt: 2026-07-10
Date of Issue: 2026-07-23

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.

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Revision Record			
Version	Description	Date	Remark
00	Original	2026-07-23	/

Authorized for issue by:			
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2 General Information

2.1 General Description of E.U.T.

Hardware Version:	V1.1	
Software Version:	M500-NA_JACS_V1.0.0	
IMEI:	353554114080657	
Power Supply:	DC 3.85V	
Antenna Type:	Dipole Antenna	
Antenna Gain:	WCDMA Band II	-2.74dBi
	WCDMA Band IV	-2.74dBi
	WCDMA Band V	-0.75dBi
	LTE Band 2:	-2.74dBi
	LTE Band 4:	-2.74dBi
	LTE Band 5:	-0.75dBi
	LTE Band 7:	-2.74dBi
	LTE Band 12:	-0.75dBi
	LTE Band 13:	-0.75dBi
	LTE Band 14:	-0.75dBi
	LTE Band 17:	-0.75dBi
	LTE Band 25:	-2.74dBi
	LTE Band 26:	-0.75dBi
	LTE Band 30:	/
	LTE Band 41:	-2.74dBi
	LTE Band 48:	-2.79dBi
	LTE Band 66:	-2.74dBi
	LTE Band 71:	-0.75dBi
	NR Band n2:	-2.74dBi
	NR Band n5:	-0.75dBi
	NR Band n7:	-2.74dBi
	NR Band n14:	-0.75dBi
	NR Band n25:	-2.74dBi
	NR Band n26:	/
	NR Band n41:	-2.74dBi
	NR Band n48:	-2.79dBi
	NR Band n66:	-2.74dBi
	NR Band n71:	-0.75dBi
	NR Band n77(3450-3550):	-2.79dBi

	NR Band n77(3700-3980):	-2.79dBi
	NR Band n78(3450-3550):	-2.79dBi
	NR Band n78(3700-3800):	-2.79dBi
	Note: The antenna gain are derived from the gain information report provided by the manufacturer.	
Note1: Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information, SGS is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.		

2.2 Separation Distance

Separation distance between the antenna to person (R):	>20cm
Remark: This minimum test separation distance is determined by the smallest distance from the antenna and radiating structures or outer surface of the device, according to the host form factor, exposure conditions and platform requirements, to any part of the body or extremity of a user or bystander. R has been stated in user manual.	

2.3 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone

No tests were sub-contracted.

Note:

1. SGS is not responsible for wrong test results due to incorrect information (e.g. max. clock frequency, highest internal frequency, antenna gain, cable loss, etc) is provided by the applicant. (if applicable).
2. SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (if applicable).
3. Sample source: sent by customer.

2.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **A2LA (Certificate No. 6336.01)**

SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd. is accredited by the American Association for Laboratory Accreditation (A2LA).

- **FCC (Designation Number: CN1312)**

SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd. has been recognized as an accredited testing laboratory. Test Firm Registration Number: 717327

- **ISED (CAB Identifier: CN0120)**

SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory.

Company Number: 27594

3 RF Exposure Test Exemptions

Test exemptions apply for devices used in general population/uncontrolled exposure environments, according to the SAR-based, or MPE-based exemption thresholds.

3.1 RF Exposure Test Exemptions for single RF sources

3.1.1 Blanket 1 mW Blanket Exemption

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.

Medical implant devices may only use this exemption and that in paragraph (b)(3)(ii)(A);

3.1.2 MPE-based Exemption

General frequency and separation-distance dependent MPE-based effective radiated power (ERP) thresholds are in Table B.1 [Table 1 of §1.1307(b)(1)(i)(C)] to support an exemption from further evaluation from 300 kHz through 100 GHz. The minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply, **R must be at least $\lambda / 2\pi$** , where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda / 4$ or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

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.
R: Separation distance between the antenna to person

The table applies to any RF source (i.e. single fixed, mobile, and portable transmitters) and specifies power and distance criteria for each of the five frequency ranges used for the MPE limits. These criteria apply at separation distances from any part of the radiating structure of at least $\lambda/2\pi$. The thresholds are based on the general population MPE limits with a single perfect reflection, outside of the reactive near-field, and in the main beam of the radiator.

Limit calculation				
Frequency range	Frequency(MHz)	$\lambda/2\pi$ (m)	R(m)	Threshold ERP(W)
1500~100000MHz	2402	0.0199	0.2000	0.768
1500~100000MHz	2462	0.0194	0.2000	0.768
1500~100000MHz	5200	0.0092	0.2000	0.768
1500~100000MHz	5260	0.0091	0.2000	0.768
1500~100000MHz	5550	0.0086	0.2000	0.768
1500~100000MHz	5785	0.0083	0.2000	0.768
1500~100000MHz	6345	0.0075	0.2000	0.768
1500~100000MHz	6465	0.0074	0.2000	0.768
1500~100000MHz	6665	0.0072	0.2000	0.768
1500~100000MHz	6985	0.0068	0.2000	0.768

3.1.3 SAR-based Exemption

SAR-based thresholds are derived based on frequency, power, and separation distance of the RF source. The formula defines the thresholds in general for either available maximum time-averaged power or maximum time-averaged ERP, whichever is greater.

If the ERP of a device is not easily determined, such as for a portable device with a small form factor, the applicant may use the available maximum time-averaged power exclusively if the device antenna or radiating structure does not exceed an electrical length of $\lambda/4$.

As for devices with antennas of length greater than $\lambda/4$ where the gain is not well defined, but always less than that of a half-wave dipole (length $\lambda/2$), the available maximum time-averaged power generated by the device may be used in place of the maximum time-averaged ERP, where that value is not known.

The separation distance is the smallest distance from any part of the antenna or radiating structure for all persons, during operation at the applicable ERP. In the case of mobile or portable devices, the separation distance is from the outer housing of the device where it is closest to the antenna.

The SAR-based exemption formula of §1.1307(b)(3)(i)(B), repeated here as Formula (B.2), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold P_{th} (mW).

This method shall only be used at separation distances from **0.5cm to 40cm** and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by Formula (B.2).

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases} \quad (\text{B.2})$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz, d is the separation distance (cm), and $ERP_{20 \text{ cm}}$ is per Formula (B.1).

Limit calculation				
Frequency range(GHz)	Frequency(GHz)	X	d(cm)	Pth (mW)
0.3~1.5	0.45	1.011	1	44.373
1.5~6	2.462	1.903	20	3060.000

3.2 RF Exposure Test Exemptions for Simultaneous Transmission

The available maximum time-averaged power of each source is no more than 1 mW and there is a separation distance of two centimeters between any portion of a radiating structure operating and the nearest portion of any other radiating structure in the same device, except if the sum of multiple sources is less than 1 mW during the time-averaging period, in which case they may be treated as a single source (separation is not required). This exemption may not be used in conjunction with other exemption criteria other than those is paragraph (b)(3)(i)(A) of this section. Medical implant devices may only use this exemption and that in paragraph (b)(3)(i)(A).

Either SAR-based or MPE-based exemption may be considered for test exemption for fixed, mobile, or portable device exposure conditions; therefore, the contributions from each exemption in conjunction with the measured SAR (Evaluatedk term) shall be used to determine exemption for simultaneous transmission. In the case of fixed RF sources operating in the same time-averaging period, or of multiple mobile or portable RF sources within a device operating in the same time averaging period, if the sum of the fractional contributions to the applicable thresholds is less than or equal to 1 as indicated in the following equation.

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure Limit_k} \leq 1$$

Where:

a = number of fixed, mobile, or portable RF sources claiming exemption using paragraph (b)(3)(i)(B) of this section for Pth, including existing exempt transmitters and those being added.

b = number of fixed, mobile, or portable RF sources claiming exemption using paragraph (b)(3)(i)(C) of this section for Threshold ERP, including existing exempt transmitters and those being added.

c = number of existing fixed, mobile, or portable RF sources with known evaluation for the specified minimum distance including existing evaluated transmitters.

Pi = the available maximum time-averaged power or the ERP, whichever is greater, for fixed, mobile, or portable RF source i at a distance between 0.5 cm and 40 cm (inclusive).

Pth,i = the exemption threshold power (Pth) according to paragraph (b)(3)(i)(B) of this section for fixed, mobile, or portable RF source i.

ERPj = the ERP of fixed, mobile, or portable RF source j.

ERPth,j = exemption threshold ERP for fixed, mobile, or portable RF source j, at a distance of at least $\lambda / 2 \pi$ according to the applicable formula of paragraph (b)(3)(i)(C) of this section.

Evaluatedk = the maximum reported SAR or MPE of fixed, mobile, or portable RF source k either in the device or at the transmitter site from an existing evaluation at the location of exposure.

Exposure Limitk = either the general population/uncontrolled maximum permissible exposure (MPE) or specific absorption rate (SAR) limit for each fixed, mobile, or portable RF source k, as applicable from § 1.1310 of this chapter.

4 Measurement and Calculation

4.1 Maximum transmit power

The Power Data is based on the RF Test Report SUCR260600048901,SUCR260600048902

4.2 RF Exposure Calculation

For single RF source :

	Evaluation method	Separation distance between the antenna to person (R)
☐	Blanket 1 mW Blanket Exemption	Regardless of separation distance
☐	MPE-based Exemption(ERP)	$R \geq (\lambda / 2 \pi)$
☒	SAR-based Exemption(P_{th})	0.5cm<R<40cm

Band	Frequency	Max Tune power (dBm)	Ant Gain (dBi)	EIRP/ERP (dBm)	Max EIRP/ERP (mW)	Limit (mW)	Distance R (cm)	Result	Ratio
WCDMA Band II	1850	24.5	-2.74	21.76	149.968	3060	20	Pass	0.049
WCDMA Band IV	1710	24.5	-2.74	21.76	149.968	3060	20	Pass	0.049
WCDMA Band V	824	24.5	-0.75	21.60	144.544	1681	20	Pass	0.086
LTE-B2	1850	24	-2.74	21.26	133.660	3060	20	Pass	0.044
LTE-B4	1710	23	-2.74	20.26	106.170	3060	20	Pass	0.035
LTE-B5	824	23	-0.75	20.10	102.329	1681	20	Pass	0.061
LTE-B7	2500	24	-2.74	21.26	133.660	3060	20	Pass	0.044
LTE-B12	699	24	-0.75	21.10	128.825	1426	20	Pass	0.090
LTE-B13	777	24	-0.75	21.10	128.825	1585	20	Pass	0.081
LTE-B14	788	23	-0.75	20.10	102.329	1608	20	Pass	0.064
LTE-B17	704	24	-0.75	21.10	128.825	1436	20	Pass	0.090
LTE-B25	1850	24	-2.74	21.26	133.660	3060	20	Pass	0.044
LTE-B26 (814-824)	814	24	-0.75	21.10	128.82	1661	20	Pass	0.078
LTE-B26 (824-849)	824	24	-0.75	21.10	128.82	1681	20	Pass	0.077
LTE-B41	2496	23	-2.74	20.26	106.17	3060	20	Pass	0.035
LTE-B48	3550	24	-2.79	21.21	132.13	3060	20	Pass	0.043
LTE-B66	1710	24	-2.74	21.26	133.66	3060	20	Pass	0.044
LTE-B71	663	24	-0.75	23.25	211.35	1353	20	Pass	0.156
NR Band n2	1850	24	-2.74	21.26	133.66	3060	20	Pass	0.044
NR Band n5	824	24	-0.75	21.10	128.82	1681	20	Pass	0.077
NR Band n7	2500	24	-2.74	21.26	133.66	3060	20	Pass	0.044
NR Band n14	788	24	-0.75	21.10	128.82	1608	20	Pass	0.080
NR Band n25	1850	24	-2.74	21.26	133.66	3060	20	Pass	0.044
NR Band n41	2496	27	-2.74	24.26	266.69	3060	20	Pass	0.087
NR Band n48	3550	26	-2.79	23.21	209.41	3060	20	Pass	0.068
NR Band n66	1710	24	-2.74	21.26	133.66	3060	20	Pass	0.044
NR Band n71	663	24	-0.75	23.25	211.35	1353	20	Pass	0.156

NR Band n77(3450-3550)	3450	27	-2.79	24.21	263.633	3060	20	Pass	0.086
NR Band n77(3700-3980)	3700	27	-2.79	24.21	263.633	3060	20	Pass	0.086
NR Band n78(3450-3550)	3450	27	-2.79	24.21	263.633	3060	20	Pass	0.086
NR Band n78(3700-3800)	3700	27	-2.79	24.21	263.633	3060	20	Pass	0.086

4.2.1 Exposure calculations for multiple sources

In order to ensure compliance with the MPE for a controlled environment, the sum of the ratios of the power density to the corresponding MPE should not exceed unity. That is

$$\sum_{i=1}^n \frac{S_i}{MPE_i} \leq 1$$

No.	Mode	Max EIRP/ERP (mW)	Limit (mW)	Result Ratio	Limit	Result
1	WCDMA	144.544	1681	0.086	1.0000	Pass
	LTE	211.35	1353	0.156		
	NR	211.35	1353	0.156		

--End of the Report--