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Dosentrx, Inc.

RF EXPOSURE

REPORT

SCOPE OF WORK

RF EXPOSURE CALCULATION
ON THE REX REMOTE DIGITAL NURSE

REPORT NUMBER

105550100LEX-010

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RF EXPOSURE TEST REPORT

Report Number: 105550100LEX-010

Project Number: G105550100

Report Issue Date: 9/12/2025

Product Name: ReX Remote Digital Nurse

Product Model: ReX 2.1

Standards: FCC Title 47 CFR Part 1.1310(e)(1) Limits for
Maximum Permissible Exposure (MPE)

RSS-102 Issue 6 RF Field Strength Limits for
Devices Used by the General Public

Tested by:

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Client:

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1 Introduction and Conclusion

The tests indicated in section 2 were performed on the product constructed as described in section 4. The remaining test sections are the verbatim text from the actual data sheets used during the investigation. These test sections include the test name, the specified test Method, a list of the actual Test Equipment Used, documentation Photos, Results and raw Data. No additions, deviations, or exclusions have been made from the standard(s) unless specifically noted.

Based on the results of our investigation, we have concluded the product tested **complies** with the requirements of the standard(s) indicated. The results obtained in this test report pertain only to the item(s) tested. Intertek does not make any claims of compliance for samples or variants which were not tested.

2 Test Summary

Section	Test full name	Result
10	FCC Title 47 CFR Part 1.1310(e)(1) Limits for Maximum Permissible Exposure (MPE) (Limits for General Population / Uncontrolled Exposure)	Pass
	RSS-102 Issue 6 RF Field Strength Limits (For Devices Used by the General Public)	Pass



3 Client Information

This product was tested at the request of the following:

Client Information	
Client Name:	DosentrX, Inc.
Address:	505 Highway 169 N Suite 230 Plymouth, MN 55441 USA
Contact:	Richard Beck
Telephone:	612-518-1654
Email:	rbeck@dosentrX.com
Manufacturer Information	
Manufacturer Name:	DosentrX, Inc.
Manufacturer Address:	505 Highway 169 N Suite 230 Plymouth, MN 55441 USA



4 Description of Equipment under Test and Variant Models

Equipment Under Test	
Product Name	ReX Remote Digital Nurse
Model Number	ReX 2.1
FCC Identifier	XMR201910BG95M3
Type of Transmission	LTE CAT M1
Rated RF Output Power	21dBm
Antenna(s) and Gain	2JF0783P: 617-960MHz .7dB peak gain 1427-2690MHz 2.9dB peak gain (note: provided by client)
Frequency Range	707.5MHz – 1882.5MHz
Supported Transmit Bands	LTE Bands: 2, 4, 5, 12, 13, 25, 26, 66
Type of Modulation / Data Rate	BPSK / 1.119Mbps
Number of Channel(s)	7
Description of Equipment Under Test (provided by client)	
The ReX Remote Digital Nurse is a pill dispenser.	

4.1 Variant Models:

There were no variant models covered by this evaluation.



5 Output Power

The maximum output power information was provided by Quectel BG95 series datasheet and may affect compliance. Intertek does not make any claims of compliance for values other than those shown below.

Max Output Power: 21dBm (125mW) Power Class 5



6 Antenna Gain

Parameters	5GNR Antenna			
Technologies	5G, 4G, 3G and 2G			
Standards	5GNR/4GLTE/FirstNet/CBRS/LPWA/CAT-X/CAT-Mx/CAT-NBx/NB-IoT/3G/2G			
Frequency (MHz)	617-960	1427-2690	3300-5000	5150-5925
Band (MHz)	600, 700, 850, 900	1500, 1600, 1700, 1800, 1900, 2000, 2100, 2300, 2500, 2600	3300, 3500, 3600, 3700, 4500	5200, 5500, 5800
5GNR Bands	n5, n8 ,12, n20, n28, n71, n81, n82, n83,	n1, n2, n3, n7, n25, n34, n38, n39, n40, n41, n50, n51, n66, n70, n74, n75, n76, n80, n84, n86	n77, n78, n79	
4GLTE Bands	B5, B6, B8, B12, B13, B14, B17, B18, B19, B20, B26, B27, B28, B29, B44, B67, B68, B71, B85	B1, B2, B3, B4, B7, B9, B10, B11, B21, B23, B24, B25, B30, B32, B33, B34, B35, B36, B37, B38, B40, B41, B45, B50, B51, B65, B66, B69, B70, B74, B75, B76	B22, B42, B43, B48, B49, B52	B46, B47, B252, B255
3GCELL Bands	B5, B6, B8, B12, B13, B14, B19, B20, B26	B1, B2, B3, B4, B7, B9, B10, B11, B21, B25, B32, B33, B34, B35, B36, B37, B38, B39, B40	B22	
2GCELL Bands	710, 750, 810T, 850, 900P, 900E, 900R	1800DCS, 1900PCS		
CDMACELL Bands	BC0, BC2, BC3, BC7, BC9, BC10, BC12, BC18, BC19	BC1, BC4, BC6, BC8, BC13, BC14, BC15, BC16, BC20, BC21		
Return Loss (dB)	~7.3	~7.5	~10.6	~13.1
VSWR	~3.2:1	~2.7:1	~2.0:1	~1.8:1
Efficiency (%)	~45.3	~51.4	~51.0	~46.5
Peak Gain (dBi)	~0.7	~2.9	~4.5	~6.3
Average Gain (dB)	~4.0	~2.9	~2.9	~3.4
Impedance (Ohm)		50		
Polarisation		Linear		
Radiation Pattern		Omni-Directional		
Max. Input Power (W)		25		
Connector Type		U.FL Standard (Other Connectors Available)		
Cable Length		180mm Standard (Any Cable Length Available)		
Cable Type		1.37mm Mini-Coax Standard (Other Cables Available)		



7 FCC RF Exposure Limits

Title 47 CFR Part 1.1310(d)(2):

For operations within the frequency range of 300 kHz and 6 GHz (inclusive), the limits for maximum permissible exposure (MPE), derived from whole-body SAR limits and listed in Table 1 in paragraph (e)(1) of this section, may be used instead of whole-body SAR limits as set forth in paragraphs (a) through (c) of this section to evaluate the environmental impact of human exposure to RF radiation as specified in § 1.1307(b) of this part, except for portable devices as defined in § 2.1093 of this chapter as these evaluations shall be performed according to the SAR provisions in § 2.1093.

Table 1 to § 1.1310(e)(1)—Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
0.3–3.0	614	1.63	*(100)	≤6
3.0–30	1842/f	4.89/f	*(900/f ²)	<6
30–300	61.4	0.163	1.0	<6
300–1,500			f/300	<6
1,500–100,000			5	<6
(ii) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	<30
1.34–30	824/f	2.19/f	*(180/f ²)	<30
30–300	27.5	0.073	0.2	<30
300–1,500			f/1500	<30
1,500–100,000			1.0	<30

f = frequency in MHz. * = Plane-wave equivalent power density.



8 RSS-102 Issue 6 RF Exposure Limits

RSS-102 Issue 6 § 6.6:

Field reference level (FRL) exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm (i.e. mobile devices), except when the device operates as follows:

- below 20 MHz and the source-based, time-averaged maximum EIRP of the device is equal to or less than 1 W (adjusted for tune-up tolerance)
- at or above 20 MHz and below 48 MHz and the source-based, time-averaged maximum EIRP of the device is equal to or less than $4.49/f^{0.5}$ W (adjusted for tune-up tolerance), where f is in MHz
- at or above 48 MHz and below 300 MHz and the source-based, time-averaged maximum EIRP of the device is equal to or less than 0.6 W (adjusted for tune-up tolerance)
- at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum EIRP of the device is equal to or less than $1.31 \times 10^{-2} f^{0.6834}$ W (adjusted for tune-up tolerance), where f is in MHz
- at or above 6 GHz and the source-based, time-averaged maximum EIRP of the device is equal to or less than 5 W (adjusted for tune-up tolerance)

In these cases, the information contained in the RF exposure technical brief may be limited to information that demonstrates how the EIRP was derived.

RSS-102 Issue 6 § 5.3.2:

The electric and magnetic field strength reference levels, power density reference levels, and associated reference period for devices employed by the general public (uncontrolled environment) and controlled-use devices (controlled environment) are specified in table 7 and table 8. Note that the power density limits specified in these tables apply to whole body exposure conditions.

Table 7: RF field strength and power density limits for devices used by the general public (uncontrolled environment)

Frequency range (MHz)	Electric field (V _{RMS} /m)	Magnetic field (A _{RMS} /m)	Power density (W/m ²)	Reference period (minutes)
10-20	27.46	0.0728	2	6
20-48	$58.07/f^{0.25}$	$0.1540/f^{0.25}$	$8.944/f^{0.5}$	6
48-300	22.06	0.05852	1.291	6
300-6000	$3.142f^{0.3417}$	$0.008335f^{0.3417}$	$0.02619f^{0.6834}$	6
6000-15000	61.4	0.163	10	6
15000-150000	61.4	0.163	10	$616000/f^{1.2}$
150000-300000	$0.158f^{0.5}$	$4.21 \times 10^{-4} f^{0.5}$	$6.67 \times 10^{-5} f$	$616000/f^{1.2}$

Note: f is frequency in MHz.



9 Test Procedure

An RF exposure calculation was performed to show that the device was compliant with the general population exposure limits from FCC Title 47 CFR Part 1.1310(e)(1), RSS-102 Issue 6, and ICNIRP Guidelines (2020). The maximum power density was calculated for each transmitter at a separation distance of 20cm using the maximum conducted output power (including tune up tolerance) plus antenna gain, or measured EIRP.

For each transmitter the maximum power density at a 20cm distance using the formula:

$$EIRP(dBm) = Conducted\ Power(dBm) + Antenna\ Gain(dBi)$$

$$EIRP(mW) = 10^{EIRP(dBm)/10}$$

$$Power\ Density\left(\frac{mW}{cm^2}\right) = \frac{EIRP(mW)}{4\pi \cdot (20cm)^2}$$

$$Power\ Density\left(\frac{W}{m^2}\right) = \left(\frac{100cm}{1m}\right)^2 \left(\frac{1W}{1000mW}\right) Power\ Density\left(\frac{mW}{cm^2}\right)$$

For transmitters that could operate simultaneously, the ratio of calculated power density to the corresponding limit for each transmitter was calculated and then summed. If the sum of the ratios was less than 1, that specific combination of transmitters was deemed to comply.



10 Results:

The calculated maximum power density at 20cm was less than or equal to the limits for general population exposure in FCC Title 47 CFR Part 1.1310(e)(1) and RSS-102 Issue 6.



10.1 FCC RF Exposure Data

Transmitter	Frequency (MHz)	Conducted Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Margin
LTE Band 2	1880.0	21	2.9	23.9	245.47	0.0488	1.0000	0.9512
LTE Band 4	1732.5	21	2.9	23.9	245.47	0.0488	1.0000	0.9512
LTE Band 5	836.5	21	0.7	21.7	147.91	0.0294	0.5576	0.5282
LTE Band 12	707.5	21	0.7	21.7	147.91	0.0294	0.4716	0.4422
LTE Band 13	782.0	21	0.7	21.7	147.91	0.0294	0.5213	0.4919
LTE Band 25	1882.5	21	2.9	23.9	245.47	0.0488	1.0000	0.9512
LTE Band 26	831.5	21	0.7	21.7	147.91	0.0294	0.5543	0.5249
LTE Band 66	1745.0	21	2.9	23.9	245.47	0.0488	1.0000	0.9512



10.2 RSS-102 Issue 6 RF Exposure Data

Transmitter	Frequency (MHz)	Conducted Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Power Density (W/m ²)	Limit (W/m ²)	Margin
LTE Band 2	1880.0	21	2.9	23.9	245.47	0.488	4.5258	4.0388
LTE Band 4	1732.5	21	2.9	23.9	245.47	0.488	4.2798	3.7928
LTE Band 5	836.5	21	0.7	21.7	147.91	0.294	2.6020	2.3080
LTE Band 12	707.5	21	0.7	21.7	147.91	0.294	2.3206	2.0276
LTE Band 13	782.0	21	0.7	21.7	147.91	0.294	2.4849	2.1919
LTE Band 25	1882.5	21	2.9	23.9	245.47	0.488	4.5297	4.0427
LTE Band 26	831.5	21	0.7	21.7	147.91	0.294	2.5914	2.2974
LTE Band 66	1745.0	21	2.9	23.9	245.47	0.488	4.3009	3.8139



11 Revision History

Revision Level	Date	Report Number	Prepared By	Reviewed By	Notes
0	9/12/2025	105550100LEX-010	MC	JP	Original Issue