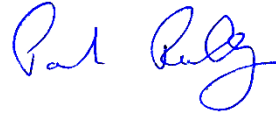


Project No.	23E10780-2c
Quotation	Q23-2702-1
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FCC ID	MRXFTMS01
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Authorised by	Paul Reilly
Authorised Signature:	

RF Exposure Exhibit– Technical Report

1.0 Overview

The EUT is designed for fixed / mobile applications application environments.

1.1 Fixed / Mobile Application

Due to the low power output of the device, it was assessed against RF exposure limits which allow no restriction on distance between the EUT and users /bystanders

2 Overview FCC Exposure evaluation

2.1 Limits

47 CFR Sections 1.1307, 1.1310, 2.1091

1.1307b3i a

The available maximum time-averaged power is no more than 1 mW, regardless of separation distance. This exemption may not be used in conjunction with other exemption criteria other than those in [paragraph \(b\)\(3\)\(ii\)\(A\)](#) of this section. Medical implant devices may only use this exemption and that in [paragraph \(b\)\(3\)\(ii\)\(A\)](#);

2.2 Results

The conducted available power was measured using a temporary connector and this was used as the final result when comparing to the limit (as this was greater than the measured ERP).

§ 1.1307(b)(3)(i)(A)—Single RF Sources Subject to Routine Environmental Evaluation	1	mW
Conducted (Available) Power	-5.88	dBm
Tune up Tolerance	1	dB
Time Averaging Factor	-33.21	dB
Time Averaged Conducted (Available) Power	155.240	nW
1mW exemption for any distance [Single Source]	1	mW
Pass EUT power 155.24nW<= 1mW Exemption Threshold		

The table above shows that for any separation distance RF exposure routine evaluation is not required.

Worst case time averaging in drive mode

Manufacturer data

Drive Mode	-RF transmit every 12 seconds with 1 frame data. -An additional frame is added to the RF transmission every 36 seconds.
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Calculation

6	mins	=> observation time
360	secs	=> observation time
30		num pulses per standard 12 secs period
10		num of additional pulses in 36 secs period
40		total number of pulses in the observation time
0.0043	secs	Ton single pulse
0.172	secs	Ton total (40*0.0043)
360	secs	=> observation time
0.000478	duty	= 0.172/360
-33.2077	duty (dB)	=10*log(0.000478) DCF

The EUT will comply with the limit for any duty cycle.
Test Result Pass

3.0 SAR Evaluation IC

Limits as per RSS 102 Issue 5 (Mar 2015) Section 2.5.1 Amd 1 Feb 2021

2.5.1 Exemption Limits for Routine Evaluation — SAR Evaluation

SAR evaluation is required if the separation distance between the user and/or bystander and the antenna and/or radiating element of the device is less than or equal to 20 cm, except when the device operates at or below the applicable output power level (adjusted for tune-up tolerance) for the specified separation distance defined in Table 1.

Output power level shall be the higher of the maximum conducted or equivalent isotropically radiated power (e.i.r.p.) source-based, time-averaged output power. For controlled use devices where the 8 W/kg for 1 gram of tissue applies, the exemption limits for routine evaluation in Table 1 are multiplied by a factor of 5. For limb-worn devices where the 10 gram value applies, the exemption limits for routine evaluation in Table 1 are multiplied by a factor of 2.5. If the operating frequency of the device is between two frequencies located in Table 1, linear interpolation shall be applied for the applicable separation distance. For test separation distance less than 5 mm, the exemption limits for a separation distance of 5 mm can be applied to determine if a routine evaluation is required.

3.1 Results

The conducted power was measured using a temporary connector and this was used as the final result when comparing to the limit (as this was greater than the measured EIRP).

Prediction frequency:	433.92	MHz
EIRP Peak	-5.88	dBm
Time Averaging Factor	-33.21	dB
Tune up tolerance	1	dB
Minimum separation distance: D	≤5	mm
Time Averaged EIRP	155.24	nW
Exemption limit for Routine Evaluation SAR :	54.04	mW
Head and Body SAR; General pop/Uncontrolled		
Test Result : EUT meets the SAR Exemption Limit for Routine Evaluation : SAR test not required 155.24nW <= 54mW	Pass	

Worst case time averaging =-33.21dB in drive mode calculated as per section 2.2 above.

The table above shows that for any separation distance, RF exposure routine evaluation is not required

Test result Pass

End of Report