



## RF Exposure Evaluation Declaration

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**FCC ID:** 2AK5Y-VT16-VT31

**APPLICANT:** Control Technology China., LTD

**Application Type:** Certification

**Product:** TPMS Activation Tool

**Model No.:** VT16, VT31

**FCC Classification:** Part 15 Low Power Transmitter Below 1705 kHz (DCD)

Reviewed By : Kevin Guo  
( Kevin Guo )

Approved By : Marlin Chen  
( Marlin Chen )



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

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## Revision History

Report No.	Version	Description	Issue Date	Note
1703WSU00203	Rev. 01	Initial report	11-16-2017	Valid

## 1. RF Exposure Evaluation

### 1.1. Limits

#### SAR Test Exclusion Thresholds for < 100 MHz and < 200 mm

Approximate SAR test exclusion power thresholds at selected frequencies and test separation distances are illustrated in the following table. The equation and threshold in 4.3.1 must be applied to determine SAR test exclusion.

MHz	<50	50	60	70	80	90	100	110	mm
100	237	474	481	487	494	501	507	514	SAR Test Exclusion Threshold (mW)
50	308	617	625	634	643	651	660	669	
10	474	948	961	975	988	1001	1015	1028	
1	711	1422	1442	1462	1482	1502	1522	1542	
0.1	948	1896	1923	1949	1976	2003	2029	2056	
0.05	1019	2039	2067	2096	2125	2153	2182	2211	
0.01	1185	2370	2403	2437	2470	2503	2537	2570	
MHz	120	130	140	150	160	170	180	190	mm
100	521	527	534	541	547	554	561	567	SAR Test Exclusion Threshold (mW)
50	677	686	695	703	712	721	729	738	
10	1041	1055	1068	1081	1095	1108	1121	1135	
1	1562	1582	1602	1622	1642	1662	1682	1702	
0.1	2083	2109	2136	2163	2189	2216	2243	2269	
0.05	2239	2268	2297	2325	2354	2383	2411	2440	
0.01	2603	2637	2670	2703	2737	2770	2803	2837	

Note: For frequencies below 100 MHz, the following may be considered for SAR test exclusion (also illustrated in Appendix C):

- For test separation distances > 50 mm and < 200 mm, the power threshold at the corresponding test separation distance at 100 MHz in step b) is multiplied by  $[1 + \log(100/f(\text{MHz}))]$
- For test separation distances  $\leq 50$  mm, the power threshold determined by the equation in c) 1) for 50 mm and 100 MHz is multiplied by  $\frac{1}{2}$
- SAR measurement procedures are not established below 100 MHz.

## **1.2. Test Procedure**

Software provided by client enabled the EUT to transmit and receive data at operating channel individually.

The temperature and related humidity: 20°C and 75% RH.

### 1.3. Test Result of RF Exposure Evaluation

Product	TPMS Activation Tool
Test Item	RF Exposure Evaluation

Antenna Gain: The maximum Gain is 0dBi for LC resonator circuit.

#### Output Power into Antenna:

Test Mode	Frequency Band (MHz)	Maximum output power to antenna (mW)	SAR Test Exclusion Threshold (mW)
125KHz	0.125	0.0372	925.7

**Conclusion:** As shown, the maximum output power is 0.0372mW which is below the threshold. So SAR test is excluded.

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