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RF Exposure Evaluation Report

Report No. : CQASZ20200200067E-02
Applicant: Uniden America Corporation
Address of Applicant: 6225 N. State Highway 161 Suite 300, Irving, Texas, United States 75038
Equipment Under Test (EUT):
EUT Name: UT427ZV
Model No.: RKCBBT
Brand Name: Road King
FCC ID: AMWUT427Z
Standards: 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06
Date of Receipt: 2020-02-20
Date of Test: 2020-02-20 to 2020-02-24
Date of Issue: 2020-02-25
Test Result : PASS*

*In the configuration tested, the EUT complied with the standards specified above

Tested By:

Tom Chen

(Tom Chen)

Reviewed By:

Aaron Ma

(Aaron Ma)

Approved By:

Jack Ai

(Jack Ai)



1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20200200067E-02	Rev.01	Initial report	2020-02-25

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3 General Information

3.1 Client Information

Applicant:	Uniden America Corporation
Address of Applicant:	6225 N. State Highway 161 Suite 300, Irving, Texas, United States 75038
Manufacturer:	Uniden Vietnam Ltd.
Address of Manufacturer:	Lot 5. 1, Tan Troung Industrial Zone, Cam Giang District, Hai Duong Province, Vietnam

3.2 General Description of EUT

Product Name:	UT427ZV
Model No.:	RKCBBT
Trade Mark:	Road King
Hardware Version:	PA-531Z3
Software Version:	Main 1.05 / Sub 1.02
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V4.2
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, $\pi/4$ DQPSK, 8DPSK
Transfer Rate:	1Mbps/2Mbps/3Mbps
Number of Channel:	79
Hopping Channel Type:	Adaptive Frequency Hopping systems
Product Type:	☐ Mobile ☐ Portable ☒ Fix Location
Test Software of EUT:	BK32xx RF Test_V1.5 (manufacturer declare)
Antenna Type:	PCB antenna
Antenna Gain:	0dBi
Power Supply:	DC13.8V

4 SAR Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

4.1.2 Limits

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$$\left[\frac{\text{max. power of channel, including tune-up tolerance, mW}}{[\sqrt{f(\text{GHz})}]} \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where} \right.$$

$f(\text{GHz})$ is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation¹⁷

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion

4.1.3 EUT RF Exposure

Measurement Data

GFSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-3.380	-3.5±1	-2.5	0.562
Middle(2441MHz)	-4.550	-4.5±1	-3.5	0.447
Highest(2480MHz)	-4.990	-4.5±1	-3.5	0.447
π/4DQPSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-0.950	-1±1	0	1.000
Middle(2441MHz)	-2.090	-2±1	-1	0.794
Highest(2480MHz)	-2.480	-2±1	-1	0.794
8DPSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-0.560	-0.5±1	0.5	1.122
Middle(2441MHz)	-1.690	-1.5±1	-0.5	0.891
Highest(2480MHz)	-2.080	-1.5±1	-0.5	0.891

Worst case: 8DPSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune- up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	-0.560	-0.5±1	0.5	1.122	0.35	3.0
Middle (2441MHz)	-1.690	-1.5±1	-0.5	0.891	0.28	
Highest (2480MHz)	-2.080	-1.5±1	-0.5	0.891	0.28	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20200200067E-01