RF Exposure Evaluation Report

Report No. :	CQASZ20190400238E-02
Applicant:	NINGBO LIANDA WINCH CO.,LTD
Address of Applicant:	Yushantou Village,Dongqiao Town,Haishu Dist,Ningbo,China
Manufacturer:	NINGBO LIANDA WINCH CO.,LTD
Address of Manufacturer:	Yushantou Village,Dongqiao Town,Haishu Dist,Ningbo,China
Equipment Under Test (EUT):	
Product:	Remote
Model No.:	Ld Remote-1
Brand Name:	N/A
FCC ID:	2ASYP-LDREMOTE1
Standards:	47 CFR Part 1.1307
	47 CFR Part 2.1093
	KDB447498D01 General RF Exposure Guidance v06
Date of Test:	2019-04-11 to 2019-05-07
Date of Issue:	2019-05-07
Test Result :	**PASS***

Tested By： _Daisy Qin_

(Daisy Qin)

Reviewed By: _Aaron Ma_

(Aaron Ma)

Approved By: _Jack Ai_

(Jack Ai)

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

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CQA, this report can't be reproduced except in full.

1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20190400238E-02	Rev.01	Initial report	2019-05-07

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3 General Information

3.1 Client Information

Applicant:	NINGBO LIANDA WINCH CO.,LTD
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3.2 General Description of EUT

Product Name:	Remote
Model No.:	Ld Remote-1
Trade Mark:	N/A
Hardware Version:	V1.0
Software Version:	V1.0
Sample Type:	Portable production
Operation Frequency:	315MHz
Channel Numbers:	1
Modulation Type:	00K
Antenna Type:	Printed antenna
Antenna Gain:	0dBi
Power Supply:	lithium battery: DC3.7V 300mA

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:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

　　f(GHz) is the RF channel transmit frequency in GHz
　　Power and distance are rounded to the nearest mW and mm before calculation[17]
　　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

eirp = pt x gt = (E x d)^2/30

where:

pt = transmitter output power in watts,

gt = numeric gain of the transmitting antenna (unitless),

E = electric field strength in V/m, ---$10^{((dB\mu V/m)/20)}/10^6$,

d = measurement distance in meters (m)---3m,

So pt = (E x d)^2/30 / gt

The worst case (refer to report CQASZ20190400238E-01) is below:

Antenna polarization: Horizontal		
Frequency (MHz)	Level (dBuV/m)	Polarization
315	74.73	Peak
315	67.75	Average

Antenna polarization: Vertical		
Frequency (MHz)	Level (dBuV/m)	Polarization
315	68.72	Peak
315	48.74	Average

For 315MHz wireless:

Field strength = 74.73dBµV/m @3m

Ant. gain 0dBi; so Ant numeric gain=1.0

So pt={[$10^{(74.73/20)}$/10^6x3]^2/30 /1.0}x1000mW =0.009mW

So (0.004mW/5mm)x √0.315GHz = 0.001,

0.001<3.0 for 1-g SAR

So the SAR report is not required.