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RF Exposure Evaluation Report

Report No. :	CQASZ20191101193E-02
Applicant:	Vincross China Inc.
Address of Applicant:	A2702, Tower3, Wangjing SOHO, Chaoyang Dist Chaoyang District, Beijing, China
Equipment Under Test (EUT):	
Product:	MIND KIT
Model No.:	MIND KIT V1.0-1 , MIND KIT V1.0-2
Test Model No.:	MIND KIT V1.0-1
Brand Name:	Vincross
FCC ID:	2ALCM-MINDKIT
Standards:	47 CFR Part 1.1307 47 CFR Part 2.1093 KDB447498D01 General RF Exposure Guidance v06
Date of Receipt:	2019-11-25
Date of Test:	2019-11-25 to 2019-12-02
Date of Issue:	2019-12-02
Test Result :	**PASS***

Tested By: Tom chen. ***(Tom chen)***

Reviewed By: Aaron Ma ***(Aaron Ma)***

Approved By: ***(Jack Ai)***

SHENZHEN HUAXIA TESTING TECHNOLOGY CO.,LTD CQA 华夏准测 APPROVED

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

1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20191101193E-02	Rev.01	Initial report	2019-12-02

2 Contents

3 General Information

3.1 Client Information

Applicant:	Vincross China Inc.
Address of Applicant:	A2702, Tower3, Wangjing SOHO, Chaoyang Dist Chaoyang District, Beijing, China
Manufacturer:	Vincross China Inc.
Address of Manufacturer:	A2702, Tower3, Wangjing SOHO, Chaoyang Dist Chaoyang District, Beijing, China

3.2 General Description of EUT

Product Name:	MIND KIT
All Model No.:	MIND KIT V1.0-1 , MIND KIT V1.0-2
Test Model No.:	MIND KIT V1.0-1
Trade Mark:	Vincross
Hardware version:	V1.0
Software version:	V1.0.0
Operation Frequency:	IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz IEEE 802.11n(HT40): 2422MHz to 2452MHz
Channel Numbers:	IEEE 802.11b/g, IEEE 802.11n HT20: 11 Channels IEEE 802.11n HT40: 7 Channels
Channel Separation:	5MHz
Type of Modulation:	IEEE for 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE for 802.11g : OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE for 802.11n(HT20 and HT40) : OFDM (64QAM, 16QAM, QPSK,BPSK)
Transfer Rate:	IEEE for 802.11b: 1Mbps/2Mbps/5.5Mbps/11Mbps IEEE for 802.11g : 6Mbps/9Mbps/12Mbps/18Mbps/24Mbps/36Mbps/48Mbps/54Mbps IEEE for 802.11n(HT20) : 6.5Mbps/13Mbps/19.5Mbps/26Mbps/39Mbps/52Mbps/58.5Mbps/65Mbps IEEE for 802.11n(HT40) : 13.5Mbps/27Mbps/40.5Mbps/54Mbps/81Mbps/108Mbps/121.5Mbps/135Mbps
Product Type:	☐ Mobile ☒ Portable ☐ Fix Location
Test Software of EUT:	REALTEK 11n 8188EUS USB WLAN(manufacturer declare)
Antenna Type:	internal antenna with ipex connector
Antenna Gain:	5dBi
Power Supply:	Charge by DC20V（adapter), lithium battery:DC10.8V

Note:

Model No.: MIND KIT V1.0-1 , MIND KIT V1.0-2

Only the model MIND KIT V1.0-1 was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, with difference being color of appearance, pack and model name.

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 measuremen 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

1) For WIFI

Measurement Data

IEEE for 802.11b mode				
Test channel	Average Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2412MHz)	8.26	8.0±1	9	7.943
Middle(2437MHz)	8.34	8.0±1	9	7.943
Highest(2462MHz)	8.71	8.0±1	9	7.943
IEEE for 802.11g mode				
Test channel	Average Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2412MHz)	8.26	8.0±1	9	7.943
Middle(2437MHz)	8.3	8.0±1	9	7.943
Highest(2462MHz)	8.56	8.0±1	9	7.943
IEEE for 802.11n(HT20) mode				
Test channel	Average Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2412MHz)	7.84	8.0±1	9	7.943
Middle(2437MHz)	8.29	8.0±1	9	7.943
Highest(2462MHz)	8.56	8.0±1	9	7.943
IEEE for 802.11n(HT40) mode				
Test channel	Average Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2422MHz)	8.5	8.0±1	9	7.943
Middle(2437MHz)	8.79	8.0±1	9	7.943
Highest(2452MHz)	8.83	8.0±1	9	7.943

Worst case: 802.11n(HT40) mode						
Channel	Average Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2412MHz)	8.5	8.0±1	9	7.943	2.47	3.0
Middle (2437MHz)	8.79	8.0±1	9	7.943	2.48	
Highest (2462MHz)	8.83	8.0±1	9	7.943	2.49	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Average Output Power data refer to report Report No.: CQASZ20191101193E-01