RF Exposure Evaluation

FCC ID: 2ABES-KR0319

1. Client Information

Applicant : Pathway Innovations and Technologies, Inc.

Address : 10211 Pacific Mesa Blvd., #412, San Diego, CA 92121, USA

Manufacturer : ShenZhen KerunVisual Technology Co., Ltd.

Address : 6/F, Building 2, Zone S2, 1213 Liuxian Blvd Honghualing Industrial Park Nanshan District, Shenzhen City, China

2. General Description of EUT

EUT Name	:	Pilot	
Models No.	:	KR0319, KR0318, Pilot, Pilot2, Pilot3, Pilot4	
Model Difference	:	All these models are identical in the same PCB layout and electrical circuit, the only difference is model name for commercial.	
Product Description	:	Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz Bluetooth 3.0+EDR&BLE: 2402MHz~2480MHz
Power Rating	:	Input: AC 100~240V, 50/60Hz, 0.5A.	
Connecting I/O Port(S)	:	Please refer to the User's Manual	

Note: More test information about the EUT please refer the RF Test Report.

1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, China
Tel: +86 75526509301 Fax: +86 75526509195

SAR Test Exclusion Calculations

1. **FCC: According to KDB 447498 D01 Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies v06.**
   (1) Clause 4.3: General SAR test reduction and exclusion guidance
   Sub clause 4.31: Standalone SAR test exclusion considerations
   1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6GHz at test separation distance≤5 mm are determined by:
   [(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)]*[$\sqrt{f_{(GHz)}}$] ≤3.0 for 1-g SAR
   [(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)]*[$\sqrt{f_{(GHz)}}$] ≤7.5.0 for 10-g SAR

2. Calculation:

Test separation: 5mm						
2.4G WiFi Mode(802.11b)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.412	8.96	8±1	9	7.943	2.467	**3.0**
2.437	8.95	8±1	9	7.943	2.480	**3.0**
2.462	8.93	8±1	9	7.943	**2.493**	**3.0**
2.4G WiFi Mode(802.11g)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.412	8.86	8±1	9	7.943	2.467	**3.0**
2.437	8.79	8±1	9	7.943	2.480	**3.0**
2.462	8.87	8±1	9	7.943	2.493	**3.0**
2.4G WiFi Mode(802.11n(HT20))						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.412	8.63	8±1	9	7.943	2.467	**3.0**
2.437	8.62	8±1	9	7.943	2.480	**3.0**
2.462	8.58	8±1	9	7.943	2.493	**3.0**
2.4G WiFi Mode(802.11n(HT40))						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.422	8.59	8±1	9	7.943	2.472	**3.0**
2.437	8.53	8±1	9	7.943	2.480	**3.0**
2.452	8.55	8±1	9	7.943	2.488	**3.0**

Test separation: 5mm						
Bluetooth Mode (GFSK)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	1.364	1±1	2	1.585	0.491	**3.0**
2.441	0.959	1±1	2	1.585	0.495	**3.0**
2.480	0.312	1±1	2	1.585	**0.499**	**3.0**
Bluetooth Mode (π /4-DQPSK)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	0.219	0±1	1	1.259	0.390	**3.0**
2.441	0.032	0±1	1	1.259	0.393	**3.0**
2.480	-0.554	0±1	1	1.259	0.397	**3.0**
Bluetooth Mode (8-DPSK)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	0.344	0±1	1	1.259	0.390	**3.0**
2.441	0.140	0±1	1	1.259	0.393	**3.0**
2.480	-0.500	0±1	1	1.259	0.397	**3.0**
BLE Mode (GFSK)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	-4.242	-4±1	-3	0.501	0.155	**3.0**
2.442	-3.856	-4±1	-3	0.501	0.157	**3.0**
2.480	-4.126	-4±1	-3	0.501	0.158	**3.0**

Test separation: 5mm			
The worst RF Exposure Evaluation			
Worst Calculation Value		Total Calculation Value	Threshold Value
2.4G WiFi Mode	Bluetooth Mode		
2.493	0.499	2.992	**3.0**

Because the 2.4G WiFi and Bluetooth can be operated simultaneously, So the worst RF Exposure Evaluation is calculated as *2.493+0.499=2.992 / cm2 < limit 3.0*, So standalone SAR measurements are not required.

-----END OF REPORT-----