



## RF Exposure Evaluation

Date: 08 Dec 2017

Application No. : LV028362(0)

Applicant : Ocean Star Electronics Limited  
Unit 15, 8/F Wah Wai Center,  
38-40 Au Pui Wan Street, Fo Tan,  
Hong Kong.

Buyer : Kondor Limited  
Kondor Headquarters, Christchurch Business Park,  
Radar Way, Christchurch, BH23 4FL, UK.

Sample Description : One(1) item of submitted sample stated to be

| Sample Description | Model No.        |
|--------------------|------------------|
| Smart Speaker      | KSVOGY<br>KSVOnn |

Sample registration No. : RV035681-001  
Radio Frequency : 2412MHz – 2462MHz for Wi-Fi 802.11b/g/n  
: 2402MHz – 2480MHz for Bluetooth 2.1+EDR  
Supply voltage : AC 100-240V  
No. of submitted sample : Three (3) set(s)

IC : 10306A-KS31330

Date Received : 10 Jul 2017.


Evaluation Period : 10 Jul 2017 to 16 Jul 2017.

Evaluation Method : RSS-102 Issue 5 - Radio Frequency (RF) Exposure Compliance of  
Radiocommunication Apparatus (All Frequency Bands)

Conclusion : The maximum simultaneous power of WiFi and Bluetooth operation were satisfied  
(RF) exposure requirements.

*For and on behalf of*  
CMA Industrial Development Foundation Limited

Authorized Signature : \_\_\_\_\_

  
Mr. WONG Lap-pong, Andrew  
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### Simultaneous power

Bluetooth

Frequency range: 2402MHz – 2480MHz

Maximum EIRP Output Power: 0.36mW and 0 dBi antenna gain

Wi-Fi

Frequency range: 2412MHz – 2462MHz

Maximum EIRP Output Power: 0.61mW and 0 dBi antenna gain

The maximum simultaneous power of WiFi and Bluetooth channels = 0.97mW

### RF Exposure Evaluation

According to RSS-102, clause 2.5.1, SAR evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm, when the device operates at or below the applicable output power level (adjusted for tune-up tolerance) for the specified separation distance defined in Table 1.

If the operating frequency of the device is between two frequencies located in Table 1, linear interpolation shall be applied for the applicable separation distance. For test separation distance less than 5 mm, the exemption limits for a separation distance of 5 mm can be applied to determine if a routine evaluation is required.

Table 1: SAR evaluation – Exemption limits for routine evaluation based on frequency and separation distance

| Frequency<br>(MHz) | Exemption Limits (mW)                 |                                       |                                       |                                       |                                       |
|--------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
|                    | At separation<br>distance of<br>≤5 mm | At separation<br>distance of 10<br>mm | At separation<br>distance of 15<br>mm | At separation<br>distance of 20<br>mm | At separation<br>distance of 25<br>mm |
| ≤300               | 71 mW                                 | 101 mW                                | 132 mW                                | 162 mW                                | 193 mW                                |
| 450                | 52 mW                                 | 70 mW                                 | 88 mW                                 | 106 mW                                | 123 mW                                |
| 835                | 17 mW                                 | 30 mW                                 | 42 mW                                 | 55 mW                                 | 67 mW                                 |
| 1900               | 7 mW                                  | 10 mW                                 | 18 mW                                 | 34 mW                                 | 60 mW                                 |
| 2450               | 4 mW                                  | 7 mW                                  | 15 mW                                 | 30 mW                                 | 52 mW                                 |
| 3500               | 2 mW                                  | 6 mW                                  | 16 mW                                 | 32 mW                                 | 55 mW                                 |
| 5800               | 1 mW                                  | 6 mW                                  | 15 mW                                 | 27 mW                                 | 41 mW                                 |



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| Frequency<br>(MHz) | Exemption Limits (mW)                 |                                       |                                       |                                       |  |
|--------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|--|
|                    | At separation<br>distance of 30<br>mm | At separation<br>distance of 35<br>mm | At separation<br>distance of 40<br>mm | At separation<br>distance of 45<br>mm | At separation<br>distance of<br>≥50 mm |
| ≤300               | 223 mW                                | 254 mW                                | 284 mW                                | 315 mW                                | 345 mW                                 |
| 450                | 141 mW                                | 159 mW                                | 177 mW                                | 195 mW                                | 213 mW                                 |
| 835                | 80 mW                                 | 92 mW                                 | 105 mW                                | 117 mW                                | 130 mW                                 |
| 1900               | 99 mW                                 | 153 mW                                | 225 mW                                | 316 mW                                | 431 mW                                 |
| 2450               | 83 mW                                 | 123 mW                                | 173 mW                                | 235 mW                                | 309 mW                                 |
| 3500               | 86 mW                                 | 124 mW                                | 170 mW                                | 225 mW                                | 290 mW                                 |
| 5800               | 56 mW                                 | 71 mW                                 | 85 mW                                 | 97 mW                                 | 106 mW                                 |

### Calculation

By using linear interpolation to determine the limit for the worst separation distance of ≤5 mm:

$$Limit = 4 + (2480 - 2450) \times \frac{2 - 4}{3500 - 2450} = 3.94 \text{ mW}$$

### Conclusion

The maximum simultaneous power was 0.97mW which under the exemption limits 3.94mW.  
Measurement or routine evaluations were not required.

\*\*\*\*\* End of Evaluation \*\*\*\*\*