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15 MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Standard Applicable 15.1

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

This is a Mobile device, the MPE is required.

According to §1.1310 and §2.1091 RF exposure is calculated.

Limits for Maximum Permissive Exposure (MPE)

| Frequency Range | Electric Field | Magnetic Field | Power Density | Averaging Time | | | | | | |
|---|----------------|----------------|------------------------|----------------|--|--|--|--|--|--|
| (MHz) | Strength (V/m) | Strength (A/m) | (mW/cm ²) | (minute) | | | | | | |
| Limits for General Population/Uncontrolled Exposure | | | | | | | | | | |
| 0.3-1.34 | 614 | 1.63 | *(100) | 30 | | | | | | |
| 1.34-30 | 824/f | 2.19/f | *(180/f ²) | 30 | | | | | | |
| 30-300 | 27.5 | 0.073 | 0.2 | 30 | | | | | | |
| 300-1500 | / | / | f/1500 | 30 | | | | | | |
| 1500-15000 | / | / | 1.0 | 30 | | | | | | |

f = frequency in MHz

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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SGS Taiwan Ltd.

No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

^{* =} Plane-wave equipment power density



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Maximum Permissible Exposure (MPE) Evaluation (Worst case)

Prediction of MPE limit at a given distance

 $S=PG/4\pi R^2$

Where: S = Power density

P = Power input to antenna

G = Power gain of the antenna in the direction of interest relative to an isotropic radiator

R = Distance to the center of radiation of the antenna

| peration Mode | Evaluation Frequency (MHz) | Operation Distance (cm) | Max. output Power (dBm) | Antenna Gain (dBi) | Max. out- put Power EIRP (mW) | Power Density (mW/cm²) | Limit (mW/cm²) | Pass / Fail |
|------------------|----------------------------------|-------------------------------|-------------------------------|--------------------------|---|------------------------------|-------------------|-------------|
| BR | 2402.00 | 20 | 6.79 | 2.4 | 8.30 | 0.002 | 1.000 | Pass |
| EDR(2M) | 2402.00 | 20 | 6.76 | 2.4 | 8.24 | 0.002 | 1.000 | Pass |
| EDR(3M) | 2402.00 | 20 | 6.62 | 2.4 | 7.98 | 0.002 | 1.000 | Pass |
| BLE | 2402.00 | 20 | 6.76 | 2.4 | 8.24 | 0.002 | 1.000 | Pass |
| 802.11b | 2462.00 | 20 | 20.96 | 6.08 | 505.82 | 0.101 | 1.000 | Pass |
| 802.11g | 2437.00 | 20 | 23.66 | 6.08 | 941.89 | 0.187 | 1.000 | Pass |
| 802.11n_HT20 | 2457.00 | 20 | 24.03 | 6.08 | 1025.65 | 0.204 | 1.000 | Pass |
| 802.11n_HT40 | 2437.00 | 20 | 24.02 | 6.08 | 1023.29 | 0.204 | 1.000 | Pass |
| 802.11a | 5825.00 | 20 | 23.41 | 11.02 | 2773.32 | 0.552 | 1.000 | Pass |
| 802.11n_HT20 | 5825.00 | 20 | 24.41 | 11.02 | 3491.40 | 0.695 | 1.000 | Pass |
| 802.11n_HT40 | 5755.00 | 20 | 24.53 | 11.02 | 3589.22 | 0.714 | 1.000 | Pass |
| 802.11n_ac80 | 5775.00 | 20 | 19.86 | 11.02 | 1224.62 | 0.244 | 1.000 | Pass |

Note: 5G can't be simultaneous transmitting with 2.4G and BT/BLE.

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台灣檢驗科技股份有限公司 t (886-2) 2299-3279