

Analysis Report

Report No.: 17041400HKG-001

The Equipment Under Test (EUT) is a Chip & Swipe Reader which is a Bluetooth controlled mobile POS device (point of sale device). It supports reading magnetic stripe credit card and EMV smart credit card (Europay, MasterCard, and Visa Card). It can be paired with smartphone or tablet and operated by mobile APP. A MSR module (magnetic stripe reader) and EMV smart card interface are used for reading magnetic stripe credit card and EMV smart credit card data respectively. The EUT can only support Bluetooth 4.0 BLE that occupies a frequency range of 2402MHz to 2480MHz (40 channels with channel spacing of 2MHz). POS payment transaction can also be made via USB port when connecting with PC. The EUT is powered by 3.7V internal rechargeable battery and/or USB port (5VDC).

Bluetooth Portion

Modulation Type: GFSK

Antenna Type: Internal, Integral

Frequency Range: 2402MHz to 2480MHz, 2MHz channel spacing, 40 channels

Antenna Gain: 4dBi

Nominal conducted power: 2dBm

Maximum allowed production tolerance: +3dB/-12dB

According to the KDB 447498:

Conducted Power (including production tolerance)

= 2dBm + 3dB = 5dBm (3.16 mW)

The SAR Exclusion Threshold Level:

= $3.0 * (\text{min. test separation distance, mm}) / \sqrt{\text{freq. in GHz}}$

= $3.0 * 5 / \sqrt{2.480}$ mW

= 9.53 mW

Since the above conducted output power is well below the SAR Exclusion threshold level, so the EUT is considered to comply with SAR requirement without testing.