

Analysis Report

Report No.: 17101161HKG-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 support Bluetooth 3.0 and Bluetooth 4.0 BLE. For Bluetooth 3.0 the EUT occupies a frequency range of 2402MHz to 2480MHz (79 channels with channel spacing of 1MHz). While Bluetooth 4.0 BLE, the EUT occupies a frequency range of 2402MHz to 2480MHz (40 channels with channel spacing of 2MHz). The EUT is powered by 3.7V internal rechargeable battery and/or USB port (5VDC). The USB port in EUT is for charging purpose and does not contain PC connectivity.

Bluetooth Portion

Modulation Type: GFSK

Antenna Type: Integral, Internal

Antenna Gain: 4dBi

EIRP RF power range: -8dBm to -2dBm (Bluetooth 3.0)

EIRP RF power range: -4dBm to +4dBm (Bluetooth 4.0 BLE)

According to the KDB 447498:

Conducted Power

= EIRP - Antenna Gain

= 4dBm - 4dBi

= 0dBm (1.00 mW)

The SAR Exclusion Threshold Level:

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

= $3.0 * 5 / \text{sqrt}(2.480)$ 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.