No SAR justification for FCC ID: MQT-FD400GTMC

Following FCC KDB 447498 D01 "General SAR test exclusion guidance"

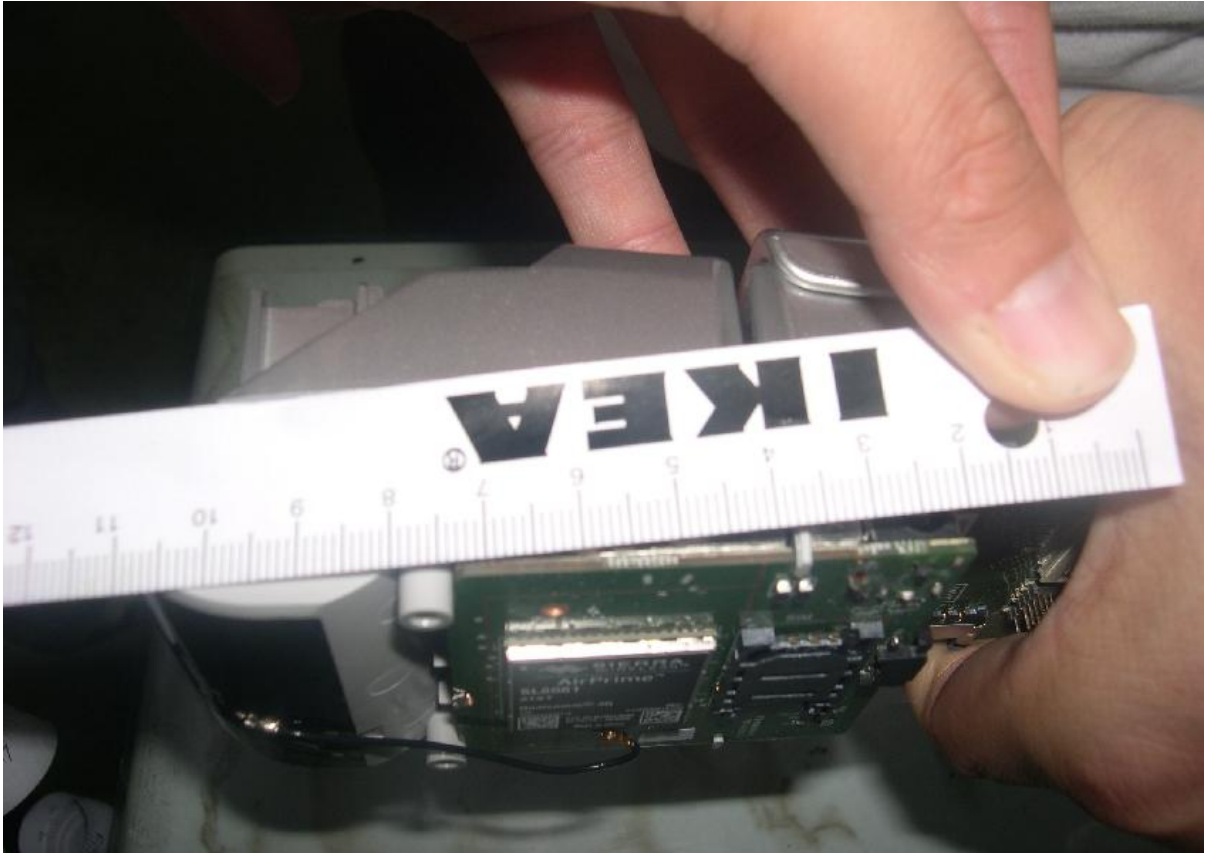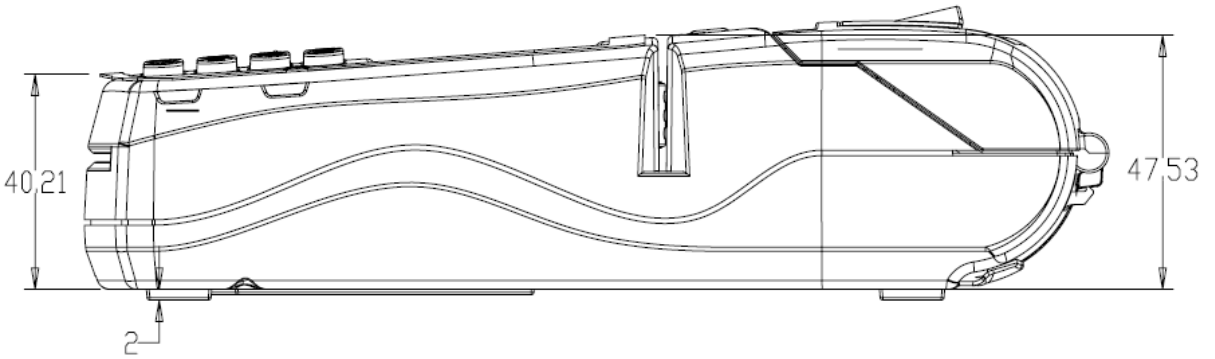The corresponding SAR Exclusion Threshold condition, listed below:

1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] ·[√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,16 where

Ø   f(GHz) is the RF channel transmit frequency in GHz

Ø   Power and distance are rounded to the nearest mW and mm before calculation

Ø   The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

2) At 100 MHz to 6 GHz and for test separation distances > 50 mm, the SAR test exclusion threshold is determined according to the following:

a) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm)·(f(MHz)/150)] mW, at 100MHz to 1500 MHz

b) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm)·10] mW at > 1500 MHz and ≤ 6 GHz

3) At frequencies below 100 MHz, the following may be considered for SAR test exclusion.

a) The threshold at the corresponding test separation distance at 100 MHz in step 2) is multiplied by [1 + log(100/f(MHz))] for test separation distances > 50 mm and < 200 mm.

b) The threshold determined by the equation in a) for 50 mm and 100 MHz is multiplied by ½ for test separation distances ≤ 50 mm.

c) SAR measurement procedures are not established below 100 MHz. When SAR test exclusion cannot be applied, a KDB inquiry is required to determine SAR evaluation requirements for any test results to be acceptable.

of a user or bystander. (See below figure)

Source-base time average power table

GPRS & EDGE Mode:

Frequency (MHz)	Conducted power (dBm)	Conducted power (mW)	Source-based time-averaged conducted output power (mW)
848.8	32.3	1698.2	424.6
1850.2	28.8	758.6	189.7

Note: Calculations for RF Exposure compliance in the cellular and PCS bands are base on the maximum source based time-average power obtained from 2-Slot GPRS operation. The resulting duty cycle factor is 2/8, or 6.02dB.

SAR Test Exclusion Thresholds

Frequency	Max. Power (mW)[1]	Min. test separation distance (mm)	SAR test exclusion power thresholds [2] (mW)	Result
848.8	424.6	90	633.3	Pass
1850.2	189.7	90	675.6	Pass

[1] Max. power obtained from maximum source based time average power.

[2] Calculate SAR test exclusion thresholds from " 1) & 2) " formulas.

Conclusion

Since Source-base time average power is below SAR test exclusion power thresholds, the SAR evaluation is not required.

Simultaneous transmission: The device include GPRS(EDGE) and RFID radio that can transmit simultaneous. The GRPS(EDGE) is compliance with SAR test exclusion requirement, RFID power is below the threshold, we can assume the built-in radio SAR equal to zero. Thus, the simultaneous SAR can be exempted.

Simultaneous SAR is not required due to all radios are SAR exempted in the concluding section