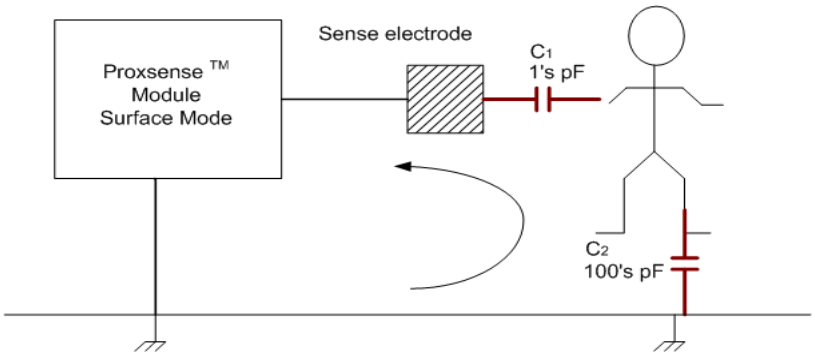
Power reduce process strategy

Power reduction base on SAR sensor(SAR-sensor) on/off.

SAR-Sensor mechanism and algorithms

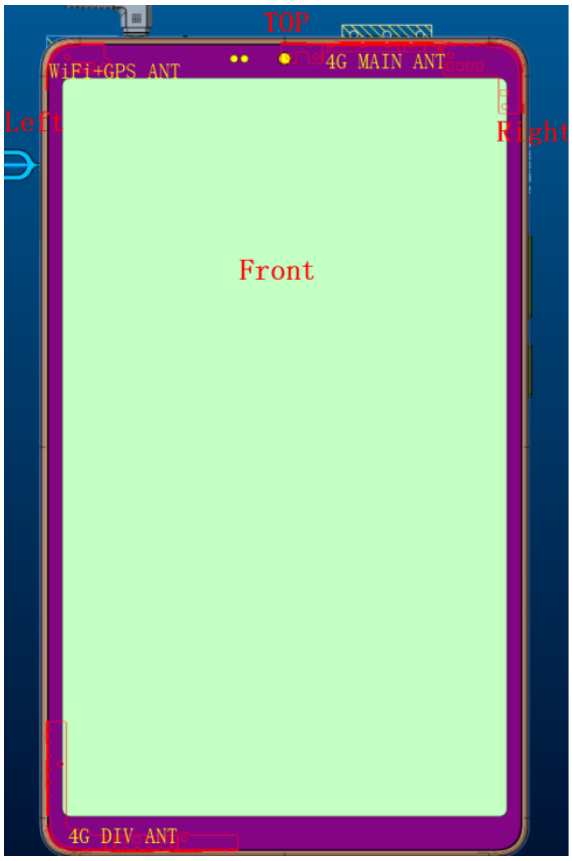
Circuitry measures capacitance of sense electrode (attached to the IC sense pin) relative to ground (Cx). Measurement occurs by continual charging of Cx, discharging into internal reference capacitor (Cs), until trip voltage is reached. Quantity of consecutive charges for Cs to reach trip voltage is counted, and referred to as the current sample. User interaction determined from the current sample deviations from the baseline (long term average or LTA). Use PCB pads to sense a touch or proximity event.

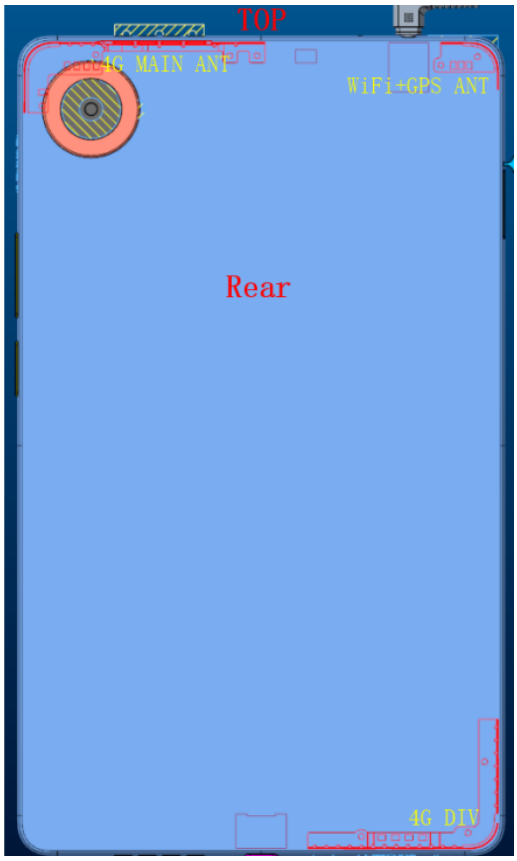


How Proximity(SAR) Sensor works

Proximity(SAR) Sensor using for reducing RF conductive power when testing Body SAR with 0mm. When user hand or other parts of body close to the antenna within the sensor trigger distance, RF output power will be reduced, the device working with low power, otherwise the device working with normal power.

Sensorlocation：





SAR Scenario 1：LMHB MAIN；　　SARScenario 2：2.4G/5G WIFI

PS: The FPC antenna is the SAR-sensor.

Ant	Mode	Band
Ant1	WCN	WiFi_2.4G+BT/WiFi_5G/GPS
Ant2	4G MIAN	GSM850/GSM900/DCS1800/PCS1900 WCDMA B1/B2/B4/B5/B8 LTE B1/B2/B3/B4/B5/B7/B8/B12/B13/B17/B20/B28/B34 /B38/B39/B40/B41/B66 -->TRX
Ant3	4G DIV	WCDMA B1/B2/B4/B5/B8 LTE B1/B2/B3/B4/B5/B7/B8/B12/B13/B17/B20/B28/B34 /B38/B39/B40/B41/B66 -->DRX

The distance of the Sensor:

Closedirection	MAINANT	WIFIANT
Bottom	NA	NA
Frontside	10mm	14mm
Rightside	14mm	NA
LeftSide	NA	14mm
TOP	15mm	14mm
RearSide	15mm	14mm

4G MAIN：

	DSI0	DSI1	DSI2
Scenario 1	SAR-sensor off	SAR-sensor on WIFI off	SAR-sensor on WIFI on

WiFi：

	DSI0	DSI1	DSI2
Scenario 2	SAR-sensor off	SAR-sensor on Cellular off	SAR-sensor on Cellular on