

POWER REDUCTION VERIFICATION

This device supports the manufacturer's proprietary power reduction mechanisms for cellular and Wi-Fi transmitters. Further details of the specific mechanisms for the Motion Detector can be found in the Operational Description (Motion Sensor).

A. Verification of Motion Detector mechanism was performed for the following test cases for cellular and Wi-Fi transmitters.

- On a stationary object (placed on a table)
- In-hand or on knee

B. Verification of power reduction levels for Wi-Fi were performed with cellular transmitters on and off.

C. Verification of RCV mechanism was performed with cellular and Wi-Fi transmitters.

D. Verification of Hotspot power reduction was performed with cellular transmitters.

The verification plan consists of measuring the power levels of the cellular and Wi-Fi transmitters under different operating conditions related to the power reduction mechanisms.

For testing purposes the device was measured against each Index supported for the cellular and Wi-Fi technologies. The target power level and measured power levels are detailed in the following table and clearly shows that each power reduction mechanism operates as expected.

Technology	Band	Antenna	Stationary		Head (Receiver ON)				Body (Motion Sensor ON)				Hotspot (Hotspot Mode ON)	
					Wi-Fi / BT / Thread OFF		Wi-Fi / BT / Thread ON		Wi-Fi / BT / Thread OFF		Wi-Fi / BT / Thread ON		Wi-Fi / BT Tethering ON	
			Target Power	Measured Power	Target Power	Measured Power	Target Power	Measured Power	Target Power	Measured Power	Target Power	Measured Power	Target Power	Measured Power
GSM	1900	ANT2	27.5	26.38	30	29.64	30	29.59	23.8	22.86	23.1	22.4	23.1	22.36
UMTS	B5	ANT1	25.1	24.08	23.2	21.89	22.5	21.24	25.1	24.07	25.1	24.07	25.1	24.08
LTE	B25	ANT2	24.9	24.2	24.5	23.79	23.8	23.08	23.7	23.04	23	22.36	23	22.35
FR1	n48	ANT6	22.1	21.86	22.1	21.74	22.1	21.77	20	19.77	19.3	19.03	19.3	19.15
FR1	n7	ANT2	25.1	24.81	22.5	22.29	21.8	21.63	19.9	19.65	19.2	18.92	19.2	18.93

Technology	Mode	Antenna	Stationary		Head (Receiver ON)				Body (Motion Sensor ON)			
					WWAN OFF		WWAN ON		WWAN OFF		WWAN ON	
			Target Power	Measured Power	Target Power	Measured Power	Target Power	Measured Power	Target Power	Measured Power	Target Power	Measured Power
Wi-Fi 2.4 GHz	802.11b	ANT3	22.5	21.12	16.5	14.56	11	9.4	21	19.88	15	13.57
Wi-Fi 5.8 GHz	802.11a	ANT4	21	18.57	13	12.03	9.6	8.97	20	18.56	16.5	16.2

Conclusion:

All measured power values were within the expected tolerances of the target power levels for every Index. Mechanism of Motion Detector was verified.