

Appendix F. Sensor Power Verification

<Hall Sensor Power Verification>

IMU is always being triggered during the validation process.

Power is measured at 802.11b, 2437 MHz 1Mbps mode

Hinge Angle (°)	Hall Effect Sensor Status	Measured Power (dBm)
90	Open	17.15
80	Open	17.15
70	Open	17.15
60	Closed	10.97
65	Closed	10.97
69	Open	17.15
68	Open	17.15
67	Open	17.15
66	Open	17.15
64	Closed	10.97
63	Closed	10.97
62	Closed	10.97
61	Closed	10.97
60	Closed	10.97
50	Closed	10.97
40	Closed	10.97
30	Closed	10.97
20	Closed	10.97
10	Closed	10.97
0	Closed	10.97

Table 1 Hall Effect Sensor Validation Data-Temple Arm Switching from Open to Closed

Hinge Angle (°)	Hall Effect Sensor Status	Measured Power (dBm)
0	Closed	10.97
10	Closed	10.97
20	Closed	10.97
30	Closed	10.97
40	Closed	10.97
50	Closed	10.97
70	Closed	10.97
80	Open	17.15
75	Open	17.15
71	Closed	10.97
72	Closed	10.97
73	Open	17.15
74	Open	17.15
76	Open	17.15
77	Open	17.15
78	Open	17.15
88	Open	17.15
90	Open	17.15

Table 2 Hall Effect Sensor Validation Data-Temple Arm Switching from Closed to Open

<IMU Sensor Power Verification>

$T_{\text{relax}} = 20$ seconds, $T_{\text{trigger}} = \text{instant} (\sim \text{ms})$, $P_{\text{high}} = 17.15$ dBm, $P_{\text{low}} = 10.97$ dBm Power

Power State B (Rest-on-shirt Power State) is used as IMU non-static Power State

Power is measured at 802.11b, 2437 MHz 1Mbps mode

Time (s)	Action	IMU Status	Measured Power (dBm)
0	Move Device to trigger IMU	Non-static	10.97
10	Set Device on static table	Non-static	10.97
30	Set Device on static table	Static	17.15
40	Move Device to trigger IMU	Non-static	10.97

Table 1 P_{high} and P_{low} Validation

Time (s)	Action	IMU Status	Measured Power (dBm)
0	Move Device to trigger IMU	Non-static	10.97
10	Set Device on static table	Non-static	10.97
35	Set Device on static table	Static	17.15
40	Move Device to trigger IMU	Non-static	17.15
45	Move Device to trigger IMU	Non-static	17.15
50	Move Device to trigger IMU	Non-static	17.15
55	Set Device on static table	Non-static	10.97
75	Set Device on static table	Non-static	17.15

Table 2 T_{relax} Validation of Motion Sensors procedure

Appendix F. Supplemental SAR Tests Results

SAR test result

1. Guidance is here provided in regard to RF devices that use motion sensors to detect a "on-body" use conditions, in order to control the RF conducted power to maintain RF exposure compliance. For these cases, it is also necessary to address "off-body, but close" use condition, such as the device on a stationary surface (e.g., a table), thus with the motion sensors not triggered and therefore operating at maximum power, but close enough to a person's body to pose RF exposure compliance concerns.
2. Accordingly, it is possible to consider that, if the particular device under test (DUT) is shown to be RF-exposure-compliant at 25 mm without any power reduction, then any off-body use will also lead to an exposure that, on average, is within the compliance threshold.
3. The test data is selected according to the worst case SAR configuration.

Band	Mode	Test Position	Gap (mm)	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
WLAN2.4GHz	802.11b 1Mbps	Back	25mm	D	12	2467	PTM	17.93	18	1.016	100	1.000	0.098	0.100
WLAN2.4GHz	802.11b 1Mbps	Back	25mm	D	12	2467	RCL	17.85	18	1.035	100	1.000	0.088	0.091
WLAN2.4GHz	802.11b 1Mbps	Back	25mm	D	12	2467	RCM	17.8	18	1.047	100	1.000	0.047	0.049
WLAN5GHz	802.11ac-VHT80 MCS0	Back	25mm	D	155	5775	PTM	17.75	18	1.059	99.63	1.004	0.388	0.413
WLAN5GHz	802.11ac-VHT80 MCS0	Back	25mm	D	155	5775	RCL	17.89	18	1.026	99.63	1.004	0.254	0.262
WLAN5GHz	802.11ac-VHT80 MCS0	Back	25mm	D	155	5775	RCM	17.83	18	1.040	99.63	1.004	0.233	0.243
WLAN6GHz	802.11ax-HE160 MCS0	Back	25mm	D	15	6025	PTM	15.41	17	1.442	99.76	1.002	0.268	0.387
WLAN6GHz	802.11ax-HE160 MCS0	Back	25mm	D	15	6025	RCL	15.53	17	1.403	99.76	1.002	0.201	0.283
WLAN6GHz	802.11ax-HE160 MCS0	Back	25mm	D	207	6025	RCL	15.84	16	1.038	99.76	1.002	0.219	0.228