1. Hall Sensor Validation Data

2437MHz

IMU is always being triggered during the validation process.

Hinge Angle (°)	Hall Effect Sensor Status	Measured Power (dBm)
90	Open	13.66
80	Open	13.66
70	Open	13.66
60	Folded	10.24
65	Open	13.66
64	Open	13.66
63	Folded	10.24
62	Folded	10.24
61	Folded	10.24
60	Folded	10.24
59	Folded	10.24
58	Folded	10.24
48	Folded	10.24
38	Folded	10.24
28	Folded	10.24
18	Folded	10.24
8	Folded	10.24
0	Folded	10.24

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

Hinge Angle (°)	Hall Effect Sensor Status	Measured Power (dBm)
5	Folded	10.24
15	Folded	10.24
25	Folded	10.24
35	Folded	10.24
45	Folded	10.24
55	Folded	10.24
65	Open	13.66
60	Folded	10.24
61	Folded	10.24
62	Folded	10.24
63	Open	13.66
64	Open	13.66
65	Open	13.66
66	Open	13.66
67	Open	13.66
68	Open	13.66
78	Open	13.66
88	Open	13.66

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

5785MHz

IMU is always being triggered during the validation process.

Hinge Angle (°)	Hall Effect Sensor Status	Measured Power (dBm)
90	Open	11.81
80	Open	11.81
70	Open	11.81
60	Folded	1.92
65	Open	11.81
64	Open	11.81
63	Folded	1.92
62	Folded	1.92
61	Folded	1.92
60	Folded	1.92
59	Folded	1.92
58	Folded	1.92
48	Folded	1.92
38	Folded	1.92
28	Folded	1.92
18	Folded	1.92
8	Folded	1.92
0	Folded	1.92

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

Hinge Angle (°)	Hall Effect Sensor Status	Measured Power (dBm)
5	Folded	1.92
15	Folded	1.92
25	Folded	1.92
35	Folded	1.92
45	Folded	1.92
55	Folded	1.92
65	Open	11.81
60	Folded	1.92
61	Folded	1.92
62	Folded	1.92
63	Open	11.81
64	Open	11.81
65	Open	11.81
66	Open	11.81
67	Open	11.81
68	Open	11.81
78	Open	11.81
88	Open	11.81

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

2. IMU Validation

2437 MHz

T_{relax} = 20 seconds, $T_{trigger}$ = instant (~ms), P_{high} = 16.57 dBm, P_{low} = 10.24 dBm

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

Time (s)	Action	IMU Status	Measured Power (dBm)
0	Move Device to trigger IMU	Non-static	10.24
10	Set Device on static table	Non-static	10.24
30	Set Device on static table	Static	16.57
40	Move Device to trigger IMU	Non-static	10.24

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

Time (s)	Action	IMU Status	Measured Power (dBm)
0	Move Device to trigger IMU	Non-static	10.24
10	Set Device on static table	Non-static	10.24
35	Set Device on static table	Static	16.57
40	Move Device to trigger IMU	Non-static	10.24
45	Move Device to trigger IMU	Non-static	10.24
50	Move Device to trigger IMU	Non-static	10.24
55	Set Device on static table	Non-static	10.24
75	Set Device on static table	Static	16.57

Table 2 T_{relax} Validation

5785 MHz

T_{relax} = 20 seconds, $T_{trigger}$ = instant (~ms), P_{high} = 17.18 dBm, P_{low} = 1.92 dBm

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

Time (s)	Action	IMU Status	Measured Power (dBm)
0	Move Device to trigger IMU	Non-static	1.92
10	Set Device on static table	Non-static	1.92
30	Set Device on static table	Static	17.18
40	Move Device to trigger IMU	Non-static	1.92

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

Time (s)	Action	IMU Status	Measured Power (dBm)
0	Move Device to trigger IMU	Non-static	1.92
10	Set Device on static table	Non-static	1.92
35	Set Device on static table	Static	17.18
40	Move Device to trigger IMU	Non-static	1.92
45	Move Device to trigger IMU	Non-static	1.92
50	Move Device to trigger IMU	Non-static	1.92
55	Set Device on static table	Non-static	1.92
75	Set Device on static table	Static	17.18

Table 2 T_{relax} Validation

3. Power Reduction Mechanism Validation

Power is measured at 802.11g, 2437 MHz 6Mbps mode

Initial Power State	Power Measured at Initial Power State (dBm)	Subsequent Power State	Power Measured at Subsequent Power State (dBm)
A	13.66	B	10.24
A	13.66	C	16.57
A	13.66	D	16.57
B	10.24	C	16.57
B	10.24	D	16.57
C	16.57	D	16.57

Power is measured at 802.11a, 5785 MHz 6Mbps mode

Initial Power State	Power Measured at Initial Power State (dBm)	Subsequent Power State	Power Measured at Subsequent Power State (dBm)
A	11.81	B	1.92
A	11.81	C	17.18
A	11.81	D	17.18
B	1.92	C	17.18
B	1.92	D	17.18
C	17.18	D	17.18