

1. Hall Sensor Validation Data

IMU is always being triggered during the validation process.

Hinge Angle (°)	Hall Effect Sensor Status	Measured Power @ 5300 MHz 802.11 a (dBm)
90	Open	13.62
80	Open	13.62
70	Closed	3.64
75	Open	13.62
74	Open	13.62
73	Open	13.62
72	Closed	3.64
71	Closed	3.64
70	Closed	3.64
69	Closed	3.64
68	Closed	3.64
67	Closed	3.64
60	Closed	3.64
50	Closed	3.64
40	Closed	3.64
30	Closed	3.64
20	Closed	3.64
10	Closed	3.64

Table 1 Temple Arm Switching from Open to Closed (5 GHz)

Hinge Angle (°)	Hall Effect Sensor Status	Measured Power @ 5300 MHz 802.11 a (dBm)
0	Closed	3.64
10	Closed	3.64
20	Closed	3.64
30	Closed	3.64
40	Closed	3.64
50	Closed	3.64
60	Closed	3.64
70	Closed	3.64
80	Open	13.62
75	Closed	3.64
76	Closed	3.64
77	Closed	3.64
78	Closed	3.64
79	Open	13.62
80	Open	13.62
81	Open	13.62
82	Open	13.62
83	Open	13.62
84	Open	13.62
90	Open	13.62

Table 2 Temple Arm Switching from Closed to Open (5 GHz)

Hinge Angle (°)	Hall Effect Sensor Status	Measured Power @ 2437 MHz 802.11 b (dBm)
90	Open	13.09
80	Open	13.09
70	Closed	11.86
75	Open	13.09
74	Open	13.09
73	Open	13.09
72	Closed	11.86
71	Closed	11.86
70	Closed	11.86
69	Closed	11.86
68	Closed	11.86
67	Closed	11.86
60	Closed	11.86
50	Closed	11.86
40	Closed	11.86
30	Closed	11.86
20	Closed	11.86
10	Closed	11.86

Table 3 Temple Arm Switching from Open to Closed (2.4 GHz)

Hinge Angle (°)	Hall Effect Sensor Status	Measured Power @ 2437 MHz 802.11 b (dBm)
0	Closed	11.86
10	Closed	11.86
20	Closed	11.86
30	Closed	11.86
40	Closed	11.86
50	Closed	11.86
60	Closed	11.86
70	Closed	11.86
80	Open	13.09
75	Closed	11.86
76	Closed	11.86
77	Closed	11.86
78	Closed	11.86
79	Open	13.09
80	Open	13.09
81	Open	13.09
82	Open	13.09
83	Open	13.09
84	Open	13.09
90	Open	13.09

Table 4 Temple Arm Switching from Closed to Open (2.4 GHz)

2. IMU Validation

$T_{\text{relax}} = 20$ seconds, $T_{\text{trigger}} = \text{instant} (\sim\text{ms})$

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

Testing channel = 2437 MHz, 802.11b 1 Mbps mode, $P_{\text{high}} = 17.18$ dBm, $P_{\text{low}} = 11.86$ dBm

Time (s)	Action	IMU Status	Measured Power (dBm)
0	Move Device to trigger IMU Then set Device on static table	Non-static	11.86
1	Device is on static table	Static	11.86
2	Device is on static table	Static	11.86
3	Device is on static table	Static	11.86
4	Device is on static table	Static	11.86
5	Device is on static table	Static	11.86
6	Device is on static table	Static	11.86
7	Device is on static table	Static	11.86
8	Device is on static table	Static	11.86
9	Device is on static table	Static	11.86
10	Device is on static table	Static	11.86
11	Device is on static table	Static	11.86
12	Device is on static table	Static	11.86
13	Device is on static table	Static	11.86
14	Device is on static table	Static	11.86
15	Device is on static table	Static	11.86
16	Device is on static table	Static	11.86
17	Device is on static table	Static	11.86
18	Device is on static table	Static	11.86
19	Device is on static table	Static	11.86
20	Device is on static table	Static	17.18
21	Device is on static table	Static	17.18
22	Device is on static table	Static	17.18
23	Device is on static table	Static	17.18
24	Device is on static table	Static	17.18
25	Move Device to trigger IMU	Non-static	11.86

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

Time (s)	Action	IMU Status	Measured Power (dBm)
0	Move Device to trigger IMU Then set Device on static table	Non-static	11.86
1	Device is on static table	Static	11.86
2	Device is on static table	Static	11.86
3	Device is on static table	Static	11.86
4	Device is on static table	Static	11.86
5	Device is on static table	Static	11.86
6	Device is on static table	Static	11.86
7	Device is on static table	Static	11.86
8	Device is on static table	Static	11.86
9	Device is on static table	Static	11.86
10	Device is on static table	Static	11.86
11	Device is on static table	Static	11.86
12	Device is on static table	Static	11.86
13	Device is on static table	Static	11.86
14	Device is on static table	Static	11.86
15	Device is on static table	Static	11.86
16	Device is on static table	Static	11.86
17	Device is on static table	Static	11.86
18	Device is on static table	Static	11.86
19	Device is on static table	Static	11.86
20	Device is on static table	Static	17.18
21	Device is on static table	Static	17.18
22	Device is on static table	Static	17.18
23	Device is on static table	Static	17.18
24	Device is on static table	Static	17.18
25	Move Device to trigger IMU Then set Device on static table	Non-static	11.86
26	Device is on static table	Static	11.86
27	Device is on static table	Static	11.86
28	Device is on static table	Static	11.86
29	Device is on static table	Static	11.86
30	Device is on static table	Static	11.86
31	Device is on static table	Static	11.86
32	Device is on static table	Static	11.86
33	Device is on static table	Static	11.86
34	Device is on static table	Static	11.86
35	Device is on static table	Static	11.86
36	Device is on static table	Static	11.86
37	Device is on static table	Static	11.86
38	Device is on static table	Static	11.86
39	Device is on static table	Static	11.86
40	Device is on static table	Static	11.86
41	Device is on static table	Static	11.86
42	Device is on static table	Static	11.86
43	Device is on static table	Static	11.86
44	Device is on static table	Static	11.86
45	Device is on static table	Static	17.18
46	Device is on static table	Static	17.18
47	Device is on static table	Static	17.18
48	Device is on static table	Static	17.18
49	Device is on static table	Static	17.18
50	Device is on static table	Static	17.18
51	Device is on static table	Static	17.18
52	Device is on static table	Static	17.18
53	Device is on static table	Static	17.18
54	Device is on static table	Static	17.18
55	Move Device to trigger IMU Then set Device on static table	Non-static	11.86
56	Device is on static table	Static	11.86
57	Device is on static table	Static	11.86
58	Device is on static table	Static	11.86

59	Device is on static table	Static	11.86
60	Device is on static table	Static	11.86
61	Device is on static table	Static	11.86
62	Device is on static table	Static	11.86
63	Device is on static table	Static	11.86
64	Device is on static table	Static	11.86
65	Move Device to trigger IMU Then set Device on static table	Non-static	11.86
66	Device is on static table	Static	11.86
67	Device is on static table	Static	11.86
68	Device is on static table	Static	11.86
69	Device is on static table	Static	11.86
70	Device is on static table	Static	11.86
71	Device is on static table	Static	11.86
72	Device is on static table	Static	11.86
73	Device is on static table	Static	11.86
74	Device is on static table	Static	11.86
75	Move Device to trigger IMU Then set Device on static table	Non-static	11.86
76	Device is on static table	Static	11.86
77	Device is on static table	Static	11.86
78	Device is on static table	Static	11.86
79	Device is on static table	Static	11.86
80	Device is on static table	Static	11.86
81	Device is on static table	Static	11.86
82	Device is on static table	Static	11.86
83	Device is on static table	Static	11.86
85	Device is on static table	Static	11.86
86	Device is on static table	Static	11.86
87	Device is on static table	Static	11.86
88	Device is on static table	Static	11.86
89	Device is on static table	Static	11.86
90	Device is on static table	Static	11.86
91	Device is on static table	Static	11.86
92	Device is on static table	Static	11.86
93	Device is on static table	Static	11.86
94	Device is on static table	Static	11.86
95	Device is on static table	Static	17.18
96	Device is on static table	Static	17.18
97	Device is on static table	Static	17.18
98	Device is on static table	Static	17.18

Table 2 T_{relax} Validation

Testing channel = 5300 MHz, 802.11a 6 Mbps mode, $P_{\text{high}} = 16.64 \text{ dBm}$, $P_{\text{low}} = 3.54 \text{ dBm}$

Time (s)	Action	IMU Status	Measured Power (dBm)
0	Move Device to trigger IMU Then set Device on static table	Non-static	3.54
1	Device is on static table	Static	3.54
2	Device is on static table	Static	3.54
3	Device is on static table	Static	3.54
4	Device is on static table	Static	3.54
5	Device is on static table	Static	3.54
6	Device is on static table	Static	3.54
7	Device is on static table	Static	3.54
8	Device is on static table	Static	3.54
9	Device is on static table	Static	3.54
10	Device is on static table	Static	3.54
11	Device is on static table	Static	3.54
12	Device is on static table	Static	3.54
13	Device is on static table	Static	3.54
14	Device is on static table	Static	3.54
15	Device is on static table	Static	3.54
16	Device is on static table	Static	3.54
17	Device is on static table	Static	3.54
18	Device is on static table	Static	3.54
19	Device is on static table	Static	3.54
20	Device is on static table	Static	16.64
21	Device is on static table	Static	16.64
22	Device is on static table	Static	16.64
23	Device is on static table	Static	16.64
24	Device is on static table	Static	16.64
25	Move Device to trigger IMU	Non-static	3.54

Table 3 P_{high} and P_{low} Validation

Time (s)	Action	IMU Status	Measured Power (dBm)
0	Move Device to trigger IMU Then set Device on static table	Non-static	3.54
1	Device is on static table	Static	3.54
2	Device is on static table	Static	3.54
3	Device is on static table	Static	3.54
4	Device is on static table	Static	3.54
5	Device is on static table	Static	3.54
6	Device is on static table	Static	3.54
7	Device is on static table	Static	3.54
8	Device is on static table	Static	3.54
9	Device is on static table	Static	3.54
10	Device is on static table	Static	3.54
11	Device is on static table	Static	3.54
12	Device is on static table	Static	3.54
13	Device is on static table	Static	3.54
14	Device is on static table	Static	3.54
15	Device is on static table	Static	3.54
16	Device is on static table	Static	3.54
17	Device is on static table	Static	3.54
18	Device is on static table	Static	3.54
19	Device is on static table	Static	3.54
20	Device is on static table	Static	16.64
21	Device is on static table	Static	16.64
22	Device is on static table	Static	16.64
23	Device is on static table	Static	16.64

24	Device is on static table	Static	16.64
25	Move Device to trigger IMU Then set Device on static table	Non-static	3.54
26	Device is on static table	Static	3.54
27	Device is on static table	Static	3.54
28	Device is on static table	Static	3.54
29	Device is on static table	Static	3.54
30	Device is on static table	Static	3.54
31	Device is on static table	Static	3.54
32	Device is on static table	Static	3.54
33	Device is on static table	Static	3.54
34	Device is on static table	Static	3.54
35	Device is on static table	Static	3.54
36	Device is on static table	Static	3.54
37	Device is on static table	Static	3.54
38	Device is on static table	Static	3.54
39	Device is on static table	Static	3.54
40	Device is on static table	Static	3.54
41	Device is on static table	Static	3.54
42	Device is on static table	Static	3.54
43	Device is on static table	Static	3.54
44	Device is on static table	Static	3.54
45	Device is on static table	Static	16.64
46	Device is on static table	Static	16.64
47	Device is on static table	Static	16.64
48	Device is on static table	Static	16.64
49	Device is on static table	Static	16.64
50	Device is on static table	Static	16.64
51	Device is on static table	Static	16.64
52	Device is on static table	Static	16.64
53	Device is on static table	Static	16.64
54	Device is on static table	Static	16.64
55	Move Device to trigger IMU Then set Device on static table	Non-static	3.54
56	Device is on static table	Static	3.54
57	Device is on static table	Static	3.54
58	Device is on static table	Static	3.54
59	Device is on static table	Static	3.54
60	Device is on static table	Static	3.54
61	Device is on static table	Static	3.54
62	Device is on static table	Static	3.54
63	Device is on static table	Static	3.54
64	Device is on static table	Static	3.54
65	Move Device to trigger IMU Then set Device on static table	Non-static	3.54
66	Device is on static table	Static	3.54
67	Device is on static table	Static	3.54
68	Device is on static table	Static	3.54
69	Device is on static table	Static	3.54
70	Device is on static table	Static	3.54
71	Device is on static table	Static	3.54
72	Device is on static table	Static	3.54
73	Device is on static table	Static	3.54
74	Device is on static table	Static	3.54
75	Move Device to trigger IMU Then set Device on static table	Non-static	3.54
76	Device is on static table	Static	3.54
77	Device is on static table	Static	3.54
78	Device is on static table	Static	3.54

79	Device is on static table	Static	3.54
80	Device is on static table	Static	3.54
81	Device is on static table	Static	3.54
82	Device is on static table	Static	3.54
83	Device is on static table	Static	3.54
85	Device is on static table	Static	3.54
86	Device is on static table	Static	3.54
87	Device is on static table	Static	3.54
88	Device is on static table	Static	3.54
89	Device is on static table	Static	3.54
90	Device is on static table	Static	3.54
91	Device is on static table	Static	3.54
92	Device is on static table	Static	3.54
93	Device is on static table	Static	3.54
94	Device is on static table	Static	3.54
95	Device is on static table	Static	16.64
96	Device is on static table	Static	16.64
97	Device is on static table	Static	16.64
98	Device is on static table	Static	16.64
100	Device is on static table	Static	16.64

Table 4 T_{relax} Validation

3. Power Reduction Mechanism Validation

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

Initial Power State	Power Measured at Initial Power State (dBm)	Subsequent Power State	Power Measured at Subsequent Power State (dBm)
A	13.09	B	11.86
A	13.09	C	17.18
A	13.09	D	17.18
B	11.86	C	17.18
B	11.86	D	17.18
C	17.18	D	17.18

Power is measured at 5300 MHz, 802.11a, 6 Mbps mode

Initial Power State	Power Measured at Initial Power State (dBm)	Subsequent Power State	Power Measured at Subsequent Power State (dBm)
A	13.62	B	3.54
A	13.62	C	16.64
A	13.62	D	16.64
B	3.54	C	16.64
B	3.54	D	16.64
C	16.64	D	16.64

4. Supplemental SAR Tests Results

General Note:

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)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
WLAN2.4GHz	802.11b 1Mbps	Left Temple Arm Outer Edge Touching Phantom	25mm	Ant 1	D	13	2472	16.10	17.50	1.380	100	1.000	-0.03	0.031	0.043
WLAN5GHz	802.11ac-VHT80 MCS0	Left Temple Arm Outer Edge Touching Phantom	25mm	Ant 1	D	58	5290	15.08	17.00	1.556	100	1.000	0.07	0.195	0.303