Appendix D.   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	15.30
80	Open	15.30
70	Open	15.30
60	Open	15.30
50	Open	15.30
40	Folded	17.40
45	Folded	17.40
46	Open	15.30
44	Folded	17.40
43	Folded	17.40
42	Folded	17.40
41	Folded	17.40
40	Folded	17.40
30	Folded	17.40
20	Folded	17.40
10	Folded	17.40
0	Folded	17.40

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	17.40
15	Folded	17.40
25	Folded	17.40
35	Folded	17.40
45	Folded	17.40
55	Folded	17.40
65	Open	15.30
60	Open	15.30
59	Folded	17.40
61	Open	15.30
62	Open	15.30
63	Open	15.30
64	Open	15.30
65	Open	15.30
75	Open	15.30
85	Open	15.30
90	Open	15.30

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

Power is measured at 802.11a, 5755 MHz MCS0 mode

Hinge Angle (°)	Hall Effect Sensor Status	Measured Power(dBm)
90	Open	9.54
80	Open	9.54
70	Open	9.54
60	Open	9.54
50	Open	9.54
40	Folded	13.08
45	Folded	13.08
46	Open	9.54
44	Folded	13.08
43	Folded	13.08
42	Folded	13.08
41	Folded	13.08
40	Folded	13.08
30	Folded	13.08
20	Folded	13.08
10	Folded	13.08
0	Folded	13.08

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	13.08
15	Folded	13.08
25	Folded	13.08
35	Folded	13.08
45	Folded	13.08
55	Folded	13.08
65	Open	9.54
60	Open	9.54
59	Folded	13.08
61	Open	9.54
62	Open	9.54
63	Open	9.54
64	Open	9.54
65	Open	9.54
75	Open	9.54
85	Open	9.54
90	Open	9.54

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

<IMU Sensor Power Verification>

T_{relax} = 32 seconds, $T_{trigger}$ = instant (~ms), P_{high} = 17.84 dBm, P_{low} = 15.30 dBm Power

State A (Face-Worn 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	15.30
10	Set Device on static table	Non-static	15.30
42	Set Device on static table	Static	17.84
43	Move Device to trigger IMU	Non-static	15.30

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

Time (s)	Action	IMU Status	Measured Power (dBm)
0	Device being on static table longer than Trelax	Static	17.84
1	Move Device to trigger IMU	non-Static	15.30
2	Set Device on static table	non-Static	15.30
34	Set Device on static table	Static	17.84
35	Move Device to trigger IMU	Non-Static	15.30
45	Move Device to trigger IMU	Non-Static	15.30
55	Move Device to trigger IMU	Non-Static	15.30
56	Set Device on static table	Non-Static	15.30
88	Set Device on static table	Static	17.84

Table 2 T_{relax} Validation of Motion Sensors procedure

T_{relax} = 32 seconds, $T_{trigger}$ = instant (~ms), P_{high} = 16.40 dBm, P_{low} = 9.54 dBm

Power State A (Face-Worn Power State) is used as IMU non-static Power State

Power is measured at 802.11a, 5755 MHz MCS0 mode

Time (s)	Action	IMU Status	Measured Power (dBm)
0	Move Device to trigger IMU	Non-static	9.54
10	Set Device on static table	Non-static	9.54
42	Set Device on static table	Static	16.40
43	Move Device to trigger IMU	Non-static	9.54

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

Time (s)	Action	IMU Status	Measured Power (dBm)
0	Device being on static table longer than Trelax	Static	16.40
1	Move Device to trigger IMU	non-Static	9.54
2	Set Device on static table	non-Static	9.54
34	Set Device on static table	Static	16.40
35	Move Device to trigger IMU	Non-Static	9.54
45	Move Device to trigger IMU	Non-Static	9.54
55	Move Device to trigger IMU	Non-Static	9.54
56	Set Device on static table	Non-Static	9.54
88	Set Device on static table	Static	16.40

Table 2 T_{relax} Validation of Motion Sensors procedure

Appendix D.   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)	Nose Pad	Power State	Ch.	Freq. (MHz)	Sample	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	Front	25mm	Narrow	D	6	2437	G2	16.60	18.00	1.380	100	1.000	0.01	0.050	0.069
WLAN5GHz	802.11n-HT40 MCS0	Front	25mm	Wide	D	38	5190	G2	14.60	16.50	1.549	99.76	1.002	0.05	0.126	0.196