

Model Name: SM-X620

Top

Capacitive Proximity Sensor is the same metallic component as the transmitting antenna.

Antenna = Capacitive Proximity Sensor

Right

Left

Bottom

Rear View

Appendix G: Sensor Triggering Validation

Model Name: SM-X620

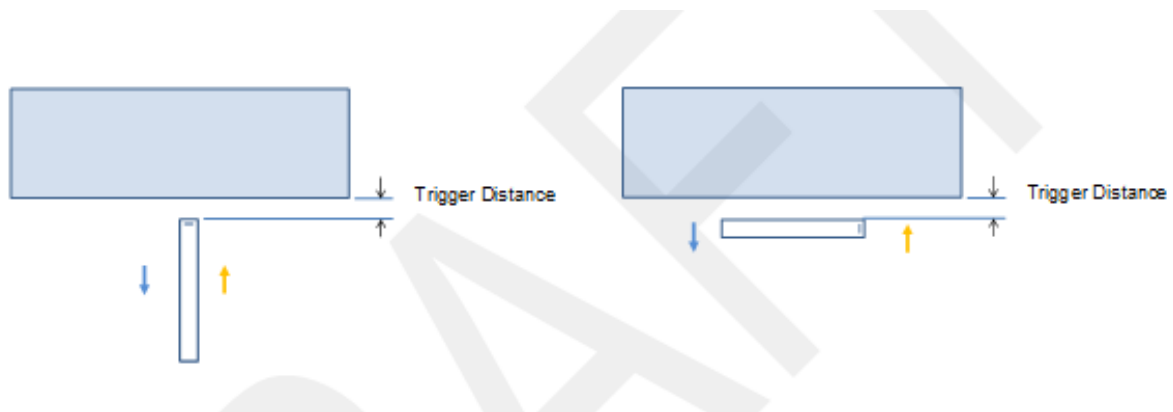
1. Proximity Sensor Triggering Distance (KDB 616217 §6.2)

Rear (Back Side) of the DUT was placed directly below the flat phantom. The DUT was moved toward the phantom in accordance with the steps outlined in KDB 616217 §6.2 to determine the trigger distance for enabling power reduction. The DUT was moved away from the phantom to determine the trigger distance for resuming max power.

The measurement was then repeated for the surface of Edge Top, Right, Bottom, and Left

The DUT featured a visual indicator on its display that showed the status of the proximity sensor (Triggered or not triggered). This was used to determine the status of the sensor during the proximity sensor assessment as monitoring the output power directly was not practical without affecting the measurement.

It was confirmed separately that the output power was altered according to the proximity sensor status indication. This was achieved by observing the proximity sensor status at the same time as monitoring the conducted power. Section 9 of SAR report contains both the max and reduced conducted power measurements.



Proximity Sensor Trigger Distance Assessment
KDB 616219 §6.2, Edge Top, Right, Bottom and Left

Proximity Sensor Trigger Distance Assessment
KDB 616219 §6.2, Rear

LEGEND

- Direction of DUT travel for determination of power reduction triggering point
- Direction of DUT travel for determination of max power resumption triggering point

Summary of Trigger Distances

Antenna	Trigger distance Back		Trigger distance Edge Top		Trigger distance Edge Right		Trigger distance Edge Bottom		Trigger distance Edge Left	
	Moving toward phantom	Moving from phantom	Moving toward phantom	Moving from phantom	Moving toward phantom	Moving toward phantom	Moving toward phantom	Moving from phantom	Moving toward phantom	Moving from phantom
Wi-Fi 1 (ANT 1)	20	20	25	25	11	11	-	-	-	-
Wi-Fi 2 (ANT 2)	20	20	25	25	-	-	-	-	10	10

Appendix G: Sensor Triggering Validation

Model Name: SM-X620

Proximity Sensor Triggering Distance Measurement Results

Wi-Fi 1 (ANT 1):

[Back](#)

KDB 616217 6.2.8"										
Measured Power [dBm]										
Distance[mm]	32	29	26	23	20	19	18	17	16	15
2.4GHz WLAN 11b (1~11ch)	17.4	17.1	16.2	16.5	11.5	11.3	12.1	10.8	11.6	11.1
2.4GHz WLAN 11g(1~8ch)	16.2	15.6	16.4	15.2	10.6	11.3	10.9	11.2	10.6	11.3
2.4GHz WLAN 11n(1~8ch)	15.1	16.5	15.7	16	10.7	10.6	10.5	11.4	11.4	10
2.4GHz WLAN 11ax(1~8ch)	15.6	16.5	16.1	15.6	10.7	11.4	10.7	11.2	11.1	11.6
2.4GHz WLAN 11b (12ch)	4.5	4.2	4.4	5.1	4.1	4.2	4.7	4	4.9	4.1
2.4GHz WLAN 11b (13ch)	1.2	1.3	1.2	0	0.1	1	1.6	0.2	1.3	0
2.4GHz WLAN 11g(9ch)	14.7	15.7	15.5	15.8	11.4	10.8	10	10.5	10.2	11.1
2.4GHz WLAN 11g(10ch)	14.3	15.1	14.9	14.8	11.1	10	11.2	10.5	10.6	11
2.4GHz WLAN 11g(11ch)	13.3	12.3	12	12.6	10.6	11.2	11.6	11.1	10.8	10.8
2.4GHz WLAN 11g(12ch)	3.6	2.6	2.2	3.6	4.6	3	4.4	3.3	3.7	3.7
2.4GHz WLAN 11g(13ch)	-2.8	-3.9	-2.4	-2.8	-3	-3.2	-3.7	-2.9	-3.9	-2.9
2.4GHz WLAN 11n(9ch)	14.6	16	14.5	15.7	10.1	11	10.3	10.4	10.6	11.5
2.4GHz WLAN 11n(10ch)	14.7	14.3	15	13.6	10.8	10.9	10.8	10.7	10.3	11.1
2.4GHz WLAN 11n(11ch)	12.1	12.1	12.9	13.5	10.3	10.9	10.4	10.1	10	11.3
2.4GHz WLAN 11n(12ch)	4.5	3.7	4.3	4.6	4.6	3.4	3.2	3.2	3.2	3
2.4GHz WLAN 11n(13ch)	-3.9	-3.1	-2.7	-3.8	-3.5	-3.9	-3	-3.6	-3.5	-2.7
2.4GHz WLAN 11ax(9ch)	14.6	15.3	15	14.5	11	10	10	10	11.2	11.5
2.4GHz WLAN 11ax(10ch)	14.1	13.5	14.9	14.4	11	10.8	10.6	11.6	11.6	10
2.4GHz WLAN 11ax(11ch)	12.3	12.6	13.5	12	10.1	10.7	10.5	10.9	11.1	11
2.4GHz WLAN 11ax(12ch)	3	2.9	2.1	3.6	2.6	2.2	2	3.1	3	3.2
2.4GHz WLAN 11ax(13ch)	-2.6	-2.7	-3.9	-3.2	-2.5	-2.4	-3.8	-3.9	-2.8	-3.3
Bluetooth BDR DH5	14.4	14.8	15.6	14.9	11.5	11.4	12.2	11.1	11.8	12.2

Edge Top

KDB 616217 6.2.8"										
Measured Power [dBm]										
Distance[mm]	37	34	31	28	25	24	23	22	21	20
2.4GHz WLAN 11b (1~11ch)	17.5	16.8	16.5	17.5	10.8	11.4	12	10.5	11.6	12.1
2.4GHz WLAN 11g(1~8ch)	15.4	16.6	15.8	15.9	11.6	10.6	11.6	11.3	10.7	11.2
2.4GHz WLAN 11n(1~8ch)	16.5	16.5	16.4	15.1	10.8	11	10	10.9	10.7	11.4
2.4GHz WLAN 11ax(1~8ch)	16.2	16.1	15.9	15.5	10.5	11.3	11.4	10.6	11.6	10.5
2.4GHz WLAN 11b (12ch)	5	5	5.1	5.4	5.1	4.2	5.3	5.2	4.3	5.1
2.4GHz WLAN 11b (13ch)	0.5	1.2	1	0.6	1.4	0.3	0.8	0	0.1	0
2.4GHz WLAN 11g(9ch)	15.7	14.5	15.4	14.5	10	10.2	11.2	11.4	11	10.3
2.4GHz WLAN 11g(10ch)	14.8	14	13.5	14.1	11.4	11.5	10.8	10.4	10.3	11
2.4GHz WLAN 11g(11ch)	13	12	13.6	13.1	11.1	10.5	10.7	10.8	11.4	10.4
2.4GHz WLAN 11g(12ch)	2.5	2.1	3.4	2.6	4.6	4.2	4.6	3.9	3	3.2
2.4GHz WLAN 11g(13ch)	-3.1	-3.9	-2.6	-3	-3.5	-3.1	-3.9	-3.6	-3.1	-2.6
2.4GHz WLAN 11n(9ch)	15.6	16	14.7	15.5	10.7	10.2	10.1	10.8	10.1	11.4
2.4GHz WLAN 11n(10ch)	13.8	15.1	14.4	13.9	10.4	10.5	11.2	11.1	10.6	10.2
2.4GHz WLAN 11n(11ch)	12.6	12	12.9	12	11.6	11	10.9	10.8	11.1	11.3
2.4GHz WLAN 11n(12ch)	4.3	3.2	3.2	4.3	4.4	3.9	3.2	4	4.4	4.6
2.4GHz WLAN 11n(13ch)	-3.7	-3.9	-3.3	-2.6	-2.7	-2.9	-3.8	-3.4	-3.6	-3.6
2.4GHz WLAN 11ax(9ch)	15.9	15.1	15.9	15.3	10.6	11.2	10.6	11.3	11.1	11.4
2.4GHz WLAN 11ax(10ch)	14.4	14.4	14.1	15	11.6	10	11.6	11.6	11.5	10.7
2.4GHz WLAN 11ax(11ch)	12.1	12.9	13.5	12	11.2	10.3	11.5	11.1	10.1	11.3
2.4GHz WLAN 11ax(12ch)	2.9	2.5	2	2.4	2.2	2.4	3.3	2.9	2.4	2.1
2.4GHz WLAN 11ax(13ch)	-2.5	-3.9	-2.5	-4	-3.2	-3.4	-3	-4	-3.9	-3.9
Bluetooth BDR DH5	14.8	14	14.1	14.8	12.4	11.8	11.7	12.1	12.4	11.3

Appendix G: Sensor Triggering Validation

Model Name: SM-X620

Edge Right

KDB 616217 6.2.8`										
Measured Power [dBm]										
Distance[mm]	22	19	16	13	10	9	8	7	6	5
2.4GHz WLAN 11b (1~11ch)	17.6	16	16.2	16.6	11.7	11.1	12.1	10.6	11.3	10.6
2.4GHz WLAN 11g(1~8ch)	15.1	15	16.3	16.6	10.5	10.5	10.4	10.9	11.6	10.2
2.4GHz WLAN 11n(1~8ch)	16.3	15.4	15.2	15.3	11.2	10.2	10.3	11.1	10.1	10.3
2.4GHz WLAN 11ax(1~8ch)	15.3	15.2	15.9	15.5	11.1	10.6	11	10.7	10.6	11.3
2.4GHz WLAN 11b (12ch)	5.4	5.4	4.2	4.5	4.8	5.6	4.7	4.7	4.6	5
2.4GHz WLAN 11b (13ch)	1.4	1.3	0.7	1.6	0	0	1.6	1.5	0.7	0.4
2.4GHz WLAN 11g(9ch)	14.8	16.1	15.9	16	11.2	11.2	11.4	10.1	10.3	10.3
2.4GHz WLAN 11g(10ch)	14.8	14	14.5	14.3	11.5	11.6	10	11.3	11.1	11.3
2.4GHz WLAN 11g(11ch)	12.4	12.1	12.6	13	10.7	10	10.2	11.6	10.7	10.4
2.4GHz WLAN 11g(12ch)	3.2	2.2	2.9	2.1	3.9	3.2	4.1	4.1	4.4	4.1
2.4GHz WLAN 11g(13ch)	-3	-3	-2.6	-3	-3.9	-3.6	-3.8	-3	-2.8	-2.5
2.4GHz WLAN 11n(9ch)	15.5	14.5	15.8	15.1	11	11.6	11.5	11.6	10.6	10.4
2.4GHz WLAN 11n(10ch)	13.7	13.5	14.5	14.1	11.4	10.6	11.3	11.1	10.6	11
2.4GHz WLAN 11n(11ch)	13.5	12.3	13.6	12.6	10.5	10.9	11.6	10.6	10.9	10.8
2.4GHz WLAN 11n(12ch)	4.4	4.4	3.4	3.3	3.3	3.7	3.2	3.3	3.6	4.2
2.4GHz WLAN 11n(13ch)	-3	-2.8	-3.1	-3.5	-3.6	-3.6	-3.2	-3.1	-2.4	-3.3
2.4GHz WLAN 11ax(9ch)	15.6	15.7	15.8	14.7	11.5	11.3	10.9	10.5	11.5	11.1
2.4GHz WLAN 11ax(10ch)	14.9	13.7	14.8	14.3	11.4	10.5	10.8	10.8	11.2	11.2
2.4GHz WLAN 11ax(11ch)	12.8	12.5	13.3	12.9	10.2	11.3	11.3	11.4	11.4	11.4
2.4GHz WLAN 11ax(12ch)	2.3	3.2	2.9	3.5	2.3	3.5	3.6	3	2.8	2.6
2.4GHz WLAN 11ax(13ch)	-3.5	-3.4	-3.9	-3.2	-2.7	-3.5	-2.5	-2.4	-3.6	-4
Bluetooth BDR DH5	14.1	14.8	14.1	14.4	11.8	11.7	11.4	12.2	11.8	12.3

Appendix G: Sensor Triggering Validation

Model Name: SM-X620

Wi-Fi 2 (ANT 2):

Back

KDB 616217 6.2.8"										
Measured Power [dBm]										
Distance[mm]	32	29	26	23	20	19	18	17	16	15
5GHz WLAN 20MHz 11a UNII 1(with out 48ch),2A	15.7	15.3	16.1	15.3	6.7	7	7.6	6.5	7.5	7.7
5GHz WLAN 20MHz 11a UNII 2C	16	14.6	16	14.6	8.1	7.8	7.3	7	8	7.3
5GHz WLAN 20MHz 11a UNII 3	12.5	12.5	12	13.2	6.7	6.8	6.9	7.3	6.7	7
5GHz WLAN 20MHz 11a UNII 4	13.9	14.6	13.7	13.7	7.6	6.8	8.1	7.9	7.8	7.5
5GHz WLAN 20MHz 11a UNII 1 48ch	13.1	14.6	13.4	14	7.2	7.7	7.8	6.7	6.8	7.3
5GHz WLAN 20MHz 11n UNII 1,2A	14	14.3	14.7	14.4	6.2	7.3	6.6	6.3	7.6	7.4
5GHz WLAN 20MHz 11n UNII 2C	14.2	14.1	14.4	15.3	5.9	5.8	6.1	6.1	6.3	5.9
5GHz WLAN 20MHz 11n UNII 3	12.7	12.6	12.9	12.4	6.3	7	7.5	6.1	6	6.8
5GHz WLAN 20MHz 11n UNII 4	13.1	12.7	13.9	13.8	6.4	6.4	7.5	7.3	6.1	7.5
5GHz WLAN 20MHz 11ac UNII 1	13.3	13.9	13.1	13.5	7.5	7.1	6	6.7	7.6	6.5
5GHz WLAN 20MHz 11ac UNII 2A	14.4	14.9	14.2	14.2	7	6.7	7	7.6	7.3	7.5
5GHz WLAN 20MHz 11ac UNII 2C	14.4	14	14.6	15.5	6.9	6.2	6.9	5.7	6.1	6.7
5GHz WLAN 20MHz 11ac UNII 3	12.2	12.1	12	13	6.8	6.8	6.5	6.9	7.6	7.2
5GHz WLAN 20MHz 11ac UNII 4	12.6	13	13.3	12.8	6.3	6.3	7	7.1	7.6	6
5GHz WLAN 20MHz 11ax UNII 1,2A	13.3	13.6	13.2	14.2	6.1	7.4	6.5	6.6	7.5	7
5GHz WLAN 20MHz 11ax UNII 2C	15.2	15	14.5	14.9	6.4	5.5	6.7	7.1	7	6.6
5GHz WLAN 20MHz 11ax UNII 3	12.2	13.1	12.5	12.1	6.3	7.3	6.6	7.2	6.4	7.4
5GHz WLAN 20MHz 11ax UNII 4	12.6	13.1	12.7	13	7.1	6.8	7	7.4	7.5	7.4
5GHz WLAN 40MHz 11n/ac UNII1 (with out 38ch)	12.5	12.8	12.5	12.5	6.4	6.7	6.7	6	6.3	6.6
5GHz WLAN 40MHz 11n/ac UNII2A	11.3	11.6	11.7	12.2	6.3	6.5	7.3	6.4	6.5	7.3
5GHz WLAN 40MHz 11n/ac UNII2C	12.3	12.4	13.2	13.3	6.1	6.7	6.4	6.1	6	6.9
5GHz WLAN 40MHz 11n/ac UNII3, 4	13.2	13.5	13.2	12.4	7.3	7.2	6.6	6.4	7.1	6
5GHz WLAN 40MHz 11ax UNII1, 2A (with out 38ch)	11.7	12.5	12.2	12.5	7.2	6.7	6.8	6.6	6	7.1
5GHz WLAN 40MHz 11ax UNII 2C	12.7	12.6	12.6	13.6	7	6.4	6.6	5.7	5.6	5.5
5GHz WLAN 40MHz 11ax UNII3	12.8	11.8	11.9	11.9	6.7	7.3	7.4	6	7	7.3
5GHz WLAN 40MHz 11ax UNII4	10.3	11.1	10.2	10.4	6.1	6.7	6.3	6.9	6.7	7
5GHz WLAN 40MHz 11n/ac/ax UNII1 38ch	9.8	10.2	9.5	9.6	7.3	7.4	6.7	6.1	6.2	6.9
5GHz WLAN 80MHz 11ac/ax UNII 1,2A	9.9	10.6	10.3	9.2	6.8	6.3	6	6.3	6.5	6.9
5GHz WLAN 80MHz 11ac/ax UNII2C	12.6	11.1	12.6	12	6.6	5.9	5.7	6.9	6.7	6.1
5GHz WLAN 80MHz 11ac/ax UNII3	12.4	11.8	11.8	12.1	6.9	6.2	6	6.9	6.6	7
5GHz WLAN 80MHz 11ac UNII4	12	11.5	11.4	12	7.4	6.3	7.4	6.9	7.1	6.8
5GHz WLAN 80MHz 11ax UNII4	10	10.9	10.8	10.1	7.4	7.2	6.9	6.5	7	6.1

Appendix G: Sensor Triggering Validation

Model Name: SM-X620

Edge Top

KDB 616217 6.2.8										
Measured Power [dBm]										
Distance[mm]	37	34	31	28	25	24	23	22	21	20
5GHz WLAN 20MHz 11a UNII 1(with out 48ch),2A	14.7	15.2	15.9	15.8	6.5	7.2	6.5	8	7.2	7.4
5GHz WLAN 20MHz 11a UNII 2C	15.4	15.2	15.1	14.9	6.6	6.6	7.2	6.6	6.6	7.1
5GHz WLAN 20MHz 11a UNII 3	13.5	12.5	12.1	13.4	7.6	6.2	6.1	6.7	6	7.1
5GHz WLAN 20MHz 11a UNII 4	14.2	13.7	15.1	14.4	6.7	7	7.6	7.4	8.1	8
5GHz WLAN 20MHz 11a UNII 1 48ch	14.4	14.1	14.2	13.5	6.9	7.1	7.1	7.1	8.1	6.8
5GHz WLAN 20MHz 11n UNII 1,2A	14.6	13.9	13.5	15.1	6.9	7.2	7	6.9	6.6	7.3
5GHz WLAN 20MHz 11n UNII 2C	14.4	14.1	15.6	14.7	7	6.8	6.2	5.7	5.7	6.6
5GHz WLAN 20MHz 11n UNII 3	12.5	12.7	13.1	12.9	7.6	6.5	6.5	7.2	6	6.2
5GHz WLAN 20MHz 11n UNII 4	12.9	13.6	14	12.5	6.9	7.6	7.6	6.1	7.4	6.2
5GHz WLAN 20MHz 11ac UNII 1	14.4	13.8	14.5	13.4	7.3	7.3	6.7	6.1	7.2	6.9
5GHz WLAN 20MHz 11ac UNII 2A	13.8	14	14.1	13.8	6.9	6.2	6.5	7.6	7.4	7.4
5GHz WLAN 20MHz 11ac UNII 2C	15	15.2	14.3	15.3	6.7	6	7	6.5	6.6	6.8
5GHz WLAN 20MHz 11ac UNII 3	13.2	13.3	12.5	13.6	7.1	6.6	7.6	7	6.1	6.9
5GHz WLAN 20MHz 11ac UNII 4	13.6	13.6	13.7	13.3	7	6	7.2	6.4	6.3	6.8
5GHz WLAN 20MHz 11ax UNII 1,2A	13.7	13.2	14.6	14.1	6.1	7.1	6.5	6.8	6.2	7.4
5GHz WLAN 20MHz 11ax UNII 2C	14.1	15.6	15.4	15	6.5	7	6.4	6.5	6.5	6.7
5GHz WLAN 20MHz 11ax UNII 3	11.8	11.7	13	12.9	7.1	6.8	7.3	6.8	6.6	6.7
5GHz WLAN 20MHz 11ax UNII 4	12.6	12	13.3	12.3	6.8	6.6	6.6	7.3	7	6.9
5GHz WLAN 40MHz 11n/ac UNII1 (with out 38ch)	12.9	12.4	11.8	12.2	6.3	6.7	6.8	6.7	6.7	7.5
5GHz WLAN 40MHz 11n/ac UNII2A	12.4	12.1	12	11.5	7.2	6.8	7.1	6.6	6.1	6.2
5GHz WLAN 40MHz 11n/ac UNII2C	13	12.6	13.6	13.3	7	6.7	7.1	5.9	6.9	6.1
5GHz WLAN 40MHz 11n/ac UNII3, 4	13.5	12.9	12.3	13.2	6.7	7.1	6.2	7.3	7.6	7.1
5GHz WLAN 40MHz 11ax UNII1, 2A (with out 38ch)	11.9	12.3	12.5	11.1	7.5	7.5	6.6	7.5	7	6.6
5GHz WLAN 40MHz 11ax UNII 2C	12.5	12.8	12.9	12.7	5.7	6.3	6.7	6.4	6.3	5.6
5GHz WLAN 40MHz 11ax UNII3	12.3	12.4	12.2	12.5	6.2	6.4	6.6	6.3	6.7	6.1
5GHz WLAN 40MHz 11ax UNII4	10.7	11	10	11.2	7.6	6.7	7.1	7.4	6.6	6.7
5GHz WLAN 40MHz 11n/ac/ax UNII3 38ch	9.4	9.8	10	9.7	7.4	7.1	6.1	7	7.6	6.2
5GHz WLAN 80MHz 11ac/ax UNII 1,2A	9.8	10.3	9.8	9.6	7.2	6.5	7.4	7.1	6.2	6.2
5GHz WLAN 80MHz 11ac/ax UNII2C	11.9	12	11.4	12.4	6.4	5.6	5.7	6.5	6.7	6.6
5GHz WLAN 80MHz 11ac/ax UNII3	12.3	12.3	11.1	12.6	6.8	6.7	7.2	6.9	7.2	7.3
5GHz WLAN 80MHz 11ac UNII4	12.2	12.1	11.8	12	6.3	7.5	6.9	6.3	7.6	7
5GHz WLAN 80MHz 11ax UNII4	10.9	10.8	11	10.3	6.8	6.8	6.3	6.4	7.6	6.4

Appendix G: Sensor Triggering Validation

Model Name: SM-X620

Edge Left

KDB 616217 6.2.8"										
Measured Power [dBm]										
Distance[mm]	22	19	16	13	10	9	8	7	6	5
5GHz WLAN 20MHz 11a UNII 1(with out 48ch),2A	15	15.5	14.5	15.4	8	6.8	6.7	7.9	6.7	7.2
5GHz WLAN 20MHz 11a UNII 2C	14.9	15.2	15.1	14.9	7	7.7	7.8	8.1	7.1	6.8
5GHz WLAN 20MHz 11a UNII 3	12.9	12	12	12.9	6.7	7.5	6.8	6.3	7.3	7.6
5GHz WLAN 20MHz 11a UNII 4	15.1	14.7	15.1	14.6	6.8	7.9	6.9	6.5	7.5	7.5
5GHz WLAN 20MHz 11a UNII 1 48ch	13.5	13.8	14.3	14	7.7	7.7	7.2	8.1	7.3	7.4
5GHz WLAN 20MHz 11n UNII 1,2A	14.4	14.1	14.7	14.3	6.8	6.6	6.4	7.3	6	6.7
5GHz WLAN 20MHz 11n UNII 2C	14.7	14.9	15.3	14.1	6	6.6	5.5	6.3	7.1	6.1
5GHz WLAN 20MHz 11n UNII 3	12.3	13.2	12.6	12.1	6.4	6.8	7.6	7.5	6.7	7.3
5GHz WLAN 20MHz 11n UNII 4	12.7	12.7	13.6	13.3	6.9	6.7	6.3	6.3	7.3	6.5
5GHz WLAN 20MHz 11ac UNII 1	14.5	13.9	14.5	14.5	6.1	7.5	7.5	7.5	7.2	6.8
5GHz WLAN 20MHz 11ac UNII 2A	15	15.1	13.7	14.5	6.8	6.6	6.5	7.5	6.7	6
5GHz WLAN 20MHz 11ac UNII 2C	15	15.2	14.6	14.5	6.6	5.7	6.6	6.6	7.1	6.3
5GHz WLAN 20MHz 11ac UNII 3	13.5	13.3	13.4	12.7	6.4	6.3	7.4	7.2	6.4	7.2
5GHz WLAN 20MHz 11ac UNII 4	12.7	13.1	13.4	14.1	6	6.6	6.8	6.9	6.8	6.1
5GHz WLAN 20MHz 11ax UNII 1,2A	13.4	14.4	14.3	13.6	6.6	6.8	6	7.4	6.5	7.4
5GHz WLAN 20MHz 11ax UNII 2C	15.2	14	14.5	14.6	5.5	5.9	6	5.7	7	5.6
5GHz WLAN 20MHz 11ax UNII 3	12.1	12.2	11.7	13.1	6.5	7.6	6.9	7.5	7.5	7.4
5GHz WLAN 20MHz 11ax UNII 4	12.5	12.1	12.4	13.2	6.8	6.9	7	6.1	7.1	6.8
5GHz WLAN 40MHz 11n/ac UNII1 (with out 38ch)	11.9	12.4	11.7	12.8	6.8	6.2	6.5	7	6.7	6.8
5GHz WLAN 40MHz 11n/ac UNII2A	12	12.1	12.1	12.3	6.8	6.1	7.4	7.5	7.2	7.5
5GHz WLAN 40MHz 11n/ac UNII2C	12.1	12.8	12	13.1	6.2	5.5	6.1	6.8	6.6	5.9
5GHz WLAN 40MHz 11n/ac UNII3, 4	13.4	12.1	13.6	12.6	6.4	6.9	6.5	7.4	6	6.4
5GHz WLAN 40MHz 11ax UNII1, 2A (with out 38ch)	12.4	11.9	12	11.1	7.5	7.5	6.3	7.1	6.3	6.3
5GHz WLAN 40MHz 11ax UNII 2C	12.7	12.5	13.2	13.6	5.8	7	6.8	6.5	7.1	6.1
5GHz WLAN 40MHz 11ax UNII3	13.1	12.2	12	13	7.3	7.3	7.1	6.1	7.6	7.2
5GHz WLAN 40MHz 11ax UNII4	10.5	11.4	10.8	11.2	6	7.2	6	6	6.1	6.1
5GHz WLAN 40MHz 11n/ac/ax UNII1 38ch	9.8	9.6	10.5	10.6	6.8	7.6	6.7	6.6	6.8	6.3
5GHz WLAN 80MHz 11ac/ax UNII 1,2A	10.5	10.3	10.2	10	7.5	7.5	7.2	6.8	7	6.1
5GHz WLAN 80MHz 11ac/ax UNII2C	11.1	11.4	12.3	12.2	6	5.8	6.9	6.4	6.2	6.3
5GHz WLAN 80MHz 11ac/ax UNII3	11.4	12	12.1	11	6.6	6.3	6.1	7.3	7.4	7.1
5GHz WLAN 80MHz 11ac UNII4	12	11.6	11.5	11.8	7.6	6.4	6	7.2	7.3	7.6
5GHz WLAN 80MHz 11ax UNII4	10.1	10.3	10.4	11.6	6.2	7.2	7.2	6.2	6.7	6.1

Appendix G: Sensor Triggering Validation

Model Name: SM-X620

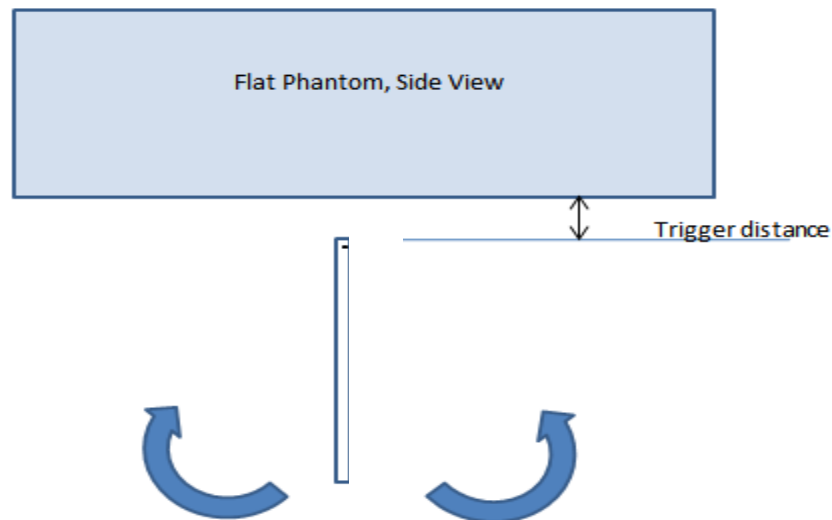
2. Proximity Sensor Coverage (KDB 616217 §6.3)

This device uses a capacitive proximity sensor that is same metallic component as the transmitting antenna to facilitate triggering in any conditions the user may use the device in proximity of the antenna in the device. Therefore, no further sensor coverage assessments were required according to KDB 616217 D04 v01 r02.

3. Proximity Sensor Tilt Angle Assessment (KDB 616217 §6.4)

The DUT was positioned directly below the flat phantom at the minimum measured trigger distance with Edge Top for Wi-Fi 1 (ANT 1) and Wi-Fi 2 (ANT 2) antenna, Edge Right for Wi-Fi 1 (ANT 1) antenna, and Edge Left for Wi-Fi 2 (ANT 2) antenna, parallel to the base of the flat phantom for each band.

The EUT was rotated about the Edges for angles up to $\pm 45^\circ$. If the output power increased during the rotation the DUT was moved 1mm toward the phantom and the rotation repeated. This procedure was repeated until the power remained reduced for all angles up to $\pm 45^\circ$.



Proximity sensor tilt angle assessment (Edge Top) KDB 616217 §6.4

Appendix G: Sensor Triggering Validation

Model Name: SM-X620

Summary of Tablet Edge Top Tilt Angle Influence to Proximity Sensor Triggering

Wi-Fi 1 (ANT 1):

KDB 616217 6.4.a											
Measured Power [dBm]											
Tilt Angle[°]	-45	-35	-25	-15	-5	5	15	15	25	35	45
2.4GHz WLAN 11b (1~11ch)	11.4	11	11.1	10.8	11.6	11	10.7	11.9	11.2	11.4	12
2.4GHz WLAN 11g(1~8ch)	11.1	10.5	10.7	11.2	10.1	11.5	10.2	11.3	10.8	10.4	10.1
2.4GHz WLAN 11n(1~8ch)	10.7	10.8	11.2	11.6	10.5	10.6	11.1	11.6	11.2	10.7	10
2.4GHz WLAN 11ax(1~8ch)	10.5	11	11.6	11	10.6	10.3	11.6	10.3	10.3	10.1	11
2.4GHz WLAN 11b (12ch)	5.6	5	5	5.5	4.7	4.2	5.5	5.1	4	4.8	5.2
2.4GHz WLAN 11b (13ch)	0	1.2	0.4	0.4	0.6	0.6	0.9	0.5	0.6	0.8	1.3
2.4GHz WLAN 11g(9ch)	11.6	11.1	10.9	10.3	11.1	10.1	10	10.6	11.1	10.8	10
2.4GHz WLAN 11g(10ch)	11.1	11.2	10.2	10.7	10.3	11.1	11.6	11.3	11.2	11	10.3
2.4GHz WLAN 11g(11ch)	11.5	11	11.2	10.9	10.1	11	11.4	11	10.2	10.7	10.4
2.4GHz WLAN 11g(12ch)	3	4.4	4.4	3	3.4	4.6	4.5	3.2	4.2	4	4.1
2.4GHz WLAN 11g(13ch)	-2.8	-4	-3	-3.1	-2.8	-3.6	-3.7	-2.5	-2.7	-3.7	-3.1
2.4GHz WLAN 11n(9ch)	10	10.3	11.5	11.2	10.6	10.5	10.1	10.2	10.6	11.3	11.3
2.4GHz WLAN 11n(10ch)	10	10.2	10.1	10.5	11.4	11.5	11.2	10.5	10.4	11.2	11.3
2.4GHz WLAN 11n(11ch)	11.4	10.4	10.6	11.3	10.1	10.9	10.1	10.8	10.5	11.4	10.2
2.4GHz WLAN 11n(12ch)	3.6	3.6	4.5	4.6	3.5	3.2	3.3	3.4	4.6	4.1	3
2.4GHz WLAN 11n(13ch)	-2.8	-3.9	-3.2	-3.7	-3	-2.4	-3	-3.3	-3.5	-4	-2.6
2.4GHz WLAN 11ax(9ch)	10.5	10.9	10.9	11.4	10.3	11.5	11.2	11.5	11.3	10.6	11.3
2.4GHz WLAN 11ax(10ch)	11.1	10.4	11.6	10.5	10.7	10.8	10.5	10.7	10.8	10.4	10.3
2.4GHz WLAN 11ax(11ch)	11	11.5	11.3	11.6	10	11.2	10.9	11.3	10.9	10.6	11
2.4GHz WLAN 11ax(12ch)	3.4	2.7	2.3	2.8	2.3	3	2.8	2	2.2	3.6	3
2.4GHz WLAN 11ax(13ch)	-3.8	-3.7	-3.8	-3.1	-4	-3.7	-3.5	-4	-3.5	-3.4	-2.9
Bluetooth BDR DHS	11.7	11.2	11.1	12.1	12.4	12.2	11.1	11.8	12.5	11	12.2

Model Name: SM-X620

Wi-Fi 2 (ANT 2):

KDB 616217 6.4.a											
Measured Power [dBm]											
Tilt Angle[°]	-45	-35	-25	-15	-5	5	15	15	25	35	45
5GHz WLAN 20MHz 11a UNII 1(with out 48ch),2A	6.7	7.1	7.5	7	8.1	8	6.8	7.9	7	8.1	7.8
5GHz WLAN 20MHz 11a UNII 2C	7.3	7.6	7.5	8.1	6.5	7.4	7.2	7.4	8	8.1	7.3
5GHz WLAN 20MHz 11a UNII 3	6.5	7.1	7.5	6.6	6.3	7.2	7.5	6.2	7.5	6.3	7.5
5GHz WLAN 20MHz 11a UNII 4	8.1	6.9	6.8	7.8	7.5	8.1	7.8	7.7	6.6	6.9	6.8
5GHz WLAN 20MHz 11a UNII 1 48ch	7.6	6.9	7.1	7.2	6.7	7.9	6.6	7.2	6.9	6.9	7.2
5GHz WLAN 20MHz 11n UNII 1,2A	7.4	6.6	6.2	7	6.9	7.5	6.6	6.3	7.1	7.6	7.3
5GHz WLAN 20MHz 11n UNII 2C	5.9	5.6	6.2	6.2	6.1	6.6	6.6	5.8	6.2	6	6.1
5GHz WLAN 20MHz 11n UNII 3	7.4	6.7	6.5	7.2	6.2	6.5	6	6.5	6.7	7.2	6.6
5GHz WLAN 20MHz 11n UNII 4	6.1	6.3	6.3	6.2	6.2	7.3	7	7.5	7.1	7	6.2
5GHz WLAN 20MHz 11ac UNII 1	7.5	6	6.7	7.1	7.1	6.4	7.4	7.6	7.5	6.8	6.7
5GHz WLAN 20MHz 11ac UNII 2A	7.4	7.4	7.1	7.5	6	6	7.4	6.6	6.5	7.1	6.6
5GHz WLAN 20MHz 11ac UNII 2C	6.5	5.6	6.9	5.5	5.6	6.1	7.1	5.8	6.8	6.3	7
5GHz WLAN 20MHz 11ac UNII 3	7.1	6.2	6.1	7	7.1	6	7.1	6.4	6.7	6.9	7.4
5GHz WLAN 20MHz 11ac UNII 4	7.4	6.7	7.1	6.9	7.5	6.5	6.5	6.6	6.4	6.9	7.5
5GHz WLAN 20MHz 11ax UNII 1,2A	6.1	7.1	7.2	6.8	7.4	6.4	6.4	6.2	7.5	6.8	6.1
5GHz WLAN 20MHz 11ax UNII 2C	5.8	6.4	5.6	6.3	6.9	7	6.4	5.7	7.1	5.7	5.6
5GHz WLAN 20MHz 11ax UNII 3	7.2	6.1	6.7	7.1	7.3	7.3	6.4	7.3	6.2	7.2	6.4
5GHz WLAN 20MHz 11ax UNII 4	7.3	7.2	6.5	6.4	6.6	6.9	6.2	7.4	7.1	6.2	6
5GHz WLAN 40MHz 11n/ac UNII1 (with out 38ch)	6.4	6.8	6.4	6.1	7.6	7.6	7.4	7.5	6.5	6.6	7.1
5GHz WLAN 40MHz 11n/ac UNII2A	6.2	7	7.1	6.6	6.3	7.1	6.3	6	6.1	7.2	7.4
5GHz WLAN 40MHz 11n/ac UNII2C	6.9	7	6.7	6.1	7	6.2	7.1	5.6	6	5.7	5.8
5GHz WLAN 40MHz 11n/ac UNII3, 4	6.7	7	6.1	6.4	6.3	7.1	6.3	6.3	6.4	7.5	7.3
5GHz WLAN 40MHz 11ax UNII1, 2A (with out 38ch)	6.4	6.4	6.3	7.3	7.4	7	7.4	7.5	7	6.5	7.4
5GHz WLAN 40MHz 11ax UNII 2C	6.8	6.6	6.5	5.5	5.9	5.9	6.5	6.1	6.4	6.5	6.7
5GHz WLAN 40MHz 11ax UNII3	6.1	7.6	6.5	6.7	6.3	6.8	7.3	7.5	6.7	7.1	7
5GHz WLAN 40MHz 11ax UNII4	6.9	6.1	6.9	6.9	7.1	6.6	6	7	6	6.4	6.1
5GHz WLAN 40MHz 11n/ac/ax UNII1 38ch	7.2	6.6	6.2	6.2	6	7.4	7.4	7.4	6.8	7.1	6.3
5GHz WLAN 80MHz 11ac/ax UNII 1,2A	6	6.8	7.1	6.5	7.3	7.3	7.3	7.4	6.5	6.6	7.1
5GHz WLAN 80MHz 11ac/ax UNII2C	6.9	6.6	6.5	6.8	5.5	6.5	6.2	6.5	5.9	6.5	6.8
5GHz WLAN 80MHz 11ac/ax UNII3	7.5	7	6	6	6.2	6.5	7.1	6	6.1	6.7	6.9
5GHz WLAN 80MHz 11ac UNII4	6.8	7.2	7.4	6.2	6.5	6.4	6.2	6.3	6.4	7.6	7.4
5GHz WLAN 80MHz 11ax UNII4	6.1	6.1	7	6.7	6.7	6.7	7.1	6.7	6.2	7.1	7

[illegible]

Model Name: SM-X620

Summary of Tablet Edge Right Tilt Angle Influence to Proximity Sensor Triggering

Wi-Fi 1 (ANT 1):

KDB 616217 6.4.a											
Measured Power [dBm]											
Tilt Angle[°]	-45	-35	-25	-15	-5	5	15	15	25	35	45
2.4GHz WLAN 11b (1~11ch)	11	10.9	12	10.9	11.9	11.3	10.7	10.9	10.7	10.8	11.4
2.4GHz WLAN 11g(1~8ch)	10.7	10.3	11.1	11.5	10.8	11.4	10.7	10.1	10.6	11.1	11.2
2.4GHz WLAN 11n(1~9ch)	10.2	11.2	11.3	11.2	10.1	10	10.8	10.8	10.6	10.7	11
2.4GHz WLAN 11ax(1~8ch)	10.7	11.1	10.8	11	11.1	10.3	10.3	11.3	10.1	11	10.1
2.4GHz WLAN 11b (12ch)	4.7	4.1	4.4	4.4	5.3	4	4.1	4	5.4	5.2	4.4
2.4GHz WLAN 11b (13ch)	1.5	0.1	1.4	0.9	1.6	0.2	0.1	0.2	1.5	1.5	0.5
2.4GHz WLAN 11g(9ch)	10	10.4	10	10.5	11	10.6	10	11.3	10.5	10.5	11.5
2.4GHz WLAN 11g(10ch)	11.5	10.7	11.2	10.3	10.3	11.4	10.1	10.7	10.5	10.3	10.4
2.4GHz WLAN 11g(11ch)	10.4	11.1	10.2	10.7	10	11.2	11.3	11.3	10.6	10.6	11.2
2.4GHz WLAN 11g(12ch)	3.3	4.3	3.9	3.9	4.2	4	3.5	4.5	3.7	4	3.6
2.4GHz WLAN 11g(13ch)	-3.6	-3.2	-3.6	-3.3	-2.7	-2.8	-2.7	-2.6	-2.7	-2.9	-2.5
2.4GHz WLAN 11n(9ch)	10.4	11.1	11	11.1	11.3	10.9	11.3	11.1	11	11.3	10.6
2.4GHz WLAN 11n(10ch)	10.4	10	10.5	10.2	11.1	10.5	11.4	10.8	10.6	10.5	10.4
2.4GHz WLAN 11n(11ch)	11.4	11.3	11.3	10.6	11.3	10.9	10.8	11	11.1	11.6	10.4
2.4GHz WLAN 11n(12ch)	4	3.5	3.7	4.3	3.2	3.4	3.4	3.5	3.1	3.6	3.7
2.4GHz WLAN 11n(13ch)	-3.4	-2.9	-3.9	-2.6	-3.1	-2.7	-2.4	-3	-2.4	-2.7	-3.7
2.4GHz WLAN 11ax(9ch)	11.5	11.4	10.7	11.6	11	11.6	10.7	10	10.5	11.5	11.1
2.4GHz WLAN 11ax(10ch)	11	11	11.6	11.6	10.4	10.9	10.3	10.3	10.5	10.1	11.5
2.4GHz WLAN 11ax(11ch)	11.3	10.5	10.9	10	10.7	10.4	10.3	11.3	10	10.3	11.1
2.4GHz WLAN 11ax(12ch)	2.7	3.2	2.8	3.1	2.8	3	3.1	3.3	2.9	3.6	3
2.4GHz WLAN 11ax(13ch)	-3.4	-2.8	-2.5	-2.8	-2.9	-3.1	-3.6	-2.5	-2.4	-3.6	-4
Bluetooth BDR DH5	12.6	12.1	11.2	11.4	11.8	12.1	11.9	12.6	11.9	12.4	11.2

[illegible]

Model Name: SM-X620

Summary of Tablet Edge Left Tilt Angle Influence to Proximity Sensor Triggering

Wi-Fi 2 (ANT 2):

KDB 616217 6.4.a											
Measured Power [dBm]											
Tilt Angle[°]	-45	-35	-25	-15	-5	5	15	15	25	35	45
5GHz WLAN 20MHz 11a UNII 1(with out 48ch),2A	7.4	6.5	6.9	7.9	6.5	8	6.7	7.6	7.4	6.8	7.3
5GHz WLAN 20MHz 11a UNII 2C	7.6	8	7	6.5	8.1	6.5	7.2	7.4	7.5	8	6.5
5GHz WLAN 20MHz 11a UNII 3	7.1	6.3	6.7	7.5	6.1	6.2	6.2	7.1	6.5	6	7.4
5GHz WLAN 20MHz 11a UNII 4	7.1	8	7.4	6.7	7.6	7	7.8	8	7.7	7.7	6.5
5GHz WLAN 20MHz 11a UNII 1 48ch	6.6	7.9	6.6	7.5	7.1	7	7.1	6.6	7.8	7.2	6.7
5GHz WLAN 20MHz 11n UNII 1,2A	7	7.5	7.5	6	6.1	6.1	7	7.5	6.2	7.6	6.4
5GHz WLAN 20MHz 11n UNII 2C	5.8	7	5.7	5.7	6.1	6.8	6	5.8	6.3	6.3	6.2
5GHz WLAN 20MHz 11n UNII 3	6.4	7.1	7.1	6.3	6.3	7.5	7.4	6.4	7.3	6.9	7.1
5GHz WLAN 20MHz 11n UNII 4	6.2	7.2	6.9	7.3	6.6	6.6	6.8	6.6	6.6	6.6	6.1
5GHz WLAN 20MHz 11ac UNII 1	6.5	6.3	7.2	7	6.7	6.7	6.4	6.2	7.5	6.3	7.4
5GHz WLAN 20MHz 11ac UNII 2A	7	7.6	7.6	6.7	6.4	7.2	6.6	7.3	6.2	7.6	6.1
5GHz WLAN 20MHz 11ac UNII 2C	5.7	5.9	6.8	6.3	6.8	5.7	5.9	6	5.8	6.4	6.2
5GHz WLAN 20MHz 11ac UNII 3	6.2	6.5	7.5	6.2	7.3	7	6	6	6.9	7.4	6.7
5GHz WLAN 20MHz 11ac UNII 4	6.5	7.5	7.4	6	6.2	7.6	7	6.2	6.2	6.2	7.1
5GHz WLAN 20MHz 11ax UNII 1,2A	6.6	6.3	6.7	7.4	7.3	7.5	7.4	6.4	6.3	6.3	7.4
5GHz WLAN 20MHz 11ax UNII 2C	6.7	6	6	7.1	7.1	6	6.6	5.8	5.5	5.8	5.8
5GHz WLAN 20MHz 11ax UNII 3	6.6	6.1	7.3	7.1	7.1	7.5	7.5	6.5	6.2	7.5	6.6
5GHz WLAN 20MHz 11ax UNII 4	6.8	7.2	6.7	7.1	7.3	6.9	6.3	7	7.3	6.5	7.1
5GHz WLAN 40MHz 11n/ac UNII1 (with out 38ch)	7.4	7.5	7.4	7.4	7.1	7.5	7.2	6.8	6	6.9	7.5
5GHz WLAN 40MHz 11n/ac UNII2A	6.2	7.3	6.3	7.3	6.6	6.7	6.6	7.4	7	6.1	6.2
5GHz WLAN 40MHz 11n/ac UNII2C	7.1	6.5	6.9	6.7	5.5	6.1	5.6	6.3	6.6	6.9	6.5
5GHz WLAN 40MHz 11n/ac UNII3, 4	7.5	7.6	6	7.2	7.6	6.8	7.4	7.4	6.7	7.4	6.5
5GHz WLAN 40MHz 11ax UNII1, 2A (with out 38ch)	6.2	7.5	7.2	6.2	6.8	7	6.3	7.2	7.4	6	7.4
5GHz WLAN 40MHz 11ax UNII 2C	7.1	6.8	7.1	5.8	5.5	6.2	5.6	6.6	5.6	5.6	5.9
5GHz WLAN 40MHz 11ax UNII3	7.5	7.1	6.4	6.9	6.6	7.4	6.7	6.9	6.8	7	7.3
5GHz WLAN 40MHz 11ax UNII4	7.4	6	7.3	6.7	7.3	7.1	7.3	7.6	7.4	6.6	6.3
5GHz WLAN 40MHz 11n/ac/ax UNII1 38ch	7.4	6	7.3	7.6	7.5	6.4	6.7	6.6	6.7	7.5	7
5GHz WLAN 80MHz 11ac/ax UNII 1,2A	6.2	7	7.3	6.6	6.1	6.8	6.7	6.6	7.5	6.9	6
5GHz WLAN 80MHz 11ac/ax UNII2C	6.1	6.4	5.7	6.8	6.6	5.5	6.1	6.7	5.5	5.6	7.1
5GHz WLAN 80MHz 11ac/ax UNII3	7	6.5	6.7	6.9	7	7.3	6.8	7.6	7.5	6.4	6.8
5GHz WLAN 80MHz 11ac UNII4	7	6.5	7.3	6.7	7.4	6.1	7.3	6.7	6.9	6	6.3
5GHz WLAN 80MHz 11ax UNII4	7.1	6.6	6.6	6.2	6.9	6.7	6.1	7.6	6.9	6	6.4

[illegible]

Appendix G: Sensor Triggering Validation

Model Name: SM-X620

Summary of Resulting test positions for SAR measurement

Antenna	Position	§6.2 Triggering Distance (mm)	§6.3 Sensor Coverage	§6.4 Tilt Angle	SAR Test Distance (mm)
Wi-Fi 1 (ANT 1)	Back	20	N/A	N/A	19
	Edge Top	25	N/A	N/A	24
	Edge Right	11	N/A	N/A	10
Wi-Fi 2 (ANT 2)	Back	20	N/A	N/A	19
	Edge Top	25	N/A	N/A	24
	Edge Left	10	N/A	N/A	9

Notes:

- Per KDB 616217, the SAR Test Distance is the Trigger Distance -1 mm.
- For Phablet devices: when hotspot mode applies, Proximity Sensor SAR testing is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg.