Appendix G. Proximity sensor feature (Gamma detection feature)

The DUT has support to power reduction using gamma detection feature. The position of antenna (with gamma detection feature) are as shown in the graphic.

Per FCC guide, Gamma detection feature was verified according to proximity sensor verification in KDB 616217 D04 Section.6.

And Due to equipment limitations, the output power was verified using single point SAR and E-field of DASY SAR system instead of conducted output power test.



G.1 Proximity sensor Triggering Distance (KDB 616217 §6.2)

Edge1 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 full power.

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 contains both the full and reduced conducted power measurements.



LEGEND

Direction of DUT travel for determination of power reduction triggering point

Direction of DUT travel for determination of full power resumption triggering point

Summary of Trigger Distances

	Trigger distance – Edge1						
Antenna	Moving toward phantom	Moving from phantom					
Main 3 Ant.	10 mm	13 mm					

Proximity Sensor Triggering Distance Measurement Results Main 3 Ant.

		Dis	tance to D	UT vs. Sing	le point S <i>i</i>	AR (W/kg)					Remark			
Distance (mm)	6	7	8	9	10	11	12	13	14	15				
	1 75	1 32	1 07	0.89	0.80	1 39	1 07	0.98	3 0.83	0.68	Actice			
	1.75	1.52	1.07	0.05	0.00	1.55	1.07	0.50		0.00	Gamma detection			
NR Band n66	2.50	2.22	1 02	1 20	1 / 0	1 27	1.02 0.03	1.02	0.02	0.02	0.70	0.65	Forced mode	
NIX Balla 1100	2.30	2.33	1.95	1.59	1.40	1.27	1.05	0.95	0.70	0.05	(Max power)			
	1 27	1 27	1 1 2	0.96	0.70	0.66	0.61	0.40	0.46	0.20	Forced mode			
	1.57	1.57	1.12	0.00	0.79	0.00	0.01	0.49	0.40	0.59	(Reduced power)			
Distance to DUT vs. E-field (V/m)										Pemark				
Distance (mm)	6	7	8	9	10	11	12	13	14	15	Kennark			
	25 75	21.06	27.05	25.46	24.15	21 / 0	20.20	26.75 24.5	24 56	22.20	Actice			
	35.75	51.00	27.95	25.40	24.15	51.40	20.39	20.75	24.50	22.30	Gamma detection			
NP Rand n66	12 17	11 24	27 55	21.40	22.0E	20.41	27.40	26.00	22.61	21.96	Forced mode			
INK Dallu 1100	42.17	41.24	57.55	51.40	52.05	50.41	27.40	20.00	22.01	21.00	(Max power)			
	21.26	21.60	20 50	25.00	22.00	21.07	21.1.4	21.14	21.1.1	10.07 10	10.07 10.26	10.00 10.04	16.04	Forced mode
	31.26	51.69	20.58	25.09	25.99	21.97	21.14	10.07	10.20	10.84	(Reduced power)			

Edge1, DUT Moving Toward (Trigger) from the Phantom

Note(s):

Gamma detection is actived at 10mm distance. Because both single point SAR and E-field level is similar with Reduced power of Forced mode. Please refer to yellow box results.

Distance to DUT vs. Single point SAR (W/kg)										Pemark				
Distance (mm)	9	10	11	12	13	14	15	16	17	18	Remark			
	0.86	0.76	0.62	0.56	0.46	0.72	0.66	0.63	0.49	0.49	0.46	Actice		
	0.00	0.70	0.02	0.50	0.40	0.72	0.00	0.05	0.40	0.40	Gamma detection			
NR Band n66	1 30	1 / 8	1 27	1.03	0.03	0.70	0.65	0.58	0.50	0.50	Forced mode			
NIX Balla 1100	1.33	1.40	1.27	1.05	0.95	0.70	0.05	0.50	0.50	0.50	(Max power)			
	0.96	0.70	0.66	0.61	0.40	0.46	0.39	0.20	0.20	0.24	0.21	0.24 0.21	0.27	Forced mode
	0.00	0.79	0.00	0.01	0.49	0.40		0.54	0.51	0.27	(Reduced power)			
Distance to DUT vs. E-field (V/m)									Domark					
Distance (mm)	9	10	11	12	13	14	15	16	17	18	Kennark			
	25.02	22.60	21 27	20.21	10/1	22.95 22.03	22.02 21.45	10 02	19.40	Actice				
	25.05	23.00	21.27	20.51	10.41	22.95	22.05	21.45	10.02	10.02		10.40	Gamma detection	
NR Band n66	21 / 0	22.95	20.41	27.40	26.00	22.61	21.96	20.52	20 5 2	10 10	10 11	Forced mode		
NIX Balla 1100	31.48	32.03	50.41	27.40	20.00	22.01	21.00		19.10	10.11	(Max power)			
	25.00	22.00	21 07	21 14	10 07	19.26	16.96	15.96	15 12	12.05	Forced mode			
	25.09	23.99	21.97	21.14	10.07	10.20	10.00	13.00	13.12	13.95	(Reduced power)			

Edge1, DUT Moving Away (Release) from the Phantom

Note(s):

Gamma detection is not actived at 13mm distance. Because both single point SAR and E-field level is similar with Max power of Forced mode. Please refer to yellow box results.

G.2 Proximity sensor Coverage (KDB 616217 §6.3)

Gamma detection feature is implemented in Antenna. So Coverage test is not required.

G.3 Procedures for determining DUT tilt angle influences to Proximity sensor according to KDB 616217 §6.4

The DUT was positioned directly below the phantom at the triggering distance according to Section.6.1 with DUT's top side parallel to the base of the phantom. And the DUT was rotated about Top side for angles up to +/- 45 degree. If the Time Averaged SAR(single point SAR) and E-field level is similar to Max power of Forced mode during the rotation the DUT was moved 1mm toward the phantom and the rotation repeated. This procedures was repeated until similar Reduced power of Force mode of all angle up to +/- 45 degree.



Proximity sensor tilt angle assessment (Edge 1) KDB 616217 §6.4

Summary of Tablet Tilt Angle Influence to Proximity sensor Triggering (Edge 1)

		Mode -		Tilt angle degrees										
				-45	-40	-30	-20	-10	0	10	20	30	40	45
_	_	Active	Single point SAR (W/kg)	0.93	0.84	0.89	0.88	0.82	0.80	0.75	0.74	0.55	0.81	0.80
distance according	istance distance detecti cording according	detection	E-field (V/m)	26.08	24.75	25.54	25.28	24.46	24.15	23.32	23.14	20.02	24.21	24.02
to Section 6.1.	to Section 6.3.	Forced mode	Single point SAR (W/kg)	1.76	1.63	1.81	1.75	1.52	1.48	1.42	1.46	1.02	1.51	1.62
= 10 mm	= 10mm	(Max Power)	E-field (V/m)	35.93	34.45	36.49	35.84	33.42	32.85	32.17	32.50	27.30	33.34	34.43
		Forced mode	Single point SAR (W/kg)	0.84	0.82	0.90	0.87	0.77	0.79	0.72	0.73	0.51	0.72	0.76
		(Reduced Power)	E-field (V/m)	24.67	24.41	25.57	25.24	23.81	23.99	22.89	22.98	19.33	22.90	23.50

Note(s):

At 10mm triggering distance, The single point SAR and E-field level is similar to reduced power of forced mode during the rotation (angle up to +/- 45 degree).

Report No.: 4790381906

G.4 Resulting test positions for SAR measurements

Wireless technologies	Position	Section.6.2. Triggering Distance Moved toward Moved away phantom from phantom		Section.6.3. Coverage	Section.6.4. Tilt Angle	Smallest distance for SAR test
NR Band n66 (Main3 Ant.)	Edge 1	10 mm	13 mm	N/A	10 mm	9 mm

-End-
