



ANNEX I Sensor Triggering Data Summary

jer distance 2mm 2mm
2mm 2mm
ζmm
2mm
Front side 2mm

According to the above description, this device was tested by the manufacturer to determine the SAR sensor triggering distances for the rear and bottom edge of the device. The measured power state within \pm 5mm of the triggering points (or until touching the phantom) is included for rear and each applicable edge.

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To ensure all production units are compliant it is necessary to test SAR at a distance 1mm less than the smallest distance from the device and SAR phantom with the device at maximum output power without power reduction.





We tested the power and got the different proximity sensor triggering distances for front, rear and bottom edge. But the manufacturer has declared 2mm is the most conservative triggering distance for main antenna. So base on the most conservative triggering distance of 2mm, additional SAR measurements were required at 1mm from the highest SAR position.

Front

Moving device toward the phantom:

The power state									
Distance [mm]	7	6	5	4	3	2	1	0	
Main antenna	Normal	Normal	Normal	Normal	Normal	Low	Low	Low	

Moving device away from the phantom:

The power state								
Distance [mm]	0	1	2	3	4	5	6	7
Main antenna	Low	Low	Normal	Normal	Low	Normal	Normal	Normal

Rear

Moving device toward the phantom:

The power state								
Distance [mm]	7	6	5	4	3	2	1	0
Main antenna	Normal	Normal	Normal	Normal	Normal	Low	Low	Low

Moving device away from the phantom:

The power state								
Distance [mm]	0	1	2	3	4	5	6	7
Main antenna	Low	Low	Normal	Normal	Low	Normal	Normal	Normal

Bottom Edge

Moving device toward the phantom:

The power state								
Distance [mm]	7	6	5	4	3	2	1	0
Main antenna	Normal	Normal	Normal	Normal	Normal	Low	Low	Low





Moving device away from the phantom:

The power state								
Distance [mm]	0	1	2	3	4	5	6	7
Main antenna	Low	Low	Normal	Normal	Low	Normal	Normal	Normal

The influence of table tilt angles to proximity sensor triggering is determined by positioning each edge that contains a transmitting antenna, perpendicular to the flat phantom, at the smallest sensor triggering test distance by rotating the device around the edge next to the phantom in $\leq 10^{\circ}$ increments until the tablet is ±45° or more from the vertical position at 0°.



The Front evaluation for main antenna



The rear evaluation for main antenna







The bottom edge evaluation for main antenna

Based on the above evaluation, we come to the conclusion that the sensor triggering is not released and normal maximum output power is not restored within the $\pm 45^{\circ}$ range at the smallest sensor triggering test distance declared by manufacturer.





ANNEX J SPOT CHECK

J.1 Dielectric Performance

Table J.1-1: Dielectric Performance of Tissue Simulating Liquid

Measurement Date (yyyy-mm-dd)	Туре	Frequency	Permittivity ٤	Drift (%)	Conductivity σ (S/m)	Drift (%)
2010 10 0	Head	5250 MHz	37.1	3.26	4.722	0.25
2019-10-9	Body	2600 MHz	53.3	1.52	2.195	1.62

Note: The liquid temperature is 22.0°C

J.2 System Verification

Table J.2-1: System Verification of Head

Measurement	Target valu		ue (W/kg)	e (W/kg) Measured value(W/kg)			Deviation	
Date	Frequency	10 g	1 g	10 g	1 g	10 g	1 g	
(yyyy-mm-dd)		Average	Average	Average	Average	Average	Average	
2019-10-9	5250 MHz	23.1	80.8	23.4	80.2	1.30%	-0.74%	

Table J.2-2: System Verification of Body

Measurement		Target value (W/kg)		Measured	value (W/kg)	Deviation	
Date	Frequency	10 g	1 g	10 g	1 g	10 g	1 g
(yyyy-mm-dd)		Average	Average	Average	Average	Average	Average
2019-10-9	2600 MHz	24.8	55.0	24.4	54.0	-1.77%	-1.82%

J.3 Conducted power of selected case

Table J.3-1: The conducted Power for LTE

Band	Mode	Frequency (Channel)	Measured Power (dBm)
LTE Band 7	20MHz-1RB-Middle (50)	2560 (21350)	22.90

Table J.3-2: The conducted Power for WLAN

Mode / data rate	Frequency (Channel)	Measured Power (dBm)
802.11a / 6Mbps	60 (5300)	12.95





J.4 Measurement results

Test Band	Channel	Frequency	Test Position	Figure No./Note	Conducted Power (dBm)	Tune- up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Wi-Fi 5G	60	5300	Right	Fig J.6-1	12.95	14.5	0.228	0.33	0.661	0.94	0.01
LTE Band 7	21350	2560	Bottom	Fig J.6-2	22.90	24	0.360	0.46	0.742	0.96	-0.11

Table J.4-1: SAR Values (WLAN - Head) – 802.11b (Scaled Reported SAR)

Frequency		Side	Test	Actual duty	maximum	Reported SAR	Scaled reported	
MHz	Ch.		Position	factor	duty factor	(1g) (W/kg)	SAR (1g) (W/kg)	
5300	60	Right	Tilt	100%	100%	0.94	0.94	

J.5 Reported SAR Comparison

Exposure	Tashnalagu Dand	Reported SAR	Reported SAR	
Configuration	Technology Band	1g (W/kg): spot check	1g (W/kg): original	
	GSM 850	/	0.22	
	PCS 1900	/	0.12	
	UMTS FDD 2	/	0.24	
	UMTS FDD 4	/	0.20	
	UMTS FDD 5	/	0.28	
Head	LTE Band 2	/	0.23	
(Separation	LTE Band 5	/	0.23	
(Separation	LTE Band 7	/	0.26	
Distance 0mm)	LTE Band 12	/	0.17	
	LTE Band13	/	0.18	
	LTE Band 38	/	0.14	
	LTE Band 66	/	0.19	
	WLAN 2.4 GHz	/	0.74	
	WLAN 5GHz	0.94	0.95	
	GSM 850	/	0.53	
	PCS 1900	/	0.54	
	UMTS FDD 2	/	1.05	
	UMTS FDD 4	/	0.75	
	UMTS FDD 5	/	0.51	
Hotopot	LTE Band 2	/	1.10	
	LTE Band 5	/	0.52	
(Separation	LTE Band 7	0.96	1.27	
Distance 10mm)	LTE Band 12	/	0.31	
	LTE Band13	/	0.34	
	LTE Band 38	/	0.70	
	LTE Band 66	/	0.86	
	WLAN 2.4 GHz	/	0.17	
	WLAN 5GHz	/	0.23	





J.6 Graph Results of spot check

WLAN_CH60 Right Tilt

Date: 10/9/2019 Electronics: DAE4 Sn771 Medium: head 5 GHz Medium parameters used: f = 5300; $\sigma = 4.772$ mho/m; $\epsilon r = 37.05$; $\rho = 1000$ kg/m³ Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C Communication System: WLAN 5300 Duty Cycle: 1:1 Probe: EX3DV4 – SN3617 ConvF(5.25, 5.25, 5.25)

Area Scan (111x201x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm Maximum value of SAR (interpolated) = 1.56 W/kg

Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mmReference Value = 3.674 V/m; Power Drift = 0.01 dB Peak SAR (extrapolated) = 2.80 W/kg SAR(1 g) = 0.661 W/kg; SAR(10 g) = 0.228 W/kg Maximum value of SAR (measured) = 1.55 W/kg



Fig J.6-1





LTE2500-FDD7_CH21350 Bottom

Date: 10/9/2019 Electronics: DAE4 Sn771 Medium: body 2600 MHz Medium parameters used: f = 2560 MHz; σ = 2.157 mho/m; ϵ r = 53.35; ρ = 1000 kg/m³ Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C Communication System: LTE2500-FDD7 2560 MHz Duty Cycle: 1:1 Probe: EX3DV4 – SN3617 ConvF(7.49,7.49,7.49)

Area Scan (131x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm Maximum value of SAR (interpolated) = 1.17 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 15.38 V/m; Power Drift = -0.11 dB Peak SAR (extrapolated) = 1.48 W/kg SAR(1 g) = 0.742 W/kg; SAR(10 g) = 0.360 W/kg Maximum value of SAR (measured) = 1.16 W/kg



Fig J.6-2





J.7 System Verification Results

5250 MHz

Date: 10/9/2019 Electronics: DAE4 Sn771 Medium: Head 5250 MHz Medium parameters used: f = 5250 MHz; σ =4.722 mho/m; ϵ_r = 37.1; ρ = 1000 kg/m³ Ambient Temperature: 22.5°C Liquid Temperature: 22.3°C Communication System: CW Frequency: 5250 MHz Duty Cycle: 1:1 Probe: EX3DV4 – SN3617 ConvF(5.39,5.39,5.39)

System Validation /Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm Maximum value of SAR (interpolated) = 17.83 W/kg

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value =76.5 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 27.92 W/kg

SAR(1 g) = 8.02 W/kg; SAR(10 g) = 2.34 W/kg

Maximum value of SAR (measured) = 18.06 W/kg



0 dB = 18.06 W/kg = 12.57 dB W/kg







2600 MHz

Date: 10/9/2019 Electronics: DAE4 Sn771 Medium: Body 2600 MHz Medium parameters used: f = 2600 MHz; σ =2.195 mho/m; ϵ_r = 53.3; ρ = 1000 kg/m³ Ambient Temperature: 22.5°C Liquid Temperature: 22.3°C Communication System: CW Frequency: 2600 MHz Duty Cycle: 1:1 Probe: EX3DV4 – SN3617 ConvF(7.49,7.49,7.49)

System Validation /Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm Maximum value of SAR (interpolated) = 23.15 W/kg

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value =109.4 V/m; Power Drift = 0.05 dBPeak SAR (extrapolated) = 28.45 W/kgSAR(1 g) = 13.5 W/kg; SAR(10 g) = 6.09 W/kgMaximum value of SAR (measured) = 23.31 W/kg



-23.520 dB = 23.31 W/kg = 13.68 dB W/kg







ANNEX K Accreditation Certificate

