APPENDIX A: VERIFICATION PLOTS

Date: 12-05-2020

3700 Head Verification

Medium

Frequency [MHz]	TSL		TSL Conductivity [S/m	ז] T	SL Permittivity	Ambien	t Temperature [C]	Tissue Temperature [C]	
3700.0	3600 Head		2.99	3	37.3			20.5	
Exposure Cor	ditions								
Phantom Section Test Distance [mm]			Power [dBm]		Communication Syste	em, UID			
Flat	lat 10			20.0		CW, 0			
Hardware Set	up								
Phantom		Dip	oole	Probe, Cali	bration Date		Conversion Factor	DAE, Calibration Date	
Twin-SAM V8.0 (Righ	Twin-SAM V8.0 (Right) – 1981 D3700V2 – SN1067		EX3DV4 - 5	SN7526, 2020-03-	-18	6.31	DAE4 Sn1449, 2020-09-10		
Scans Setup									
						Area Scan		Zoom Scan	
Grid Extents [mm]					4	10.0 x 80.0	50.0 × 30.0 × 30.0		
Grid Steps [mm]				10.0 x 10.0		5.0 x 5.0 x 1.4			
Sensor Surface [mm]				3.0		1.4			
Graded Grid					No		Yes		
Grading Ratio	Grading Ratio			n/a		1.5			
Measurement	Results						l		
								Zoom Scan	
psSAR1g [W/Kg]								6.48	
psSAR10g [W/Kg]							2.39		
Dev. 1g [%]							-3.57		



PCTEST Date: 10-27-2020 1750 Body Verification

Medium

Dev. 1g [%]

Frequency [MHz]	TSL	TSL Conductiv	ity [S/m]	TSL	Permittivity	Ambient	Temperature [C]	Tissue Temperature [C]
1750.0	1750 Body	1.51	1.51		52.9			22.3
Exposure Con	ditions							
Phantom Section Test Distance [mm]			Power [dBm]			Communication Syste	stem, UID	
Flat 10				20.0		CW, 0		
Hardware Set	up							
Phantom		Dipole	Probe, C	Calib	ration Date		Conversion Factor	DAE, Calibration Date
Twin-SAM V8.0 (Righ	t) – 1981	D1750V2 - SN1	50 EX3DV4	EX3DV4 - SN7526, 2020-03-18		7.62	DAE4 Sn859, 2019-12-18	
Scans Setup							1	
						Area Scan		Zoom Scan
Grid Extents [mm]				60.0 × 90.0		50.0 × 30.0 × 30.0		
Grid Steps [mm]				15.0 x 15.0			6.0 x 6.0 x 5.0	
Sensor Surface [mm]				3.0			1.4	
Graded Grid				No			No	
Grading Ratio			n/a		n/a			
Measurement	Results		I					
								Zoom Scan
psSAR1g [W/Kg]								3.93
psSAR10g [W/Kg]							2.10	



PCTEST Date: 12-01-2020 1750 Body Verification

Medium

Frequency [MHz]	TSL		TSL Conductivity	[S/m]	TS	L Permittivity	Ambi	ent Temperature [C]		Tissue Temperature [C]	
1750.0	1750	1750 Body 1.45			55.4		21.4			21.0	
Exposure Con	ditions	S									
Phantom Section Test Distance [mm]				Power [dBm]		Communication	System, l	JID			
Flat 10			20.0		CW, 0						
Hardware Setu	ıp	, i									
Phantom	Dipole Probe		e, Calibration	Date		Conversion Factor	DA	E, Calibration Date			
Twin-SAM V8.0 - 197	Twin-SAM V8.0 - 1978 D1750V2 - SN1150 EX3		EX3D	3DV4 - SN7527, 2020-03-17 8.			8.1	DA	E4 Sn1582, 2020-04-15		
Scans Setup											
					Area Scan		n		Zoom Scan		
Grid Extents [mm]					60.0 × 90.0)	50.0 × 30.0 × 30.0		
Grid Steps [mm]					15.0 x 15.0			6.0 x 6.0 x 1.5			
Sensor Surface [mm]				3.0			1.4				
Graded Grid			No			Yes					
Grading Ratio				n/a			/a 1.5				
Measurement	Result	:s									
										Zoom Scan	

	Zoom Scan
psSAR1g [W/Kg]	3.48
psSAR10g [W/Kg]	1.86
Dev. 10g [%]	-4.12



PCTEST Date: 10-26-2020 1900 Body Verification

Medium

Dev. 10g [%]

Frequency [MHz]	TSL	TSL Conductivity	[S/m]	TSL Permittivity	Ambient	Temperature [C]	Tissue Temperature [C]	
1900.0	1900 Body	1.57		53.1			20.9	
Exposure Con	ditions							
Phantom Section Test Distance [mm]			Power [dBm]		Communication System, UID			
Flat 10			20.0		CW, 0			
Hardware Setu	qr							
Phantom		Dipole	Probe, C	alibration Date		Conversion Factor	DAE, Calibration Date	
Twin-SAM V8.0 (Right	t) – 1981	D1900V2 - SN5d080	EX3DV4	- SN7526, 2020-03	8-18	7.33	DAE4 Sn859, 2019-12-18	
Scans Setup		1						
					Area Scan		Zoom Scan	
Grid Extents [mm]				6	60.0 x 90.0	50.0 × 30.0 × 30.0		
Grid Steps [mm]				1	5.0 x 15.0	6.0 × 6.0 × 5.0		
Sensor Surface [mm]				3.0		1.4		
Graded Grid				No		No		
Grading Ratio	Grading Ratio			n/a		n/a		
Measurement	Results							
							Zoom Scan	
psSAR1g [W/Kg]							4.24	
psSAR10g [W/Kg]						2.18		
Dev. 1g [%]							8.16	



PCTEST Date: 11-04-2020 1900 Body Verification

Medium

Frequency [MHz]	TSL		TSL Conductivity [S/m]	TSL Permittivity		Ambient	Temperature [C]	Tissue Temperature [C]
1900.0	1900 Body 1.58		52.9		22.4		22.5	
Exposure Con	ditions							
Phantom Section Test Distance [mm]		Power [dBm]			Communication System	, UID		
Flat 10			20.0		CW, 0			
Hardware Set	ир							
Phantom		Di	ipole	Probe, Ca	libration Date		Conversion Factor	DAE, Calibration Date
Twin-SAM V8.0 (Righ	t) – 1981	DI	1900V2 - SN5d148	EX3DV4 - SN7526, 2020-03-18		7.33	DAE4 Sn859, 2019–12–18	
Scans Setup								
					ļ	Area Scan		Zoom Scan
Grid Extents [mm]				60.0 × 90.0		50.0 x 30.0 x 30.0		
Grid Steps [mm]				15.0 x 15.0		6.0 × 6.0 × 5.0		
Sensor Surface [mm]				3.0			1.4	
Graded Grid				No		No		
Grading Ratio			n/a					
Measurement	Results							
								Zoom Scan
psSAR1g [W/Kg]								4.15
psSAR10g [W/Kg]						2.14		

Dev. 1g [%]



PCTEST Date: 12-01-2020 1900 Body Verification

Medium

Frequency [MHz]	TSL		TSL Conductivity [S	5/m]	TS	Permittivity	Ambient	Temperature [C]	Tissue Temperature [C]
1900.0	1900 Bo	1900 Body 1.56			55.1		21.4		21.0
Exposure Condi	itions								
Phantom Section Test Distance [mm]			Power [dBm]			Communication System	m, UID		
Flat 10				20.0		CW, 0			
Hardware Setup)							<u>.</u>	
Phantom	Dipole Pro		Probe	Probe, Calibration Date		с	onversion Factor	DAE, Calibration Date	
Twin-SAM V8.0 - 1978	n-SAM V8.0 - 1978 D1900V2 - SN5d149 EX		EX3D	EX3DV4 – SN7527, 2020–03–17		7	.78	DAE4 Sn1582, 2020-04-15	
Scans Setup	·								
						Ai	rea Scan		Zoom Scan
Grid Extents [mm]					60.0 × 90.0			50.0 x 30.0 x 30.0	
Grid Steps [mm]				15.0 x 15.0			6.0 x 6.0 x 1.5		
Sensor Surface [mm]				3.0			0 1.4		
Graded Grid				No			Yes		
Grading Ratio				n/a			a 1.5		
				1					

	Zoom Scan
psSAR1g [W/Kg]	4.05
psSAR10g [W/Kg]	2.09
Dev. 1g [%]	2.79



PCTEST Date: 11-02-2020 2600 Body Verification

Medium

Dev. 10g [%]

Frequency [MHz]	TSL		TSL Conductivity [S/m]	T	TSL Permittivity		Temperature [C]	Tissue Temperature [C]
2600.0	2450 Body		2.21		51.6			20.5
Exposure Con	ditions							
Phantom Section Test Distance [mm]			Power [dBm]		Communication System	i, UID		
Flat 10			20.0		CW, 0			
Hardware Set	ир							
Phantom		Di	ipole	Probe, Cali	bration Date		Conversion Factor	DAE, Calibration Date
Twin-SAM V8.0 (Righ	t) – 1981	D	2600V2 – SN1064	EX3DV4 - SN7526, 2020-03-18		7.0	DAE4 Sn859, 2019-12-18	
Scans Setup								
					A	Area Scan		Zoom Scan
Grid Extents [mm]				48.0 × 96.0		50.0 × 30.0 × 30.0		
Grid Steps [mm]				12.0 x 12.0		5.0 × 5.0 × 5.0		
Sensor Surface [mm]				3.0			1.4	
Graded Grid				No		No		
Grading Ratio		n/a		n/a				
Measurement	Results			1				
								Zoom Scan
psSAR1g [W/Kg]								5.76
psSAR10a [W/Ka]						2.56		



Date: 11/23/2020

30 GHz System Verification

Device Under Test Properties

DUT	Serial Number
30 GHz Verification Source	1043

Exposure Conditions

Phantom Section	Position	Test Distance [mm]	Band	Frequency [MHz]
5G	FRONT	5.55	Validation band	30000.0

Hardware Setup

Probe, Calibration Date	DAE, Calibration Date
EUmmWV3 - SN9364, 06/24/2020	DAE4 SN1582, 04/15/2020

Software Setup

Software	Software Version
cDASY6 Module mmWave	2.0.2.34

Scans Setup

Scan Type	5G Scan
Grid Extents [mm]	60.0 x 60.0
Grid Steps [lambda]	0.25 x 0.25
Sensor Surface [mm]	5.55

Scan Type	5G Scan
Avg. Area [cm²]	4.00
pS _{tot} avg [W/m²]	26.0
pSn avg [W/m²]	25.6
E _{peak} [V/m]	116
Deviation (dB)	-0.12



30GHz System Verification



Calibration Certificate

Date: 11/24/2020

30 GHz System Verification

Device Under Test Properties

Sola Hambe	er
30 GHz Verification Source 1043	

Exposure Conditions

Phantom Section	Position	Test Distance [mm]	Band	Frequency [MHz]
5G	FRONT	5.55	Validation band	30000.0

Hardware Setup

Probe, Calibration Date	DAE, Calibration Date
EUmmWV3 - SN9364, 06/24/2020	DAE4 SN1582, 04/15/2020

Software Setup

Software	Software Version
cDASY6 Module mmWave	2.0.2.34

Scans Setup

Scan Type	5G Scan
Grid Extents [mm]	60.0 × 60.0
Grid Steps [lambda]	0.25 x 0.25
Sensor Surface [mm]	5.55

Scan Type	5G Scan
Avg. Area [cm²]	4.00
pS _{tot} avg [W/m²]	25.8
pSn avg [W/m²]	25.4
E _{peak} [V/m]	115
Deviation (dB)	-0.15



30GHz System Verification



Calibration Certificate

Date: 12/05/2020

30 GHz System Verification

Device Under Test Properties

DUT	Serial Number
30 GHz Verification Source	1043

Exposure Conditions

Phantom Section	Position	Test Distance [mm]	Band	Frequency [MHz]
5G	FRONT	5.55	Validation band	30000.0

Hardware Setup

Probe, Calibration Date	DAE, Calibration Date
EUmmWV3 - SN9364, 06/24/2020	DAE4 SN1582, 04/15/2020

Software Setup

Software	Software Version
cDASY6 Module mmWave	2.0.2.34

Scans Setup

Scan Type	5G Scan
Grid Extents [mm]	60.0 × 60.0
Grid Steps [lambda]	0.25 x 0.25
Sensor Surface [mm]	5.55

Scan Type	5G Scan
Avg. Area [cm²]	4.00
pS _{tot} avg [W/m²]	25.7
pSn avg [W/m²]	26.0
E _{peak} [V/m]	116
Deviation (dB)	-0.12



30GHz System Verification



Calibration Certificate