RF Exposure report

The following samples were submitted and identified on behalf of the client as:

Product Name	Smart Phone
Model No.	Celero3 5G+
Applicant	Shenzhen Tinno Mobile Technology Corp. 27-001, South Side of Tianlong Mobile Headquarters Building, Tongfa South Road, Xili Community, Xili Street, Nanshan District, Shenzhen ,PRC
Standards	IEEE/ANSI C95.1-1992, IEEE 1528-2013
FCC ID	XD6U695DS
Date of EUT Receipt	Sep. 27, 2023
Date of Test(s)	Oct. 13, 2023 ~ Oct. 14, 2023
Date of Issue	Nov. 06, 2023

In the configuration tested, the EUT complied with the standards specified above.

Remarks:

This report details the results of the testing carried out on one sample, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS Taiwan Ltd. Central RF Lab or testing done by SGS Taiwan Ltd. Central RF Lab in connection with distribution or use of the product described in this report must be approved by SGS Taiwan Ltd. Central RF Lab in writing.

Signed on behalf of SGS

Clerk / Kimmy Chiou	PM / Kiki Lin	Approved By / John Yeh
Kimmy Chiou	Kiki Lin	John Yeh

Date: Nov. 06, 2023

Revision History

Report Number	Revision	Description	Issue Date	Revised By	Remark
TESA2311000659ES	00	Initial creation of document	Nov. 02, 2023	Kimmy Chiou	
TESA2311000659ES	01	Add description	Nov. 06, 2023	Kimmy Chiou	*

Note:

1. The mark " * " is the revised version of the report due to comments submitted by the certification.
2. Please be noted that the report TESA2311000659ES will replace the previous TESA2308000495ES as the new version. Also be pay attention that TESA2308000495ES is ineffective anymore from now on.
3. Power refer SEWM2308000313RG10.
4. Simultaneous transmission refers to this report SEWM2308000313RG10_FCC SAR Part 1 Report.

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1 GENERAL INFORMATION

1.1 Test Methodology

The SAR testing method and procedure for this device is in accordance with the following standards:
IEEE/ANSI C95.1-1992
IEEE 1528-2013
KDB447498D01v06
KDB865664D01v01r04
KDB865664D02v01r02
KDB648474D04v01r03
KDB248227D01v02r01
IEC/IEEE 62209-1528:2020
SPEAG DASY6 System Handbook
SPEAG DASY6 Application Note (Interim Procedure for Device Operation at 6GHz-10GHz)
IEC TR 63170:2018
IEC 62479:2010

1.2 Description of EUT

Product Name	Smart Phone	
Model No.	Celero3 5G+	
FCC ID	XD6U695DS	
Supported radios (TX Frequency Range, MHz)	802.11ax	6.2GHz (5925.0 – 6425.0 MHz) 6.5GHz (6425.0 – 6525.0 MHz) 6.7GHz (6525.0 – 6875.0 MHz) 7.0GHz (6875.0 – 7125.0 MHz)

1.3 Maximum value

Summary of Maximum Power Density Value	
Mode	Highest PD (W/m^2)
6G WLAN	8.58

2 MEASUREMENT SYSTEM

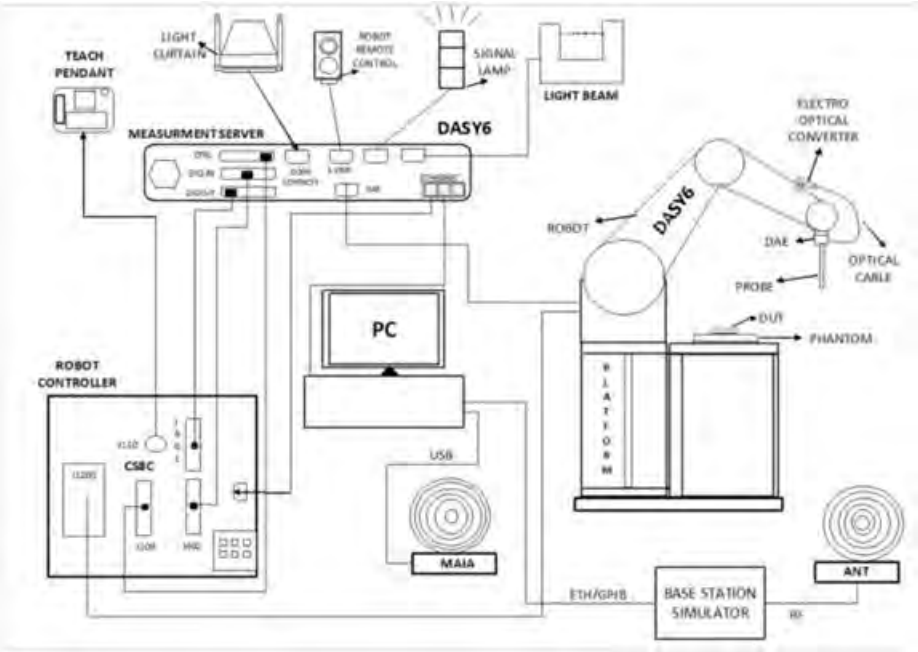
2.1 Test Facility

Laboratory	Test Site Address	Test Site Name	FCC Designation number	IC CAB identifier
SGS Taiwan Ltd. Central RF Lab. (TAF code 3702)	**1F, No. 8, Alley 15, Lane 120, Sec. 1, NeiHu Road, Neihu District, Taipei City, 11493, Taiwan.**	SAR 2	TW0029	TW3702
		SAR 6		
	No. 2, Keji 1st Rd., Guishan Township, Taoyuan County, 33383, Taiwan	SAR 1	TW0028	
		SAR 4		
	No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan	SAR 3	TW0027	
		SAR 7		
Note: Test site name is remarked on the equipment list in each section of this report as an indication where measurements occurred in specific test site and address.				

2.2 PD system

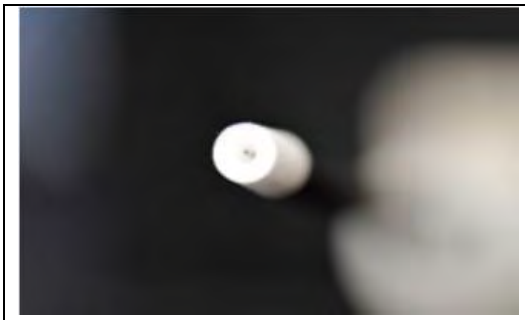
Block Diagram (DASY6)

Power density measurements for mmWave frequencies were performed using SPEAG DASY6 with cDASY6 5G module. The DASY6 included a high precision robotics system (Staubli), robot controller, desktop computer, near-field probe, probe alignment sensor, and the 5G phantom cover.

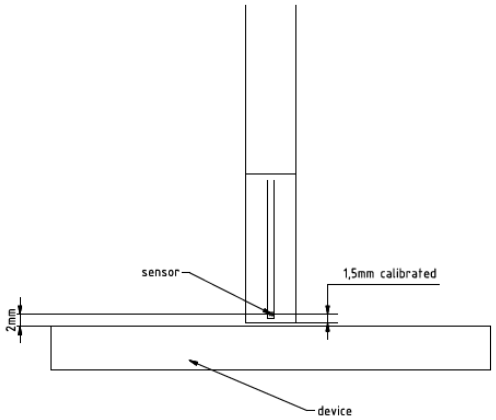


EUmmWVx probe

The EUmmWVx probe is based on the pseudo-vector probe design, which not only measures the field magnitude but also derives its polarization ellipse. The design entails two small 0.8mm dipole sensors mechanically protected by high-density foam, printed on both sides of a 0.9mm wide and 0.12mm thick glass substrate. The body of the probe is specifically constructed to minimize distortion by the scattered fields. The probe consist of two sensors with different angles (1 and 2) arranged in the same plane in the probe axis. Three or more measurements of the two sensors are taken for different probe rotational angles to derive the amplitude and polarization information. The probe design allows measurements at distances as small as 2mm from the sensors to the surface of the device under test (DUT). The typical sensor to probe tip distance is 1.5 mm. The exact distance is calibrated.

	Two dipoles optimally arranged to obtain pseudo-vector information.Minimum 3 measurements/ point, 120º rotated around probe axis. Sensors (0.8mm length) printed on glass substrate protected by high density foam.Low perturbation of the measured field. Requires positioner which can do accurate probe rotation.

Frequency Range	750 MHz – 110 GHz
Dynamic Range	< 20 V/m – 10,000 V/m with PRE-10 (min < 50 V/m - 3000 V/m)
Position Precision	< 0.2 mm (DASY6)
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: encapsulation 8 mm (internal sensor < 1mm) Distance from probe tip to dipole centers: < 2 mm. Sensor displacement to probe's calibration point: < 0.3 mm
Applications	E-field measurements of 5G devices and other mm-wave transmitters operating above 10GHz in < 2 mm distance from device (free-space).Power density, H-field and far-field analysis using total field reconstruction (cDASY6 5G module required)
Compatibility	cDASY6 + 5G-Module SW1.0 and higher



mmWave Phantom

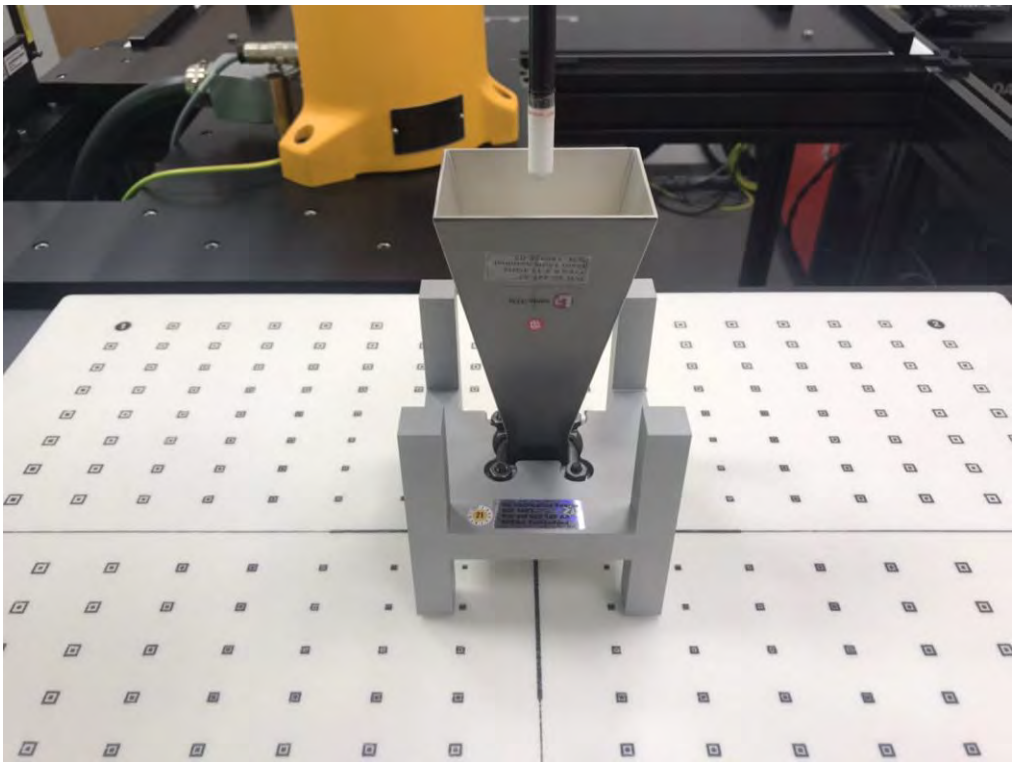
The mmWave Phantom approximates free-space conditions, allowing for the evaluation of the antenna side of the device and the front (screen) side or any opposite-radiating side of wireless devices operating above 10 GHz without distorting the RF field. It consists of a 40mm thick Rohacell plate used as a test bed, which has a loss tangent (tan δ) $\leq$ 0.05 and a relative permittivity (ɛr) $\leq$ 1.2. High-performance RF absorbers are placed below the foam.

3 PD SYSTEM VERIFICATION

3.1 System check

The system was verified to be within ±0.66 dB of the power density targets on the calibration certificate according to the test system specification in the user's manual and calibration facility recommendation. The 0.66 dB deviation threshold represents the expanded uncertainty for system performance checks using SPEAG's mmWave verification sources. The same spatial resolution and measurement region used in the source calibration was applied during the system check.

The measured power density distribution of verification source was also confirmed through visual inspection to have no noticeable differences, both spatially (shape) and numerically (level) from the distribution provided by the manufacturer, per November 2017 TCBC Workshop Notes.



System Verification Setup Photo

3.2 System check result

The system was verified to be within ±0.66 dB of the power density targets on the calibration certificate according to the test system specification in the user's manual and calibration facility recommendation. The 0.66 dB deviation threshold represents the expanded uncertainty for system performance checks using SPEAG's mmWave verification sources. The same spatial resolution and measurement region used in the source calibration was applied during the system check. The measured power density distribution of verification source was also confirmed through visual inspection to have no noticeable differences, both spatially (shape) and numerically (level) from the distribution provided by the manufacturer, per November 2017 TCBC Workshop Notes.

Frequency (MHz)	PD Verification Source (MHz)	Probe S/N	DAE S/N	Distance (mm)	Prad (mW)	Measured 4cm^2 (W/m^2)	Target 4cm^2 (W/m^2)	Deviation (dB)	Date
10000	10000	9616	877	10	93.3	53.4	56.1	-0.21	Oct.13,2023

4 TEST CONFIGURATIONS

4.1 Test Environment

Ambient Temperature: 22±2° C
Tissue Simulating Liquid: 22±2° C

4.2 Test Note

- **General:** Measurements are performed respectively on the lowest, middle and highest channels of the operating band(s).
- **General:** The EUT is set to maximum power level during all tests, and at the beginning of each test the battery is fully charged.
- **General:** During the SAR testing, the DASY system checks power drift by comparing the e-field strength of one specific location measured at the beginning with that measured at the end of the SAR testing.
- **WLAN 6GHz:** Per October 2020 & April 2021 TCB Workshop Interim procedures and FCC guidance, start instead with a minimum of 5 test channels across the full band, then adapt and apply conducted power and SAR test reduction procedures of KDB Pub. 248227 v02r02. WIFI 6E SAR is measured by using 6-7GHz parameters per IEC/IEEE62209-1528:2020 and report also estimated absorbed PD (for reference purposes only, not specifically for compliance). For the highest SAR test configurations also measure incident PD (total) using mmW near-field probe and total-field/power-density reconstruction method.
- **WLAN 6GHz:** Per equipment manufacturer guidance, power density was measured at d=2mm with the grid step (0.0625λ) for determining compliance at d=2mm.
- **WLAN 6GHz:** According to October 2020 TCB Workshop Interim procedures, power density results were scaled according to IEC 62479:2010 for the portion of the measurement uncertainty > 30%. Total expanded uncertainty of 2.67 dB (85%) was used to determine the psPD measurement scaling factor.
- **WLAN 6GHz:** Per FCC guidance, for simultaneous transmission evaluation, using SAR sum and SPLSR for simultaneous transmit exclusion analyses and evaluations.

4.3 Test position

PD is tested for worst SAR position with test distance 2mm between probe sensor and EUT.

4.4 Test limit

§ 2.1093(d)(1)
Applications for equipment authorization of portable RF sources subject to routine environmental evaluation must contain a statement confirming compliance with the limits specified in § 1.1310 as part of their application. Technical information showing the basis for this statement must be submitted to the Commission upon request. The SAR limits specified in § 1.1310(a) through (c) of this chapter shall be used for evaluation of portable devices transmitting in the frequency range from 100 kHz to 6 GHz. Portable devices that transmit at frequencies above 6 GHz shall be evaluated in terms of the MPE limits specified in Table 1 to § 1.1310(e)(1). A minimum separation distance applicable to the operating configurations and exposure conditions of the device shall be used for the evaluation. In general, maximum time-averaged power levels must be used for evaluation. All unlicensed personal communications service (PCS) devices and unlicensed NII devices shall be subject to the limits for general population/uncontrolled exposure.
Radiofrequency radiation exposure limits.
§ 1.1310(a)
Specific absorption rate (SAR) shall be used to evaluate the environmental impact of human exposure to radiofrequency (RF) radiation as specified in § 1.1307(b) within the frequency range of 100 kHz to 6 GHz (inclusive).
§ 1.1310(b)
The SAR limits for occupational/controlled exposure are 0.4 W/kg, as averaged over the whole body, and a peak spatial-average SAR of 8 W/kg, averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the parts of the human body treated as extremities, such as hands, wrists, feet, ankles, and pinnae, where the peak spatial-average SAR limit for occupational/controlled exposure is 20 W/kg, averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). Exposure may be averaged over a time period not to exceed 6 minutes to determine compliance with occupational/controlled SAR limits.
§ 1.1310(c)
The SAR limits for general population/uncontrolled exposure are 0.08 W/kg, as averaged over the whole body, and a peak spatial-average SAR of 1.6 W/kg, averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the parts of the human body treated as extremities, such as hands, wrists, feet, ankles, and pinnae, where the peak spatial-average SAR limit is 4 W/kg, averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). Exposure may be averaged over a time period not to exceed 30 minutes to determine compliance with general population/uncontrolled SAR limits.

Note to paragraphs (a) through (c):
SAR is a measure of the rate of energy absorption due to exposure to RF electromagnetic energy. These SAR limits to be used for evaluation are based generally on criteria published by the American National Standards Institute (ANSI) for localized SAR in Section 4.2 of "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," ANSI/IEEE Std C95.1-1992, copyright 1992 by the Institute of Electrical and Electronics Engineers, Inc., New York, New York 10017. These criteria for SAR evaluation are similar to those recommended by the National Council on Radiation Protection and Measurements (NCRP) in "Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," NCRP Report No. 86, Section 17.4.5, copyright 1986 by NCRP, Bethesda, Maryland 20814. Limits for whole body SAR and peak spatial-average SAR are based

on recommendations made in both of these documents. The MPE limits in Table 1 are based generally on criteria published by the NCRP in “Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields,” NCRP Report No. 86, Sections 17.4.1, 17.4.1.1, 17.4.2 and 17.4.3, copyright 1986 by NCRP, Bethesda, Maryland 20814. In the frequency range from 100 MHz to 1500 MHz, these MPE exposure limits for field strength and power density are also generally based on criteria recommended by the ANSI in Section 4.1 of “IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz,” ANSI/IEEE Std C95.1-1992, copyright 1992 by the Institute of Electrical and Electronics Engineers, Inc., New York, New York 10017.

Portable devices that transmit at frequencies above 6 GHz shall be evaluated in terms of the MPE limits specified in Table 1 to § 1.1310(e)(1).
According to ANSI/IEEE C95.1-1992, the criteria listed in the following Table shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.
Peak Spatially Averaged Power Density was evaluated over a circular area of 4cm2 per interim FCC Guidance for near-field power density evaluations per October 2018 TCB Workshop notes

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	*($900/f^2$)	<6
30-300	61.4	0.163	1.0	<6
300-1,500			f/300	<6
1,500-100,000			5	<6
(ii) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	<30
1.34-30	824/f	2.19/f	*($180/f^2$)	<30
30-300	27.5	0.073	0.2	<30
300-1,500			f/1500	<30
1,500-100,000			1.0	<30

f = frequency in MHz. * = Plane-wave equivalent power density.
Table 1 to § 1.1310(e)(1) - Limits for Maximum Permissible Exposure (MPE)

5 MAXIMUM OUTPUT POWER

5.1 WIFI 6E

WIFI 6E			ANT7 chain0 Full power			ANT7 chain0 Head Standalone			ANT7 chain0 Body-worn Simultaneous			ANT7 chain0 Hotspot Simultaneous		
Mode	Channel	Frequency (MHz)	Average Power (dBm)	Tune-up(dBm)	Power setting	Average Power (dBm)	Tune-up(dBm)	Power setting	Average Power (dBm)	Tune-up(dBm)	Power setting	Average Power (dBm)	Tune-up(dBm)	Power setting
802.11ax-HE20 MCS0	1	5955	8.31	9.00	11.00	8.31	9.00	11.00	8.31	9.00	11.00	8.31	9.00	11.00
	57	6235	7.28	9.00	11.00	7.28	9.00	11.00	7.28	9.00	11.00	7.28	9.00	11.00
	113	6515	6.95	8.00	11.00	6.95	8.00	11.00	6.95	8.00	11.00	6.95	8.00	11.00
	173	6815	7.69	9.00	11.50	7.69	9.00	11.50	7.69	9.00	11.50	7.69	9.00	11.50
	233	7115	-4.32	-3.00	-1.00	-4.32	-3.00	-1.00	-4.32	-3.00	-1.00	-4.32	-3.00	-1.00
802.11ax-HE40 MCS0	3	5965	10.21	11.00	14.00	8.18	9.00	12.00	10.21	11.00	14.00	9.18	10.00	13.00
	59	6245	9.31	11.00	14.00	7.37	9.00	12.00	9.31	11.00	14.00	8.26	10.00	13.00
	107	6485	9.45	11.00	14.00	7.43	9.00	12.00	9.45	11.00	14.00	8.54	10.00	13.00
	171	6805	9.80	11.00	14.50	7.87	9.00	12.50	9.80	11.00	14.50	8.90	10.00	13.50
	227	7085	9.17	11.00	14.50	7.20	9.00	12.50	9.17	11.00	14.50	8.23	10.00	13.50
802.11ax-HE80 MCS0	7	5985	14.25	15.00	19.00	8.30	9.00	13.00	10.29	11.00	15.00	9.22	10.00	14.00
	71	6305	14.09	15.00	19.00	8.17	9.00	13.00	10.12	11.00	15.00	9.18	10.00	14.00
	119	6545	14.77	15.00	19.50	8.84	9.00	13.50	10.83	11.00	15.50	9.73	10.00	14.50
	167	6785	14.59	15.00	19.50	8.61	9.00	13.50	10.67	11.00	15.50	9.58	10.00	14.50
	215	7025	14.02	15.00	19.50	8.06	9.00	13.50	10.08	11.00	15.50	9.08	10.00	14.50

WIFI 6E			ANT9 chain1 Full power			ANT9 chain1 Body-worn & Hotspot Simultaneou		
Mode	Channel	Frequency (MHz)	Average Power (dBm)	Tune-up(dBm)	Power setting	Average Power (dBm)	Tune-up(dBm)	Power setting
802.11ax-HE20 MCS0	1	5955	8.03	9.00	11.00	8.03	9.00	11.00
	57	6235	7.40	9.00	11.00	7.40	9.00	11.00
	113	6515	7.47	9.00	11.00	7.47	9.00	11.00
	173	6815	7.83	9.00	11.50	7.83	9.00	11.50
	233	7115	-4.28	-3.00	-1.00	-4.28	-3.00	-1.00
802.11ax-HE40 MCS0	3	5965	10.31	11.00	14.00	10.31	11.00	14.00
	59	6245	9.92	11.00	14.00	9.92	11.00	14.00
	107	6485	10.18	11.00	14.00	10.18	11.00	14.00
	171	6805	8.47	10.00	14.50	8.47	10.00	14.50
	227	7085	9.15	11.00	14.50	9.15	11.00	14.50
802.11ax-HE80 MCS0	7	5985	13.98	15.00	19.00	12.07	13.00	17.00
	71	6305	14.02	15.00	19.00	12.09	13.00	17.00
	119	6545	14.71	15.00	19.50	12.79	13.00	17.50
	167	6785	14.57	15.00	19.50	12.63	13.00	17.50
	215	7025	14.94	15.00	19.50	12.96	13.00	17.50

WIFI 6E			ANT7+9 MIMO Full power			ANT7+9 MIMO Head Standalone			ANT7+9 MIMO Body-worn Simultaneous			ANT7+9 MIMO Hotspot Simultaneous		
Mode	Channel	Frequency (MHz)	Average Power (dBm)	Tune-up(dBm)	Power setting	Average Power (dBm)	Tune-up(dBm)	Power setting	Average Power (dBm)	Tune-up(dBm)	Power setting	Average Power (dBm)	Tune-up(dBm)	Power setting
802.11ax-HE20 MCS0	1	5955	11.18	12.00	11.00	11.18	12.00	11.00	11.18	12.00	11.00	11.18	12.00	11.00
	57	6235	10.35	12.00	11.00	10.35	12.00	11.00	10.35	12.00	11.00	10.35	12.00	11.00
	113	6515	10.23	12.00	11.00	10.23	12.00	11.00	10.23	12.00	11.00	10.23	12.00	11.00
	173	6815	10.77	12.00	11.50	10.77	12.00	11.50	10.77	12.00	11.50	10.77	12.00	11.50
	233	7115	-1.29	0.00	-1.00	-1.29	0.00	-1.00	-1.29	0.00	-1.00	-1.29	0.00	-1.00
802.11ax-HE40 MCS0	3	5965	13.27	14.00	14.00	12.36	13.00	13.00	13.27	14.00	14.00	13.27	14.00	14.00
	59	6245	12.64	14.00	14.00	11.65	13.00	13.00	12.64	14.00	14.00	12.64	14.00	14.00
	107	6485	12.84	14.00	14.00	11.83	13.00	13.00	12.84	14.00	14.00	12.84	14.00	14.00
	171	6805	12.20	14.00	14.50	11.26	13.00	13.50	12.20	14.00	14.50	12.20	14.00	14.50
	227	7085	12.17	14.00	14.50	11.23	13.00	13.50	12.17	14.00	14.50	12.17	14.00	14.50
802.11ax-HE80 MCS0	7	5985	17.13	18.00	19.00	12.15	13.00	14.00	15.22	16.00	17.00	14.19	15.00	16.00
	71	6305	17.07	18.00	19.00	12.14	13.00	14.00	15.05	16.00	17.00	14.16	15.00	16.00
	119	6545	17.75	18.00	19.50	12.81	13.00	14.50	15.77	16.00	17.50	14.83	15.00	16.50
	167	6785	17.59	18.00	19.50	12.54	13.00	14.50	15.63	16.00	17.50	14.55	15.00	16.50
	215	7025	17.51	18.00	19.50	12.48	13.00	14.50	15.57	16.00	17.50	14.47	15.00	16.50

6 SUMMARY OF RESULTS

6.1 Decision rules

Reported measurement data comply with Test Methodology in section 1.1.
Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

6.2 Summary of PD Results

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Duty cycle scaling	Power scaling	Measurement uncertainty	PD result(4cm)				ID
										Measured Total psPD (W/m^2)	**Reported Total psPD (W/m^2)**	Measured Normal psPD (W/m^2)	Measured Reported psPD (W/m^2)	
WIFI 6E 802.11ax 80M	Front Surface	2	119	6545	18.00	17.75	1.00	105.93%	1.000	1.280	**1.356**	1.080	1.144	-
	Back Surface	2	119	6545	18.00	17.75	1.00	105.93%	1.000	1.730	**1.833**	1.550	1.642	-
	Top Edge	2	119	6545	18.00	17.75	1.00	105.93%	1.000	3.770	**3.993**	3.570	3.782	-
	Bottom Edge	2	119	6545	18.00	17.75	1.00	105.93%	1.000	0.105	**0.111**	0.074	0.078	-
	Right Edge	2	119	6545	18.00	17.75	1.00	105.93%	1.000	1.860	**1.970**	1.200	1.271	-
	Left Edge	2	119	6545	18.00	17.75	1.00	105.93%	1.000	0.140	**0.148**	0.132	0.140	-
	Top Edge	2	7	5985	18.00	17.13	1.00	122.18%	1.000	5.790	**7.074**	4.640	5.669	-
	Top Edge	2	71	6305	18.00	17.07	1.00	123.88%	1.000	6.930	**8.585**	5.930	7.346	001
	Top Edge	2	167	6785	18.00	17.59	1.00	109.90%	1.000	3.370	**3.704**	3.000	3.297	-
	Top Edge	2	215	7025	18.00	17.51	1.00	111.94%	1.000	6.590	**7.377**	5.700	6.381	-

Note:
Reported PD = measured PD * Power scaling * Duty cycle scaling * Uncertainty scaling

6.3 Reporting statements of conformity

The conformity statement in this report is based solely on the test results, measurement uncertainty is excluded.

6.4 Conclusion

The device is compliant because all the standalone results are less than their corresponding criteria.

7 INSTRUMENTS LIST

Equipment List					
Manufacturer	**Device**	**Type**	**Serial number**	**Date of last calibration**	**Date of next calibration**
SPEAG	Data acquisition Electronics	DAE4	877	Mar/22/2023	Mar/21/2024
SPEAG	E-field Probe for Near Field Application	EUmmWV4	9616	Mar/20/2023	Mar/19/2024
SPEAG	5G Verification Source 10GHz	5G-Veri10	1070	Aug/08/2023	Aug/07/2024
R&S	MXG Analog Signal Generator	SMB100A03	182012	May/23/2023	May/22/2024
Agilent	Dual-directional coupler	772D	MY46151258	Sep/26/2023	Sep/25/2024
Agilent	Dual-directional coupler	778D	MY46151242	Sep/26/2023	Sep/25/2024
R&S	Power Meter	NRX	105651	Nov/25/2022	Nov/24/2023
R&S	Power Sensor	NRP6A	104246	Nov/22/2022	Nov/21/2023
R&S	Power Sensor	NRP6A	104247	Nov/22/2022	Nov/21/2023
SPEAG	Software	DASY 6 mmWave V2.4.2.62	N/A	Calibration not required	Calibration not required
SPEAG	Phantom	mmWave Phantom	N/A	Calibration not required	Calibration not required
TECPEL	Digital thermometer	DTM-303A	TP131515	Jun/02/2023	Jun/01/2024

8 UNCERTAINTY BUDGET

cDASY6 Module mmWave Uncertainty Budget for PD Evaluation Distances to the Antennas ≧λ/ 5 In Compliance with IEC/IEEE 63195

a	b	c	d		e	f=b * e / d	g
Source of Uncertainty	Uncertainty Value (+-dB)	Probability Distributioin	Div.	Div. Value	ci	Std. uncertainty (+-dB)	(vi) Veff
Uncertainty terms dependent on the measurement system							
Probe calibration	0.49	N	1	1	1	0.49	∞
Probe correction	0.00	R	√3	1.732	1	0.00	∞
Frequency response (BW≦1GHz)	0.20	R	√3	1.732	1	0.12	∞
Sensor cross coupling	0.00	R	√3	1.732	1	0.00	∞
Isotropy	0.50	R	√3	1.732	1	0.29	∞
Linearity	0.20	R	√3	1.732	1	0.12	∞
Probe scattering	0.00	R	√3	1.732	1	0.00	∞
Probe positioning offset	0.30	R	√3	1.732	1	0.17	∞
Probe positioning repeatability	0.04	R	√3	1.732	1	0.02	∞
Sensor mechanical offset	0.00	R	√3	1.732	1	0.00	∞
Probe spatial resolution	0.00	R	√3	1.732	1	0.00	∞
Field impedance dependance	0.00	R	√3	1.732	1	0.00	∞
Amplitude and phase drift	0.00	R	√3	1.732	1	0.00	∞
Amplitude and phase noise	0.04	R	√3	1.732	1	0.02	∞
Measurement area truncation	0.00	R	√3	1.732	1	0.00	∞
Data acquisition	0.03	N	1	1	1	0.03	∞
Sampling	0.00	R	√3	1	1	0.00	∞
Field reconstruction	2.00	R	√3	1.732	1	1.15	∞
Forward transformation	0.00	R	√3	1.732	1	0.00	∞
Power density scaling	-	R	√3	1.732	1	-	∞
Spatial averaging	0.10	R	√3	1.732	1	0.06	∞
System detection limit	0.04	R	√3	1.732	1	0.02	∞
Uncertainty terms dependent on the DUT and environmental factors							
Probe coupling with DUT	0.00	R	√3	1.732	1	0.00	∞
Modulation response	0.40	R	√3	1.732	1	0.23	∞
Integration time	0.00	R	√3	1.732	1	0.00	∞
Response time	0.00	R	√3	1.732	1	0.00	∞
Device holder influence	0.10	R	√3	1.732	1	0.06	∞
DUT alignment	0.00	R	√3	1.732	1	0.00	∞
RF ambient conditions	0.04	R	√3	1.732	1	0.02	∞
Ambient reflections	0.04	R	√3	1.732	1	0.02	∞
Immunity / secondary reception	0.00	R	√3	1.732	1	0.00	∞
Drift of the DUT	-	R	√3	1.732	1	-	∞
Combined Std. uncertainty						1.33	
Expanded Std. uncertainty (95% confidence interval), K=2						2.67	

9 PD MEASUREMENT RESULTS

ID: 001
Report No. :TESA2308000495ES
Measurement Report for, Body, Top Edge, U-NII-5, MIMO
IEEE 802.11ax (80MHz, MCS0, 99pc duty cycle), Channel 71 (6305.0 MHz)

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Conversion Factor
5G	Top Edge, 2.00	1.0

Hardware Setup

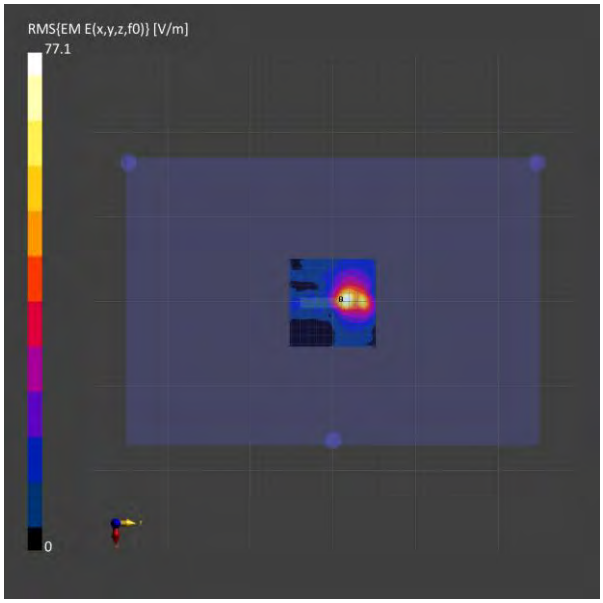
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave - 1076	Air -	EUmmWV4 - SN9616_F1-55GHz, 2023-03-20	DAE4 Sn877, 2023-03-22

Scans Setup

Scan Type	5G Scan
Grid Extents [mm]	100.0 x 100.0
Grid Steps [lambda]	0.0625 x 0.0625
Sensor Surface [mm]	2.0

Measurement Results

Scan Type	5G Scan
Date	2023-10-13
Avg. Area [cm^2]	4.00
psPDn+ [W/m^2]	5.93
psPDtot+ [W/m^2]	6.93
psPDmod+ [W/m^2]	8.26
E_{max} [V/m]	77.1
Power Drift [dB]	0.15



10 PD SYSTEM CHECK RESULTS

Report No. :TESA2308000495ES
Measurement Report for, FRONT, Validation band,
CW, Channel 10000 (10000.0 MHz), SN:1070

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Conversion Factor
5G	FRONT, 10.00	1.0

Hardware Setup

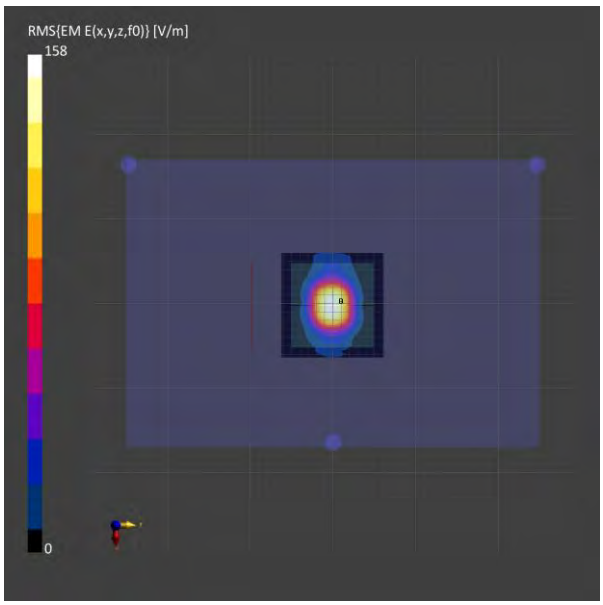
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave - 1076	Air -	EUmmWV4 - SN9616_F1-55GHz, 2023-03-20	DAE4 Sn877, 2023-03-22

Scans Setup

Scan Type	5G Scan
Grid Extents [mm]	120.0 x 120.0
Grid Steps [lambda]	0.125 x 0.125
Sensor Surface [mm]	10.0

Measurement Results

Scan Type	5G Scan
Date	2023-10-13
Avg. Area [cm^2]	4.00
psPDn+ [W/m^2]	53.2
psPDtot+ [W/m^2]	53.4
psPDmod+ [W/m^2]	53.9
E_{max} [V/m]	151
Power Drift [dB]	-0.10



11 APPENDIXES

Refer to separated files for the following appendixes.

11.1 SAR_Appendix A Photographs

11.2 SAR_Appendix B DAE & Probe Cal. Certificate

11.3 SAR_Appendix C Phantom Description & Dipole Cal. Certificate

- End of report -