

Page: 31 of 36

# **Measurement Conditions**

DASY Version	DASY8 Module mmWave	V3.2
Phantom	5G Phantom	
Distance Horn Aperture - plane	10 mm	
Number of measured planes	2 (10mm, 10mm + λ/4)	
Frequency	10 GHz ± 10 MHz	

#### Calibration Parameters, 10 GHz

### Circular Averaging

Distance Horn Aperture to	Prad¹ (mW)	Max E-field (V/m)	Uncertainty (k = 2)	Avg Power Density Avg (psPDn+, psPDtot+, psPDmod+)		Uncertainty (k = 2)
Measured Plane	(11111)	(*////	(K = 2)	(W/m²)		(11 - 2)
				1 cm <sup>2</sup>	4 cm <sup>2</sup>	
10 mm	93.3	152	1.27 dB	60.3	56.2	1.28 dB

Distance Horn Aperture to Measured Plane	Prad¹ (mW)	Max E-field (V/m)	Uncertainty (k = 2)	Power Density psPDn+, psPDtot+, psPDmod+ (W/m²)		Uncertainty (k = 2)
				<b>1</b> cm <sup>2</sup>	4 cm <sup>2</sup>	
10 mm	93.3	152	1.27 dB	60.1, 60.3, 60.5	55.9, 56.2, 56.4	1.28 dB

#### Causes Averesine

Distance Horn Aperture to Measured Plane	Prad¹ (mW)	Max E-field (V/m)	Uncertainty (k = 2)	Avg Power Density Avg (psPDn+, psPDtot+, psPDmod+) (W/m²)		Uncertainty (k = 2)
				1 cm <sup>2</sup>	4 cm <sup>2</sup>	
10 mm	93.3	152	1.27 dB	60.3	56.1	1.28 dB

Distance Horn Aperture to Measured Plane	Prad¹ (mW)	Max E-field (V/m)	Uncertainty (k = 2)	Power Density psPDn+, psPDtot+, psPDmoc (W/m²)		Uncertainty (k = 2)
				<b>1</b> cm <sup>2</sup>	4 cm <sup>2</sup>	
10 mm	93.3	152	1.27 dB	60.1, 60.3, 60.4	55.8, 56.1, 56.3	1.28 dB

## **Max Power Density**

Distance Horn Aperture to Measured Plane	Prad¹ (mW)	Max E-field (V/m)	Uncertainty (k = 2)	Max Power Density Sn, Stot,  Stot  (W/m²)	Uncertainty (k = 2)
10 mm	93.3	152	1.27 dB	61.8, 61.8, 62.0	1.28 dB

Certificate No: 5G-Veri10-1070\_Aug24 Page 3 of 8

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.

No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號 t (886-2) 2299-3279

<sup>&</sup>lt;sup>1</sup> Assessed ohmic and mismatch loss plus numerical offset: 0.30 dB



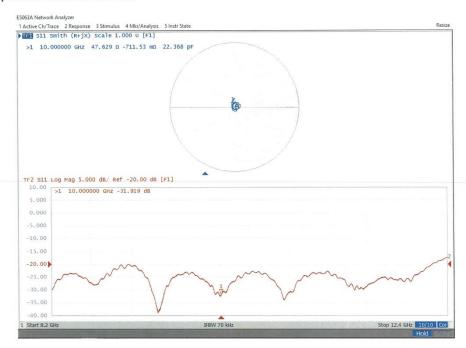
Page: 32 of 36

# Appendix (Additional assessments outside the scope of SCS 0108)

#### **Antenna Parameters**

Impedance, transformed to feed point	47.6 $\Omega$ - 0.7 j $\Omega$	
Return Loss	- 31.9 dB	

#### Impedance Measurement Plot



Certificate No: 5G-Veri10-1070\_Aug24

Page 4 of 8

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format

documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.

No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號 f (886-2) 2298-0488



Page: 33 of 36

## **DASY Report**

Measurement Report for 5G Verification Source 10 GHz, UID 0 -, Channel 10000 (10000.0MHz)

Davica	under	Toct	Properti	20

Name, Manufacturer	Dimensions [mm]	IMEI	DUT Type
5G Verification Source 10 GHz	100.0 x 100.0 x 172.0	SN: 1070	2

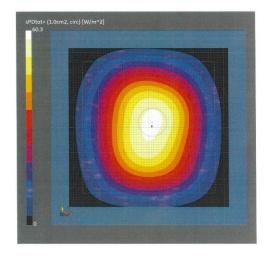
Exposure Conditions					
Phantom Section	Position, Test Distance [mm]	Band	Group,	Frequency [MHz], Channel Number	Conversion Factor
5G -	10.0 mm	Validation band	CW	10000.0, 10000	1.0

**Hardware Setup** 

Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave Phantom - 1002	Air	EUmmWV3 - SN9374_F1-55GHz,	DAE4ip Sn1602,
		2023-12-04	2023-11-08

Scan Setup

Scan Setup		Measurement Results	
•	5G Scan		5G Scan
Sensor Surface [mm]	10.0	Date	2024-08-16, 09:41
MAIA	MAIA not used	Avg. Area [cm <sup>2</sup> ]	1.00
		Avg. Type	Circular Averaging
		psPDn+ [W/m <sup>2</sup> ]	60.1
		psPDtot+ [W/m <sup>2</sup> ]	60.3
		psPDmod+ [W/m²]	60.5
		Max(Sn) [W/m <sup>2</sup> ]	61.8
		Max(Stot) [W/m <sup>2</sup> ]	61.8
		Max( Stot ) [W/m <sup>2</sup> ]	62.0
		E <sub>max</sub> [V/m]	152
		Power Drift [dB]	-0.02



Certificate No: 5G-Veri10-1070\_Aug24

Page 5 of 8

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.

No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號



Page: 34 of 36

#### **DASY Report**

Measurement Report for 5G Verification Source 10 GHz, UID 0 -, Channel 10000 (10000.0MHz)

**Device under Test Properties** 

Name, Manufacturer Dimensions [mm] IMEI DUT Type 5G Verification Source 10 GHz 100.0 x 100.0 x 172.0 SN: 1070

**Exposure Conditions** 

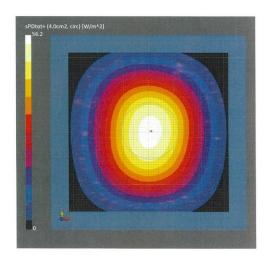
Position, Test Distance Band Group, Frequency [MHz], Conversion Factor **Phantom Section** [mm] **Channel Number** 56 -10.0 mm Validation hand CW 10000.0. 10

Hardware Setup

Phantom Medium Probe, Calibration Date DAE, Calibration Date mmWave Phantom - 1002 EUmmWV3 - SN9374\_F1-55GHz, DAE4ip Sn1602, 2023-12-04 2023-11-08

Scan Setup Measurement Results

5G Scan 5G Scan Sensor Surface [mm] 2024-08-16, 09:41 10.0 Date MAIA not used Avg. Area [cm<sup>2</sup>] Avg. Type 4.00 Circular Averaging psPDn+ [W/m<sup>2</sup>] 55.9 psPDtot+ [W/m²] psPDmod+ [W/m²] 56.4 Max(Sn) [W/m²] Max(Stot) [W/m²] 61.8 61.8 Max(|Stot|) [W/m²] E<sub>max</sub> [V/m] 62.0 152 Power Drift [dB] -0.02



Certificate No: 5G-Veri10-1070\_Aug24

Page 6 of 8

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.

No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號 f (886-2) 2298-0488



-0.02

Page: 35 of 36

#### **DASY Report**

Measurement Report for 5G Verification Source 10 GHz, UID 0 -, Channel 10000 (10000.0MHz)

**Device under Test Properties** 

DUT Type IMEI Name, Manufacturer Dimensions [mm] 5G Verification Source 10 GHz 100.0 x 100.0 x 172.0 SN: 1070

Exposure Conditions

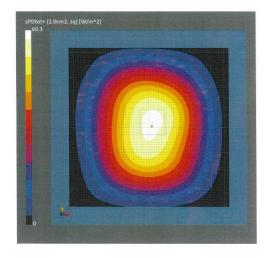
Phantom Section Position, Test Distance Frequency [MHz], Conversion Factor [mm] Channel Number 10000.0, Validation band 1.0 5G -10.0 mm CW 10000

**Hardware Setup** 

DAE, Calibration Date Probe, Calibration Date Medium DAE4ip Sn1602, 2023-11-08 mmWave Phantom - 1002 EUmmWV3 - SN9374\_F1-55GHz, 2023-12-04

Scan Setup

**Measurement Results** 5G Scan 5G Scan Sensor Surface [mm] 2024-08-16, 09:41 MAIA not used MAIA Avg. Area [cm<sup>2</sup>] 1.00 Avg. Type psPDn+ [W/m²] 60.1 psPDtot+ [W/m²] psPDmod+ [W/m²] 60.3 60.4 Max(Sn) [W/m2] 61.8 Max(Stot) [W/m<sup>2</sup>] Max(|Stot|) [W/m2] 62.0 E<sub>max</sub> [V/m] Power Drift [dB]



Certificate No: 5G-Veri10-1070 Aug24

Page 7 of 8

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.

No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號 www.sgs.com.tw



Page: 36 of 36

## **DASY Report**

Measurement Report for 5G Verification Source 10 GHz, UID 0 -, Channel 10000 (10000.0MHz)

Device under	Toct	Properties

DUT Type Name, Manufacturer Dimensions [mm] IME SN: 1070 5G Verification Source 10 GHz 100.0 x 100.0 x 172.0

**Exposure Conditions** 

Position, Test Distance Band Group, Frequency [MHz], Conversion Factor **Phantom Section Channel Number** [mm] 10000.0, 1.0 5G -10.0 mm Validation band CW

**Hardware Setup** 

DAE, Calibration Date Probe, Calibration Date Phantom Medium DAE4ip Sn1602, 2023-11-08 mmWave Phantom - 1002 EUmmWV3 - SN9374\_F1-55GHz, 2023-12-04

Scan Setup

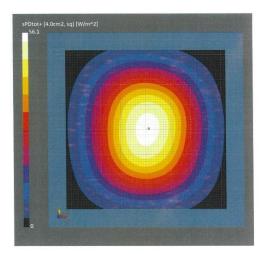
**Measurement Results** 5G Scan Sensor Surface [mm] Avg. Area [cm<sup>2</sup>] Avg. Type psPDn+ [W/m<sup>2</sup>] MAIA not used

Square Averaging 55.8 psPDtot+ [W/m²] psPDmod+ [W/m²] 56.1 Max(Sn) [W/m²] Max(Stot) [W/m²] 61.8 62.0 Max(|Stot|) [W/m2] E<sub>max</sub> [V/m] Power Drift [dB] 152 -0.02

5G Scan

4.00

2024-08-16, 09:41



Certificate No: 5G-Veri10-1070 Aug24

Page 8 of 8

# - End of report -

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com.tw/Terms-and-Conditions">http://www.sgs.com.tw/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.

No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號 f (886-2) 2298-0488