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## SAR Dipole Performance Measurement Report

**EUT Type:** SAR Validation Dipole and Waveguide

**Model Name:** DIP2G450, WGA32

**Brand Name:** SATIMO

**Test Conclusion:** Pass

**Test Date:** 01 Jul . 2023 & 01 Jul. 2024

01 Jul . 2024 & 01 Jul. 2025

**Date of Issue:** 03 Jul. 2025

Testing Engineer :

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(Xin.Liu)

Technical Manager :

*Shi fan-long*

(Shifan. Long)

Authorized Signatory :

*Bovey Yang*

(Bovey Yang)



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| Kind of Equipment         | Manufacturer | Type No.            | Serial No.          | Last Calibration | Calibrated Until |
|---------------------------|--------------|---------------------|---------------------|------------------|------------------|
| PC                        | Acer         | N/A                 | N/A                 | N/A              | N/A              |
| E-Field Probe             | MVG          | SSE2                | SN 08/21<br>EPGO352 | 2024.09.18       | 2025.09.17       |
| Dielectric Probe Kit      | MVG          | SCLMP               | SN 32/14<br>OCPG67  | 2024.09.18       | 2025.09.17       |
| Phantom1                  | MVG          | SAM                 | SN 32/14<br>SAM115  | N/A              | N/A              |
| Phantom2                  | MVG          | SAM                 | SN 32/14<br>SAM116  | N/A              | N/A              |
| Attenuator                | Agilent      | 99899               | DC-18GHz            | N/A              | N/A              |
| Directional coupler       | Narda        | 4226-20             | 3305                | N/A              | N/A              |
| Network Analyzer          | Agilent      | E5071C              | MY46520378          | 2024-09-25       | 2025-09-26       |
| Multi Meter               | Keithley     | Multi Meter<br>2000 | 4050073             | 2024-09-25       | 2025-09-26       |
| Signal Generator          | Agilent      | N5182A              | MY50140530          | 2024-09-25       | 2025-09-26       |
| Power Amplifier           | DESAY        | ZHL-42W             | 9638                | 2024-09-25       | 2025-09-26       |
| Power Meter               | R&S          | NRP                 | 100510              | 2024-09-25       | 2025-09-26       |
| Power Sensor              | R&S          | NRP-Z11             | 101919              | 2024-09-25       | 2025-09-26       |
| Power Sensor              | Keysight     | U2021XA             | MY56280002          | 2024-09-25       | 2025-09-26       |
| Temperature<br>hygrometer | SuWei        | SW-108              | N/A                 | 2024.10.15       | 2025.10.14       |
| Thermograph               | Elitech      | RC-4                | S/N<br>EF7176501537 | 2024.10.15       | 2025.10.14       |



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| Kind of Equipment                     | Manufacturer | Type No.            | Serial No.               | Last Calibration | Calibrated Until |
|---------------------------------------|--------------|---------------------|--------------------------|------------------|------------------|
| 2450MHzDipole                         | MVG          | SID2450             | SN 30/14<br>DIP2G450-335 | 2023.07.04       | 2026.07.03       |
| Waveguide                             | MVG          | SWG5500             | SN 13/14<br>WGA32        | 2023.07.04       | 2026.07.03       |
| E-Field Probe                         | MVG          | SSE2                | SN 07/21<br>EPGO352      | 2023.02.24       | 2024.02.23       |
| Dielectric Probe Kit                  | MVG          | SCLMP               | SN 32/14<br>OCPG67       | 2023.10.25       | 2024.10.24       |
| Antenna                               | MVG          | ANTA3               | SN 07/13<br>ZNTA52       | N/A              | N/A              |
| Phantom1                              | MVG          | SAM                 | SN 32/14<br>SAM115       | N/A              | N/A              |
| Phantom3                              | MVG          | SAM                 | SN 21/21<br>ELLI48       | N/A              | N/A              |
| Phone holder                          | MVG          | N/A                 | SN 32/14<br>MSH97        | N/A              | N/A              |
| Laptop holder                         | MVG          | N/A                 | SN 32/14 LSH29           | N/A              | N/A              |
| Attenuator                            | Agilent      | 99899               | DC-18GHz                 | N/A              | N/A              |
| Directional coupler                   | Narda        | 4226-20             | 3305                     | N/A              | N/A              |
| Network Analyzer                      | Agilent      | E5071C              | MY46520378               | 2023-09-26       | 2024-09-25       |
| Multi Meter                           | Keithley     | Multi Meter<br>2000 | 4050073                  | 2023-09-26       | 2024-09-25       |
| Signal Generator                      | Agilent      | N5182A              | MY50140530               | 2023-09-26       | 2024-09-25       |
| Wireless<br>Communication Test<br>Set | Agilent      | 8960-E5515C         | MY48360751               | 2023-09-26       | 2024-09-25       |
| Wireless<br>Communication Test<br>Set | R&S          | CMW500              | 156324                   | 2023-09-26       | 2024-09-25       |
| Power Amplifier                       | DESAY        | ZHL-42W             | 9638                     | 2023.10.07       | 2024.10.06       |
| Power Meter                           | R&S          | NRP                 | 100510                   | 2023-09-26       | 2024-09-25       |
| Power Sensor                          | R&S          | NRP-Z11             | 101919                   | 2023-09-26       | 2024-09-25       |
| Power Sensor                          | Keysight     | U2021XA             | MY56280002               | 2023-09-26       | 2024-09-25       |
| Temperature<br>hygrometer             | SuWei        | SW-108              | N/A                      | 2023.09.28       | 2024.09.27       |
| Thermograph                           | Elitech      | RC-4                | S/N<br>EF7176501537      | 2023.10.12       | 2024.10.11       |



## 2. <Justification of the extended calibration>

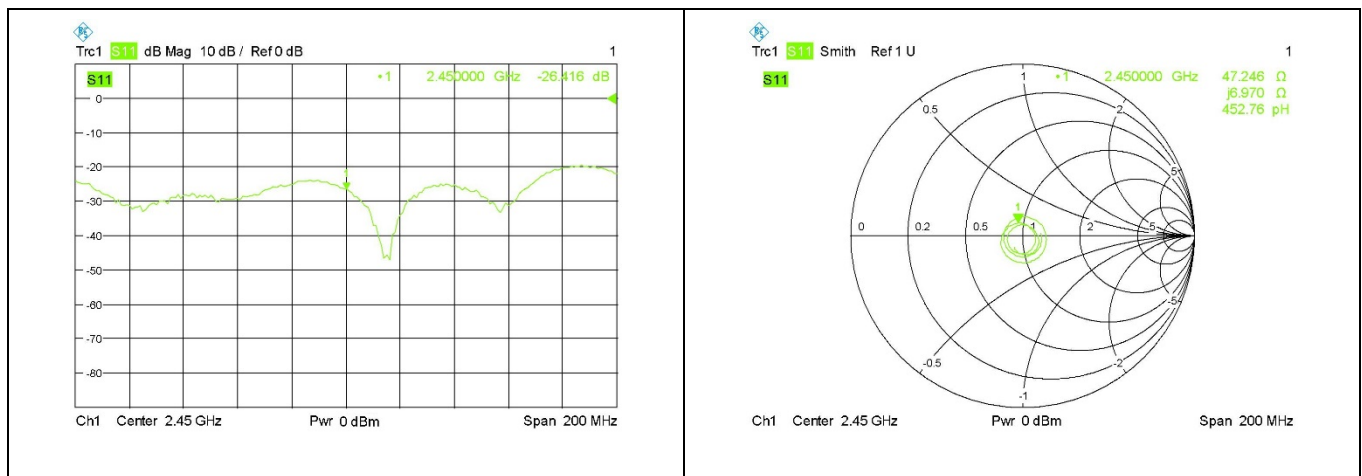
Referring to KDB 865664 D01, if dipoles are verified in return loss < -20dB, (within 20% of prior calibration), and in impedance (within 5 ohm of prior calibration), the annual calibration is not necessary and the calibration interval can be extended.

| Head 2450 MHz       |                  |           |           |            |
|---------------------|------------------|-----------|-----------|------------|
| Date of Measurement | Return Loss (dB) | Delta (%) | Impedance | Delta(ohm) |
| 2023.07.04          | -26.03           | -         | 46.3      | -          |
| 2024.07.01          | -26.42           | 1.50      | 47.25     | 0.95       |
| 2025.07.01          | -25.75           | 3.38      | 49.40     | 3.10       |

The return loss is < -20dB, within 20% of prior calibration; the impedance is within 5 ohm of prior calibration. Therefore the verification result should support extended calibration.

### <Dipole Verification Data>

Head 2450 MHz (2024.07.01)





<Dipole Verification Data>

Head 2450 MHz (2025.07.01)



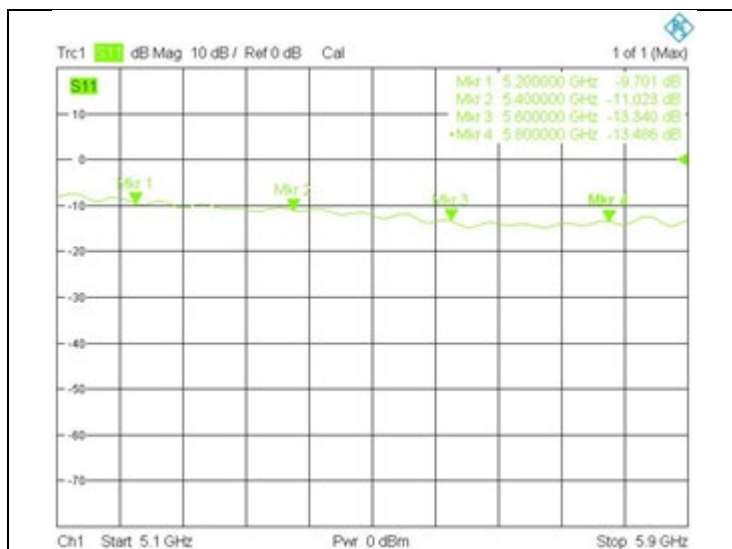


| Head 5000 MHz       |                  |           |           |            |
|---------------------|------------------|-----------|-----------|------------|
| Date of Measurement | Return Loss (dB) | Delta (%) | Impedance | Delta(ohm) |
| 2023.07.04          | < -8.23          | -         | -         | -          |
| 2024.07.01          | -9.10            | 10.57     | -         | -          |
| 2025.07.01          | -8.59            | 17.86-    | -         | -          |

The return loss is <-8dB, within 20% of prior calibration; Therefore the verification result should support extended calibration.

<Dipole Verification Data>

Head 5000MHz (2024.07.01)





<Dipole Verification Data>

Head 5000MHz (2025.07.01)

