

# FCC and ISED Test Report

PervasID Limited  
Track Master, Model: RFID Reader 9316



In accordance with FCC 47 CFR Part 15B and ICES-003

Prepared for: PervasID Limited  
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UNITED KINGDOM

FCC ID: 2AQQW1107 IC: 24482-2307  
**COMMERCIAL-IN-CONFIDENCE**

Document 75961807-01 Issue 01

## SIGNATURE

NAME	JOB TITLE	RESPONSIBLE FOR	ISSUE DATE
Andrew Lawson	Chief Engineer, EMC	Authorised Signatory	08 October 2024

Signatures in this approval box have checked this document in line with the requirements of TÜV SÜD document control rules.

## ENGINEERING STATEMENT

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported testing was carried out on a sample equipment to demonstrate limited compliance with FCC 47 CFR Part 15B and ICES-003. The sample tested was found to comply with the requirements defined in the applied rules.

RESPONSIBLE FOR	NAME	DATE	SIGNATURE
Testing	Matthew Dawkins	08 October 2024	

FCC Accreditation 492497/UK2010 Octagon House, Fareham Test Laboratory ISED Accreditation 12669A/UK0003 Octagon House, Fareham Test Laboratory

## EXECUTIVE SUMMARY

A sample of this product was tested and found to be compliant with FCC 47 CFR Part 15B and ICES-003: 2023 and Issue 7: 2020 for the tests detailed in section 1.3.



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## Contents

<b>1</b>	<b>Report Summary .....</b>	<b>2</b>
1.1	Report Modification Record.....	2
1.2	Introduction.....	2
1.3	Brief Summary of Results .....	3
1.4	Declaration of Build Status .....	4
1.5	Deviations from the Standard.....	8
1.6	EUT Modification Record .....	8
1.7	Test Location .....	8
<b>2</b>	<b>Test Details .....</b>	<b>9</b>
2.1	Conducted Disturbance at Mains Terminals .....	9
2.2	Radiated Disturbance, Magnetic Field .....	14
2.3	Radiated Disturbance.....	19
<b>3</b>	<b>Test Equipment Information .....</b>	<b>27</b>
3.1	General Test Equipment Used.....	27
<b>4</b>	<b>Incident Reports .....</b>	<b>28</b>
<b>5</b>	<b>Measurement Uncertainty .....</b>	<b>29</b>



# 1 Report Summary

## 1.1 Report Modification Record

Alterations and additions to this report will be issued to the holders of each copy in the form of a complete document.

Issue	Description of Change	Date of Issue
1	First Issue	08-Oct-2024

**Table 1**

## 1.2 Introduction

Applicant	PervasID Limited
Manufacturer	PervasID Limited
Model Number(s)	RFID Reader 9316
Serial Number(s)	17502948-0094
Hardware Version(s)	Original Reader V6.7.8 Modified Reader V6.7.10 (after return to TUV) 16-port Multiplexer V2.0.0
Software Version(s)	4.2.2.12 Firmware V3.9.0.18
Number of Samples Tested	1
Test Specification/Issue/Date	FCC 47 CFR Part 15B and ICES-003: 2023 and Issue 7: 2020
Test Plan/Issue/Date	902-023-TP 16-Port Track Master FCC/IC Type Approval Test Procedure
Order Number	PO-1221
Date	17-June-2024
Date of Receipt of EUT	02-July-2024
Start of Test	24-July-2024
Finish of Test	24-July-2024
Name of Engineer(s)	Matthew Dawkins
Related Document(s)	ANSI C63.4: 2014



### 1.3 Brief Summary of Results

A brief summary of the tests carried out in accordance with FCC 47 CFR Part 15B and ICES-003 is shown below.

Section	Specification Clause	Test Description	Result	Comments/Base Standard
Configuration and Mode: AC Powered - Idle				
2.2	15.109 and 3.2	Radiated Disturbance	Pass	ANSI C63.4: 2014
2.3	15.109 and 3.2	Radiated Disturbance, Magnetic Field	Pass	ANSI C63.4: 2014

**Table 2**

Section	Specification Clause	Test Description	Result	Comments/Base Standard
Configuration and Mode: AC Powered – RFID Link				
2.1	15.107 and 3.1	Conducted Disturbance at Mains Terminals	Pass	ANSI C63.4: 2014

**Table 3**



**1.4 Declaration of Build Status**

<b>MAIN EUT</b>	
<b>MANUFACTURING DESCRIPTION</b>	UHF RFID Distributed Antenna System
<b>MANUFACTURER</b>	PervasiD Limited
<b>MODEL</b>	RFID Reader 9316 (16-Port FCC)
<b>MANUFACTURER DECLARED VARIANTS (IF APPLICABLE)</b>	N/A
<b>PART NUMBER</b>	N/A
<b>SERIAL NUMBER (S/N)</b>	17502948-0094
<b>HARDWARE VERSION</b>	Reader V6.7.10 16-port Multiplexer V2.0.0
<b>SOFTWARE VERSION</b>	Software 4.2.2.12 Firmware V3.9.0.18
<b>PSU VOLTAGE/FREQUENCY/CURRENT</b>	24V DC, 4A
<b>Intended Operating Environment</b>	Commercial
<b>Dimensions/Weight</b>	34 cm x 27 cm x 8 cm, 2.6 kg
<b>Typical Installation</b>	Ceiling Mounted
<b>HIGHEST INTERNALLY GENERATED FREQUENCY</b>	927.25MHz
<b>FCC ID (if applicable)</b>	2AQQW1107
<b>INDUSTRY CANADA ID (if applicable)</b>	24482-2307
<b>COUNTRY OF ORIGIN</b>	UK
<b>RF CHARACTERISTICS (if applicable)</b>	
<b>TRANSMITTER FREQUENCY OPERATING RANGE (MHz)</b>	902-928MHz
<b>RECEIVER FREQUENCY OPERATING RANGE (MHz)</b>	902-928MHz
<b>INTERMEDIATE FREQUENCIES</b>	N/A
<b>EMISSION DESIGNATOR(S):</b> <a href="https://fccid.io/Emissions-Designator/">https://fccid.io/Emissions-Designator/</a>	500KD1D--
<b>MODULATION TYPES: (i.e., GMSK, QPSK)</b>	PR-ASK
<b>OUTPUT POWER (W or dBm)</b>	2W
<b>SEPARATE BATTERY/POWER SUPPLY (if applicable)</b>	
<b>MANUFACTURING DESCRIPTION</b>	AC/DC Power Supply
<b>MANUFACTUR</b>	Generic (see "Power Supply Unit Specification for 93x0 Readers")
<b>TYPE</b>	
<b>PART NUMBER</b>	
<b>PSU VOLTAGE/FREQUENCY/CURRENT</b>	100 to 264 V AC, 47 – 63 Hz, ≥92 W
<b>COUNTRY OF ORIGIN</b>	
<b>MODULES (if applicable)</b>	

I hereby declare that the information supplied is correct and complete.

Name: Martin Neuhaus  
 Position held: Chief Engineer  
 Date: 08-Oct-2024

*Note: No responsibility will be accepted by TÜV SÜD as to the accuracy of the information declared on this Build State Declaration by the manufacturer.*

## Product Information

### 1.4.1 Technical Description

The Equipment under test (EUT) was a PervasID Limited Track Master, Model: RFID Reader 9316.

The primary function of the EUT is as a Radio Frequency Identification (RFID) reader system for automating inventory and asset tracking.



**Figure 1 – General View**



Figure 2 – Rear View



Figure 3 – Ratings Plate



**1.4.2 EUT Port/Cable Identification**

Port	Max Cable Length specified	Usage	Type	Screened
Configuration and Mode: AC Powered – RFID Link				
AC Power	1.5 m	Power	IEC Kettle with AC to DC converter power brick	No
Ethernet	1 m	Data	Cat 6	No
RF Output x 15	50-ohm Load Terminated	Signal	Coaxial Connector C	No
RF Output 1	5 m	Signal	Coaxial Connector C	No

**Table 4**

**1.4.3 Test Configuration**

Configuration	Description
AC Powered	The EUT was powered from a 120 V 60 Hz AC supply. The EUT had the following other connections: <ul style="list-style-type: none"> <li>• Fifteen 50-ohm loads were connected to fifteen RF output ports.</li> <li>• One RF output port connected to an RFID antenna.</li> <li>• One ethernet port connected to a customer supplied support laptop.</li> </ul>

**Table 5**

**1.4.4 Modes of Operation**

Mode	Description
Idle	The EUT was powered with all transmitters disabled. The EUT was set up in accordance with the customer provided instructions in document: 902-023-TP 16-Port Track Master FCC/IC Type Approval Test Procedure
RFID Link	The EUT was set up in accordance with the customer provided instructions in document: 902-023-TP 16-Port Track Master FCC/IC Type Approval Test Procedure

**Table 6**





**1.5 Deviations from the Standard**

No deviations from the applicable test standard were made during testing.

**1.6 EUT Modification Record**

The table below details modifications made to the EUT during the test programme.

The modifications incorporated during each test are recorded on the appropriate test pages.

Modification State	Description of Modification still fitted to EUT	Modification Fitted By	Date Modification Fitted
Model: RFID Reader 9316, Serial Number: 17502948-0094			
0	As supplied by the customer	Not Applicable	Not Applicable

**Table 7**

**1.7 Test Location**

TÜV SÜD conducted the following tests at our Octagon House Test Laboratory.

Test Name	Name of Engineer(s)	Accreditation
Configuration and Mode: AC Powered - Idle		
Radiated Disturbance	Matthew Dawkins	UKAS
Radiated Disturbance, Magnetic Field	Matthew Dawkins	UKAS

**Table 8**

Test Name	Name of Engineer(s)	Accreditation
Configuration and Mode: AC Powered – RFID Link		
Conducted Disturbance at Mains Terminals	Matthew Dawkins	UKAS

**Table 9**

Office Address:

TÜV SÜD  
 Octagon House  
 Concorde Way  
 Fareham  
 Hampshire  
 PO15 5RL  
 United Kingdom



## 2 Test Details

### 2.1 Conducted Disturbance at Mains Terminals

#### 2.1.1 Specification Reference

FCC 47 CFR Part 15B and ICES-003, Clause 15.107 and 3.1

#### 2.1.2 Equipment Under Test and Modification State

Model: RFID Reader 9316, Serial Number: 17502948-0094

#### 2.1.3 Date of Test

24-July-2024

#### 2.1.4 Test Method

The EUT was setup according to ANSI C63.4, clause 5.2.

The EUT was placed on a non-conductive table 0.8 m above a reference ground plane. A vertical coupling plane was placed 0.4 m from the EUT boundary.

A Line Impedance Stabilisation Network (LISN) was directly bonded to the ground-plane. The EUT was located so that the distance between the boundary of the EUT and the closest surface of the LISN was 0.8 m.

Interconnecting cables that hanged closer than 0.4 m to the ground plane were folded back and forth in the centre forming a bundle 0.3 m to 0.4 m long.

Input and output cables were terminated with equipment or loads representative of real usage conditions.

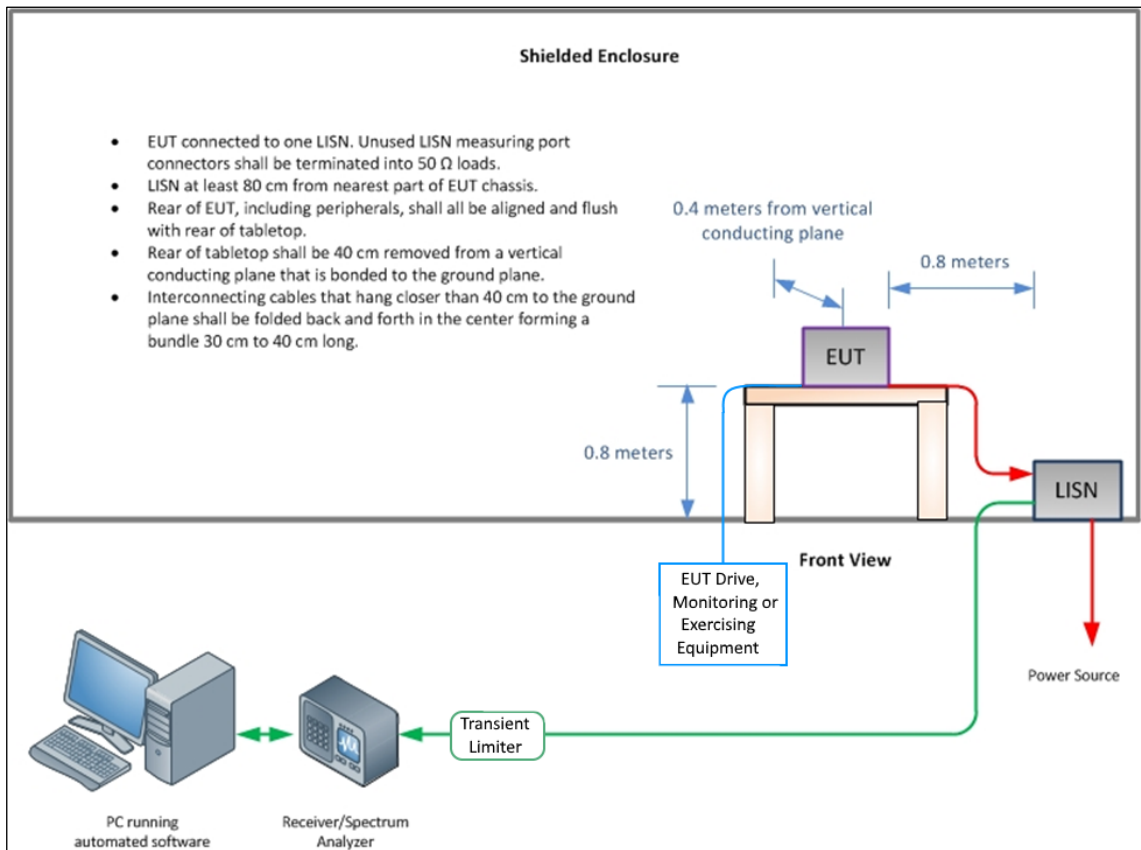
The EUT was configured to give the highest level of emissions within reason of a typical installation as described by the manufacturer.

#### 2.1.5 Example Calculation

Quasi-Peak level (dB $\mu$ V) = Receiver level (dB $\mu$ V) + Correction Factor (dB)  
Margin (dB) = Quasi-Peak level (dB $\mu$ V) - Limit (dB $\mu$ V)

CISPR Average level (dB $\mu$ V) = Receiver level (dB $\mu$ V) + Correction Factor (dB)  
Margin (dB) = CISPR Average level (dB $\mu$ V) - Limit (dB $\mu$ V)

### 2.1.6 Example Test Setup Diagram



**Figure 4 - Conducted Disturbance**

### 2.1.7 Environmental Conditions

Ambient Temperature 18.8 °C  
 Relative Humidity 54.5 %  
 Atmospheric Pressure 1014.0 mbar

### 2.1.8 Specification Limits

Required Specification Limits - Class A			
Line Under Test	Frequency Range (MHz)	Quasi-Peak Test Limit (dBμV)	CISPR Average Test Limit (dBμV)
AC Power Port	0.15 to 0.5	79	66
	0.5 to 30	73	60
<b>Supplementary information:</b> None			

**Table 10**



**2.1.9 Test Results**

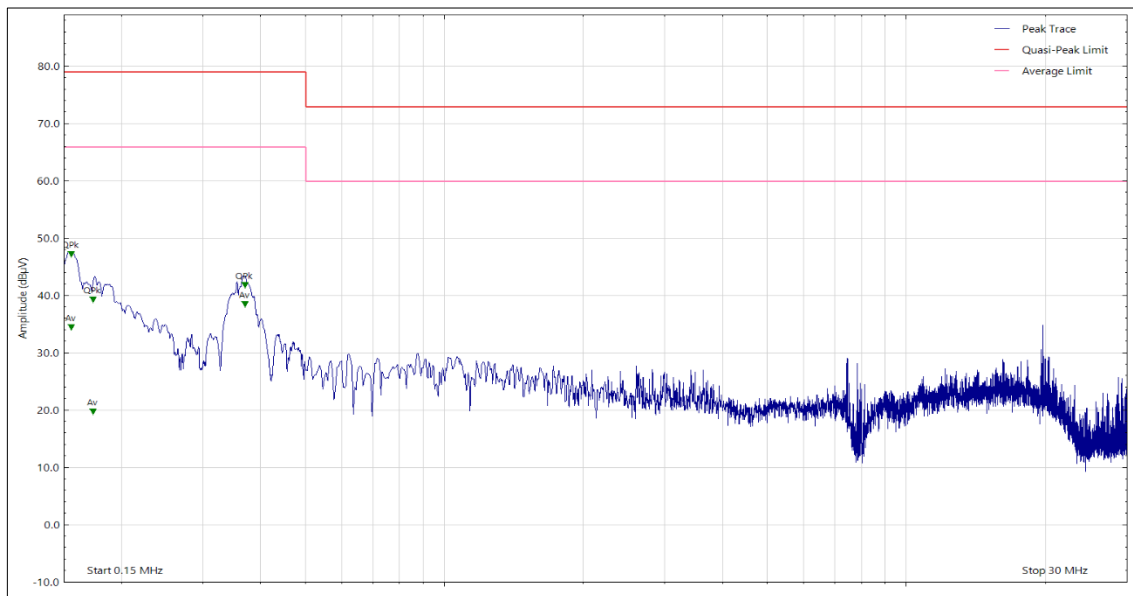
**Results for Configuration and Mode: AC Powered – RFID Link**

This test was performed to the requirements of the Class A limits.

Performance assessment of the EUT made during this test: Pass.

Detailed results are shown below.

Applied Supply Voltage: 120 V AC  
 Applied Supply Frequency: 60 Hz

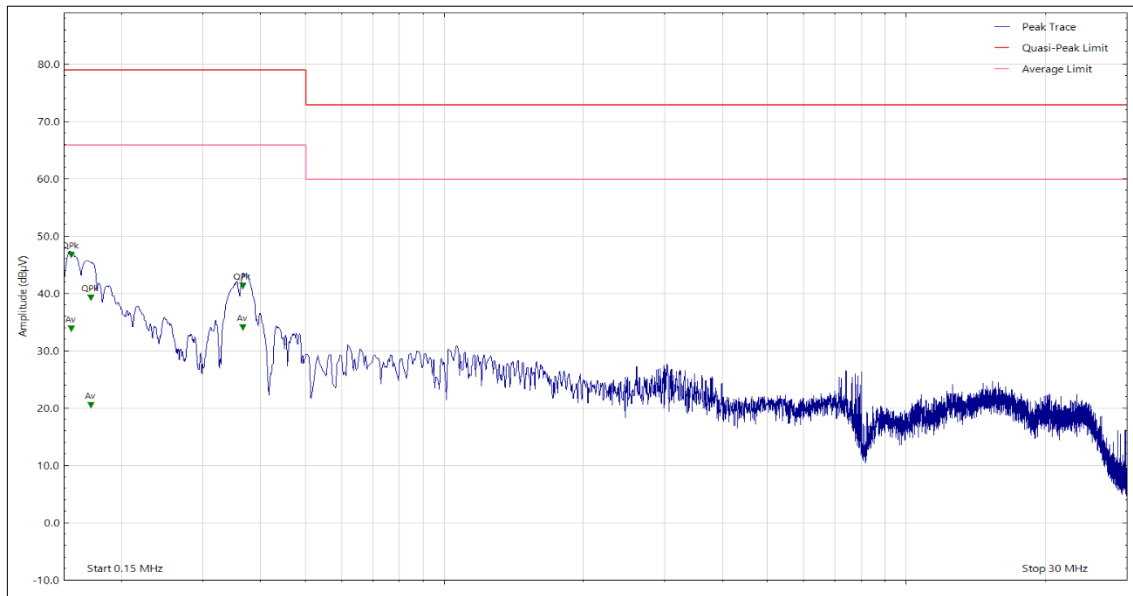


**Figure 5 - Graphical Results - Live Line**

Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Margin (dB)	Detector
0.156	46.42	79	-32.58	Q-Peak
0.156	33.66	66	-32.34	CISPR Avg
0.174	38.45	79	-40.55	Q-Peak
0.174	18.88	66	-47.12	CISPR Avg
0.370	40.94	79	-38.06	Q-Peak
0.370	37.69	66	-28.31	CISPR Avg

**Table 11**

No other final measurements were made as all other peak emissions seen above the measurement system noise floor during the pre-scan were greater than 6 dB below the CISPR Average test limit.

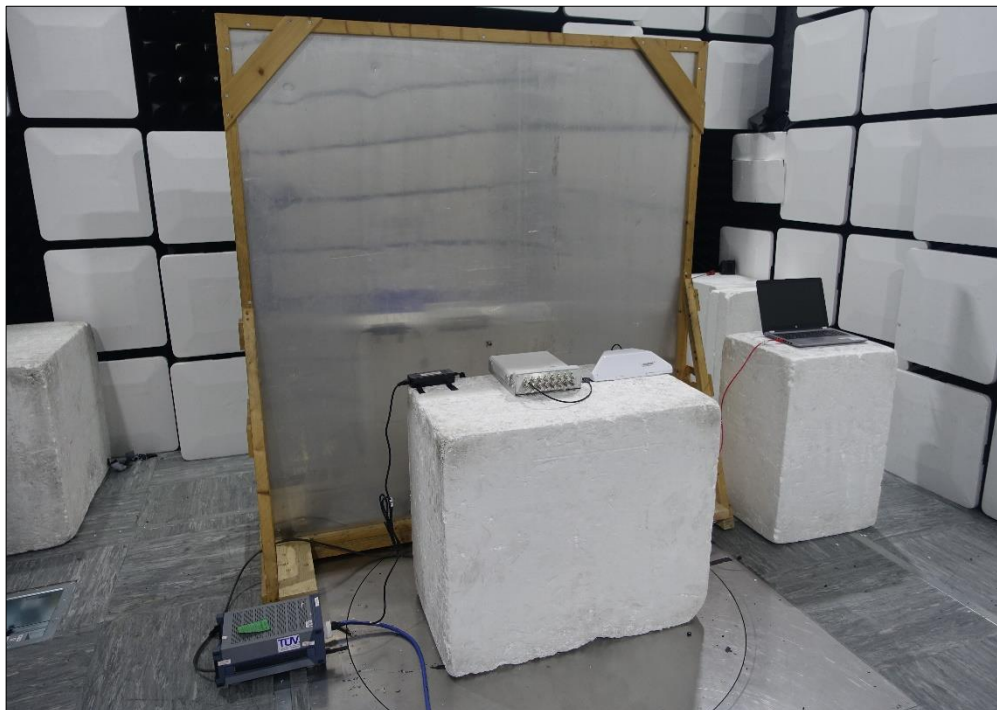


**Figure 6 - Graphical Results - Neutral Line**

Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Margin (dB)	Detector
0.156	45.91	79	-33.09	Q-Peak
0.156	33.02	66	-32.98	CISPR Avg
0.172	38.44	79	-40.56	Q-Peak
0.172	19.69	66	-46.31	CISPR Avg
0.367	40.57	79	-38.43	Q-Peak
0.367	33.25	66	-32.75	CISPR Avg

**Table 12**

No other final measurements were made as all other peak emissions seen above the measurement system noise floor during the pre-scan were greater than 6 dB below the CISPR Average test limit.



**Figure 7 - Test Setup**

**2.1.10 Test Location and Test Equipment Used**

This test was carried out in EMC Chamber 12.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
3m Semi-Anechoic Chamber	MVG	EMC Chamber 12	5621	36	7-Aug-2026
Emissions Software	TUV SUD	EmX V3.2.0	5125	-	N/A - Software
Test Receiver	Rohde & Schwarz	ESU40	3506	12	17-Apr-2025
Transient Limiter	Hewlett Packard	11947A	15	12	24-Oct-2024
Cable (N-Type to N-Type, 2 m)	Junkosha	MWX221-02000AMSAMS/B	5726	6	17-Aug-2024
Cable (N-Type to N-Type, 8 m)	Junkosha	MWX221-08000NMSNMS/B	6321	12	4-Feb-2025
LISN (CISPR 16, Single Phase)	Rohde & Schwarz	ESH3-Z5	1390	12	1-Feb-2025

**Table 13**



## **2.2 Radiated Disturbance, Magnetic Field**

### **2.2.1 Specification Reference**

FCC 47 CFR Part 15B and ICES-003, Clause 15.109 and 3.2

### **2.2.2 Equipment Under Test and Modification State**

Model: RFID Reader 9316, Serial Number: 17502948-0094

### **2.2.3 Date of Test**

24-July-2024

### **2.2.4 Test Method**

The EUT was set up on a non-conductive table 0.8 m above a reference ground plane within a semi-anechoic chamber on a remotely controlled turntable.

A pre-scan of the EUT emissions profile using a peak detector was made at a 3 m antenna distance whilst varying the antenna-to-EUT azimuth and polarisation.

For an EUT which could reasonable be used in multiple planes, pre-scans were performed with the EUT orientated in X, Y and Z planes with reference to the ground plane.

Using a list of the highest emissions detected during the pre-scan along with their bearing and associated antenna polarisation, the EUT was then formally measured using a Quasi-Peak, Peak or CISPR Average detector as appropriate.

The readings were maximised by adjusting the antenna height, polarisation and turntable azimuth, in accordance with the specification.

### **2.2.5 Example Calculation**

9 kHz to 30 MHz:

$$\begin{aligned} \text{Quasi-Peak level (dB}\mu\text{V/m)} &= \text{Receiver level (dB}\mu\text{V)} + \text{Correction Factor (dB/m)} \\ \text{Margin (dB)} &= \text{Quasi-Peak level (dB}\mu\text{V/m)} - \text{Limit (dB}\mu\text{V/m)} \end{aligned}$$

### 2.2.6 Example Test Setup Diagram

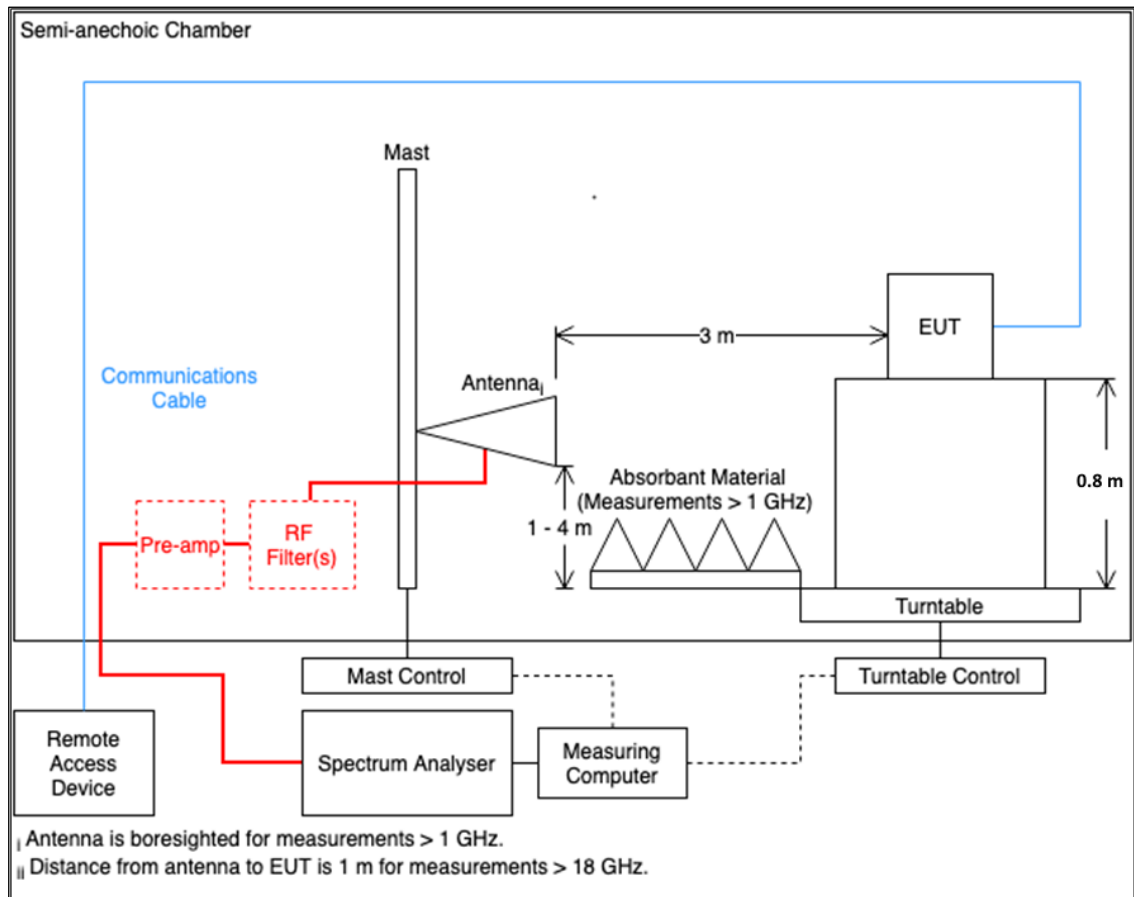


Figure 8 - Radiated Disturbance Example Test Setup

### 2.2.7 Environmental Conditions

Ambient Temperature 18.8 °C  
 Relative Humidity 59.4 %  
 Atmospheric Pressure 1013.0 mbar

### 2.2.8 Specification Limits

Required Specification Limits, Magnetic Field Strength FCC CFR 15.209 at a 3 m Measurement Distance					
Frequency (MHz)	Test Limit (µV/m)	Test Limit (µV/m)	Distance (m)	3 m Measurement Distance Correction	Quasi-Peak Test Limit At 3 m
0.009	266.67	48.52	300.00	40.00	88.52
0.49	4.90	13.80	300.00	40.00	53.80
0.49	4.90	13.80	30.00	20.00	53.80
1.705	1.41	2.97	30.00	20.00	42.97
1.705	30.00	29.54	30.00	20.00	49.54
30	30.00	29.54	30.00	20.00	49.54

Table 14



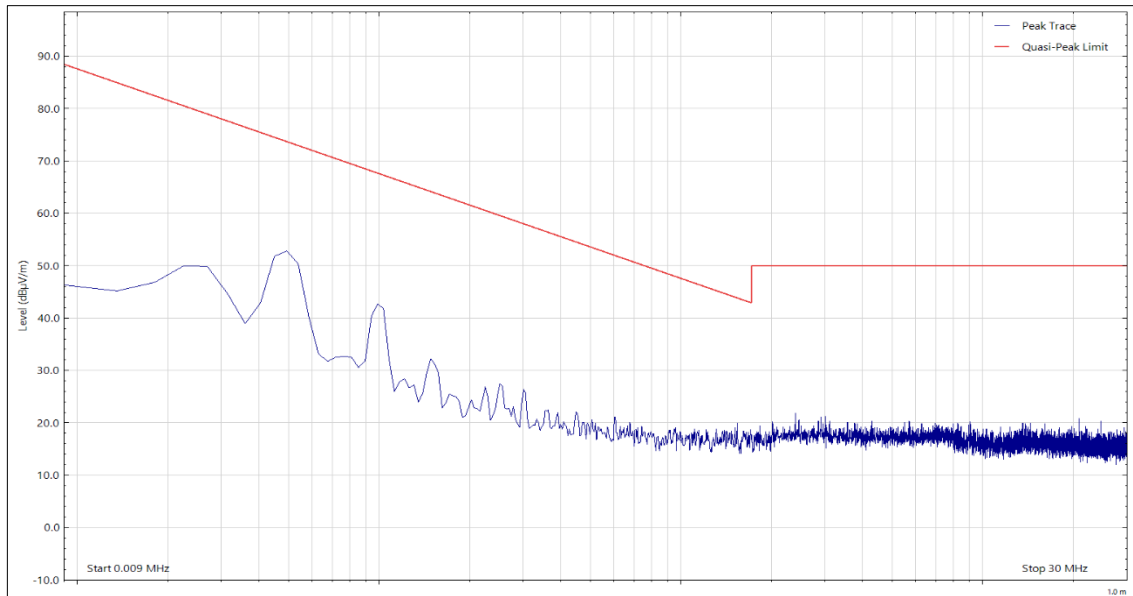


**2.2.9 Test Results**

**Results for Configuration and Mode: AC Powered - Idle.**

Performance assessment of the EUT made during this test: Pass.

Detailed results are shown below.



**Figure 9 - Face On**

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
*							

**Table 15**

\*No final measurements were made as all peak emissions seen above the measurement system noise floor during the pre-scan were greater than 10 dB below the test limit.

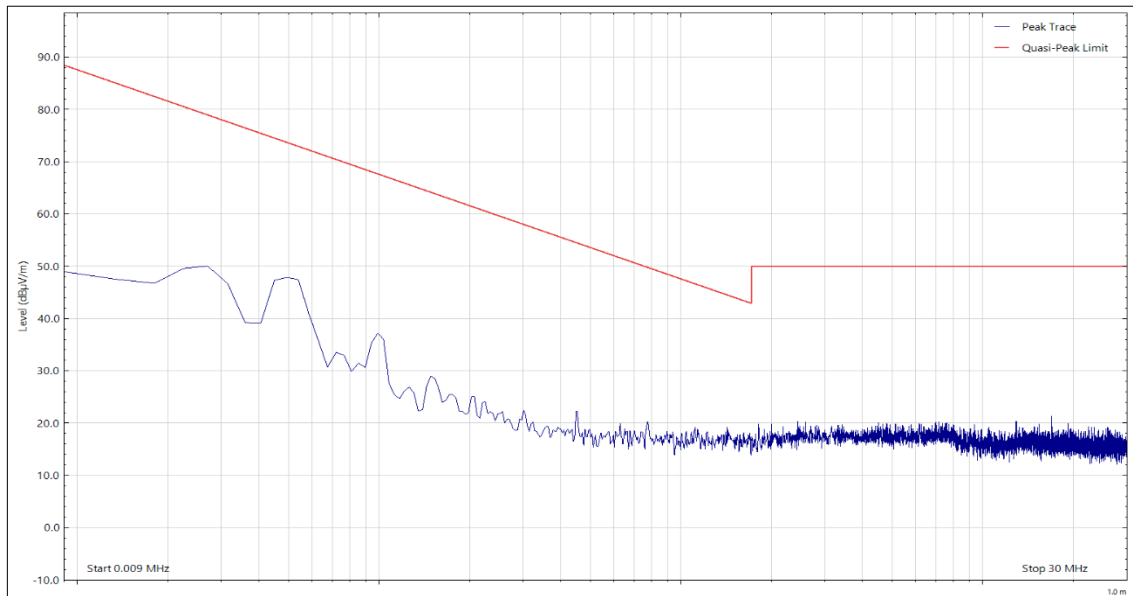


Figure 10 - Side On

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
*							

Table 16

\*No final measurements were made as all peak emissions seen above the measurement system noise floor during the pre-scan were greater than 10 dB below the test limit.



**Figure 11 - Test Setup**

**2.2.10 Test Location and Test Equipment Used**

This test was carried out in EMC Chamber 12.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
3m Semi-Anechoic Chamber	MVG	Screened Room	5621	36	07-Aug-2026
Emissions Software	TUV SUD	EmX V3.2.0	5125	-	Software
Test Receiver	Rohde & Schwarz	ESU40	3506	12	17-Apr-2025
Turntable & Mast Controller	Maturo GmbH	NCD/498/2799.01	5612	-	TU
Cable Assembly - 18GHz 2m	Junkosha	MWX221-02000AMSAMS/B	5728	12	11-Aug-2024
Antenna (Loop, 9 kHz to 30 MHz)	Teseq	HLA	5616	24	27-Jul-2024
Power Injector	Teseq	PI 6121	5620	24	27-Jul-2024

**Table 17**

TU - Traceability Unscheduled



## **2.3 Radiated Disturbance**

### **2.3.1 Specification Reference**

FCC 47 CFR Part 15B and ICES-003, Clause 15.109 and 3.2

### **2.3.2 Equipment Under Test and Modification State**

Model: 902-023-TP, Serial Number: 17502948-0094

### **2.3.3 Date of Test**

24-July-2024

### **2.3.4 Test Method**

The EUT was set up on a non-conductive table 0.8 m above a reference ground plane within a semi-anechoic chamber on a remotely controlled turntable.

A pre-scan of the EUT emissions profile using a peak detector was made at a 3 m antenna distance whilst varying the antenna-to-EUT azimuth and polarisation.

For an EUT which could reasonable be used in multiple planes, pre-scans were performed with the EUT orientated in X, Y and Z planes with reference to the ground plane.

Using a list of the highest emissions detected during the pre-scan along with their bearing and associated antenna polarisation, the EUT was then formally measured using a Quasi-Peak, Peak or CISPR Average detector as appropriate.

The readings were maximised by adjusting the antenna height, polarisation and turntable azimuth, in accordance with the specification.

### **2.3.5 Example Calculation**

Below 1 GHz:

$$\begin{aligned} \text{Quasi-Peak level (dB}\mu\text{V/m)} &= \text{Receiver level (dB}\mu\text{V)} + \text{Correction Factor (dB/m)} \\ \text{Margin (dB)} &= \text{Quasi-Peak level (dB}\mu\text{V/m)} - \text{Limit (dB}\mu\text{V/m)} \end{aligned}$$

Above 1 GHz:

$$\begin{aligned} \text{CISPR Average level (dB}\mu\text{V/m)} &= \text{Receiver level (dB}\mu\text{V)} + \text{Correction Factor (dB/m)} \\ \text{Margin (dB)} &= \text{CISPR Average level (dB}\mu\text{V/m)} - \text{Limit (dB}\mu\text{V/m)} \end{aligned}$$

$$\begin{aligned} \text{Peak level (dB}\mu\text{V/m)} &= \text{Receiver level (dB}\mu\text{V)} + \text{Correction Factor (dB/m)} \\ \text{Margin (dB)} &= \text{Peak level (dB}\mu\text{V/m)} - \text{Limit (dB}\mu\text{V/m)} \end{aligned}$$

### 2.3.6 Example Test Setup Diagram

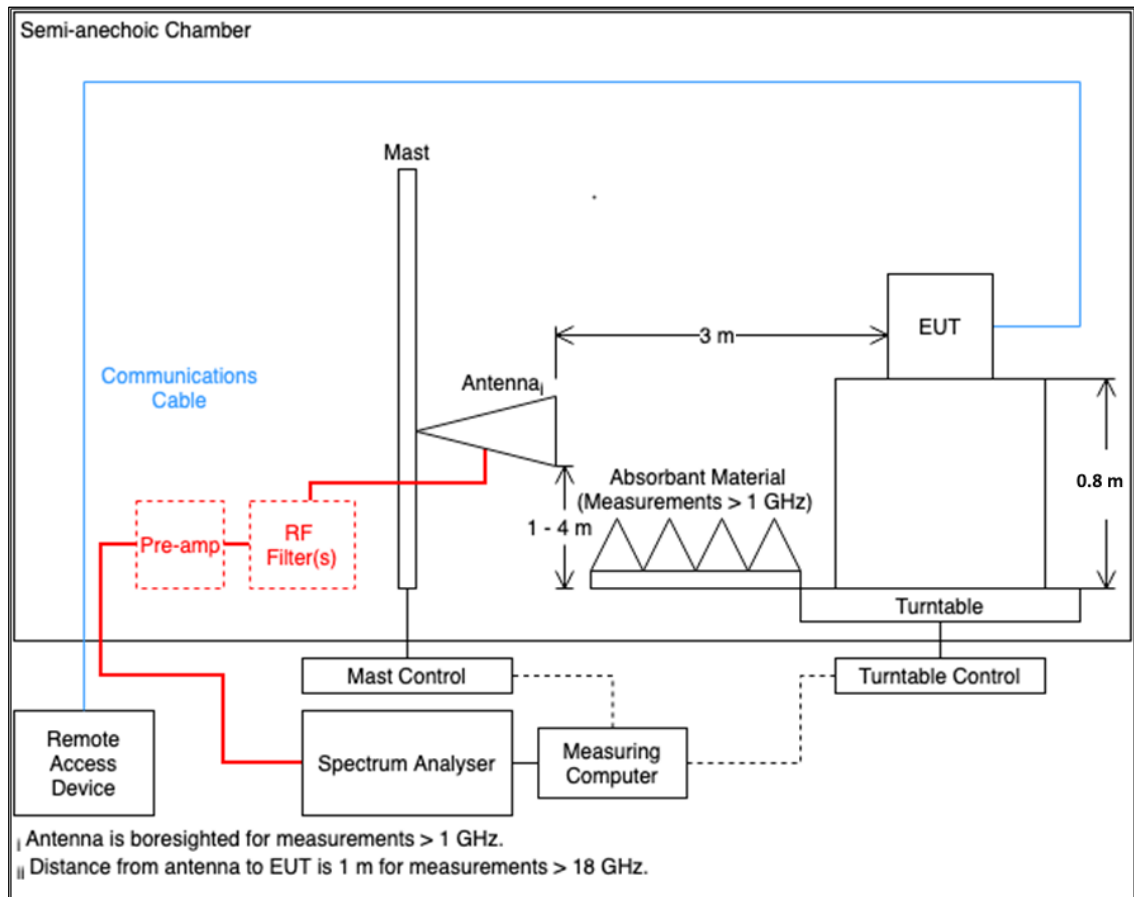


Figure 12 - Radiated Disturbance Example Test Setup

### 2.3.7 Environmental Conditions

Ambient Temperature 18.8 °C  
 Relative Humidity 58.4 %  
 Atmospheric Pressure 1013.0 mbar

### 2.3.8 Specification Limits

Required Specification Limits, Field Strength - Class A Test Limit at a 10 m Measurement Distance		
Frequency Range (MHz)	Test Limit (µV/m)	Test Limit (dBµV/m)
30 to 88	90	39.1
88 to 216	150	43.5
216 to 960	210	46.4
Above 960	300	49.5

**Supplementary information:**  
 Note 1. A Quasi-Peak detector is to be used for measurements below 1 GHz.  
 Note 2. A CISPR Average detector is to be used for measurements above 1 GHz.  
 Note 3. The Peak test limit above 1 GHz is 20 dB higher than the CISPR Average test limit.

Table 18



**2.3.9 Test Results**

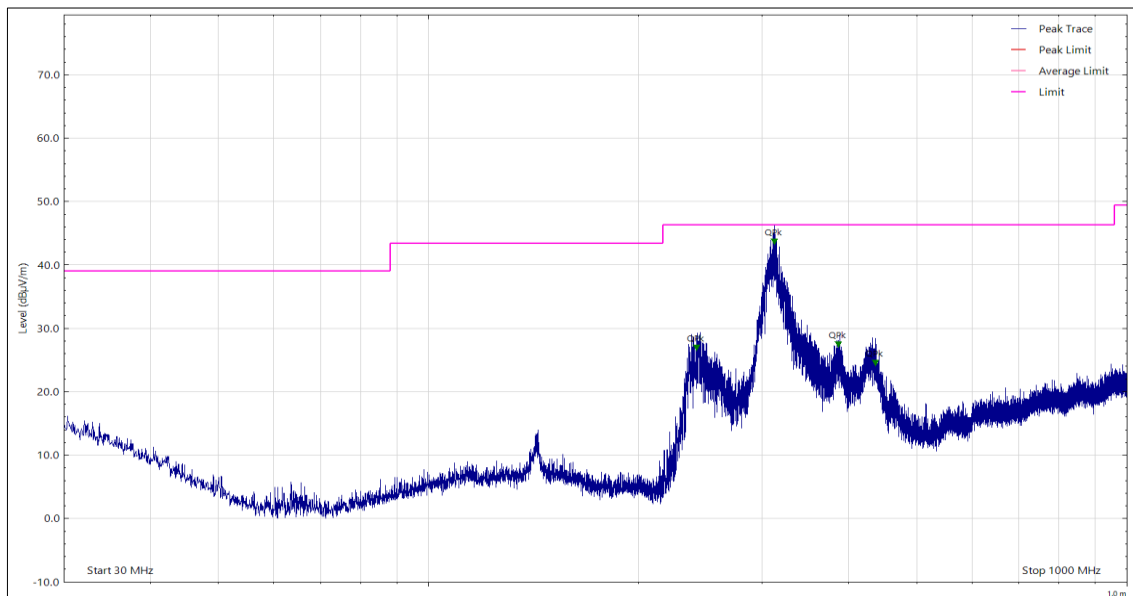
**Results for Configuration and Mode: AC Powered - Idle.**

**This test was performed to the requirements of the Class A limits.**

Performance assessment of the EUT made during this test: Pass.

Detailed results are shown below.

Highest frequency generated or used within the EUT: 927.25 MHz  
 Which necessitates an upper frequency test limit of: 10 GHz

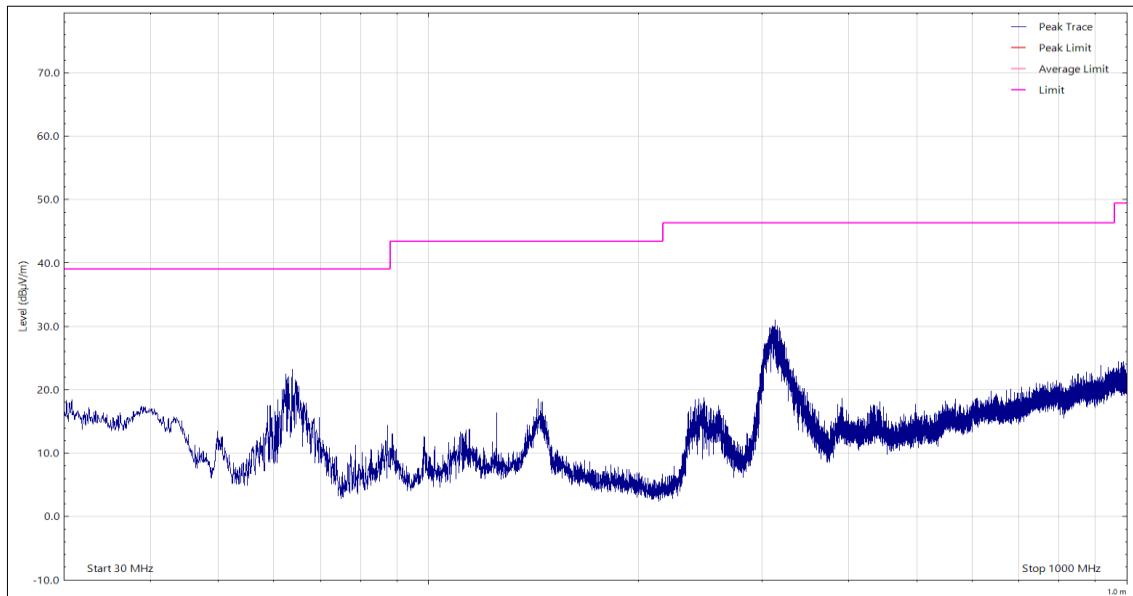


**Figure 13 - 30 MHz to 1 GHz, Quasi-Peak, Horizontal**

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
241.920	26.24	46.40	-20.16	Q-Peak	256	124	Horizontal
312.886	42.93	46.40	-3.47	Q-Peak	249	100	Horizontal
386.599	26.78	46.40	-19.62	Q-Peak	287	100	Horizontal
436.177	23.83	46.40	-22.57	Q-Peak	354	100	Horizontal

**Table 19**

No other final measurements were made as all other peak emissions seen above the measurement system noise floor during the pre-scan were greater than 10 dB below the test limit.

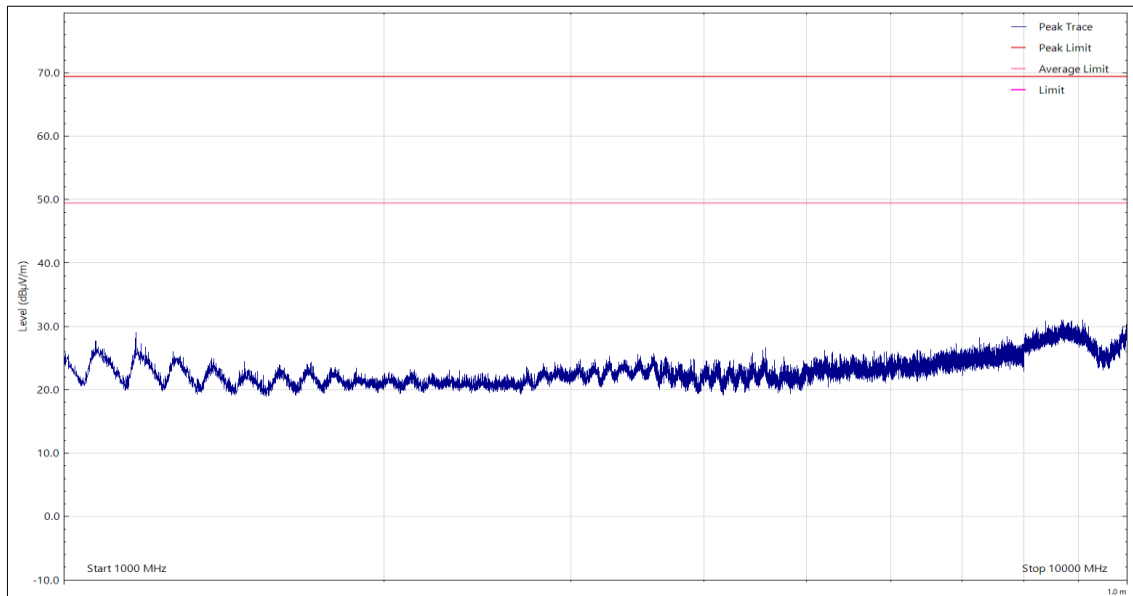


**Figure 14 - 30 MHz to 1 GHz, Quasi-Peak, Vertical**

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
*							

**Table 20**

\*No final measurements were made as all peak emissions seen above the measurement system noise floor during the pre-scan were greater than 10 dB below the test limit.



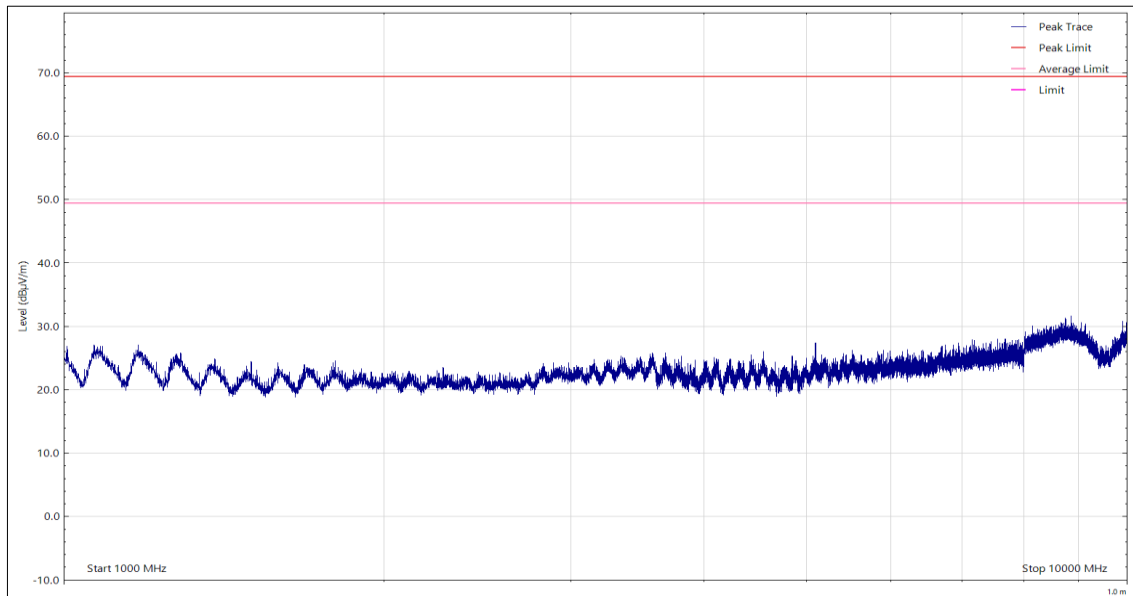
**Figure 15 - 1 GHz to 10 GHz, Horizontal**

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
*							

**Table 21**

\*No final measurements were made as all peak emissions seen above the measurement system noise floor during the pre-scan were greater than 10 dB below the test limit.





**Figure 16 - 1 GHz to 10 GHz, Vertical**

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
*							

**Table 22**

\*No final measurements were made as all peak emissions seen above the measurement system noise floor during the pre-scan were greater than 10 dB below the test limit.



Figure 17 - Test Setup - 30 MHz to 1 GHz

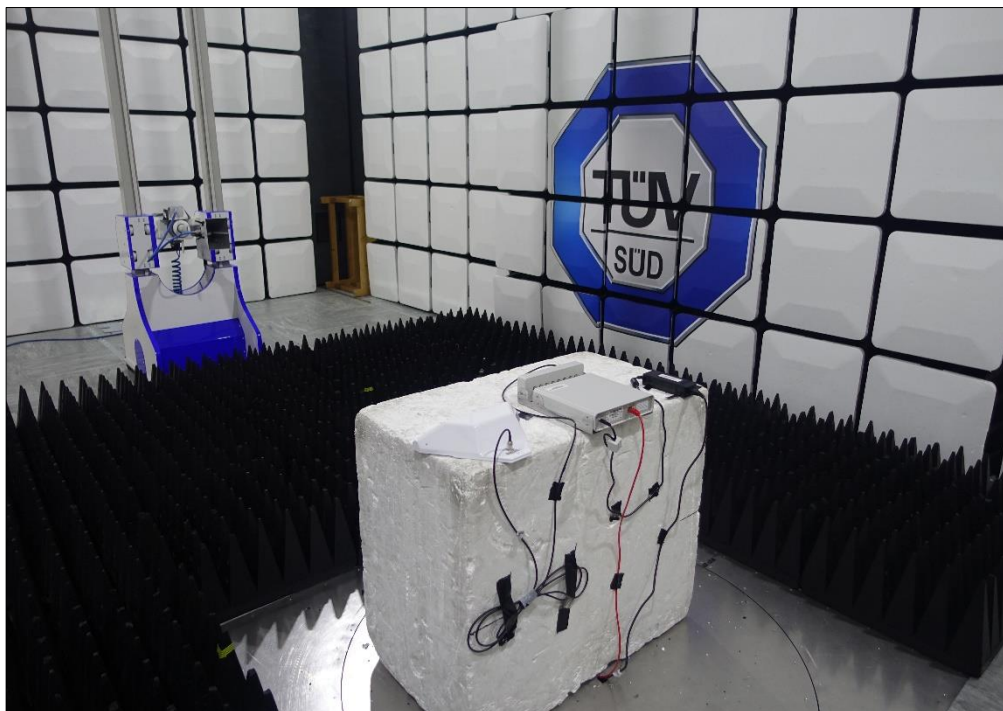


Figure 18 - Test Setup - 1 GHz to 10 GHz



**2.3.10 Test Location and Test Equipment Used**

This test was carried out in EMC Chamber 12.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
3m Semi-Anechoic Chamber	MVG	Screened Room	5621	36	07-Aug-2026
Test Receiver	Rohde & Schwarz	ESU40	3506	12	17-Apr-2025
Emissions Software	TUV SUD	EmX V3.2.0	5125	-	Software
Turntable & Mast Controller	Maturo Gmbh	NCD/498/2799.01	5612	-	TU
Tilt Antenna Mast	Maturo Gmbh	TAM 4.0-P	5613	-	TU
Cable (K-Type to K-Type, 2 m)	Junkosha	MWX221-02000AMSAMS/B	5728	12	11-Aug-2024
Cable (N-Type to N-Type, 2 m)	Junkosha	MWX221/B	5998	6	24-Oct-2024
Cable (N-Type to N-Type, 8 m)	Junkosha	MWX221-08000NMSNMS/B	6321	12	04-Feb-2025
Pre-Amplifier (1 GHz to 18 GHz)	Schwarzbeck	BBV 9718 C	5350	12	01-Dec-2024
Antenna (Bi-Log, 30 MHz to 1 GHz)	Teseq	CBL6111D	5615	24	15-Mar-2025
Antenna (DRG, 1 GHz to 10.5 GHz)	Schwarzbeck	BBHA9120B	5611	12	15-Oct-2024

**Table 23**

TU - Traceability Unscheduled



### 3 Test Equipment Information

#### 3.1 General Test Equipment Used

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
Thermo-Hygro-Barometer	PCE Instruments	PCE-THB-40	5478	12	13-May-2025

**Table 24**



## 4 Incident Reports

No incidents reports were raised.



## 5 Measurement Uncertainty

For a 95% confidence level, the measurement uncertainties for defined systems are:

Test Name	Measurement Uncertainty
Radiated Disturbance	30 MHz to 1 GHz, Bilog Antenna, SAC, $\pm 5.2$ dB 1 GHz to 6 GHz, Horn Antenna, SAC, $\pm 5.1$ dB 6 GHz to 18 GHz, Horn Antenna, SAC, $\pm 4.9$ dB
Radiated Disturbance, Magnetic Field	9 kHz to 30 MHz, Active Loop Antenna, SAC, $\pm 3.3$ dB
Conducted Disturbance at Mains Terminals	150 kHz to 30 MHz, LISN, $\pm 3.7$ dB

**Table 25**

Worst case error for both Time and Frequency measurement 12 parts in  $10^6$ .

### Measurement Uncertainty Decision Rule

Determination of conformity with the specification limits is based on the decision rule according to IEC Guide 115:2021, Clause 4.4.3 (Procedure 2). The measurement results are directly compared with the test limit to determine conformance with the requirements of the standard.

Risk: The uncertainty of measurement about the measured result is negligible with regard to the final pass/fail decision. The measurement result can be directly compared with the test limit to determine conformance with the requirement (compare IEC Guide 115). The level of risk to falsely accept and falsely reject items is further described in ILAC-G8.