

MPE REPORT

Product Name: Module
Trade Mark: CINTERION
Model No. : PLS63-W
Report Number: 210811001RFC-1
Test Standards: FCC 47 CFR Part 1 Subpart I
FCC ID: QIPPLS63-W
Test Result: PASS
Date of Issue: August 26, 2021

Prepared for:

Thales DIS AIS Deutschland GmbH
Siemensdamm 50, 13629 Berlin, Germany

Prepared by:

Shenzhen UnionTrust Quality and Technology Co., Ltd.
Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and
technology park, Longhua district, Shenzhen, China
TEL: +86-755-2823 0888
FAX: +86-755-2823 0886

Prepared by:

Gavin Xu

Gavin Xu
Project Engineer

Reviewed by:

Henry Lu

Henry Lu
Team Leader

Approved by:


Kevin Liang
Assistant Manager

Date:

August 26, 2021

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China
Tel: +86-755-28230888 Fax: +86-755-28230886 E-mail: info@uttlab.com <http://www.uttlab.com>
UTTR-RF-RSS102-V1.1

Version

Version No.	Date	Description
V1.0	August 26, 2021	Original

**Shenzhen UnionTrust Quality and Technology Co., Ltd.**

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China
Tel: +86-755-28230888 Fax: +86-755-28230886 E-mail: info@uttlab.com <http://www.uttlab.com>
UTTR-RF-RSS102-V1.1

CONTENTS

1.	Test Laboratory	4
2.	Client Information	5
2.1	Applicant Information	5
2.2	Manufacturer Information	5
3.	Equipment Under Test (EUT) and Ancillary Equipment (AE).....	6
3.1	About EUT	6
4.	Power Output Test Results	7
4.1	RF Power Output.....	7
4.2	Duty cycle	7
5.	Reference Documents for FCC	8
5.1	Applicable Standards	8
5.2	Test Limits	8
5.3	Calculation Information	9
5.4	Max. Antenna gain calculations	10
5.5	Conclusion for maximum admissible antenna gain (FCC).....	10

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China
Tel: +86-755-28230888 Fax: +86-755-28230886 E-mail: info@uttlab.com <http://www.uttlab.com>
UTTR-RF-RSS102-V1.1

1. Test Laboratory

Company Name:	Shenzhen UnionTrust Quality and Technology Co., Ltd.
Address:	Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China 518109
Postal Code:	518109
Telephone:	+86 (0) 755 2823 0888
Fax:	+86 (0) 755 2823 0886

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China
Tel: +86-755-28230888 Fax: +86-755-28230886 E-mail: info@uttlab.com <http://www.uttlab.com>
UTTR-RF-RSS102-V1.1

2. Client Information

2.1. Applicant Information

Company Name: Thales DIS AIS Deutschland GmbH
Address /Post: Siemensdamm 50, 13629 Berlin, Germany
Telephone: /
Postcode: /

2.2. Manufacturer Information

Company Name: Thales DIS AIS Deutschland GmbH
Address /Post: Werinherstr.81, 81541 Munich, Germany
Telephone: /
Postcode: /

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China
Tel: +86-755-28230888 Fax: +86-755-28230886 E-mail: info@uttlab.com <http://www.uttlab.com>
UTTR-RF-RSS102-V1.1

3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

EUT Description	Module
Model name	PLS63-W
GSM Bands	GSM850/1900
UTRA Bands	Band II/ Band IV/ Band V
E-UTRA Bands	FDD Band 2/ Band 4/ Band 5/ Band 7/Band 8/ Band 12/ Band 13/ Band 26/ Band 66
	TDD Band 38/ Band 41
Antenna Type	External Antenna
FCC ID:	QIPPLS63-W

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China
Tel: +86-755-28230888 Fax: +86-755-28230886 E-mail: info@uttlab.com <http://www.uttlab.com>
UTTR-RF-RSS102-V1.1

4. Power Output Test Results

4.1. RF Power Output

Frequency Band	Highest Power Output(dBm)
LTE Band 8	24.5

4.2. Duty cycle

Mode	Duty Cycle
LTE	1:1

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China
Tel: +86-755-28230888 Fax: +86-755-28230886 E-mail: info@uttlab.com <http://www.uttlab.com>
UTTR-RF-RSS102-V1.1

5. Reference Documents for FCC

5.1. Applicable Standards

The MPE report was carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Part 2.1091.

FCC CFR 47, Part 2, FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS, Oct 1, 2011

Section 2.1091 Radiofrequency radiation exposure evaluation.

5.2. Test Limits

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2m normally can be maintained between the user and the device.

Limits for Occupational / Controlled Exposure

Frequency Range [MHz]	Electric Field Strength (E) [V/m]	Magnetic Field Strength (H) [A/m]	Power Density (S) [mW/cm ²]	Averaging Times E ² , H ² or S [minutes]
0.3 – 3.0	614	1.63	(100)*	6
3.0 – 30	1824/f	4.89/f	(900/f)*	6
30 – 300	61.4	0.163	1.0	6
300 – 1500	--	--	F/300	6
1500 - 100000	--	--	5	6

Limits for General Population / Uncontrolled Exposure

Frequency Range [MHz]	Electric Field Strength (E) [V/m]	Magnetic Field Strength (H) [A/m]	Power Density (S) [mW/cm ²]	Averaging Times E ² , H ² or S [minutes]
0.3 – 1.34	614	1.63	(100)*	30
1.34 – 30	824/f	2.19/f	(180/f)*	30
30 – 300	27.5	0.073	0.2	30
300 – 1500	--	--	F/1500	30
1500 - 100000	--	--	1.0	30

Note: f=frequency in MHz; *Plane-wave equivalent power density

For the DUT, the limits for General Population / Uncontrolled Exposure are applicable.

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China
 Tel: +86-755-28230888 Fax: +86-755-28230886 E-mail: info@uttlab.com <http://www.uttlab.com>
 UTTR-RF-RSS102-V1.1

FCC: §1.1307	Cellular Radiotelephone Service (subpart H of part 22) Non-building-mounted antennas: height above ground level to lowest point of antenna < 10 m and total power of all channels > 1000 W ERP (1640 W EIRP)
FCC §1.1307	Personal Communications Services (part 24) Broadband PCS (subpart E): non-building-mounted antennas: height above ground level to lowest point of antenna < 10 m and total power of all channels > 2000 W ERP (3280 W EIRP)
FCC §1.1310	LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE) Table 1(B) Limits for General Population/Uncontrolled Exposure 300–1500 MHz: f/1500 mW/cm ² 1500–100,000 MHz: 1.0 mW/cm ² Subject to routine evaluation is required when the device operate at frequencies of 1.5 GHz or below and their
FCC §2.1091	effective radiated power (ERP) is 1.5 watts or more, or if they operate at frequencies above 1.5 GHz and their ERP is 3 watts or more.(a) Base stations are limited to 1640 watts peak equivalent isotropically radiated power (e.i.r.p.) with an antenna
FCC §27.1507(a)(3):	Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band are limited to 1 watt EIRP.

5.3. Calculation Information

For conservative evaluation consideration, only maximum power of each frequency band based on the tighter limits respectively are used to calculate the boundary power density.

Based on the FCC KDB 447498 D01 and 47 CFR §2.1091, the DUT is evaluated as a mobile device.

$$\text{Given } S = \frac{P \times G}{4\pi d^2} \quad \text{Equation 1}$$

Where

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China
Tel: +86-755-28230888 Fax: +86-755-28230886 E-mail: info@uttlab.com <http://www.uttlab.com>
UTTR-RF-RSS102-V1.1

5.4. Max. Antenna gain calculations

Maximum antenna gain considerations for fixed/mobile operations for complying with limits:

Band	Highest Frame-Averaged Output Power (dBm)	Limit (mW/cm ²)	Max antenna gain at 20cm (dBi)
LTE Band 8	24.5	0.599	9.7

Power limit according to §22.913(a), §24.232(c), §27.50(d)(4), §27.50(c)(10), §27.50(h)(2), §27.50(b)(10), §90.635:

Band	Highest Frame-Averaged Output Power (dBm)	Limit (W) (ERP/EIRP)	Max antenna gain at 20cm(dBi)
LTE Band 8	24.5	10	15

5.5. Conclusion for maximum admissible antenna gain (FCC)

Band	Maximum admissible antenna gain (dBi)
LTE Band 8	9.7

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China
Tel: +86-755-28230888 Fax: +86-755-28230886 E-mail: info@uttlab.com <http://www.uttlab.com>
UTTR-RF-RSS102-V1.1

*** End of Report ***

The test report is effective only with both signature and specialized stamp. The result(s) shown in this report refer only to the sample(s) tested. Without written approval of UnionTrust, this report can't be reproduced except in full.

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China
Tel: +86-755-28230888 Fax: +86-755-28230886 E-mail: info@uttlab.com <http://www.uttlab.com>
UTTR-RF-RSS102-V1.1