

TEST REPORT

Report No.: SHE22080011-02CE

Date: 2022-11-09

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Applicant : Trimble Europe BV.
Address of Applicant : Industrieweg 187a, 5683 CC Best, Netherlands

Product Name : Handheld Data Collector
Brand Name : Trimble & Spectra Geospatia
Model Name Sample acquisition : TDC650, SP30
Method : Sent by Client
Sample No. : E22080011-01#01
E22080011-01#02
FCC ID : NZI-11705920
ISED Number : 9288A-11705920

Standards : FCC CFR47 Part 2
RSS-Gen
(Others refer to the original test report)

Date of Receipt : 2022-09-14
Date of Test : 2022-11-04 ~ 2022-11-08
Date of Issue : 2022-11-09

Remark:

The original test report Ref. No. SHE20100017-02AE test report (dated 2021-04-01), was modified on 2022-11-09 to include the following changes:

Since only add the external GNSS module in the equipment enclosure, using new OEM board (Rev B (115376) which was working as a high accuracy GNSS receiver, The OEM board (Rev A (106960) or Rev B (115376)) doesn't include any radio transmitters, as well as no other intentional transmitters. Meanwhile, the other parts are completely consistent with the previous samples, So added the worst case data of the Radiated spurious emissions test item.

- Test plots please refer to the annex document:

“SHE22080011-02CE Data FCC PCE GSM TX EXHIBIT E GSM850 GSM1900”.

“SHE22080011-02CE Data FCC PCE WCDMA TX EXHIBIT E W2 W5”.

“SHE22080011-02CE Data FCC PCE LTE-TX EXHIBIT E B2 B4 B5 B7 B12 B13 B17 B25 B41”.

- Measurement Uncertainty, Uncertainty of Radiated Emission below 1GHz, $U_c = \pm 5.00\text{dB}$, $k=2$.

- Measurement Uncertainty, Uncertainty of Radiated Emission above 1GHz, $U_c = \pm 4.88\text{dB}$, $k=2$.

- Update the software version information; Software version changes do not affect any RF performance and the operating band remains the same, for details, see Appendix 1.1.

- Equipment List please refer to Appendixes 1.2.

- Photographs of the Sample please refer to Appendixes 1.3.

- Set-up for Radiated Spurious Emissions please refer to Appendixes 1.4.

- updated product name, model name, contact person and factory

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1 Appendixes

1.1 Details of EUT

Product Name	Handheld Data Collector
Brand Name	Trimble, Spectra Geospatial
Test Model Name	TDC650
Series Model Name	SP30
Difference Description	All model are same with electrical paramters and Internal circuit structure, but only different on model name, brand name and colors and software version.
FCC ID	NZI-11705920
ISED Number	9288A-11705920
Mode of Operation	GSM/GPRS/EDGE 850/1900; WCDMA/HSDPA/HSUPA Band II/V; LTE FDD Band 2/4/5/7/12/13/17/25; LTE TDD Band 41
Modulation Type	GMSK for GSM/GPRS and 8PSK for EGPRS; QPSK for WCDMA; QPSK/16QAM for HSDPA/HSUPA/LTE
Power Class	GSM/GPRS 850: 4 GSM/GPRS 1900: 1 EDGE 850/1900: E2 WCDMA/HSDPA/HSUPA Band II: 3 WCDMA/HSDPA/HSUPA Band IV: 3 WCDMA/HSDPA/HSUPA Band V: 3 LTE FDD Band 2: 3 LTE FDD Band 4: 3 LTE FDD Band 5: 3 LTE FDD Band 7: 3 LTE FDD Band 17: 3 LTE TDD Band 41: 3 LTE band 12/13/25: 1
Multislot Class	GPRS/EDGE: 12
Antenna Type	Internal Antenna
Antenna Gain	GSM/GPRS/EDGE 850: 2.04 dBi GSM/GPRS/EDGE 1900: 0.81 dBi WCDMA/HSDPA/HSUPA Band II: 0.81 dBi WCDMA/HSDPA/HSUPA Band V: 2.04 dBi LTE FDD Band 2: 0.81 dBi LTE FDD Band 4: 0.81 dBi LTE FDD Band 5: 2.04 dBi LTE FDD Band 7: 2.08 dBi LTE FDD Band 12: -1.92 dBi LTE FDD Band 13: -1.65 dBi LTE FDD Band 17: -1.92 dBi

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	LTE FDD Band 25: 0.81 dBi LTE TDD Band 41: 2.13 dBi
Extreme Temperature Range	-20°C ~ +55°C
Hardware version	C603_V1.00_PCB (model: TDC650) C603KB_V1.00_PCB (model: SP30)
Software version	TDC600_2.53.10.45 (model: TDC650) MM60_2.53.10.36 (model: SP30)
Test SW Version	BL410_R;BL410_E

1.2 Equipment List

Name of Equipment	Manufacturer	Model	Serial No.	Cal. Due Date
Spectrum Analyzer	Rohde & Schwarz	FSV40N	101450	2023-06-09
Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	116330	2023-08-01
Broadband Antenna	SCHWARZBECK	VULB9163	9163-1037	2023-06-07
Horn Antenna-18G	SCHWARZBECK	BBHA9120D	9120D-1775	2023-06-07
Horn Antenna-40G	YINGLIAN	LB-180400-KF	N/A	2024-06-08
EMC chamber 9*6*6 (L*W*H)	CHANGNING	966	N/A	2023-06-09
Shielded Room 8*5*4 (L*W*H)	CHANGNING	854	N/A	2023-06-09
Test Software	BL	BL410_E	N/A	N/A

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1.3 Photographs of the Sample

TDC650



Front of the sample



Rear of the sample

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SP30



Front of the sample



Rear of the sample

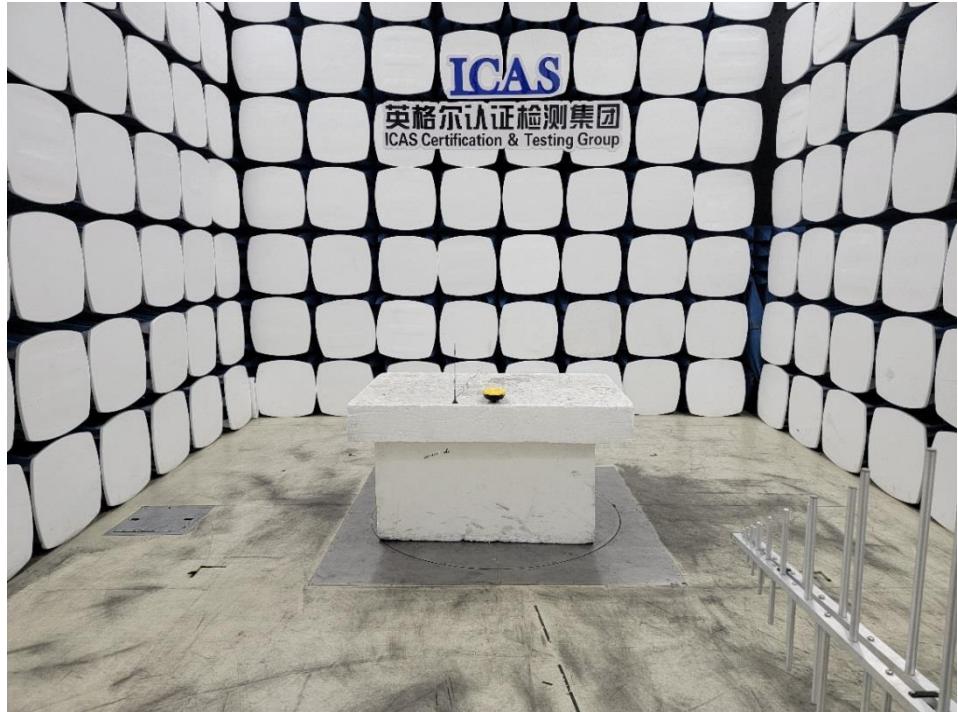
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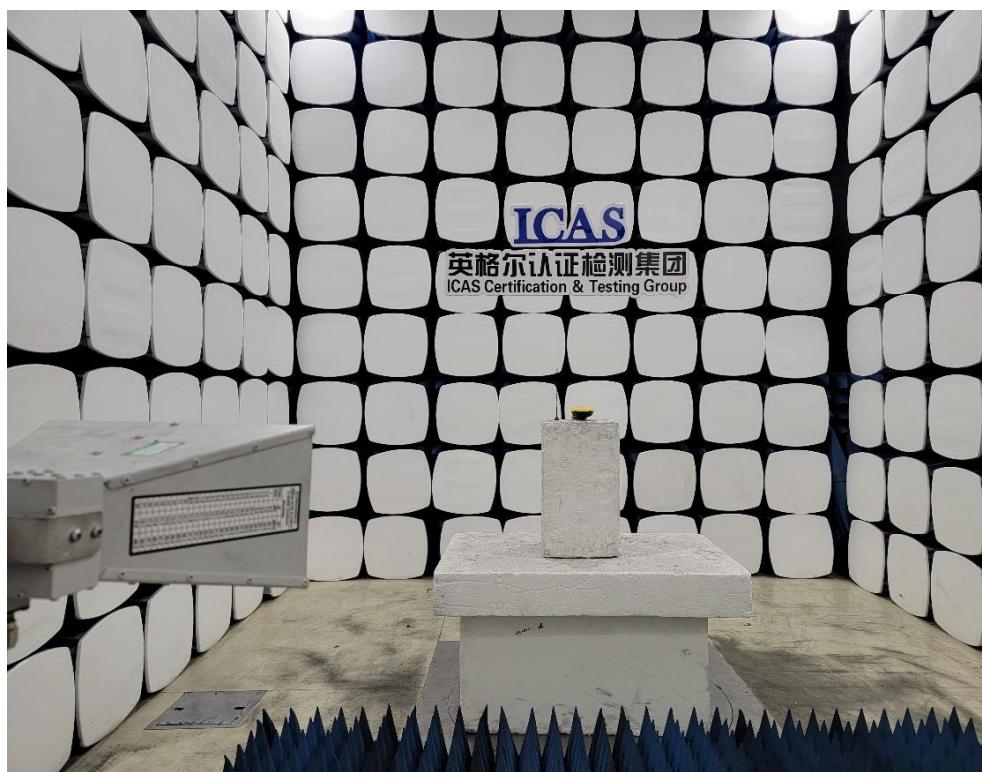
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1.4 Set-up for Radiated Spurious Emissions



Below 1 GHz



Above 1 GHz

End of the report