

RF Exposure evaluation

Product Name : Industrial IoT Edge Controller
Brand Name : Acorn Stairlifts
Model : T715 Comms Gateway
Series Model : T715 V4
FCC ID : 2AFDQ-T715V4
Applicant : **Acorn Mobility Services Ltd**
Address : Telecom House, Millennium Business Park Station Road, Steeton,
United Kingdom, BD20 6RB
Manufacturer : **Sixfab, Inc.**
Address : 825 Watter's Creek Blvd., Suite 250, Allen, Texas 75013, USA
Standard(s) : 47CFR §1.1310, 47CFR §2.1091
KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt : Aug. 21, 2025
Date of Test : Dec. 01, 2025~ Jan. 30, 2026
Issued Date : Feb. 03, 2026

Issued By: **Dongguan Yaxu (AiT) Technology Limited**

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Note: This device has been tested and found to comply with the standard(s) listed, this test report merely corresponds to the test sample. It is not permitted to copy extracts of these test result without the written permission of the test laboratory. This report shall not be reproduced except in full, without the written approval of Dongguan Yaxu (AiT) Technology Limited. If there is a need to alter or revise this document, the right belongs to Dongguan Yaxu (AiT) Technology Limited, and it should give a prior written notice of the revision document. This test report must not be used by the client to claim product endorsement.

Dongguan Yaxu (AiT) Technology Limited

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Report Revise Record

Report Version	Issued Date	Notes
M0	Feb. 03, 2026	Initial Release

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1 GENERAL INFORMATION

1.1 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Normal Temperature:	25°C
Relative Humidity:	55 %
Air Pressure:	101 kPa

1.2 General Description of EUT

Product Name:	Industrial IoT Edge Controller
Model/Type reference:	T715 Comms Gateway
Serial Model:	T715 V4
Model difference:	All models are same as the samples except model name, all the models are electrical identical same mechanical structure and design.
Power Supply:	DC 5.1V from adapter
Adapter Information:	Model: ICP20-051-3000D Input: 100-240V~50/60Hz 0.6A Output: 5.1V=3.0A 15.3W
Hardware Version:	T715 v4
Software Version:	V2
Sample(s) Status:	AiTDG-250821010-1(Normal sample) AiTDG-250821010-2(Engineer sample)
LTE:	
Operation Band:	FDD-LTE: Band 2/4/5/7/12/13/25/26/66 TDD-LTE: Band 38/41
Support Bandwidth:	Band 2: ☒ 1.4MHz, ☒ 3MHz, ☒ 5MHz, ☒ 10MHz, ☒ 15MHz, ☒ 20MHz Band 4: ☒ 1.4MHz, ☒ 3MHz, ☒ 5MHz, ☒ 10MHz, ☒ 15MHz, ☒ 20MHz Band 5: ☒ 1.4MHz, ☒ 3MHz, ☒ 5MHz, ☒ 10MHz Band 7: ☒ 5MHz, ☒ 10MHz, ☒ 15MHz, ☒ 20MHz Band 12: ☒ 1.4MHz, ☒ 3MHz, ☒ 5MHz, ☒ 10MHz Band 13: ☒ 5MHz, ☒ 10MHz Band 25: ☒ 1.4MHz, ☒ 3MHz, ☒ 5MHz, ☒ 10MHz, ☒ 15MHz, ☒ 20MHz Band 26: ☒ 1.4MHz, ☒ 3MHz, ☒ 5MHz, ☒ 10MHz, ☒ 15MHz, ☒ 20MHz Band 66: ☒ 1.4MHz, ☒ 3MHz, ☒ 5MHz, ☒ 10MHz, ☒ 15MHz, ☒ 20MHz Band 38: ☒ 5MHz, ☒ 10MHz, ☒ 15MHz, ☒ 20MHz Band 41: ☒ 5MHz, ☒ 10MHz, ☒ 15MHz, ☒ 20MHz
Frequency Range:	Band 2:uplink 1850MHz to 1910MHz; downlink 1930MHz to 1990MHz Band 4:uplink 1710MHz to 1755MHz; downlink 2110MHz to 2155MHz Band 5:uplink 824MHz to 849MHz; downlink 869MHz to 894MHz Band 7:uplink 2500MHz to 2570MHz; downlink 2620MHz to 2690MHz Band 12:uplink 699MHz to 716MHz; downlink 729MHz to 746MHz Band 13:uplink 777MHz to 787MHz; downlink 746MHz to 756MHz Band 25:uplink 1850MHz to 1915MHz;downlink 1930MHz to 1995MHz Band 26a:uplink 814MHz to 824MHz; downlink 859MHz to 869MHz Band 26b:uplink 824MHz to 849MHz; downlink 869MHz to 894MHz

	Band 66:uplink 1710MHz to 1780MHz;downlink 2110MHz to 2200MHz Band 38:uplink 2570MHz to 2620MHz;downlink 2570MHz to 2620MHz Band 41:uplink 2496MHz to 2690MHz;downlink 2496MHz to 2690MHz			
Power Class:	Power Class 3			
Modulation Type:	QPSK, 16QAM			
Antenna type:	FPC antenna			
Antenna gain:	LTE Band 2:3.60dBi; LTE Band 4:3.60dBi; LTE Band 5:1.90dBi; LTE Band 7:3.90dBm; LTE Band 12:0.90dBm; LTE Band 13:0.90dBi; LTE Band 25:3.60dBi; LTE Band 26:1.90dBi;LTE Band 66:3.60dBi; LTE Band 38:3.90dBi; Band 41:3.90dBi			
Bluetooth:				
Supported type:	Bluetooth BR/EDR			
Modulation:	GFSK, $\pi/4$ DQPSK, 8DPSK			
Operation frequency:	2402MHz~2480MHz			
Channel number:	79			
Channel separation:	1MHz			
Antenna type:	Chip Antenna			
Antenna gain:	2.00dBi			
Bluetooth LE:				
Supported type:	Bluetooth LE 1M			
Modulation:	GFSK			
Operation frequency:	2402MHz~2480MHz			
Channel number:	40			
Channel separation:	2MHz			
Antenna type:	Chip Antenna			
Antenna gain:	2.00dBi			
2.4G WIFI:				
Supported type:	802.11b/802.11g /802.11n(HT20)/802.11n(HT40)			
Modulation:	802.11b(DSSS):CCK,DQPSK,DBPSK 802.11g(OFDM):BPSK,QPSK,16-QAM,64-QAM 802.11n(OFDM):BPSK,QPSK,16-QAM,64-QAM			
Operation frequency:	802.11b/802.11g/802.11n(H20): 2412MHz~2462MHz 802.11n(H40): 2422MHz~2452MHz			
Channel number:	802.11b/802.11g/802.11n(H20): 11 802.11n(H40): 7			
Channel separation:	5MHz			
Antenna type:	Chip Antenna			
Antenna gain:	2.00dBi			
5G WIFI:				
Supported type:	20MHz system	40MHz system	80MHz system	160MHz system

	802.11a 802.11n 802.11ac	802.11n 802.11ac	802.11ac	N/A
Operation frequency:	5180-5240MHz 5745-5825MHz	5190-5230MHz 5755-5795MHz	5210MHz 5775MHz	N/A
Modulation:	OFDM	OFDM	OFDM	N/A
Channel number:	9	4	2	N/A
Channel separation:	20MHz	40MHz	80MHz	N/A
Antenna type:	Chip Antenna			
Antenna gain:	3.00dBi			
Remark: The above DUT's information was declared by manufacturer. For more detailed features description, please refer to the manufacturer's specifications or the User's Manual.				

1.3 Test Facility

Test Laboratory: Dongguan Yaxu (AiT) Technology Limited

No.22, Jinqianling 3rd Street, Jitigang, Huangjiang, Dongguan, Guangdong, China

The test facility is recognized, certified or accredited by the following organizations:

CNAS-Registration No: L6177

Dongguan Yaxu (AiT) technology Limited is accredited to ISO/IEC 17025:2017 general Requirements for the competence of testing and calibration laboratories (CNAS-CL01 Accreditation Criteria for the competence of testing and calibration laboratories) on April 18, 2022

FCC-Registration No.: 703111 Designation Number: CN1313

Dongguan Yaxu (AiT) Technology Limited has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

IC-Registration No.: 6819A CAB identifier: CN0122

The 3m Semi-anechoic chamber of Dongguan Yaxu (AiT) Technology Limited has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 6819A

A2LA-Lab Cert. No.: 6317.01

Dongguan Yaxu (AiT) Technology Limited has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

1.4 Measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report according to CISPR 16 - 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the Dongguan Yaxu (AiT) Technology Limited's quality system according to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Yaxu (AiT) laboratory is reported:

Test	Measurement Uncertainty	Notes
Power Line Conducted Emission	150KHz~30MHz ± 1.20 dB	(1)
Radiated Emission	9KHz~30Hz ± 3.10 dB	(1)
Radiated Emission	9KHz~1GHz ± 3.75 dB	(1)
Radiated Emission	1GHz~18GHz ± 3.88 dB	(1)
Radiated Emission	18GHz~40GHz ± 3.88 dB	(1)
RF power, conducted	30MHz~6GHz ± 0.16 dB	(1)
RF power density, conducted	± 0.24 dB	(1)
Spurious emissions, conducted	± 0.21 dB	(1)
Temperature	$\pm 1^{\circ}\text{C}$	(1)
Humidity	$\pm 3\%$	(1)
DC and low frequency voltages	$\pm 1.5\%$	(1)
Time	$\pm 2\%$	(1)
Duty cycle	$\pm 2\%$	(1)
Bandwidth	$\pm 1.5 \times 10^{-6}$	(1)

The report uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty Multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%.

2 Method of measurement

2.1 Applicable Standard

According to §1.1307(b)(1), 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 of the Commission's guidelines.

According to §1.1310 and §2.1091 RF exposure is calculated.

FCC KDB447498 D01 General RF Exposure Guidance v06: Mobile and Portable Device, RF Exposure, Equipment Authorization Procedures

2.2 Limit

Limits for Maximum Permissible Exposure (MPE)/Controlled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm ²)	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
0.3 – 3.0	614	1.63	(100) *	6
3.0 – 30	1842/f	4.89/f	(900/f)*	6
30 – 300	61.4	0.163	1.0	6
300 – 1500	/	/	f/300	6
1500 – 100,000	/	/	5	6

Limits for Maximum Permissible Exposure (MPE)/Uncontrolled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm ²)	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
0.3 – 1.34	614	1.63	*(100)	30
1.34 – 30	824/f	2.19/f	*(180/f ²)	30
30 – 300	27.5	0.073	0.2	30
300 – 1500	/	/	f/1500	30
1500 – 100,000	/	/	1.0	30

F=frequency in MHz

*=Plane-wave equivalent power density

2.3 MPE Calculation Method

Predication of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = PG / 4\pi R^2$$

Where: S=power density

P=power input to antenna

G=power gain of the antenna in the direction of interest relative to an isotropic radiator

R=distance to the center of radiation of the antenna

2.4 Manufacturing Tolerance

WWAN

Band	Max.Target Power (dBm)	Tolerance (dBm)
LTE BAND 2	23.0	±1
LTE BAND 4	23.0	±1
LTE BAND 5	23.0	±1
LTE BAND 7	23.0	±1
LTE BAND 12	23.0	±1
LTE BAND 13	23.0	±1
LTE BAND 25	24.0	±1
LTE BAND 26	23.0	±1
LTE BAND 66	24.0	±1
LTE BAND 38	23.0	±1
LTE BAND 41	23.0	±1

WIFI 2.4G

Mode	Channel	Target Power PK (dBm)	Tolerance (dBm)
802.11b	1	16	±1
	6	16	±1
	11	16	±1
802.11g	1	15	±1
	6	15	±1
	11	15	±1
802.11n-HT20	1	15	±1
	6	15	±1
	11	15	±1
802.11n-HT40	3	15	±1
	6	15	±1
	9	15	±1

WIFI 5G
U-NII 1

Mode	Channel	Tune-up (dBm)
802.11a	36	8 ± 1
	40	8 ± 1
	48	7 ± 1
802.11n(HT20)	36	8 ± 1
	40	8 ± 1
	48	7 ± 1
802.11n(HT40)	38	8 ± 1
	46	7 ± 1
802.11ac(HT20)	36	8 ± 1
	40	8 ± 1
	48	7 ± 1
802.11ac(HT40)	38	8 ± 1
	46	7 ± 1
802.11ac(HT80)	42	8 ± 1

U-NII 3

Mode	Channel	Tune-up (dBm)
802.11a	149	8 ± 1
	157	8 ± 1
	165	8 ± 1
802.11n(HT20)	149	8 ± 1
	157	8 ± 1
	165	8 ± 1
802.11n(HT40)	151	9 ± 1
	159	8 ± 1
802.11ac(HT20)	149	8 ± 1
	157	8 ± 1
	165	7 ± 1
802.11ac(HT40)	151	8 ± 1
	159	8 ± 1
802.11ac(HT80)	155	8 ± 1

BT

Mode	Channel	Target Power
GFSK	0	0 ± 1 dBm
	39	0 ± 1 dBm
	78	-1 ± 1 dBm
$\pi/4$ DQPSK	0	1 ± 1 dBm
	39	1 ± 1 dBm
	78	0 ± 1 dBm
8DPSK	0	1 ± 1 dBm
	39	1 ± 1 dBm
	78	0 ± 1 dBm

BLE

Mode	Channel	Target Power
BLE 1M	0	-2 ± 1 dBm
	19	-2 ± 1 dBm
	39	-2 ± 1 dBm

2.5 MPE Result

As declared by the Applicant, the EUT is a wireless device used in a fix application, at least 20 cm from any body part of the user or nearby persons; from the maximum EUT RF output power, the minimum separation distance, $r = 20\text{cm}$, as well as the gain of the used antenna is refer to section 2.2, the RF power density can be obtained.

Standalone Evaluation

WWAN

Modulation Type	Max Output power with tune_up		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)	radio
	dBm	mW					
LTE BAND 2	24	251.1886	3.60	2.2909	0.11448	1.0000	0.1145
LTE BAND 4	24	251.1886	3.60	2.2909	0.11448	1.0000	0.1145
LTE BAND 5	24	251.1886	1.90	1.5488	0.07740	0.5498	0.1408
LTE BAND 7	24	251.1886	3.90	2.4547	0.12270	1.0000	0.1227
LTE BAND 12	24	251.1886	0.90	1.2303	0.06150	0.4665	0.1318
LTE BAND 13	24	251.1886	0.90	1.2303	0.06150	0.5197	0.1183
LTE BAND 25	25	316.2278	3.60	2.2909	0.14412	1.0000	0.1441
LTE BAND 26	24	251.1886	1.90	1.5488	0.07740	0.5431	0.1425
LTE BAND 66	25	316.2278	3.60	2.2909	0.14412	1.0000	0.1441
LTE BAND 38	24	251.1886	3.90	2.4547	0.12270	1.0000	0.1227
LTE BAND 41	24	251.1886	3.90	2.4547	0.12270	1.0000	0.1227

WLAN/BT

Modulation Type	Output power with tune_up		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)	radio
	dBm	mW					
BT	2	1.5849	2.00	1.5849	0.0005	1.0000	0.0005
BLE	-1	0.7943	2.00	1.5849	0.0003	1.0000	0.0003
2.4G WIFI	17	50.1187	2.00	1.5849	0.0158	1.0000	0.0158
5.2G WIFI	9	7.9433	3	1.9953	0.0032	1.0000	0.0032
5.8G WIFI	10	10.0000	3	1.9953	0.0040	1.0000	0.0040

Remark:

1. For conservativeness, the lowest uplink frequency of each band is used to determine the MPE limit of that band.
2. MPE evaluate distance is 20cm from user manual provide by manufacturer.

simultaneous transmission Evaluation

The EUT have three type RF transmitters, WWAN(4G), WLAN(Wi-Fi/BT), and they can transmit simultaneously, if the sum of the ratios of all individual transmitters is less than 1, the simultaneously transmit can be exempt.

$$\text{SUM}_{\text{ratios}} = \text{Max. ratio of WWAN} + \text{Max. ratio of WLAN} + \text{Max. ratio of BT} = 0.1441 + 0.0158 + 0.0005 = 0.1604 < 1.$$



2.6 Conclusion

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

***** End of Report *****