



MPE TEST REPORT

Report No.: SHE23090001-02CE

Date: 2023-09-22

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Applicant : Georg Fischer JRG AG
Address of Applicant : Hauptstrasse 130, Sissach, 4450, Switzerland

Product Name : Electrically Operated Water Valve
Brand Name : GF
Model Name : 9910.015, 9910.020, 9910.025, 9920.015, 9920.020
Sample Acquisition Method : Sent by Client
Sample No. : E23090001-02#02

FCC ID : 2ASE5-99001
ISED Number : 24912-99001

Standards : FCC Part 2.1093
RSS-102 (Issue 5, Amd.1-February 2, 2021)

Date of Receipt : 2023-09-04
Date of Test : 2023-09-05~ 2023-09-22
Date of Issue : 2023-09-22

Remark:

This report details the results of the testing carried out on one sample, the results contained in this report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

Prepared by:

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Jennifer Zhou

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Approved by:

Echo Mu

(Authorized signatory: Echo Mu)





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1 General Information

1.1 Testing Laboratory

ISED CAB identifier #	CN0081
Company Name	ICAS Testing Technology Services (Shanghai) Co., Ltd.
Address	No.1298, Pingan Road, Minhang District, Shanghai, China
Telephone	0086 21-51682999
Fax	0086 21-54711112
Homepage	www.icasiso.com

1.2 Details of Application

Applicant Company Name	Georg Fischer JRG AG
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Contact Person	Philippe Cachot
Telephone	+41 61975 2402
Email	philippe-cachot@georgfischer.com
Manufacturer Company Name	Georg Fischer JRG AG
Address	Hauptstrasse 130, Sissach, 4450, Switzerland

1.3 Details of EUT

Product Name	Electrically Operated Water Valve
Brand Name	GF
Test Model Name	9910.015
Series Model Name	9910.020, 9910.025, 9920.015, 9920.020
Difference Description	All models are same in electrical characteristics. The differences between them are type designation and the appearance. So, all the RF tests were performed on model 9910.015.
FCC ID	2ASE5-99001
ISED Number	24912-99001
HVIN	99001
Mode of Operation	Bluetooth BLE
Frequency Range	2402MHz ~ 2480MHz
Modulation Type	BLE ☒ GFSK 1Mbps ☒ GFSK 2Mbps
Maximum conducted output power	-0.45dBm
E.I.R.P	1.37dBm
Antenna Type	PCB Antenna
Antenna Gain	1.82dBi
Hardware Version	Index D



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Software Version

V576

2 Assessment methods

For FCC

According to 447498 D01 General RF Exposure Guidance v06

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR.

Where $f(\text{GHz})$ is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation

For IC

According with section 2.5.1 of RSS-102 Issue 5, SAR evaluation is required if the separation distance between the user and/or bystander and the antenna and/or radiating element of the device is less than or equal to 20 cm, except when the device operates at or below the applicable output power level (adjusted for tune-up tolerance) for the specified separation distance defined in Table.

Exemption Limits (mW)

Frequency (MHz)	At separation distance of ≤ 5 mm	At separation distance of 10 mm	At separation distance of 15 mm	At separation distance of 20 mm	At separation distance of 25 mm
≤ 300	71mW	101mW	132mW	162mW	193mW
450	5mW	70mW	88mW	106mW	123mW
835	17mW	30mW	42mW	55mW	67mW
1900	7mW	10mW	18mW	34mW	60mW
2450	4mW	7mW	15mW	30mW	52mW
3500	2mW	6mW	16mW	32mW	55mW
5800	1mW	6mW	15mW	27mW	41mW
Frequency (MHz)	At separation distance of 30 mm	At separation distance of 35 mm	At separation distance of 40 mm	At separation distance of 45 mm	At separation distance of ≥ 50 mm
≤ 300	223mW	254mW	284mW	315mW	345mW
450	141mW	159mW	177mW	195mW	213mW
835	80mW	92mW	105mW	117mW	130mW
1900	99mW	153mW	225mW	315mW	431mW
2450	83mW	123mW	173mW	235mW	309mW
3500	86mW	124mW	170mW	225mW	290mW
5800	56mW	71mW	85mW	97mW	106mW



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Tune-up power

Operation Mode	Operation Frequency	Power Range (dBm)
BLE-1Mbps	2402-2480	(-0.50) – (-2.00)
BLE-2Mbps	2402-2480	(-0.40) – (-2.00)

FCC

Operation Mode	Operation Frequency (MHz)	Tune-up Power (dBm)	Tune-up Power (mW)	Separation Distance (mm)	RF exposure evaluation SAR	Exclusion Thresholds
BLE-1Mbps	2402-2480	-0.50	0.89125	5	0.27626	3.0
BLE-2Mbps	2402-2480	-0.40	0.91201	5	0.28269	3.0

3 Conclusion

For FCC: Per KDB 447498 D01v06, when the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion. The test exclusion threshold is <3.0, SAR testing is not required. RF exposure Evaluation Results: Compliance

For IC: RSS-102 section 2.5.1 Exemption Limits for Routine Evaluation, Table 1 shows the SAR evaluation for a device with a separation distance of 5 mm at 2450 MHz is 4mW, which is 6.02dBm >1.37dBm, so SAR testing is not required.



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4 Appendixes

4.1 Sample Photograph



Front of the sample



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Rear of the sample



Left of the sample



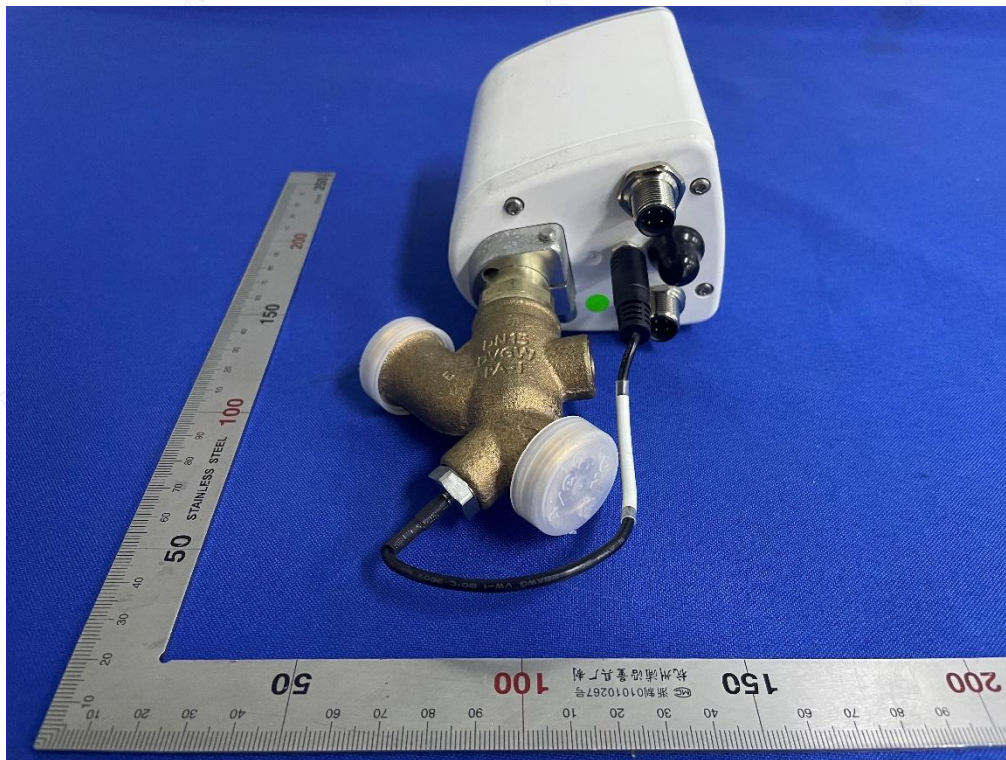
Right of the sample

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Top of the sample



Bottom of the sample

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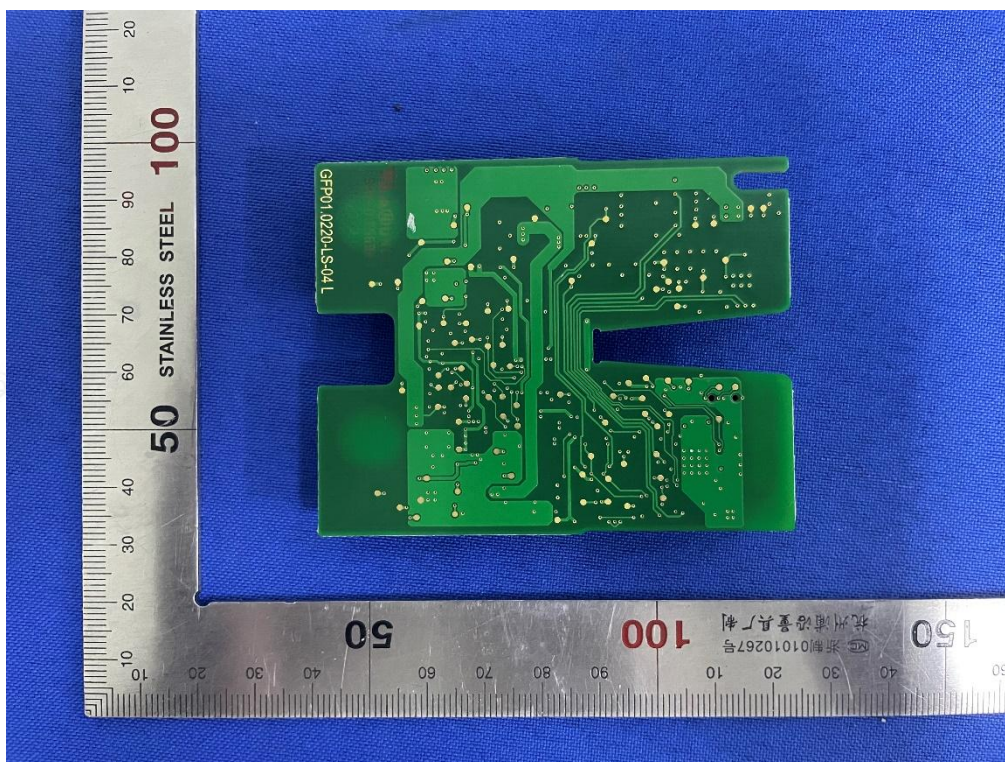
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Open of the sample



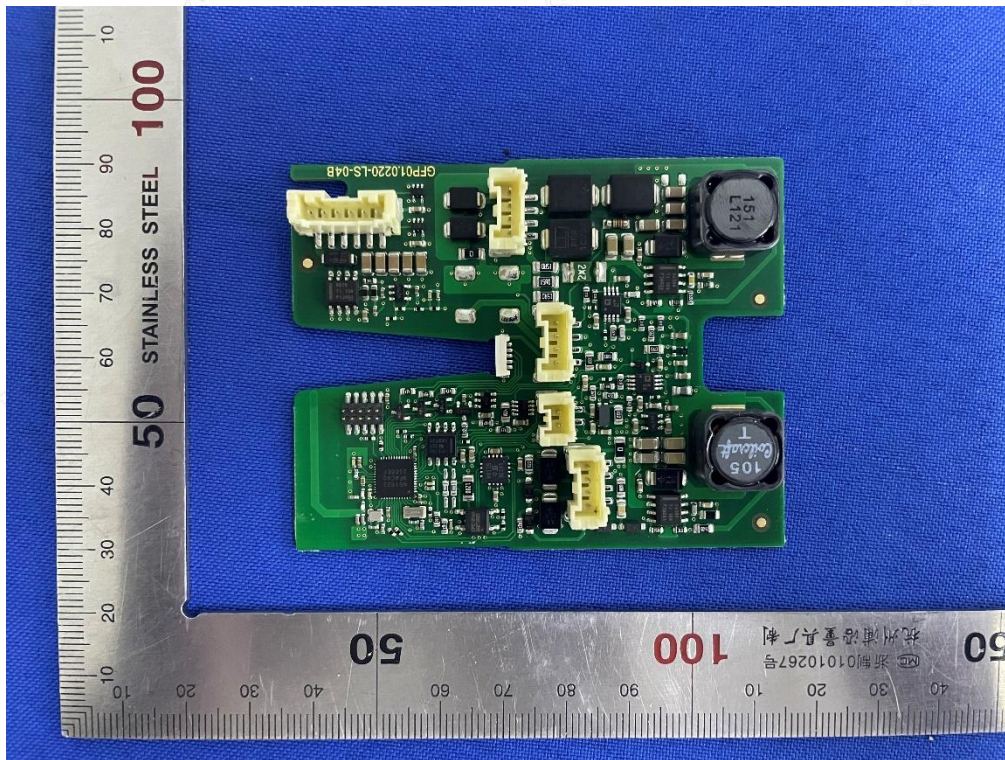
Internal-1 of the sample

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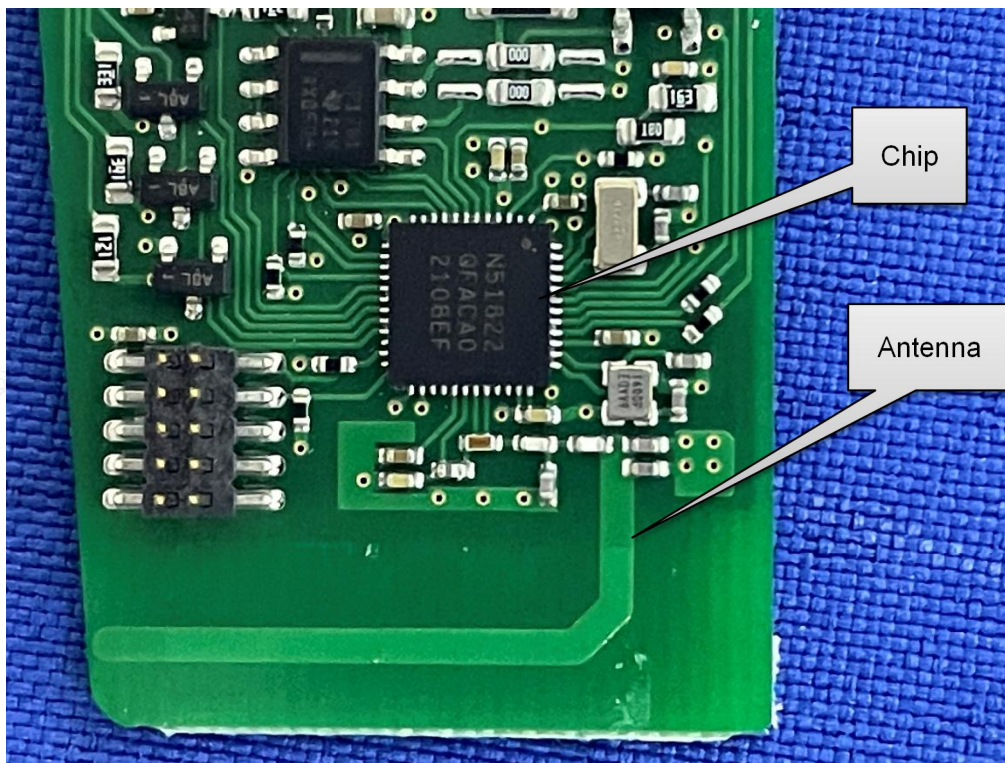
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Internal-2 of the sample



Antenna Position of the sample

End of the report

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