TEST REPORT

Report No.: 2502W73712E Date: October 27, 2025 Page 1 of 8

Renesas Design Korea Inc.
7th SiliconPark, 35 Pangyo-ro 255 beon-gil
Bundang-gu, Seongnam-si, Gyeonggi-do, 13486
Republic of Korea

Report on the submitted samples said to be:

Sample Description:	RRQ61051 Module
Tested Model(s).:	RRQ61051-009
Client Reference Information:	RRQ61051-010
Brand:	Renesas
Note:	The test results apply only to the particular sample tested and to the specific tests carried out. This verification applies specifically to the sample investigated in our test report number only.
Sample Receiving Date:	August 11, 2025
Testing Period:	August 11, 2025 - August 20, 2025
Result:	Please refer to next page(s).

Signed for and on behalf of

BACL

Checked by: Queenie Lee

Approved by: Len Xie

TEST REPORT

Report No.: 2502W73712E Date: October 27, 2025

****

Summary of Test Result:

TEST REQUEST	CONCLUSION
A RoHS Directive 2011/65/EU and its amendment directives (EU) 2015/863	Pass
A.1 (Pb/Cd/Hg/Cr/Br) XRF screening test	Please refer to next page(s).
A.2 Wet Chemical Testing	
A.2.1 PBBs & PBDEs Content	Pass
A.3 Phthalates(DBP, BBP, DEHP, DIBP) Content	Pass

****

A RoHS Directive 2011/65/EU and its amendment directives (EU) 2015/863

A.1 (Pb/Cd/Hg/Cr/Br) XRF screening test

Test method: IEC 62321-3-1:2013

Seq No.	Tested Part(s)	Result				
		Pb	Cd	Hg	Cr	Br
(1)	Silvery metal (cover , PCB)	BL	BL	BL	BL	---
(2)*	Blue/white PCB (PCB)	BL	BL	BL	BL	IN
(3)	Silvery solder (PCB)	BL	BL	BL	BL	---
(4)	Black body (IC , PCB)	BL	BL	BL	BL	BL
(5)	Black body (inductor , PCB)	BL	BL	BL	BL	BL
(6)	Brown body (capacitor , PCB)	BL	BL	BL	BL	BL
(7)	Black body (EC , PCB)	BL	BL	BL	BL	BL
(8)	Blue body (EC , PCB)	BL	BL	BL	BL	BL
(9)	Silvery metal (crystal oscillator , PCB)	BL	BL	BL	BL	---
(10)	Golden metal (shell , antenna socket , PCB)	BL	BL	BL	BL	---
(11)	White plastic (pin holder , antenna socket , PCB)	BL	BL	BL	BL	BL
(12)	Golden metal (pin , antenna socket , PCB)	BL	BL	BL	BL	---

Note:

--- = Not Applicable.

* = Screening by XRF and detected by chemical method. The test result of chemical method please refer to next pages.

Remark:

i Result were obtained by XRF for primary screening, and further chemical testing by ICP (for Cd, Pb, Hg), UV-Vis (for Cr(VI)) and GC-MS (for PBBs, PBDEs) are recommended to be performed, if the concentration exceeds the below warning value according to IEC62321-3-1:2013.

Element	Unit	Polymers	Metal	Composite Material
Cd	mg/kg	BL≤70-3σ<X <130+3σ≤OL	BL≤70-3σ<X <130+3σ≤OL	BL≤50-3σ<X <150+3σ≤OL
Pb	mg/kg	BL≤700-3σ<X <1300+3σ≤OL	BL≤700-3σ<X <1300+3σ≤OL	BL≤500-3σ<X <1500+3σ≤OL
Hg	mg/kg	BL≤700-3σ<X <1300+3σ≤OL	BL≤700-3σ<X <1300+3σ≤OL	BL≤500-3σ<X <1500+3σ≤OL
Cr	mg/kg	BL≤700-3σ<X	BL≤700-3σ<X	BL≤500-3σ<X
Br	mg/kg	BL≤300-3σ<X	--	BL≤250-3σ<X

Note:
BL = Below Limit
OL = Over Limit
IN/X = Inconclusive (questionable, need further chemical analysis)

ii The XRF screening test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.

iii The maximum permissible limit is quoted from the RoHS directive 2011/65/EU:

Restricted Substances	Maximum Concentration Value (mg/kg) (by weight in homogenous materials)
Cadmium (Cd)	100
Lead (Pb)	1000
Mercury (Hg)	1000
Hexavalent Chromium (Cr(VI))	1000
Polybrominated biphenyls (PBBs)	1000
Polybrominated diphenylethers (PBDEs)	1000

Disclaimers:

This XRF Screening report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF screening report is sufficient for its/his/her purposes.

The result shown in this XRF screening report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect (e.g. plastic, rubber, metal, glass, ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis are required to obtain quantitative data.

A.2 Wet Chemical Testing

A.2.1 PBBs & PBDEs Content

Test method: IEC 62321-6:2015

Item	Unit	RL	Result	Limit
			(2)	
Monobromobiphenyl (MonoBB)	mg/kg	25	N.D.	-
Dibromobiphenyl(DiBB)	mg/kg	25	N.D.	-
Tribromobiphenyl(TriBB)	mg/kg	25	N.D.	-
Tetrabromobiphenyl(TetraBB)	mg/kg	25	N.D.	-
Pentabromobiphenyl(PentaBB)	mg/kg	25	N.D.	-
Hexabromobiphenyl(HexaBB)	mg/kg	25	N.D.	-
Heptabromobiphenyl (HeptaBB)	mg/kg	25	N.D.	-
Octabromobiphenyl(OctaBB)	mg/kg	25	N.D.	-
Nonabromobiphenyl(NonaBB)	mg/kg	25	N.D.	-
Decabromobiphenyl(DecaBB)	mg/kg	25	N.D.	-
Monobromodiphenyl ether (MonoBDE)	mg/kg	25	N.D.	-
Dibromodiphenyl ether (DiBDE)	mg/kg	25	N.D.	-
Tribromodiphenyl ether (TriBDE)	mg/kg	25	N.D.	-
Tetrabromodiphenyl ether (TetraBDE)	mg/kg	25	N.D.	-
Pentabromodiphenyl ether (PentaBDE)	mg/kg	25	N.D.	-
Hexabromodiphenyl ether (HexaBDE)	mg/kg	25	N.D.	-
Heptabromodiphenyl ether (HeptaBDE)	mg/kg	25	N.D.	-
Octabromodiphenyl ether (OctaBDE)	mg/kg	25	N.D.	-
Nonabromodiphenyl ether (NonaBDE)	mg/kg	25	N.D.	-
Decabromodiphenyl ether (DecaBDE)	mg/kg	25	N.D.	-

Item	Unit	RL	Result	Limit
			(2)	
sum of MonoBDE,DiBDE,TriBDE,TetraBDE,PentaBDE,HexaBDE,HeptaBDE,OctaBDE,NonaBDE,DecaBDE	mg/kg	-	N.D.	1000
sum of MonoBB,DiBB,TriBB,TetraBB,PentaBB,HexaBB,HeptaBB,OctaBB,NonaBB,DecaBB	mg/kg	-	N.D.	1000
Conclusion	/	/	**Pass**	/

Note:
- N.D.= Not Detected or less than RL
- RL = Report Limit
- mg/kg = ppm
- The Result less than RL are not taken into account while calculating the sum contents.

A.3 Phthalates(DBP, BBP, DEHP, DIBP) Content

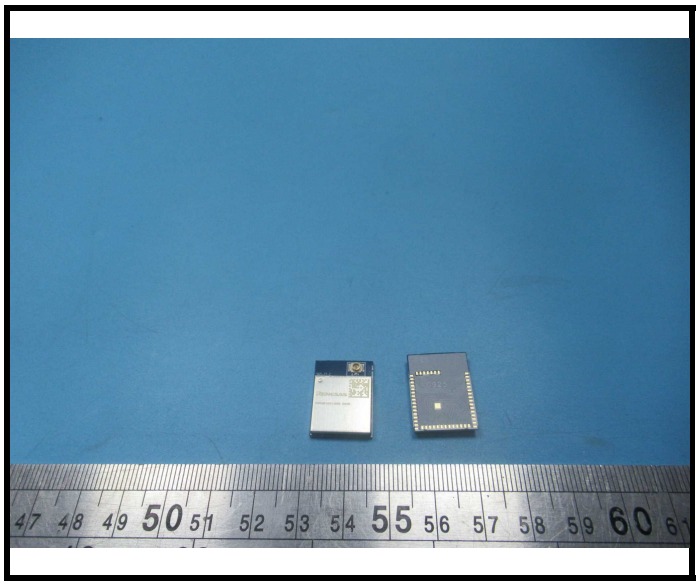
Test method: IEC 62321-8:2017

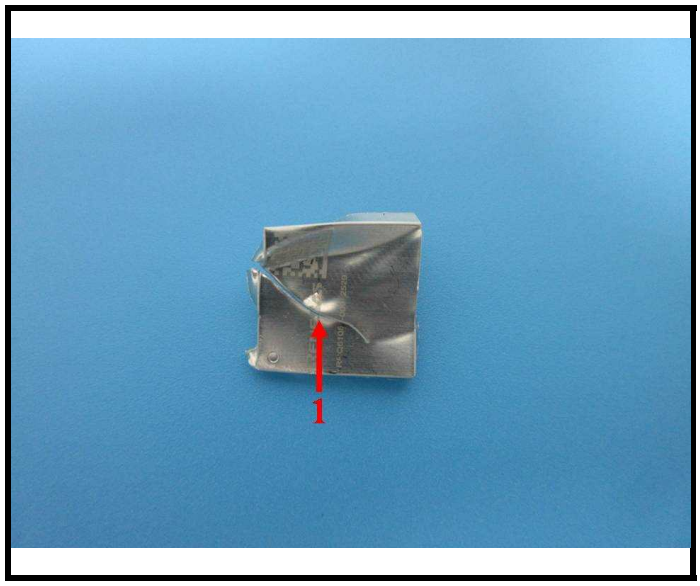
Item	Unit	RL	Result	Limit
			(2)+(4)+(5)+(6)+(7)+(8)+(11)	
Dibutyl Phthalate(DBP)	mg/kg	30	N.D.	1000
Benzyl Butyl Phthalate(BBP)	mg/kg	30	N.D.	1000
Bis-(2-ethylhexyl) Phthalate (DEHP)	mg/kg	30	N.D.	1000
Diisobutyl phthalate(DIBP)	mg/kg	30	N.D.	1000
Conclusion	/	/	**Pass**	/

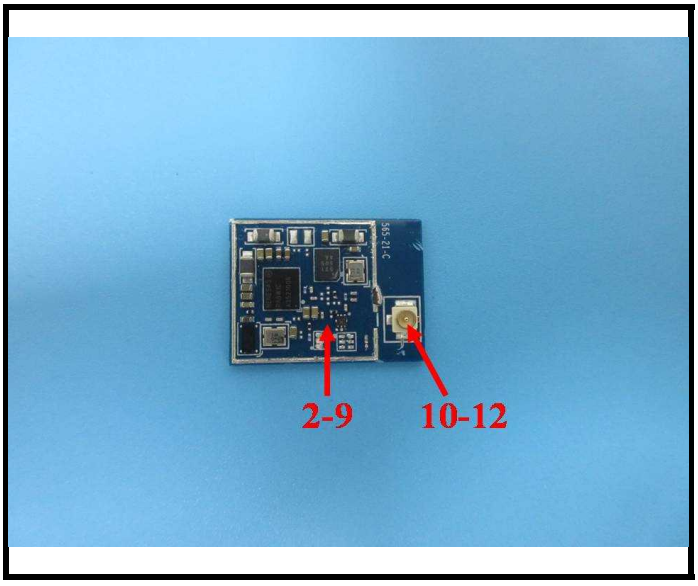
Note:
- N.D. = Not Detected or less than RL
- RL = Report Limit
- mg/kg = ppm
- "+" =According to the applicant's request, the sample is mixed and tested, and the test result is the mixed test value, because the whole mixed test sample is regarded as a homogeneous material. If the test sample is not a homogeneous material, there will be differences in the test results, and the applicant shall undertake all differences and risk.

****

Photograph of Sample







BACL authenticate the photo on original report only

TEST REPORT

Statement:

1.This report cannot be reproduced except in full, without prior written approval of the Company.
2.Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.
3.This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.
4.Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.
5.The information which provided by the applicant, such as sample description, sample name, material component, style/item No. , P.O. No. , manufacturer, age phase, the laboratory is not responsible for its authenticity and this information can affect the validity of the result in the test report.
6.The test samples were in good condition before testing.

*** End of Report ***