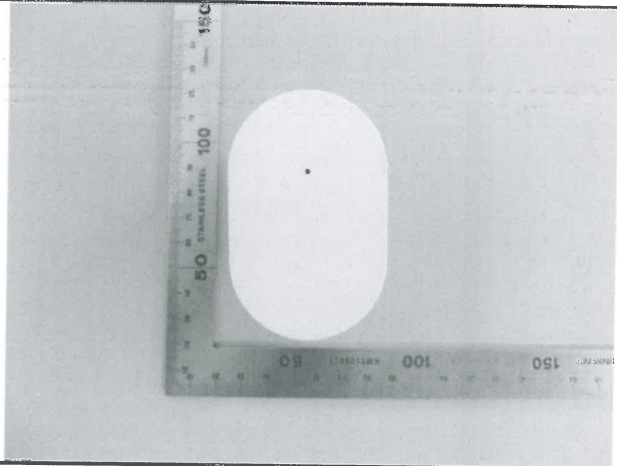




Prüfbericht-Nr.: 50073015 001 <i>Test Report No.:</i>		Auftrags-Nr.: 154186596 <i>Order No.:</i>		Seite 1 von 11 <i>Page 1 of 11</i>	
Kunden-Referenz-Nr.: 60052183 <i>Client Reference No.:</i>		Auftragsdatum: 06.28.2016 <i>Order date:</i>			
Auftraggeber: Glue AB <i>Client:</i> c/o Epicenter, Malmskillnadsgatan 32, Stockholm, Sweden					
Prüfgegenstand: GLUE WI-FI HUB <i>Test item:</i>					
Bezeichnung / Typ-Nr.: GH01A.CL <i>Identification / Type No.:</i> FCC ID: 2AJLEHUBV1 IC: 21878-HUBV1					
Auftrags-Inhalt: Complete test <i>Order content:</i>					
Prüfgrundlage: FCC KDB # 447498 D01 V06 <i>Test specification:</i> RSS-102 Issue 5, March 2015					
Wareneingangsdatum: 10.14.2016 <i>Date of receipt:</i>					
Prüfmuster-Nr.: A000392452-028 <i>Test sample No.:</i>					
Prüfzeitraum: 10.25.2016 to 10.29.2017 <i>Testing period:</i>					
Ort der Prüfung: MRT Technology(Suzhou) Co., Ltd. <i>Place of testing:</i>					
Prüflaboratorium: TÜV Rheinland (Shanghai) Co., Ltd. <i>Testing laboratory:</i>					
Prüfergebnis*: Pass <i>Test result*:</i>					
geprüft von / tested by:  03.04.2017 Elliot Zhang / Senior Project Engineer Datum Name / Stellung Unterschrift Date Name / Position Signature					
kontrolliert von / reviewed by:  03.04.2017 Shi Li / Section Manager Datum Name / Stellung Unterschrift Date Name / Position Signature					
Sonstiges / Other					
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>					
Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>					
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested					
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>					

TEST SUMMARY

2.3.1 FCC EVALUATION FOR BLUETOOTH LOW ENERGY

RESULT: Pass

2.3.2 FCC EVALUATION FOR WI-FI

RESULT: Pass

2.4.1 IC EVALUATION FOR BLUETOOTH LOW ENERGY

RESULT: Pass

2.4.2 IC EVALUATION FOR WI-FI

RESULT: Pass

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1. General Product Information

1.1 Product Function and Intended Use

The EUT (Equipment Under Test) is a Glue Wi-Fi Hub which support Bluetooth Low Energy and Wi-Fi 802.11b/g/n-HT20, and it should be used in conjunction with the Glue Smart Lock to ensure that the Glue Wi-Fi Hub will perform as designed, with maximum security and functionality.

The aim of this report is to evaluate the RF Exposure of the EUT.

For details refer to the User Manual and Circuit Diagram.

1.2 Ratings and System Details

Table 1: Technical Specification of EUT

General Description of EUT	
Product Name:	GLUE WI-FI HUB
Brand Name:	GLUE
Model No.:	GH01A.CL
Rated Voltage:	AC 120V/60Hz
Technical Specification of BLE	
Frequency Range:	2402 – 2480MHz
Modulation Type:	GFSK
Antenna Type:	PCB
Antenna Gain:	1.95 dBi
Technical Specification of Wi-Fi	
Frequency Range:	2412 – 2462MHz
Modulation Type:	DSSS, OFDM
Antenna Type:	PCB
Antenna Gain:	4.15 dBi

2. RF Exposure

2.1 FCC Requirement and Limit

According to FCC KDB # 447498 D01 V06, Clause 4.3.1

- (a) For 100MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

$$\frac{(\text{max. power of channel, including tune - up tolerance, mW})}{(\text{min. test separation distance, mm})} \times \sqrt{f(\text{GHz})}$$

≤ 3.0 , for 1-g SAR, and ≤ 7.5 , for 10-g extremity SAR

2.2 IC Requirement and Limit

According to IC RSS-102 Issue 5, March 2015, Clause 2.5.1 Exemption Limits for Routine Evaluation – SAR Evaluation.

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 1.

Table 1: SAR evaluation – Exemption limits for routine evaluation based on frequency and separation distance

Frequency [MHz]	Exemption Limits [mW]				
	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	71	101	132	162	193
450	52	70	88	106	123
835	17	30	42	55	67
1900	7	10	18	34	60
2450	4	7	15	30	52
3500	2	6	16	32	55
5800	1	6	15	27	41

Frequency [MHz]	Exemption Limits [mW]				
	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	223	254	284	315	345
450	141	159	177	195	213
835	80	92	105	117	130
1900	99	153	225	316	431
2450	83	123	173	235	309
3500	86	124	170	225	290
5800	56	71	85	97	106

2.3 FCC Evaluation Results

2.3.1 FCC Evaluation for Bluetooth Low Energy

RESULT:**Pass**

According to the Bluetooth Low Energy RF test report No. 50068240 001 issued by TÜV Rheinland (Shanghai) Co., Ltd. The maximum peak conducted output power is

Frequency [GHz]	Maximum Conducted Peak Output Power [dBm]	Maximum Conducted Peak Output Power [mW]
2.48	1.48	1.406047524

And for the frequency 2.48GHz, the SAR test exclusion thresholds at the test separation distance 50mm is,

1-g SAR test exclusion thresholds = 95.25009525 mW

10-g SAR test exclusion thresholds = 238.1252381 mW

Conclusion

The device is excluded for SAR test and complies with the FCC exposure requirements since the maximum conducted peak output power is lower than the SAR test exclusion thresholds.

2.3.2 FCC Evaluation for Wi-Fi

RESULT:**Pass**

According to the Wi-Fi RF test report No. 50068241 001 issued by TÜV Rheinland (Shanghai) Co., Ltd. The maximum peak conducted output power is

Frequency [GHz]	Maximum Conducted Peak Output Power [dBm]	Maximum Conducted Peak Output Power [mW]
2.412	19.74	94.18895965

And for the frequency 2.412GHz, the SAR test exclusion thresholds at the test separation distance 50mm is,

1-g SAR test exclusion thresholds = 96.58342616 mW

10-g SAR test exclusion thresholds = 241.4585654 mW

Conclusion

The device is excluded for SAR test and complies with the FCC exposure requirements since the maximum conducted peak output power is lower than the SAR test exclusion thresholds.

2.4 IC Evaluation Results

2.4.1 IC Evaluation for Bluetooth Low Energy

RESULT:**Pass**

According to the Bluetooth Low Energy RF test report No. 50068240 001 issued by TÜV Rheinland (Shanghai) Co., Ltd. The maximum peak conducted output power is

Frequency [GHz]	Maximum Conducted Peak Output Power [dBm]	Maximum Conducted Peak Output Power [mW]
2.48	1.48	1.406047524

And according to IC RSS-102 Issue 5, March 2015, table 1, for the frequency 2.45GHz, the SAR test exclusion thresholds at the test separation distance 50mm is 309mW.

Conclusion

The device is excluded for SAR test and complies with the IC exposure requirements since the maximum conducted peak output power is lower than the SAR test exclusion thresholds.

2.4.2 IC Evaluation for Wi-Fi

RESULT:**Pass**

According to the Wi-Fi RF test report No. 50068241 001 issued by TÜV Rheinland (Shanghai) Co., Ltd. The maximum peak conducted output power is

Frequency [GHz]	Maximum Conducted Peak Output Power [dBm]	Maximum Conducted Peak Output Power [mW]
2.412	19.74	94.18895965

And according to IC RSS-102 Issue 5, March 2015, table 1, for the frequency 2.45GHz, the SAR test exclusion thresholds at the test separation distance 50mm is 309mW.

Conclusion

The device is excluded for SAR test and complies with the IC exposure requirements since the maximum conducted peak output power is lower than the SAR test exclusion thresholds.

3. List of Tables

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