

Report Seal

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# **FCC TEST REPORT**

**Product** SeeedStudio BeagleBone Green Eco

Trade mark seeed studio

Model/Type reference SeeedStudio BeagleBone Green Eco

Serial Number N/A DC 5V Ratings

FCC ID **Z4T-SSBBGECO** 

**Report Number** EED32R811519

**Date of Issue** Jul. 16, 2025 Regulations See below

Test Standards	Results
47 CFR FCC Part 15 Subpart B	PASS

#### Prepared for:

Seeed Technology Co., Ltd. 9F, G3 Building, TCL International E City, Zhongshanyuan Road, Nanshan District, Shenzhen, Guangdong Province, P.R.C

Prepared by:

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> Date of Issue: Jul. 16, 2025 David Wang

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(Note: N/A means not applicable)			





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### 1. GENERAL INFORMATION

**Applicant:** Seeed Technology Co., Ltd.

9F, G3 Building, TCL International E City, Zhongshanyuan Road,

Nanshan District, Shenzhen, Guangdong Province, P.R.C

**Manufacturer:** Seeed Technology Co., Ltd.

9F, G3 Building, TCL International E City, Zhongshanyuan Road,

Nanshan District, Shenzhen, Guangdong Province, P.R.C

**Product:** SeeedStudio BeagleBone Green Eco

**Trade mark:** seeed studio

**Model/Type reference:** SeeedStudio BeagleBone Green Eco

**Serial Number:** N/A

**Report Number:** EED32R811519

**State of Sample(s):** Normal

Sample Received Date: Jul. 09, 2025

**Sample tested Date:** Jul. 09, 2025 to Jul. 14, 2025

#### 2. TEST SUMMARY

The Product has been tested according to the following specifications:

Standard	Test Item	Test Method	Test
FCC 15.107	Conducted Emission	ANSI C63.4:2014	Yes
FCC 15.109	Radiated Emission	ANSI C63.4:2014	Yes

#### 3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Test item	Value (dB)			
Conducted disturbance	3.1			
Radiated disturbance (30MHz to 1GHz)	4.9			
Radiated disturbance (1GHz to 6GHz)	4.7			

### 4. PRODUCT INFORMATION AND TEST SETUP

#### 4.1. PRODUCT INFORMATION

Ratings: DC 5V

**Highest frequency** less than 1.705 MHz, the measurement shall only be made





generated or used in the	up to 30MHz.
	between 1.705 MHz and 108 MHz, the measurement shall
device or on which the	only be made up to 1 GHz.
device operates or tunes of	between 108 MHz and 500 MHz, the measurement shall
the EUT is 1 GHz:	only be made up to 2 GHz.
	between 500 MHz and 1 GHz, the measurement shall only
	be made up to 5 GHz.
	above 1 GHz, the measurement shall be made up to 5 times
	the highest frequency or 40 GHz, whichever is lower.

#### 4.2. TEST SETUP CONFIGURATION

See test photographs attached in Appendix 1 for the actual connections between Product and support equipment.

### 4.3. TEST MODE DESCRIPTION

4	Test Mode	Test Status
\$	1	Normal mode:EUT connected to AE then it powered and works normally.

#### 4.4. SUPPORT EQUIPMENT

No.	Device Type	Brand	Series No.	Model	Data Cable	Power Cord
1.	Adapter	MI	(3/1)	MDY-14-EU	( , 2	( )
2.	Notebook	DELL	(V)	Dell G16 7620		//

#### Notes:

- 1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
- 2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

## 5. FACILITIES AND ACCREDITATIONS

#### 5.1. TEST FACILITY

All test facilities used to collect the test data are located at Hongwei Industrial Park, Zone 70, Bao'an District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4, CISPR 16-1-1 and other equivalent standards.

#### **5.2. TEST EQUIPMENT LIST**

**Instrumentation:** The following list contains equipments used at CTI for testing. The calibrations of the measuring instruments, including any accessories that may effect such calibration, are checked frequently to assure their accuracy. Adjustments are made and correction factors applied in accordance with instructions contained in the manual for the measuring instrument.





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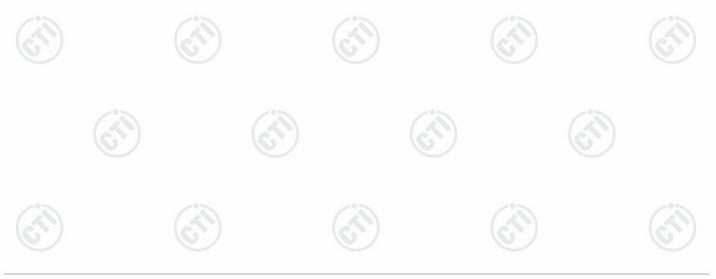
**Equipment used during the tests:** 

Shielding Room No. 3_Hongwei-Conducted emissions								
Equipment	Series No.	<b>Due Date</b>						
Receiver	R&S	ESCI	100435	04/07/2026				
LISN	R&S	ENV216	100098	09/13/2025				
Software-EZ	Farad Technology	(c <sup>1</sup> ) -	EMC-CON 3A1.	- (ci				

3M Semi-anechoic Chamber (2)_Hongwei-Radiated emissions							
Equipment	Manufacturer	Model	Series No.	<b>Due Date</b>			
3M Chamber & Accesso ry Equipment	TDK	SAC-3		01/12/2027			
Receiver	R&S	ESR7	101697	09/13/2025			
TRILOG Broadband Ant enna	Schwarzbeck	VULB9163	9163-401	09/13/2025			
Microwave Preamplifier	Tonscend	EMC051845SE	980380	12/04/2025			
Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-1869	04/06/2026			
Automation Controller	SKET	BK-SC1001	S-C-TTAT-2623- 002	<u>-</u>			
Software-EZ	Farad Technology		EMEC-3A1-Pre	- >0			

### 5.3. LABORATORY ACCREDITATIONS AND LISTINGS

The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable under the ISO/IEC 17025 to international or national standards. Equipment has been calibrated by accredited calibration laboratories.





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#### 6. CONDUCTED EMISSION TEST

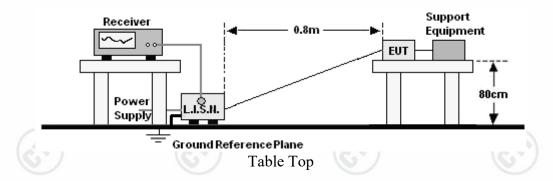
#### 6.1. LIMITS

Limits for Class A digital devices

Frequency range	Lin dB(	nits μV)
(MHz)	Quasi-peak	Average
0,15 to 0,50	79	66
0,50 to 30	73	60

**NOTE:** 1. The lower limit shall apply at the transition frequencies.

#### 6.2. BLOCK DIAGRAM OF TEST SETUP



### 6.3. PROCEDURE OF CONDUCTED EMISSION TEST

#### Table Top:

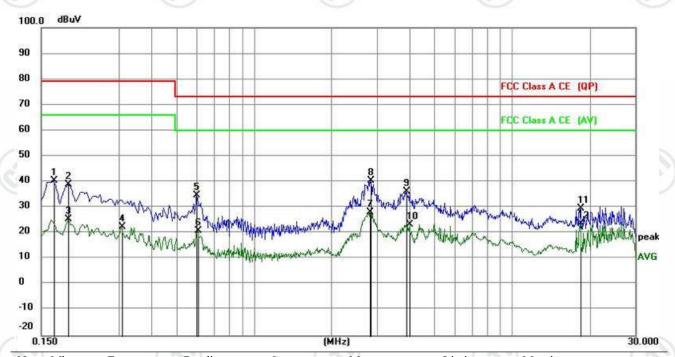
- a. The Product was placed on a nonconductive table 0.8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).
- b. The RBW of the receiver was set at 9 kHz in  $150 \, \text{kHz} \sim 30 \, \text{MHz}$  with Peak and AVG detector in Max Hold mode. Run the receiver's pre-scan to record the maximum disturbance generated from Product in all power lines in the full band.
- c. For each frequency whose maximum record was higher or close to limit, measure its QP and AVG values and record.



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## 6.4. GRAPHS AND DATA

Product	:	SeeedStudio BeagleBone	SeeedStudio BeagleBone Green Eco				
Model/Type reference	:	SeeedStudio BeagleBone	SeeedStudio BeagleBone Green Eco				
Power	:	AC 120V/60Hz	Temperature	:	25℃		
Mode	:/	1)	Humidity	V:	45%R.H.		
Phase	):	L1	Press	<b>:</b>	101KPa		



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	
			Level	Factor	ment			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.1680	30.13	10.26	40.39	79.00	-38.61	QP
2		0.1905	28.63	10.22	38.85	79.00	-40.15	QP
3		0.1905	15.18	10.22	25.40	66.00	-40.60	AVG
4	1	0.3075	12.39	10.13	22.52	66.00	-43.48	AVG
5		0.6000	24.67	10.10	34.77	73.00	-38.23	QP
6		0.6045	10.85	10.10	20.95	60.00	-39.05	AVG
7	*	2.8095	18.00	10.14	28.14	60.00	-31.86	AVG
8		2.8365	30.23	10.14	40.37	73.00	-32.63	QP
9		3.8940	26.24	10.10	36.34	73.00	-36.66	QP
10		4.0155	13.13	10.10	23.23	60.00	-36.77	AVG
11		18.3660	19.86	9.82	29.68	73.00	-43.32	QP
12		18.3660	13.95	9.82	23.77	60.00	-36.23	AVG







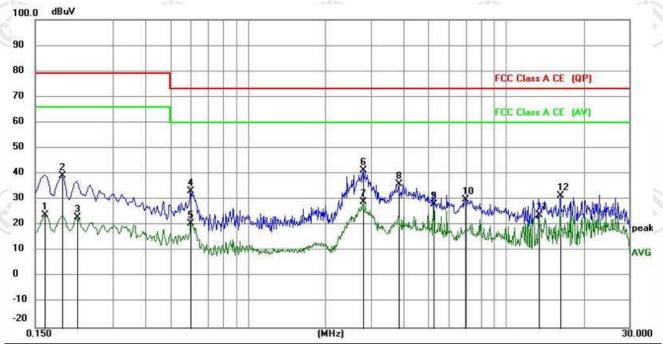






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Product	:	SeeedStudio BeagleBone Green Eco						
Model/Type reference	:	SeeedStudio BeagleB	one Green Eco		(20)			
Power	:	AC 120V/60Hz	Temperature	:	25℃			
Mode	:	1)	Humidity	:	45%R.H.			
Phase	:	N	Press	:	101KPa			



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	
			Level	Factor	ment			
10.		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.1635	13.67	10.26	23.93	66.00	-42.07	AVG
2		0.1905	28.99	10.22	39.21	79.00	-39.79	QP
3		0.2175	12.85	10.20	23.05	66.00	-42.95	AVG
4		0.6000	23.15	10.10	33.25	73.00	-39.75	QP
5		0.6000	10.46	10.10	20.56	60.00	-39.44	AVG
6		2.8005	31.28	10.14	41.42	73.00	-31.58	QP
7	*	2.8005	18.80	10.14	28.94	60.00	-31.06	AVG
8		3.8400	25.74	10.10	35.84	73.00	-37.16	QP
9		5.2350	18.03	10.06	28.09	60.00	-31.91	AVG
10		6.9765	20.02	10.03	30.05	73.00	-42.95	QP
11		13.3575	14.10	9.89	23.99	60.00	-36.01	AVG
12		16.2285	21.64	9.85	31.49	73.00	-41.51	QP
NT .			190		33 /	(30.3)	· /	1.00

#### Note:

- 1. Margin=Measurement-Limit.
- 2. Measurement=Reading Level+Correct Factor.















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### 7. RADIATED EMISSION TEST 7.1. LIMITS

For unintentional device, according to §15.109 (b) The field strength of radiated emissions from a Class A digital device, as determined at a distance of 10 meters, shall not exceed the following values.

According to FCC 15.31 section(1), at frequencies at or above 30 MHz measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

According to FCC 15.31 section(2), frequencies below 30 MHz, performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade).

According to 15.35 Measurement detector functions and bandwidths section (b). Unless otherwise specified, e.g., see §§15.250, 15.252, 15.253(d), 15.255, 15.256, and 15.509 through 15.519 of this part, the limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test.

Limits for Class A digital devices

Frequency (MHz)	limits at 3m dB(μV/m)
30-88	49.5
88-216	54.0
216-960	56.9
Above 960	60.0

**NOTE:** 1. The lower limit shall apply at the transition frequency.

- 2. The limits shown above are based on measuring equipment employing a CISPR quasi-peak detector function for frequencies below or equal to 1000MHz.
- 3. The limits shown above are based on measuring equipment employing an average detector function for frequencies above 1000MHz.





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#### 7.2. BLOCK DIAGRAM OF TEST SETUP

### 30MHz ~ 1GHz(3m):

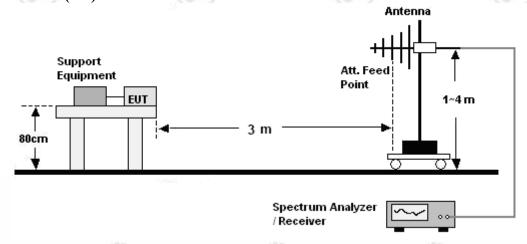


Table Top

#### **Above 1GHz:**

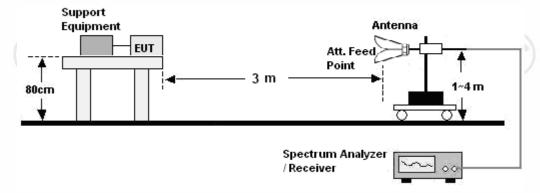


Table Top

#### 7.3. PROCEDURE OF RADIATED EMISSION TEST

#### **30MHz** ~ **1GHz**(Table Top):

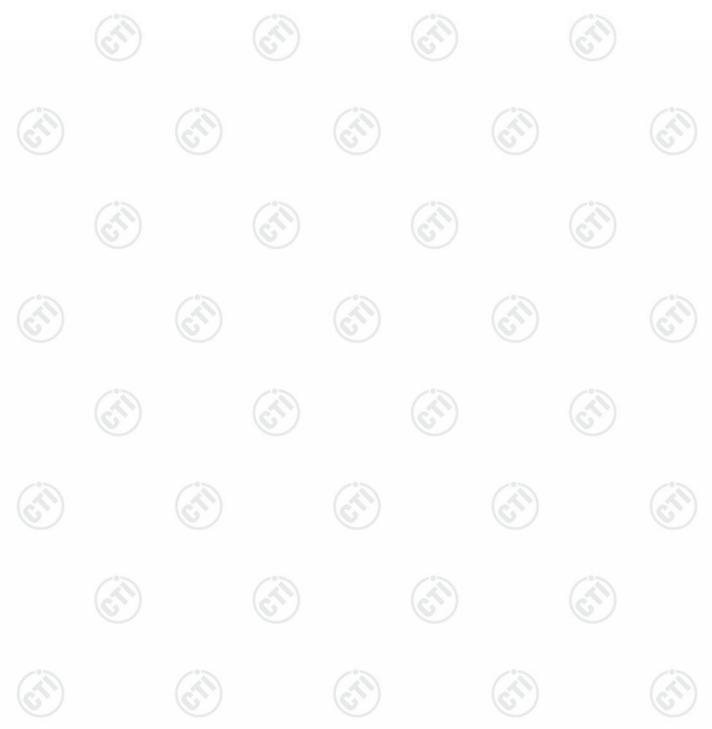
- a. The Product was placed on the non-conductive turntable 0.8m above the ground at a chamber.
- b. Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 120 kHz RBW. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied between 1~4 m in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.
- c. For each frequency whose maximum record was higher or close to limit, measure its QP value: vary the antenna's height and rotate the turntable from 0 to 360 degrees to find the height and degree where Product radiated the maximum emission, then set the test frequency analyzer/receiver to QP Detector and specified bandwidth with Maximum Hold Mode, and record the maximum value.



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### **Above 1GHz**(Table Top):

- a. The Product was placed on the non-conductive turntable 0.8m above the ground at a chamber.
- b. Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 1MHz RBW. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.
- c. For each frequency whose maximum record was higher or close to limit, measure its AV value: rotate the turntable from 0 to 360 degrees to find the degree where Product radiated the maximum emission, then set the test frequency analyzer/receiver to AV value and specified bandwidth with Maximum Hold Mode, and record the maximum value.

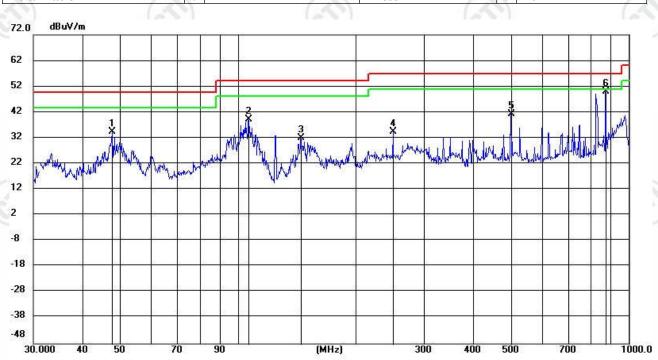




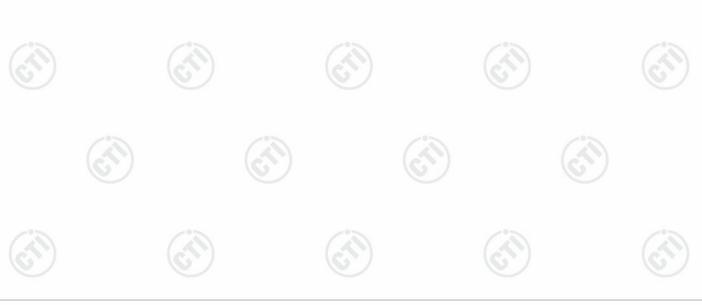
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### 7.4. GRAPHS AND DATA

Product	:	SeeedStudio BeagleBone	eedStudio BeagleBone Green Eco						
Model/Type reference	:	SeeedStudio BeagleBone	edStudio BeagleBone Green Eco						
Power	:	AC 120V/60Hz	Temperature		:	23℃			
Mode	:	1	Humidity		:	54%R.H.			
Polarization		Horizontal	Press	100	/	101KPa			



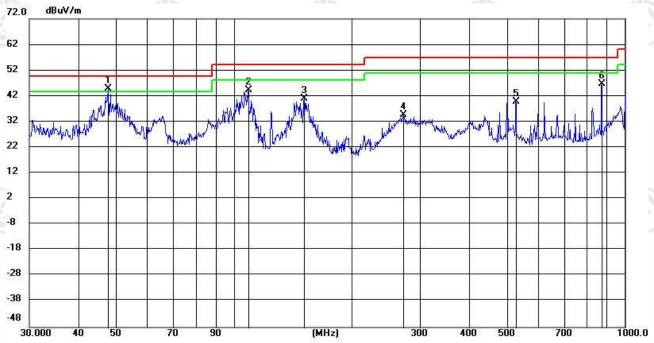
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		Antenna Height	Table Degree
		MII-	10.7		4D1//	4DX//	ID.	Datastan		
$\sim$ $\sim$		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		47.8092	20.01	14.22	34.23	49.50	-15.27	QP	200	6
2		106.7587	25.16	13.88	39.04	54.00	-14.96	QP	200	336
3		145.2995	21.49	10.39	31.88	54.00	-22.12	QP	200	39
4		250.0380	19.58	14.68	34.26	56.90	-22.64	QP	100	277
5		500.1256	20.45	20.81	41.26	56.90	-15.64	QP	100	285
6	*	875.2469	23.16	26.72	49.88	56.90	-7.02	QP	100	251



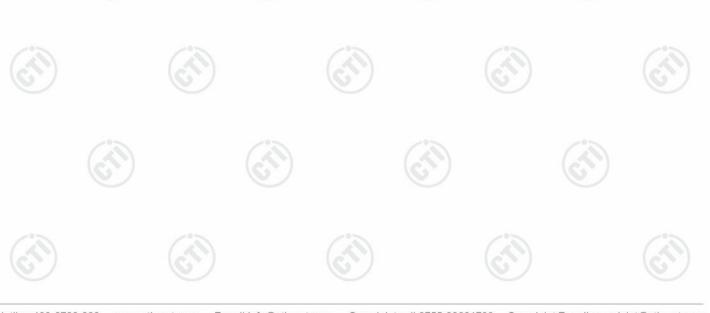


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Product	:	eeedStudio BeagleBone Green Eco						
Model/Type reference	:	SeeedStudio BeagleBon	ne Green Eco					
Power	:	AC 120V/60Hz	Temperature	:	23℃			
Mode	:	1	Humidity	:	54%R.H.			
Polarization	:	Vertical	Press	:	101KPa			



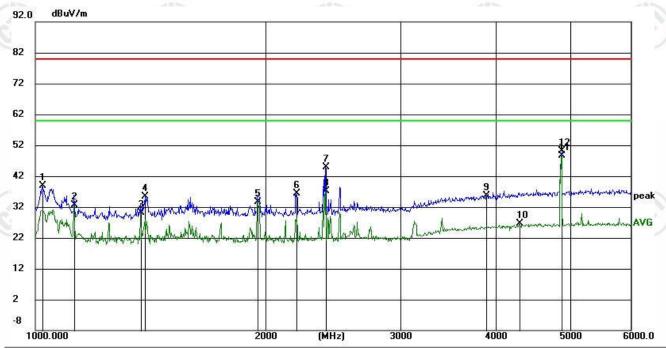
No.	No. Mk. Freq.		Reading Correct		Measurement	Limit	Ma	rgin	Antenna	Table
			Level	Factor					Height	Degree
20		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	47.7925	30.74	14.21	44.95	49.50	-4.55	QP	100	6
2		108.8186	30.08	14.09	44.17	54.00	-9.83	QP	100	285
3		151.5972	30.57	10.40	40.97	54.00	-13.03	QP	100	175
4		270.7068	19.12	15.46	34.58	56.90	-22.32	QP	200	184
5		528.0606	18.15	21.52	39.67	56.90	-17.23	QP	100	226
6	- 1	875.0935	19.97	26.72	46.69	56.90	-10.21	QP	100	6





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Product	:	SeeedStudio BeagleBone Green Eco						
Model/Type reference	:	SeeedStudio BeagleBo	one Green Eco		(1)			
Power	:	AC 120V/60Hz	Temperature	:	23℃			
Mode	:	1	Humidity	:	54%R.H.			
Polarization	:	Horizontal	Press	:	101KPa			



No.	Mk.	Freq.	Reading	Correct	Measurement	Limit	Mar	gin	Antenna	Table
			Level	Factor			-0		Height	Degree
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		1022.100	54.57	-15.81	38.76	80.00	-41.24	peak	100	160
2		1125.028	48.23	-15.51	32.72	60.00	-27.28	AVG	100	286
3		1375.043	44.97	-14.79	30.18	60.00	-29.82	AVG	100	313
4		1391.650	50.16	-14.74	35.42	80.00	-44.58	peak	199	5
5		1954.118	46.75	-13.09	33.66	60.00	-26.34	AVG	100	326
6		2192.341	48.24	-11.91	36.33	80.00	-43.67	peak	199	300
7		2393.308	55.65	-10.81	44.84	80.00	-35.16	peak	199	5
8		2393.308	47.93	-10.81	37.12	60.00	-22.88	AVG	199	5
9		3888.658	39.05	-3.36	35.69	80.00	-44.31	peak	199	90
10		4293.313	28.69	-2.08	26.61	60.00	-33.39	AVG	199	189
11	*	4874.002	49.17	-0.52	48.65	60.00	-11.35	AVG	100	353
12		4874.439	50.75	-0.52	50.23	80.00	-29.77	peak	100	353







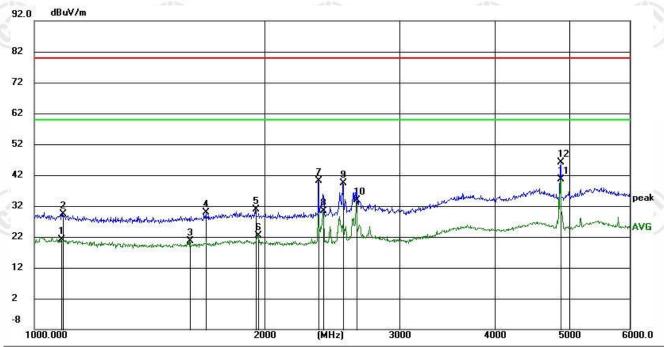






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Product	:	SeeedStudio BeagleB	SeeedStudio BeagleBone Green Eco						
Model/Type reference	:	SeeedStudio BeagleB	one Green Eco		(4/2)				
Power	:	AC 120V/60Hz	Temperature	:	23℃				
Mode	:	1)	Humidity	:	54%R.H.				
Polarization	:	Vertical	Press	:	101KPa				



No.	Mk.	Freq.	Reading	Correct	Measurement	Limit	Mai	rgin	Antenna	Table
			Level	Factor					Height	Degree
20		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		1084.455	36.86	-15.63	21.23	60.00	-38.77	AVG	100	303
2		1089.518	44.93	-15.62	29.31	80.00	-50.69	peak	100	357
3		1598.527	34.64	-14.13	20.51	60.00	-39.49	AVG	100	5
4		1678.362	43.68	-13.91	29.77	80.00	-50.23	peak	200	137
5		1946.779	43.99	-13.12	30.87	80.00	-49.13	peak	200	164
6	- /	1961.660	35.56	-13.07	22.49	60.00	-37.51	AVG	100	235
7		2353.336	51.27	-11.03	40.24	80.00	-39.76	peak	100	235
8		2387.954	41.20	-10.84	30.36	60.00	-29.64	AVG	200	191
9		2531.138	49.44	-10.13	39.31	80.00	-40.69	peak	100	32
10		2639.990	43.67	-9.79	33.88	60.00	-26.12	AVG	100	5
11	*	4874.002	41.25	-0.52	40.73	60.00	-19.27	AVG	100	249
12		4874.439	46.57	-0.52	46.05	80.00	-33.95	peak	100	249
5. 20			170.7				1.70.7			

- 1. Margin=Measurement(Level)-Limit.
- 2. Measurement(Level)=Reading Level+Correct Factor.















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#### Statement

- 1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
- 2. The Company Name shown on Report and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified;
- 3. The result(s) shown in this report refer(s) only to the sample(s) tested;
- 4. Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule stated in ILAC-G8:09/2019/CNAS-GL015:2022;
- 5. Without written approval of CTI, this report can't be reproduced except in full;

