



RF TEST REPORT

Product Name: Smart Beacon ID

Model Name: T7-BUD-A-TEEU-B-3, Colorado, 3460000

FCC ID: ZDLSB3

Issued For : Buddi Limited

Talbot House, 17 Church Street, Rickmansworth, WD3 1DE,
United Kingdom

Issued By : Shenzhen LGT Test Service Co., Ltd.

Room 205, Building 13, Zone B, Zhenxiong Industrial Park,
No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan
District, Shenzhen, Guangdong, China

Report Number: LGT24J015HA01

Sample Received Date: Oct. 11, 2024

Date of Test: Oct. 11, 2024 – Nov. 18, 2024

Date of Issue: Nov. 18, 2024

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TEST REPORT CERTIFICATION

Applicant: Buddi Limited

Address: Talbot House, 17 Church Street, Rickmansworth, WD3 1DE, United Kingdom

Manufacture: Buddi Limited

Address: Talbot House, 17 Church Street, Rickmansworth, WD3 1DE, United Kingdom

Product Name: Smart Beacon ID

Trademark: buddi

Model Name: T7-BUD-A-TEEU-B-3, Colorado, 3460000

Sample Status: Normal

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC 47 CFR §2.1091 KDB 447498 D01 General RF Exposure Guidance v06	PASS

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Revision History

Rev.	Issue Date	Revisions
00	Nov. 18, 2024	Initial Issue



1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

Product Name:	Smart Beacon ID	
Trademark:	buddi	
Model Name:	T7-BUD-A-TEEU-B-3	
Series Model:	Colorado, 3460000	
Model Difference:	The difference only in the model name.	
Frequency Bands:	GSM	GSM 850: 824 MHz ~ 849MHz GSM 1900: 1850 MHz ~ 1910MHz
	WCDMA	WCDMA Band V: 824 MHz ~ 849 MHz WCDMA Band II: 1850 MHz ~ 1910 MHz
	LTE	LTE Band 2:1850~1910MHz LTE Band 5: 824~849MHz LTE Band 12: 699-716MHz
	2.4G WLAN	802.11b/g/n(20MHz): 2412~2472MHz
	ISM	914.5~921MHz
Adapter:	Input: 100-240V 47/63Hz 0.4A Output: 5V 2.4A 12W max	
Battery:	Rated Capacity: 3100mAh Rated Voltage: 3.7V	
Hardware Version:	V14.1	
Software Version:	1.41.5	

1.2 TEST LABORATORY

Company Name:	Shenzhen LGT Test Service Co., Ltd.
Address:	Room 205, Building 13, Zone B, Zhenxiong Industrial Park, No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan District, Shenzhen, Guangdong, China
Accreditation Certificate	A2LA Certificate No.: 6727.01
	FCC Registration No.: 746540
	CAB ID: CN0136



2. FCC 47CFR §2.1091 REQUIREMENT

2.1 TEST STANDARDS

The limit for Maximum Permissible Exposure (MPE) specified in FCC 1.1310 is followed. The gain of the antennas used in the product is extracted from the Antenna data sheets provided and also the maximum total power input to the antenna is measured. Through the Friis transmission formula and the maximum gain of the antenna, we can calculate the distance, away from the product, where the limit of MPE is reached.

Although the Friis Transmission formula is far field assumption, the calculated result of that is an over-prediction for near field power density. It is taken as worst case to specify the safety range.

2.2 LIMIT

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environmental impact of the human exposure to radio-frequency (RF) radiation as specified in 1.1307 (b)

Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)
Limits for Occupational / controlled Exposures			
0.3-3.0	614	1.63	*(100)
3.0-30	1842/f	4.89/f	*(900/f ²)
30-300	61.4	0.163	1.0
300 - 1500	--	--	F/300
1500 – 100000	--	--	5.0
Limits for General population / Uncontrolled Exposure			
0.3-1.34	614	1.63	*(100)
1.34-30	824/f	2.19/f	*(180/f ²)
30-300	27.5	0.073	0.2
300 - 1500	--	--	F/1500
1500 – 100000	--	--	1.0

F= Frequency in MHz

* = Plane-wave equivalent power density.

Friis Formula

Friis Transmission Formula: $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = Distance between observation point and the center of radiator in cm

If we know the maximum gain of the antenna and the total output power to the antenna, through calculation, we will know MPE value at distance 20cm.



2.3 EUT OPERATION CONDITION

EUT was enabled to transmit and receive at lowest, middle and highest channels.

2.4 CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. Warning statement to the user for keeping at least 20cm or more separation distance from the antenna should be included in the User manual. So, this device is classified as Mobile device.



2.5 TEST RESULT

Turn up Result

Mode	Turn up Power
GSM 850	34±1dBm
GSM 1900	25±1dBm
WCDMA B2	24.5±1dBm
WCDMA B5	24±1dBm
LTE B2	25±1dBm
LTE B5	24.5±1dBm
LTE B12	24.5±1dBm
ISM-FSK	7.5±1dBm
2.4G WIFI-802.11b	19±1dBm
2.4G WIFI-802.11g	20.5±1dBm
2.4G WIFI-802.11n(HT20)	20.5±1dBm



The MPE result of worst mode:

RF Function	Frequency (MHz)	Max Turn up Power (dBm)	Duty cycle factor	Max Power (dBm)	Max Power (mW)	ANT Gain (dBi)	ANT Gain (gain of antenna in linear scale)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Ratio	Result
GSM (1Slot)	848.8	35	-9.03	25.97	395.37	1	1.26	0.099	0.566	0.175	Pass
WCDMA	1852.4	25.5	0	25.5	354.81	2.5	1.78	0.126	1	0.126	Pass
LTE	1905	26	0	26	398.11	2.5	1.78	0.141	1	0.141	Pass

RF Function	Frequency (MHz)	Max Turn up Power (dBm)	Max Turn up Power (mW)	ANT Gain (dBi)	ANT Gain (gain of antenna in linear scale)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Ratio	Result
2.4G WIFI	2462	21.50	141.25	3.5	2.24	0.063	1	0.063	Pass
ISM	917.5	8.50	7.079	1.4	1.38	0.001944	0.611666667	0.003178	Pass

The max MPE of simultaneous transmission:

$$\text{GSM}(0.175) + 2.4\text{G WIFI}(0.063) = 0.238 < 1$$

Note:

1. The Bluetooth and WLAN can't simultaneous transmission at the same time.
2. The Maximum Power Density is less than the limit, complies with the exemption requirements.



APPENDIX I - PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS

Note: Please see the attached T7-BUD-A-TEEU-B-3_EUT Photos.

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