RF TEST REPORT

Product Name: TWS Earphone

Model Name: Happy Plugs Clip, TS-R9

FCC ID: 2AJYS-CLIP

Issued For : Happy Plugs AB

Energigatan 15B, Kungsbacka, 434 37, Sweden

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:	LGT24G073HA02
Sample Received Date:	Jul. 10, 2024
Date of Test:	Jul. 10, 2024 – Jul. 29, 2024
Date of Issue:	Jul. 29, 2024

TEST REPORT CERTIFICATION

Applicant:	Happy Plugs AB
Address:	Energigatan 15B, Kungsbacka, 434 37, Sweden
Manufacture:	Happy Plugs AB
Address:	Energigatan 15B, Kungsbacka, 434 37, Sweden
Product Name:	TWS Earphone
Trademark:	Happy Plugs
Model Name:	Happy Plugs Clip, TS-R9
Sample Status:	Normal

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC 47CFR §2.1093 KDB 447498 D01 General RF Exposure Guidance v06	PASS

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Technical Director

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Revision History

Rev.	Issue Date	Revisions
00	Jul. 29, 2024	Initial Issue

1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

Product Name:	TWS Earphone
Trademark:	Happy Plugs
Model Name:	Happy Plugs Clip
Series Model:	TS-R9
Model Difference:	The difference is only the appearance color and model, the rest are the same, the difference does not affect the safety performance.
Frequency Bands:	Bluetooth: 2402-2480MHz
Rating:	Input: DC 5V 0.5A
Battery:	Capacity: 30mAh Rated Voltage: 3.7V
Hardware Version:	DXC-T8423_03D4
Software Version:	V1.0

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 §2.1093 REQUIREMENT

2.1 TEST STANDARDS

The limit for Maximum Permissible Exposure (MPE) specified in KDB 447498 D01 General RF Exposure Guidance v06 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

Approximate SAR Test Exclusion Power Thresholds at Selected Frequencies and Test Separation Distances are illustrated in the following Table.

MHz	5	10	15	20	25	mm
150	39	77	116	155	194	*SAR Test Exclusion Threshold* (mW)
300	27	55	82	110	137	
450	22	45	67	89	112	
835	16	33	49	66	82	
900	16	32	47	63	79	
1500	12	24	37	49	61	
1900	11	22	33	44	54	
2450	10	19	29	38	48	
3600	8	16	24	32	40	
5200	7	13	20	26	33	
5400	6	13	19	26	32	
5800	6	12	19	25	31	

MHz	30	35	40	45	50	mm
150	232	271	310	349	387	*SAR Test Exclusion Threshold* (mW)
300	164	192	219	246	274	
450	134	157	179	201	224	
835	98	115	131	148	164	
900	95	111	126	142	158	
1500	73	86	98	110	122	
1900	65	76	87	98	109	
2450	57	67	77	86	96	
3600	47	55	63	71	79	
5200	39	46	53	59	66	
5400	39	45	52	58	65	
5800	37	44	50	56	62	

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:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] • [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,where f(GHz) is the RF channel transmit frequency in GHz.

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

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

2.3 TEST RESULT

Turn up Result

Mode	Turn up Power
BT-GFSK	0.5±1dBm
BT-π/4-DQPSK	1.5±1dBm

The MPE result of worst mode:

RF Function	Frequency (MHz)	Max Turn up Power (dBm)	Max Turn up Power (mW)	Estimated SAR	Limit	Ratio	Result
BT	2402	2.50	1.78	0.551	3	0.184	Pass

Note:

1. The estimated SAR≤ 3.0 for 1-g SAR, Separation distance ≤ 5mm, complies with the exemption requirements.

APPENDIX I - PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS

Note: Please see the attached Happy Plugs Clip_External Photos and Happy Plugs Clip_Internal Photos.

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