


Prüfbericht-Nr.: <i>Test Report No.:</i>	50075418 001	Auftrags-Nr.: <i>Order No.:</i>	154094529	Seite 1 von 6 <i>Page 1 of 6</i>
Kunden-Referenz-Nr.: <i>Client Reference No.:</i>	342220	Auftragsdatum: <i>Order date:</i>	04.13.2015	
Auftraggeber: <i>Client:</i>	Intex Development Company limited 9/F., Dah Sing Financial Centre, 108 Gloucester Road, Wanchai, Hong Kong			
Prüfgegenstand: <i>Test item:</i>	Transmitter for Swim Trainer			
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	SM24101 FCC ID: SVYSM24101-T			
Auftrags-Inhalt: <i>Order content:</i>	Complete test			
Prüfgrundlage: <i>Test specification:</i>	FCC KDB # 447498 D01 V06			
Wareneingangsdatum: <i>Date of receipt:</i>	03.16.2015			
Prüfmuster-Nr.: <i>Test sample No.:</i>	A000174975-003			
Prüfzeitraum: <i>Testing period:</i>	03.16.2015 to 06.25.2015			
Ort der Prüfung: <i>Place of testing:</i>	MRT Technology(Suzhou) Co., Ltd.			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Shanghai) Co., Ltd.			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft von / tested by:		kontrolliert von / reviewed by:		
03.07.2017	Elliot Zhang / Senior Project Engineer	03.07.2017	Shi Li / Section Manager	
Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>
				Unterschrift <i>Signature</i>
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
Legend:	1 = very good	2 = good	3 = satisfactory	4 = sufficient
	P(ass) = entspricht o.g. Prüfgrundlage(n)	F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
	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>				

V04

TEST SUMMARY

2.2.1 FCC EVALUATION FOR 315MHZ TRANSMITTER

RESULT: Pass

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1. General Product Information

1.1 Product Function and Intended Use

The EUT (Equipment Under Test) is a Swimming train machine which consist of a Remote controller and a swimming train machine.

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

For details refer to the User Manual and Circuit Diagram.

1.2 Ratings and System Details

	Transmitter	Receiver
Equipment Class	DSC	CYY
Type Designation	SM24101	SM24101
Frequency Band	315MHz	315MHz
Antenna Type	PCB antenna	External antenna
Antenna Gain	2.5dBi	2.5dBi
Rated Voltage	DC 3V (Battery: 1X3V CR2032)	AC 120V 60Hz

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 FCC Evaluation Results

2.2.1 FCC Evaluation for 315MHz transmitter

RESULT:
Pass

According to the RF test report No. 15080254 001 issued by TÜV Rheinland (Shanghai) Co., Ltd. The maximum output power is

Frequency [GHz]	Field Strength of Fundamental Emissions [dBuV/m]	Field Strength of Fundamental Emissions [dBm]	Field Strength of Fundamental Emissions [mW]
0.315180	63.741	-31.48778745	0.000709905

Note:Relation between power, electric field strength,E

A simple relation can be established for perfect, ideal cases (which means free space, far field conditions) between E(V/m), D distance between the transmitting radio equipment and the point of measurement (m), e.i.r.p.(W).

$$E = \sqrt{\frac{30(e.i.r.p.)}{D}}$$

This represents a site gain of 4dB. The field strength as E(V/m) can be converted to dB(uV/m) as follows:

$$E(dB(uV / m)) = 120 + 20 \log E$$

And for the frequency 0.31518GHz, the SAR test exclusion thresholds at the test separation distance 5mm is,

1-g SAR test exclusion thresholds = 26.71849143mW

10-g SAR test exclusion thresholds = 66.79622857mW

Note: Since the distance between the human and the device in generally using may lower than 5mm, so a distance of 5mm is applied to determine SAR test exclusion.

Conclusion

The device is exclude 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.