

Prüfbericht-Nr.: <i>Test report no.:</i>	IN239C07 001 IN23FVRY 001 IN237CT8 001	Auftrags-Nr.: <i>Order no.:</i>	146769713 0010	Seite 1 von 3 Page 1 of 3	
Kunden-Referenz-Nr.: <i>Client reference no.:</i>	2472292	Auftragsdatum: <i>Order date:</i>	2023-03-02		
Auftraggeber: <i>Client:</i>	Cradlewise Incorporated, 479 Jessie street, San Francisco CA, 94103				
Prüfgegenstand: <i>Test item:</i>	Cradlewise Smart Crib				
Bezeichnung <i>Identification</i>	2V0	Serien -Nr.: <i>Serial no.:</i>	2205-00001-LT1		
Auftrags-Inhalt: <i>Order content:</i>	Testing and issue of Test Report with Grant Certificate				
Prüfgrundlage: <i>Test specification:</i>	FCC 1.1310				
Wareneingangsdatum: <i>Date of sample receipt:</i>	2023-03-02				
Prüfmuster-Nr.: <i>Test sample no:</i>	A003384834-001 & A003384834-003				
Prüfzeitraum: <i>Testing period:</i>	2023-03-02 - 2023-03-09				
Ort der Prüfung: <i>Place of testing:</i>	Wireless laboratory, Bangalore				
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (India) Pvt. Ltd. 27/B,2nd cross road, Electronic city Phase1, Bangalore-560100, India FCC Test Site Registration No: 496599 IC Test Site Registration No: 3466E-1				
Prüfergebnis*: <i>Test result*:</i>	Pass				
geprüft von: <i>tested by:</i>	genehmigt von: <i>authorized by:</i>				
Datum: <i>Date:</i>	Ausstellatum: <i>Issue date:</i>				
Stellung / Position:	M.V.Naveen Kumar Engineer	Stellung / Position:	Madhu K.N Senior Engineer		
Sonstiges / Other:	FCC ID: 2A6EK-SC-6275S-002				
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>	Prüfmuster vollständig und unbeschädigt Test item complete and undamaged				
* Legende:	1 = sehr gut P(ass) = entspricht o.g. Prüfgrundlage(n)	2 = gut F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	3 = befriedigend F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	4 = ausreichend N/A = nicht anwendbar	5 = mangelhaft N/T = nicht getestet
* Legend:	1 = very good P(ass) = passed a.m. test specification(s)	2 = good F(ail) = failed a.m. test specification(s)	3 = satisfactory F(ail) = failed a.m. test specification(s)	4 = sufficient N/A = not applicable	5 = poor 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>					

V05

1 Maximum Permissible Exposure

1.1 RF Exposure Compliance Requirement

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.

1.2 RF Exposure Limits:

1.2.1 For FCC

1. According to FCC Part 1 Subpart I 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) showed in Table 1.

Table 1: Limits for Maximum Permissible Exposure (MPE) as per FCC			
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm²)
Limits for Occupational / controlled Exposures			
300 - 1500	--	--	F/300
1500 - 100000	--	--	5.0
Limits for General population / Uncontrolled Exposure			
300 - 1500	--	--	F/1500
1500 - 100000	--	--	1.0

F or f = Frequency in MHz

Friss Formula

Friss 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.

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IN237CT8 001**

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Test Results:

Manufacturer has declared the tune-up value as ± 1 dB is considered in MPE calculation.

Antenna: Molex 2042811100 balanced, dipole-type antenna

Antenna Gain: 2.0dBi for 2.4GHz & 3.3dBi for 5GHz

Protocol	Frequency (MHz)	Maximum measured RF output power at antenna terminal (dBm)	Tune-up tolerance (dB)	Max power including tune-up tolerance * (mW)	Min Separation distance (CM)	Power Density (Pd) (mW/cm ²)	FCC Limit (mW/cm ²)
802.11b/g/n/ax	2462	16.92	± 1	61.944	20	0.01952	1
Bluetooth Low Energy	2402	-2.43	± 1	0.71944	20	0.00022	1
Bluetooth	2402	-2.24	± 1	0.75162	20	0.00023	1
802.11a/n/ac/ax	5755	16.03	± 1	50.4661	20	0.02145	1

Note: Maximum conducted output power taken from below mentioned test Reports:

Protocol	Report No
Wi-Fi 2.4GHz & BLE	IN239C07 001
Bluetooth	IN23FVRY 001
Wi-Fi 5GHz	IN237CT8 001

Test Results for Maximum Permissible Exposure for Simultaneous operating mode of Wi-Fi, BLE & BT

RF Protocol	Calculated MPE (mW)	Final MPE((mW/cm ²)	Limit (mW/cm ²)
Wi-Fi 2.4 GHz + BLE	(0.0195)+(0.00022)	0.01972	<1
Wi-Fi 2.4 GHz + BT	(0.0195)+(0.00023)	0.01973	<1

1.3 Conclusion

The Power density of the EUT is less than defined limit as shown above, hence EUT is exempted from routine SAR.