Shenzhen Most Technology Service Co., Ltd.
East A, 1 floor of New Aolin Factory buiding, Langshan Erlu, North District,
Hi-tech Industry Park, Nanshan,Shenzhen,Guangdong,China

RF Exposure Evaluation Report

Report Reference No..... :	**MTEB24010008-H**	
FCC ID..... :	**2A2RN-ACEVCC20**	
Compiled by (position+printed name+signature).. :	File administrators Alisa Luo	
Supervised by (position+printed name+signature).. :	Test Engineer Sunny Deng	
Approved by (position+printed name+signature).. :	Manager Yvette Zhou	
Date of issue.....:	Jan.03,2024	
Representative Laboratory Name. :	**Shenzhen Most Technology Service Co., Ltd.**	
Address..... :	No.5, 2nd Langshan Road, North District, Hi-tech Industrial Park, Nanshan, Shenzhen, Guangdong, China.	
Applicant's name.....:	**Xiamen Joint Tech. Co., Ltd**	
Address..... :	Building #1,No.268 HouXiang Rd,Xinyang,Industrial Park,Haicang District,XIAMEN,Fujian,China.	
Test specification/ Standard.....**:**	**47 CFR Part 1.1307;47 CFR Part 1.1310** **KDB447498D01 General RF Exposure Guidance v06**	
TRF Originator.....:	Shenzhen Most Technology Service Co., Ltd.	

Test item description.....:	Electric Vehicle AC Charger
Trade Mark.....:	Joint
Model/Type reference..... :	JNT-EVC47/48AC/01C/WH/RF/WF
Listed Models ..... :	JNT-EVC47/XXAC/01C/WH/RF/WF XX stands for Electric current
Modulation Type..... :	ASK
Operation Frequency..... :	13.56MHz
Hardware Version.....	EVC47_V1.0
Software Version.....	C20A1_C_12.51.01
Rating.....:	AC 240V/60Hz
Result.....:	**PASS**

T E S T R E P O R T

Equipment under Test	:	Electric Vehicle AC Charger
Model /Type	:	JNT-EVC47/48AC/01C/WH/RF/WF
Listed Models		JNT-EVC47/XXAC/01C/WH/RF/WF
Remark		XX stands for Electric current
Applicant	:	**Xiamen Joint Tech. Co., Ltd**
Address	:	Building #1,No.268 HouXiang Rd,Xinyang,Industrial Park,Haicang District,XIAMEN,Fujian,China.
Manufacturer	:	**Xiamen Joint Tech. Co., Ltd**
Address	:	Building #1,No.268 HouXiang Rd,Xinyang,Industrial Park,Haicang District,XIAMEN,Fujian,China.

Test Result:	**PASS**

1. Revision History

Revision	Issue Date	Revisions	Revised By
00	2024.01.03	Initial Issue	Alisa Luo

2. SAR Evaluation

2.1 RF Exposure Compliance Requirement

2.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06
4.3.1. Standalone SAR test exclusion considerations
Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

2.1.2 Limits

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in part1.1307(b)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f^2)	6
30–300	61.4	0.163	1.0	6
300–1500	.....	.....	f/300	6
1500–100,000	.....	.....	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f^2)	30
30–300	27.5	0.073	0.2	30
300–1500	.....	.....	f/1500	30
1500–100,000	.....	.....	1.0	30

F= Frequency in MHz
Friis Formula
Friis transmission formula: Pd = (Pout*G)/(4* Pi * R^2) Where
Pd = power density in mW/cm^2
Pout = output power to antenna in mW
G = gain of antenna in linear scale
Pi = 3.1416

R = distance between observation point and center of the radiator in cm
Pd id the limit of MPE, 1 mW/cm^2 . If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

2.1.3 EUT RF Exposure

Antenna Gain: 1.85dBi
NFC:
The worst case (refer to report **MTEB24010008-R1**) is below:

Antenna polarization: Horizontal		
Frequency (MHz)	Level (dBuV/m)	Polarization
13.56	79.1	Peak

E=EIRP-20logd+104.8
E: is the electric field strength in dBuV/m
EIRP: is the equivalent isotropically radiated powerin dBm
d: is the specified measurement distance in m
d=3m
EIRP=79.1+20log3-104.8=-16.16dBm

13.56MHz< 30MHz, Add a 6DB maximum ground factor.
EIRP=-16.16dBm+6=-10.16dBm

The EIPR of the product is small enough, RF Exposure meets the requirements.

BLE
Antenna Gain: 0dBi

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power (dBm)
Lowest(2402 MHz)	6.981	6.981±1	7.981
Middle(2440MHz)	7.444	7.444±1	8.444
Highest(2480MHz)	7.793	7.793±1	8.793

BLE

Worst case: GFSK						
Channel	Maximum tune-up Power (dBm)	Maximum tune-up Power (MW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm2)	Limit	Result
Lowest(2402 MHz)	8.793	7.57	0dBi	0.00015	1.0	Pass

Note: 1) Refer to report MTEB24010008-R2 for EUT test Max Conducted average Output Power value.
Note: 2) Pd = (Pout*G)/(4* Pi * R^2)=(7.57*1.0)/(4*3.1416*20^2)=0.00015
Note: 3)EUT's Bluetooth module is more than 20cm away from the human body.

WIFI 2.4G

802.11b			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power (dBm)
Lowest(2412MHz)	14.06	14.06±1	15.06
Middle(2437MHz)	13.98	13.98±1	14.98
Highest(2462MHz)	13.82	13.82±1	14.82

802.11g			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power (dBm)
Lowest(2412MHz)	15.16	15.16±1	16.16
Middle(2437MHz)	15.10	15.10±1	16.10
Highest(2462MHz)	15.01	15.01±1	16.01

802.11n(H20)			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power (dBm)
Lowest(2412MHz)	14.78	14.78±1	15.78
Middle(2437MHz)	14.42	14.42±1	15.42
Highest(2462MHz)	14.38	14.38±1	15.38

802.11n(H40)			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power (dBm)
Lowest(2412MHz)	14.57	14.57±1	15.57
Middle(2437MHz)	14.45	14.45±1	15.45
Highest(2462MHz)	14.32	14.32±1	15.32

WIFI 2.4G

Worst case: 802.11g						
Channel	Maximum tune-up Power (dBm)	Maximum tune-up Power (MW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm2)	Limit	Result
Middle(2437MHz)	16.16	41.30	0	0.008	1.0	Pass

Note: 1) Refer to report MTEB24010008–R1 for EUT test Max Conducted average Output Power value.
Note: 2) Pd = (Pout*G)/(4* Pi * R^2)=(41.30*1)/(4*3.1416*20^2)=0.008
Note: 3)EUT's Bluetooth module is more than 20cm away from the human body.

.....THE END OF REPORT.....