FCC RF EXPOSURE REPORT

For

Soundbar speaker

MODEL NUMBER: B95/37,B95/yy,B97/37,B97/yy (yy=00-99 or NiL ,for country code)

FCC ID: 2AR2SB97

REPORT NUMBER: 4789548706-7

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Prepared for

MMD Hong Kong Holding Limited
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Prepared by

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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name:	MMD Hong Kong Holding Limited
Address:	Units 1006-1007, 10th Floor, C-Bons International Center, 108 Wai Yip Street, Kwun Tong, Kowloon, Hong Kong

Manufacturer Information

Company Name:	MMD Hong Kong Holding Limited
Address:	Units 1006-1007, 10th Floor, C-Bons International Center, 108 Wai Yip Street, Kwun Tong, Kowloon, Hong Kong

Factory Information

Company Name:	Eastech Electronics (Huiyang) Co.,Ltd.
Address:	XINXU,HUIYANG,HUIZHOU CITY GUANGDONG CHINA

EUT Information

EUT Name:	Soundbar speaker
Model:	B95/37,B95/yy,B97/37,B97/yy (yy=00-99 or NiL ,for country code)
Brand:	PHILIPS or
Serial Model:	Please refer to clause 5.1. Description of EUT
Sample Received Date:	July 23, 2020
Sample Status:	Normal
Sample ID:	3230144
Date of Tested:	July 25, 2020~August 28, 2020

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC 47CFR§2.1091	PASS
KDB-447498 D01 V06	

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with KDB 447498 D01 General RF Exposure Guidance v06.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	**A2LA (Certificate No.: 4102.01)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA. **FCC (FCC Designation No.: CN1187)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Delcaration of Conformity (DoC) and Certification rules **ISED(Company No.: 21320)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with Industry Canada. The Company Number is 21320. **VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the Membership No. is 3793. Facility Name: Chamber D, the VCCI registration No. is G-20019 and R-20004 Shielding Room B , the VCCI registration No. is C-20012 and T-20011

Note 1: All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, Song Shan Lake Hi tech Development Zone, Dongguan, 523808, China

Note 2: The test anechoic chamber in UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.

Note 3: For below 30MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. And these measurements below 30MHz had been correlated to measurements performed on an OFS.

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4. DESCRIPTION OF EUT

EUT Name	Soundbar speaker		
EUT Description	The EUT is a Soundbar.		
Model	B95/37,B95/yy,B97/37,B97/yy (yy=00-99 or NiL ,for country code)		
Model Difference	B95/yy (yy=00-99 or NiL ,for country code) have the same technical construction including circuit diagram, PCB Layout, components and component layout, all electrical construction and mechanical construction with B95/37. The difference lies only the model number. B97/yy (yy=00-99 or NiL ,for country code) have the same technical construction including circuit diagram, PCB Layout, components and component layout, all electrical construction and mechanical construction with B97/37. The difference lies only the model number. The difference between B95/37 with B97/37 is: B97/37 contains Sound bar: BT+2.4Gwifi+ 5G wifi (band 1+ band4)+ 5.8G wireless Surround (right): 5.8G wireless(only for receiving) Surround (left): 5.8G wireless(only for receiving) B95/37 contains Sound bar: BT+2.4Gwifi+ 5G wifi (band 1+ band4)+ 5.8G wireless		
Product Description (Bluetooth – Low Energy)	Operation Frequency		2402 MHz ~ 2480 MHz
	Modulation Type		Data Rate
	GFSK		1 Mbps
Product Description (Bluetooth – BR & EDR)	Operation Frequency		2402 MHz ~ 2480 MHz
	Modulation Type		Data Rate
	GFSK		1 Mbps
	∏/4-DQPSK		2 Mbps
	8DPSK		3 Mbps
Product Description (2.4G WLAN)	Operation Frequency		2412 MHz ~ 2462 MHz
	IEE Std. 802.11	Modulation	Modulation Type
	b	DSSS	CCK, DQPSK, DBPSK
	g	OFDM	64QAM, 16QAM, QPSK, BPSK
	n HT20	OFDM	64QAM, 16QAM, QPSK, BPSK
	n HT40	OFDM	64QAM, 16QAM, QPSK, BPSK
Product Description (5G WLAN)	Operation Frequency		5150 MHz ~ 5250 MHz/5725 MHz ~ 5850 MHz
	IEE Std. 802.11	Modulation	Modulation Type
	a	DSSS	64QAM, 16QAM, QPSK, BPSK
	n HT20	OFDM	64QAM, 16QAM, QPSK, BPSK
	n HT40	OFDM	64QAM, 16QAM, QPSK, BPSK
	ac HT20	OFDM	256QAM, 64QAM, 16QAM, QPSK, BPSK

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	ac HT40	OFDM	256QAM, 64QAM, 16QAM, QPSK, BPSK
	ac HT80	OFDM	256QAM, 64QAM, 16QAM, QPSK, BPSK
Product Description (5.8G wireless)	Operation frequency	5728.35MHz ~ 5824.35MHz /5729.35MHz ~ 5825.35MHz	
	Modulation	Pi/4 DQPSK	
Power Supply	AC 120 V, 60 Hz		

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5. REQUIREMENT

LIMIT

Limits for General Population/Uncontrolled Exposure

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f2)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/150	30
1500-100,000	--	--	1.0	30
Note 1: f = frequency in MHz, * means Plane-wave equivalent power density				
Note 2: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.				
Note 3: The limit value 1.0mW/cm^2 is available for this EUT.				

MPE CALCULATION METHOD

$S = PG/(4\pi R^2)$

where: S = power density (in appropriate units, e.g. mW/ cm2)
P = power input to the antenna (in appropriate units, e.g., mW)
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

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CALCULATED RESULTS

Radio Frequency Radiation Exposure Evaluation

BLE (Worst case)					
Operating Mode	Max. Tune up Power	Antenna Gain		Power density	Limit
	(dBm)	(dBi)	(num)	(mW/ cm^2)	
BLE	3	4	2.51	0.001	1

BT (Worst case)					
Operating Mode	Max. Tune up Power	Antenna Gain		Power density	Limit
	(dBm)	(dBi)	(num)	(mW/ cm^2)	
BT	3	4	2.51	0.001	1

WIFI 2.4G (Worst case)					
Operating Mode	Max. Tune up Power	Antenna Gain		Power density	Limit
	(dBm)	(dBi)	(num)	(mW/ cm^2)	
802.11b	10	4	2.51	0.005	1

WIFI5G (Worst case)					
Operating Mode	Max. Tune up Power	Antenna Gain		Power density	Limit
	(dBm)	(dBi)	(num)	(mW/ cm^2)	
802.11a 20	10	5	3.16	0.0063	1

5.8G wireless (Worst case)					
Operating Mode	Max. Tune up Power	Antenna Gain		Power density	Limit
	(dBm)	(dBi)	(num)	(mW/ cm^2)	
5.8G SSC	10	4.72	2.96	0.0059	1

Co-location (Worst case)				
Operating Mode	Power density	Power density	Co-location Power density	Limit
	(mW/ cm^2)	(mW/ cm^2)	(mW/ cm^2)	
BT & 5.8G wireless	0.001	0.0059	0.0069	1
WIFI & 5.8G wireless	0.0063	0.0059	0.0122	1

Note: 1. BT, 2.4G wifi and 5 G wifi cannot support simultaneous emission with 5.8G wireless at the same time.
2. The Power comes from Operation description.
3. The minimum separation distance of the device is greater than 20 cm.
4. Calculate by WORST-CASE mode.
5. Owing to the maximum Calculated Result is below the limit, so it deemed to comply with the basic restrictions without testing which means that no SAR is required.

END OF REPORT

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