RF EXPOSURE REPORT

Applicant	Tonly Technology Co., Ltd.
Address	Section 37, Zhongkai High-tech Development Zone, Huizhou City, GuangDong Province, P.R. China

Manufacturer or Supplier	Sony Corporation
Address	1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan
Product	ACTIVE FRONT SPEAKER
Brand Name	SONY
Model	YY2078C1
Additional Model & Model Difference	N/A
Date of tests	Jan. 05, 2023 ~ Feb. 01, 2023

☒ **FCC Part 2 (Section 2.1091)**

☒ **KDB 447498 D01**

☒ **IEEE C95.1**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Tested by Lucas Chen Project Engineer / EMC Department	Approved by Glyn He Assistant Manager / EMC Department
	 Date: Mar. 03, 2023

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FM2212WDG0106-1	Original release	Mar. 03, 2023

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1. CERTIFICATION

FCC ID:	ZVAYY2078C1
PRODUCT:	ACTIVE FRONT SPEAKER
BRAND NAME:	SONY
MODEL NO.:	YY2078C1
ADDITIONAL NO.:	N/A
APPLICANT:	Tonly Technology Co., Ltd.
STANDARDS:	FCC Part 2 (Section 2.1091)
	KDB 447498 D01
	IEEE C95.1

2. RF EXPOSURE LIMIT

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

FREQUENCY RANGE (MHz)	ELECTRIC FIELD STRENGTH (V/m)	MAGNETIC FIELD STRENGTH (A/m)	POWER DENSITY (mW/cm^2)	AVERAGE TIME (minutes)
LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE				
300-1500	…	…	F/1500	30
1500-100,000	…	…	1.0	30

F = Frequency in MHz

3. MPE CALCULATION 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

4. CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

5. ANTENNA GAIN

The EUT has two modules, the “BM82A” and the “BM65T”

The antennas provided to the EUT, please refer to the following table:

Module	Transmitter Circuit	Peak Gain (dBi)	Antenna Type
BM82A	Chain 0	4.11	External PCB Antenna
BM65T	Chain 0	3.4	PCB Antenna

6. CALCULATION RESULT OF MAXIMUM CONDUCTED AV POWER

For Module “BM82A”

The tuned conducted Average Power (declared by client)

Mode	Frequency (MHz)	Target Power (dBm)	Tolerance (dBm)	Lower Tolerance (dBm)	Upper Tolerance (dBm)
GFSK	2402-2480	8	+-2	6	10
8DPSK	2402-2480	6	+-2	4	8
BT-LE GFSK (1 Mbps)	2402-2480	4	+-2	2	6
BT-LE GFSK (2 Mbps)	2402-2480	4	+-2	2	6

The measured conducted Average Power

Mode	Frequency (MHz)	Averaged Power (dBm)
GFSK	2441	8.65
8DPSK	2441	6.72
BT-LE GFSK (1 Mbps)	2440	5.24
BT-LE GFSK (2 Mbps)	2480	5.21

For Module "BM65T"

The tuned conducted Average Power (declared by client)

Mode	Frequency (MHz)	Target Power (dBm)	Tolerance (dBm)	Lower Tolerance (dBm)	Upper Tolerance (dBm)
GFSK	2402-2480	3	+-2	1	5
8DPSK	2402-2480	1	+-2	-1	3
BT-LE GFSK	2402-2480	3	+-2	1	5

The measured conducted Average Power

Mode	Frequency (MHz)	Averaged Power (dBm)
GFSK	2480	3.09
8DPSK	2480	2.43
BT-LE GFSK	2480	3.08

MODULE	FREQUENCY BAND (MHz)	MAX AVERAGE POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
BM82A	2402-2480	10	4.11	20	0.005125	1.0
BM65T	2402-2480	5	3.4	20	0.001376	1.0

CONCLUSION:

The modules "BM82A" and "BM65T"can transmit simultaneously, the formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

(0.005125 /1)+(0.001376 /1)= 0.006501<1, which is less than the "1" limit.

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