RF EXPOSURE REPORT

Applicant	DEI Sales Inc., dba Polk Audio
Address	5541 Fermi Court Carlsbad CA 92008 United States Of America

Manufacturer or Supplier	DEI Sales Inc., dba Polk Audio
Address	5541 Fermi Court Carlsbad CA 92008 United States Of America
Product	Sound Bar
Brand Name	Polk
Model	POLK REACT
Additional Model & Model Difference	N/A
Date of tests	Jul. 22, 2020 ~ Sep. 16, 2020

☒ **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: Nov. 11, 2020

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FM2007WDG0018	Original release	Nov. 11, 2020

1. CERTIFICATION

PRODUCT:	Sound Bar
BRAND NAME:	Polk
MODEL NO.:	POLK REACT
ADDITIONAL MODEL:	N/A
FCC ID:	WLQREACT
TEST SAMPLE:	ENGINEERING SAMPLE
APPLICANT:	DEI Sales Inc., dba Polk Audio
TESTED DATES:	Jul. 22, 2020 ~ Sep. 16, 2020
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 antennas provided to the EUT, please refer to the following table:

Frequency Band	Antenna Gain (dBi)	Antenna Type
BT 2.4GHz	3.47	FPCB Antenna
Wi-Fi 2.4GHz	3.58	FPCB Antenna
Wi-Fi 5GHz (5150-5250MHz)	3.31	FPCB Antenna
Wi-Fi 5GHz (5250-5350MHz)	3.11	FPCB Antenna
Wi-Fi 5GHz (5500-5725MHz)	3.43	FPCB Antenna
Wi-Fi 5GHz (5725-5850MHz)	3.42	FPCB Antenna
Wireless 5.1GHz+5.8GHz	3.17	FPCB Antenna

6. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

The tuned conducted Average Power (declared by client)

Mode	Frequency (MHz)	Target Power (dBm)	Tolerance (dBm)	Lower Tolerance (dBm)	Upper Tolerance (dBm)
BT (GFSK)	2402-2480MHz	6	+-1	5	7
BT (8DPSK)	2402-2480MHz	5	+-1	4	6
BT-LE (GFSK)	2402-2480MHz	2	+-1	1	3
802.11b	2412-2462MHz	11	+-1	10	12
802.11g	2412-2462MHz	12	+-1	11	13
802.11n HT20	2412-2462MHz	16	+-1	15	17
802.11n HT40	2422-2452MHz	13	+-1	12	14
Wi-Fi 5GHz(Band1)	5150-5250MHz	11	+-1	10	12
Wi-Fi 5GHz(Band2)	5250-5350MHz	11	+-2	9	13
Wi-Fi 5GHz(Band3)	5500-5725MHz	11	+-2	9	13
Wi-Fi 5GHz(Band4)	5725-5850MHz	11	+-2	9	13
Wireless 5.1GHz+5.8GHz	5160~5240MHz 5735~5840MHz	10	+-1	9	11

The measured conducted Average Power

Mode	Frequency (MHz)	Averaged Power (dBm)
BT (GFSK)	2480	6.25
BT (8DPSK)	2480	5.54
BT-LE (GFSK)	2480	2.32
802.11b	2462	11.27
802.11g	2462	12.37
802.11n HT20	2462	15.73
802.11n HT40	2437	12.67
Wi-Fi 5GHz(Band1)	5240	10.86
Wi-Fi 5GHz(Band2)	5320	11.53
Wi-Fi 5GHz(Band3)	5700	11.70
Wi-Fi 5GHz(Band4)	5825	11.62
Wireless 5.1GHz+5.8GHz	5240	10.28

FREQUENCY BAND (MHz)	MAX AVERAGE POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
BT	7	3.47	20	0.002217	1.0
Wi-Fi 2.4GHz	17	3.58	20	0.022737	1.0
Wi-Fi 5GHz	13	3.43	20	0.008744	1.0
Wireless 5.1GHz+5.8GHz	11	3.17	20	0.005197	1.0

CONCLUSION:

The BT, Wi-Fi and Wireless 5.1GHz+5.8GHz can transmit simultaneously, but Wi-Fi 2.4G and Wi-Fi 5G can not transmit simultaneously, the formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1
CPD = Calculation power density
LPD = Limit of power density

(0.002217/1)+(0.022737 /1)+(0.005197 /1) = 0.030151 <1, which is less than the "1" limit.

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