



Test Report No.: FM170927N027



# RF EXPOSURE REPORT

Applicant	DEI Sales, Inc., dba Polk Audio
Address	1 Viper Way Vista, California 92801, USA

Manufacturer or Supplier	DEI Sales, Inc., dba Polk Audio
Address	1 Viper Way Vista, California 92801, USA
Product	Home Theater Sound Bar System
Brand Name	Polk
System Model	COMMAND SYS US-CAN
Test Model	COMMAND SOUND BAR
Additional Model & Model Difference	N/A
Date of tests	Nov. 11, 2017 ~ Dec. 08, 2017

- ☒ 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 Harry Li Project Engineer/ EMC Department	Approved by Glyn He Supervisor/ EMC Department
	  Date: Mar. 28, 2018

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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FM170927N027	Original release	Mar. 28, 2018



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## 1. CERTIFICATION

**PRODUCT:** Home Theater Sound Bar System  
**BRAND NAME:** Polk  
**SYSTEM MODEL:** COMMAND SYS US-CAN  
**TEST MODEL** COMMAND SOUND BAR  
**ADDITIONAL MODEL:** N/A  
**FCC ID:** WLQAM9642TX  
**TEST SAMPLE:** ENGINEERING SAMPLE  
**APPLICANT:** TCL Technoly Electronics(Huizhou) Co., Ltd  
**TESTED DATE:** Dec. 08, 2017  
**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 <sup>2</sup> )	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

$$P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$$

where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = 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 0 Peak Gain (dBi)	Antenna 1 Peak Gain (dBi)	Total Gain (dBi)	Antenna Type
Wi-Fi 2.4GHz	3.65	/	3.65	FPC Antenna
BT 2.4GHz	2.88	/	2.88	FPC Antenna
Wi-Fi 5GHz	3.21	/	3.21	FPC 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	+2	4	8
BT (8DPSK)	2402-2480MHz	4	+2	2	6
802.11b	2412-2462MHz	11	+2	9	13
802.11g	2412-2462MHz	11	+2	9	13
802.11n HT20	2412-2462MHz	11	+2	9	13
802.11n HT40	2422-2452MHz	11	+2	9	13
Wi-Fi 5GHz(Band1)	5150-5250MHz	12	+2	10	14
Wi-Fi 5GHz(Band2)	5250-5350MHz	12	+2	10	14
Wi-Fi 5GHz(Band3)	5500-5725MHz	10	+2	8	12
Wi-Fi 5GHz(Band4)	5725-5850MHz	10	+2	8	12



The measured conducted Average Power

Mode	Frequency (MHz)	Averaged Power (dBm)
BT (GFSK)	2480	7.97
BT (8DPSK)	2480	5.01
802.11b	2437	12.37
802.11g	2437	12.78
802.11n HT20	2437	12.57
802.11n HT40	2437	12.34
Wi-Fi 5GHz(Band1)	5240	13.60
Wi-Fi 5GHz(Band2)	5310	13.60
Wi-Fi 5GHz(Band3)	5700	11.91
Wi-Fi 5GHz(Band4)	5825	10.67

FREQUENCY BAND (MHz)	MAX POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
Wi-Fi 2.4GHz	14	3.65	20	0.011581	1.0
Wi-Fi 5GHz	13	3.21	20	0.008312	1.0
BT 2.4GHz	6	2.88	20	0.001537	1.0

## CONCLUSION

Both of the WLAN 2.4GHz and 5GHz can not transmit simultaneously.

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