FCC RF EXPOSURE REPORT

FCC ID: LDKDSKH2377

Project No.	:	2106H020
Equipment	:	Cisco Webex Desk Hub
Brand Name	:	Cisco
Test Model	:	CD-DSKH
Series Model	:	N/A
Applicant	:	Cisco Systems,Inc
Address	:	125 West Tasman Drive, San Jose, Califomia ,United States
Manufacturer	:	Cisco Systems,Inc.
Address	:	170 West Tasman Drive, San Jose, CA, USA, 95134
Factory	:	1) WISTRON INFOCOMM (ZHONGSHAN) CORPORATION 2) WISTRON MEXICO S.A DE C.V
Address	:	1) NO.38 EAST KEJI ROAD, ZHONGSHAN TORCH DEVELOPMENT ZONE, ZHONGSHAN CITY, GUANGDONG,CHINA 2) CALLE BAUDELIO PÈREZ MUCHARRAS, NO. 420 ORIENTE, COL. ZARAGOZA, CD. JUAREZ, CHIHUAHUA, C.P. 32700, MEXICO
Date of Receipt	:	Jun. 21, 2021
Date of Test	:	Jun. 21, 2021~Jul. 26, 2021
Issued Date	:	Oct. 20, 2021
Report Version	:	R01
Test Sample	:	Engineering Sample No.: EUT:SH20210609121 for radiated; SH20210609122 for Conducted; Adapter:SH20210609121-4, SH20210609121-5
Standard(s)	:	FCC Title 47 Part 2.1091 KDB 447498 D01 General RF exposure guidance v06

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

Maker Qi

Prepared by : Maker Qi

Ryan. Wang

Approved by : Ryan Wang

TESTING CERT #5123.03

Add: No. 29, Jintang Road, Tangzhen Industry Park, Pudong New Area, Shanghai 201210,China
TEL: +86-021-61765666
Web: www.newbtl.com

REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Original Issue.	Sep. 18, 2021
R01	Revised report to address TCB's comments.	Oct. 20, 2021

1. MPE CALCULATION METHOD

Calculation Method of RF Safety Distance:

$$S = \frac{PG}{4\pi r^2} = \frac{EIRP}{4\pi r^2}$$

where:
S = power density
P = power input to the antenna
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

Table for Filed Antenna

For 2.4G:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
1	N/A	N/A	Cable antenna	N/A	0.21	N/A
2	N/A	N/A	Cable antenna	N/A	3.55	N/A

Note:
1. Any transmit signals are correlated with each other,
so Directional gain=10log[(10$^{G1/20}$+10G$^{2/20}$)2/N]dBi,
that is Directional gain=10log[(10$^{0.21/20}$+10$^{3.55/20}$)2/2]dBi =5.05. So, the output power limit is 30, the power spectral density limit is 8.
2. This EUT supports CDD, and all antenna gains are not equal, so Directional gain=10log[(10$^{G1/20}$+10$^{G2/20}$+...10$^{GN/20}$)2/N]dBi, that is Directional gain=10log[(10$^{0.21/20}$+10$^{3.55/20}$)2/4]dBi =5.05. So, the output power limit is 30, the power spectral density limit is 8
3. Beamforming gain=3 dBi
4. The antenna gain and beamforming gain are provided by the manufacturer.

For BLE and BT :

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	Cable antenna	N/A	0.21

Note:
The antenna gain is provided by the manufacturer.

For 5G:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	Cable antenna	N/A	6.67
2	N/A	N/A	Cable antenna	N/A	6.32

Note:

1) Any transmit signals are correlated with each other,
so Directional gain=10log[($10^{G1/20}$+$10^{G2/20}$+...$10^{GN/20}$)2/N]dBi,
that is Directional gain=10log[($10^{6.67/20}$+$10^{6.32/20}$)2/2]dBi =9.51.
So, the UNII-1, UNII-2A and UNII-2C output power limit is 23.98-(9.51-6)=20.47,
the UNII-3 output power limit is 30-(9.51-6)=26.49.
The UNII-1, UNII-2A and UNII-2C power spectral density limit is 11-(9.51-6)=7.49,
the UNII-3 power spectral density limit is 30-(9.51-6)=26.49.
2) This EUT supports CDD, and all antenna gains are not equal,
so Directional gain=10log[($10^{G1/20}$+$10^{G2/20}$+...$10^{GN/20}$)2/N]dBi,
that is Directional gain=10log[($10^{6.67/20}$+$10^{6.32/20}$)2/2]dBi =9.51.
So, the UNII-1, UNII-2A and UNII-2C power spectral density limit is 11-(9.51-6)=7.49,
the UNII-3 power spectral density limit is 30-(9.51-6)=26.49.
For power measurements, Directional gain = 6.67dB.
So, the UNII-1, UNII-2A and UNII-2C output power limit is 23.98-(6.67-6)=23.31,
the UNII-3 output power limit is 30-(6.67-6)=29.33.
3) Beamforming gain=3 dBi

The antenna gain and beamforming gain are provided by the manufacturer.

Table for Antenna Configuration:

For 2.4G:

Operating Mode / TX Mode	Ant. 1	Ant. 2	Ant. 1+2
802.11b	✓	✓	×
802.11g	✓	✓	×
802.11n(20 MHz)	✓	✓	✓
802.11n(40 MHz)	✓	✓	✓

For 5G:

Operating Mode / TX Mode	Ant. 1	Ant. 2	Ant. 1+2
IEEE 802.11a	✓	✓	×
IEEE 802.11n (HT20)	✓	✓	✓
IEEE 802.11n (HT40)	✓	✓	✓
IEEE 802.11ac (VHT20)	✓	✓	✓
IEEE 802.11ac (VHT40)	✓	✓	✓
IEEE 802.11ac (VHT80)	✓	✓	✓

1.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No. 29, Jintang Road, Tangzhen Industry Park, Pudong New Area, Shanghai 201210,China
BTL's Test Firm Registration Number for FCC: 476765
BTL's Designation Number for FCC: CN1241

2. TEST RESULTS

For BLE:

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
0.21	1.0495	9.50	8.9125	0.001861	1	Complies

For BT:

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
0.21	1.0495	9.00	7.9433	0.001658	1	Complies

For 2.4GHz CDD:

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
3.55	2.2646	28.00	630.9573	0.284264	1	Complies

For 2.4GHz Beamforming:

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
5.05	3.1989	28.00	630.9573	0.401542	1	Complies

For 5GHz CDD:

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
6.67	4.6452	19.00	79.4328	0.073406	1	Complies

For 5GHz Beamforming:

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
9.51	8.9331	19.00	79.4328	0.141167	1	Complies

Note: The calculated distance is 20 cm.
Output power including tune up tolerance.

End of Test Report