RF EXPOSURE REPORT

Product:	Lenovo Smart Dock
Model Name:	Lenovo HA-200
FCC ID:	O57HA200
Applicant:	Lenovo(Shanghai) Electronics Technology Co., Ltd.
Address:	NO.68 BUILDING, 199 FENJU RD, China (Shanghai) Pilot Free Trade Zone, 200131, CHINA
Manufacturer:	Lenovo PC HK Limited
Address:	23/F, Lincoln House, Taikoo Place 979 King's Road, Quarry Bay, Hong Kong
Prepared by:	BV 7Layers Communications Technology (Shenzhen) Co. Ltd
Lab Location:	No.B102, Dazu Chuangxin Mansion, North of Beihuan Avenue, North Area, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China
TEL:	+86 755 8869 6566
FAX:	+86 755 8869 6577
E-MAIL:	customerservice.dg@cn.bureauveritas.com
Report No.:	SA180724W011R1
Received Date:	Jul. 24, 2018
Test Date:	Jul. 25, 2018 ~ Aug. 15, 2018
Issued Date:	Sep. 17, 2018

This report should not be used by the client to claim product certification, approval, or endorsement by A2LA or any government agencies.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA180724W011R1	Original release	Sep. 17, 2018

BV 7Layers Communications Technology (Shenzhen) Co. Ltd

No.B102, Dazu Chuangxin Mansion, North of Beihuan Avenue, North Area, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.dg@cn.bureauveritas.com

1 CERTIFICATION

PRODUCT:	Lenovo Smart Dock
BRAND NAME:	Lenovo
MODEL NAME:	Lenovo HA-200
APPLICANT:	Lenovo(Shanghai) Electronics Technology Co., Ltd.
TESTED:	Jul. 25, 2018 ~ Aug. 15, 2018
TEST SAMPLE:	Production Unit
STANDARDS:	**FCC Part 2 (Section 2.1091)** **FCC OET Bulletin 65, Supplement C (01-01)** **KDB 447498 D01 General RF Exposure Guidance v06** IEEE C95.1

The above equipment has been tested by **BV 7Layers Communications Technology (Shenzhen) Co. Ltd** and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : _____ , **DATE:** Sep. 17, 2018
(Roger Li/ Engineer)

APPROVED BY : _____ , **DATE:** Sep. 17, 2018
(Sam Tung / Manager)

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Lenovo Smart Dock	
MODEL NAME	Lenovo HA-200	
NOMINAL VOLTAGE	12Vdc (adapter or host equipment)	
OPERATING TEMPERATURE RANGE	0 ~ 45℃	
MODULATION TYPE	**BT_LE**	DTS
	Bluetooth	GFSK, π/4-DQPSK, 8DPSK
OPERATING FREQUENCY	**Bluetooth/BT_LE**	2402MHz ~ 2480MHz
ANTENNA GAIN	PCB Antenna with 2dBi gain	
HW VERSION	40-HA2825-MA&PG&SEB4G/40-HOMEAS-MIC2G	
FW VERSION	V007	
I/O PORTS	Refer to user's manual	
CABLE SUPPLIED	N/A	

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. The EUT was powered by the following adapter:

ADAPTER	
BRAND:	XinSPower
MODEL:	A241-1202000U
INPUT:	AC 100-240V, 800mA
OUTPUT:	DC 12V, 2000mA
SIGNAL LINE:	1.5 METER

3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

3 RF EXPOSURE

3.1 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

3.2 MPE CALCULATION FORMULA

Pd = (Pout*G) / (4*pi*r2)

where

Pd = power density in mW/cm2

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

3.3 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**.

3.4 CONDUCTED POWER

Bluetooth

GFSK

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
0	2402	6.57	N/A
39	2441	**7.54**	N/A
78	2480	7.53	N/A

π /4 DQPSK

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
0	2402	5.68	N/A
39	2441	6.59	N/A
78	2480	6.78	N/A

8DPSK

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
0	2402	5.63	N/A
39	2441	6.56	N/A
78	2480	6.70	N/A

BT-LE (GFSK)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
0	2402	6.43	N/A
19	2440	7.48	N/A
39	2480	7.53	N/A

3.5 CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

TUNE-UP POWER TABLE

Band	Frequency (MHz)	Operating Mode	Tune-Up Power And Tolerance (dBm)
Bluetooth	2441	GFSK	7.0 ± 1.0

BT:

Band	Frequency (MHz)	Operating Mode	Antenna Gain (dBi)	Tune-up Power (dBm)	E.I.R.P Power (mW)	Power Density (mW/cm^2)	limit (mW/cm^2)	PASS / FAIL
Bluetooth	2441	GFSK	2	8.0	10.000	0.002	1.00	PASS

--END--