FCC RF EXPOSURE EVALUATION REPORT

Product Name:	ANDROID SET TOP BOX
Trade Mark:	LSP.mini , GIEC
Model No.:	LSPs912-G1-1703
Report Number:	170329002RFC-5
Test Standards:	FCC 47 CFR Part 1 Subpart I
FCC ID:	2AF98-LSPMINIS912
Test Result:	PASS
Date of Issue:	May 31, 2017

Prepared for:

LIFE STYLE PANEL PTY LTD
7 7Logistics Place,Larapinta,Queensland,Australia

Prepared by:

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Tested by: Kevin Liang, Senior Engineer

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Approved by: Billy Li, Technical Director

Date: May 31, 2017

Version

Version No.	Date	Description
V1.0	May 31, 2017	Original

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1. GENERAL INFORMATION

1.1 CLIENT INFORMATION

Applicant:	LIFE STYLE PANEL PTY LTD
Address of Applicant:	7 7Logistics Place,Larapinta,Queensland,Australia
Manufacturer:	SHENZHEN GIEC DIGITAL CO., LTD
Address of Manufacturer:	No.1 Building,Factory,No.7 District,Dayang Development Areas,FuYongStreet,Baoan,Shenzhen,Guangdong,China

1.2 EUT INFORMATION

Product Name:	ANDROID SET TOP BOX		
Model No.:	LSPs912-G1-1703		
Add. Model No.:	GK-MP1125, GK-MP1129 (see note 1)		
Trade Mark:	GIEC, LSP.mini		
DUT Stage:	Production Unit		
EUT Supports Function:	2.4 GHz ISM Band:	IEEE 802.11b/g/n	
		Bluetooth: V4.1	
	5 GHz U-NII Bands:	5 180 MHz to 5 240 MHz	IEEE 802.11a/n/ac
		5 260 MHz to 5 320 MHz	IEEE 802.11a/n/ac
		5 500 MHz to 5 700 MHz	IEEE 802.11a/n/ac
		5 745 MHz to 5 805 MHz	IEEE 802.11a/n/ac
Software Version:	V1.0.1.20161201		
Hardware Version:	RM-MPEG-172G VER1.0-1		
Sample Received Date:	March 30, 2017		
Sample Tested Date:	April 1, 2017 to May 4, 2017		

Note 1: Following are the diffrences of these three models. After evaluation, the differences between these models have no influence for RF test.

Model name	Trade name	Description
GK-MP1125	GIEC	All three models are with the same circuit and PCB layout. Color, silk screen and trademark of these three models are different. Model LSPs912-G1-1703 has no AV interface, and model GK-MP1129 has different shell with that of the other two models.
LSPs912-G1-1703	LSP.mini	
GK-MP1129	GIEC	

1.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD

For BT_LE	
Frequency Range:	2402 MHz to 2480 MHz
Bluetooth Version:	Bluetooth LE
Type of Modulation:	GFSK
Number of Channels:	40
Channel Separation:	2 MHz
Antenna Type:	Printed Antenna
Antenna Gain:	2 dBi
Maximum EIRP:	8.02 dBm

For BT_EDR	
Frequency Range:	2402 MHz to 2480 MHz
Bluetooth Version:	Bluetooth EDR
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Type of Modulation:	GFSK, π/4DQPSK, 8DPSK
Number of Channels:	79
Channel Separation:	1 MHz
Antenna Type:	Printed Antenna
Antenna Gain:	2 dBi
Maximum EIRP:	9.38 dBm

For 2.4 GHz ISM Band of Wi-Fi		
Frequency Range:	2412 MHz to 2462 MHz	
Support Standards:	IEEE 802.11b, IEEE 802.11g, IEEE 802.11n-HT20	
Type of Modulation:	IEEE 802.11b: DSSS(CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n-HT20: OFDM(64QAM, 16QAM, QPSK, BPSK)	
Data Rate:	IEEE 802.11b: Up to 11 Mbps IEEE 802.11g: Up to 54 Mbps IEEE 802.11n-HT20: Up to MCS15	
Number of Channels:	IEEE 802.11b: 11 IEEE 802.11g: 11 IEEE 802.11n-HT20: 11	
Channel Separation:	5 MHz	
Antenna Type:	Chain 0	Integral Antenna
	Chain 1	Integral Antenna
Antenna Gain:	Chain 0	2 dBi
	Chain 1	2 dBi
Directional gain:	5.01 dBi	
Maximum Peak Power:	SISO_ Chain 0	IEEE 802.11b: 17.39 dBm IEEE 802.11g: 20.60 dBm IEEE 802.11n-HT20: 16.65 dBm
	SISO_ Chain 1	IEEE 802.11b: 17.97 dBm IEEE 802.11g: 21.34 dBm IEEE 802.11n-HT20: 16.79 dBm
	MIMO_ Chain 0+1	IEEE 802.11n-HT20: 19.68 dBm

For 5 GHz U-NII Bands of Wi-Fi	
Frequency Range:	5180 MHz to 5240 MHz
	5260 MHz to 5320 MHz
	5500 MHz to 5700 MHz
	5 745 MHz to 5 805 MHz
Support Standards:	IEEE 802.11a/n/ac
TPC Function:	Not Support
DFS Operational mode:	Slave without radar Interference detection function
Type of Modulation:	IEEE 802.11a: OFDM(64QAM, 16QAM, QPSK, BPSK)
	IEEE 802.11n: OFDM(64QAM, 16QAM, QPSK, BPSK)
	IEEE 802.11ac: OFDM(256QAM, 64QAM, 16QAM, QPSK, BPSK)
Channel Spacing:	IEEE 802.11a/n-HT20/ac-VHT20: 20 MHz

	IEEE 802.11n-HT40/ac-VHT40: 40 MHz				
	IEEE 802.11ac-VHT80/: 80 MHz				
Data Rate:	IEEE 802.11a: Up to 54 Mbps				
	IEEE 802.11n-HT20: Up to MCS15				
	IEEE 802.11n-HT40: Up to MCS15				
	IEEE 802.11ac-VHT20: Up to MCS8				
	IEEE 802.11ac-VHT40: Up to MCS9				
	IEEE 802.11ac-VHT80: Up to MCS9				
Number of Channels:	5180 MHz to 5240 MHz: 4 for IEEE 802.11a/n-HT20/ac-VHT20 2 for IEEE 802.11n-HT40)/ac-VHT40 1 for IEEE 802.11acVHT80				
	5260 MHz to 5320 MHz: 4 for IEEE 802.11a/n-HT20/ac-VHT20 2 for IEEE 802.11n-HT40)/ac-VHT40 1 for IEEE 802.11acVHT80				
	5500 MHz to 5700 MHz: 11 for IEEE 802.11a/n-HT20/ac-VHT20 5 for IEEE 802.11n-HT40/ac-VHT40 2 for IEEE 802.11ac-VHT80				
	5745 MHz to 5800 MHz: 5 for IEEE 802.11a/n-HT20/ac-VHT20 2 for IEEE 802.11n-HT40/ac-VHT40 1 for IEEE 802.11ac-VHT80				
Antenna Type:	Chain 0	Integral Antenna			
	Chain 1	Integral Antenna			
Antenna Gain:	Chain 0	5180 MHz to 5240 MHz: 2 dBi			
		5260 MHz to 5320 MHz: 2 dBi			
		5500 MHz to 5700 MHz: 2 dBi			
		5 745 MHz to 5 805 MHz: 2 dBi			
	Chain 1	5180 MHz to 5240 MHz: 2 dBi			
		5260 MHz to 5320 MHz: 2 dBi			
		5500 MHz to 5700 MHz: 2 dBi			
		5 745 MHz to 5 805 MHz: 2 dBi			
Maximum EIRP (dBm):	**SISO_Chain 0**	**U-NII-1**	**U-NII-2A**	**U-NII-2C**	**U-NII-3**
	IEEE 802.11a:	14.81	14.44	13.64	13.54
	IEEE 802.11n-HT20:	13.61	13.16	12.05	13.18
	IEEE 802.11n-HT40:	11.76	11.78	9.59	10.98
	IEEE 802.11ac-VHT20:	13.20	13.11	12.03	13.10
	IEEE 802.11ac-VHT40:	11.70	11.69	9.51	10.89
	IEEE 802.11ac-VHT80:	11.02	10.19	8.56	10.25
	SISO_Chain 1	**U-NII-1**	**U-NII-2A**	**U-NII-2C**	**U-NII-3**
	IEEE 802.11a:	14.96	14.74	13.95	13.51
	IEEE 802.11n-HT20:	13.63	13.59	12.75	13.25
	IEEE 802.11n-HT40:	12.28	11.66	11.03	11.78
	IEEE 802.11ac-VHT20:	13.58	13.53	12.64	13.21
	IEEE 802.11ac-VHT40:	12.22	11.60	10.98	11.74
	IEEE 802.11ac-VHT80:	11.23	11.21	10.32	10.97
	MIMO_Chain 0+1	**U-NII-1**	**U-NII-2A**	**U-NII-2C**	**U-NII-3**

	IEEE 802.11a:	--	--	--	--
	IEEE 802.11n-HT20:	16.63	16.39	16.36	16.23
	IEEE 802.11n-HT40:	15.04	14.35	13.38	14.41
	IEEE 802.11ac-VHT20:	16.22	16.34	15.36	16.17
	IEEE 802.11ac-VHT40:	14.98	14.27	13.32	14.35
	IEEE 802.11ac-VHT80:	14.14	13.74	12.54	13.64

1.4 OTHER INFORMATION

Test channels for BT_LE				
Type of Modulation	**Tx/Rx Frequency**	**Test RF Channel Lists**		
		Lowest(L)	**Middle(M)**	**Highest(H)**
GFSK	2402 MHz to 2480 MHz	Channel 0	Channel 19	Channel 39
		2402 MHz	2440 MHz	2480 MHz

Test channels for BT_EDR				
Mode	**Tx/Rx Frequency**	**Test RF Channel Lists**		
		Lowest(L)	**Middle(M)**	**Highest(H)**
GFSK (DH1, DH3, DH5)	2402 MHz to 2480 MHz	Channel 0	Channel 39	Channel 78
		2402 MHz	2441 MHz	2480 MHz
π/4DQPSK (DH1, DH3, DH5)	2402 MHz to 2480 MHz	Channel 0	Channel 39	Channel 78
		2402 MHz	2441 MHz	2480 MHz
8DPSK (DH1, DH3, DH5)	2402 MHz to 2480 MHz	Channel 0	Channel 39	Channel 78
		2402 MHz	2441 MHz	2480 MHz

Test channels for 2.4 GHz ISM Band of Wi-Fi				
Mode	**Tx/Rx Frequency**	**Test RF Channel Lists**		
		Lowest(L)	**Middle(M)**	**Highest(H)**
IEEE 802.11b	2412 MHz to 2462 MHz	Channel 1	Channel 6	Channel 11
		2412 MHz	2437 MHz	2462 MHz
IEEE 802.11g	2412 MHz to 2462 MHz	Channel 1	Channel 6	Channel 11
		2412 MHz	2437 MHz	2462 MHz
IEEE 802.11n-HT20	2412 MHz to 2462 MHz	Channel 1	Channel 6	Channel 11
		2412 MHz	2437 MHz	2462 MHz
IEEE 802.11n-HT40	2422 MHz to 2452 MHz	Channel 3	Channel 6	Channel 9
		2422 MHz	2437 MHz	2452 MHz

Test channels for 5 GHz U-NII Bands of Wi-Fi				
Mode	**Tx/Rx Frequency**	**Test RF Channel Lists**		
		Lowest(L)	**Middle(M)**	**Highest(H)**
IEEE 802.11a IEEE 802.11n-HT20 IEEE 802.11ac-VHT20	5180 MHz to 5240 MHz	Channel 36	Channel 44	Channel 48
		5180 MHz	5220 MHz	5240 MHz
	5260 MHz to 5320 MHz	Channel 52	Channel 60	Channel 64
		5260 MHz	5300 MHz	5320 MHz
	5500 MHz to 5700 MHz	Channel 100	Channel 116	Channel 140
		5500 MHz	5580 MHz	5700 MHz
	5745 MHz to 5805 MHz	Channel 149	Channel 157	Channel 161

		5745 MHz	5785 MHz	5805 MHz
IEEE 802.11n-HT40 IEEE 802.11ac-VHT40	5190 MHz to 5230 MHz	Channel 38	--	Channel 46
		5190 MHz	--	5230 MHz
	5270 MHz to 5310 MHz	Channel 54	--	Channel 62
		5270 MHz	--	5310 MHz
	5510 MHz to 5670 MHz	Channel 102	Channel 110	Channel 134
		5510 MHz	5550 MHz	5670 MHz
	5755 MHz to 5795 MHz	Channel 151	--	Channel 159
		5755 MHz	--	5795 MHz
IEEE 802.11ac-VHT80	5210 MHz	--	Channel 42	--
		--	5210 MHz	--
	5290MHz	--	Channel 58	--
		--	5290 MHz	--
	5530 MHz to 5610 MHz	Channel 106	--	Channel 122
		5530 MHz	--	5610 MHz
	5775 MHz	--	Channel 155	--
		--	5775 MHz	--

1.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product, according to the specifications of the manufacturers. It must comply with the requirements of the following standards:

FCC 47 CFR Part 1 Subpart I

All test items have been performed and recorded as per the above standards

1.6 TEST LOCATION

All tests were performed at:

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: 16/F, Block A, Building 6, Baoneng Science and Technology Park, Qingxiang Road No.1, Longhua New District, Shenzhen, China 518109
Telephone: +86 (0) 755 2823 0888
Fax: +86 (0) 755 2823 0886

1.7 TEST FACILITY

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L9069

The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable under the ISO/IEC/EN 17025 to international or national standards. Equipment has been calibrated by accredited calibration laboratories.

IC-Registration No.: 21600-1

The 3m Semi-anechoic chamber of Shenzhen UnionTrust Quality and Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 21600-1.

1.8 DEVIATION FROM STANDARDS

None.

1.9 ABNORMALITIES FROM STANDARD CONDITIONS

None.

1.10 OTHER INFORMATION REQUESTED BY THE CUSTOMER

None.

2. EQUIPMENT LIST

Please refer to the RF test report.

3. MPE EVALUATION

3.1 REFERENCE DOCUMENTS FOR EVALUATION

No.	Identity	Document Title
1	FCC 47 CFR Part 1 Subpart I	PROCEDURES IMPLEMENTING THE NATIONAL ENVIRONMENTAL POLICY ACT OF 1969
2	KDB 447498 D01 General RF Exposure Guidance v06	RF EXPOSURE PROCEDURES AND EQUIPMENT AUTHORIZATION POLICIES FOR MOBILE AND PORTABLE DEVICES

3.2 MPE COMPLIANCE REQUIREMENT

3.2.1 Limits

According to §1.1307(b)(1), system operating under the provisions of this section shall be operating in a manner that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure.

Limits for Occupational / Controlled Exposure

Frequency range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Times $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f)*	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	F/300	6
1500-100000	/	/	5	6

Limits for General Population / Uncontrolled Exposure

Frequency range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Times $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	F/1500	30
1500-100000	/	/	1	30

Note: f = frequency in MHz: * = Plane-wave equivalents power density.

3.2.2 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

3.3 MPE CALCULATION METHOD

S = PG/4πR^2= EIRP/4πR^2
S = power density (in appropriate units, e.g., mw/cm2)
P = power input to the antenna (in appropriate units, e.g., mw)
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor is normally numeric gain.
R = distance to the center of radiation of the antenna (in appropriate units, e.g., cm)
The antenna of the product under normal use condition is at least 20cm away from the body of the user.

3.4 MPE CALCULATION RESULTS

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

3.4.1 For WLAN

For Wi-Fi function, operating at 2412MHz to 2462 MHz for IEEE802.11b/g/n and
operating at 5180 MHz to 5240 MHz for IEEE802.11a/n/ac and
operating at 5260 MHz to 5320 MHz for IEEE802.11a/n/ac and
operating at 5500 MHz to 5700 MHz for IEEE802.11a/n/ac and
operating at 5745 MHz to 5805 MHz for IEEE802.11a/n/ac.

3.4.1.1 Antenna Type:

Chain 0: Integral Antenna
Chain 1: Integral Antenna

3.4.1.2 Antenna Gain:

Chain 0: 2412MHz to 2462 MHz: 2 dBi
5180 MHz to 5240 MHz: 2 dBi
5260 MHz to 5320 MHz: 2 dBi
5500 MHz to 5700 MHz: 2 dBi
5745 MHz to 5805 MHz: 2 dBi

Chain 1: Same as chain 0

For MIMO mode (2Tx/2Rx), there are two transmission antennas. Both Chain 0 and Chain 1 used at the same time and antenna ports have uniform output powers. The Chain 0 and Chain 1 antenna ports can be used alone. The transmit signals are correlated with each other.

$$\text{The directional gain} = G_{ANT} + 10\log(N_{ANT})\ \text{dBi} = 2 + 10\log(2) = 5.01\ \text{dBi}$$

For SISO mode (1Tx/1Rx), there are two transmission antennas. Both Chain 0 and Chain 1 used at the same time and antenna ports have uniform output powers. The Chain 0 and Chain 1 antenna ports cannot be used alone

The antenna gain = Chain 0 or Chain 1 = 2 dBi

3.4.1.3 Results for WLAN

Operating Mode		Freq.	Declared maximum conducted average output power	Max. positive tolerance according manufacturer	Antenna Gain	Calculated maximum EIRP	Declared maximum EIRP	MPE Limit	MPE Value
		(MHz)	(dBm)		(dBi)	(dBm)	(mW)	(mw/cm^2)	
SISO	IEEE 802.11b IEEE 802.11g	2412	15	1.5	2	18.5	70.7946	1	**0.0141**
		2437	15	1.5	2	18.5	70.7946	1	0.0141
		2462	15	1.5	2	18.5	70.7946	1	0.0141
	IEEE 802.11n-HT20	2412	10	1.5	2	13.5	22.3872	1	**0.0045**
		2437	10	1.5	2	13.5	22.3872	1	0.0045
		2462	10	1.5	2	13.5	22.3872	1	0.0045
	IEEE 802.11a	5180	15	1.5	2	18.5	70.7946	1	**0.0141**
		5220	15	1.5	2	18.5	70.7946	1	0.0141
		5240	15	1.5	2	18.5	70.7946	1	0.0141
		5260	15	1.5	2	18.5	70.7946	1	0.0141
		5300	15	1.5	2	18.5	70.7946	1	0.0141
		5320	15	1.5	2	18.5	70.7946	1	0.0141
		5500	14	1.5	2	17.5	56.2341	1	0.0112
		5580	14	1.5	2	17.5	56.2341	1	0.0112
		5700	14	1.5	2	17.5	56.2341	1	0.0112
		5745	15	1.5	2	18.5	70.7946	1	0.0141
		5785	15	1.5	2	18.5	70.7946	1	0.0141
		5805	15	1.5	2	18.5	70.7946	1	0.0141
	IEEE 802.11n-HT20 IEEE 802.11ac-VHT20	5180	14	1.5	2	17.5	56.2341	1	**0.0112**
		5220	14	1.5	2	17.5	56.2341	1	0.0112
		5240	14	1.5	2	17.5	56.2341	1	0.0112
		5260	14	1.5	2	17.5	56.2341	1	0.0112
		5300	14	1.5	2	17.5	56.2341	1	0.0112
		5320	14	1.5	2	17.5	56.2341	1	0.0112
		5500	13	1.5	2	16.5	44.6684	1	0.0089
		5580	13	1.5	2	16.5	44.6684	1	0.0089
		5700	13	1.5	2	16.5	44.6684	1	0.0089
		5745	14	1.5	2	17.5	56.2341	1	0.0112
		5785	14	1.5	2	17.5	56.2341	1	0.0112
		5805	14	1.5	2	17.5	56.2341	1	0.0112
	IEEE 802.11n-HT40 IEEE 802.11ac-VHT40	5190	13	1.5	2	16.5	44.6684	1	**0.0089**
		5230	13	1.5	2	16.5	44.6684	1	0.0089
		5270	13	1.5	2	16.5	44.6684	1	0.0089
		5310	13	1.5	2	16.5	44.6684	1	0.0089
		5510	12	1.5	2	15.5	35.4813	1	0.0071
		5550	12	1.5	2	15.5	35.4813	1	0.0071
		5670	12	1.5	2	15.5	35.4813	1	0.0071
		5755	13	1.5	2	16.5	44.6684	1	0.0089
		5795	13	1.5	2	16.5	44.6684	1	0.0089
	IEEE 802.11ac-VHT80	5230	13	1.5	2	16.5	44.6684	1	**0.0089**
		5290	12	1.5	2	15.5	35.4813	1	0.0071
		5530	11	1.5	2	14.5	28.1838	1	0.0056
		5610	11	1.5	2	14.5	28.1838	1	0.0056
		5775	12	1.5	2	15.5	35.4813	1	0.0071

Operating Mode		Freq.	Declared maximum conducted average output power	Max. positive tolerance according manufacturer	Antenna Gain	Calculated maximum EIRP	Declared maximum EIRP	MPE Limit	MPE Value
		(MHz)	(dBm)		(dBi)	(dBm)	(mW)	(mw/cm²)	
MIMO	IEEE 802.11n-HT20	2412	13	1.5	5	19.5	89.1251	1	**0.0177**
		2437	13	1.5	5	19.5	89.1251	1	0.0177
		2462	13	1.5	5	19.5	89.1251	1	0.0177
	IEEE 802.11n-HT20 IEEE 802.11ac-VHT20	5180	17	1.5	5	23.5	223.8721	1	**0.0445**
		5220	17	1.5	5	23.5	223.8721	1	0.0445
		5240	17	1.5	5	23.5	223.8721	1	0.0445
		5260	17	1.5	5	23.5	223.8721	1	0.0445
		5300	17	1.5	5	23.5	223.8721	1	0.0445
		5320	17	1.5	5	23.5	223.8721	1	0.0445
		5500	16	1.5	5	22.5	177.8279	1	0.0354
		5580	16	1.5	5	22.5	177.8279	1	0.0354
		5700	16	1.5	5	22.5	177.8279	1	0.0354
		5745	17	1.5	5	23.5	223.8721	1	0.0445
		5785	17	1.5	5	23.5	223.8721	1	0.0445
		5805	17	1.5	5	23.5	223.8721	1	0.0445
	IEEE 802.11n-HT40 IEEE 802.11ac-VHT40	5190	16	1.5	5	22.5	177.8279	1	**0.0354**
		5230	16	1.5	5	22.5	177.8279	1	0.0354
		5270	16	1.5	5	22.5	177.8279	1	0.0354
		5310	16	1.5	5	22.5	177.8279	1	0.0354
		5510	15	1.5	5	21.5	141.2538	1	0.0281
		5550	15	1.5	5	21.5	141.2538	1	0.0281
		5670	15	1.5	5	21.5	141.2538	1	0.0281
		5755	16	1.5	5	22.5	177.8279	1	0.0354
		5795	16	1.5	5	22.5	177.8279	1	0.0354
	IEEE 802.11ac-VHT80	5230	15	1.5	5	21.5	141.2538	1	**0.0281**
		5290	15	1.5	5	21.5	141.2538	1	0.0281
		5530	14	1.5	5	20.5	112.2018	1	0.0223
		5610	14	1.5	5	20.5	112.2018	1	0.0223
		5775	15	1.5	5	21.5	141.2538	1	0.0281

3.4.2 For BT

For BT_LE function, operating at 2402MHz to 2480 MHz for GFSK and

For BT_EDR function, operating at 2402MHz to 2480 MHz for GFSK, π/4 DQPSK, 8DPSK

3.4.2.1 Antenna Type:

Chain 0: Integral Antenna

3.4.2.2 Antenna Gain:

Chain 0: 2402MHz to 2480 MHz: 2 dBi

3.4.2.3 Results for BT

Operating Mode	Freq.	Declared maximum conducted average output power	Max. positive tolerance according manufacturer	Antenna Gain	Calculated maximum EIRP	Declared maximum EIRP	MPE Limit	MPE Value
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(mW)	(mw/cm²)	
LE	2402	8	1	2	11	12.5893	1	0.0025
	2440	8	1	2	11	12.5893	1	0.0025
	2480	8	1	2	11	12.5893	1	0.0025
EDR	2402	9	1	2	12	15.8489	1	**0.0032**

Operating Mode	Freq.	Declared maximum conducted average output power	Max. positive tolerance according manufacturer	Antenna Gain	Calculated maximum EIRP	Declared maximum EIRP	MPE Limit	MPE Value
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(mW)	(mw/cm^2)	
	2441	9	1	2	12	15.8489	1	0.0032
	2480	9	1	2	12	15.8489	1	0.0032

3.4.3 Simultaneous Multi-band Transmission MPE Analysis

3.4.3.1 List of Mode for Simultaneous Multi-band Transmission

No.	Configurations	Support/Not Support
1	2.4G_SISO_WLAN + BT	Support
2	2.4G_MIMO_WLAN + BT	Support
3	5G_SISO_WLAN + BT	Support
5	5G_MIMO_WLAN + BT	Support

3.4.3.2 Results for transmit simultaneously

No.	Configurations	Maximum MPE Value (mw/cm^2)			Limits (mw/cm^2)
		WLAN	BT	Transmit simultaneously	
1	2.4G_SISO_WLAN + BT	0.0141	0.0032	0.0173	1
2	2.4G_MIMO_WLAN + BT	0.0177	0.0032	0.0209	1
3	5G_SISO_WLAN + BT	0.0141	0.0032	0.0173	1
4	5G_MIMO_WLAN + BT	0.0445	0.0032	**0.0477**	1

Note 1: According to KDB 447498 D01 General RF Exposure Guidance v06, At the transmit simultaneously calculation method is as follows:

Transmit simultaneously MPE = Σ of MPE ratios

MPE ratios = Field strengths or power density / MPE limit at the test frequency

APPENDIX 1 PHOTOGRAPHS OF TEST SETUP

N/A

APPENDIX 2 PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS

Refer to Appendix 2 for EUT external and internal photographs.

*** End of Report ***