REPORT No. : SZ16050107S01

RF EXPOSURE EVALUATION REPORT

APPLICANT	:	Shakespeare Company, LLC.
PRODUCT NAME	:	WebWatch
MODEL NAME	:	WCT-1,WC-1
TRADE NAME	:	WebWatch
BRAND NAME	:	Shakespeare
FCC ID	:	I40-WW01
STANDARD(S)	:	47CFR 2.1091 KDB 447498 D01 General RF Exposure Guidance v06
ISSUE DATE	:	2016-07-20

SHENZHEN MORLAB COMMUNICATIONS TECHNOLOGY Co., Ltd.

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Change History		
Issue	Date	Reason for change
1.0	2016-07-20	First edition

TEST REPORT DECLARATION

Applicant	Shakespeare Company, LLC.
Applicant Address	6111 Shakespeare Rd, Columbia, SC,29223 United States
Manufacturer	Shakespeare Company, LLC.
Manufacturer Address	6111 Shakespeare Rd, Columbia, SC,29223 United States
Product Name	WebWatch
Model Name	WCT-1,WC-1
Brand Name	Shakespeare
HW Version	V1.0
SW Version	V1.0
Test Standards	47CFR 2.1091; KDB 447498 D01 General RF Exposure Guidance v06
Issue Date	2016-07-20

Tested by : Chen Shengkui

Chen Shengkui

Reviewed by : Liu Jun

Liu Jun

Approved by : Zeng Dexin

Zeng Dexin

1. TECHNICAL INFORMATION

Note: the following data is based on the information by the applicant.

1.1. Identification of Applicant

Company Name:	Shakespeare Company, LLC.
Address:	6111 Shakespeare Rd, Columbia, SC,29223 United States

1.2. Identification of Manufacturer

Company Name:	Shakespeare Company, LLC.
Address:	6111 Shakespeare Rd, Columbia, SC,29223 United States

1.3. Equipment Under Test (EUT)

Model Name:	WCT-1,WC-1
Trade Name:	WebWatch
Brand Name:	Shakespeare
Hardware Version:	V1.0
Software Version:	V1.0
Frequency Bands:	WCDMA Band II : 1850-1910MHz; WCDMA Band V: 1710-1755MHz; WCDMA Band V: 824-849 MHz; LTE Band 2: 1850-1910MHz; LTE Band 4: 1710-1755MHz; LTE Band 5: 824-849 MHz; LTE Band 17:706-714 MHz; Wifi802.11b/g/n20/n40:2412-2462MHz;
Modulation Mode:	WCDMA/HSDPA/HSUPA/HSPA+:QPSK; FDD-LTE:QPSK/16QAM; Wifi802.11b: DSSS; Wifi802.11g/n20/n40: OFDM;
Antenna type:	Dedicated Antenna
Development Stage:	Identical prototype

1.3.1. Photographs of the EUT

1. WCT-1 EUT side view

2. WCT-1 EUT rear view

3. WC-1 EUT side view

4. WC-1 EUT top view

1.3.2. Identification of all used EUT

The EUT identity consists of numerical and letter characters, the letter character indicates the test sample, and the following two numerical characters indicate the software version of the test sample.

EUT Identity	Hardware Version	Software Version
1#	V1.0	V1.0

1.4. Applied Reference Documents

Leading reference documents for testing:

No.	Identity	Document Title
1	**47 CFR§2.1091**	Radiofrequency Radiation Exposure Evaluation: mobile devices
2	**KDB 447498 D01v06**	General RF Exposure Guidance

2. DEVICE CATEGORY AND RF EXPOSURE LIMIT

Per user manual, this device is a Wifi router. Based on 47CFR 2.1091, this device belongs to mobile device category with General Population/Uncontrolled exposure.

Mobile Devices:

47CFR 2.1091(b)

For purposes of this section, a mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons. In this context, the term “fixed location” means that the device is physically secured at one location and is not able to be easily moved to another location. Transmitting devices designed to be used by consumers or workers that can be easily re-located, such as wireless devices associated with a personal computer, are considered to be mobile devices if they meet the 20 centimeter separation requirement.

GENERAL POPULATION / UNCONTROLLED EXPOSURE

The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity. Warning labels placed on low-power consumer devices such as cellular telephones are not considered sufficient to allow the device to be considered under the occupational/controlled category, and the general population/uncontrolled exposure limits apply to these devices.

TABLE 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)	Averaging time (minutes)
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f^2)	30
30-300	27.5	0.073	0.2	30
300-1500	-	-	f/1500	30
1500-100,000	-	-	1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

3. MEASUREMENT OF CONDUCTED PEAK OUTPUT POWER

1. LTE Conducted Average Output Power

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
20MHz	L 18700	1860	QPSK	1	0	22.10
				1	49	21.84
				1	99	21.50
				50	0	21.05
				50	25	21.12
				50	49	20.49
				100	0	20.96
			16-QAM	1	0	21.04
				1	49	21.82
				1	99	20.40
				50	0	20.59
				50	25	20.64
				50	49	20.03
				100	0	19.96
	M 18900	1880	QPSK	1	0	21.47
				1	49	21.42
				1	99	21.75
				50	0	20.31
				50	25	20.22
				50	49	20.55
				100	0	20.39
			16-QAM	1	0	20.68
				1	49	20.61
				1	99	20.93
				50	0	20.87
				50	25	20.63
				50	49	19.34
				100	0	19.36
	H 19100	1900	QPSK	1	0	21.89
				1	49	21.71
				1	99	21.89
				50	0	20.72
				50	25	20.54
				50	49	20.92
				100	0	20.81
			16-QAM	1	0	21.06
				1	49	20.84
				1	99	20.96
				50	0	20.56
				50	25	20.75
				50	49	20.36
				100	0	19.87

LTE BAND 2 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
15MHz	L 18675	1857.5	QPSK	1	0	21.71
				1	37	21.23
				1	74	21.54
				36	0	21.01
				36	18	21.13
				36	35	21.07
				75	0	21.05
			16-QAM	1	0	21.03
				1	37	21.11
				1	74	21.08
				36	0	21.01
				36	18	20.58
				36	35	20.68
				75	0	20.14
	M 18900	1880	QPSK	1	0	22.01
				1	37	21.98
				1	74	21.56
				36	0	21.05
				36	18	21.36
				36	35	21.08
				75	0	21.10
			16-QAM	1	0	21.40
				1	37	21.22
				1	74	21.36
				36	0	21.51
				36	18	21.29
				36	35	21.04
				75	0	20.05
	H 19125	1902.5	QPSK	1	0	21.40
				1	37	21.61
				1	74	21.52
				36	0	20.81
				36	18	21.03
				36	35	20.77
				75	0	20.79
			16-QAM	1	0	20.66
				1	37	20.45
				1	74	20.78
				36	0	20.89
				36	18	20.36
				36	35	20.03
				75	0	19.90

LTE BAND 2 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
10MHz	L 18650	1855	QPSK	1	0	21.49
				1	24	21.32
				1	49	21.02
				25	0	20.88
				25	12	20.76
				25	24	20.69
				50	0	20.97
			16-QAM	1	0	20.78
				1	24	20.59
				1	49	20.67
				25	0	20.36
				25	12	20.42
				25	24	20.26
				50	0	19.98
	M 18900	1880	QPSK	1	0	21.99
				1	24	21.85
				1	49	21.94
				25	0	21.03
				25	12	21.11
				25	24	21.07
				50	0	20.96
			16-QAM	1	0	21.42
				1	24	21.31
				1	49	21.39
				25	0	21.44
				25	12	21.54
				25	24	21.23
				50	0	19.97
	H 19150	1905	QPSK	1	0	21.67
				1	24	21.54
				1	49	21.66
				25	0	20.89
				25	12	20.78
				25	24	20.96
				50	0	20.69
			16-QAM	1	0	20.37
				1	24	20.41
				1	49	20.39
				25	0	20.44
				25	12	20.36
				25	24	20.01
				50	0	19.87

LTE BAND 2 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
5MHz	L 18625	1852.5	QPSK	1	0	22.05
				1	12	22.11
				1	24	22.01
				12	0	20.85
				12	6	21.03
				12	11	20.96
				25	0	20.89
			16-QAM	1	0	21.53
				1	12	21.67
				1	24	21.66
				12	0	21.52
				12	6	21.47
				12	11	21.03
				25	0	19.91
	M 18900	1880	QPSK	1	0	21.96
				1	12	21.85
				1	24	21.74
				12	0	21.04
				12	6	21.63
				12	11	21.00
				25	0	20.94
			16-QAM	1	0	20.78
				1	12	20.45
				1	24	20.61
				12	0	20.98
				12	6	20.31
				12	11	20.12
				25	0	19.98
	H 19175	1907.5	QPSK	1	0	22.01
				1	12	21.95
				1	24	21.85
				12	0	20.90
				12	6	20.66
				12	11	20.54
				25	0	20.51
			16-QAM	1	0	21.17
				1	12	21.24
				1	24	21.10
				12	0	21.22
				12	6	21.36
				12	11	21.02
				25	0	19.66

LTE BAND 2 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
3MHz	L 18615	1851.5	QPSK	1	0	21.97
				1	7	21.88
				1	14	21.94
				8	0	21.63
				8	4	21.52
				8	7	21.34
				15	0	21.22
			16-QAM	1	0	21.23
				1	7	21.12
				1	14	21.10
				8	0	21.47
				8	4	21.03
				8	7	21.04
				15	0	20.18
	M 18900	1880	QPSK	1	0	21.84
				1	7	21.88
				1	14	21.82
				8	0	21.89
				8	4	21.74
				8	7	21.65
				15	0	20.92
			16-QAM	1	0	21.25
				1	7	21.36
				1	14	21.44
				8	0	21.21
				8	4	21.25
				8	7	21.03
				15	0	19.93
	H 19185	1908.5	QPSK	1	0	21.66
				1	7	20.95
				1	14	20.51
				8	0	20.48
				8	4	20.36
				8	7	20.38
				15	0	20.51
			16-QAM	1	0	20.53
				1	7	20.61
				1	14	20.36
				8	0	20.16
				8	4	20.13
				8	7	20.02
				15	0	19.72

LTE BAND 2 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
1.4MHz	L 18607	1850.7	QPSK	1	0	21.94
				1	2	22.01
				1	5	22.05
				3	0	22.01
				3	1	22.05
				3	2	22.09
				6	0	21.06
			16-QAM	1	0	21.07
				1	2	20.93
				1	5	21.13
				3	0	21.21
				3	1	21.14
				3	2	21.36
				6	0	20.33
	M 18900	1880	QPSK	1	0	21.37
				1	2	21.31
				1	5	21.43
				3	0	21.52
				3	1	21.41
				3	2	21.21
				6	0	30.32
			16-QAM	1	0	20.11
				1	2	19.87
				1	5	20.16
				3	0	20.41
				3	2	20.23
				3	5	20.01
				6	0	19.69
	H 19193	1909.3	QPSK	1	0	20.55
				1	2	20.43
				1	5	21.72
				3	0	21.89
				3	1	21.77
				3	2	21.75
				6	0	20.96
			16-QAM	1	0	20.55
				1	2	20.44
				1	5	20.38
				3	0	20.41
				3	1	20.36
				3	2	20.21
				6	0	19.93

LTE BAND 4

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
20MHz	L 20050	1720.0	QPSK	1	0	22.28
				1	49	22.21
				1	99	21.82
				50	0	21.03
				50	25	21.05
				50	49	20.76
				100	0	20.96
			16-QAM	1	0	21.39
				1	49	21.24
				1	99	20.89
				50	0	20.74
				50	25	20.63
				50	49	20.34
				100	0	19.89
	M 20175	1732.5	QPSK	1	0	22.28
				1	49	21.84
				1	99	21.98
				50	0	20.73
				50	25	20.72
				50	49	20.70
				100	0	20.71
			16-QAM	1	0	21.84
				1	49	21.54
				1	99	21.70
				50	0	21.72
				50	25	21.36
				50	49	20.51
				100	0	19.74
	H 20300	1745.0	QPSK	1	0	21.82
				1	49	21.65
				1	99	21.84
				50	0	20.77
				50	25	20.64
				50	49	20.76
				100	0	20.74
			16-QAM	1	0	21.49
				1	49	21.52
				1	99	21.45
				50	0	21.31
				50	25	21.02
				50	49	21.11
				100	0	19.73

LTE BAND 4 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
15MHz	L 20025	1717.5	QPSK	1	0	22.53
				1	37	22.50
				1	74	21.80
				36	0	21.80
				36	18	21.77
				36	35	21.63
				75	0	21.71
			16-QAM	1	0	21.74
				1	37	21.45
				1	74	21.36
				36	0	21.71
				36	18	21.26
				36	35	21.32
				75	0	20.78
	M 20175	1732.5	QPSK	1	0	22.25
				1	37	21.50
				1	74	21.73
				36	0	20.82
				36	18	20.45
				36	35	20.36
				75	0	20.70
			16-QAM	1	0	21.40
				1	37	21.13
				1	74	21.36
				36	0	21.47
				36	18	21.24
				36	35	20.29
				75	0	19.87
	H 20325	1747.5	QPSK	1	0	21.88
				1	37	22.62
				1	74	22.67
				36	0	21.26
				36	18	21.17
				36	35	21.75
				75	0	21.62
			16-QAM	1	0	20.99
				1	37	20.85
				1	74	21.74
				36	0	20.36
				36	18	20.41
				36	35	20.39
				75	0	20.71

LTE BAND 4 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
10MHz	L 20000	1715.0	QPSK	1	0	22.49
				1	24	22.64
				1	49	22.02
				25	0	21.70
				25	12	21.54
				25	24	21.36
				50	0	21.72
			16-QAM	1	0	21.70
				1	24	21.48
				1	49	21.40
				25	0	21.36
				25	12	21.25
				25	24	21.31
				50	0	20.71
	M 20175	1732.5	QPSK	1	0	21.66
				1	24	21.36
				1	49	21.15
				25	0	20.70
				25	12	21.03
				25	24	21.08
				50	0	20.65
			16-QAM	1	0	21.14
				1	24	21.04
				1	49	20.59
				25	0	20.67
				25	12	20.96
				25	24	20.36
				50	0	19.82
	H 20350	1750.0	QPSK	1	0	22.47
				1	24	22.64
				1	49	22.71
				25	0	21.61
				25	12	21.54
				25	24	21.38
				50	0	21.69
			16-QAM	1	0	21.12
				1	24	21.44
				1	49	21.42
				25	0	21.39
				25	12	21.30
				25	24	21.23
				50	0	20.72

LTE BAND 4 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
5MHz	L 19975	1712.5	QPSK	1	0	22.73
				1	12	22.78
				1	24	22.72
				12	0	21.64
				12	6	21.53
				12	11	21.58
				25	0	21.61
			16-QAM	1	0	22.15
				1	12	22.23
				1	24	22.08
				12	0	22.04
				12	6	22.08
				12	11	21.58
				25	0	20.61
	M 20175	1732.5	QPSK	1	0	21.82
				1	12	21.22
				1	24	21.74
				12	0	20.51
				12	6	21.36
				12	11	20.69
				25	0	20.47
			16-QAM	1	0	21.38
				1	12	21.12
				1	24	21.31
				12	0	21.20
				12	6	21.36
				12	11	21.01
				25	0	19.69
	H 20375	1752.5	QPSK	1	0	22.59
				1	12	22.61
				1	24	21.85
				12	0	21.66
				12	6	21.42
				12	11	21.36
				25	0	21.64
			16-QAM	1	0	21.91
				1	12	21.62
				1	24	21.58
				12	0	21.45
				12	6	21.37
				12	11	21.31
				25	0	20.63

LTE BAND 4 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
3MHz	L 19965	1711.5	QPSK	1	0	22.41
				1	7	22.45
				1	14	22.43
				8	0	22.05
				8	4	22.34
				8	7	22.11
				15	0	21.62
			16-QAM	1	0	21.68
				1	7	21.36
				1	14	21.54
				8	0	21.18
				8	4	21.02
				8	7	21.01
				15	0	20.66
	M 20175	1732.5	QPSK	1	0	22.22
				1	7	21.96
				1	14	22.09
				8	0	22.03
				8	4	22.07
				8	7	21.56
				15	0	21.28
			16-QAM	1	0	21.73
				1	7	21.48
				1	14	21.57
				8	0	21.41
				8	4	21.53
				8	7	21.49
				15	0	20.50
	H 20384	1753.4	QPSK	1	0	22.53
				1	7	22.56
				1	14	22.54
				8	0	22.34
				8	4	22.12
				8	7	21.78
				15	0	21.59
			16-QAM	1	0	21.34
				1	7	21.22
				1	14	21.04
				8	0	21.17
				8	4	21.36
				8	7	21.08
				15	0	20.56

LTE BAND 4 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
1.4MHz	L 19957	1710.7	QPSK	1	0	22.39
				1	2	22.13
				1	5	22.17
				3	0	22.29
				3	1	21.08
				3	2	22.15
				6	0	21.41
			16-QAM	1	0	21.04
				1	2	20.85
				1	5	21.06
				3	0	21.14
				3	1	21.03
				3	2	21.21
				6	0	20.33
	M 20175	1732.5	QPSK	1	0	21.76
				1	2	21.83
				1	5	21.79
				3	0	21.92
				3	1	21.84
				3	2	21.99
				6	0	20.84
			16-QAM	1	0	20.28
				1	2	20.36
				1	5	20.49
				3	0	20.36
				3	2	20.41
				3	5	20.31
				6	0	19.87
	H 20392	1754.2	QPSK	1	0	21.83
				1	2	21.91
				1	5	21.82
				3	0	21.96
				3	1	21.87
				3	2	21.94
				6	0	20.97
			16-QAM	1	0	20.32
				1	2	20.52
				1	5	20.46
				3	0	20.56
				3	1	20.09
				3	2	20.14
				6	0	20.11

LTE BAND 5

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
10MHz	L 20450	829	QPSK	1	0	22.53
				1	24	22.58
				1	49	22.54
				25	0	21.45
				25	12	21.36
				25	24	21.47
				50	0	21.51
			16-QAM	1	0	20.96
				1	24	20.95
				1	49	21.43
				25	0	21.31
				25	12	21.25
				25	24	21.06
				50	0	20.51
	M 20525	836.5	QPSK	1	0	22.47
				1	24	22.29
				1	49	21.03
				25	0	21.36
				25	12	21.27
				25	24	21.09
				50	0	21.49
			16-QAM	1	0	21.92
				1	24	21.78
				1	49	20.89
				25	0	20.36
				25	12	20.14
				25	24	20.22
				50	0	20.64
	H 20600	844	QPSK	1	0	22.61
				1	24	22.36
				1	49	22.25
				25	0	21.41
				25	12	21.36
				25	24	21.36
				50	0	21.35
			16-QAM	1	0	21.37
				1	24	21.23
				1	49	21.29
				25	0	21.10
				25	12	21.14
				25	24	21.31
				50	0	20.49

LTE BAND 5 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
5MHz	L 20425	826.5	QPSK	1	0	21.70
				1	12	21.41
				1	24	21.36
				12	0	20.27
				12	6	20.31
				12	11	20.25
				25	0	20.43
			16-QAM	1	0	21.17
				1	12	21.01
				1	24	21.14
				12	0	21.03
				12	6	21.01
				12	11	21.06
				25	0	19.57
	M 20525	836.5	QPSK	1	0	21.22
				1	12	20.61
				1	24	20.99
				12	0	19.77
				12	6	20.03
				12	11	19.85
				25	0	19.74
			16-QAM	1	0	20.07
				1	12	20.01
				1	24	20.03
				12	0	19.85
				12	6	19.46
				12	11	19.64
				25	0	18.91
	H 20625	846.5	QPSK	1	0	22.01
				1	12	22.03
				1	24	21.95
				12	0	20.72
				12	6	21.69
				12	11	21.36
				25	0	20.45
			16-QAM	1	0	21.51
				1	12	21.43
				1	24	21.36
				12	0	21.38
				12	6	21.03
				12	11	20.58
				25	0	19.67

LTE BAND 5 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
3MHz	L 20415	825.5	QPSK	1	0	21.60
				1	7	21.56
				1	14	21.74
				8	0	21.68
				8	4	20.51
				8	7	20.75
				15	0	20.68
			16-QAM	1	0	21.04
				1	7	21.07
				1	14	21.11
				8	0	21.36
				8	4	21.21
				8	7	21.03
				15	0	19.77
	M 20525	836.5	QPSK	1	0	21.28
				1	7	21.03
				1	14	21.11
				8	0	21.23
				8	4	21.30
				8	7	20.10
				15	0	20.13
			16-QAM	1	0	20.72
				1	7	20.50
				1	14	20.56
				8	0	20.41
				8	4	20.24
				8	7	20.23
				15	0	19.33
	H 20635	847.5	QPSK	1	0	21.87
				1	7	21.35
				1	14	21.24
				8	0	21.13
				8	4	21.05
				8	7	20.74
				15	0	20.69
			16-QAM	1	0	20.84
				1	7	20.67
				1	14	20.52
				8	0	20.31
				8	4	20.37
				8	7	20.26
				15	0	19.89

LTE BAND 5 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
1.4MHz	L 20407	824.7	QPSK	1	0	21.44
				1	2	21.34
				1	5	21.22
				3	0	21.50
				3	1	21.47
				3	2	21.36
				6	0	20.53
			16-QAM	1	0	20.71
				1	2	20.34
				1	5	20.47
				3	0	20.31
				3	1	20.22
				3	2	20.10
				6	0	19.63
	M 20525	836.5	QPSK	1	0	21.10
				1	2	20.97
				1	5	21.04
				3	0	21.06
				3	1	21.04
				3	2	21.09
				6	0	20.14
			16-QAM	1	0	20.03
				1	2	20.11
				1	5	20.06
				3	0	20.12
				3	2	20.31
				3	5	20.05
				6	0	19.27
	H 20643	848.3	QPSK	1	0	21.38
				1	2	21.24
				1	5	21.34
				3	0	21.28
				3	1	21.31
				3	2	21.22
				6	0	20.51
			16-QAM	1	0	20.43
				1	2	20.34
				1	5	20.37
				3	0	20.35
				3	1	20.37
				3	2	20.01
				6	0	19.78

LTE BAND 17 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
10MHz	L 23780	709	QPSK	1	0	23.04
				1	24	22.96
				1	49	22.81
				25	0	21.79
				25	12	21.67
				25	24	21.83
				50	0	21.75
			16-QAM	1	0	22.45
				1	24	22.34
				1	49	22.33
				25	0	22.21
				25	12	22.41
				25	24	22.01
				50	0	20.77
	M 23790	710	QPSK	1	0	22.88
				1	24	22.87
				1	49	22.85
				25	0	21.86
				25	12	21.73
				25	24	21.71
				50	0	21.79
			16-QAM	1	0	21.19
				1	24	21.33
				1	49	21.16
				25	0	21.13
				25	12	21.05
				25	24	21.01
				50	0	20.75
	H 23800	711	QPSK	1	0	22.93
				1	24	22.75
				1	49	22.34
				25	0	21.83
				25	12	21.67
				25	24	21.78
				50	0	21.77
			16-QAM	1	0	21.30
				1	24	21.22
				1	49	21.94
				25	0	21.77
				25	12	21.87
				25	24	21.34
				50	0	20.76

LTE BAND 17 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
5MHz	L 23755	706.5	QPSK	1	0	23.21
				1	12	23.10
				1	24	23.15
				12	0	21.89
				12	6	21.45
				12	11	21.90
				25	0	21.91
			16-QAM	1	0	22.60
				1	12	22.07
				1	24	22.45
				12	0	22.31
				12	6	22.43
				12	11	22.02
				25	0	21.93
	M 23790	710	QPSK	1	0	22.73
				1	12	22.91
				1	24	22.89
				12	0	21.92
				12	6	21.37
				12	11	21.92
				25	0	21.82
			16-QAM	1	0	21.16
				1	12	21.28
				1	24	21.73
				12	0	21.56
				12	6	21.34
				12	11	20.47
				25	0	20.88
	H 23825	713.5	QPSK	1	0	22.87
				1	12	22.71
				1	24	22.43
				12	0	21.86
				12	6	21.37
				12	11	21.60
				25	0	21.76
			16-QAM	1	0	21.16
				1	12	21.13
				1	24	20.89
				12	0	20.56
				12	6	20.34
				12	11	20.30
				25	0	21.73

1. WCDMA mode conducted output power values

Item	band	WCDMA 850			WCDMA 1700			WCDMA 1900		
	ARFCN	4132	4175	4233	1312	1412	1513	9262	9400	9538
	subtest	dBm			dBm					
5.2(WCDMA)	non	23.57	23.61	23.48	22.96	23.47	23.23	23.20	23.47	23.54
HSDPA	1	23.65	23.48	23.73	22.82	23.28	23.16	22.81	23.49	23.23
	2	23.64	23.46	23.71	22.79	23.26	23.13	22.80	22.47	22.21
	3	23.13	22.97	23.22	22.31	22.77	22.64	22.30	22.98	22.72
	4	23.12	22.95	23.21	22.28	22.75	22.62	22.29	21.96	21.70
HSUPA	1	23.64	23.49	23.75	22.68	23.48	23.19	22.99	23.56	23.29
	2	21.63	21.48	21.76	20.67	21.47	21.18	21.00	21.57	21.27
	3	22.65	22.49	22.73	21.66	22.46	22.17	22.98	22.55	22.28
	4	21.64	21.48	21.76	20.68	21.46	21.19	22.97	21.58	21.29
	5	23.63	23.44	23.74	22.69	23.50	23.17	23.01	23.58	23.28
HSPA+	1	23.73	23.61	23.80	22.86	23.27	23.18	23.03	23.70	23.45
Note:	The Conducted RF Output Power test of WCDMA /HSDPA /HSUPA/HSPA+ was tested by power meter.									

2. Wifi 2.4G Conducted Average Output Power

ANT 1

Band	Channel	Frequency (MHz)	Output Power(dBm)	
			802.11b (DSSS)	802.11g (OFDM)
WiFi 2.4G	1	2412	16.81	17.82
	6	2437	16.91	18.05
	11	2462	17.36	18.18

ANT 2

Band	Channel	Frequency (MHz)	Output Power(dBm)	
			802.11b (DSSS)	802.11g (OFDM)
WiFi 2.4G	1	2412	15.77	17.21
	6	2437	15.32	16.99
	11	2462	15.69	17.42

Band	Antenna	Channel	Frequency (MHz)	Output Power(dBm)
				802.11n20
WiFi 2.4G (MIMO)	ANT1	1	2412	17.54
		6	2437	17.23
		11	2462	17.12
	ANT2	1	2412	16.74
		6	2437	16.48
		11	2462	16.89
	ANT1+ANT2	1	2412	20.17
		6	2437	19.88
		11	2462	20.01

Band	Antenna	Channel	Frequency (MHz)	Output Power(dBm)
				802.11n40
WiFi 2.4G (MIMO)	ANT1	3	2422	16.52
		6	2437	16.79
		9	2452	16.46
	ANT2	3	2422	15.76
		6	2437	15.64
		9	2452	15.73
	ANT1+ANT2	3	2422	19.17
		6	2437	19.26
		9	2452	19.12

Note: Only 802.11n20 and 802.11n40 support MIMO 2X2.

4. RF EXPOSURE EVALUATION

Standalone transmission MPE evaluation

Bands	Frequency (MHz)	Antenna Gain (dBi)	Conducted Average Power (dBm)	Time-averaging EIRP (mW)	Power density (mW/cm²)	Limit for MPE (mW/cm²)
802.11n20 (MIMO)	2412	8.01	20.17	657.66	0.13	1.0
WCDMA Band II	1907.6	0	23.54	225.94	0.05	1.0
WCDMA Band IV	1732.6	0	23.47	222.33	0.05	1.0
WCDMA Band V	835.0	0	23.61	229.61	0.05	0.56
LTE Band 2 (BW-20M)	1860.0	0	22.01	158.85	0.03	1.0
LTE Band 4 (BW-20M)	1720.0	0	22.28	169.04	0.03	1.0
LTE Band 5 (BW-10M)	829.0	0	22.58	181.13	0.04	0.55
LTE Band 17 (BW-10M)	709.0	0	23.04	201.37	0.04	0.47

Note:

1. MPE calculation method

$$\text{Power Density} = EIRP/4\pi R^2$$

Where: EIRP = P·G

P = Peak out power

G = Antenna gain

R = Separation distance (20cm)

ANNEX C GENERAL INFORMATION

1. Identification of the Responsible Testing Laboratory

Company Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Department:	Morlab Laboratory
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
Responsible Test Lab Manager:	Mr. Su Feng
Telephone:	+86 755 36698555
Facsimile:	+86 755 36698525

2. Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China

***** END OF REPORT *****