Test Lab
Cert 2951.01

RF EXPOSURE REPORT

Product:	LTE Cellular Router
Model Name:	CDS-9070
FCC ID:	2AJLF-CDS-9070
Applicant:	DataRemote Incorporated
Address:	17755 Homestead Avenue, Miami, FL 33157
Manufacturer:	DataRemote Incorporated
Address:	17755 Homestead Avenue, Miami, FL 33157
Prepared by:	Bureau Veritas Shenzhen Co., Ltd. Dongguan Branch
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Report No.:	SA160830W002
Received Date:	Sep. 10, 2016
Test Date:	Sep. 11, 2016 ~ Nov. 07, 2016
Issued Date:	Nov. 08, 2016

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA160830W002	Original release	Nov. 08, 2016

Bureau Veritas Shenzhen Co., Ltd.
Dongguan Branch

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1 CERTIFICATION

PRODUCT:	LTE Cellular Router
BRAND NAME:	DataRemote
MODEL NAME:	CDS-9070
APPLICANT:	DataRemote Incorporated
TESTED:	Sep. 11, 2016 ~ Nov. 07, 2016
TEST SAMPLE:	Identical Prototype
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 **Bureau Veritas Shenzhen Co., Ltd. Dongguan Branch** 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:** Nov. 08, 2016
(Yuqiang Yin/ Engineer)

APPROVED BY : _____ , **DATE:** Nov. 08, 2016
(Bill Yao / Manager)

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	LTE Cellular Router	
MODEL NAME	CDS-9070	
NOMINAL VOLTAGE	15.0Vdc (adapter or host equipment) 7.2Vdc (lion, battery)	
OPERATING TEMPERATURE RANGE	-5 ~ 70℃	
MODULATION TYPE	**WLAN**	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
	WCDMA	BPSK/QPSK
	LTE	QPSK, 16QAM
OPERATING FREQUENCY	**WIFI 2.4G**	2412~ 2462MHz for 11b/g/n(HT20) 2422~ 2452MHz for 11b/g/n(HT40)
	WIFI 5G	5180 ~ 5240MHz, 5745 ~ 5825MHz
	WCDMA	1852.4MHz ~ 1907.6MHz (FOR WCDMA 1900) 826.4MHz ~ 846.6MHz (FOR WCDMA 850)
	LTE	1850.7MHz ~ 1909.3MHz (FOR LTE Band2) 1710.7MHz ~ 1754.3MHz (FOR LTE Band4) 824.7MHZ ~ 848.3MHZ (FOR LTE Band5) 706.5MHz ~ 713.5MHz (FOR LTE Band17)
ANTENNA GAIN	WLAN 2.4G	PCB Antenna with 4.5dBi gain
	WLAN 5G	5180 ~ 5240MHz: PCB Antenna with 4.18dBi gain 5745 ~ 5825MHz: PCB Antenna with 4.28dBi gain
	WCDMA 850	Fixed External Antenna with 0.28dBi gain
	WCDMA 1900	Fixed External Antenna with 0.64dBi gain
	LTE Band 2	Fixed External Antenna with 0.64dBi gain
	LTE Band 4	Fixed External Antenna with 2.26dBi gain
	LTE Band 5	Fixed External Antenna with 0.28dBi gain
	LTE Band 17	Fixed External Antenna with -1.3dBi gain
HW VERSION	CDS-9070_V1_4	
SW VERSION	V3.10(201608251158)	
I/O PORTS	Refer to user's manual	

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. 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

WIFI 2.4G

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
1	2412	9.49	N/A
6	2437	9.61	N/A
11	2462	**9.73**	N/A

802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)	PASS/FAIL
1	2412	9.11	N/A
6	2437	9.12	N/A
11	2462	9.31	N/A

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (dBm)	PASS/FAIL
		CHAIN 0	CHAIN 1		
1	2412	7.42	8.91	11.24	N/A
6	2437	7.10	9.01	11.17	N/A
11	2462	6.92	8.92	11.04	N/A

802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (dBm)	PASS/FAIL
		CHAIN 0	CHAIN 1		
3	2422	3.57	5.14	7.44	N/A
6	2437	3.51	5.21	7.45	N/A
9	2452	3.27	5.13	7.31	N/A

WIFI 5G

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	13.836	11.41	24	PASS
40	5200	13.062	11.16	24	PASS
48	5240	15.959	12.03	24	PASS
149	5745	14.289	11.55	30	PASS
157	5785	13.583	11.33	30	PASS
165	5825	12.078	10.82	30	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
		CHAIN0	CHAIN1				
36	5180	12.445	11.695	24.140	13.83	24	PASS
44	5220	12.218	12.359	24.577	13.91	24	PASS
48	5240	13.964	13.868	27.832	14.45	24	PASS
149	5745	13.397	13.677	27.074	14.33	30	PASS
157	5785	12.134	12.274	24.408	13.88	30	PASS
165	5825	11.066	11.912	22.978	13.61	30	PASS

802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
		CHAIN0	CHAIN1				
38	5190	8.630	8.730	17.360	12.40	24	PASS
46	5230	12.023	12.503	24.526	13.90	24	PASS
151	5755	13.002	14.191	27.193	14.34	30	PASS
159	5795	11.324	12.445	23.769	13.76	30	PASS

802.11ac (80MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
		CHAIN0	CHAIN1				
42	5210	8.453	7.031	15.484	11.90	24	PASS
155	5775	13.552	14.723	28.275	14.51	30	PASS

Band	WCDMA II		
Channel	9262	9400	9538
Frequency (MHz)	1852.4	1880.0	1907.6
RMC 12.2K	22.14	22.34	**22.47**
HSPA			
HSDPA Subtest-1	20.95	21.15	21.28
HSDPA Subtest-2	20.92	21.12	21.25
HSDPA Subtest-3	20.44	20.64	20.77
HSDPA Subtest-4	20.42	20.62	20.75
HSUPA Subtest-1	21.05	21.25	21.38
HSUPA Subtest-2	19.16	19.36	19.49
HSUPA Subtest-3	20.26	20.46	20.59
HSUPA Subtest-4	19.22	19.42	19.55
HSUPA Subtest-5	21.20	21.40	21.53

Band	WCDMA V		
Channel	4132	4182	4233
Frequency (MHz)	826.4	836.4	846.6
RMC 12.2K	22.46	**22.58**	22.27
HSPA			
HSDPA Subtest-1	21.27	21.39	21.08
HSDPA Subtest-2	21.24	21.36	21.05
HSDPA Subtest-3	20.76	20.88	20.57
HSDPA Subtest-4	20.74	20.86	20.55
HSUPA Subtest-1	21.37	21.49	21.18
HSUPA Subtest-2	19.48	19.60	19.29
HSUPA Subtest-3	20.58	20.70	20.39
HSUPA Subtest-4	19.54	19.66	19.35
HSUPA Subtest-5	21.52	21.64	21.33

LTE BAND 2

LTE Band 2							
BW	Modulation	RB Size	RB Offset	Low CH 18607	Mid CH 18900	High CH 19193	3GPP MPR (dB)
				Frequency 1850.7 MHz	Frequency 1880 MHz	Frequency 1909.3 MHz	
1.4MHz	QPSK	1	0	22.89	23.15	22.98	0
		1	2	22.75	23.01	22.84	0
		1	5	22.64	22.90	22.73	0
		3	0	22.88	23.14	22.97	0
		3	1	22.74	23.00	22.83	0
		3	3	22.63	22.89	22.72	0
		6	0	21.72	21.98	21.81	1
	16QAM	1	0	21.98	22.24	22.07	1
		1	2	21.68	21.94	21.77	1
		1	5	21.66	21.92	21.75	1
		3	0	21.96	22.22	22.05	1
		3	1	21.66	21.92	21.75	1
		3	3	21.64	21.90	21.73	1
		6	0	20.72	20.98	20.81	2
BW	Modulation	RB Size	RB Offset	Low CH 18615	Mid CH 18900	High CH 19185	3GPP MPR (dB)
				Frequency 1851.5 MHz	Frequency 1880 MHz	Frequency 1908.5 MHz	
3 MHz	QPSK	1	0	22.92	23.18	23.01	0
		1	7	22.78	23.04	22.87	0
		1	14	22.67	22.93	22.76	0
		8	0	21.78	22.04	21.87	1
		8	3	21.70	21.96	21.79	1
		8	7	21.63	21.89	21.72	1
		15	0	21.75	22.01	21.84	1
	16QAM	1	0	22.01	22.27	22.10	1
		1	7	21.71	21.97	21.80	1
		1	14	21.69	21.95	21.78	1
		8	0	20.76	21.02	20.85	2
		8	3	20.74	21.00	20.83	2
		8	7	20.67	20.93	20.76	2
		15	0	20.75	21.01	20.84	2

LTE Band 2							
BW	Modulation	RB Size	RB Offset	Low CH 18625	Mid CH 18900	High CH 19175	3GPP MPR (dB)
				Frequency 1852.5 MHz	Frequency 1880 MHz	Frequency 1907.5 MHz	
5 MHz	QPSK	1	0	22.95	23.21	23.04	0
		1	12	22.81	23.07	22.90	0
		1	24	22.70	22.96	22.79	0
		12	0	21.81	22.07	21.90	1
		12	6	21.73	21.99	21.82	1
		12	13	21.66	21.92	21.75	1
		25	0	21.78	22.04	21.87	1
	16QAM	1	0	22.04	22.30	22.13	1
		1	12	21.74	22.00	21.83	1
		1	24	21.72	21.98	21.81	1
		12	0	20.79	21.05	20.88	2
		12	6	20.77	21.03	20.86	2
		12	13	20.70	20.96	20.79	2
		25	0	20.78	21.04	20.87	2
BW	Modulation	RB Size	RB Offset	Low CH 18650	Mid CH 18900	High CH 19150	3GPP MPR (dB)
				Frequency 1855 MHz	Frequency 1880 MHz	Frequency 1905 MHz	
10 MHz	QPSK	1	0	22.97	23.23	23.06	0
		1	24	22.83	23.09	22.92	0
		1	49	22.72	22.98	22.81	0
		25	0	21.83	22.09	21.92	1
		25	12	21.75	22.01	21.84	1
		25	25	21.68	21.94	21.77	1
		50	0	21.80	22.06	21.89	1
	16QAM	1	0	22.06	22.32	22.15	1
		1	24	21.76	22.02	21.85	1
		1	49	21.74	22.00	21.83	1
		25	0	20.81	21.07	20.90	2
		25	12	20.79	21.05	20.88	2
		25	25	20.72	20.98	20.81	2
		50	0	20.80	21.06	20.89	2

LTE Band 2							
BW	Modulation	RB Size	RB Offset	Low CH 18675 Frequency 1857.5 MHz	Mid CH 18900 Frequency 1880 MHz	High CH 19125 Frequency 1902.5 MHz	3GPP MPR (dB)
15 MHz	QPSK	1	0	23.00	23.26	23.09	0
		1	37	22.86	23.12	22.95	0
		1	74	22.75	23.01	22.84	0
		36	0	21.86	22.12	21.95	1
		36	19	21.78	22.04	21.87	1
		36	39	21.71	21.97	21.80	1
		75	0	21.83	22.09	21.92	1
	16QAM	1	0	22.09	22.35	22.18	1
		1	37	21.79	22.05	21.88	1
		1	74	21.77	22.03	21.86	1
		36	0	20.84	21.10	20.93	2
		36	19	20.82	21.08	20.91	2
		36	39	20.75	21.01	20.84	2
		75	0	20.83	21.09	20.92	2
BW	Modulation	RB Size	RB Offset	Low CH 18700 Frequency 1860 MHz	Mid CH 18900 Frequency 1880 MHz	High CH 19100 Frequency 1900 MHz	3GPP MPR (dB)
20MHz	QPSK	1	0	23.05	**23.31**	23.14	0
		1	50	22.91	23.17	23.00	0
		1	99	22.80	23.06	22.89	0
		50	0	21.91	22.17	22.00	1
		50	25	21.83	22.09	21.92	1
		50	50	21.76	22.02	21.85	1
		100	0	21.88	22.14	21.97	1
	16QAM	1	0	22.14	22.40	22.23	1
		1	50	21.84	22.10	21.93	1
		1	99	21.82	22.08	21.91	1
		50	0	20.89	21.15	20.98	2
		50	25	20.87	21.13	20.96	2
		50	50	20.80	21.06	20.89	2
		100	0	20.88	21.14	20.97	2

LTE BAND 4

LTE Band 4							
BW	Modulation	RB Size	RB Offset	Low CH 19957	Mid CH 20175	High CH 20393	MPR
				Frequency 1710.7 MHz	Frequency 1732.5 MHz	Frequency 1754.3 MHz	
1.4MHz	QPSK	1	0	23.37	23.25	23.13	0
		1	2	23.32	23.20	23.08	0
		1	5	23.22	23.10	22.98	0
		3	0	23.35	23.23	23.11	0
		3	1	23.30	23.18	23.06	0
		3	3	23.20	23.08	22.96	0
		6	0	22.49	22.37	22.25	1
	16QAM	1	0	22.47	22.35	22.23	1
		1	2	22.27	22.15	22.03	1
		1	5	22.23	22.11	21.99	1
		3	0	22.46	22.34	22.22	1
		3	1	22.26	22.14	22.02	1
		3	3	22.22	22.10	21.98	1
		6	0	21.43	21.31	21.19	2
BW	Modulation	RB Size	RB Offset	Low CH 19965	Mid CH 20175	High CH 20385	MPR
				Frequency 1711.5 MHz	Frequency 1732.5 MHz	Frequency 1753.5 MHz	
3 MHz	QPSK	1	0	23.38	23.26	23.14	0
		1	7	23.33	23.21	23.09	0
		1	14	23.23	23.11	22.99	0
		8	0	22.37	22.25	22.13	1
		8	3	22.31	22.19	22.07	1
		8	7	22.23	22.11	21.99	1
		15	0	22.50	22.38	22.26	1
	16QAM	1	0	22.48	22.36	22.24	1
		1	7	22.28	22.16	22.04	1
		1	14	22.24	22.12	22.00	1
		8	0	21.43	21.31	21.19	2
		8	3	21.31	21.19	21.07	2
		8	7	21.25	21.13	21.01	2
		15	0	21.44	21.32	21.20	2

LTE Band 4							
BW	Modulation	RB Size	RB Offset	Low CH 19975	Mid CH 20175	High CH 20375	MPR
				Frequency 1712.5 MHz	Frequency 1732.5 MHz	Frequency 1752.5 MHz	
5 MHz	QPSK	1	0	23.41	23.29	23.17	0
		1	12	23.36	23.24	23.12	0
		1	24	23.26	23.14	23.02	0
		12	0	22.40	22.28	22.16	1
		12	6	22.34	22.22	22.10	1
		12	13	22.26	22.14	22.02	1
		25	0	22.53	22.41	22.29	1
	16QAM	1	0	22.51	22.39	22.27	1
		1	12	22.31	22.19	22.07	1
		1	24	22.27	22.15	22.03	1
		12	0	21.46	21.34	21.22	2
		12	6	21.34	21.22	21.10	2
		12	13	21.28	21.16	21.04	2
		25	0	21.47	21.35	21.23	2
BW	Modulation	RB Size	RB Offset	Low CH 20000	Mid CH 20175	High CH 20350	MPR
				Frequency 1715 MHz	Frequency 1732.5 MHz	Frequency 1750 MHz	
10 MHz	QPSK	1	0	23.45	23.33	23.21	0
		1	24	23.40	23.28	23.16	0
		1	49	23.30	23.18	23.06	0
		25	0	22.44	22.32	22.20	1
		25	12	22.38	22.26	22.14	1
		25	25	22.30	22.18	22.06	1
		50	0	22.57	22.45	22.33	1
	16QAM	1	0	22.55	22.43	22.31	1
		1	24	22.35	22.23	22.11	1
		1	49	22.31	22.19	22.07	1
		25	0	21.50	21.38	21.26	2
		25	12	21.38	21.26	21.14	2
		25	25	21.32	21.20	21.08	2
		50	0	21.51	21.39	21.27	2

LTE Band 4							
BW	Modulation	RB Size	RB Offset	Low CH 20025	Mid CH 20175	High CH 20325	MPR
				Frequency 1717.5 MHz	Frequency 1732.5 MHz	Frequency 1747.5 MHz	
15 MHz	QPSK	1	0	23.51	23.39	23.27	0
		1	37	23.46	23.34	23.22	0
		1	74	23.36	23.24	23.12	0
		36	0	22.50	22.38	22.26	1
		36	19	22.44	22.32	22.20	1
		36	39	22.36	22.24	22.12	1
		75	0	22.63	22.51	22.39	1
	16QAM	1	0	22.61	22.49	22.37	1
		1	37	22.41	22.29	22.17	1
		1	74	22.37	22.25	22.13	1
		36	0	21.56	21.44	21.32	2
		36	19	21.44	21.32	21.20	2
		36	39	21.38	21.26	21.14	2
		75	0	21.57	21.45	21.33	2
BW	Modulation	RB Size	RB Offset	Low CH 20050	Mid CH 20175	High CH 20300	MPR
				Frequency 1720 MHz	Frequency 1732.5 MHz	Frequency 1745 MHz	
20MHz	QPSK	1	0	**23.54**	23.42	23.30	0
		1	50	23.49	23.37	23.25	0
		1	99	23.39	23.27	23.15	0
		50	0	22.53	22.41	22.29	1
		50	25	22.47	22.35	22.23	1
		50	50	22.39	22.27	22.15	1
		100	0	22.66	22.54	22.42	1
	16QAM	1	0	22.64	22.52	22.40	1
		1	50	22.44	22.32	22.20	1
		1	99	22.40	22.28	22.16	1
		50	0	21.59	21.47	21.35	2
		50	25	21.47	21.35	21.23	2
		50	50	21.41	21.29	21.17	2
		100	0	21.60	21.48	21.36	2

LTE BAND 5

Band/BW	Modulation	RB Size	RB Offset	Low CH 20407	Mid CH 20525	High CH 20643	3GPP MPR (dB)
				Frequency 824.7 MHz	Frequency 836.5 MHz	Frequency 848.3 MHz	
5/1.4	QPSK	1	0	23.00	22.96	23.19	0
		1	2	23.12	23.08	23.31	0
		1	5	23.10	23.06	23.29	0
		3	0	22.98	22.94	23.17	0
		3	1	23.10	23.06	23.29	0
		3	3	23.08	23.04	23.27	0
		6	0	21.96	21.92	22.15	1
	16QAM	1	0	22.29	22.25	22.48	1
		1	2	22.19	22.15	22.38	1
		1	5	22.17	22.13	22.36	1
		3	0	22.28	22.24	22.47	1
		3	1	22.18	22.14	22.37	1
		3	3	22.16	22.12	22.35	1
		6	0	21.04	21.00	21.23	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 20415	Mid CH 20525	High CH 20635	3GPP MPR (dB)
				Frequency 825.5 MHz	Frequency 836.5 MHz	Frequency 847.5 MHz	
5/3	QPSK	1	0	23.04	23.00	23.23	0
		1	7	23.16	23.12	23.35	0
		1	14	23.14	23.10	23.33	0
		8	0	22.09	22.05	22.28	1
		8	3	22.08	22.04	22.27	1
		8	7	22.03	21.99	22.22	1
		15	0	22.00	21.96	22.19	1
	16QAM	1	0	22.33	22.29	22.52	1
		1	7	22.23	22.19	22.42	1
		1	14	22.21	22.17	22.40	1
		8	0	21.08	21.04	21.27	2
		8	3	21.04	21.00	21.23	2
		8	7	21.02	20.98	21.21	2
		15	0	21.08	21.04	21.27	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 20425	Mid CH 20525	High CH 20625	3GPP MPR (dB)
				Frequency 826.5 MHz	Frequency 836.5 MHz	Frequency 846.5 MHz	
5/5	QPSK	1	0	23.10	23.06	23.29	0
		1	12	23.22	23.18	23.41	0
		1	24	23.20	23.16	23.39	0
		12	0	22.15	22.11	22.34	1
		12	6	22.14	22.10	22.33	1
		12	13	22.09	22.05	22.28	1
		25	0	22.06	22.02	22.25	1
	16QAM	1	0	22.39	22.35	22.58	1
		1	12	22.29	22.25	22.48	1
		1	24	22.27	22.23	22.46	1
		12	0	21.14	21.10	21.33	2
		12	6	21.10	21.06	21.29	2
		12	13	21.08	21.04	21.27	2
		25	0	21.14	21.10	21.33	2
Band/BW	Modulation	RB Size	RB Offset	Low CH 20450	Mid CH 20525	High CH 20600	3GPP MPR (dB)
				Frequency 829 MHz	Frequency 836.5 MHz	Frequency 844 MHz	
5/10	QPSK	1	0	23.13	23.09	23.32	0
		1	24	23.25	23.21	**23.44**	0
		1	49	23.23	23.19	23.42	0
		25	0	22.18	22.14	22.37	1
		25	12	22.17	22.13	22.36	1
		25	25	22.12	22.08	22.31	1
		50	0	22.09	22.05	22.28	1
	16QAM	1	0	22.42	22.38	22.61	1
		1	24	22.32	22.28	22.51	1
		1	49	22.30	22.26	22.49	1
		25	0	21.17	21.13	21.36	2
		25	12	21.13	21.09	21.32	2
		25	25	21.11	21.07	21.30	2
		50	0	21.17	21.13	21.36	2

LTE BAND 17

LTE Band 17							
BW	Modulation	RB Size	RB Offset	Low CH 23755	Mid CH 23790	High CH 23825	MPR
				Frequency 706.5 MHz	Frequency 710 MHz	Frequency 713.5 MHz	
5 MHz	QPSK	1	0	23.04	23.21	23.01	0
		1	12	22.90	23.07	22.87	0
		1	24	22.84	23.01	22.81	0
		12	0	21.82	21.99	21.79	1
		12	6	21.98	22.15	21.95	1
		12	13	21.94	22.11	21.91	1
		25	0	21.90	22.07	21.87	1
	16QAM	1	0	22.20	22.37	22.17	1
		1	12	22.02	22.19	21.99	1
		1	24	21.93	22.10	21.90	1
		12	0	21.02	21.19	20.99	2
		12	6	20.93	21.10	20.90	2
		12	13	20.90	21.07	20.87	2
		25	0	20.97	21.14	20.94	2
BW	Modulation	RB Size	RB Offset	Low CH 23780	Mid CH 23790	High CH 23800	MPR
				Frequency 709 MHz	Frequency 710 MHz	Frequency 711 MHz	
10 MHz	QPSK	1	0	23.08	**23.25**	23.05	0
		1	24	22.94	23.11	22.91	0
		1	49	22.88	23.05	22.85	0
		25	0	21.86	22.03	21.83	1
		25	12	22.02	22.19	21.99	1
		25	25	21.98	22.15	21.95	1
		50	0	21.94	22.11	21.91	1
	16QAM	1	0	22.24	22.41	22.21	1
		1	24	22.06	22.23	22.03	1
		1	49	21.97	22.14	21.94	1
		25	0	21.06	21.23	21.03	2
		25	12	20.97	21.14	20.94	2
		25	25	20.94	21.11	20.91	2
		50	0	21.01	21.18	20.98	2

3.5 CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

WIFI

Band	Frequency (MHz)	Directional Gain (dBi)	Conducted Time Average Power (dBm)	E.I.R.P Power (mW)	Power Density (mW/cm^2)	limit (mW/cm^2)	PASS / FAIL
WIFI 2.4G	2462	7.51	11.24	74.989	0.015	1.00	PASS
WIFI 5G B1	5240	7.19	14.45	145.881	0.029	1.00	PASS
WIFI 5G B4	5775	7.29	14.51	151.356	0.030	1.00	PASS

WIFI 2.4G: N_{ANT} = 2, Directional gain = G_{ANT} + 10 log(N_{ANT}) dBi=7.51dBi
WIFI 5G B1: N_{ANT} = 2, Directional gain = G_{ANT} + 10 log(N_{ANT}) dBi=7.19dBi
WIFI 5G B4: N_{ANT} = 2, Directional gain = G_{ANT} + 10 log(N_{ANT}) dBi=7.29dBi

WCDMA

Band	Frequency (MHz)	Operating Mode	Antenna Gain (dBi)	Conducted Time Average Power (dBm)	E.I.R.P Power (mW)	Power Density (mW/cm^2)	limit (mW/cm^2)	PASS / FAIL
WCDMA V	836.4	GPRS12	0.28	22.58	193.197	0.038	0.56	PASS
WCDMA II	1907.6	GPRS12	0.64	22.47	204.644	0.041	1.00	PASS

LTE

Band	Frequency (MHz)	Operating Mode	Antenna Gain (dBi)	Conducted Time Average Power (dBm)	E.I.R.P Power (mW)	Power Density (mW/cm^2)	limit (mW/cm^2)	PASS / FAIL
Band2	1880	QPSK	0.64	23.31	248.313	0.049	1.00	PASS
Band4	1720	QPSK	2.26	23.54	380.189	0.076	1.00	PASS
Band5	844	QPSK	0.28	23.44	235.505	0.047	0.56	PASS
Band17	710	QPSK	-1.3	23.25	156.675	0.031	0.47	PASS

3.6 CONCLUSION OF SIMULTANEOUS TRANSMITTER

Both of the WLAN and plug-in device can transmit simultaneously, the formula of calculated the MPE is:

CPD1/LPD1+CPD2/LPD2+……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

Therefore the worst-case situation is 0.015/1.00+0.029/1.00+0.030/1.00+0.038/0.56+0.041/1.00+0.049/1.00+0.076/1.00+ 0.047/0.56+0.031/0.47 =0.457743, which is less than “1”, This confirmed that the device comply with FCC 1.1310 MPE limit.

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