



A Test Lab Techno Corp.

Changan Lab : N o. 140-1, Changan Street, Bade District, Taoyuan City 33465, Taiwan (R.O.C)
Tel : 886-3-271-0188 / Fax : 886-3-271-0190



MPE Report

Test Report No.	:	1804FS12-01
Applicant	:	D-Link Corporation
Product Type	:	Wireless AC1200 4G LTE Router
Trade Name	:	D-Link
Model Number	:	DWR-961
Date of Received	:	Aug. 18, 2017
Test Period	:	Apr. 02, 2018
Date of Issued	:	May 28, 2018
Test Specification	:	ANSI / IEEE Std.C95.1-1992 / IEEE Std. 1528-2013 47 CFR § 2.1091 47 CFR § 1.1310
Location of Test Lab.	:	Chang-an Lab.
Test Firm MRA designation number	:	TW0010

1. The test operations have to be performed with cautious behavior, the test results are as attached.
2. The test results are under chamber environment of A Test Lab Techno Corp. A Test Lab Techno Corp. does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples.
3. The measurement report has to be written approval of A Test Lab Techno Corp. It may only be reproduced or published in full. This report shall not be reproduced except in full, without the written approval of A Test Lab Techno Corp.
4. This document may be altered or revised by A Test Lab Techno. Corp. personnel only, and shall be noted in the revision section of the document.

Approved By : Yung-Tan Tsai Tested By : Eric Chao
(Yung Tan Tsai) (Eric Chao)



Contents

1. Description of Equipment under Test (EUT).....	3
2. Human Exposure Assessment.....	4
3. RF Output Power	5
4. Test Result	29



1. Description of Equipment under Test (EUT)

Applicant	D-Link Corporation 17595 Mt. Herrmann, Fountain Valley, California, 92708, United States			
Manufacturer	CAMEO COMMUNICATIONS, INC. 5F, No.158, Ruihu St., Neihu Dist., Taipei City 114, Taiwan (R.O.C.)			
Product Type	Wireless AC1200 4G LTE Router			
Trade Name	D-Link			
Model Number	DWR-961			
FCC ID	KA2WR961C1			
Class II Permissive Change	Add LTE B13/25/26/41 bands by software change, and make a change to the different external design with the same materials.			
IMEI No.	359073060231420			
Frequency Range	Operate Band		Frequency Range (MHz)	
	LTE Band 13 (5MHz, 10MHz)		777 - 787	
	LTE Band 25 (1.4M, 3M, 5MHz, 10MHz, 15MHz, 20MHz)		1850 - 1915	
	LTE Band 26 (1.4M, 3M, 5MHz, 10MHz)		814.7 - 823.3	
	LTE Band 26 (1.4M, 3M, 5MHz, 10MHz, 15MHz)		824.7 - 848.3	
	LTE Band 41 (5MHz, 10MHz, 15MHz, 20MHz)		2496 - 2690	
	LTE Band2A+13A_DL CA LTE Band4A+13A_DL CA LTE Band41A+41A_DL CA			
Antenna Information	ANT	Type	Max. Gain (dBi)	
	Main	External type	LTE Band 13	1.75
			LTE Band 25	3.09
			LTE Band 26	-0.26
			LTE Band 41	2.5
	Diversity	External type	LTE Band 13	-0.99
			LTE Band 25	3.41
			LTE Band 26	0.59
LTE Band 41			2.61	
RF Evaluation	0.304 mW/cm ²			
Operate Temp. Range	0 ~ +40°C			

The above equipment was tested by A Test Lab Techno Corp. For compliance with the requirements set forth in 47 CFR § 2.1091 / 47 CFR § 1.1310. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties



2. Human Exposure Assessment

Due to the design and installation of this product, it is not possible to conduct SAR evaluation. This is because client either manufactures or supplies the antenna(s) that will be used in the installation of this product. Therefore, this product will be evaluated as a mobile device per 47 CFR § 1.1310 titled "Radiofrequency radiation exposure limits", generally referred to as MPE limits.

In 47 CFR § 2.1091, paragraph (b) defines a mobile device 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 cm is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons." This product is intended to be installed into a vehicle such that the unit is physically secured at one location. In the installation guide supplied with the product,

Client has made the following statement: "IMPORTANT: To meet the FCC's RF Exposure Guidelines, the antenna should be installed so there is at least 20 cm of separation between the body of the user and nearby persons and the antenna". Based on the installation of the transceiver and the antenna, the transmitters radiating structure is more than 20 cm from the user. Thus, this product is a "mobile device" as defined in section § 2.1091 paragraph (b).

Exposure evaluation

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

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.



3. RF Output Power

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band13	5MHz	QPSK	23205	779.5	1	0	22.88	0.194
					1	12	22.64	0.184
					1	24	22.63	0.183
					12	0	21.74	0.149
					12	6	21.76	0.150
					12	13	21.61	0.145
			23230	782.0	25	0	21.75	0.150
					1	0	22.70	0.186
					1	12	22.46	0.176
					1	24	22.63	0.183
					12	0	21.63	0.146
					12	6	21.64	0.146
			23255	784.5	12	13	21.61	0.145
					25	0	21.74	0.149
					1	0	22.62	0.183
					1	12	22.67	0.185
					1	24	22.78	0.190
					12	0	21.57	0.144
		16QAM	23205	779.5	12	6	21.70	0.148
					12	13	21.74	0.149
					25	0	21.67	0.147
					1	0	22.11	0.163
					1	12	21.90	0.155
					1	24	22.21	0.166
			23230	782.0	12	0	20.70	0.117
					12	6	20.77	0.119
					12	13	20.69	0.117
					25	0	20.71	0.118
					1	0	22.22	0.167
					1	12	22.06	0.161
			23255	784.5	1	24	22.12	0.163
					12	0	20.73	0.118
					12	6	20.68	0.117
					12	13	20.63	0.116
					25	0	20.74	0.119
					1	0	22.06	0.161
23255	784.5	1	12	22.17	0.165			
		1	24	22.14	0.164			
		12	0	20.58	0.114			
		12	6	20.63	0.116			
		12	11	20.75	0.119			
		25	0	20.67	0.117			



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band13	10MHz	QPSK	23230	782.0	1	0	22.90	0.195
					1	24	22.74	0.188
					1	49	22.84	0.192
					25	0	21.76	0.150
					25	12	21.67	0.147
					25	25	21.70	0.148
		16QAM			50	0	21.84	0.153
					1	0	22.19	0.166
					1	24	21.97	0.157
					1	49	22.16	0.164
					25	0	20.74	0.119
					25	12	20.69	0.117
					25	25	20.70	0.117
					50	0	20.81	0.121



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band25	1.4MHz	QPSK	26047	1850.7	1	0	22.45	0.176
					1	2	22.55	0.180
					1	5	22.34	0.171
					3	0	22.44	0.175
					3	1	22.51	0.178
					3	3	22.49	0.177
			26365	1882.5	6	0	21.47	0.140
					1	0	22.61	0.182
					1	2	22.70	0.186
					1	5	22.49	0.177
					3	0	22.59	0.182
					3	1	22.67	0.185
			26683	1914.3	3	3	22.65	0.184
					6	0	21.54	0.143
					1	0	22.70	0.186
					1	2	22.72	0.187
					1	5	22.59	0.182
					3	0	22.70	0.186
		16QAM	26047	1850.7	3	1	22.79	0.190
					3	3	22.67	0.185
					6	0	21.57	0.144
					1	0	21.67	0.147
					1	2	21.75	0.150
					1	5	21.60	0.145
			26365	1882.5	3	0	21.56	0.143
					3	1	21.73	0.149
					3	3	21.60	0.145
					6	0	20.54	0.113
					1	0	21.64	0.146
					1	2	21.73	0.149
26683	1914.3	1	5	21.70	0.148			
		3	0	21.72	0.149			
		3	1	21.82	0.152			
		3	3	21.75	0.150			
		6	0	20.67	0.117			
		1	0	21.82	0.152			
26683	1914.3	1	2	21.86	0.153			
		1	5	21.84	0.153			
		3	0	21.81	0.152			
		3	1	21.81	0.152			
		3	3	21.84	0.153			
		6	0	20.68	0.117			



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band25	3MHz	QPSK	26055	1851.5	1	0	22.61	0.182
					1	7	22.85	0.193
					1	14	22.62	0.183
					8	0	21.59	0.144
					8	3	21.63	0.146
					8	7	21.56	0.143
			15	0	21.54	0.143		
			1	0	22.59	0.182		
			1	7	22.77	0.189		
			1	14	22.62	0.183		
			8	0	21.63	0.146		
			8	3	21.67	0.147		
			8	7	21.65	0.146		
			15	0	21.65	0.146		
			1	0	22.66	0.185		
			1	7	22.84	0.192		
			1	14	22.64	0.184		
			8	0	21.69	0.148		
		8	3	21.72	0.149			
		8	7	21.72	0.149			
		15	0	21.64	0.146			
		1	0	21.82	0.152			
		1	7	21.91	0.155			
		1	14	21.88	0.154			
		8	0	20.64	0.116			
		8	3	20.65	0.116			
		8	7	20.58	0.114			
		15	0	20.46	0.111			
		1	0	21.88	0.154			
		1	7	21.87	0.154			
		1	14	21.98	0.158			
		8	0	20.71	0.118			
		8	3	20.72	0.118			
		8	7	20.77	0.119			
		15	0	20.63	0.116			
		1	0	21.88	0.154			
1	7	21.81	0.152					
1	14	21.78	0.151					
8	0	20.75	0.119					
8	3	20.75	0.119					
8	7	20.73	0.118					
15	0	20.62	0.115					



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band25	5MHz	QPSK	26065	1852.5	1	0	22.51	0.178
					1	12	22.71	0.187
					1	24	22.65	0.184
					12	0	21.63	0.146
					12	6	21.65	0.146
					12	13	21.66	0.147
					25	0	21.69	0.148
			26365	1882.5	1	0	22.66	0.185
					1	12	22.92	0.196
					1	24	22.80	0.191
					12	0	21.64	0.146
					12	6	21.73	0.149
					12	13	21.71	0.148
					25	0	21.73	0.149
			26665	1912.5	1	0	22.81	0.191
					1	12	22.97	0.198
					1	24	22.80	0.191
					12	0	21.77	0.150
					12	6	21.90	0.155
					12	13	21.82	0.152
					25	0	21.83	0.152
		16QAM	26065	1852.5	1	0	21.88	0.154
					1	12	21.84	0.153
					1	24	21.96	0.157
					12	0	20.70	0.117
					12	6	20.72	0.118
					12	13	20.74	0.119
					25	0	20.58	0.114
			26365	1882.5	1	0	21.95	0.157
					1	12	21.81	0.152
					1	24	21.93	0.156
					12	0	20.77	0.119
					12	6	20.80	0.120
					12	13	20.81	0.121
					25	0	20.78	0.120
			26665	1912.5	1	0	21.92	0.156
1	12	21.77			0.150			
1	24	21.86			0.153			
12	0	20.84			0.121			
12	6	20.92			0.124			
12	11	20.85			0.122			
25	0	20.85			0.122			



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band25	10MHz	QPSK	26090	1855.0	1	0	22.60	0.182
					1	24	22.56	0.180
					1	49	22.49	0.177
					25	0	21.57	0.144
					25	12	21.63	0.146
					25	25	21.57	0.144
			26365	1882.5	50	0	21.64	0.146
					1	0	22.64	0.184
					1	24	22.74	0.188
					1	49	22.72	0.187
					25	0	21.69	0.148
					25	12	21.74	0.149
			26640	1910.0	25	25	21.74	0.149
					50	0	21.70	0.148
					1	0	22.66	0.185
					1	24	22.77	0.189
					1	49	22.90	0.195
					25	0	21.66	0.147
		16QAM	26090	1855.0	25	12	21.85	0.153
					25	25	21.86	0.153
					50	0	21.85	0.153
					1	0	21.91	0.155
					1	24	21.89	0.155
					1	49	21.82	0.152
			26365	1882.5	25	0	20.58	0.114
					25	12	20.66	0.116
					25	25	20.65	0.116
					50	0	20.66	0.116
					1	0	21.94	0.156
					1	24	22.08	0.161
			26640	1910.0	1	49	22.06	0.161
					25	0	20.76	0.119
					25	12	20.80	0.120
					25	25	20.81	0.121
					50	0	20.76	0.119
					1	0	22.06	0.161
26640	1910.0	1	24	22.03	0.160			
		1	49	22.01	0.159			
		25	0	20.70	0.117			
		25	12	20.84	0.121			
		25	25	20.90	0.123			
		50	0	20.87	0.122			



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band25	15MHz	QPSK	26115	1857.5	1	0	22.83	0.192
					1	37	22.81	0.191
					1	74	22.51	0.178
					36	0	21.80	0.151
					36	19	21.72	0.149
					36	39	21.72	0.149
			26365	1882.5	75	0	21.71	0.148
					1	0	22.66	0.185
					1	37	22.86	0.193
					1	74	22.57	0.181
					36	0	21.79	0.151
					36	19	21.86	0.153
			26615	1907.5	36	39	21.85	0.153
					75	0	21.83	0.152
					1	0	22.85	0.193
					1	37	22.94	0.197
					1	74	22.81	0.191
					36	0	21.84	0.153
		16QAM	26115	1857.5	36	19	21.96	0.157
					36	39	21.77	0.150
					75	0	21.90	0.155
					1	0	21.92	0.156
					1	37	21.88	0.154
					1	74	21.93	0.156
			26365	1882.5	36	0	20.77	0.119
					36	19	20.76	0.119
					36	39	20.73	0.118
					75	0	20.77	0.119
					1	0	21.94	0.156
					1	37	21.81	0.152
			26615	1907.5	1	74	21.88	0.154
					36	0	20.84	0.121
					36	19	20.90	0.123
					36	39	20.83	0.121
					75	0	20.84	0.121
					1	0	21.88	0.154
26615	1907.5	1	37	21.74	0.149			
		1	74	21.63	0.146			
		36	0	20.80	0.120			
		36	19	20.93	0.124			
		36	39	20.82	0.121			
		75	0	20.80	0.120			



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band25	20MHz	QPSK	26140	1860.0	1	0	22.69	0.186
					1	49	22.74	0.188
					1	99	22.53	0.179
					50	0	21.83	0.152
					50	25	21.91	0.155
					50	50	21.83	0.152
			26365	1882.5	100	0	21.81	0.152
					1	0	22.71	0.187
					1	49	22.85	0.193
					1	99	22.57	0.181
					50	0	21.80	0.151
					50	25	21.84	0.153
			26590	1905.0	50	50	21.88	0.154
					100	0	21.78	0.151
					1	0	22.81	0.191
					1	49	22.93	0.196
					1	99	22.71	0.187
					50	0	21.85	0.153
		16QAM	26140	1860.0	50	25	21.81	0.152
					50	50	21.89	0.155
					100	0	21.93	0.156
					1	0	22.06	0.161
					1	49	22.01	0.159
					1	99	21.94	0.156
			26365	1882.5	50	0	20.83	0.121
					50	25	20.91	0.123
					50	50	20.82	0.121
					100	0	20.86	0.122
					1	0	21.94	0.156
					1	49	22.08	0.161
			26590	1905.0	1	99	21.88	0.154
					50	0	20.88	0.122
					50	25	20.91	0.123
					50	50	20.87	0.122
					100	0	20.83	0.121
					1	0	22.05	0.160
26590	1905.0	1	49	22.01	0.159			
		1	99	21.89	0.155			
		50	0	20.89	0.123			
		50	25	20.89	0.123			
		50	50	20.92	0.124			
		100	0	20.88	0.122			



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band26	1.4MHz	QPSK	26697	814.7	1	0	22.64	0.184
					1	2	22.67	0.185
					1	5	22.61	0.182
					3	0	22.54	0.179
					3	1	22.72	0.187
					3	3	22.58	0.181
			6	0	21.58	0.144		
			1	0	22.52	0.179		
			1	2	22.64	0.184		
			1	5	22.55	0.180		
			3	0	22.44	0.175		
			3	1	22.55	0.180		
			3	3	22.46	0.176		
			6	0	21.36	0.137		
			1	0	22.57	0.181		
			1	2	22.51	0.178		
			1	5	22.45	0.176		
			3	0	22.36	0.172		
		3	1	22.51	0.178			
		3	3	22.37	0.173			
		6	0	21.37	0.137			
		1	0	21.96	0.157			
		1	2	21.92	0.156			
		1	5	21.88	0.154			
		3	0	21.74	0.149			
		3	1	21.86	0.153			
		3	3	21.72	0.149			
		6	0	20.93	0.124			
		1	0	21.72	0.149			
		1	2	21.75	0.150			
		1	5	21.81	0.152			
		3	0	21.48	0.141			
		3	1	21.52	0.142			
		3	3	21.43	0.139			
		6	0	20.87	0.122			
		1	0	21.88	0.154			
1	2	21.67	0.147					
1	5	21.80	0.151					
3	0	21.54	0.143					
3	1	21.60	0.145					
3	3	21.48	0.141					
6	0	20.88	0.122					



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band26	3MHz	QPSK	26705	815.5	1	0	22.69	0.186
					1	7	22.87	0.194
					1	14	22.68	0.185
					8	0	21.66	0.147
					8	3	21.68	0.147
					8	7	21.67	0.147
			26740	819.0	15	0	21.66	0.147
					1	0	22.53	0.179
					1	7	22.59	0.182
					1	14	22.45	0.176
					8	0	21.50	0.141
					8	3	21.48	0.141
			26775	822.5	8	7	21.45	0.140
					15	0	21.47	0.140
					1	0	22.58	0.181
					1	7	22.66	0.185
					1	14	22.49	0.177
					8	0	21.58	0.144
		16QAM	26705	815.5	8	3	21.49	0.141
					8	7	21.47	0.140
					15	0	21.48	0.141
					1	0	21.91	0.155
					1	7	21.88	0.154
					1	14	21.88	0.154
			26740	819.0	8	0	20.67	0.117
					8	3	20.67	0.117
					8	7	20.70	0.117
					15	0	20.61	0.115
					1	0	21.79	0.151
					1	7	21.98	0.158
			26775	822.5	1	14	21.67	0.147
					8	0	20.55	0.114
					8	3	20.52	0.113
					8	7	20.53	0.113
					15	0	20.40	0.110
					1	0	21.86	0.153
26705	815.5	1	7	21.95	0.157			
		1	14	21.71	0.148			
		8	0	20.63	0.116			
		8	3	20.50	0.112			
		8	7	20.53	0.113			
		15	0	20.40	0.110			



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band26	5MHz	QPSK	26715	816.5	1	0	22.74	0.188
					1	12	22.64	0.184
					1	24	22.61	0.182
					12	0	21.78	0.151
					12	6	21.81	0.152
					12	13	21.59	0.144
					25	0	21.66	0.147
			26740	819.0	1	0	22.66	0.185
					1	12	22.44	0.175
					1	24	22.56	0.180
					12	0	21.40	0.138
					12	6	21.49	0.141
					12	13	21.39	0.138
			26765	821.5	1	0	22.71	0.187
					1	12	22.65	0.184
					1	24	22.65	0.184
					12	0	21.80	0.151
					12	6	21.85	0.153
					12	13	21.64	0.146
					25	0	21.71	0.148
			16QAM	26715	816.5	1	0	21.87
		1				12	21.74	0.149
		1				24	21.66	0.147
		12				0	20.74	0.119
		12				6	20.74	0.119
		12				13	20.61	0.115
		25				0	20.67	0.117
		26740		819.0	1	0	21.88	0.154
					1	12	21.85	0.153
					1	24	21.81	0.152
					12	0	20.44	0.111
					12	6	20.50	0.112
					12	13	20.43	0.110
		26765		821.5	1	0	21.92	0.156
					1	12	21.85	0.153
			1		24	21.74	0.149	
12	0		20.78		0.120			
12	6		20.78		0.120			
12	11		20.62		0.115			
25	0		20.67		0.117			



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band26	10MHz	QPSK	26740	819.0	1	0	22.77	0.189
					1	24	22.59	0.182
					1	49	22.50	0.178
					25	0	21.58	0.144
					25	12	21.50	0.141
					25	25	21.44	0.139
		16QAM			50	0	21.54	0.143
					1	0	21.81	0.152
					1	24	21.83	0.152
					1	49	21.67	0.147
					25	0	20.59	0.115
					25	12	20.50	0.112
					25	25	20.45	0.111
					50	0	20.54	0.113



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band26	1.4MHz	QPSK	26797	824.7	1	0	22.69	0.186
					1	2	22.91	0.195
					1	5	22.83	0.192
					3	0	22.80	0.191
					3	1	22.88	0.194
					3	3	22.85	0.193
			26915	836.5	6	0	21.83	0.152
					1	0	22.51	0.178
					1	2	22.43	0.175
					1	5	22.44	0.175
					3	0	22.38	0.173
					3	1	22.36	0.172
			27033	848.3	3	3	22.34	0.171
					6	0	21.25	0.133
					1	0	22.53	0.179
					1	2	22.55	0.180
					1	5	22.49	0.177
					3	0	22.47	0.177
		16QAM	26797	824.7	3	1	22.50	0.178
					3	3	22.50	0.178
					6	0	21.35	0.136
					1	0	21.93	0.156
					1	2	22.10	0.162
					1	5	22.12	0.163
			26915	836.5	3	0	21.89	0.155
					3	1	22.00	0.158
					3	3	22.01	0.159
					6	0	20.91	0.123
					1	0	21.66	0.147
					1	2	21.62	0.145
			27033	848.3	1	5	21.70	0.148
					3	0	21.51	0.142
					3	1	21.42	0.139
					3	3	21.44	0.139
					6	0	20.88	0.122
					1	0	21.68	0.147
26797	824.7	1	2	21.76	0.150			
		1	5	21.91	0.155			
		3	0	21.62	0.145			
		3	1	21.58	0.144			
		3	3	21.59	0.144			
		6	0	20.87	0.122			



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power		
					Size	Offset	(dBm)	(W)	
LTE Band26	3MHz	QPSK	26805	825.5	1	0	22.77	0.189	
					1	7	22.88	0.194	
					1	14	22.80	0.191	
					8	0	21.81	0.152	
					8	3	21.79	0.151	
					8	7	21.83	0.152	
					15	0	21.81	0.152	
			26915	836.5	1	0	22.40	0.174	
					1	7	22.42	0.175	
					1	14	22.32	0.171	
					8	0	21.34	0.136	
					8	3	21.41	0.138	
					8	7	21.36	0.137	
			27025	847.5	15	0	21.40	0.138	
					1	0	22.43	0.175	
					1	7	22.61	0.182	
					1	14	22.47	0.177	
					8	0	21.44	0.139	
					8	3	21.48	0.141	
			16QAM	26805	825.5	8	7	21.49	0.141
						15	0	21.46	0.140
		1				0	21.98	0.158	
		1				7	22.12	0.163	
		1				14	22.03	0.160	
		8				0	20.81	0.121	
		8				3	20.82	0.121	
		26915		836.5	8	7	20.85	0.122	
					15	0	20.72	0.118	
					1	0	21.59	0.144	
					1	7	21.73	0.149	
					1	14	21.56	0.143	
					8	0	20.37	0.109	
		27025		847.5	8	3	20.43	0.110	
					8	7	20.45	0.111	
					15	0	20.37	0.109	
					1	0	21.66	0.147	
					1	7	21.94	0.156	
					1	14	21.69	0.148	
					8	0	20.46	0.111	
		8		3	20.48	0.112			
		8	7	20.51	0.112				
		15	0	20.39	0.109				



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band26	5MHz	QPSK	26815	826.5	1	0	22.76	0.189
					1	12	22.66	0.185
					1	24	22.66	0.185
					12	0	21.86	0.153
					12	6	21.91	0.155
					12	13	21.70	0.148
			25	0	21.71	0.148		
			1	0	22.41	0.174		
			1	12	22.23	0.167		
			1	24	22.31	0.170		
			12	0	21.21	0.132		
			12	6	21.40	0.138		
			12	13	21.22	0.132		
			25	0	21.30	0.135		
			1	0	22.44	0.175		
			1	12	22.35	0.172		
			1	24	22.48	0.177		
			12	0	21.34	0.136		
		12	6	21.42	0.139			
		12	13	21.38	0.137			
		25	0	21.40	0.138			
		1	0	21.89	0.155			
		1	12	21.88	0.154			
		1	24	21.75	0.150			
		12	0	20.86	0.122			
		12	6	20.86	0.122			
		12	13	20.72	0.118			
		25	0	20.73	0.118			
		1	0	21.86	0.153			
		1	12	21.56	0.143			
		1	24	21.87	0.154			
		12	0	20.22	0.105			
		12	6	20.39	0.109			
		12	13	20.26	0.106			
		25	0	20.28	0.107			
		1	0	21.84	0.153			
1	12	21.75	0.150					
1	24	21.97	0.157					
12	0	20.40	0.110					
12	6	20.46	0.111					
12	11	20.45	0.111					
25	0	20.44	0.111					



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band26	10MHz	QPSK	26840	829.0	1	0	22.77	0.189
					1	24	22.61	0.182
					1	49	22.55	0.180
					25	0	21.68	0.147
					25	12	21.60	0.145
					25	25	21.49	0.141
			50	0	21.62	0.145		
			1	0	22.45	0.176		
			1	24	22.35	0.172		
			1	49	22.28	0.169		
			25	0	21.35	0.136		
			25	12	21.38	0.137		
			25	25	21.25	0.133		
			50	0	21.38	0.137		
			1	0	22.42	0.175		
			1	24	22.47	0.177		
			1	49	22.50	0.178		
			25	0	21.38	0.137		
		25	12	21.37	0.137			
		25	25	21.43	0.139			
		50	0	21.44	0.139			
		1	0	21.84	0.153			
		1	24	21.88	0.154			
		1	49	21.70	0.148			
		25	0	20.70	0.117			
		25	12	20.61	0.115			
		25	25	20.54	0.113			
		50	0	20.64	0.116			
		1	0	21.72	0.149			
		1	24	21.54	0.143			
		1	49	21.45	0.140			
		25	0	20.34	0.108			
		25	12	20.41	0.110			
		25	25	20.29	0.107			
		50	0	20.37	0.109			
		1	0	21.59	0.144			
1	24	21.60	0.145					
1	49	21.69	0.148					
25	0	20.41	0.110					
25	12	20.35	0.108					
25	25	20.43	0.110					
50	0	20.38	0.109					



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band26	15MHz	QPSK	26865	831.5	1	0	22.79	0.190
					1	37	22.67	0.185
					1	74	22.65	0.184
					36	0	21.60	0.145
					36	19	21.68	0.147
					36	39	21.41	0.138
					75	0	21.67	0.147
			26915	836.5	1	0	22.39	0.173
					1	37	22.25	0.168
					1	74	22.33	0.171
					36	0	21.11	0.129
					36	19	21.37	0.137
					36	39	21.18	0.131
					75	0	21.30	0.135
			26965	841.5	1	0	22.36	0.172
					1	37	22.34	0.171
					1	74	22.28	0.169
					36	0	21.27	0.134
					36	19	21.35	0.136
					36	39	21.33	0.136
					75	0	21.39	0.138
		16QAM	26865	831.5	1	0	21.92	0.156
					1	37	21.90	0.155
					1	74	21.61	0.145
					36	0	20.66	0.116
					36	19	20.69	0.117
					36	39	20.52	0.113
					75	0	20.71	0.118
			26915	836.5	1	0	21.64	0.146
					1	37	21.58	0.144
					1	74	21.49	0.141
					36	0	20.38	0.109
					36	19	20.36	0.109
					36	39	20.35	0.108
					75	0	20.32	0.108
			26965	841.5	1	0	21.80	0.151
1	37	21.63			0.146			
1	74	21.37			0.137			
36	0	20.40			0.110			
36	19	20.39			0.109			
36	39	20.39			0.109			
75	0	20.46			0.111			



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band41	5MHz	QPSK	39675	2498.5	1	0	21.70	0.148
					1	12	21.82	0.152
					1	24	21.98	0.158
					12	0	20.85	0.122
					12	6	20.98	0.125
					12	13	20.84	0.121
			40620	2593.0	25	0	20.90	0.123
					1	0	21.78	0.151
					1	12	21.80	0.151
					1	24	21.86	0.153
					12	0	20.83	0.121
					12	6	20.85	0.122
			41565	2687.5	12	13	20.76	0.119
					25	0	20.79	0.120
					1	0	21.66	0.147
					1	12	21.63	0.146
					1	24	21.65	0.146
					12	0	20.72	0.118
		16QAM	39675	2498.5	12	6	20.73	0.118
					12	13	20.66	0.116
					25	0	20.68	0.117
					1	0	21.12	0.129
					1	12	21.11	0.129
					1	24	21.08	0.128
			40620	2593.0	12	0	19.81	0.096
					12	6	19.93	0.098
					12	13	19.84	0.096
					25	0	19.91	0.098
					1	0	21.17	0.131
					1	12	21.06	0.128
			41565	2687.5	1	24	21.14	0.130
					12	0	19.86	0.097
					12	6	19.85	0.097
					12	13	19.77	0.095
					25	0	19.77	0.095
					1	0	20.99	0.126
41565	2687.5	1	12	21.00	0.126			
		1	24	20.92	0.124			
		12	0	19.72	0.094			
		12	6	19.74	0.094			
		12	11	19.67	0.093			
		25	0	19.66	0.092			



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band41	10MHz	QPSK	39700	2501.0	1	0	21.93	0.156
					1	24	21.99	0.158
					1	49	21.87	0.154
					25	0	20.93	0.124
					25	12	20.94	0.124
					25	25	20.97	0.125
			50	0	20.93	0.124		
			1	0	21.94	0.156		
			1	24	21.82	0.152		
			1	49	21.87	0.154		
			25	0	20.76	0.119		
			25	12	20.80	0.120		
			25	25	20.84	0.121		
			50	0	20.81	0.121		
			1	0	21.76	0.150		
			1	24	21.63	0.146		
			1	49	21.69	0.148		
			25	0	20.78	0.120		
		25	12	20.73	0.118			
		25	25	20.66	0.116			
		50	0	20.62	0.115			
		1	0	20.94	0.124			
		1	24	21.19	0.132			
		1	49	20.87	0.122			
		25	0	19.91	0.098			
		25	12	19.94	0.099			
		25	25	19.98	0.100			
		50	0	19.97	0.099			
		1	0	21.05	0.127			
		1	24	21.10	0.129			
		1	49	20.95	0.124			
		25	0	19.72	0.094			
		25	12	19.81	0.096			
		25	25	19.79	0.095			
		50	0	19.82	0.096			
		1	0	20.97	0.125			
1	24	20.98	0.125					
1	49	20.88	0.122					
25	0	19.72	0.094					
25	12	19.68	0.093					
25	25	19.70	0.093					
50	0	19.72	0.094					



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band41	15MHz	QPSK	39725	2503.5	1	0	21.82	0.152
					1	37	21.97	0.157
					1	74	21.74	0.149
					36	0	20.75	0.119
					36	19	20.91	0.123
					36	39	20.81	0.121
					75	0	20.86	0.122
			40620	2593.0	1	0	21.74	0.149
					1	37	21.85	0.153
					1	74	21.70	0.148
					36	0	20.83	0.121
					36	19	20.88	0.122
					36	39	20.79	0.120
					75	0	20.86	0.122
			41515	2682.5	1	0	21.74	0.149
					1	37	21.88	0.154
					1	74	21.66	0.147
					36	0	20.89	0.123
					36	19	20.90	0.123
					36	39	20.80	0.120
					75	0	20.87	0.122
		16QAM	39725	2503.5	1	0	20.90	0.123
					1	37	20.98	0.125
					1	74	20.91	0.123
					36	0	19.79	0.095
					36	19	19.95	0.099
					36	39	19.81	0.096
					75	0	19.85	0.097
			40620	2593.0	1	0	21.04	0.127
					1	37	21.01	0.126
					1	74	21.03	0.127
					36	0	19.79	0.095
					36	19	19.87	0.097
					36	39	19.80	0.095
					75	0	19.80	0.095
			41515	2682.5	1	0	21.08	0.128
1	37	20.82			0.121			
1	74	20.90			0.123			
36	0	19.88			0.097			
36	19	19.90			0.098			
36	39	19.81			0.096			
75	0	19.86			0.097			



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band41	20MHz	QPSK	39750	2506.0	1	0	21.62	0.145
					1	49	21.78	0.151
					1	99	21.65	0.146
					50	0	20.73	0.118
					50	25	20.75	0.119
					50	50	20.74	0.119
			40620	2593.0	100	0	20.79	0.120
					1	0	21.77	0.150
					1	49	21.87	0.154
					1	99	21.78	0.151
					50	0	20.82	0.121
					50	25	20.87	0.122
			41490	2680.0	50	50	20.74	0.119
					100	0	20.84	0.121
					1	0	21.71	0.148
					1	49	21.76	0.150
					1	99	21.66	0.147
					50	0	20.91	0.123
		16QAM	39750	2506.0	50	25	20.81	0.121
					50	50	20.77	0.119
					100	0	20.82	0.121
					1	0	20.84	0.121
					1	49	21.00	0.126
					1	99	20.76	0.119
			40620	2593.0	50	0	19.82	0.096
					50	25	19.85	0.097
					50	50	19.77	0.095
					100	0	19.86	0.097
					1	0	21.00	0.126
					1	49	21.01	0.126
			41490	2680.0	1	99	20.82	0.121
					50	0	19.83	0.096
					50	25	19.88	0.097
					50	50	19.77	0.095
					100	0	19.86	0.097
					1	0	20.97	0.125
41490	2680.0	1	49	21.01	0.126			
		1	99	20.79	0.120			
		50	0	19.85	0.097			
		50	25	19.84	0.096			
		50	50	19.77	0.095			
		100	0	19.81	0.096			



LTE Band 2A+13A

Test freq. ID	NRB_agg	Inter-Band PCC (B2)					
		EARFCN	Freq. (MHz)	Modulation	Bandwidth	# of Resource Blocks	Resource Block Offset
Low	Lowest	18625	1852.5	QPSK	5MHz	1	0
		18625	1852.5	QPSK	5MHz	1	24
	Highest	18625	1852.5	QPSK	5MHz	8	0
		18625	1852.5	QPSK	5MHz	8	17
High	Lowest	19175	1907.5	QPSK	5MHz	1	0
		19175	1907.5	QPSK	5MHz	1	24
	Highest	19175	1907.5	QPSK	5MHz	8	0
		19175	1907.5	QPSK	5MHz	8	17
Low	Lowest	18700	1860.0	QPSK	20MHz	1	0
		18700	1860.0	QPSK	20MHz	1	99
	Highest	18700	1860.0	QPSK	20MHz	18	0
		18700	1860.0	QPSK	20MHz	18	82
High	Lowest	19100	1900.0	QPSK	20MHz	1	0
		19100	1900.0	QPSK	20MHz	1	99
	Highest	19100	1900.0	QPSK	20MHz	18	0
		19100	1900.0	QPSK	20MHz	18	82

Inter-Band SCC (B13)						Maximum Average Power (dBm)
EARFCN	Freq. (MHz)	Modulation	Bandwidth	# of Resource Blocks	Resource Block Offset	
23230	782.0	QPSK	10MHz	1	0	22.41
23230	782.0	QPSK	10MHz	1	49	22.25
23230	782.0	QPSK	10MHz	12	0	22.25
23230	782.0	QPSK	10MHz	12	38	22.31
23230	782.0	QPSK	10MHz	1	0	22.07
23230	782.0	QPSK	10MHz	1	49	22.31
23230	782.0	QPSK	10MHz	12	0	22.25
23230	782.0	QPSK	10MHz	12	38	22.22
23230	782.0	QPSK	10MHz	1	0	22.63
23230	782.0	QPSK	10MHz	1	49	22.48
23230	782.0	QPSK	10MHz	12	0	22.49
23230	782.0	QPSK	10MHz	12	38	22.47
23230	782.0	QPSK	10MHz	1	0	22.50
23230	782.0	QPSK	10MHz	1	49	22.58
23230	782.0	QPSK	10MHz	12	0	22.31
23230	782.0	QPSK	10MHz	12	38	22.37



LTE Band 4A+13A

Test freq. ID	NRB_agg	Inter-Band PCC (B4)					
		EARFCN	Freq. (MHz)	Modulation	Bandwidth	# of Resource Blocks	Resource Block Offset
Low	Lowest	19975	1712.5	QPSK	5MHz	1	0
		19975	1712.5	QPSK	5MHz	1	24
	Highest	19975	1712.5	QPSK	5MHz	8	0
		19975	1712.5	QPSK	5MHz	8	17
High	Lowest	20375	1752.5	QPSK	5MHz	1	0
		20375	1752.5	QPSK	5MHz	1	24
	Highest	20375	1752.5	QPSK	5MHz	8	0
		20375	1752.5	QPSK	5MHz	8	17
Low	Lowest	20050	1720.0	QPSK	20MHz	1	0
		20050	1720.0	QPSK	20MHz	1	99
	Highest	20050	1720.0	QPSK	20MHz	18	0
		20050	1720.0	QPSK	20MHz	18	82
High	Lowest	20300	1745.0	QPSK	20MHz	1	0
		20300	1745.0	QPSK	20MHz	1	99
	Highest	20300	1745.0	QPSK	20MHz	18	0
		20300	1745.0	QPSK	20MHz	18	82

Inter-Band SCC (B13)						Maximum Average Power (dBm)
EARFCN	Freq. (MHz)	Modulation	Bandwidth	# of Resource Blocks	Resource Block Offset	
23230	782.0	QPSK	10MHz	1	0	22.86
23230	782.0	QPSK	10MHz	1	49	22.92
23230	782.0	QPSK	10MHz	12	0	22.85
23230	782.0	QPSK	10MHz	12	38	22.89
23230	782.0	QPSK	10MHz	1	0	22.82
23230	782.0	QPSK	10MHz	1	49	22.67
23230	782.0	QPSK	10MHz	12	0	22.64
23230	782.0	QPSK	10MHz	12	38	22.62
23230	782.0	QPSK	10MHz	1	0	22.75
23230	782.0	QPSK	10MHz	1	49	22.73
23230	782.0	QPSK	10MHz	12	0	22.51
23230	782.0	QPSK	10MHz	12	38	22.59
23230	782.0	QPSK	10MHz	1	0	22.60
23230	782.0	QPSK	10MHz	1	49	22.41
23230	782.0	QPSK	10MHz	12	0	22.27
23230	782.0	QPSK	10MHz	12	38	22.18



LTE Band 41A+41A

Test freq. ID	NRB_agg	Intra-Band non-contiguous PCC (B41)					
		EARFCN	Freq. (MHz)	Modulation	Bandwidth	# of Resource Blocks	Resource Block Offset
Max W Gap	Lowest	39750	2506.0	QPSK	20MHz	1	0
	Highest	39750	2506.0	QPSK	20MHz	8	0
	Lowest	39750	2506.0	QPSK	20MHz	1	0
	Highest	39750	2506.0	QPSK	20MHz	18	0

Intra-Band non-continuous SCC (B41)						Maximum Average Power (dBm)
EARFCN	Freq. (MHz)	Modulation	Bandwidth	# of Resource Blocks	Resource Block Offset	
41565	2687.5	QPSK	5MHz	0	0	21.59
41565	2687.5	QPSK	5MHz	0	0	21.47
41490	2680.0	QPSK	20MHz	0	0	21.54
41490	2680.0	QPSK	20MHz	0	0	21.39

DL CA Note :

For others DL CA configurations, RX usually will not affect the TX function. The single band power is already worst-case.



4. Test Result

WWAN (Diversity)										
Band	Test mode/RB/ Data rate	Frequency (MHz)	Limit (mw)/cm ²	Distance [R] (cm)	max tune-up Power [P] (dBm)	ANT Gain (dBi)	Numeric Gain [G]	Duty Cycle	Power with Duty cycle (mW) [TP]	Power Density (mw)/cm ² [S]
LTE Band13 QPSK_10MHz	1RB	782.0	0.521	20	23.00	-0.99	0.8	1	159.62	0.032
LTE Band25 QPSK_5MHz	1RB	1852.5	1	20	23.00	3.41	2.19	1	436.96	0.087
		1882.5	1	20	23.00	3.41	2.19	1	436.96	0.087
		1912.5	1	20	23.00	3.41	2.19	1	436.96	0.087
LTE Band26 QPSK_3MHz	1RB	815.5	0.544	20	23.00	0.59	1.15	1	229.46	0.046
		819.0	0.546	20	23.00	0.59	1.15	1	229.46	0.046
		822.5	0.548	20	23.00	0.59	1.15	1	229.46	0.046
LTE Band41 QPSK_10MHz	1RB	2501.0	1	20	22.00	2.61	1.82	1	288.45	0.057
		2593.0	1	20	22.00	2.61	1.82	1	288.45	0.057
		2685.0	1	20	22.00	2.61	1.82	1	288.45	0.057

WWAN (Main)										
Band	Test mode/RB/ Data rate	Frequency (MHz)	Limit (mw)/cm ²	Distance [R] (cm)	max tune-up Power [P] (dBm)	ANT Gain (dBi)	Numeric Gain [G]	Duty Cycle	Power with Duty cycle (mW) [TP]	Power Density (mw)/cm ² [S]
LTE Band13 QPSK_10MHz	1RB	782.0	0.521	20	23.00	1.75	1.5	1	299.29	0.060
LTE Band25 QPSK_5MHz	1RB	1852.5	1	20	23.00	3.09	2.04	1	407.03	0.081
		1882.5	1	20	23.00	3.09	2.04	1	407.03	0.081
		1912.5	1	20	23.00	3.09	2.04	1	407.03	0.081
LTE Band26 QPSK_3MHz	1RB	815.5	0.544	20	23.00	-0.26	0.94	1	187.55	0.037
		819.0	0.546	20	23.00	-0.26	0.94	1	187.55	0.037
		822.5	0.548	20	23.00	-0.26	0.94	1	187.55	0.037
LTE Band41 QPSK_10MHz	1RB	2501.0	1	20	22.00	2.50	1.78	1	282.11	0.056
		2593.0	1	20	22.00	2.50	1.78	1	282.11	0.056
		2685.0	1	20	22.00	2.50	1.78	1	282.11	0.056



Note:

1. Mobile or fixed location transmitters, minimum separation distance is 20cm, even if calculations indicate MPE distance is less.
2. The Numeric Gain calculated by $10^{(\text{ant. Gain(dBi)} / 10)}$.
3. Each band max power which perform MPE of any configurations.
4. The device operating LTE mode is 1TX (SISO).
5. The device support simultaneous transmission .
6. The summary result is same as the original data, please refer test report number:1709FS13.

Simultaneous Transmitting :

$$\text{Total MPE} = 2.4\text{GHz} + 5\text{GHz} + \text{LTE MPE} = 0.082 + 0.113 + 0.087 = 0.282 \text{ (mw)/cm}^2 < 1 \text{ (mw)/cm}^2$$