A Test Lab Techno Corp.

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MPE Report

Test Report No.	:	1801FS12-01
Applicant	:	Superior Communications DBA PureGear
Product Type	:	PURECAM
Trade Name	:	PureGear
Model Number	:	07614PG
Date of Received	:	Oct. 23, 2017
Test Period	:	Nov. 01, 2017 ~ Jan. 08, 2018
Date of Issued	:	Mar. 13, 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.
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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 (Yung Tan Tsai)

Tested By : Eric Chao (Eric Chao)

Contents

1. Description of Equipment under Test (EUT)

Applicant	Superior Communications DBA PureGear 5082 4th Street Irwindale California USA, Irwindale, California, 91706, United States			
Manufacturer	Shenzhen Auto Range Tech Co., Limited 5/F, Bldg. A1, Atomic Power Industrial Park, Fuming, Guanlan, Shenzhen, Guangdong. P. R. China.			
Product Type	PURECAM			
Trade Name	PureGear			
Model Number	07614PG			
FCC ID	2AIIF-07614PG			
IMEI No.	35316305670667			
Frequency Range	Operate Band			Frequency Range (MHz)
	LTE Band 2 (1.4M, 3M, 5MHz, 10MHz, 15MHz, 20MHz)			1850.7 - 1909.3
	LTE Band 4 (1.4M, 3M, 5MHz, 10MHz, 15MHz, 20MHz)			1710.7 - 1754.3
	LTE Band 12 (1.4M, 3M, 5MHz, 10MHz)			699 - 716
	LTE Band 17 (5MHz, 10MHz)			704.0 - 715.9
	IEEE 802.11b / 802.11g / 802.11n 2.4GHz 20MHz			2412 - 2462
	IEEE 802.11n 2.4GHz 40MHz			2422 - 2452
	Bluetooth BR/ LE			2402 - 2480
Antenna Information	Model	Type	Max. Gain (dBi)	
	DVR-19-Main	Internal Antenna	LTE Band 2	2.8
			LTE Band 4	0.2
			LTE Band 12	2.0
			LTE Band 17	2.0
	DVR-19-GWG	Internal Antenna	WLAN 2.4G	2.0
			Bluetooth BR / EDR / LE	2.0
RF Evaluation	0.086			
Operate Temp. Range	-10 ~ +70°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 Band2	1.4MHz	QPSK	18607	1850.7	1	0	22.68	0.185
					1	2	22.75	0.188
					1	5	22.68	0.185
					3	0	22.54	0.179
					3	1	22.59	0.182
					3	3	22.61	0.182
					6	0	21.59	0.144
			18900	1880.0	1	0	22.70	0.186
					1	2	**22.83**	**0.192**
					1	5	22.72	0.187
					3	0	22.78	0.190
					3	1	22.79	0.190
					3	3	22.80	0.191
					6	0	21.62	0.145
			19193	1909.3	1	0	22.61	0.182
					1	2	22.74	0.188
					1	5	22.58	0.181
					3	0	22.51	0.178
					3	1	22.45	0.176
					3	3	22.22	0.167
					6	0	21.64	0.146
		16QAM	18607	1850.7	1	0	22.02	0.159
					1	2	22.08	0.161
					1	5	22.00	0.158
					3	0	21.58	0.144
					3	1	21.66	0.147
					3	3	21.64	0.146
					6	0	20.54	0.113
			18900	1880.0	1	0	21.93	0.156
					1	2	22.07	0.161
					1	5	22.06	0.161
					3	0	21.66	0.147
					3	1	21.68	0.147
					3	3	21.70	0.148
					6	0	20.54	0.113
			19193	1909.3	1	0	21.92	0.156
					1	2	21.95	0.157
					1	5	21.98	0.158
					3	0	21.56	0.143
					3	1	21.53	0.142
					3	3	21.31	0.135
					6	0	20.56	0.114

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band2	3MHz	QPSK	18615	1851.5	1	0	22.62	0.183
					1	7	22.73	0.187
					1	14	22.53	0.179
					8	0	21.66	0.147
					8	3	21.73	0.149
					8	7	21.68	0.147
					15	0	21.71	0.148
			18900	1880.0	1	0	22.67	0.185
					1	7	**22.76**	**0.189**
					1	14	22.66	0.185
					8	0	21.71	0.148
					8	3	21.75	0.150
					8	7	21.64	0.146
					15	0	21.80	0.151
			19185	1908.5	1	0	22.50	0.178
					1	7	22.60	0.182
					1	14	22.58	0.181
					8	0	21.72	0.149
					8	3	21.75	0.150
					8	7	21.72	0.149
					15	0	21.69	0.148
		16QAM	18615	1851.5	1	0	21.87	0.154
					1	7	21.89	0.155
					1	14	21.79	0.151
					8	0	20.62	0.115
					8	3	20.63	0.116
					8	7	20.61	0.115
					15	0	20.55	0.114
			18900	1880.0	1	0	21.84	0.153
					1	7	21.92	0.156
					1	14	21.84	0.153
					8	0	20.58	0.114
					8	3	20.60	0.115
					8	7	20.53	0.113
					15	0	20.50	0.112
			19185	1908.5	1	0	21.79	0.151
					1	7	21.91	0.155
					1	14	21.88	0.154
					8	0	20.61	0.115
					8	3	20.63	0.116
					8	7	20.65	0.116
					15	0	20.56	0.114

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band2	5MHz	QPSK	18625	1852.5	1	0	22.77	0.189
					1	12	22.65	0.184
					1	24	22.72	0.187
					12	0	21.73	0.149
					12	6	21.75	0.150
					12	13	21.74	0.149
					25	0	21.76	0.150
			18900	1880.0	1	0	**22.88**	**0.194**
					1	12	22.72	0.187
					1	24	22.76	0.189
					12	0	21.90	0.155
					12	6	21.84	0.153
					12	13	21.75	0.150
					25	0	21.84	0.153
			19175	1907.5	1	0	22.86	0.193
					1	12	22.62	0.183
					1	24	22.68	0.185
					12	0	21.78	0.151
					12	6	21.73	0.149
					12	13	21.70	0.148
					25	0	21.66	0.147
		16QAM	18625	1852.5	1	0	22.05	0.160
					1	12	21.80	0.151
					1	24	21.93	0.156
					12	0	20.64	0.116
					12	6	20.69	0.117
					12	13	20.66	0.116
					25	0	20.65	0.116
			18900	1880.0	1	0	22.07	0.161
					1	12	21.87	0.154
					1	24	21.89	0.155
					12	0	20.78	0.120
					12	6	20.71	0.118
					12	13	20.61	0.115
					25	0	20.66	0.116
			19175	1907.5	1	0	22.10	0.162
					1	12	21.77	0.150
					1	24	21.95	0.157
					12	0	20.72	0.118
					12	6	20.63	0.116
					12	11	20.62	0.115
					25	0	20.56	0.114

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band2	10MHz	QPSK	18650	1855.0	1	0	22.85	0.193
					1	24	22.80	0.191
					1	49	22.83	0.192
					25	0	22.05	0.160
					25	12	21.97	0.157
					25	25	21.92	0.156
					50	0	21.96	0.157
			18900	1880.0	1	0	**22.86**	**0.193**
					1	24	22.78	0.190
					1	49	22.85	0.193
					25	0	22.03	0.160
					25	12	21.82	0.152
					25	25	21.82	0.152
					50	0	21.97	0.157
			19150	1905.0	1	0	22.85	0.193
					1	24	22.50	0.178
					1	49	22.60	0.182
					25	0	21.91	0.155
					25	12	21.72	0.149
					25	25	21.67	0.147
					50	0	21.72	0.149
		16QAM	18650	1855.0	1	0	22.04	0.160
					1	24	21.98	0.158
					1	49	22.09	0.162
					25	0	20.94	0.124
					25	12	20.85	0.122
					25	25	20.77	0.119
					50	0	20.79	0.120
			18900	1880.0	1	0	22.12	0.163
					1	24	21.92	0.156
					1	49	22.05	0.160
					25	0	20.84	0.121
					25	12	20.66	0.116
					25	25	20.63	0.116
					50	0	20.79	0.120
			19150	1905.0	1	0	22.01	0.159
					1	24	21.76	0.150
					1	49	21.86	0.153
					25	0	20.73	0.118
					25	12	20.55	0.114
					25	25	20.55	0.114
					50	0	20.57	0.114

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band2	15MHz	QPSK	18675	1857.5	1	0	22.70	0.186
					1	37	22.47	0.177
					1	74	22.79	0.190
					36	0	21.73	0.149
					36	19	21.79	0.151
					36	39	21.84	0.153
					75	0	21.76	0.150
			18900	1880.0	1	0	**22.84**	**0.192**
					1	37	22.43	0.175
					1	74	22.78	0.190
					36	0	21.84	0.153
					36	19	21.85	0.153
					36	39	21.84	0.153
					75	0	21.89	0.155
			19125	1902.5	1	0	22.81	0.191
					1	37	22.34	0.171
					1	74	22.73	0.187
					36	0	21.82	0.152
					36	19	21.80	0.151
					36	39	21.78	0.151
					75	0	21.78	0.151
		16QAM	18675	1857.5	1	0	21.96	0.157
					1	37	21.94	0.156
					1	74	21.95	0.157
					36	0	20.58	0.114
					36	19	20.63	0.116
					36	39	20.66	0.116
					75	0	20.67	0.117
			18900	1880.0	1	0	21.98	0.158
					1	37	22.01	0.159
					1	74	22.06	0.161
					36	0	20.64	0.116
					36	19	20.69	0.117
					36	39	20.69	0.117
					75	0	20.71	0.118
			19125	1902.5	1	0	22.27	0.169
					1	37	21.92	0.156
					1	74	22.05	0.160
					36	0	20.66	0.116
					36	19	20.59	0.115
					36	39	20.61	0.115
					75	0	20.74	0.119

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band2	20MHz	QPSK	18700	1860.0	1	0	22.68	0.185
					1	49	22.60	0.182
					1	99	22.72	0.187
					50	0	21.90	0.155
					50	25	21.81	0.152
					50	50	21.92	0.156
					100	0	21.93	0.156
			18900	1880.0	1	0	22.77	0.189
					1	49	22.70	0.186
					1	99	**22.85**	**0.193**
					50	0	21.90	0.155
					50	25	21.83	0.152
					50	50	21.90	0.155
					100	0	21.99	0.158
			19100	1900.0	1	0	22.79	0.190
					1	49	22.58	0.181
					1	99	22.67	0.185
					50	0	21.75	0.150
					50	25	21.68	0.147
					50	50	21.79	0.151
					100	0	21.79	0.151
		16QAM	18700	1860.0	1	0	22.06	0.161
					1	49	21.86	0.153
					1	99	22.07	0.161
					50	0	20.70	0.117
					50	25	20.67	0.117
					50	50	20.69	0.117
					100	0	20.80	0.120
			18900	1880.0	1	0	22.02	0.159
					1	49	21.88	0.154
					1	99	22.26	0.168
					50	0	20.72	0.118
					50	25	20.71	0.118
					50	50	20.74	0.119
					100	0	20.76	0.119
			19100	1900.0	1	0	22.09	0.162
					1	49	21.80	0.151
					1	99	22.17	0.165
					50	0	20.58	0.114
					50	25	20.56	0.114
					50	50	20.59	0.115
					100	0	20.67	0.117

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band4	1.4MHz	QPSK	19957	1710.7	1	0	22.67	0.185
					1	2	22.81	0.191
					1	5	22.78	0.190
					3	0	22.67	0.185
					3	1	22.69	0.186
					3	3	22.62	0.183
					6	0	21.59	0.144
			20175	1732.5	1	0	22.79	0.190
					1	2	**22.93**	**0.196**
					1	5	22.84	0.192
					3	0	22.57	0.181
					3	1	22.61	0.182
					3	3	22.48	0.177
					6	0	21.66	0.147
			20393	1754.3	1	0	22.52	0.179
					1	2	22.80	0.191
					1	5	22.51	0.178
					3	0	22.14	0.164
					3	1	22.21	0.166
					3	3	22.64	0.184
					6	0	21.54	0.143
		16QAM	19957	1710.7	1	0	22.17	0.165
					1	2	22.15	0.164
					1	5	22.12	0.163
					3	0	21.73	0.149
					3	1	21.78	0.151
					3	3	21.80	0.151
					6	0	20.69	0.117
			20175	1732.5	1	0	22.11	0.163
					1	2	22.13	0.163
					1	5	22.12	0.163
					3	0	21.82	0.152
					3	1	21.86	0.153
					3	3	21.73	0.149
					6	0	20.85	0.122
			20393	1754.3	1	0	22.08	0.161
					1	2	22.11	0.163
					1	5	22.07	0.161
					3	0	21.63	0.146
					3	1	21.71	0.148
					3	3	21.74	0.149
					6	0	20.64	0.116

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band4	3MHz	QPSK	19965	1711.5	1	0	22.64	0.184
					1	7	22.76	0.189
					1	14	22.69	0.186
					8	0	21.69	0.148
					8	3	21.63	0.146
					8	7	21.71	0.148
					15	0	21.71	0.148
			20175	1732.5	1	0	22.79	0.190
					1	7	**22.91**	**0.195**
					1	14	22.67	0.185
					8	0	21.72	0.149
					8	3	21.74	0.149
					8	7	21.75	0.150
					15	0	21.73	0.149
			20385	1753.5	1	0	22.50	0.178
					1	7	22.61	0.182
					1	14	22.57	0.181
					8	0	21.61	0.145
					8	3	21.62	0.145
					8	7	21.60	0.145
					15	0	21.61	0.145
		16QAM	19965	1711.5	1	0	22.02	0.159
					1	7	22.04	0.160
					1	14	22.04	0.160
					8	0	20.69	0.117
					8	3	20.67	0.117
					8	7	20.73	0.118
					15	0	20.67	0.117
			20175	1732.5	1	0	22.10	0.162
					1	7	22.13	0.163
					1	14	21.93	0.156
					8	0	20.97	0.125
					8	3	21.12	0.129
					8	7	21.07	0.128
					15	0	20.80	0.120
			20385	1753.5	1	0	21.95	0.157
					1	7	21.99	0.158
					1	14	21.86	0.153
					8	0	20.66	0.116
					8	3	20.70	0.117
					8	7	20.64	0.116
					15	0	20.58	0.114

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band4	5MHz	QPSK	19975	1712.5	1	0	22.74	0.188
					1	12	22.63	0.183
					1	24	22.76	0.189
					12	0	21.77	0.150
					12	6	21.75	0.150
					12	13	21.70	0.148
					25	0	21.71	0.148
			20175	1732.5	1	0	**22.89**	**0.195**
					1	12	22.72	0.187
					1	24	22.72	0.187
					12	0	21.82	0.152
					12	6	21.77	0.150
					12	13	21.70	0.148
					25	0	21.75	0.150
			20375	1752.5	1	0	22.71	0.187
					1	12	22.53	0.179
					1	24	22.63	0.183
					12	0	21.67	0.147
					12	6	21.63	0.146
					12	13	21.61	0.145
					25	0	21.61	0.145
		16QAM	19975	1712.5	1	0	21.99	0.158
					1	12	21.96	0.157
					1	24	22.01	0.159
					12	0	20.81	0.121
					12	6	20.78	0.120
					12	13	20.75	0.119
					25	0	20.72	0.118
			20175	1732.5	1	0	21.96	0.157
					1	12	21.91	0.155
					1	24	22.06	0.161
					12	0	21.13	0.130
					12	6	21.09	0.129
					12	13	20.97	0.125
					25	0	20.85	0.122
			20375	1752.5	1	0	21.94	0.156
					1	12	21.84	0.153
					1	24	22.02	0.159
					12	0	20.76	0.119
					12	6	20.68	0.117
					12	11	20.68	0.117
					25	0	20.64	0.116

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band4	10MHz	QPSK	20000	1715.0	1	0	22.79	0.190
					1	24	22.63	0.183
					1	49	22.83	0.192
					25	0	21.76	0.150
					25	12	21.76	0.150
					25	25	21.77	0.150
					50	0	21.77	0.150
			20175	1732.5	1	0	22.82	0.191
					1	24	22.69	0.186
					1	49	**22.88**	**0.194**
					25	0	21.75	0.150
					25	12	21.81	0.152
					25	25	21.77	0.150
					50	0	21.76	0.150
			20350	1750.0	1	0	22.64	0.184
					1	24	22.45	0.176
					1	49	22.71	0.187
					25	0	21.63	0.146
					25	12	21.59	0.144
					25	25	21.59	0.144
					50	0	21.66	0.147
		16QAM	20000	1715.0	1	0	22.09	0.162
					1	24	22.03	0.160
					1	49	22.08	0.161
					25	0	20.75	0.119
					25	12	20.79	0.120
					25	25	20.73	0.118
					50	0	20.71	0.118
			20175	1732.5	1	0	22.01	0.159
					1	24	21.98	0.158
					1	49	22.05	0.160
					25	0	20.74	0.119
					25	12	20.83	0.121
					25	25	20.81	0.121
					50	0	20.73	0.118
			20350	1750.0	1	0	22.03	0.160
					1	24	21.78	0.151
					1	49	22.02	0.159
					25	0	20.65	0.116
					25	12	20.58	0.114
					25	25	20.58	0.114
					50	0	20.64	0.116

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band4	15MHz	QPSK	20025	1717.5	1	0	22.62	0.183
					1	37	22.75	0.188
					1	74	22.67	0.185
					36	0	21.86	0.153
					36	19	21.94	0.156
					36	39	21.87	0.154
					75	0	21.90	0.155
			20175	1732.5	1	0	22.69	0.186
					1	37	**22.80**	**0.191**
					1	74	22.58	0.181
					36	0	21.90	0.155
					36	19	22.04	0.160
					36	39	21.89	0.155
					75	0	21.91	0.155
			20325	1747.5	1	0	22.70	0.186
					1	37	22.77	0.189
					1	74	22.47	0.177
					36	0	21.90	0.155
					36	19	21.92	0.156
					36	39	21.72	0.149
					75	0	21.88	0.154
		16QAM	20025	1717.5	1	0	21.65	0.146
					1	37	21.95	0.157
					1	74	21.70	0.148
					36	0	20.55	0.114
					36	19	20.64	0.116
					36	39	20.55	0.114
					75	0	20.63	0.116
			20175	1732.5	1	0	21.74	0.149
					1	37	21.96	0.157
					1	74	21.62	0.145
					36	0	20.51	0.112
					36	19	20.69	0.117
					36	39	20.53	0.113
					75	0	20.56	0.114
			20325	1747.5	1	0	21.74	0.149
					1	37	21.94	0.156
					1	74	21.55	0.143
					36	0	20.61	0.115
					36	19	20.62	0.115
					36	39	20.41	0.110
					75	0	20.57	0.114

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band4	20MHz	QPSK	20050	1720.0	1	0	22.42	0.175
					1	49	22.75	0.188
					1	99	22.45	0.176
					50	0	21.67	0.147
					50	25	21.75	0.150
					50	50	21.64	0.146
					100	0	21.66	0.147
			20175	1732.5	1	0	22.50	0.178
					1	49	22.77	0.189
					1	99	22.47	0.177
					50	0	21.67	0.147
					50	25	21.75	0.150
					50	50	21.69	0.148
					100	0	21.69	0.148
			20300	1745.0	1	0	22.67	0.185
					1	49	**22.81**	**0.191**
					1	99	22.45	0.176
					50	0	21.80	0.151
					50	25	21.81	0.152
					50	50	21.70	0.148
					100	0	21.72	0.149
		16QAM	20050	1720.0	1	0	21.62	0.145
					1	49	21.97	0.157
					1	99	21.67	0.147
					50	0	20.54	0.113
					50	25	20.60	0.115
					50	50	20.43	0.110
					100	0	20.56	0.114
			20175	1732.5	1	0	21.68	0.147
					1	49	21.93	0.156
					1	99	21.66	0.147
					50	0	20.51	0.112
					50	25	20.61	0.115
					50	50	20.47	0.111
					100	0	20.49	0.112
			20300	1745.0	1	0	21.81	0.152
					1	49	22.01	0.159
					1	99	21.67	0.147
					50	0	20.69	0.117
					50	25	20.70	0.117
					50	50	20.51	0.112
					100	0	20.58	0.114

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band12	1.4MHz	QPSK	23017	699.7	1	0	22.58	0.181
					1	2	22.59	0.182
					1	5	22.57	0.181
					3	0	22.58	0.181
					3	1	22.54	0.179
					3	3	22.37	0.173
					6	0	21.41	0.138
			23095	707.5	1	0	**22.74**	**0.188**
					1	2	22.68	0.185
					1	5	22.70	0.186
					3	0	22.45	0.176
					3	1	22.64	0.184
					3	3	22.38	0.173
					6	0	21.50	0.141
			23173	715.3	1	0	22.59	0.182
					1	2	22.68	0.185
					1	5	22.51	0.178
					3	0	22.32	0.171
					3	1	22.47	0.177
					3	3	22.31	0.170
					6	0	21.49	0.141
		16QAM	23017	699.7	1	0	22.04	0.160
					1	2	22.01	0.159
					1	5	22.00	0.158
					3	0	21.28	0.134
					3	1	21.26	0.134
					3	3	21.29	0.135
					6	0	20.84	0.121
			23095	707.5	1	0	22.15	0.164
					1	2	22.17	0.165
					1	5	22.16	0.164
					3	0	21.74	0.149
					3	1	21.95	0.157
					3	3	21.65	0.146
					6	0	20.84	0.121
			23173	715.3	1	0	22.15	0.164
					1	2	22.13	0.163
					1	5	22.14	0.164
					3	0	21.38	0.137
					3	1	21.50	0.141
					3	3	21.84	0.153
					6	0	20.84	0.121

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band12	3MHz	QPSK	23025	700.5	1	0	22.49	0.177
					1	7	22.69	0.186
					1	14	**22.72**	**0.187**
					8	0	21.56	0.143
					8	3	21.60	0.145
					8	7	21.68	0.147
					15	0	21.63	0.146
			23095	707.5	1	0	22.47	0.177
					1	7	22.54	0.179
					1	14	22.61	0.182
					8	0	21.62	0.145
					8	3	21.66	0.147
					8	7	21.51	0.142
					15	0	21.66	0.147
			23165	714.5	1	0	22.49	0.177
					1	7	22.50	0.178
					1	14	22.44	0.175
					8	0	21.53	0.142
					8	3	21.61	0.145
					8	7	21.51	0.142
					15	0	21.48	0.141
		16QAM	23025	700.5	1	0	22.05	0.160
					1	7	22.15	0.164
					1	14	22.14	0.164
					8	0	20.72	0.118
					8	3	20.72	0.118
					8	7	20.76	0.119
					15	0	20.72	0.118
			23095	707.5	1	0	22.07	0.161
					1	7	22.14	0.164
					1	14	22.13	0.163
					8	0	20.74	0.119
					8	3	20.74	0.119
					8	7	20.60	0.115
					15	0	20.65	0.116
			23165	714.5	1	0	22.01	0.159
					1	7	21.94	0.156
					1	14	22.11	0.163
					8	0	20.54	0.113
					8	3	20.61	0.115
					8	7	20.58	0.114
					15	0	20.59	0.115

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band12	5MHz	QPSK	23035	701.5	1	0	22.61	0.182
					1	12	22.57	0.181
					1	24	**22.79**	**0.190**
					12	0	21.67	0.147
					12	6	21.89	0.155
					12	13	21.73	0.149
					25	0	21.75	0.150
			23095	707.5	1	0	22.68	0.185
					1	12	22.72	0.187
					1	24	22.74	0.188
					12	0	21.52	0.142
					12	6	21.56	0.143
					12	13	21.67	0.147
					25	0	21.83	0.152
			23155	713.5	1	0	22.64	0.184
					1	12	22.43	0.175
					1	24	22.78	0.190
					12	0	21.70	0.148
					12	6	21.68	0.147
					12	13	21.69	0.148
					25	0	21.68	0.147
		16QAM	23035	701.5	1	0	22.10	0.162
					1	12	21.90	0.155
					1	24	22.05	0.160
					12	0	20.75	0.119
					12	6	20.86	0.122
					12	13	20.83	0.121
					25	0	20.77	0.119
			23095	707.5	1	0	22.13	0.163
					1	12	21.94	0.156
					1	24	22.14	0.164
					12	0	20.67	0.117
					12	6	20.69	0.117
					12	13	20.76	0.119
					25	0	20.87	0.122
			23155	713.5	1	0	22.15	0.164
					1	12	22.06	0.161
					1	24	22.13	0.163
					12	0	20.81	0.121
					12	6	20.74	0.119
					12	11	20.86	0.122
					25	0	20.78	0.120

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band12	10MHz	QPSK	23060	704.0	1	0	22.69	0.186
					1	24	22.72	0.187
					1	49	22.80	0.191
					25	0	21.50	0.141
					25	12	21.59	0.144
					25	25	21.84	0.153
					50	0	21.65	0.146
			23095	707.5	1	0	22.65	0.184
					1	24	22.77	0.189
					1	49	**22.85**	**0.193**
					25	0	21.56	0.143
					25	12	21.90	0.155
					25	25	21.75	0.150
					50	0	21.94	0.156
			23130	711.0	1	0	22.76	0.189
					1	24	22.72	0.187
					1	49	22.82	0.191
					25	0	21.85	0.153
					25	12	21.71	0.148
					25	25	21.75	0.150
					50	0	21.86	0.153
		16QAM	23060	704.0	1	0	22.01	0.159
					1	24	22.11	0.163
					1	49	22.14	0.164
					25	0	20.83	0.121
					25	12	20.97	0.125
					25	25	21.22	0.132
					50	0	20.91	0.123
			23095	707.5	1	0	21.91	0.155
					1	24	22.15	0.164
					1	49	22.11	0.163
					25	0	20.88	0.122
					25	12	20.84	0.121
					25	25	20.71	0.118
					50	0	20.87	0.122
			23130	711.0	1	0	22.07	0.161
					1	24	22.04	0.160
					1	49	22.08	0.161
					25	0	20.78	0.120
					25	12	20.70	0.117
					25	25	20.84	0.121
					50	0	20.79	0.120

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band17	5MHz	QPSK	23755	706.5	1	0	22.57	0.181
					1	12	22.60	0.182
					1	24	**22.85**	**0.193**
					12	0	21.73	0.149
					12	6	21.81	0.152
					12	13	21.80	0.151
					25	0	21.88	0.154
			23790	710.0	1	0	22.75	0.188
					1	12	22.68	0.185
					1	24	22.81	0.191
					12	0	21.86	0.153
					12	6	21.92	0.156
					12	13	21.79	0.151
					25	0	21.88	0.154
			23825	713.5	1	0	22.72	0.187
					1	12	22.63	0.183
					1	24	22.77	0.189
					12	0	21.79	0.151
					12	6	21.84	0.153
					12	13	21.90	0.155
					25	0	21.84	0.153
		16QAM	23755	706.5	1	0	22.31	0.170
					1	12	22.13	0.163
					1	24	22.37	0.173
					12	0	20.76	0.119
					12	6	20.83	0.121
					12	13	20.96	0.125
					25	0	20.88	0.122
			23790	710.0	1	0	22.38	0.173
					1	12	22.12	0.163
					1	24	22.34	0.171
					12	0	20.95	0.124
					12	6	20.97	0.125
					12	13	20.90	0.123
					25	0	20.83	0.121
			23825	713.5	1	0	22.22	0.167
					1	12	22.21	0.166
					1	24	22.25	0.168
					12	0	20.91	0.123
					12	6	20.87	0.122
					12	11	20.97	0.125
					25	0	20.96	0.125

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band17	10MHz	QPSK	23780	709.0	1	0	22.55	0.180
					1	24	22.61	0.182
					1	49	22.57	0.181
					25	0	21.75	0.150
					25	12	21.84	0.153
					25	25	21.69	0.148
					50	0	21.83	0.152
			23790	710.0	1	0	22.54	0.179
					1	24	22.58	0.181
					1	49	22.54	0.179
					25	0	21.87	0.154
					25	12	21.78	0.151
					25	25	21.71	0.148
					50	0	21.84	0.153
			23800	711.0	1	0	22.56	0.180
					1	24	22.54	0.179
					1	49	**22.70**	**0.186**
					25	0	21.87	0.154
					25	12	21.77	0.150
					25	25	21.85	0.153
					50	0	21.90	0.155
		16QAM	23780	709.0	1	0	22.02	0.159
					1	24	22.05	0.160
					1	49	22.16	0.164
					25	0	20.61	0.115
					25	12	20.83	0.121
					25	25	20.69	0.117
					50	0	20.88	0.122
			23790	710.0	1	0	21.95	0.157
					1	24	22.02	0.159
					1	49	22.24	0.167
					25	0	20.86	0.122
					25	12	20.76	0.119
					25	25	20.76	0.119
					50	0	20.88	0.122
			23800	711.0	1	0	22.07	0.161
					1	24	22.08	0.161
					1	49	22.21	0.166
					25	0	20.87	0.122
					25	12	20.73	0.118
					25	25	20.90	0.123
					50	0	20.93	0.124

Band	Data Rate (Mbps)	Frequency (MHz)	Average Conducted power (dBm)
			ANT-0
IEEE 802.11b	1	2412.0	14.74
		2437.0	**14.81**
		2462.0	14.78
	2	2437.0	14.29
	5.5	2437.0	14.23
	11	2437.0	14.18
IEEE 802.11g	6	2412.0	**7.80**
		2437.0	7.71
		2462.0	7.50
	9	2437.0	7.76
	12	2437.0	7.73
	18	2437.0	7.70
	24	2437.0	7.69
	36	2437.0	7.65
	48	2437.0	7.63
	54	2437.0	7.62
IEEE 802.11n 2.4GHz 20Hz	6.5	2412.0	**6.56**
		2437.0	6.51
		2462.0	6.47
	14.4	2437.0	6.50
	21.7	2437.0	6.48
	28.9	2437.0	6.43
	43.3	2437.0	6.40
	57.8	2437.0	6.37
	65	2437.0	6.36
	72.2	2437.0	6.34
IEEE 802.11n 2.4GHz 40Hz	13.5	2422.0	**7.79**
		2437.0	7.32
		2452.0	7.26
	30	2437.0	7.30
	45	2437.0	7.28
	60	2437.0	7.24
	90	2437.0	7.21
	120	2437.0	7.20
	135	2437.0	7.18
	150	2437.0	7.16

Operate Band	Frequency (MHz)	Packet Type	Average Conducted power (dBm)
Bluetooth BR GFSK	2402	DH1	1.57
		DH3	4.96
		DH5	**5.90**
	2441	DH1	1.37
		DH3	4.97
		DH5	5.48
	2480	DH1	0.77
		DH3	4.14
		DH5	4.87
Bluetooth EDR π/4-DQPSK	2402	DH1	-0.46
		DH3	2.67
		DH5	**3.65**
	2441	DH1	-0.51
		DH3	1.75
		DH5	3.22
	2480	DH1	-1.37
		DH3	1.82
		DH5	3.52
Bluetooth EDR 8DPSK	2402	DH1	-0.33
		DH3	2.75
		DH5	**4.63**
	2441	DH1	-0.22
		DH3	2.27
		DH5	3.92
	2480	DH1	-1.36
		DH3	2.61
		DH5	4.23
Bluetooth LE	2402	---	**0.38**
	2440		0.32
	2480		-0.43

4. Test Result

Antenna	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]
Bluetooth Antenna	Bluetooth BT	1M(DH5)	2402.0	1	20	6.00	2.00	1.58	1	6.29	0.001
			2441.0	1	20	6.00	2.00	1.58	1	6.29	0.001
			2480.0	1	20	6.00	2.00	1.58	1	6.29	0.001
	Bluetooth LE	-	2402.0	1	20	0.50	2.00	1.58	1	1.77	0.000
			2440.0	1	20	0.40	2.00	1.58	1	1.73	0.000
			2480.0	1	20	0.00	2.00	1.58	1	1.58	0.000
WLAN Antenna	IEEE 802.11b	1M	2412.0	1	20	14.90	2.00	1.58	1	48.83	0.010
			2437.0	1	20	14.90	2.00	1.58	1	48.83	0.010
			2462.0	1	20	14.90	2.00	1.58	1	48.83	0.010
	IEEE 802.11g	6M	2412.0	1	20	7.90	2.00	1.58	1	9.74	0.002
			2437.0	1	20	7.90	2.00	1.58	1	9.74	0.002
			2462.0	1	20	7.90	2.00	1.58	1	9.74	0.002
	IEEE 802.11n 2.4GHz 20MHz	6.5M	2412.0	1	20	6.70	2.00	1.58	1	7.39	0.001
			2437.0	1	20	6.70	2.00	1.58	1	7.39	0.001
			2462.0	1	20	6.70	2.00	1.58	1	7.39	0.001
	IEEE 802.11n 2.4GHz 40MHz	13.5M	2422.0	1	20	7.90	2.00	1.58	1	9.74	0.002
			2437.0	1	20	7.90	2.00	1.58	1	9.74	0.002
			2452.0	1	20	7.90	2.00	1.58	1	9.74	0.002
WWAN Antenna	LTE Band2 QPSK_5MHz	1RB	1852.5	1	20	23.00	2.80	1.91	1	381.10	0.076
			1880.0	1	20	23.00	2.80	1.91	1	381.10	0.076
			1907.5	1	20	23.00	2.80	1.91	1	381.10	0.076
		50%RB	1852.5	1	20	22.00	2.80	1.91	1	302.71	0.060
			1880.0	1	20	22.00	2.80	1.91	1	302.71	0.060
			1907.5	1	20	22.00	2.80	1.91	1	302.71	0.060
		100%RB	1852.5	1	20	21.90	2.80	1.91	1	295.82	0.059
			1880.0	1	20	21.90	2.80	1.91	1	295.82	0.059
			1907.5	1	20	21.90	2.80	1.91	1	295.82	0.059
	LTE Band4 QPSK_1.4MHz	1RB	1710.7	1	20	23.00	0.20	1.05	1	209.50	0.042
			1732.5	1	20	23.00	0.20	1.05	1	209.50	0.042
			1754.3	1	20	23.00	0.20	1.05	1	209.50	0.042
		50%RB	1710.7	1	20	22.80	0.20	1.05	1	200.07	0.040
			1732.5	1	20	22.80	0.20	1.05	1	200.07	0.040
			1754.3	1	20	22.80	0.20	1.05	1	200.07	0.040
		100%RB	1710.7	1	20	21.80	0.20	1.05	1	158.92	0.032
			1732.5	1	20	21.80	0.20	1.05	1	158.92	0.032
			1754.3	1	20	21.80	0.20	1.05	1	158.92	0.032
	LTE Band12 QPSK_10MHz	1RB	704.0	0.469	20	22.90	2.00	1.58	1	308.08	0.061
			707.5	0.472	20	22.90	2.00	1.58	1	308.08	0.061
			711.0	0.474	20	22.90	2.00	1.58	1	308.08	0.061
		50%RB	704.0	0.469	20	22.00	2.00	1.58	1	250.41	0.050
			707.5	0.472	20	22.00	2.00	1.58	1	250.41	0.050
			711.0	0.474	20	22.00	2.00	1.58	1	250.41	0.050
		100%RB	704.0	0.469	20	22.00	2.00	1.58	1	250.41	0.050
			707.5	0.472	20	22.00	2.00	1.58	1	250.41	0.050
			711.0	0.474	20	22.00	2.00	1.58	1	250.41	0.050
	LTE Band17 QPSK_5MHz	1RB	706.5	0.471	20	22.90	2.00	1.58	1	308.08	0.061
			710.0	0.473	20	22.90	2.00	1.58	1	308.08	0.061
			713.5	0.476	20	22.90	2.00	1.58	1	308.08	0.061
		50%RB	706.5	0.471	20	22.00	2.00	1.58	1	250.41	0.050
			710.0	0.473	20	22.00	2.00	1.58	1	250.41	0.050
			713.5	0.476	20	22.00	2.00	1.58	1	250.41	0.050
		100%RB	706.5	0.471	20	22.00	2.00	1.58	1	250.41	0.050
			710.0	0.473	20	22.00	2.00	1.58	1	250.41	0.050
			713.5	0.476	20	22.00	2.00	1.58	1	250.41	0.050

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^(ant. Gain(dBi) /10).
3. Each band max power which perform MPE of any configurations.
4. MPE results are evaluated by lowest data rate for WLAN.
5. The device operating IEEE 802.11 b/g/n mode is 1TX (SISO).
6. The Wi-Fi and BT can not support simultaneous transmission.

Simultaneous Transmitting：

Total MPE = WiFi MPE + LTE Band 2 MPE = (0.010/1) +(0.076/1) = 0.086 <1

Total MPE = BT MPE + LTE Band 2 MPE = (0.001/1) +(0.076/1) = 0.077 <1

＊ Choose maximum power density value calcuation .