



A Test Lab Techno Corp.

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MPE Report

Test Report No.	: 1611FS15
Applicant	: ATOP Technologies, INC.
Product Type	: Industrial M2M Cellular Serial Gateway
Trade Name	: atop
Model Number	: SE5901B-WW-www-XXX-x-Y-yy-bb, MB5901B-WW-www-XXX-x-Y-yy-ZZ-bb, PG5901B-WW-www-XXX-x-Y-yy-zzaa-zzaa-bb
Date of Received	: Oct. 04, 2016
Test Period	: Oct. 19, 2016
Date of Issued	: Jan. 03, 2017
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.

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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Approved By : Bill Hu
(Bill Hu)

Tested By : Mark Duan
(Mark Duan)



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1. Description of Equipment under Test (EUT)

Applicant	ATOP Technologies, INC. 1F, 30, R&D Rd. II, Science-Based Industrial Park, Hsinchu, Taiwan 30076
Manufacturer	ATOP Technologies, INC. 1F, 30, R&D Rd. II, Science-Based Industrial Park, Hsinchu, Taiwan 30076
Product Type	Industrial M2M Cellular Serial Gateway
Trade Name	atop
Model Number	SE5901B-WW- <i>www</i> - <i>XXX</i> - <i>x</i> - <i>Y</i> - <i>yy</i> - <i>bb</i> , MB5901B-WW- <i>www</i> - <i>XXX</i> - <i>x</i> - <i>Y</i> - <i>yy</i> - <i>ZZ</i> - <i>bb</i> , PG5901B-WW- <i>www</i> - <i>XXX</i> - <i>x</i> - <i>Y</i> - <i>yy</i> - <i>zzaa</i> - <i>zzaa</i> - <i>bb</i>
Model Number Different description	<p>WW = IO or Blank <i>www</i> = D3G or 4G or Blank XXX = GPS or Blank <i>x</i> = B or Blank <i>Y</i> = S or Blank <i>yy</i> = US or EU or TW ZZ = CT or Blank ; <i>zz</i> = 00-99 or AA-ZZ or Blank; <i>aa</i> = SS,SM,ES or EC or Blank; <i>bb</i> = 00-99 or AA-ZZ or <i>aa-zz</i> or Blank; (Customer Code)</p> <p>- WW can be IO or Blank, for COM port type. Blank: D-sub connector IO: Terminal Block with COM, relay and DI/O function</p> <p>- <i>www</i> can be D3G or 4G D3G: support 3G 4G: support 4G Blank: No 3G or 4G function</p> <p>- XXX can be GPS or Blank, for GPS function GPS: Support GPS function Blank: no GPS function</p> <p>- <i>x</i> can be B or Blank, for Internal battery B: support internal battery Blank: no internal battery</p> <p>- <i>Y</i> can be S or Blank, for SD card S: support SD card Blank: no SD card</p> <p>- <i>yy</i> can be US or EU or TW, for country US: North America EU: Europe TW: Taiwan</p> <p>- ZZ can be CT or Blank, for software function CT: concentrator Blank: No concentrator</p> <p>- <i>zz</i> can be 00-99 or AA-ZZ or Blank, for software function - <i>aa</i> can be SS,SM,ES,EC or Blank, for software function - <i>bb</i> can be 00-99,AA-ZZ,<i>aa-zz</i> or Blank, for Customer Code</p>
FCC ID	RPV-SE-MB-PG5901B
IMEI No.	868323020000003



Frequency Range	GPRS / EGPRS 850 (Multi Class :12):		824.2 - 848.8 MHz		
	GPRS / EGPRS 1900 (Multi Class :12):		1850.2 - 1909.8MHz		
	WCDMA(RMC 12.2K)/HSDPA/HSUPA/HSPA+ Band II:		1852.4 - 1907.6 MHz		
	WCDMA(RMC 12.2K)/HSDPA/HSUPA/HSPA+ Band IV:		1712.4 - 1752.6 MHz		
	WCDMA(RMC 12.2K)/HSDPA/HSUPA/HSPA+ Band V:		826.4 - 846.6 MHz		
	LTE Band 2 (BW 1.4, 3, 5, 10, 15, 20 MHz):		1850.7 - 1909.3 MHz		
	LTE Band 4 (BW 1.4, 3, 5, 10, 15, 20 MHz):		1710.7 - 1754.3 MHz		
	LTE Band 5 (BW 1.4, 3, 5, 10 MHz):		824.7 - 848.3 MHz		
	LTE Band 12 (BW 1.4, 3, 5, 10 MHz):		699 - 716 MHz		
	LTE Band 17 (BW 5, 10 MHz):		704.0 - 715.9 MHz		
Antenna Peak Gain	Ant No.	Model Number	Type	Frequency Band	Max. Gain (dBi)
	1	59908151G	Whip Antenna	GPRS / EGPRS 850	2.16
				GPRS / EGPRS 1900	1.76
				WCDMA Band II	1.76
				WCDMA Band IV	1.96
				WCDMA Band V	2.16
				LTE Band 2	1.76
				LTE Band 4	1.96
				LTE Band 5	2.16
				LTE Band 12	2.19
				LTE Band 17	1.18
	2	59908151G	Whip Antenna	GPRS / EGPRS 850	1.65
				GPRS / EGPRS 1900	2.74
				WCDMA Band II	2.74
				WCDMA Band IV	2.77
				WCDMA Band V	1.65
				LTE Band 2	2.74
				LTE Band 4	2.77
				LTE Band 5	1.65
LTE Band 12				1.12	
LTE Band 17	1.56				
Temperature Range	0 ~ +50°C				
RF Evaluation	0.163 mW/cm ²				



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

The conducted power turn-up tolerance, please reference manufacturer specification.

Band	Modulation	Data Rate	CH	Frequency (MHz)	Average Power (dBm)	
					Time Average	Burst Average
GPRS 850 Multi Class :12 Max Up:4 Max Down:4 Sum:5	GMSK	4Down1Up Duty factor 1/8	Lowest	824.2	23.15	32.18
			Middle	836.6	23.08	32.11
			Highest	848.8	23.05	32.08
		3Down2Up Duty factor 2/8	Lowest	824.2	25.31	31.33
			Middle	836.6	25.24	31.26
			Highest	848.8	25.19	31.21
		2Down3Up Duty factor 3/8	Lowest	824.2	24.36	28.62
			Middle	836.6	24.28	28.54
			Highest	848.8	24.22	28.48
		1Down4Up Duty factor 4/8	Lowest	824.2	24.62	27.63
			Middle	836.6	24.54	27.55
			Highest	848.8	24.45	27.46
EGPRS 850 Multi Class :12 Max Up:4 Max Down:4 Sum:5	8PSK	4Down1Up Duty factor 1/8	Lowest	824.2	17.21	26.24
			Middle	836.6	17.15	26.18
			Highest	848.8	16.91	25.94
		3Down2Up Duty factor 2/8	Lowest	824.2	18.29	24.31
			Middle	836.6	18.20	24.22
			Highest	848.8	17.96	23.98
		2Down3Up Duty factor 3/8	Lowest	824.2	18.39	22.65
			Middle	836.6	18.27	22.53
			Highest	848.8	18.07	22.33
		1Down4Up Duty factor 4/8	Lowest	824.2	18.12	21.13
			Middle	836.6	17.98	20.99
			Highest	848.8	17.77	20.78

Note: 1. Time Average power slot duty cycle factor calculate:

- 1up: Average burst power+10*LOG(1/8)
- 2up: Average burst power+10*LOG(2/8)
- 3up: Average burst power+10*LOG(3/8)
- 4up: Average burst power+10*LOG(4/8)



Band	Modulation	Data Rate	CH	Frequency (MHz)	Average Power (dBm)	
					Time Average	Burst Average
GPRS 1900 Multi Class :12 Max Up:4 Max Down:4 Sum:5	GMSK	4Down1Up Duty factor 1/8	Lowest	1850.2	20.25	29.28
			Middle	1880.0	20.13	29.16
			Highest	1909.8	20.00	29.03
		3Down2Up Duty factor 2/8	Lowest	1850.2	21.66	27.68
			Middle	1880.0	21.52	27.54
			Highest	1909.8	21.38	27.40
		2Down3Up Duty factor 3/8	Lowest	1850.2	21.97	26.23
			Middle	1880.0	21.81	26.07
			Highest	1909.8	21.64	25.90
		1Down4Up Duty factor 4/8	Lowest	1850.2	21.37	24.38
			Middle	1880.0	21.20	24.21
			Highest	1909.8	21.04	24.05
EGPRS 1900 Multi Class :12 Max Up:4 Max Down:4 Sum:5	8PSK	4Down1Up Duty factor 1/8	Lowest	1850.2	16.28	25.31
			Middle	1880.0	16.19	25.22
			Highest	1909.8	16.05	25.08
		3Down2Up Duty factor 2/8	Lowest	1850.2	18.06	24.08
			Middle	1880.0	17.96	23.98
			Highest	1909.8	17.79	23.81
		2Down3Up Duty factor 3/8	Lowest	1850.2	18.51	22.77
			Middle	1880.0	18.38	22.64
			Highest	1909.8	18.17	22.43
		1Down4Up Duty factor 4/8	Lowest	1850.2	18.42	21.43
			Middle	1880.0	18.23	21.24
			Highest	1909.8	18.00	21.01

Note: 1. Time Average power slot duty cycle factor calculate:

- 1up: Average burst power+10*LOG(1/8)
- 2up: Average burst power+10*LOG(2/8)
- 3up: Average burst power+10*LOG(3/8)
- 4up: Average burst power+10*LOG(4/8)

Band	Modulation	Sub-test	CH	Frequency (MHz)	Burst Average Power (dBm)
WCDMA Band II (RMC12.2K)	QPSK	---	Lowest	1852.4	22.45
			Middle	1880.0	22.23
			Highest	1907.6	22.16
HSDPA Band II	QPSK	1	Lowest	1852.4	21.62
			Middle	1880.0	21.37
			Highest	1907.6	21.33
		2	Lowest	1852.4	21.53
			Middle	1880.0	21.27
			Highest	1907.6	21.21
		3	Lowest	1852.4	21.08
			Middle	1880.0	20.85
			Highest	1907.6	20.82
		4	Lowest	1852.4	21.04
			Middle	1880.0	20.78
			Highest	1907.6	20.71
HSUPA Band II	QPSK	1	Lowest	1852.4	20.99
			Middle	1880.0	20.73
			Highest	1907.6	20.68
		2	Lowest	1852.4	18.99
			Middle	1880.0	18.76
			Highest	1907.6	18.67
		3	Lowest	1852.4	19.96
			Middle	1880.0	19.67
			Highest	1907.6	19.61
		4	Lowest	1852.4	18.95
			Middle	1880.0	18.64
			Highest	1907.6	18.77
		5	Lowest	1852.4	20.79
			Middle	1880.0	20.55
			Highest	1907.6	20.49



Band	Modulation	Sub-test	CH	Frequency (MHz)	Burst Average Power (dBm)
WCDMA Band IV (RMC12.2K)	QPSK	---	Lowest	1712.4	22.56
			Middle	1732.6	22.47
			Highest	1752.6	22.33
HSDPA Band IV	QPSK	1	Lowest	1712.4	21.74
			Middle	1732.6	21.61
			Highest	1752.6	21.52
		2	Lowest	1712.4	21.64
			Middle	1732.6	21.52
			Highest	1752.6	21.43
		3	Lowest	1712.4	21.22
			Middle	1732.6	21.06
			Highest	1752.6	20.97
		4	Lowest	1712.4	21.18
			Middle	1732.6	21.01
			Highest	1752.6	20.94
HSUPA Band IV	QPSK	1	Lowest	1712.4	21.08
			Middle	1732.6	20.92
			Highest	1752.6	20.84
		2	Lowest	1712.4	19.06
			Middle	1732.6	18.87
			Highest	1752.6	18.77
		3	Lowest	1712.4	20.05
			Middle	1732.6	19.88
			Highest	1752.6	19.77
		4	Lowest	1712.4	19.02
			Middle	1732.6	18.84
			Highest	1752.6	18.72
		5	Lowest	1712.4	20.92
			Middle	1732.6	20.74
			Highest	1752.6	20.64



Band	Modulation	Sub-test	CH	Frequency (MHz)	Burst Average Power (dBm)
WCDMA Band V (RMC12.2K)	QPSK	---	Lowest	826.4	22.78
			Middle	836.6	22.63
			Highest	846.6	22.45
HSDPA Band V	QPSK	1	Lowest	826.4	21.93
			Middle	836.6	21.74
			Highest	846.6	21.57
		2	Lowest	826.4	21.83
			Middle	836.6	21.62
			Highest	846.6	21.41
		3	Lowest	826.4	21.43
			Middle	836.6	21.22
			Highest	846.6	21.01
		4	Lowest	826.4	21.36
			Middle	836.6	21.16
			Highest	846.6	21.01
HSUPA Band V	QPSK	1	Lowest	826.4	21.28
			Middle	836.6	21.08
			Highest	846.6	20.91
		2	Lowest	826.4	19.28
			Middle	836.6	19.02
			Highest	846.6	18.89
		3	Lowest	826.4	20.22
			Middle	836.6	20.03
			Highest	846.6	19.85
		4	Lowest	826.4	19.21
			Middle	836.6	19.02
			Highest	846.6	18.86
		5	Lowest	826.4	21.12
			Middle	836.6	20.93
			Highest	846.6	20.75



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Burst Average Power (dBm)
					Size	Offset	
LTE Band 2	1.4 MHz	QPSK	18607	1850.7	1	0	22.79
					1	2	22.74
					1	5	22.71
					3	0	22.68
					3	1	22.68
					3	3	22.64
			18900	1880.0	6	0	21.80
					1	0	22.82
					1	2	22.81
					1	5	22.79
					3	0	22.77
					3	1	22.76
			19193	1909.3	3	3	22.75
					6	0	21.77
					1	0	22.86
					1	2	22.85
					1	5	22.82
					3	0	22.82
		16QAM	18607	1850.7	3	1	22.82
					3	3	22.80
					6	0	21.87
					1	0	21.86
					1	2	21.75
					1	5	21.71
			18900	1880.0	3	0	21.68
					3	1	21.64
					3	3	21.53
					6	0	20.72
					1	0	21.81
					1	2	21.76
			19193	1909.3	1	5	21.69
					3	0	21.68
					3	1	21.68
					3	3	21.65
					6	0	20.86
					1	0	22.15
18607	1850.7	1	2	22.12			
		1	5	22.10			
		3	0	21.85			
		3	1	21.81			
		3	3	21.81			
		6	0	20.89			



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Burst Average Power (dBm)
					Size	Offset	
LTE Band 2	3MHz	QPSK	18615	1851.5	1	0	22.64
					1	8	22.62
					1	14	22.43
					8	0	21.53
					8	4	21.49
					8	7	21.49
			18900	1880.0	15	0	21.48
					1	0	22.56
					1	8	22.53
					1	14	22.48
					8	0	21.64
					8	4	21.61
			19185	1908.5	8	7	21.60
					8	0	21.55
					1	0	22.64
		1			8	22.62	
		1			14	22.60	
		8			0	22.51	
		16QAM	18615	1851.5	8	4	21.64
					8	7	21.54
					15	0	21.48
					1	0	21.58
					1	8	21.50
					1	14	21.37
			18900	1880.0	8	0	20.57
					8	4	20.56
					8	7	20.53
					15	0	20.52
					1	0	21.78
					1	8	21.54
19185	1908.5		1	14	21.49		
			8	0	20.58		
			8	4	20.55		
		8	7	20.54			
		15	0	20.48			
		1	0	21.99			
19185	1908.5	1	8	21.99			
		1	14	21.86			
		8	0	20.80			
		8	4	20.68			
		8	7	20.57			
		15	0	20.57			



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Burst Average Power (dBm)
					Size	Offset	
LTE Band 2	5MHz	QPSK	18625	1852.5	1	0	22.65
					1	12	22.44
					1	24	22.35
					12	0	21.61
					12	6	21.48
					12	13	21.43
			18900	1880.0	25	0	21.39
					1	0	22.47
					1	12	22.46
					1	24	22.44
					12	0	21.49
					12	6	21.43
			19175	1907.5	12	13	21.39
					25	0	21.37
					1	0	22.58
					1	12	22.55
					1	24	22.51
					12	0	21.58
		16QAM	18625	1852.5	12	6	21.53
					12	13	21.51
					25	0	21.48
					1	0	21.97
					1	12	21.75
					1	24	21.60
			18900	1880.0	12	0	20.59
					12	6	20.47
					12	13	20.47
					25	0	20.45
					1	0	21.73
					1	12	21.70
			19175	1907.5	1	24	21.67
					12	0	20.51
					12	6	20.48
					12	13	20.44
					25	0	20.36
					1	0	21.94
19175	1907.5	1	12	21.81			
		1	24	21.79			
		12	0	20.69			
		12	6	20.63			
		12	11	20.56			
		25	0	20.54			



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Burst Average Power (dBm)
					Size	Offset	
LTE Band 2	10MHz	QPSK	18650	1855.0	1	0	22.81
					1	24	22.59
					1	49	22.30
					25	0	21.52
					25	12	21.50
					25	25	21.34
			18900	1880.0	50	0	21.30
					1	0	22.44
					1	24	22.37
					1	49	22.29
					25	0	21.29
					25	12	21.29
			19150	1905.0	25	25	21.28
					50	0	21.15
					1	0	22.69
		1			24	22.46	
		1			49	22.38	
		25			0	21.61	
		16QAM	18650	1855.0	25	12	21.48
					25	25	21.40
					50	0	21.32
					1	0	22.00
					1	24	21.81
					1	49	21.57
			18900	1880.0	25	0	20.57
					25	12	20.55
					25	25	20.40
					50	0	20.36
					1	0	21.70
					1	24	21.55
19150	1905.0		1	49	21.53		
			25	0	20.36		
			25	12	20.36		
		25	25	20.32			
		50	0	20.22			
		1	0	21.92			
18650	1855.0	1	24	21.78			
		1	49	21.49			
		25	0	20.60			
		25	12	20.50			
		25	25	20.46			
		50	0	20.41			



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Burst Average Power (dBm)
					Size	Offset	
LTE Band 2	15MHz	QPSK	18675	1857.5	1	0	22.80
					1	38	22.57
					1	74	22.25
					36	0	21.60
					36	18	21.40
					36	39	21.33
			18900	1880	75	0	21.24
					1	0	22.33
					1	38	22.27
					1	74	22.23
					36	0	21.21
					36	18	21.17
			19125	1902.5	36	39	21.15
					75	0	21.12
					1	0	22.59
		1			38	22.52	
		1			74	22.26	
		36			0	21.65	
		16QAM	18675	1857.5	36	18	21.49
					36	39	21.30
					75	0	21.20
					1	0	21.99
					1	38	21.90
					1	74	21.41
			18900	1880	36	0	20.67
					36	18	20.49
					36	39	20.47
					75	0	20.31
					1	0	21.66
					1	38	21.58
19125	1902.5		1	74	21.50		
			36	0	20.30		
			36	18	20.24		
		36	39	20.23			
		75	0	20.21			
		1	0	21.79			
19125	1902.5	1	38	21.78			
		1	74	21.63			
		36	0	20.65			
		36	18	20.49			
		36	39	20.38			
		75	0	20.30			



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Burst Average Power (dBm)
					Size	Offset	
LTE Band 2	20MHz	QPSK	18700	1860	1	0	22.60
					1	49	22.53
					1	99	22.24
					50	0	21.50
					50	25	21.42
					50	50	21.40
			18900	1880	100	0	21.20
					1	0	22.42
					1	49	22.37
					1	99	22.11
					50	0	21.18
					50	25	21.03
			19100	1900	50	50	21.03
					100	0	20.97
					1	0	22.52
		1			49	22.42	
		1			99	22.19	
		50			0	21.39	
		16QAM	18700	1860	50	25	21.37
					50	50	21.33
					100	0	21.13
					1	0	21.98
					1	49	21.76
					1	99	21.55
			18900	1880	50	0	20.58
					50	25	20.49
					50	50	20.44
					100	0	20.21
					1	0	21.75
					1	49	21.74
19100	1900		1	99	21.45		
			50	0	20.13		
			50	25	20.11		
		50	50	20.07			
		100	0	20.00			
		1	0	21.89			
19100	1900	1	49	21.79			
		1	99	21.48			
		50	0	20.48			
		50	25	20.47			
		50	50	20.37			
		100	0	20.17			



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Burst Average Power (dBm)		
					Size	Offset			
LTE Band 4	1.4MHz	QPSK	19957	1710.7	1	0	22.51		
					1	2	22.19		
					1	5	22.18		
					3	0	22.17		
					3	1	22.14		
					3	3	22.14		
			20175	1732.5	6	0	21.32		
					1	0	22.91		
					1	2	22.88		
					1	5	22.82		
					3	0	22.81		
					3	1	22.78		
			20393	1754.3	3	3	22.75		
					6	0	21.80		
					1	0	22.57		
		1			2	22.54			
		1			5	22.41			
		3			0	22.39			
		16QAM	19957	1710.7	3	1	22.35		
					3	3	22.35		
					6	0	21.49		
					1	0	21.89		
					1	2	21.87		
					1	5	21.83		
			20175	1732.5	3	0	21.17		
					3	1	21.10		
					3	3	21.09		
					6	0	20.73		
					1	0	21.87		
					1	2	21.86		
20393	1754.3		1	5	21.84				
			3	0	21.75				
			3	1	21.73				
		3	3	21.70					
		6	0	20.81					
		1	0	21.81					
							1	2	21.77
							1	5	21.74
							3	0	21.36
							3	1	21.35
							3	3	21.34
							6	0	20.60



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Burst Average Power (dBm)
					Size	Offset	
LTE Band 4	3MHz	QPSK	19965	1711.5	1	0	22.25
					1	8	22.01
					1	14	21.93
					8	0	21.28
					8	4	21.27
					8	7	21.20
			20175	1732.5	15	0	21.16
					1	0	22.90
					1	8	22.73
					1	14	22.48
					8	0	21.91
					8	4	21.82
			20385	1753.5	8	7	21.81
					8	7	21.81
					15	0	21.73
					1	0	22.47
					1	8	22.42
					1	14	22.11
		16QAM	19965	1711.5	8	0	21.51
					8	4	21.42
					8	7	21.37
					15	0	21.33
					1	0	21.11
					1	8	21.08
			20175	1732.5	1	14	21.03
					8	0	20.28
					8	4	20.24
					8	7	20.17
					15	0	20.10
					1	0	21.74
			20385	1753.5	1	8	21.61
					1	14	21.41
					8	0	20.82
					8	4	20.74
					8	7	20.69
					15	0	20.68
19965	1711.5	1	0	21.36			
		1	8	21.22			
		1	14	21.19			
		8	0	20.59			
		8	4	20.43			
		8	7	20.42			
20175	1732.5	15	0	20.34			
		1	0	21.11			
		1	8	21.08			
		1	14	21.03			
		8	0	20.28			
		8	4	20.24			
20385	1753.5	8	7	20.17			
		15	0	20.10			
		1	0	21.74			
		1	8	21.61			
		1	14	21.41			
		8	0	20.82			
19965	1711.5	8	4	20.74			
		8	7	20.69			
		15	0	20.68			
		1	0	21.36			
		1	8	21.22			
		1	14	21.19			
20175	1732.5	8	0	20.59			
		8	4	20.43			
		8	7	20.42			
		15	0	20.34			
		1	0	21.11			
		1	8	21.08			
20385	1753.5	1	14	21.03			
		8	0	20.28			
		8	4	20.24			
		8	7	20.17			
		15	0	20.10			
		1	0	21.74			



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Burst Average Power (dBm)
					Size	Offset	
LTE Band 4	5MHz	QPSK	19975	1712.5	1	0	22.25
					1	12	22.18
					1	24	22.11
					12	0	21.19
					12	6	21.18
					12	13	21.16
			20175	1732.5	25	0	21.16
					1	0	22.75
					1	12	22.59
					1	24	22.53
					12	0	21.92
					12	6	21.90
			20375	1752.5	12	13	21.85
					25	0	21.74
					1	0	22.31
					1	12	22.12
					1	24	21.98
					12	0	21.32
		16QAM	19975	1712.5	12	6	21.27
					12	13	21.23
					25	0	21.18
					1	0	21.13
					1	12	20.97
					1	24	20.87
			20175	1732.5	12	0	20.13
					12	6	20.11
					12	13	20.11
					25	0	20.02
					1	0	21.70
					1	12	21.62
			20375	1752.5	1	24	21.51
					12	0	20.99
					12	6	20.91
					12	13	20.71
					25	0	20.59
					1	0	21.20
					1	12	21.04
					1	24	20.97
					12	0	20.49
					12	6	20.34
					12	11	20.29
					25	0	20.24



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Burst Average Power (dBm)
					Size	Offset	
LTE Band 4	10MHz	QPSK	20000	1715.0	1	0	22.43
					1	24	22.13
					1	49	22.10
					25	0	21.13
					25	12	21.05
					25	25	21.05
			20175	1732.5	50	0	20.93
					1	0	22.80
					1	24	22.74
					1	49	22.52
					25	0	21.90
					25	12	21.90
			20350	1750.0	25	25	21.56
					50	0	21.49
					1	0	22.38
		1			24	22.12	
		1			49	21.81	
		25			0	21.09	
		16QAM	20000	1715.0	25	12	21.07
					25	25	21.00
					50	0	20.98
					1	0	21.32
					1	24	21.30
					1	49	21.13
			20175	1732.5	25	0	20.19
					25	12	20.05
					25	25	19.97
					50	0	19.95
					1	0	21.94
					1	24	21.89
20350	1750.0		1	49	21.58		
			25	0	20.91		
			25	12	20.62		
		25	25	20.53			
		50	0	20.47			
		1	0	21.50			
20000	1715.0	1715.0	1	24	21.28		
			1	49	21.03		
			25	0	20.09		
			25	12	19.99		
			25	25	19.96		
			50	0	19.87		



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Burst Average Power (dBm)
					Size	Offset	
LTE Band 4	15MHz	QPSK	20025	1717.5	1	0	22.62
					1	38	22.43
					1	74	22.35
					36	0	21.32
					36	18	21.30
					36	39	21.13
			20175	1732.5	75	0	21.04
					1	0	22.67
					1	38	22.59
					1	74	22.23
					36	0	21.72
					36	18	21.69
			20325	1747.5	36	39	21.31
					75	0	21.19
					1	0	22.35
		1			38	22.13	
		1			74	21.99	
		36			0	21.16	
		16QAM	20025	1717.5	36	18	20.85
					36	39	20.85
					75	0	20.85
					1	0	21.72
					1	38	21.44
					1	74	21.24
			20175	1732.5	36	0	20.39
					36	18	20.17
					36	39	20.00
					75	0	19.95
					1	0	21.88
					1	38	21.82
20325	1747.5		1	74	21.53		
			36	0	20.74		
			36	18	20.73		
		36	39	20.51			
		75	0	20.32			
		1	0	21.26			
20025	1717.5	1	38	21.13			
		1	74	21.12			
		36	0	20.16			
		36	18	19.88			
		36	39	19.84			
		75	0	19.82			



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Burst Average Power (dBm)
					Size	Offset	
LTE Band 4	20MHz	QPSK	20050	1720.0	1	0	22.57
					1	49	22.08
					1	99	21.94
					50	0	21.39
					50	25	21.23
					50	50	21.12
			20175	1732.5	100	0	20.96
					1	0	22.75
					1	49	22.34
					1	99	21.89
					50	0	21.56
					50	25	21.45
			20300	1745.0	50	50	21.41
					100	0	21.13
					1	0	22.29
		1			49	22.11	
		1			99	21.66	
		50			0	20.89	
		16QAM	20050	1720.0	50	25	20.87
					50	50	20.82
					100	0	20.51
					1	0	21.79
					1	49	21.36
					1	99	21.05
			20175	1732.5	50	0	20.43
					50	25	20.26
					50	50	20.21
					100	0	19.91
					1	0	21.71
					1	49	21.43
20300	1745.0		1	99	20.91		
			50	0	20.62		
			50	25	20.44		
		50	50	20.40			
		100	0	20.18			
		1	0	21.18			
20050	1720.0	1720.0	1	49	21.15		
			1	99	20.74		
			50	0	19.93		
			50	25	19.91		
			50	50	19.82		
			100	0	19.77		



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Burst Average Power (dBm)
					Size	Offset	
LTE Band 5	1.4MHz	QPSK	20407	824.7	1	0	22.64
					1	2	22.62
					1	5	22.62
					3	0	22.59
					3	1	22.58
					3	3	22.56
			20525	836.5	6	0	21.70
					1	0	22.40
					1	2	22.39
					1	5	22.36
					3	0	22.35
					3	1	22.22
			20643	848.3	3	3	22.19
					6	0	21.33
					1	0	21.89
					1	2	21.86
					1	5	21.82
					3	0	21.79
		16QAM	20407	824.7	3	1	21.71
					3	3	21.70
					6	0	20.86
					1	0	21.73
					1	2	21.66
					1	5	21.66
			20525	836.5	3	0	21.55
					3	1	21.53
					3	3	21.47
					6	0	20.65
					1	0	21.42
					1	2	21.41
			20643	848.3	1	5	21.26
					3	0	21.22
					3	1	21.15
					3	3	21.13
					6	0	20.41
					1	0	21.67
20407	824.7	1	2	21.63			
		1	5	21.59			
		3	0	20.72			
		3	1	20.70			
		3	3	20.64			
		6	0	20.68			



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Burst Average Power (dBm)
					Size	Offset	
LTE Band 5	3MHz	QPSK	20415	825.5	1	0	22.61
					1	8	22.46
					1	14	22.41
					8	0	21.68
					8	4	21.59
					8	7	21.53
			20525	836.5	15	0	21.50
					1	0	22.47
					1	8	22.29
					1	14	22.15
					8	0	21.44
					8	4	21.35
			20635	847.5	8	7	21.33
					8	0	21.15
					1	0	22.01
		1			8	21.93	
		1			14	21.80	
		8			0	21.01	
		16QAM	20415	825.5	8	4	21.01
					8	7	20.87
					15	0	20.85
					1	0	21.59
					1	8	21.46
					1	14	21.32
			20525	836.5	8	0	20.70
					8	4	20.54
					8	7	20.54
					15	0	20.51
					1	0	22.46
					1	8	22.26
20635	847.5		1	14	22.23		
			8	0	21.21		
			8	4	20.42		
		8	7	20.42			
		15	0	20.33			
		1	0	20.91			
20635	847.5	1	8	20.85			
		1	14	20.68			
		8	0	20.03			
		8	4	19.93			
		8	7	19.87			
		15	0	19.81			



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Burst Average Power (dBm)
					Size	Offset	
LTE Band 5	5MHz	QPSK	20425	826.5	1	0	22.36
					1	12	22.21
					1	24	22.05
					12	0	21.48
					12	6	21.47
					12	13	21.27
			25	0	21.26		
			1	0	22.26		
			1	12	22.15		
			1	24	22.03		
			12	0	21.38		
			12	6	21.27		
			12	13	21.17		
			25	0	21.14		
			1	0	22.08		
			1	12	21.86		
			1	24	21.76		
			12	0	21.06		
		12	6	21.01			
		12	13	20.98			
		25	0	20.86			
		1	0	21.40			
		1	12	21.21			
		1	24	21.00			
		12	0	20.50			
		12	6	20.49			
		12	13	20.31			
		25	0	20.28			
		1	0	21.28			
		1	12	21.18			
		1	24	21.13			
		12	0	21.06			
		12	6	20.41			
		12	13	20.30			
		25	0	20.18			
		1	0	21.03			
1	12	20.91					
1	24	20.87					
12	0	20.26					
12	6	20.03					
12	11	20.02					
25	0	19.96					



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Burst Average Power (dBm)
					Size	Offset	
LTE Band 5	10MHz	QPSK	20450	829.0	1	0	22.50
					1	24	22.14
					1	49	22.12
					25	0	21.33
					25	12	21.16
					25	25	20.97
			20525	836.5	50	0	20.96
					1	0	22.25
					1	24	22.14
					1	49	21.78
					25	0	21.27
					25	12	21.18
			20600	844.0	25	25	21.09
					50	0	21.09
					1	0	22.36
		1			24	21.46	
		1			49	21.29	
		25			0	21.17	
		16QAM	20450	829.0	25	12	21.02
					25	25	20.97
					50	0	20.88
					1	0	21.71
					1	24	21.38
					1	49	21.35
			20525	836.5	25	0	20.37
					25	12	20.09
					25	25	20.02
					50	0	20.00
					1	0	21.63
					1	24	21.47
20600	844.0		1	49	20.86		
			25	0	20.34		
			25	12	20.14		
		25	25	20.13			
		50	0	20.03			
		1	0	21.61			
20450	829.0	1	24	21.44			
		1	49	20.92			
		25	0	20.39			
		25	12	20.27			
		25	25	20.09			
		50	0	20.03			



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Burst Average Power (dBm)
					Size	Offset	
LTE Band 12	1.4MHz	QPSK	23017	699.7	1	0	22.66
					1	2	22.64
					1	5	22.61
					3	0	22.54
					3	1	22.47
					3	3	22.47
			23095	707.5	6	0	21.64
					1	0	22.38
					1	2	22.34
					1	5	22.31
					3	0	22.28
					3	1	22.28
			23173	715.3	3	3	22.28
					6	0	21.35
					1	0	22.06
					1	2	22.00
					1	5	21.87
					3	0	21.80
		16QAM	23017	699.7	3	1	21.71
					3	3	21.65
					6	0	20.92
					1	0	21.66
					1	2	21.61
					1	5	21.59
			23095	707.5	3	0	21.50
					3	1	21.49
					3	3	21.17
					6	0	20.67
					1	0	21.61
					1	2	21.50
			23173	715.3	1	5	21.34
					3	0	21.34
					3	1	21.28
					3	3	21.27
					6	0	20.32
					1	0	21.63
23017	699.7	1	2	21.58			
		1	5	21.55			
		3	0	20.90			
		3	1	20.71			
		3	3	20.65			
		6	0	20.57			



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Burst Average Power (dBm)
					Size	Offset	
LTE Band 12	3MHz	QPSK	23025	700.5	1	0	22.65
					1	8	22.54
					1	14	22.42
					8	0	21.63
					8	4	21.63
					8	7	21.56
			23095	707.5	15	0	21.45
					1	0	22.34
					1	8	22.32
					1	14	22.31
					8	0	21.36
					8	4	21.36
			23165	714.5	8	7	21.33
					8	0	21.28
					1	0	22.37
		1			8	22.17	
		1			14	21.85	
		8			0	21.27	
		16QAM	23025	700.5	8	4	21.23
					8	7	21.20
					15	0	21.04
					1	0	21.87
					1	8	21.74
					1	14	21.35
			23095	707.5	8	0	20.61
					8	4	20.53
					8	7	20.44
					15	0	20.42
					1	0	21.54
					1	8	21.49
23165	714.5		1	14	21.40		
			8	0	20.38		
			8	4	20.35		
		8	7	20.29			
		15	0	20.23			
		1	0	21.50			
23025	700.5	1	8	21.28			
		1	14	21.22			
		8	0	20.20			
		8	4	20.15			
		8	7	20.10			
		15	0	20.04			



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Burst Average Power (dBm)
					Size	Offset	
LTE Band 12	5MHz	QPSK	23035	701.5	1	0	22.43
					1	12	22.35
					1	24	22.30
					12	0	21.48
					12	6	21.45
					12	13	21.37
			23095	707.5	25	0	21.34
					1	0	22.39
					1	12	22.31
					1	24	22.24
					12	0	21.42
					12	6	21.32
					12	13	21.31
					25	0	21.31
					23155	713.5	1
		1	12	22.22			
		1	24	21.91			
		12	0	21.36			
		12	6	21.27			
		12	13	21.11			
		16QAM	23035	701.5	25	0	21.08
					1	0	21.62
					1	12	21.53
					1	24	21.52
					12	0	20.60
					12	6	20.43
			23095	707.5	12	13	20.40
					25	0	20.32
					1	0	21.61
					1	12	21.53
1	24				21.42		
12	0				20.45		
12	6				20.44		
12	13				20.41		
25	0				20.31		
23155	713.5	1	0	21.62			
		1	12	21.50			
		1	24	21.16			
		12	0	20.38			
		12	6	20.27			
		12	13	20.20			
25	0	20.09					



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Burst Average Power (dBm)
					Size	Offset	
LTE Band 12	10MHz	QPSK	23060	704.0	1	0	22.47
					1	24	22.39
					1	49	22.36
					25	0	21.41
					25	12	21.29
					25	25	21.28
			23095	707.5	50	0	21.24
					1	0	22.37
					1	24	22.26
					1	49	22.24
					25	0	21.30
					25	12	21.30
			23130	711.0	25	25	21.23
					50	0	21.18
					1	0	22.41
		1			24	22.21	
		1			49	21.87	
		25			0	21.41	
		16QAM	23035	701.5	25	12	21.32
					25	25	21.28
					50	0	21.15
					1	0	22.42
					1	24	21.67
					1	49	21.52
			23095	707.5	25	0	21.51
					25	12	20.36
					25	25	20.34
					50	0	20.30
					1	0	21.69
					1	24	21.54
23130	711.0		1	49	21.53		
			25	0	20.29		
			25	12	20.29		
		25	25	20.25			
		50	0	20.04			
		1	0	21.64			
23060	704.0	1	24	21.43			
		1	49	21.12			
		25	0	20.23			
		25	12	20.23			
		25	25	20.08			
		50	0	20.00			



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Burst Average Power (dBm)
					Size	Offset	
LTE Band 17	5MHz	QPSK	23755	706.5	1	0	22.65
					1	12	22.60
					1	24	22.52
					12	0	22.47
					12	6	22.45
					12	13	22.41
			23790	710.0	25	0	21.42
					1	0	22.47
					1	12	22.46
					1	24	22.42
					12	0	21.60
					12	6	21.59
			23825	713.5	12	13	21.52
					25	0	21.50
					1	0	22.52
		1			12	22.36	
		1			24	22.25	
		12			0	21.45	
		16QAM	23755	706.5	12	6	21.44
					12	13	21.33
					25	0	21.27
					1	0	21.62
					1	12	21.51
					1	24	21.50
			23790	710.0	12	0	21.47
					12	6	21.39
					12	13	21.33
					25	0	20.35
					1	0	21.48
					1	12	21.42
23825	713.5		1	24	21.26		
			12	0	20.60		
			12	6	20.54		
		12	13	20.54			
		25	0	20.43			
		1	0	21.45			
23825	713.5	1	12	21.38			
		1	24	21.27			
		12	0	20.44			
		12	6	20.44			
		12	13	20.32			
		25	0	20.10			



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Burst Average Power (dBm)
					Size	Offset	
LTE Band 17	10MHz	QPSK	23780	709.0	1	0	22.48
					1	24	22.42
					1	49	22.41
					25	0	21.47
					25	12	21.46
					25	49	21.44
			23790	710.0	50	0	21.37
					1	0	22.41
					1	24	22.37
					1	49	22.37
					25	0	21.48
					25	12	21.40
			23800	711.0	25	49	21.39
					50	0	21.36
					1	0	22.54
		1			24	22.39	
		1			49	22.20	
		25			0	21.46	
		16QAM	23780	709.0	25	12	21.44
					25	49	21.36
					50	0	21.30
					1	0	21.38
					1	24	21.34
					1	49	21.28
			23790	710.0	25	0	20.48
					25	12	20.42
					25	49	20.40
					50	0	20.29
					1	0	21.32
					1	24	21.23
23800	711.0		1	49	21.22		
			25	0	20.41		
			25	12	20.34		
		25	49	20.33			
		50	0	20.31			
		1	0	21.55			
23780	709.0	1	24	21.39			
		1	49	21.03			
		25	0	20.40			
		25	12	20.38			
		25	49	20.23			
		50	0	20.23			



4. Test Result

Band	Data Rate or Sub-Test	Frequency (MHz)	Limit (mw/cm ²)	Distance [R] (cm)	Power [P] (dBm)	ANT Gain (dBi)	Numeric Gain [G]	Duty Cycle	[P] x [G] with Duty cycle [TP] (mW)	Power Density [S] (mw/cm ²)
GPRS 850	4Down1Up	824.2	0.549	20	33.00	2.16	1.64	0.125	409.03	0.081
		836.6	0.558	20	33.00	2.16	1.64	0.125	409.03	0.081
		848.8	0.566	20	33.00	2.16	1.64	0.125	409.03	0.081
	3Down2Up	824.2	0.549	20	33.00	2.16	1.64	0.250	818.06	0.163
		836.6	0.558	20	33.00	2.16	1.64	0.250	818.06	0.163
		848.8	0.566	20	33.00	2.16	1.64	0.250	818.06	0.163
	2Down3Up	824.2	0.549	20	29.00	2.16	1.64	0.375	488.51	0.097
		836.6	0.558	20	29.00	2.16	1.64	0.375	488.51	0.097
		848.8	0.566	20	29.00	2.16	1.64	0.375	488.51	0.097
	1Down4Up	824.2	0.549	20	29.00	2.16	1.64	0.500	651.35	0.130
		836.6	0.558	20	29.00	2.16	1.64	0.500	651.35	0.130
		848.8	0.566	20	29.00	2.16	1.64	0.500	651.35	0.130
GPRS 1900	4Down1Up	1850.2	1.000	20	30.00	2.74	1.88	0.125	235.00	0.047
		1880.0	1.000	20	30.00	2.74	1.88	0.125	235.00	0.047
		1909.8	1.000	20	30.00	2.74	1.88	0.125	235.00	0.047
	3Down2Up	1850.2	1.000	20	28.00	2.74	1.88	0.250	296.55	0.059
		1880.0	1.000	20	28.00	2.74	1.88	0.250	296.55	0.059
		1909.8	1.000	20	28.00	2.74	1.88	0.250	296.55	0.059
	2Down3Up	1850.2	1.000	20	27.00	2.74	1.88	0.375	353.34	0.070
		1880.0	1.000	20	27.00	2.74	1.88	0.375	353.34	0.070
		1909.8	1.000	20	27.00	2.74	1.88	0.375	353.34	0.070
	1Down4Up	1850.2	1.000	20	25.00	2.74	1.88	0.500	297.25	0.059
		1880.0	1.000	20	25.00	2.74	1.88	0.500	297.25	0.059
		1909.8	1.000	20	25.00	2.74	1.88	0.500	297.25	0.059
WCDMA Band II	RMC12.2K	1852.4	1.000	20	23.00	2.74	1.88	1.000	375.11	0.075
		1880.0	1.000	20	23.00	2.74	1.88	1.000	375.11	0.075
		1907.6	1.000	20	23.00	2.74	1.88	1.000	375.11	0.075
WCDMA Band IV	RMC12.2K	1712.4	1.000	20	23.00	2.77	1.89	1.000	377.10	0.075
		1732.6	1.000	20	23.00	2.77	1.89	1.000	377.10	0.075
		1752.6	1.000	20	23.00	2.77	1.89	1.000	377.10	0.075
WCDMA Band V	RMC12.2K	826.4	0.551	20	23.00	2.16	1.64	1.000	327.22	0.065
		836.6	0.558	20	23.00	2.16	1.64	1.000	327.22	0.065
		846.6	0.564	20	23.00	2.16	1.64	1.000	327.22	0.065



Band	RB Configuration	Frequency (MHz)	Limit (mw/cm ²)	Distance [R] (cm)	Power [P] (dBm)	ANT Gain (dBi)	Numeric Gain [G]	Duty Cycle	[P] x [G] with Duty cycle [TP] (mW)	Power Density [S] (mw/cm ²)	
LTE Band 2 QPSK 1.4MHz	1RB	1850.7	1.000	20	23.00	2.74	1.88	1.000	375.11	0.075	
		1880.0	1.000	20	23.00	2.74	1.88	1.000	375.11	0.075	
		1909.3	1.000	20	23.00	2.74	1.88	1.000	375.11	0.075	
	50%RB	1850.7	1.000	20	23.00	2.74	1.88	1.88	1.000	375.11	0.075
		1880.0	1.000	20	23.00	2.74	1.88	1.88	1.000	375.11	0.075
		1909.3	1.000	20	23.00	2.74	1.88	1.88	1.000	375.11	0.075
	100%RB	1850.7	1.000	20	22.00	2.74	1.88	1.88	1.000	297.96	0.059
		1880.0	1.000	20	22.00	2.74	1.88	1.88	1.000	297.96	0.059
		1909.3	1.000	20	22.00	2.74	1.88	1.88	1.000	297.96	0.059
LTE Band 4 QPSK 1.4MHz	1RB	1710.7	1.000	20	23.00	2.77	1.89	1.000	377.10	0.075	
		1732.5	1.000	20	23.00	2.77	1.89	1.000	377.10	0.075	
		1754.3	1.000	20	23.00	2.77	1.89	1.000	377.10	0.075	
	50%RB	1710.7	1.000	20	23.00	2.77	1.89	1.89	1.000	377.10	0.075
		1732.5	1.000	20	23.00	2.77	1.89	1.89	1.000	377.10	0.075
		1754.3	1.000	20	23.00	2.77	1.89	1.89	1.000	377.10	0.075
	100%RB	1710.7	1.000	20	22.00	2.77	1.89	1.89	1.000	299.54	0.060
		1732.5	1.000	20	22.00	2.77	1.89	1.89	1.000	299.54	0.060
		1754.3	1.000	20	22.00	2.77	1.89	1.89	1.000	299.54	0.060
LTE Band 5 QPSK 1.4MHz	1RB	824.7	0.550	20	23.00	2.16	1.64	1.000	327.22	0.065	
		836.5	0.558	20	23.00	2.16	1.64	1.000	327.22	0.065	
		848.3	0.566	20	23.00	2.16	1.64	1.000	327.22	0.065	
	50%RB	824.7	0.550	20	23.00	2.16	1.64	1.64	1.000	327.22	0.065
		836.5	0.558	20	23.00	2.16	1.64	1.64	1.000	327.22	0.065
		848.3	0.566	20	23.00	2.16	1.64	1.64	1.000	327.22	0.065
	100%RB	824.7	0.550	20	22.00	2.16	1.64	1.64	1.000	259.92	0.052
		836.5	0.558	20	22.00	2.16	1.64	1.64	1.000	259.92	0.052
		848.3	0.566	20	22.00	2.16	1.64	1.64	1.000	259.92	0.052
LTE Band 12 QPSK 1.4MHz	1RB	699.7	0.466	20	23.00	2.19	1.66	1.000	331.21	0.066	
		707.5	0.472	20	23.00	2.19	1.66	1.000	331.21	0.066	
		715.3	0.477	20	23.00	2.19	1.66	1.000	331.21	0.066	
	50%RB	699.7	0.466	20	23.00	2.19	1.66	1.66	1.000	331.21	0.066
		707.5	0.472	20	23.00	2.19	1.66	1.66	1.000	331.21	0.066
		715.3	0.477	20	23.00	2.19	1.66	1.66	1.000	331.21	0.066
	100%RB	699.7	0.466	20	22.00	2.19	1.66	1.66	1.000	263.09	0.052
		707.5	0.472	20	22.00	2.19	1.66	1.66	1.000	263.09	0.052
		715.3	0.477	20	22.00	2.19	1.66	1.66	1.000	263.09	0.052



Band	RB Configuration	Frequency (MHz)	Limit (mw/cm ²)	Distance [R] (cm)	Power [P] (dBm)	ANT Gain (dBi)	Numeric Gain [G]	Duty Cycle	[P] x [G] with Duty cycle [TP] (mW)	Power Density [S] (mw/cm ²)
LTE Band 17 QPSK 5MHz	1RB	706.5	0.471	20	23.00	1.56	1.43	1.000	285.32	0.057
		710.0	0.473	20	23.00	1.56	1.43	1.000	285.32	0.057
		713.5	0.476	20	23.00	1.56	1.43	1.000	285.32	0.057
	50%RB	706.5	0.471	20	23.00	1.56	1.43	1.000	285.32	0.057
		710.0	0.473	20	23.00	1.56	1.43	1.000	285.32	0.057
		713.5	0.476	20	23.00	1.56	1.43	1.000	285.32	0.057
	100%RB	706.5	0.471	20	22.00	1.56	1.43	1.000	226.64	0.045
		710.0	0.473	20	22.00	1.56	1.43	1.000	226.64	0.045
		713.5	0.476	20	22.00	1.56	1.43	1.000	226.64	0.045

- 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. We used the maximum antenna gain to provide MPE results.