FCC Test Report

Report No.: AGC02115210403FE07

FCC ID	:	2AG6IANAFIAI
APPLICATION PURPOSE	:	Original Equipment
PRODUCT DESIGNATION	:	ANAFI Ai
BRAND NAME	:	Parrot
MODEL NAME	:	ANAFI Ai
APPLICANT	:	PARROT DRONE SAS
DATE OF ISSUE	:	May 29, 2021
STANDARD(S)	:	FCC Part 22 Rules FCC Part 24 Rules FCC Part 27 Rules FCC Part 90 Rules
REPORT VERSION	:	V1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd.

REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	May 29, 2021	Valid	Initial Release

Note: The test results refer module certification report No. (**SZEM180500437001**, brand name is **Fibocom,** model name is **L860-GL**, Hardware version is **V1.2** and Software version is **18600.5003.00.17.00.02**.) Except for radiated power and radiated spurious re-evaluation. The rest of the test data can be referred to Module FCC ID: ZMOL860GL.

TABLE OF CONTENTS

VERIFICATION OF COMPLIANCE

Applicant	PARROT DRONE SAS
Address	174 quai de jemmapes 75010 Paris France
Manufacturer	Shenzhen Allcomm Electronic Company Limited.
Address	272, Guangtian Road Left Side, Tangxiayong Community, Yanluo Street, Baoan, Shenzhen City, Guangdong Province, China
Factory	Shenzhen Allcomm Electronic Company Limited.
Address	272, Guangtian Road Left Side, Tangxiayong Community, Yanluo Street, Baoan, Shenzhen City, Guangdong Province, China
Product Designation	ANAFI Ai
Brand Name	Parrot
Test Model	ANAFI Ai
Date of test	Apr. 16, 2021~May 29, 2021
Deviation	No any deviation from the test method.
Condition of Test Sample	Normal

WE HEREBY CERTIFY THAT:

The above equipment was tested by Attestation of Global Compliance(Shenzhen) Co., Ltd. The data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI/TIA-603-E-2016. The sample tested as described in this report is in compliance with the FCC Rules Part 22, 24, 27and 90. The test results of this report relate only to the tested sample identified in this report.

Prepared By

Donjon Huang
(Project Engineer) May 29, 2021

Reviewed By

Calvin Liu
(Reviewer) May 29, 2021

Approved By

Forrest Lei
Authorized Officer May 29, 2021

1. GENERAL INFORMATION

1.1 PRODUCT DESCRIPTION

A major technical description of EUT is described as following:

Radio System Type:	LTE FUNCTION	
Frequency Bands:	☒FDD Band 2 ☒FDD Band 4 ☒FDD Band 5 ☒FDD Band 7 ☒FDD Band 12 ☒FDD Band 13 ☒FDD Band 14 ☒FDD Band 17 ☒FDD Band 25 ☒FDD Band 26 ☒TDD Band 30 ☒TDD Band 38 ☒TDD Band 41 ☒FDD Band 66 (U.S. Bands) ☐FDD Band 1 ☐FDD Band 3 ☐FDD Band 8 ☐FDD Band 19 ☐FDD Band 20 ☐FDD Band 28 ☐TDD Band 38 ☐TDD Band 39 (Non-U.S. Bands)	
Transmission Frequency Range:	LTE-Band 2	1850.7 MHz – 1909.3 MHz---(1.4MHz)
		1851.5 MHz – 1908.5 MHz---(3.0MHz)
		1852.5 MHz – 1907.5 MHz---(5.0MHz)
		1855.0 MHz – 1905.0 MHz---(10.0MHz)
		1857.5 MHz – 1902.5 MHz---(15.0MHz)
		1860.0 MHz – 1900.0 MHz---(20.0MHz)
	LTE-Band 4	1710.7 MHz – 1754.3 MHz---(1.4MHz)
		1711.5 MHz – 1753.5 MHz---(3.0MHz)
		1712.5 MHz – 1752.5 MHz---(5.0MHz)
		1715.0 MHz – 1750.0 MHz---(10.0MHz)
		1717.5 MHz – 1747.5 MHz---(15.0MHz)
		1720.0 MHz – 1745.0 MHz---(20.0MHz)
	LTE-Band 5	824.7 MHz – 848.3 MHz---(1.4MHz)
		825.5 MHz – 847.7 MHz---(3.0MHz)
		826.5 MHz – 846.5 MHz---(5.0MHz)
		829.0 MHz – 844.0 MHz---(10.0MHz)
	LTE-Band 7	2502.5 MHz – 2567.5 MHz---(5.0MHz)
		2505.0 MHz – 2565.0 MHz---(10.0MHz)
		2507.5 MHz – 2562.5 MHz---(15.0MHz)
		2510.0 MHz – 2560.0 MHz---(20.0MHz)
	LTE-Band 12	699.7 MHz – 715.3 MHz---(1.4MHz)
		700.5 MHz – 714.5 MHz---(3.0MHz)
		701.5 MHz – 713.5 MHz---(5.0MHz)
		704.0 MHz – 711.0 MHz---(10.0MHz)
	LTE-Band 13	779.5 MHz – 784.5 MHz---(5.0MHz)

		782.0 MHz – 782.0 MHz---(10.0MHz)
	LTE-Band 14	790.5 MHz – 795.5 MHz---(5.0MHz)
		793.0 MHz – 793.0 MHz---(10.0MHz)
	LTE-Band 17	706.5 MHz – 713.5 MHz---(5.0MHz)
		709.0 MHz – 711.0 MHz---(10.0MHz)
	LTE-Band 25	706.5 MHz – 713.5 MHz---(5.0MHz)
		709.0 MHz – 711.0 MHz---(10.0MHz)
	LTE-Band 26A	824.7 MHz –848.3 MHz---(1.4MHz)
		825.5 MHz–847.5 MHz---(3.0MHz)
		826.5 MHz-846.5 MHz ---(5.0MHz)
		829 MHz-844 MHz---(10.0MHz)
		831.5 MHz-841.5 MHz ---(15.0MHz)
	LTE-Band 26B	814.7 MHz-823.3 MHz ---(1.4MHz)
		815.5 MHz -822.5 MHz---(3.0MHz)
		816.5 MHz -821.5 MHz---(5.0MHz)
		819.0 MHz -819.0 MHz---(10.0MHz)
	LTE-Band 30	2307.5 MHz-2312.5 MHz---(5.0MHz)
		2310 MHz---(10.0MHz)
	LTE-Band 38	2572.5 MHz-2617.5 MHz ---(5.0MHz)
		2575 MHz-2615MHz---(10.0MHz)
		2577.5 MHz-2612.5 MHz ---(15.0MHz)
		2580 MHz-2610 MHz---(20.0MHz)
	LTE-Band 41	2498.5 MHz –2687.5 MHz---(5.0MHz)
		2501.0 MHz –2685.0 MHz---(10.0MHz)
		2503.5 MHz –2682.5 MHz---(15.0MHz)
		2506.0 MHz –2680.0 MHz---(20.0MHz)
Transmission Frequency Range:	LTE-Band 66	1710.7 MHz – 1779.3 MHz---(1.4MHz)
		1711.5 MHz – 1778.5 MHz---(3.0MHz)
		1712.5 MHz – 1777.5 MHz---(5.0MHz)
		1715.0 MHz – 1775.0 MHz---(10.0MHz)
		1717.5 MHz – 1772.5 MHz---(15.0MHz)
		1720.0 MHz – 1770.0 MHz---(20.0MHz)
Hardware Version:	ANAFI2_MB_HW06	
Software Version:	V1.0	
Antenna Type:	PIFA Antenna	

Type of Modulation:	QPSK/16QAM			
Antenna gain:	Band 2:3.5dBi	Band 4: 1.0dBi	Band 5: 1.3dBi	Band 7: 2.0dBi
	Band 12: 0dBi	Band 13: 1.5dBi	Band 14: 1.6dBi	Band 17: 0dBi
	Band 25: 3.5dBi	Band 26: 1.2dBi	Band 30: 1.7dBi	Band 38: 1.5dBi
	Band 41: 2.0dBi	Band 66: 2.0dBi		
Power Supply:	DC 11.55V by adapter			
Single Card:	LTE Card Slot			
Power Class:	3			
Extreme Vol. Limits:	DC9.82V to 13.28V (Normal: DC 11.55V)			
Temperature range:	-20℃ to +50℃			
Note1: The High Voltage DC13.28V and Low Voltage DC9.82V were declared by manufacturer, The EUT couldn't be operating normally with higher or lower voltage..				

1.2 RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID:2AG6IANAFIAI** , filing to comply with the FCC Part 22, Part 24 ,Pant 27 and Pant 90 requirements.

1.3 TEST METHODOLOGY

The tests were performed according to following standards:
FCC Part 22 Public Mobile Services.
FCC Part 24 Personal Communications Services.
FCC Part 27 Miscellaneous Wireless Communications Services.
FCC Part 90 Private Land Mobile Radio Services
FCC Part 2 Frequency allocations and radio treaty matters, general rules and regulations.
TIA/EIA 603 E: March 2016 Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.
ANSI-C63.26:2015 American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services
KDB971168 D01 v03r01 Measurement Guidance For Certification Of Licensed Digital Transmitters.

1.4 DEVICE CAPABILITIES

This device contains the following capabilities:Multi-Band LTE for 802.11b/g/n WLAN(CCK and OFDM use 10MHz bandwidth rate), 802.11a/n/ac for UNII (CCK and OFDM use 10MHz bandwidth rate).
This device uses a tuner circuit that dynamically updates the antenna impedance parameters to optimize antenna performance for certain bands and modes of operation. The tuner for this device was set to simulate a "free space"condition where the transmit antenna is matched to the medium into which it is transmitting and, thus, the power is at its maximum level.
LTE Band 12 (698 - 716 MHz) overlaps the entire frequency range of LTE Band 17 (704 - 716 MHz). Therefore, test data provided in this report covers Band 17 as well as Band 12.
LTE Band 26 (814.7-849 MHz) overlaps the entire frequency range of LTE Band 5 (824 – 849 MHz). Therefore,test data provided in this report covers Band 5 and the portion of Band 26 subject to Part 22.
LTE Band 25 (1850-1915 MHz) overlaps the entire frequency range of LTE Band 2 (1850 - 1910 MHz). Therefore, test data provided in this report covers Band 2 as well as Band 25.
LTE Band 41 (2496-2690MHz) overlaps the entire frequency range of LTE Band 38 (2570 - 2620 MHz). Therefore, test data provided in this report covers Band 38 as well as Band 41.
For emissions from 1GHz – 18GHz, low, mid, and high channels were tested with highest power and worst case configuration.
The emissions below 1GHz and above 18GHz were tested with the highest transmitting power channel and the worst case configuration.
The EUT was manipulated through three orthogonal planes of X-orientation (flatbed), Y-orientation (landscape),and Z-orientation (portrait) during the testing. Only the worst case emissions were reported in this test report.

1.5 ADDRESS OF THE TEST LABORATORY

Laboratory: Attestation of Global Compliance (Shenzhen) Co., Ltd

Address: 1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

1.6 TEST FACILITY

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L5488

Attestation of Global Compliance (Shenzhen) Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2017 General Requirements) for the Competence of Testing and Calibration Laboratories

A2LA-Lab Cert. No.: 5054.02

Attestation of Global Compliance (Shenzhen) Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

FCC-Registration No.: 975832

Attestation of Global Compliance (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files with Registration 975832.

IC-Registration No.: 24842

Attestation of Global Compliance (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the Certification and Engineering Bureau of Industry Canada. The acceptance letter from the IC is maintained in our files with Registration 24842

1.7 ENVIRONMENTAL CONDITIONS

	NORMAL CONDITIONS	EXTREME CONDITIONS
Temperature range	15~35℃	-20℃~50℃
Humidty range	20 % to 75 %.	20 % to 75 %.
Pressure range	86-106kPa	86-106kPa
Power supply	DC 11.55V	LV:9.82V/HV:13.28V
Note: The Extreme Temperature and Extreme Voltages declared by the manufacturer.		

1.8 MEASUREMENT UNCERTAINTY

Test	Measurement Uncertainty	Notes
Transmitter power conducted	±0.57 dB	(1)
Transmitter power Radiated	±2.20 dB	(1)
Conducted spurious emission 9KHz-40 GHz	±2.20 dB	(1)
Occupied Bandwidth	±0.01ppm	(1)
Radiated Emission 30~1000MHz	±4.10dB	(1)
Radiated Emission Above 1GHz	±4.32dB	(1)
Conducted Disturbance0.15~30MHz	±3.20dB	(1)
Radio Frequency	± 6.5 x 10-8	(1)
RF Power, Conducted	± 0.9 dB	(1)

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

1.9 SPECIAL ACCESSORIES

The battery was supplied by the applicant were used as accessories and being tested with EUT intended for FCC grant together.

1.10 EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

2. SYSTEM TEST CONFIGURATION

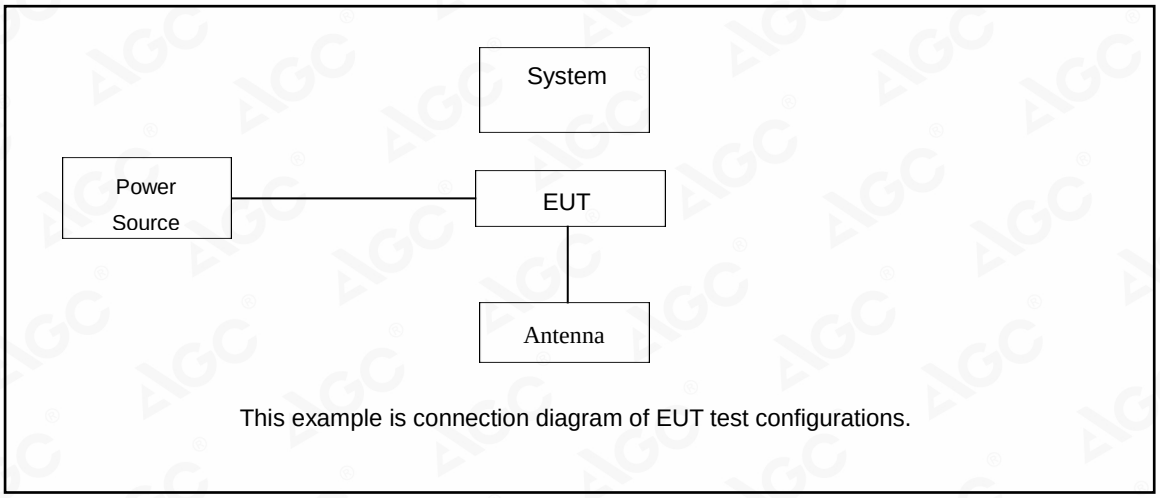
2.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commission's requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.2 EUT EXERCISE

The Transmitter was operated in the maximum output power mode through Communication Tester. The TX frequency was fixed which was for the purpose of the measurements.

2.3 CONFIGURATION OF EUT SYSTEM



This example is connection diagram of EUT test configurations.

Table 2-1 Equipment Used in EUT System

Item	Equipment	Model No.	ID or Specification	Remark
1	ANAFI Ai	ANAFI Ai	2AG6IANAFIAI	EUT
2	Battery	ANAFI2 Lithium-ion Polymer rechargeable Battery	DC 11.55V	AE

Note:

1. All the accessories have been used during the test. The following "EUT" in setup diagram means EUT system.

3. SUMMARY OF TEST RESULTS

3.1 TEST CONDITION : RADIATED TEST

Item	Test Description	FCC Rules	Result
1	Effective Radiated Power Equivalent Isotropic Radiated Power	§90.635, §22.913(a)(5), §27.50(c)(10) §27.50(a)(3), §27.50(h)(2) §22.913(a.2), §90.542(a) §27.50(b)(10), 27.50(d)(4), §24.232(c)	Pass
2	Radiated Spurious and Harmonic Emissions	§2.1053, §90.691(a), §90.543(e) §22.917(a), §27.53(a), §27.53(g), §27.53(m)(4) §27.53(c), §27.53(h), §24.238(a)	Pass
3	Undesirable Emissions in the 1559-1610 MHz band	§2.1053, 27.53(f), §90.543(f)	Pass

4. DESCRIPTION OF TEST MODES

During the testing, the EUT was controlled via Rhode & Schwarz Digital Radio Communication Tester (CMW 500) to ensure max power transmission and proper modulation. Three channels (The top channel, the middle channel and the bottom channel) were chosen for testing on both LTE frequency band.

The worst condition was recorded in the test report if no other modes test data.

LTE Band 2 Channel and Frequency List				
BW [MHz]	Channel/Frequency (MHz)	Lowest	Middle	Highest
20	Channel	18700	18900	19100
	Frequency	1860	1880	1900
15	Channel	18675	18900	19125
	Frequency	1857.5	1880	1902.5
10	Channel	18650	18900	19150
	Frequency	1855	1880	1905
5	Channel	18625	18900	19175
	Frequency	1852.5	1880	1907.5
3	Channel	18615	18900	19185
	Frequency	1851.5	1880	1908.5
1.4	Channel	18607	18900	19193
	Frequency	1850.7	1880	1909.3

LTE Band 4 Channel and Frequency List				
BW [MHz]	Channel/Frequency (MHz)	Lowest	Middle	Highest
20	Channel	20050	20175	20300
	Frequency	1720	1732.5	1745
15	Channel	20025	20175	20325
	Frequency	1717.5	1732.5	1747.5
10	Channel	20000	20175	20350
	Frequency	1715	1732.5	1750
5	Channel	19975	20175	20375
	Frequency	1712.5	1732.5	1752.5
3	Channel	19965	20175	20385
	Frequency	1711.5	1732.5	1753.5
1.4	Channel	19957	20175	20393
	Frequency	1710.7	1732.5	1754.3

LTE Band 5 Channel and Frequency List				
BW [MHz]	Channel/Frequency (MHz)	Lowest	Middle	Highest
10	Channel	20450	20525	20600
	Frequency	829	836.5	844
5	Channel	20425	20525	20625
	Frequency	826.5	836.5	846.5
3	Channel	20415	20525	20635
	Frequency	825.5	836.5	847.5
1.4	Channel	20407	20525	20643
	Frequency	824.7	836.5	848.3

LTE Band 7 Channel and Frequency List				
BW [MHz]	Channel/Frequency (MHz)	Lowest	Middle	Highest
20	Channel	20850	21100	21350
	Frequency	2510	2535	2560
15	Channel	20825	21100	21375
	Frequency	2507.5	2535	2562.5
10	Channel	20800	21100	21400
	Frequency	2505	2535	2565
5	Channel	20775	21100	21425
	Frequency	2502.5	2535	2567.5

LTE Band 12 Channel and Frequency List				
BW [MHz]	Channel/Frequency (MHz)	Lowest	Middle	Highest
10	Channel	23060	23095	23130
	Frequency	704	707.5	711
5	Channel	23035	23095	23155
	Frequency	701.5	707.5	713.5
3	Channel	23025	23095	23165
	Frequency	700.5	707.5	714.5
1.4	Channel	23017	23095	23173
	Frequency	699.7	707.5	715.3

LTE Band 13 Channel and Frequency List				
BW [MHz]	Channel/Frequency (MHz)	Lowest	Middle	Highest
10	Channel	-	23230	-
	Frequency	-	782	-
5	Channel	23205	23230	23255
	Frequency	779.5	782	784.5

LTE Band 14 Channel and Frequency List				
BW [MHz]	Channel/Frequency (MHz)	Lowest	Middle	Highest
10	Channel	-	23230	-
	Frequency	-	793	-
5	Channel	23305	23330	23355
	Frequency	790.5	793	795.5

LTE Band 17 Channel and Frequency List				
BW [MHz]	Channel/Frequency (MHz)	Lowest	Middle	Highest
10	Channel	23780	23790	23800
	Frequency	709	710	711
5	Channel	23755	23790	23825
	Frequency	706.5	710	713.5

LTE Band 25 Channel and Frequency List				
BW [MHz]	Channel/Frequency (MHz)	Lowest	Middle	Highest
20	Channel	26140	26340	26590
	Frequency	1860	1880	1905
15	Channel	26115	26340	26615
	Frequency	1857.5	1880	1907.5
10	Channel	26090	26340	26640
	Frequency	1855	1880	1910
5	Channel	26065	26340	26665
	Frequency	1852.5	1880	1912.5
3	Channel	26055	26340	26675
	Frequency	1851.5	1880	1913.5
1.4	Channel	26047	26340	26683
	Frequency	1850.7	1880	1914.3

LTE Band 26A Channel and Frequency List				
BW [MHz]	Channel/Frequency (MHz)	Lowest	Middle	Highest
15	Channel	26865	26915	26965
	Frequency	831.5	836.5	841.5
10	Channel	26840	26915	26990
	Frequency	829	836.5	844
5	Channel	26815	26915	27015
	Frequency	826.5	836.5	846.5
3	Channel	26805	26915	27025
	Frequency	825.5	836.5	847.5
1.4	Channel	26797	26915	27033
	Frequency	824.7	836.5	848.3

LTE Band 26B Channel and Frequency List				
BW [MHz]	Channel/Frequency (MHz)	Lowest	Middle	Highest
10	Channel	--	26740	--
	Frequency	--	819.0	--
5	Channel	26715	26740	26765
	Frequency	816.5	819.0	821.5
3	Channel	26705	26740	26775
	Frequency	815.5	819.0	822.5
1.4	Channel	26697	26740	26783
	Frequency	814.7	819.0	823.3

LTE Band 30 Channel and Frequency List				
BW [MHz]	Channel/Frequency (MHz)	Lowest	Middle	Highest
10	Channel	27710	27710	27710
	Frequency	2310	2310	2310
5	Channel	27685	27710	27735
	Frequency	2307.5	2310	2312.5

LTE Band 38 Channel and Frequency List				
BW [MHz]	Channel/Frequency (MHz)	Lowest	Middle	Highest
20	Channel	37850	38000	38150
	Frequency	2580	2595	2610
15	Channel	37825	38000	38175
	Frequency	2577.5	2595	2612.5
10	Channel	37800	38000	38200
	Frequency	2575	2595	2615
5	Channel	37775	38000	38225
	Frequency	2572.5	2595	2617.5

LTE Band 41 Channel and Frequency List				
BW [MHz]	Channel/Frequency (MHz)	Lowest	Middle	Highest
20	Channel	39750	40620	41490
	Frequency	2506.0	2593.0	2680.0
15	Channel	39725	40620	41515
	Frequency	2503.5	2593.0	2682.5
10	Channel	39700	40620	41540
	Frequency	2501.0	2593.0	2685.0
5	Channel	39675	40620	41565
	Frequency	2498.5	2593.0	2687.5

LTE Band 66 Channel and Frequency List				
BW [MHz]	Channel/Frequency (MHz)	Lowest	Middle	Highest
20	Channel	132072	132322	132572
	Frequency	1720	1745	1770
15	Channel	132047	132322	132597
	Frequency	1717.5	1745	1772.5
10	Channel	132022	132322	132622
	Frequency	1715	1745	1775
5	Channel	131997	132322	132647
	Frequency	1712.5	1745	1777.5
3	Channel	131987	132322	132657
	Frequency	1711.5	1745	1778.5
1.4	Channel	131979	132322	132665
	Frequency	1710.7	1745	1779.3

Test Mode	Test Modes Description
LTE BAND 2	LTE system, QPSK modulation
	LTE system, 16QAM modulation
LTE BAND 4	LTE system, QPSK modulation
	LTE system, 16QAM modulation
LTE BAND 5	LTE system, QPSK modulation
	LTE system, 16QAM modulation
LTE BAND 7	LTE system, QPSK modulation
	LTE system, 16QAM modulation
LTE BAND 12	LTE system, QPSK modulation
	LTE system, 16QAM modulation
LTE BAND 13	LTE system, QPSK modulation
	LTE system, 16QAM modulation
LTE BAND 14	LTE system, QPSK modulation
	LTE system, 16QAM modulation
LTE BAND 17	LTE system, QPSK modulation
	LTE system, 16QAM modulation
LTE BAND 25	LTE system, QPSK modulation
	LTE system, 16QAM modulation
LTE BAND 26A	LTE system, QPSK modulation
	LTE system, 16QAM modulation
LTE BAND 26B	LTE system, QPSK modulation
	LTE system, 16QAM modulation
LTE BAND 30	LTE system, QPSK modulation
	LTE system, 16QAM modulation
LTE BAND 38	LTE system, QPSK modulation
	LTE system, 16QAM modulation
LTE BAND 41	LTE system, QPSK modulation
	LTE system, 16QAM modulation
LTE BAND 66	LTE system, QPSK modulation
	LTE system, 16QAM modulation

ACCORDING TO 3GPP 36.521 SUB-CLAUSE 6.2.3.3, THE MAXIMUM OUTPUT POWER IS ALLOWED TO BE REDUCED BY FOLLOWING THE TABLE.

TABLE 6.2.3.3-1: MAXIMUM POWER REDUCTION (MPR) FOR POWER CLASS 3

Modulation	Channel bandwidth / Transmission bandwidth configuration [RB]						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2

The device supports MPR to solve linearity issues (ACLR or SEM) due to the higher peak-to average ratios (PAR) of the HSUPA signal. This prevents saturating the full range of the TX DAC inside of device and provides a reduced power output to the RF transceiver chip according to the Cubic Metric (For PRACH, PUCCH and SRS transmission, the allowed MPR is according to that specified for PUSCH QPSK modulation for the corresponding transmission bandwidth.).

When PRACH, PUCCH are present the beta gains on those channels are reduced firsts to try to get the power under the allowed limit. If the beta gains are lowered as far as possible, then a hard limiting is applied at the maximum allowed level.

For each subframe, the MPR is evaluated per slot and given by the maximum value taken over the transmission(s) within the slot, the maximum MPR over the two slots is then applied for the entire subframe.

For the UE maximum output power modified by MPR, the power limits specified in subclause 6.2.5.3 apply. The normative reference for this requirement is TS 36.101 clause 6.2.3.

The end effect is that the DUT output power is identical to the case where there is no MPR in the device.

4.1 EMISSION DESIGNATOR

GSM Emission Designator

Emission Designator = 249KGXW
GSM BW = 249 kHz
G = Phase Modulation
X = Cases not otherwise covered
W = Combination (Audio/Data)

WCDMA Emission Designator

Emission Designator = 4M17F9W
WCDMA BW = 4.17 MHz
F = Frequency Modulation
9 = Composite Digital Info
W = Combination (Audio/Data)

QAM Modulation

Emission Designator = 4M48W7D
LTE BW = 4.48 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data transmission; telemetry; telecommand

EDGE Emission Designator

Emission Designator = 249KG7W
GSM BW = 249 kHz
G = Phase Modulation
7 = Quantized/Digital Info
W = Combination (Audio/Data)

QPSK Modulation

Emission Designator = 4M48G7D
LTE BW = 4.48 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Data transmission; telemetry; telecommand

5. LIST OF TEST EQUIPMENT

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESPI	101206	May 15, 2020	May 14, 2021
TEST RECEIVER	R&S	ESPI	101206	May 13, 2021	May 12, 2022
LISN	R&S	ESH2-Z5	100086	Jul. 03, 2020	Jul. 02, 2021
TEST RECEIVER	R&S	ESCI	10096	Apr. 14, 2021	Apr. 13, 2022
EXA Signal Analyzer	Aglient	N9010A	MY53470504	Dec.07, 2020	Dec.06, 2021
EXA Signal Analyzer	Aglient	N9020B	MY56101792	Jul. 15, 2020	Jul. 14, 2021
Horn antenna	SCHWARZBECK	BBHA 9170	#768	Oct. 20, 2019	Oct. 19, 2022
preamplifier	ChengYi	EMC184045SE	980508	Sep. 21, 2020	Sep. 20, 2021
Double-Ridged Waveguide Horn	ETS LINDGREN	3117	00034609	May. 17, 2019	May. 16, 2021
Double-Ridged Waveguide Horn	ETS LINDGREN	3117	00034609	May. 15, 2021	May. 14, 2023
Broadband Preamplifier	SCHWARZBECK	00073	BBHA 9120 J	Sep. 27, 2019	Sep. 26, 2021
ANTENNA	SCHWARZBECK	VULB9168	D69250	Sep.20, 2019	Sep.19, 2021
SIGNAL ANALYZER	Agilent	N9020A	MY52090123	Sep. 03, 2020	Sep. 02, 2021
USB Wideband Power Sensor	Agilent	U2021XA	MY54110007	Jun. 08, 2020	Jun. 07, 2021
Wireless communicationtest	R&S	CMW500	120909	Oct. 24, 2020	Oct. 23, 2021
Power Splitter	Agilent	11636A	34	Jun.10, 2020	Jun.09, 2021
Attenuator	JFW	50FHC-006-50	N/A	Jun.10, 2020	Jun.09, 2021

6. RADIATED POWER

6.1 MEASUREMENT OVERVIEW

The radiation test is carried out in a semi-anechoic chamber.

According to the test, put the device under test on a non-conductive platform 3 meters away from the receiving antenna (ANSI/TIA-603-E-2016 Article 2.2.17).

The following rules are for the maximum radiated power limit requirements of the product:

Mode	Nominal Peak Power
LTE Band 2	< 2 Watts max. EIRP (33dBm)
LTE Band 4	< 1 Watts max. EIRP (30dBm)
LTE Band 5	< 7 Watts max. ERP (38.45dBm)
LTE Band 7	< 2 Watts max. EIRP (33dBm)
LTE Band 12	< 3 Watts max. ERP (34.77dBm)
LTE Band 13	< 3 Watts max. ERP (34.77dBm)
LTE Band 14	< 3 Watts max. ERP (34.77dBm)
LTE Band 17	< 3 Watts max. ERP (34.77dBm)
LTE Band 25	< 2 Watts max. EIRP (33dBm)
LTE Band 26A	< 7 Watts max. ERP (38.45dBm)
LTE Band 26B	< 7 Watts max. ERP (38.45dBm)
LTE Band 30	< 0.25 Watts max. EIRP (23.98dBm)
LTE Band 38	< 2 Watts max. EIRP (33dBm)
LTE Band 41	< 2 Watts max. EIRP (33dBm)
LTE Band 66	< 1 Watts max. EIRP (30dBm)

6.2 MEASUREMENT METHOD

1. Radiated power measurements are performed using the signal analyzer's "channel power" measurement capability for signals with continuous operation.
2. RBW = 1 – 5% of the expected OBW, not to exceed 1MHz
3. VBW ≥ 3 x RBW
4. Span = 1.5 times the OBW
5. No. of sweep points > 2 x span / RBW
6. Detector = RMS
7. Trigger is set to "free run" for signals with continuous operation with the sweep times set to "auto".
8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation.
9. Trace mode = trace averaging (RMS) over 100 sweeps
10. The trace was allowed to stabilize.

Radiation Construction Method：

1. The turntable is rotated through 360 degrees, and the receiving antenna scans in order to determine the level of the maximized emission.
2. A half wave dipole is then substituted in place of the EUT. For emissions above 1GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator and the previously recorded signal was duplicated.

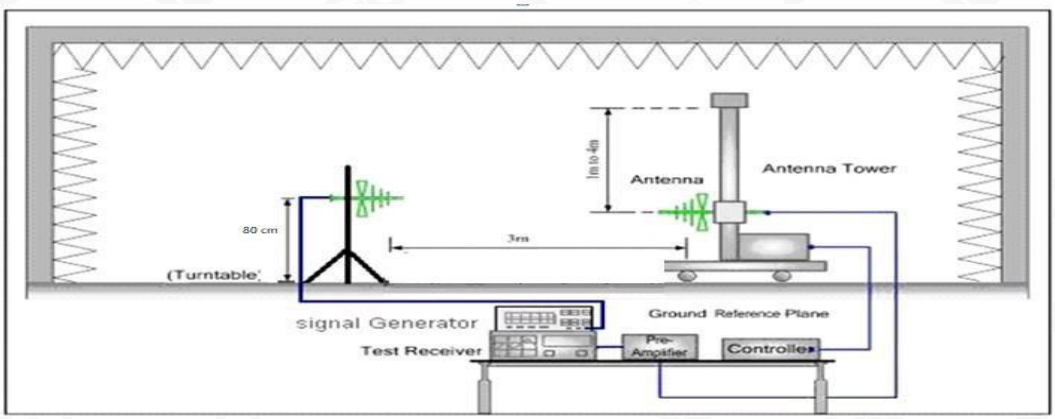
   The power is calculated by the following formula：

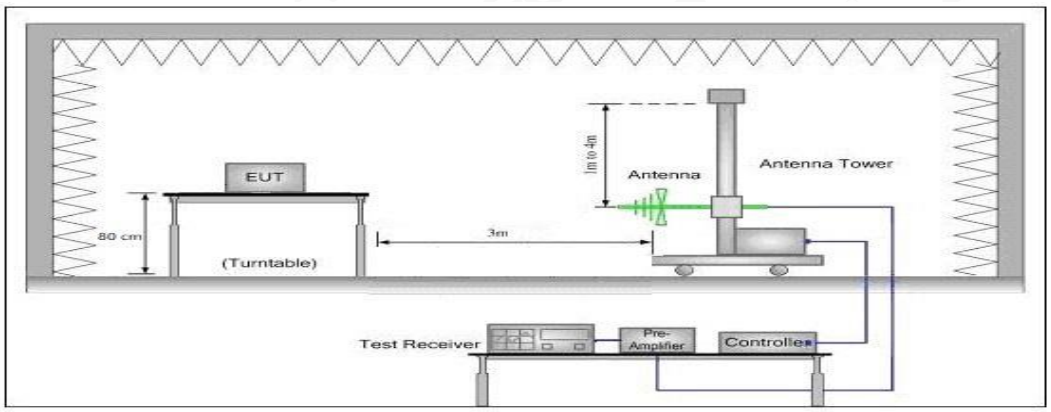
   Pd(dBm) = Pg(dBm) – cable loss (dB) + antenna gain (dB)

   Where: Pd is the dipole equivalent power and Pg is the generator output power into the substitution antenna.
3. The maximum value is calculated by adding the forward power to the calibrated source plus its appropriate gain value. These steps are repeated with the receiving antenna in both vertical and horizontal polarization. the difference between the gain of the horn and an isotropic antenna are taken into consideration
4. The EUT was tested in three orthogonal planes (X, Y, Z) and in all possible test configurations and positioning.
5. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

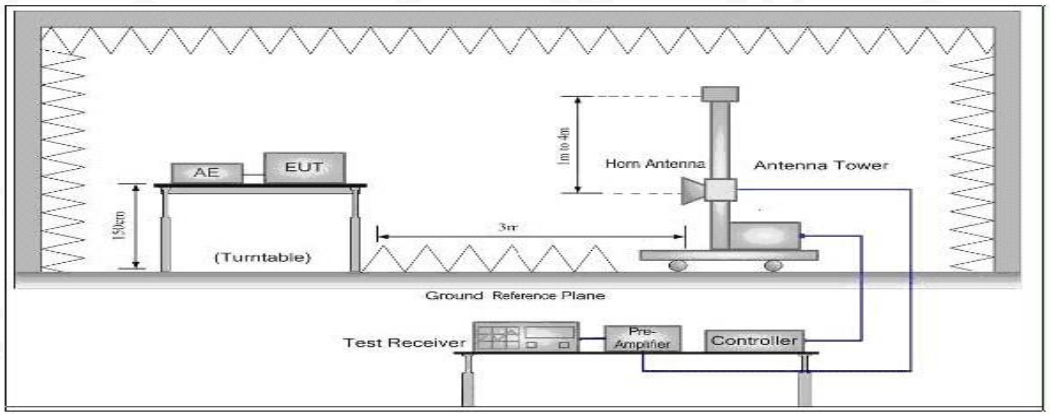
6.3 MEASUREMENT SETUP

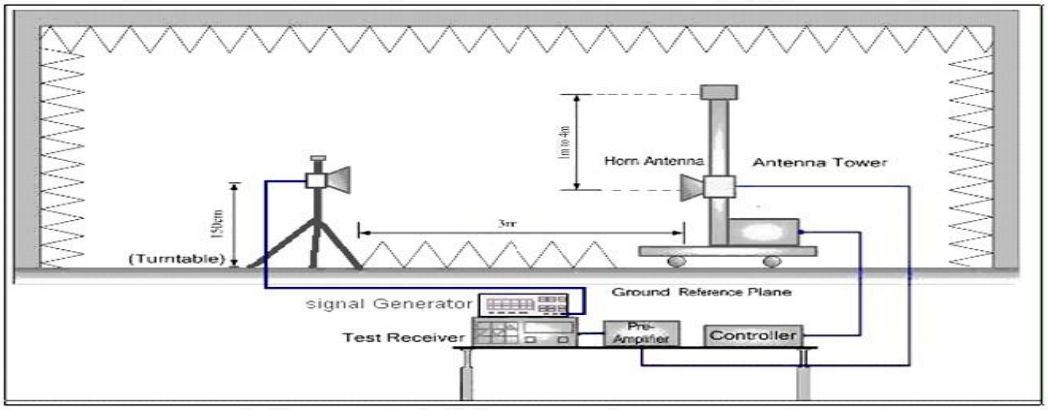
Radiated Below1GHz





Radiated Above 1 GHz





6.4 MEASUREMENT RESULT

EIRP for LTE Band 2

Frequency	Channel Bandwidth	Mode.	RB	Substituted level	Antenna Polarization	Antenna Gain correction	Cable Loss	Absolute Level	Limit (dBm)
1850.7	1.4	QPSK	1/0	12.70	V	7.95	0.79	19.86	33
1880.0	1.4	QPSK	1/0	12.50	V	7.95	0.79	19.66	33
1909.3	1.4	QPSK	1/0	12.92	V	7.95	0.79	20.08	33
1850.7	1.4	QPSK	1/0	14.26	H	7.95	0.79	21.42	33
1880.0	1.4	QPSK	1/0	14.27	H	7.95	0.79	21.43	33
1909.3	1.4	QPSK	1/0	14.28	H	7.95	0.79	21.44	33
1850.7	1.4	16-QAM	1/5	12.20	V	7.95	0.79	19.36	33
1880.0	1.4	16-QAM	1/0	12.50	V	7.95	0.79	19.66	33
1909.3	1.4	16-QAM	1/0	12.57	V	7.95	0.79	19.73	33
1850.7	1.4	16-QAM	1/5	14.20	H	7.95	0.79	21.36	33
1880.0	1.4	16-QAM	1/0	14.25	H	7.95	0.79	21.41	33
1909.3	1.4	16-QAM	1/0	14.26	H	7.95	0.79	21.42	33
1851.5	3	QPSK	1/0	12.49	V	7.95	0.79	19.65	33
1880.0	3	QPSK	1/0	12.40	V	7.95	0.79	19.56	33
1908.5	3	QPSK	1/0	12.55	V	7.95	0.79	19.71	33
1851.5	3	QPSK	1/0	14.01	H	7.95	0.79	21.17	33
1880.0	3	QPSK	1/0	14.03	H	7.95	0.79	21.19	33
1908.5	3	QPSK	1/0	14.02	H	7.95	0.79	21.18	33
1851.5	3	16-QAM	1/0	11.62	V	7.95	0.79	18.78	33
1880.0	3	16-QAM	1/0	11.59	V	7.95	0.79	18.75	33
1908.5	3	16-QAM	1/0	11.38	V	7.95	0.79	18.54	33
1851.5	3	16-QAM	1/0	13.18	H	7.95	0.79	20.34	33
1880.0	3	16-QAM	1/0	13.12	H	7.95	0.79	20.28	33
1908.5	3	16-QAM	1/0	13.12	H	7.95	0.79	20.28	33
1852.5	5	QPSK	1/0	12.01	V	7.95	0.79	19.17	33
1880.0	5	QPSK	1/0	12.07	V	7.95	0.79	19.23	33
1907.5	5	QPSK	1/24	11.86	V	7.95	0.79	19.02	33
1852.5	5	QPSK	1/0	13.46	H	7.95	0.79	20.62	33
1880.0	5	QPSK	1/0	13.42	H	7.95	0.79	20.58	33
1907.5	5	QPSK	1/24	13.33	H	7.95	0.79	20.49	33
1852.5	5	16-QAM	1/0	11.64	V	7.95	0.79	18.80	33
1880.0	5	16-QAM	1/0	11.71	V	7.95	0.79	18.87	33

1907.5	5	16-QAM	1/24	11.80	V	7.95	0.79	18.96	33
1852.5	5	16-QAM	1/0	13.19	H	7.95	0.79	20.35	33
1880.0	5	16-QAM	1/0	13.38	H	7.95	0.79	20.54	33
1907.5	5	16-QAM	1/24	13.18	H	7.95	0.79	20.34	33
1855	10	QPSK	1/0	12.81	V	7.95	0.79	19.97	33
1880	10	QPSK	1/49	11.54	V	7.95	0.79	18.70	33
1905	10	QPSK	1/0	11.57	V	7.95	0.79	18.73	33
1855	10	QPSK	1/0	12.98	H	7.95	0.79	20.14	33
1880	10	QPSK	1/49	13.06	H	7.95	0.79	20.22	33
1905	10	QPSK	1/0	12.92	H	7.95	0.79	20.08	33
1855	10	16-QAM	1/0	10.79	V	7.95	0.79	17.95	33
1880	10	16-QAM	1/49	10.96	V	7.95	0.79	18.12	33
1905	10	16-QAM	1/0	10.98	V	7.95	0.79	18.14	33
1855	10	16-QAM	1/0	12.04	H	7.95	0.79	19.20	33
1880	10	16-QAM	1/49	12.32	H	7.95	0.79	19.48	33
1905	10	16-QAM	1/0	12.52	H	7.95	0.79	19.68	33
1857.5	15	QPSK	1/0	10.56	V	7.95	0.79	17.72	33
1880	15	QPSK	1/74	10.86	V	7.95	0.79	18.02	33
1902.5	15	QPSK	1/0	10.49	V	7.95	0.79	17.65	33
1857.5	15	QPSK	1/0	12.12	H	7.95	0.79	19.28	33
1880	15	QPSK	1/74	12.24	H	7.95	0.79	19.40	33
1902.5	15	QPSK	1/0	12.35	H	7.95	0.79	19.51	33
1857.5	15	16-QAM	1/0	10.28	V	7.95	0.79	17.44	33
1880	15	16-QAM	1/74	10.67	V	7.95	0.79	17.83	33
1902.5	15	16-QAM	1/0	10.37	V	7.95	0.79	17.53	33
1857.5	15	16-QAM	1/0	11.80	H	7.95	0.79	18.96	33
1880	15	16-QAM	1/74	12.25	H	7.95	0.79	19.41	33
1902.5	15	16-QAM	1/0	12.06	H	7.95	0.79	19.22	33
1860	20	QPSK	1/99	11.94	V	7.95	0.79	19.10	33
1880	20	QPSK	1/99	12.16	V	7.95	0.79	19.32	33
1900	20	QPSK	1/0	11.03	V	7.95	0.79	18.19	33
1860	20	QPSK	1/99	14.24	H	7.95	0.79	21.40	33
1880	20	QPSK	1/99	14.19	H	7.95	0.79	21.35	33
1900	20	QPSK	1/0	14.29	H	7.95	0.79	**21.45**	33
1860	20	16-QAM	1/99	11.80	V	7.95	0.79	18.96	33
1880	20	16-QAM	1/99	12.49	V	7.95	0.79	19.65	33

1900	20	16-QAM	1/0	12.71	V	7.95	0.79	19.87	33
1860	20	16-QAM	1/99	13.32	H	7.95	0.79	20.48	33
1880	20	16-QAM	1/99	14.23	H	7.95	0.79	21.39	33
1900	20	16-QAM	1/0	14.18	H	7.95	0.79	21.34	33

EIRP for LTE Band 4

Frequency	Channel Bandwidth	Mode.	RB	Substituted level	Antenna Polarization	Antenna Gain correction	Cable Loss	Absolute Level	Limit (dBm)
1710.7	1.4	QPSK	1/0	11.78	V	7.95	0.79	18.94	30
1732.5	1.4	QPSK	1/0	11.91	V	7.95	0.79	19.07	30
1754.3	1.4	QPSK	1/0	12.06	V	7.95	0.79	19.22	30
1710.7	1.4	QPSK	1/0	13.36	H	7.95	0.79	20.52	30
1732.5	1.4	QPSK	1/0	13.38	H	7.95	0.79	20.54	30
1754.3	1.4	QPSK	1/0	13.41	H	7.95	0.79	**20.57**	30
1710.7	1.4	16-QAM	1/5	12.05	V	7.95	0.79	19.21	30
1732.5	1.4	16-QAM	1/0	11.88	V	7.95	0.79	19.04	30
1754.3	1.4	16-QAM	1/0	11.81	V	7.95	0.79	18.97	30
1710.7	1.4	16-QAM	1/5	13.27	H	7.95	0.79	20.43	30
1732.5	1.4	16-QAM	1/0	13.24	H	7.95	0.79	20.40	30
1754.3	1.4	16-QAM	1/0	13.23	H	7.95	0.79	20.39	30
1711.5	3	QPSK	1/0	12.07	V	7.95	0.79	19.23	30
1732.5	3	QPSK	1/0	11.78	V	7.95	0.79	18.94	30
1753.5	3	QPSK	1/0	12.10	V	7.95	0.79	19.26	30
1711.5	3	QPSK	1/0	13.35	H	7.95	0.79	20.51	30
1732.5	3	QPSK	1/0	13.36	H	7.95	0.79	20.52	30
1753.5	3	QPSK	1/0	13.34	H	7.95	0.79	20.50	30
1711.5	3	16-QAM	1/0	10.62	V	7.95	0.79	17.78	30
1732.5	3	16-QAM	1/0	10.26	V	7.95	0.79	17.42	30
1753.5	3	16-QAM	1/0	10.30	V	7.95	0.79	17.46	30
1711.5	3	16-QAM	1/0	11.64	H	7.95	0.79	18.80	30
1732.5	3	16-QAM	1/0	11.60	H	7.95	0.79	18.76	30
1753.5	3	16-QAM	1/0	11.59	H	7.95	0.79	18.75	30
1712.5	5	QPSK	1/0	8.82	V	7.95	0.79	15.98	30
1732.5	5	QPSK	1/0	9.75	V	7.95	0.79	16.91	30
1752.5	5	QPSK	1/24	10.15	V	7.95	0.79	17.31	30
1712.5	5	QPSK	1/0	10.51	H	7.95	0.79	17.67	30
1732.5	5	QPSK	1/0	11.43	H	7.95	0.79	18.59	30
1752.5	5	QPSK	1/24	11.42	H	7.95	0.79	18.58	30
1712.5	5	16-QAM	1/0	9.46	V	7.95	0.79	16.62	30
1732.5	5	16-QAM	1/0	9.47	V	7.95	0.79	16.63	30
1752.5	5	16-QAM	1/24	10.32	V	7.95	0.79	17.48	30
1712.5	5	16-QAM	1/0	11.31	H	7.95	0.79	18.47	30
1732.5	5	16-QAM	1/0	10.37	H	7.95	0.79	17.53	30
1752.5	5	16-QAM	1/24	11.64	H	7.95	0.79	18.80	30

1715	10	QPSK	1/0	10.20	V	7.95	0.79	17.36	30
1732.5	10	QPSK	1/49	9.57	V	7.95	0.79	16.73	30
1750	10	QPSK	1/0	8.96	V	7.95	0.79	16.12	30
1715	10	QPSK	1/0	11.41	H	7.95	0.79	18.57	30
1732.5	10	QPSK	1/49	11.46	H	7.95	0.79	18.62	30
1750	10	QPSK	1/0	10.47	H	7.95	0.79	17.63	30
1715	10	16-QAM	1/0	10.93	V	7.95	0.79	18.09	30
1732.5	10	16-QAM	1/49	10.88	V	7.95	0.79	18.04	30
1750	10	16-QAM	1/0	11.10	V	7.95	0.79	18.26	30
1715	10	16-QAM	1/0	12.46	H	7.95	0.79	19.62	30
1732.5	10	16-QAM	1/49	12.46	H	7.95	0.79	19.62	30
1750	10	16-QAM	1/0	12.51	H	7.95	0.79	19.67	30
1717.5	15	QPSK	1/0	11.20	V	7.95	0.79	18.36	30
1732.5	15	QPSK	1/74	10.74	V	7.95	0.79	17.90	30
1747.5	15	QPSK	1/0	10.58	V	7.95	0.79	17.74	30
1717.5	15	QPSK	1/0	12.42	H	7.95	0.79	19.58	30
1732.5	15	QPSK	1/74	12.32	H	7.95	0.79	19.48	30
1747.5	15	QPSK	1/0	12.32	H	7.95	0.79	19.48	30
1717.5	15	16-QAM	1/0	11.40	V	7.95	0.79	18.56	30
1732.5	15	16-QAM	1/74	11.41	V	7.95	0.79	18.57	30
1747.5	15	16-QAM	1/0	10.94	V	7.95	0.79	18.10	30
1717.5	15	16-QAM	1/0	12.63	H	7.95	0.79	19.79	30
1732.5	15	16-QAM	1/74	12.68	H	7.95	0.79	19.84	30
1747.5	15	16-QAM	1/0	12.49	H	7.95	0.79	19.65	30
1720	20	QPSK	1/99	11.76	V	7.95	0.79	18.92	30
1732.5	20	QPSK	1/99	11.50	V	7.95	0.79	18.66	30
1745	20	QPSK	1/0	11.51	V	7.95	0.79	18.67	30
1720	20	QPSK	1/99	13.28	H	7.95	0.79	20.44	30
1732.5	20	QPSK	1/99	13.39	H	7.95	0.79	20.55	30
1745	20	QPSK	1/0	13.38	H	7.95	0.79	20.54	30
1720	20	16-QAM	1/99	10.84	V	7.95	0.79	18.00	30
1732.5	20	16-QAM	1/99	11.17	V	7.95	0.79	18.33	30
1745	20	16-QAM	1/0	11.59	V	7.95	0.79	18.75	30
1720	20	16-QAM	1/99	12.39	H	7.95	0.79	19.55	30
1732.5	20	16-QAM	1/99	13.18	H	7.95	0.79	20.34	30
1745	20	16-QAM	1/0	13.20	H	7.95	0.79	20.36	30

ERP for LTE Band 5

Frequency	Channel Bandwidth	Mode.	RB	Substituted level	Antenna Polarization	Antenna Gain correction	Cable Loss	Absolute Level	Limit (dBm)
824.7	1.4	QPSK	1/0	12.79	V	6.7	0.49	19.00	38.45
836.5	1.4	QPSK	1/0	12.86	V	6.7	0.49	19.07	38.45
848.3	1.4	QPSK	1/0	12.36	V	6.7	0.49	18.57	38.45
824.7	1.4	QPSK	1/0	14.31	H	6.7	0.49	20.52	38.45
836.5	1.4	QPSK	1/0	14.30	H	6.7	0.49	20.51	38.45
848.3	1.4	QPSK	1/0	14.32	H	6.7	0.49	**20.53**	38.45
824.7	1.4	16-QAM	1/0	12.94	V	6.7	0.49	19.15	38.45
836.5	1.4	16-QAM	1/0	13.00	V	6.7	0.49	19.21	38.45
848.3	1.4	16-QAM	1/0	12.55	V	6.7	0.49	18.76	38.45
824.7	1.4	16-QAM	1/0	14.27	H	6.7	0.49	20.48	38.45
836.5	1.4	16-QAM	1/0	14.24	H	6.7	0.49	20.45	38.45
848.3	1.4	16-QAM	1/0	14.22	H	6.7	0.49	20.43	38.45
825.5	3	QPSK	1/0	12.98	V	6.7	0.49	19.19	38.45
836.5	3	QPSK	1/0	12.57	V	6.7	0.49	18.78	38.45
847.5	3	QPSK	1/0	12.91	V	6.7	0.49	19.12	38.45
825.5	3	QPSK	1/0	14.26	H	6.7	0.49	20.47	38.45
836.5	3	QPSK	1/0	14.25	H	6.7	0.49	20.46	38.45
847.5	3	QPSK	1/0	14.24	H	6.7	0.49	20.45	38.45
825.5	3	16-QAM	1/0	10.95	V	6.7	0.49	17.16	38.45
836.5	3	16-QAM	1/0	10.87	V	6.7	0.49	17.08	38.45
847.5	3	16-QAM	1/0	10.78	V	6.7	0.49	16.99	38.45
825.5	3	16-QAM	1/0	12.37	H	6.7	0.49	18.58	38.45
836.5	3	16-QAM	1/0	12.33	H	6.7	0.49	18.54	38.45
847.5	3	16-QAM	1/0	12.33	H	6.7	0.49	18.54	38.45
826.5	5	QPSK	1/0	9.85	V	6.7	0.49	16.06	38.45
836.5	5	QPSK	1/0	10.92	V	6.7	0.49	17.13	38.45
846.5	5	QPSK	1/0	10.77	V	6.7	0.49	16.98	38.45
826.5	5	QPSK	1/0	11.19	H	6.7	0.49	17.40	38.45
836.5	5	QPSK	1/0	12.38	H	6.7	0.49	18.59	38.45
846.5	5	QPSK	1/0	12.30	H	6.7	0.49	18.51	38.45
826.5	5	16-QAM	1/0	10.86	V	6.7	0.49	17.07	38.45
836.5	5	16-QAM	1/0	9.89	V	6.7	0.49	16.10	38.45
846.5	5	16-QAM	1/0	10.89	V	6.7	0.49	17.10	38.45
826.5	5	16-QAM	1/0	12.19	H	6.7	0.49	18.40	38.45
836.5	5	16-QAM	1/0	11.17	H	6.7	0.49	17.38	38.45
846.5	5	16-QAM	1/0	12.33	H	6.7	0.49	18.54	38.45

829	10	QPSK	1/0	10.93	V	6.7	0.49	17.14	38.45
836.5	10	QPSK	1/0	10.98	V	6.7	0.49	17.19	38.45
844	10	QPSK	1/0	9.81	V	6.7	0.49	16.02	38.45
829	10	QPSK	1/0	12.18	H	6.7	0.49	18.39	38.45
836.5	10	QPSK	1/0	12.17	H	6.7	0.49	18.38	38.45
844	10	QPSK	1/0	11.06	H	6.7	0.49	17.27	38.45
829	10	16-QAM	1/0	12.27	V	6.7	0.49	18.48	38.45
836.5	10	16-QAM	1/0	12.05	V	6.7	0.49	18.26	38.45
844	10	16-QAM	1/0	11.83	V	6.7	0.49	18.04	38.45
829	10	16-QAM	1/0	13.40	H	6.7	0.49	19.61	38.45
836.5	10	16-QAM	1/0	13.39	H	6.7	0.49	19.60	38.45
844	10	16-QAM	1/0	13.35	H	6.7	0.49	19.56	38.45

ERP for LTE Band 7

Frequency	Channel Bandwidth	Mode.	RB	Substituted level	Antenna Polarization	Antenna Gain correction	Cable Loss	Absolute Level	Limit (dBm)
2502.5	5	QPSK	1/0	12.18	V	8.23	1.12	19.29	33
2535	5	QPSK	1/0	12.42	V	8.23	1.12	19.53	33
2567.5	5	QPSK	1/24	12.22	V	8.23	1.12	19.33	33
2502.5	5	QPSK	1/0	13.70	H	8.23	1.12	20.81	33
2535	5	QPSK	1/0	13.76	H	8.23	1.12	20.87	33
2567.5	5	QPSK	1/24	13.74	H	8.23	1.12	20.85	33
2502.5	5	16-QAM	1/0	12.95	V	8.23	1.12	20.06	33
2535	5	16-QAM	1/0	12.10	V	8.23	1.12	19.21	33
2567.5	5	16-QAM	1/24	11.86	V	8.23	1.12	18.97	33
2502.5	5	16-QAM	1/0	14.29	H	8.23	1.12	**21.40**	33
2535	5	16-QAM	1/0	13.29	H	8.23	1.12	20.40	33
2567.5	5	16-QAM	1/24	13.15	H	8.23	1.12	20.26	33
2505	10	QPSK	1/0	12.59	V	8.23	1.12	19.70	33
2535	10	QPSK	1/49	12.45	V	8.23	1.12	19.56	33
2565	10	QPSK	1/0	11.44	V	8.23	1.12	18.55	33
2505	10	QPSK	1/0	14.01	H	8.23	1.12	21.12	33
2535	10	QPSK	1/49	13.97	H	8.23	1.12	21.08	33
2565	10	QPSK	1/0	12.97	H	8.23	1.12	20.08	33
2505	10	16-QAM	1/0	12.27	V	8.23	1.12	19.38	33
2535	10	16-QAM	1/49	12.20	V	8.23	1.12	19.31	33
2565	10	16-QAM	1/0	12.15	V	8.23	1.12	19.26	33
2505	10	16-QAM	1/0	13.76	H	8.23	1.12	20.87	33
2535	10	16-QAM	1/49	13.77	H	8.23	1.12	20.88	33
2565	10	16-QAM	1/0	13.68	H	8.23	1.12	20.79	33
2507.5	15	QPSK	1/0	11.34	V	8.23	1.12	18.45	33
2535	15	QPSK	1/74	12.37	V	8.23	1.12	19.48	33
2562.5	15	QPSK	1/0	12.07	V	8.23	1.12	19.18	33
2507.5	15	QPSK	1/0	12.69	H	8.23	1.12	19.80	33
2535	15	QPSK	1/74	13.74	H	8.23	1.12	20.85	33
2562.5	15	QPSK	1/0	13.60	H	8.23	1.12	20.71	33
2507.5	15	16-QAM	1/0	11.10	V	8.23	1.12	18.21	33
2535	15	16-QAM	1/74	11.16	V	8.23	1.12	18.27	33
2562.5	15	16-QAM	1/0	12.27	V	8.23	1.12	19.38	33
2507.5	15	16-QAM	1/0	12.73	H	8.23	1.12	19.84	33
2535	15	16-QAM	1/74	12.61	H	8.23	1.12	19.72	33
2562.5	15	16-QAM	1/0	13.66	H	8.23	1.12	20.77	33

2510	20	QPSK	1/99	11.19	V	8.23	1.12	18.30	33
2535	20	QPSK	1/99	11.55	V	8.23	1.12	18.66	33
2560	20	QPSK	1/0	11.32	V	8.23	1.12	18.43	33
2510	20	QPSK	1/99	12.71	H	8.23	1.12	19.82	33
2535	20	QPSK	1/99	12.70	H	8.23	1.12	19.81	33
2560	20	QPSK	1/0	12.70	H	8.23	1.12	19.81	33
2510	20	16-QAM	1/99	9.94	V	8.23	1.12	17.05	33
2535	20	16-QAM	1/99	10.16	V	8.23	1.12	17.27	33
2560	20	16-QAM	1/0	10.41	V	8.23	1.12	17.52	33
2510	20	16-QAM	1/99	11.71	H	8.23	1.12	18.82	33
2535	20	16-QAM	1/99	11.70	H	8.23	1.12	18.81	33
2560	20	16-QAM	1/0	11.78	H	8.23	1.12	18.89	33

ERP for LTE Band 12

Frequency	Channel Bandwidth	Mode.	RB	Substituted level	Antenna Polarization	Antenna Gain correction	Cable Loss	Absolute Level	Limit (dBm)
699.7	1.4	QPSK	1/0	13.83	V	6.6	0.47	19.96	34.77
707.5	1.4	QPSK	1/0	13.67	V	6.6	0.47	19.80	34.77
715.3	1.4	QPSK	1/24	13.53	V	6.6	0.47	19.66	34.77
699.7	1.4	QPSK	1/0	15.05	H	6.6	0.47	21.18	34.77
707.5	1.4	QPSK	1/0	15.03	H	6.6	0.47	21.16	34.77
715.3	1.4	QPSK	1/24	15.04	H	6.6	0.47	21.17	34.77
699.7	1.4	16-QAM	1/0	14.10	V	6.6	0.47	20.23	34.77
707.5	1.4	16-QAM	1/0	13.94	V	6.6	0.47	20.07	34.77
715.3	1.4	16-QAM	1/24	13.87	V	6.6	0.47	20.00	34.77
699.7	1.4	16-QAM	1/0	15.31	H	6.6	0.47	21.44	34.77
707.5	1.4	16-QAM	1/0	15.30	H	6.6	0.47	21.43	34.77
715.3	1.4	16-QAM	1/24	15.29	H	6.6	0.47	21.42	34.77
700.5	3	QPSK	1/0	14.32	V	6.6	0.47	20.45	34.77
707.5	3	QPSK	1/49	13.88	V	6.6	0.47	20.01	34.77
714.5	3	QPSK	1/0	14.28	V	6.6	0.47	20.41	34.77
700.5	3	QPSK	1/0	15.53	H	6.6	0.47	21.66	34.77
707.5	3	QPSK	1/49	15.62	H	6.6	0.47	**21.75**	34.77
714.5	3	QPSK	1/0	15.53	H	6.6	0.47	21.66	34.77
700.5	3	16-QAM	1/0	12.99	V	6.6	0.47	19.12	34.77
707.5	3	16-QAM	1/49	12.86	V	6.6	0.47	18.99	34.77
714.5	3	16-QAM	1/0	12.46	V	6.6	0.47	18.59	34.77
700.5	3	16-QAM	1/0	14.32	H	6.6	0.47	20.45	34.77
707.5	3	16-QAM	1/49	14.14	H	6.6	0.47	20.27	34.77
714.5	3	16-QAM	1/0	14.24	H	6.6	0.47	20.37	34.77
701.5	5	QPSK	1/0	11.96	V	6.6	0.47	18.09	34.77
707.5	5	QPSK	1/74	13.37	V	6.6	0.47	19.50	34.77
713.5	5	QPSK	1/0	13.00	V	6.6	0.47	19.13	34.77
701.5	5	QPSK	1/0	13.07	H	6.6	0.47	19.20	34.77
707.5	5	QPSK	1/74	14.54	H	6.6	0.47	20.67	34.77
713.5	5	QPSK	1/0	14.39	H	6.6	0.47	20.52	34.77
701.5	5	16-QAM	1/0	13.15	V	6.6	0.47	19.28	34.77
707.5	5	16-QAM	1/74	12.01	V	6.6	0.47	18.14	34.77
713.5	5	16-QAM	1/0	12.89	V	6.6	0.47	19.02	34.77
701.5	5	16-QAM	1/0	14.30	H	6.6	0.47	20.43	34.77
707.5	5	16-QAM	1/74	13.37	H	6.6	0.47	19.50	34.77
713.5	5	16-QAM	1/0	14.63	H	6.6	0.47	20.76	34.77

704.0	10	QPSK	1/99	13.33	V	6.6	0.47	19.46	34.77
707.5	10	QPSK	1/99	13.21	V	6.6	0.47	19.34	34.77
711.0	10	QPSK	1/0	12.45	V	6.6	0.47	18.58	34.77
704.0	10	QPSK	1/99	14.58	H	6.6	0.47	20.71	34.77
707.5	10	QPSK	1/99	14.57	H	6.6	0.47	20.70	34.77
711.0	10	QPSK	1/0	13.58	H	6.6	0.47	19.71	34.77
704.0	10	16-QAM	1/99	11.55	V	6.6	0.47	17.68	34.77
707.5	10	16-QAM	1/99	11.78	V	6.6	0.47	17.91	34.77
711.0	10	16-QAM	1/0	11.74	V	6.6	0.47	17.87	34.77
704.0	10	16-QAM	1/99	12.91	H	6.6	0.47	19.04	34.77
707.5	10	16-QAM	1/99	13.20	H	6.6	0.47	19.33	34.77
711.0	10	16-QAM	1/0	12.93	H	6.6	0.47	19.06	34.77

ERP for LTE Band 13

Frequency	Channel Bandwidth	Mode.	RB	Substituted level	Antenna Polarization	Antenna Gain correction	Cable Loss	Absolute Level	Limit (dBm)
779.5	5	QPSK	1/0	13.06	V	6.6	0.47	19.19	34.77
782.0	5	QPSK	1/74	13.38	V	6.6	0.47	19.51	34.77
784.5	5	QPSK	1/0	13.18	V	6.6	0.47	19.31	34.77
779.5	5	QPSK	1/0	14.59	H	6.6	0.47	20.72	34.77
782.0	5	QPSK	1/74	14.72	H	6.6	0.47	20.85	34.77
784.5	5	QPSK	1/0	14.69	H	6.6	0.47	20.82	34.77
779.5	5	16-QAM	1/0	14.35	V	6.6	0.47	20.48	34.77
782.0	5	16-QAM	1/74	13.39	V	6.6	0.47	19.52	34.77
784.5	5	16-QAM	1/0	13.24	V	6.6	0.47	19.37	34.77
779.5	5	16-QAM	1/0	15.56	H	6.6	0.47	**21.69**	34.77
782.0	5	16-QAM	1/74	14.75	H	6.6	0.47	20.88	34.77
784.5	5	16-QAM	1/0	14.66	H	6.6	0.47	20.79	34.77
782.0	10	QPSK	1/99	14.29	V	6.6	0.47	20.42	34.77
782.0	10	QPSK	1/99	13.58	H	6.6	0.47	19.71	34.77
782.0	10	16-QAM	1/99	13.39	V	6.6	0.47	19.52	34.77
782.0	10	16-QAM	1/99	15.50	H	6.6	0.47	21.63	34.77

ERP for LTE Band 14

Frequency	Channel Bandwidth	Mode.	RB	Substituted level	Antenna Polarization	Antenna Gain correction	Cable Loss	Absolute Level	Limit (dBm)
790.5	5	QPSK	1/0	13.25	V	6.6	0.47	19.38	34.77
793.0	5	QPSK	1/74	13.40	V	6.6	0.47	19.53	34.77
795.5	5	QPSK	1/0	13.46	V	6.6	0.47	19.59	34.77
790.5	5	QPSK	1/0	14.72	H	6.6	0.47	20.85	34.77
793.0	5	QPSK	1/74	14.66	H	6.6	0.47	20.79	34.77
795.5	5	QPSK	1/0	14.68	H	6.6	0.47	20.81	34.77
790.5	5	16-QAM	1/0	14.34	V	6.6	0.47	20.47	34.77
793.0	5	16-QAM	1/74	13.41	V	6.6	0.47	19.54	34.77
795.5	5	16-QAM	1/0	13.41	V	6.6	0.47	19.54	34.77
790.5	5	16-QAM	1/0	15.45	H	6.6	0.47	21.58	34.77
793.0	5	16-QAM	1/74	14.66	H	6.6	0.47	20.79	34.77
795.5	5	16-QAM	1/0	14.74	H	6.6	0.47	20.87	34.77
793.0	10	QPSK	1/99	12.58	V	6.6	0.47	18.71	34.77
793.0	10	QPSK	1/99	13.82	H	6.6	0.47	19.95	34.77
793.0	10	16-QAM	1/99	13.89	V	6.6	0.47	20.02	34.77
793.0	10	16-QAM	1/99	15.55	H	6.6	0.47	**21.68**	34.77

ERP for LTE Band 17

706.5	5	QPSK	1/0	11.93	V	6.6	0.47	18.06	34.77
710.0	5	QPSK	1/74	12.11	V	6.6	0.47	18.24	34.77
713.5	5	QPSK	1/0	12.13	V	6.6	0.47	18.26	34.77
706.5	5	QPSK	1/0	13.40	H	6.6	0.47	19.53	34.77
710.0	5	QPSK	1/74	13.37	H	6.6	0.47	19.50	34.77
713.5	5	QPSK	1/0	13.35	H	6.6	0.47	19.48	34.77
706.5	5	16-QAM	1/0	12.97	V	6.6	0.47	19.10	34.77
710.0	5	16-QAM	1/74	12.24	V	6.6	0.47	18.37	34.77
713.5	5	16-QAM	1/0	11.98	V	6.6	0.47	18.11	34.77
706.5	5	16-QAM	1/0	14.22	H	6.6	0.47	**20.35**	34.77
710.0	5	16-QAM	1/74	13.35	H	6.6	0.47	19.48	34.77
713.5	5	16-QAM	1/0	13.32	H	6.6	0.47	19.45	34.77
709.0	10	QPSK	1/99	12.67	V	6.6	0.47	18.80	34.77
710.0	10	QPSK	1/99	12.44	V	6.6	0.47	18.57	34.77
711.0	10	QPSK	1/0	11.93	V	6.6	0.47	18.06	34.77
709.0	10	QPSK	1/99	14.19	H	6.6	0.47	20.32	34.77
710.0	10	QPSK	1/99	14.13	H	6.6	0.47	20.26	34.77
711.0	10	QPSK	1/0	13.30	H	6.6	0.47	19.43	34.77
709.0	10	16-QAM	1/99	10.97	V	6.6	0.47	17.10	34.77
710.0	10	16-QAM	1/99	11.15	V	6.6	0.47	17.28	34.77
711.0	10	16-QAM	1/0	11.06	V	6.6	0.47	17.19	34.77
709.0	10	16-QAM	1/99	12.38	H	6.6	0.47	18.51	34.77
710.0	10	16-QAM	1/99	12.37	H	6.6	0.47	18.50	34.77
711.0	10	16-QAM	1/0	12.38	H	6.6	0.47	18.51	34.77

EIRP for LTE Band 25

Frequency	Channel Bandwidth	Mode.	RB	Substituted level	Antenna Polarization	Antenna Gain correction	Cable Loss	Absolute Level	Limit (dBm)
1850.7	1.4	QPSK	1/0	13.02	V	7.95	0.80	20.17	34.77
1882.5	1.4	QPSK	1/0	12.94	V	7.95	0.80	20.09	34.77
1914.3	1.4	QPSK	1/0	13.00	V	7.95	0.80	20.15	34.77
1850.7	1.4	QPSK	1/0	14.37	H	7.95	0.80	21.52	34.77
1882.5	1.4	QPSK	1/0	14.36	H	7.95	0.80	21.51	34.77
1914.3	1.4	QPSK	1/0	14.39	H	7.95	0.80	21.54	34.77
1850.7	1.4	16-QAM	1/5	12.69	V	7.95	0.80	19.84	34.77
1882.5	1.4	16-QAM	1/0	12.41	V	7.95	0.80	19.56	34.77
1914.3	1.4	16-QAM	1/0	12.65	V	7.95	0.80	19.80	34.77
1850.7	1.4	16-QAM	1/5	14.43	H	7.95	0.80	21.58	34.77
1882.5	1.4	16-QAM	1/0	14.30	H	7.95	0.80	21.45	34.77
1914.3	1.4	16-QAM	1/0	14.30	H	7.95	0.80	21.45	34.77
1851.5	3	QPSK	1/0	12.81	V	7.95	0.80	19.96	34.77
1882.5	3	QPSK	1/0	12.92	V	7.95	0.80	20.07	34.77
1913.5	3	QPSK	1/0	12.76	V	7.95	0.80	19.91	34.77
1851.5	3	QPSK	1/0	14.24	H	7.95	0.80	21.39	34.77
1882.5	3	QPSK	1/0	14.30	H	7.95	0.80	21.45	34.77
1913.5	3	QPSK	1/0	14.18	H	7.95	0.80	21.33	34.77
1851.5	3	16-QAM	1/0	12.39	V	7.95	0.80	19.54	34.77
1882.5	3	16-QAM	1/0	12.57	V	7.95	0.80	19.72	34.77
1913.5	3	16-QAM	1/0	12.38	V	7.95	0.80	19.53	34.77
1851.5	3	16-QAM	1/0	13.64	H	7.95	0.80	20.79	34.77
1882.5	3	16-QAM	1/0	13.70	H	7.95	0.80	20.85	34.77
1913.5	3	16-QAM	1/0	13.70	H	7.95	0.80	20.85	34.77
1852.5	5	QPSK	1/0	11.19	V	7.95	0.80	18.34	34.77
1882.5	5	QPSK	1/0	12.39	V	7.95	0.80	19.54	34.77
1912.5	5	QPSK	1/24	12.15	V	7.95	0.80	19.30	34.77
1852.5	5	QPSK	1/0	12.42	H	7.95	0.80	19.57	34.77
1882.5	5	QPSK	1/0	13.66	H	7.95	0.80	20.81	34.77
1912.5	5	QPSK	1/24	13.54	H	7.95	0.80	20.69	34.77
1852.5	5	16-QAM	1/0	12.06	V	7.95	0.80	19.21	34.77
1882.5	5	16-QAM	1/0	10.90	V	7.95	0.80	18.05	34.77
1912.5	5	16-QAM	1/24	12.01	V	7.95	0.80	19.16	34.77
1852.5	5	16-QAM	1/0	13.42	H	7.95	0.80	20.57	34.77
1882.5	5	16-QAM	1/0	12.32	H	7.95	0.80	19.47	34.77
1912.5	5	16-QAM	1/24	13.39	H	7.95	0.80	20.54	34.77