

FCC SAR Test Report

Report No. : SA190123W002
Applicant : Gosuncn Technology Group Co., Ltd.
Address : 6F, 2819 KaiChuang Blvd., Science Town, Huangpu District, Guangzhou City, Guangdong, China.
Product : Tracker
FCC ID : 2APNR-GT105
Brand : GOSUNCN
Model No. : GT105
Standards : FCC 47 CFR Part 2 (2.1093) / IEEE C95.1:1992 / IEEE 1528:2013
KDB 447498 D01 v06
Sample Received Date : Feb. 27, 2019
Date of Testing : Feb. 28, 2019 ~ Apr. 03, 2019

CERTIFICATION: The above equipment have been tested by **BV 7LAYERS COMMUNICATIONS TECHNOLOGY (SHENZHEN) CO. LTD.**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's SAR characteristics under the conditions specified in this report. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product certification, approval, or endorsement by A2LA or any government agencies.

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Release Control Record

Report No.	Reason for Change	Date Issued
SA190123W002	Initial release	Apr. 04, 2019

1. Description of Equipment Under Test

EUT Type	Tracker
FCC ID	2APNR-GT105
Brand Name	GOSUNCN
Model Name	GT105
HW Version	SD2000.H02
SW Version	EN_SD2000V1.0.0B01
Tx Frequency Bands (Unit: MHz)	WCDMA Band II : 1852.4 ~ 1907.6 WCDMA Band IV : 1712.4 ~ 1752.6 WCDMA Band V : 826.4 ~ 846.6 LTE Band 2 : 1850.7 ~ 1909.3 (1.4M), 1851.5 ~ 1908.5 (3M), 1852.5 ~ 1907.5 (5M), 1855 ~ 1905 (10M), 1857.5 ~ 1902.5 (15M), 1860 ~ 1900 (20M) LTE Band 4 : 1710.7 ~ 1754.3 (1.4M), 1711.5 ~ 1753.5 (3M), 1712.5 ~ 1752.5 (5M), 1715 ~ 1750 (10M), 1717.5 ~ 1747.5 (15M), 1720 ~ 1745 (20M) LTE Band 5 : 824.7 ~ 848.3 (1.4M), 825.5 ~ 847.5 (3M), 826.5 ~ 846.5 (5M), 829 ~ 844 (10M) LTE Band 12 : 699.7 ~ 715.3 (1.4M), 700.5 ~ 714.5 (3M), 701.5 ~ 713.5 (5M), 704 ~ 711 (10M) LTE Band 66 : 1710.7 ~ 1779.3 (1.4M), 1711.5 ~ 1778.5 (3M), 1712.5 ~ 1777.5 (5M), 1715 ~ 1775 (10M), 1717.5 ~ 1772.5 (15M), 1720 ~ 1770 (20M) BT_LE : 2402 ~ 2480
Uplink Modulations	WCDMA : QPSK LTE : QPSK, 16QAM BT_LE : GFSK
Maximum Tune-up Conducted Power (Unit: dBm)	Please refer to section 4.6.1 of this report.
Antenna Type	BT_LE: PIFA Antenna WWAN: Fixed Internal Antenna
EUT Stage	Identical Prototype

Note:

- The above EUT information is declared by manufacturer and for more detailed features description please refers to the manufacturer's specifications or User's Manual.

List of Accessory:

Battery	Brand Name	GOSUNCN
	Model Name	422831
	Power Rating	3.8Vdc, 413mAh
	Type	Li-ion

2. Maximum Output Power

2.1 Maximum Conducted Power

The maximum conducted average power (Unit: dBm) including tune-up tolerance is shown as below.

Mode	WCDMA Band II	WCDMA Band IV	WCDMA Band V
RMC 12.2K	23.0	23.0	23.0
HSDPA	22.5	22.5	22.5
HSUPA	22.5	22.5	22.5

Mode	LTE 2	LTE 4	LTE 5
QPSK / 16QAM	23.0 / 22.0	23.0 / 22.0	23.0 / 22.0

Mode	LTE 12	LTE 66
QPSK / 16QAM	23.0 / 22.0	23.0 / 22.0

Mode	2.4G Bluetooth
LE	1.3

2.2 Measured Conducted Power Result

The measuring conducted average power (Unit: dBm) is shown as below.

Band	WCDMA Band II			WCDMA Band IV			WCDMA Band V			3GPP MPR (dB)
Channel	9262	9400	9538	1312	1413	1513	4132	4182	4233	
Frequency (MHz)	1852.4	1880.0	1907.6	1712.4	1732.6	1752.6	826.4	836.4	846.6	
RMC 12.2K	22.86	22.89	22.95	22.85	22.88	22.81	22.82	22.79	22.89	-
HSDPA Subtest-1	21.93	21.96	22.02	21.92	21.95	21.88	21.89	21.86	21.96	0
HSDPA Subtest-2	21.87	21.90	21.96	21.86	21.89	21.82	21.83	21.80	21.90	0
HSDPA Subtest-3	21.56	21.59	21.65	21.55	21.58	21.51	21.52	21.49	21.59	0.5
HSDPA Subtest-4	21.50	21.53	21.59	21.49	21.52	21.45	21.46	21.43	21.53	0.5
HSUPA Subtest-1	21.81	21.84	21.90	21.80	21.83	21.76	21.77	21.74	21.84	0
HSUPA Subtest-2	19.99	20.02	20.08	19.98	20.01	19.94	19.95	19.92	20.02	2
HSUPA Subtest-3	20.86	20.89	20.95	20.85	20.88	20.81	20.82	20.79	20.89	1
HSUPA Subtest-4	19.94	19.97	20.03	19.93	19.96	19.89	19.90	19.87	19.97	2
HSUPA Subtest-5	21.74	21.77	21.83	21.73	21.76	21.69	21.70	21.67	21.77	0

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 18607	Mid CH 18900	High CH 19193		Low CH 18607	Mid CH 18900	High CH 19193	
			1850.7 MHz	1880.0 MHz	1909.3 MHz		1850.7 MHz	1880.0 MHz	1909.3 MHz	
2 / 1.4M	1	0	21.65	21.55	21.73	0	20.51	20.41	20.59	1
	1	2	21.41	21.31	21.49	0	20.03	19.93	20.11	1
	1	5	21.54	21.44	21.62	0	19.95	19.85	20.03	1
	3	0	21.64	21.54	21.72	0	19.55	19.45	19.63	1
	3	1	21.40	21.30	21.48	0	19.48	19.38	19.56	1
	3	3	21.53	21.43	21.61	0	19.44	19.34	19.52	1
	6	0	20.57	20.47	20.65	1	19.40	19.30	19.48	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 18615	Mid CH 18900	High CH 19185		Low CH 18615	Mid CH 18900	High CH 19185	
			1851.5 MHz	1880.0 MHz	1908.5 MHz		1851.5 MHz	1880.0 MHz	1908.5 MHz	
2 / 3M	1	0	21.68	21.58	21.76	0	20.54	20.44	20.62	1
	1	7	21.44	21.34	21.52	0	20.06	19.96	20.14	1
	1	14	21.57	21.47	21.65	0	19.98	19.88	20.06	1
	8	0	20.67	20.57	20.75	1	19.58	19.48	19.66	2
	8	3	20.44	20.34	20.52	1	19.51	19.41	19.59	2
	8	7	20.48	20.38	20.56	1	19.47	19.37	19.55	2
	15	0	20.60	20.50	20.68	1	19.43	19.33	19.51	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 18625	Mid CH 18900	High CH 19175		Low CH 18625	Mid CH 18900	High CH 19175	
			1852.5 MHz	1880.0 MHz	1907.5 MHz		1852.5 MHz	1880.0 MHz	1907.5 MHz	
2 / 5M	1	0	21.71	21.61	21.79	0	20.57	20.47	20.65	1
	1	12	21.47	21.37	21.55	0	20.09	19.99	20.17	1
	1	24	21.60	21.50	21.68	0	20.01	19.91	20.09	1
	12	0	20.70	20.60	20.78	1	19.61	19.51	19.69	2
	12	6	20.47	20.37	20.55	1	19.54	19.44	19.62	2
	12	13	20.51	20.41	20.59	1	19.50	19.40	19.58	2
	25	0	20.63	20.53	20.71	1	19.46	19.36	19.54	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 18650	Mid CH 18900	High CH 19150		Low CH 18650	Mid CH 18900	High CH 19150	
			1855.0 MHz	1880.0 MHz	1905.0 MHz		1855.0 MHz	1880.0 MHz	1905.0 MHz	
2 / 10M	1	0	21.73	21.63	21.81	0	20.59	20.49	20.67	1
	1	24	21.49	21.39	21.57	0	20.11	20.01	20.19	1
	1	49	21.62	21.52	21.70	0	20.03	19.93	20.11	1
	25	0	20.72	20.62	20.80	1	-	-	-	-
	25	12	20.49	20.39	20.57	1	-	-	-	-
	25	25	20.53	20.43	20.61	1	-	-	-	-
	50	0	20.65	20.55	20.73	1	-	-	-	-

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 18675	Mid CH 18900	High CH 19125		Low CH 18675	Mid CH 18900	High CH 19125	
			1857.5 MHz	1880.0 MHz	1902.5 MHz		1857.5 MHz	1880.0 MHz	1902.5 MHz	
2 / 15M	1	0	21.76	21.66	21.84	0	20.62	20.52	20.70	1
	1	37	21.52	21.42	21.60	0	20.14	20.04	20.22	1
	1	74	21.65	21.55	21.73	0	20.06	19.96	20.14	1
	36	0	20.75	20.65	20.83	1	-	-	-	-
	36	19	20.52	20.42	20.60	1	-	-	-	-
	36	39	20.56	20.46	20.64	1	-	-	-	-
	75	0	20.68	20.58	20.76	1	-	-	-	-

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 18700	Mid CH 18900	High CH 19100		Low CH 18700	Mid CH 18900	High CH 19100	
			1860.0 MHz	1880.0 MHz	1900.0 MHz		1860.0 MHz	1880.0 MHz	1900.0 MHz	
2 / 20M	1	0	21.81	21.71	21.89	0	20.67	20.57	20.75	1
	1	50	21.57	21.47	21.65	0	20.19	20.09	20.27	1
	1	99	21.70	21.60	21.78	0	20.11	20.01	20.19	1
	50	0	20.80	20.70	20.88	1	-	-	-	2
	50	25	20.57	20.47	20.65	1	-	-	-	2
	50	50	20.61	20.51	20.69	1	-	-	-	2
	100	0	20.73	20.63	20.81	1	-	-	-	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 19957	Mid CH 20175	High CH 20393		Low CH 19957	Mid CH 20175	High CH 20393	
			1710.7 MHz	1732.5 MHz	1754.3 MHz		1710.7 MHz	1732.5 MHz	1754.3 MHz	
4 / 1.4M	1	0	21.96	22.07	22.22	0	20.67	20.78	20.93	1
	1	2	21.92	22.03	22.18	0	20.62	20.73	20.88	1
	1	5	21.74	21.85	22.00	0	20.60	20.71	20.86	1
	3	0	21.94	22.05	22.20	0	19.76	19.87	20.02	1
	3	1	21.90	22.01	22.16	0	19.66	19.77	19.92	1
	3	3	21.72	21.83	21.98	0	19.61	19.72	19.87	1
	6	0	20.89	21.00	21.15	1	19.66	19.77	19.92	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 19965	Mid CH 20175	High CH 20385		Low CH 19965	Mid CH 20175	High CH 20385	
			1711.5 MHz	1732.5 MHz	1753.5 MHz		1711.5 MHz	1732.5 MHz	1753.5 MHz	
4 / 3M	1	0	21.97	22.08	22.23	0	20.68	20.79	20.94	1
	1	7	21.93	22.04	22.19	0	20.63	20.74	20.89	1
	1	14	21.75	21.86	22.01	0	20.61	20.72	20.87	1
	8	0	20.97	21.08	21.23	1	19.77	19.88	20.03	2
	8	3	20.93	21.04	21.19	1	19.67	19.78	19.93	2
	8	7	20.89	21.00	21.15	1	19.62	19.73	19.88	2
	15	0	20.90	21.01	21.16	1	19.67	19.78	19.93	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 19975	Mid CH 20175	High CH 20375		Low CH 19975	Mid CH 20175	High CH 20375	
			1712.5 MHz	1732.5 MHz	1752.5 MHz		1712.5 MHz	1732.5 MHz	1752.5 MHz	
4 / 5M	1	0	22.00	22.11	22.26	0	20.71	20.82	20.97	1
	1	12	21.96	22.07	22.22	0	20.66	20.77	20.92	1
	1	24	21.78	21.89	22.04	0	20.64	20.75	20.90	1
	12	0	21.00	21.11	21.26	1	19.80	19.91	20.06	2
	12	6	20.96	21.07	21.22	1	19.70	19.81	19.96	2
	12	13	20.92	21.03	21.18	1	19.65	19.76	19.91	2
	25	0	20.93	21.04	21.19	1	19.70	19.81	19.96	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 20000	Mid CH 20175	High CH 20350		Low CH 20000	Mid CH 20175	High CH 20350	
			1715.0 MHz	1732.5 MHz	1750.0 MHz		1715.0 MHz	1732.5 MHz	1750.0 MHz	
4 / 10M	1	0	22.04	22.15	22.30	0	20.75	20.86	21.01	1
	1	24	22.00	22.11	22.26	0	20.70	20.81	20.96	1
	1	49	21.82	21.93	22.08	0	20.68	20.79	20.94	1
	25	0	21.04	21.15	21.30	1	-	-	-	-
	25	12	21.00	21.11	21.26	1	-	-	-	-
	25	25	20.96	21.07	21.22	1	-	-	-	-
	50	0	20.97	21.08	21.23	1	-	-	-	-

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 20025	Mid CH 20175	High CH 20325		Low CH 20025	Mid CH 20175	High CH 20325	
			1717.5 MHz	1732.5 MHz	1747.5 MHz		1717.5 MHz	1732.5 MHz	1747.5 MHz	
4 / 15M	1	0	22.10	22.21	22.36	0	20.81	20.92	21.07	1
	1	37	22.06	22.17	22.32	0	20.76	20.87	21.02	1
	1	74	21.88	21.99	22.14	0	20.74	20.85	21.00	1
	36	0	21.10	21.21	21.36	1	-	-	-	-
	36	19	21.06	21.17	21.32	1	-	-	-	-
	36	39	21.02	21.13	21.28	1	-	-	-	-
	75	0	21.03	21.14	21.29	1	-	-	-	-

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 20050	Mid CH 20175	High CH 20300		Low CH 20050	Mid CH 20175	High CH 20300	
			1720.0 MHz	1732.5 MHz	1745.0 MHz		1720.0 MHz	1732.5 MHz	1745.0 MHz	
4 / 20M	1	0	22.13	22.24	22.39	0	20.84	20.95	21.10	1
	1	50	22.09	22.20	22.35	0	20.79	20.90	21.05	1
	1	99	21.91	22.02	22.17	0	20.77	20.88	21.03	1
	50	0	21.13	21.24	21.39	1	-	-	-	-
	50	25	21.09	21.20	21.35	1	-	-	-	-
	50	50	21.05	21.16	21.31	1	-	-	-	-
	100	0	21.06	21.17	21.32	1	-	-	-	-

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 20407	Mid CH 20525	High CH 20643		Low CH 20407	Mid CH 20525	High CH 20643	
			824.7 MHz	836.5 MHz	848.3 MHz		824.7 MHz	836.5 MHz	848.3 MHz	
5 / 1.4M	1	0	22.29	22.26	22.45	0	20.81	20.78	20.97	1
	1	2	22.35	22.32	22.51	0	20.76	20.73	20.92	1
	1	5	22.22	22.19	22.38	0	20.74	20.71	20.90	1
	3	0	22.27	22.24	22.43	0	20.80	20.77	20.96	1
	3	1	22.33	22.30	22.49	0	20.75	20.72	20.91	1
	3	3	22.20	22.17	22.36	0	20.73	20.70	20.89	1
	6	0	21.52	21.49	21.68	1	20.30	20.27	20.46	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 20415	Mid CH 20525	High CH 20635		Low CH 20415	Mid CH 20525	High CH 20635	
			825.5 MHz	836.5 MHz	847.5 MHz		825.5 MHz	836.5 MHz	847.5 MHz	
5 / 3M	1	0	22.33	22.30	22.49	0	20.85	20.82	21.01	1
	1	7	22.39	22.36	22.55	0	20.80	20.77	20.96	1
	1	14	22.26	22.23	22.42	0	20.78	20.75	20.94	1
	8	0	21.57	21.54	21.73	1	20.40	20.37	20.56	2
	8	3	21.48	21.45	21.64	1	20.37	20.34	20.53	2
	8	7	21.40	21.37	21.56	1	20.31	20.28	20.47	2
	15	0	21.56	21.53	21.72	1	20.34	20.31	20.50	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 20425	Mid CH 20525	High CH 20625		Low CH 20425	Mid CH 20525	High CH 20625	
			826.5 MHz	836.5 MHz	846.5 MHz		826.5 MHz	836.5 MHz	846.5 MHz	
5 / 5M	1	0	22.39	22.36	22.55	0	20.91	20.88	21.07	1
	1	12	22.45	22.42	22.61	0	20.86	20.83	21.02	1
	1	24	22.32	22.29	22.48	0	20.84	20.81	21.00	1
	12	0	21.63	21.60	21.79	1	20.46	20.43	20.62	2
	12	6	21.54	21.51	21.70	1	20.43	20.40	20.59	2
	12	13	21.46	21.43	21.62	1	20.37	20.34	20.53	2
	25	0	21.62	21.59	21.78	1	20.40	20.37	20.56	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 20450	Mid CH 20525	High CH 20600		Low CH 20450	Mid CH 20525	High CH 20600	
			829.0 MHz	836.5 MHz	844.0 MHz		829.0 MHz	836.5 MHz	844.0 MHz	
5 / 10M	1	0	22.42	22.39	22.58	0	20.94	20.91	21.10	1
	1	24	22.48	22.45	22.64	0	20.89	20.86	21.05	1
	1	49	22.35	22.32	22.51	0	20.87	20.84	21.03	1
	25	0	21.66	21.63	21.82	1	-	-	-	-
	25	12	21.57	21.54	21.73	1	-	-	-	-
	25	25	21.49	21.46	21.65	1	-	-	-	-
	50	0	21.65	21.62	21.81	1	-	-	-	-

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 23017	Mid CH 23095	High CH 23173		Low CH 23017	Mid CH 23095	High CH 23173	
			699.7 MHz	707.5 MHz	715.3 MHz		699.7 MHz	707.5 MHz	715.3 MHz	
12 / 1.4M	1	0	22.79	22.73	22.76	0	21.23	21.17	21.20	1
	1	2	22.68	22.62	22.65	0	21.19	21.13	21.16	1
	1	5	22.63	22.57	22.60	0	21.15	21.09	21.12	1
	3	0	22.77	22.71	22.74	0	20.99	20.93	20.96	1
	3	1	22.66	22.60	22.63	0	20.92	20.86	20.89	1
	3	3	22.61	22.55	22.58	0	20.88	20.82	20.85	1
	6	0	21.82	21.76	21.79	1	20.96	20.90	20.93	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 23025	Mid CH 23095	High CH 23165		Low CH 23025	Mid CH 23095	High CH 23165	
			700.5 MHz	707.5 MHz	714.5 MHz		700.5 MHz	707.5 MHz	714.5 MHz	
12 / 3M	1	0	22.83	22.77	22.80	0	21.27	21.21	21.24	1
	1	7	22.72	22.66	22.69	0	21.23	21.17	21.20	1
	1	14	22.67	22.61	22.64	0	21.19	21.13	21.16	1
	8	0	21.88	21.82	21.85	1	21.03	20.97	21.00	2
	8	3	21.83	21.77	21.80	1	20.96	20.90	20.93	2
	8	7	21.78	21.72	21.75	1	20.92	20.86	20.89	2
	15	0	21.86	21.80	21.83	1	21.00	20.94	20.97	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 23035	Mid CH 23095	High CH 23155		Low CH 23035	Mid CH 23095	High CH 23155	
			701.5 MHz	707.5 MHz	713.5 MHz		701.5 MHz	707.5 MHz	713.5 MHz	
12 / 5M	1	0	22.89	22.83	22.86	0	21.33	21.27	21.30	1
	1	12	22.78	22.72	22.75	0	21.29	21.23	21.26	1
	1	24	22.73	22.67	22.70	0	21.25	21.19	21.22	1
	12	0	21.94	21.88	21.91	1	21.09	21.03	21.06	2
	12	6	21.89	21.83	21.86	1	21.02	20.96	20.99	2
	12	13	21.84	21.78	21.81	1	20.98	20.92	20.95	2
	25	0	21.92	21.86	21.89	1	21.06	21.00	21.03	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 23060	Mid CH 23095	High CH 23130		Low CH 23060	Mid CH 23095	High CH 23130	
			704.0 MHz	707.5 MHz	711.0 MHz		704.0 MHz	707.5 MHz	711.0 MHz	
12 / 10M	1	0	22.92	22.86	22.89	0	21.36	21.30	21.33	1
	1	24	22.81	22.75	22.78	0	21.32	21.26	21.29	1
	1	49	22.76	22.70	22.73	0	21.28	21.22	21.25	1
	25	0	21.97	21.91	21.94	1	-	-	-	-
	25	12	21.92	21.86	21.89	1	-	-	-	-
	25	25	21.87	21.81	21.84	1	-	-	-	-
	50	0	21.95	21.89	21.92	1	-	-	-	-

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 131979	Mid CH 132322	High CH 132665		Low CH 131979	Mid CH 132322	High CH 132665	
			1710.7 MHz	1745.0 MHz	1779.3 MHz		1710.7 MHz	1745.0 MHz	1779.3 MHz	
66 / 1.4M	1	0	21.67	22.08	21.73	0	20.26	20.67	20.32	1
	1	2	21.98	22.39	22.04	0	20.23	20.64	20.29	1
	1	5	21.44	21.85	21.50	0	20.19	20.60	20.25	1
	3	0	21.66	22.07	21.72	0	19.57	19.98	19.63	1
	3	1	21.97	22.38	22.03	0	19.81	20.22	19.87	1
	3	3	21.43	21.84	21.49	0	19.72	20.13	19.78	1
	6	0	20.65	21.06	20.71	1	19.69	20.10	19.75	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 131987	Mid CH 132322	High CH 132657		Low CH 131987	Mid CH 132322	High CH 132657	
			1711.5 MHz	1745.0 MHz	1778.5 MHz		1711.5 MHz	1745.0 MHz	1778.5 MHz	
66 / 3M	1	0	21.70	22.11	21.76	0	20.29	20.70	20.35	1
	1	7	22.01	22.42	22.07	0	20.26	20.67	20.32	1
	1	14	21.47	21.88	21.53	0	20.22	20.63	20.28	1
	8	0	20.70	21.11	20.76	1	19.60	20.01	19.66	2
	8	3	20.83	21.24	20.89	1	19.84	20.25	19.90	2
	8	7	20.73	21.14	20.79	1	19.75	20.16	19.81	2
	15	0	20.68	21.09	20.74	1	19.72	20.13	19.78	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 131997	Mid CH 132322	High CH 132647		Low CH 131997	Mid CH 132322	High CH 132647	
			1712.5 MHz	1745.0 MHz	1777.5 MHz		1712.5 MHz	1745.0 MHz	1777.5 MHz	
66 / 5M	1	0	21.73	22.14	21.79	0	20.32	20.73	20.38	1
	1	12	22.04	22.45	22.10	0	20.29	20.70	20.35	1
	1	24	21.50	21.91	21.56	0	20.25	20.66	20.31	1
	12	0	20.73	21.14	20.79	1	19.63	20.04	19.69	2
	12	6	20.86	21.27	20.92	1	19.87	20.28	19.93	2
	12	13	20.76	21.17	20.82	1	19.78	20.19	19.84	2
	25	0	20.71	21.12	20.77	1	19.75	20.16	19.81	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 132022	Mid CH 132322	High CH 132622		Low CH 132022	Mid CH 132322	High CH 132622	
			1715.0 MHz	1745.0 MHz	1775.0 MHz		1715.0 MHz	1745.0 MHz	1775.0 MHz	
66 / 10M	1	0	21.75	22.16	21.81	0	20.34	20.75	20.40	1
	1	24	22.06	22.47	22.12	0	20.31	20.72	20.37	1
	1	49	21.52	21.93	21.58	0	20.27	20.68	20.33	1
	25	0	20.75	21.16	20.81	1	-	-	-	-
	25	12	20.88	21.29	20.94	1	-	-	-	-
	25	25	20.78	21.19	20.84	1	-	-	-	-
	50	0	20.73	21.14	20.79	1	-	-	-	-

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 132047	Mid CH 132322	High CH 132597		Low CH 132047	Mid CH 132322	High CH 132597	
			1717.5 MHz	1745.0 MHz	1772.5 MHz		1717.5 MHz	1745.0 MHz	1772.5 MHz	
66 / 15M	1	0	21.78	22.19	21.84	0	20.37	20.78	20.43	1
	1	37	22.09	22.50	22.15	0	20.34	20.75	20.40	1
	1	74	21.55	21.96	21.61	0	20.30	20.71	20.36	1
	36	0	20.78	21.19	20.84	1	-	-	-	-
	36	19	20.91	21.32	20.97	1	-	-	-	-
	36	39	20.81	21.22	20.87	1	-	-	-	-
	75	0	20.76	21.17	20.82	1	-	-	-	-

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 132072	Mid CH 132322	High CH 132572		Low CH 132072	Mid CH 132322	High CH 132572	
			1720.0 MHz	1745.0 MHz	1770.0 MHz		1720.0 MHz	1745.0 MHz	1770.0 MHz	
66 / 20M	1	0	21.83	22.24	21.89	0	20.42	20.83	20.48	1
	1	50	22.14	22.55	22.20	0	20.39	20.80	20.45	1
	1	99	21.60	22.01	21.66	0	20.35	20.76	20.41	1
	50	0	20.83	21.24	20.89	1	-	-	-	-
	50	25	20.96	21.37	21.02	1	-	-	-	-
	50	50	20.86	21.27	20.92	1	-	-	-	-
	100	0	20.81	21.22	20.87	1	-	-	-	-

<Bluetooth>

Mode	Bluetooth LE		
Channel / Frequency (MHz)	0 (2402)	19 (2440)	39 (2480)
Average Power	-3.13	-4.33	-4.04

3. SAR Test Exclusion Evaluations

According to the document <GT105 principles of work>, this is a device that works intermittently, the maximum transmitting time is 1s and the minimum transmission interval time is 20s.

Consider 20s as the minimum period for the worst condition to calculate, as below

$$\text{Duty Cycle} = \frac{\text{max TX time}}{\text{Period}} * 100\% = \frac{1}{20} * 100\% = 5\%$$

Per KDB 447498 D01, the SAR test exclusion condition is based on source-based time-averaged maximum conducted output power, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions. The SAR exclusion threshold is determined by the following formula.

$$\frac{\text{Max. Tune up Power}_{(\text{mW})}}{\text{Min. Test Separation Distance}_{(\text{mm})}} \times \sqrt{f_{(\text{GHz})}} \leq 3.0 \text{ for SAR-1g}, \leq 7.5 \text{ for SAR-10g}$$

When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

Wireless Interface	WCDMA Band V	WCDMA Band IV	WCDMA Band II	LTE Band 5	LTE Band 4	LTE Band 2	LTE Band 12	LTE Band 66	BT
Calculated Frequency	846MHz	1750MHz	1907MHz	848MHz	1754MHz	1909MHz	716MHz	1780MHz	2480MHz
Maximum Tune-up power (dBm)	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	1.3
Maximum Tune-up power (mW)	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	1.0
Duty Cycle	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.83
Maximum rated power(mW)	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0.83
Separation distance(mm)	5.0								
Calculated Result	1.8	2.7	2.8	1.8	2.7	2.8	1.7	2.7	0.3
Testing required?	No	No	No	No	No	No	No	No	No

Note:

1. The Calculated Result<3.0, Per KDB 447498 D01, the SAR test is excluded;
2. This device no support simultaneous transmissions, because Wifi is RX only, no TX function, and when BT is in the linked state, the WWAN module is closed;

Test Engineer : Xianxiong Qin

4. Information on the Testing Laboratories

We, BV 7LAYERS COMMUNICATIONS TECHNOLOGY (SHENZHEN) CO. LTD., were founded in 2015 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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The road map of all our labs can be found in our web site also.

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