



Appendix B

E-UTRA Band 38



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

CONTENT

1	EFFECTIVE (ISOTROPIC) RADIATED POWER.....	3
1.1.	TEST RESULT.....	3
2.	PEAK-TO-AVERAGE RATIO (CCDF).....	9
2.1.	TEST RESULT.....	9
2.2.	TEST PLOTS	9
3.	MODULATION CHARACTERISTICS	13
3.1.	TEST MODE = LTE /TM1 20MHZ	13
3.1.1.	TEST CHANNEL = MCH	13
3.2.	TEST MODE = LTE /TM2 20MHZ	14
3.2.1.	TEST CHANNEL = MCH	14
4.	26DB BANDWIDTH AND OCCUPIED BANDWIDTH	15
4.1.	TEST RESULT.....	15
4.2.	TEST PLOTS	16
5.	BAND EDGE COMPLIANCE	28
5.1.	TEST PLOTS	28
6.	SPURIOUS EMISSION AT ANTENNA TERMINAL	44
6.1.	TEST PLOTS	44
7.	FIELD STRENGTH OF SPURIOUS RADIATION.....	50
7.1.	TEST MODE =LTE/TM1 20MHZ.....	50
7.1.1.	TEST CHANNEL = LCH	50
7.1.2.	TEST CHANNEL = MCH	50
7.1.3.	TEST CHANNEL = HCH	51
8.	FREQUENCY STABILITY.....	52
8.1.	FREQUENCY VS VOLTAGE	52
8.2.	FREQUENCY VS TEMPERATURE	53



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

1 Effective (Isotropic) Radiated Power

1.1. Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Conducted Power(dBm)	EIRP (dBm)	Limit (dBm)	Verdict
Band38	5MHz	QPSK	37775	1RB#0	23.38	18.18	33.00	PASS
Band38	5MHz	QPSK	37775	1RB#12	23.47	18.27	33.00	PASS
Band38	5MHz	QPSK	37775	1RB#24	23.26	18.06	33.00	PASS
Band38	5MHz	QPSK	37775	12RB#0	22.58	17.38	33.00	PASS
Band38	5MHz	QPSK	37775	12RB#6	22.55	17.35	33.00	PASS
Band38	5MHz	QPSK	37775	12RB#13	22.33	17.13	33.00	PASS
Band38	5MHz	QPSK	37775	25RB#0	22.46	17.26	33.00	PASS
Band38	5MHz	QPSK	38000	1RB#0	23.12	17.92	33.00	PASS
Band38	5MHz	QPSK	38000	1RB#12	23.37	18.17	33.00	PASS
Band38	5MHz	QPSK	38000	1RB#24	23.11	17.91	33.00	PASS
Band38	5MHz	QPSK	38000	12RB#6	22.57	17.37	33.00	PASS
Band38	5MHz	QPSK	38000	12RB#0	22.71	17.51	33.00	PASS
Band38	5MHz	QPSK	38000	12RB#13	22.61	17.41	33.00	PASS
Band38	5MHz	QPSK	38000	25RB#0	22.63	17.43	33.00	PASS
Band38	5MHz	QPSK	38225	1RB#0	23.44	18.24	33.00	PASS
Band38	5MHz	QPSK	38225	1RB#12	23.48	18.28	33.00	PASS
Band38	5MHz	QPSK	38225	1RB#24	23.30	18.1	33.00	PASS
Band38	5MHz	QPSK	38225	12RB#13	22.69	17.49	33.00	PASS
Band38	5MHz	QPSK	38225	12RB#0	22.78	17.58	33.00	PASS
Band38	5MHz	QPSK	38225	12RB#6	22.70	17.5	33.00	PASS
Band38	5MHz	QPSK	38225	25RB#0	22.68	17.48	33.00	PASS
Band38	5MHz	16QAM	37775	1RB#0	22.37	17.17	33.00	PASS
Band38	5MHz	16QAM	37775	1RB#12	22.28	17.08	33.00	PASS
Band38	5MHz	16QAM	37775	1RB#24	22.18	16.98	33.00	PASS
Band38	5MHz	16QAM	37775	12RB#0	21.45	16.25	33.00	PASS
Band38	5MHz	16QAM	37775	12RB#6	21.33	16.13	33.00	PASS
Band38	5MHz	16QAM	37775	12RB#13	21.20	16	33.00	PASS



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch (CMAA) Testing Laboratory

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com



Band38	5MHz	16QAM	37775	25RB#0	21.66	16.46	33.00	PASS
Band38	5MHz	16QAM	38000	1RB#12	22.33	17.13	33.00	PASS
Band38	5MHz	16QAM	38000	1RB#24	22.46	17.26	33.00	PASS
Band38	5MHz	16QAM	38000	1RB#0	22.36	17.16	33.00	PASS
Band38	5MHz	16QAM	38000	12RB#6	21.41	16.21	33.00	PASS
Band38	5MHz	16QAM	38000	12RB#0	21.45	16.25	33.00	PASS
Band38	5MHz	16QAM	38000	12RB#13	21.44	16.24	33.00	PASS
Band38	5MHz	16QAM	38000	25RB#0	21.61	16.41	33.00	PASS
Band38	5MHz	16QAM	38225	1RB#24	22.49	17.29	33.00	PASS
Band38	5MHz	16QAM	38225	1RB#0	22.56	17.36	33.00	PASS
Band38	5MHz	16QAM	38225	1RB#12	22.46	17.26	33.00	PASS
Band38	5MHz	16QAM	38225	12RB#13	21.52	16.32	33.00	PASS
Band38	5MHz	16QAM	38225	12RB#0	21.54	16.34	33.00	PASS
Band38	5MHz	16QAM	38225	12RB#6	21.54	16.34	33.00	PASS
Band38	5MHz	16QAM	38225	25RB#0	21.67	16.47	33.00	PASS
Band38	10MHz	QPSK	37800	1RB#24	22.84	17.64	33.00	PASS
Band38	10MHz	QPSK	37800	1RB#49	23.05	17.85	33.00	PASS
Band38	10MHz	QPSK	37800	1RB#0	22.95	17.75	33.00	PASS
Band38	10MHz	QPSK	37800	25RB#0	22.20	17.00	33.00	PASS
Band38	10MHz	QPSK	37800	25RB#12	22.16	16.96	33.00	PASS
Band38	10MHz	QPSK	37800	25RB#25	22.12	16.92	33.00	PASS
Band38	10MHz	QPSK	37800	50RB#0	22.18	16.98	33.00	PASS
Band38	10MHz	QPSK	38000	1RB#49	22.95	17.75	33.00	PASS
Band38	10MHz	QPSK	38000	1RB#24	23.31	18.11	33.00	PASS
Band38	10MHz	QPSK	38000	1RB#0	23.13	17.93	33.00	PASS
Band38	10MHz	QPSK	38000	25RB#0	22.41	17.21	33.00	PASS
Band38	10MHz	QPSK	38000	25RB#25	22.45	17.25	33.00	PASS
Band38	10MHz	QPSK	38000	25RB#12	22.36	17.16	33.00	PASS
Band38	10MHz	QPSK	38000	50RB#0	22.51	17.31	33.00	PASS
Band38	10MHz	QPSK	38200	1RB#0	23.33	18.13	33.00	PASS
Band38	10MHz	QPSK	38200	1RB#24	23.34	18.14	33.00	PASS
Band38	10MHz	QPSK	38200	1RB#49	23.31	18.11	33.00	PASS
Band38	10MHz	QPSK	38200	25RB#12	22.47	17.27	33.00	PASS



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch Laboratory

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com



Band38	10MHz	QPSK	38200	25RB#0	22.60	17.4	33.00	PASS
Band38	10MHz	QPSK	38200	25RB#25	22.65	17.45	33.00	PASS
Band38	10MHz	QPSK	38200	50RB#0	22.64	17.44	33.00	PASS
Band38	10MHz	16QAM	37800	1RB#24	21.92	16.72	33.00	PASS
Band38	10MHz	16QAM	37800	1RB#49	21.76	16.56	33.00	PASS
Band38	10MHz	16QAM	37800	1RB#0	21.49	16.29	33.00	PASS
Band38	10MHz	16QAM	37800	25RB#0	21.38	16.18	33.00	PASS
Band38	10MHz	16QAM	37800	25RB#12	21.35	16.15	33.00	PASS
Band38	10MHz	16QAM	37800	25RB#25	21.31	16.11	33.00	PASS
Band38	10MHz	16QAM	37800	50RB#0	21.33	16.13	33.00	PASS
Band38	10MHz	16QAM	38000	1RB#0	22.15	16.95	33.00	PASS
Band38	10MHz	16QAM	38000	1RB#49	22.23	17.03	33.00	PASS
Band38	10MHz	16QAM	38000	1RB#24	21.76	16.56	33.00	PASS
Band38	10MHz	16QAM	38000	25RB#25	21.32	16.12	33.00	PASS
Band38	10MHz	16QAM	38000	25RB#0	21.57	16.37	33.00	PASS
Band38	10MHz	16QAM	38000	25RB#12	21.57	16.37	33.00	PASS
Band38	10MHz	16QAM	38000	50RB#0	21.59	16.39	33.00	PASS
Band38	10MHz	16QAM	38200	1RB#24	22.17	16.97	33.00	PASS
Band38	10MHz	16QAM	38200	1RB#0	22.40	17.2	33.00	PASS
Band38	10MHz	16QAM	38200	1RB#49	21.98	16.78	33.00	PASS
Band38	10MHz	16QAM	38200	25RB#0	21.42	16.22	33.00	PASS
Band38	10MHz	16QAM	38200	25RB#25	21.45	16.25	33.00	PASS
Band38	10MHz	16QAM	38200	25RB#12	21.63	16.43	33.00	PASS
Band38	10MHz	16QAM	38200	50RB#0	21.62	16.42	33.00	PASS
Band38	15MHz	QPSK	37825	1RB#0	22.78	17.58	33.00	PASS
Band38	15MHz	QPSK	37825	1RB#38	22.82	17.62	33.00	PASS
Band38	15MHz	QPSK	37825	1RB#74	22.80	17.6	33.00	PASS
Band38	15MHz	QPSK	37825	36RB#0	22.06	16.86	33.00	PASS
Band38	15MHz	QPSK	37825	36RB#18	22.07	16.87	33.00	PASS
Band38	15MHz	QPSK	37825	36RB#39	22.05	16.85	33.00	PASS
Band38	15MHz	QPSK	37825	75RB#0	22.13	16.93	33.00	PASS
Band38	15MHz	QPSK	38000	1RB#0	22.94	17.74	33.00	PASS
Band38	15MHz	QPSK	38000	1RB#38	22.95	17.75	33.00	PASS



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch (CSTC) Laboratory

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com



Band38	15MHz	QPSK	38000	1RB#74	22.99	17.79	33.00	PASS
Band38	15MHz	QPSK	38000	36RB#18	22.22	17.02	33.00	PASS
Band38	15MHz	QPSK	38000	36RB#39	22.23	17.03	33.00	PASS
Band38	15MHz	QPSK	38000	36RB#0	22.02	16.82	33.00	PASS
Band38	15MHz	QPSK	38000	75RB#0	22.14	16.94	33.00	PASS
Band38	15MHz	QPSK	38175	1RB#0	22.95	17.75	33.00	PASS
Band38	15MHz	QPSK	38175	1RB#38	23.08	17.88	33.00	PASS
Band38	15MHz	QPSK	38175	1RB#74	22.97	17.77	33.00	PASS
Band38	15MHz	QPSK	38175	36RB#0	22.30	17.1	33.00	PASS
Band38	15MHz	QPSK	38175	36RB#18	22.37	17.17	33.00	PASS
Band38	15MHz	QPSK	38175	36RB#39	22.31	17.11	33.00	PASS
Band38	15MHz	QPSK	38175	75RB#0	22.31	17.11	33.00	PASS
Band38	15MHz	16QAM	37825	1RB#0	21.65	16.45	33.00	PASS
Band38	15MHz	16QAM	37825	1RB#38	21.74	16.54	33.00	PASS
Band38	15MHz	16QAM	37825	1RB#74	21.50	16.3	33.00	PASS
Band38	15MHz	16QAM	37825	36RB#0	21.43	16.23	33.00	PASS
Band38	15MHz	16QAM	37825	36RB#18	21.39	16.19	33.00	PASS
Band38	15MHz	16QAM	37825	36RB#39	21.32	16.12	33.00	PASS
Band38	15MHz	16QAM	37825	75RB#0	21.35	16.15	33.00	PASS
Band38	15MHz	16QAM	38000	1RB#38	21.53	16.33	33.00	PASS
Band38	15MHz	16QAM	38000	1RB#74	21.96	16.76	33.00	PASS
Band38	15MHz	16QAM	38000	1RB#0	21.54	16.34	33.00	PASS
Band38	15MHz	16QAM	38000	36RB#18	21.34	16.14	33.00	PASS
Band38	15MHz	16QAM	38000	36RB#39	21.62	16.42	33.00	PASS
Band38	15MHz	16QAM	38000	36RB#0	21.59	16.39	33.00	PASS
Band38	15MHz	16QAM	38000	75RB#0	21.59	16.39	33.00	PASS
Band38	15MHz	16QAM	38175	1RB#38	21.84	16.64	33.00	PASS
Band38	15MHz	16QAM	38175	1RB#74	22.00	16.8	33.00	PASS
Band38	15MHz	16QAM	38175	1RB#0	21.56	16.36	33.00	PASS
Band38	15MHz	16QAM	38175	36RB#0	21.43	16.23	33.00	PASS
Band38	15MHz	16QAM	38175	36RB#39	21.47	16.27	33.00	PASS
Band38	15MHz	16QAM	38175	36RB#18	21.64	16.44	33.00	PASS
Band38	15MHz	16QAM	38175	75RB#0	21.61	16.41	33.00	PASS



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch (CSTC) Laboratory

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com



Band38	20MHz	QPSK	37850	1RB#99	22.70	17.5	33.00	PASS
Band38	20MHz	QPSK	37850	1RB#49	23.01	17.81	33.00	PASS
Band38	20MHz	QPSK	37850	1RB#0	22.71	17.51	33.00	PASS
Band38	20MHz	QPSK	37850	50RB#0	22.01	16.81	33.00	PASS
Band38	20MHz	QPSK	37850	50RB#25	22.15	16.95	33.00	PASS
Band38	20MHz	QPSK	37850	50RB#50	22.04	16.84	33.00	PASS
Band38	20MHz	QPSK	37850	100RB#0	22.13	16.93	33.00	PASS
Band38	20MHz	QPSK	38000	1RB#99	22.67	17.47	33.00	PASS
Band38	20MHz	QPSK	38000	1RB#49	23.23	18.03	33.00	PASS
Band38	20MHz	QPSK	38000	1RB#0	22.82	17.62	33.00	PASS
Band38	20MHz	QPSK	38000	50RB#0	22.21	17.01	33.00	PASS
Band38	20MHz	QPSK	38000	50RB#50	22.16	16.96	33.00	PASS
Band38	20MHz	QPSK	38000	50RB#25	22.12	16.92	33.00	PASS
Band38	20MHz	QPSK	38000	100RB#0	22.14	16.94	33.00	PASS
Band38	20MHz	QPSK	38150	1RB#0	22.75	17.55	33.00	PASS
Band38	20MHz	QPSK	38150	1RB#49	23.49	18.29	33.00	PASS
Band38	20MHz	QPSK	38150	1RB#99	22.88	17.68	33.00	PASS
Band38	20MHz	QPSK	38150	50RB#25	22.29	17.09	33.00	PASS
Band38	20MHz	QPSK	38150	50RB#0	22.32	17.12	33.00	PASS
Band38	20MHz	QPSK	38150	50RB#50	22.19	16.99	33.00	PASS
Band38	20MHz	QPSK	38150	100RB#0	22.29	17.09	33.00	PASS
Band38	20MHz	16QAM	37850	1RB#49	21.46	16.26	33.00	PASS
Band38	20MHz	16QAM	37850	1RB#99	21.60	16.4	33.00	PASS
Band38	20MHz	16QAM	37850	1RB#0	21.47	16.27	33.00	PASS
Band38	20MHz	16QAM	37850	50RB#0	21.45	16.25	33.00	PASS
Band38	20MHz	16QAM	37850	50RB#25	21.42	16.22	33.00	PASS
Band38	20MHz	16QAM	37850	50RB#50	21.36	16.16	33.00	PASS
Band38	20MHz	16QAM	37850	100RB#0	21.33	16.13	33.00	PASS
Band38	20MHz	16QAM	38000	1RB#0	21.63	16.43	33.00	PASS
Band38	20MHz	16QAM	38000	1RB#99	21.90	16.7	33.00	PASS
Band38	20MHz	16QAM	38000	1RB#49	21.45	16.25	33.00	PASS
Band38	20MHz	16QAM	38000	50RB#50	21.39	16.19	33.00	PASS
Band38	20MHz	16QAM	38000	50RB#0	21.65	16.45	33.00	PASS



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch Laboratory

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

Band38	20MHz	16QAM	38000	50RB#25	21.61	16.41	33.00	PASS
Band38	20MHz	16QAM	38000	100RB#0	21.58	16.38	33.00	PASS
Band38	20MHz	16QAM	38150	1RB#49	21.48	16.28	33.00	PASS
Band38	20MHz	16QAM	38150	1RB#0	21.89	16.69	33.00	PASS
Band38	20MHz	16QAM	38150	1RB#99	21.43	16.23	33.00	PASS
Band38	20MHz	16QAM	38150	50RB#0	21.47	16.27	33.00	PASS
Band38	20MHz	16QAM	38150	50RB#50	21.51	16.31	33.00	PASS
Band38	20MHz	16QAM	38150	50RB#25	21.65	16.45	33.00	PASS
Band38	20MHz	16QAM	38150	100RB#0	21.64	16.44	33.00	PASS

Remark:

a: For getting the EIRP (Efficient Isotropic Radiated Power), the following formula should be taken to calculate it,

ERP [dBm] = Conducted Power [dBm] + Gain [dBd]

EIRP [dBm] = Conducted Power [dBm] + Gain [dBi]



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch (2010) China CCC Laboratory

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

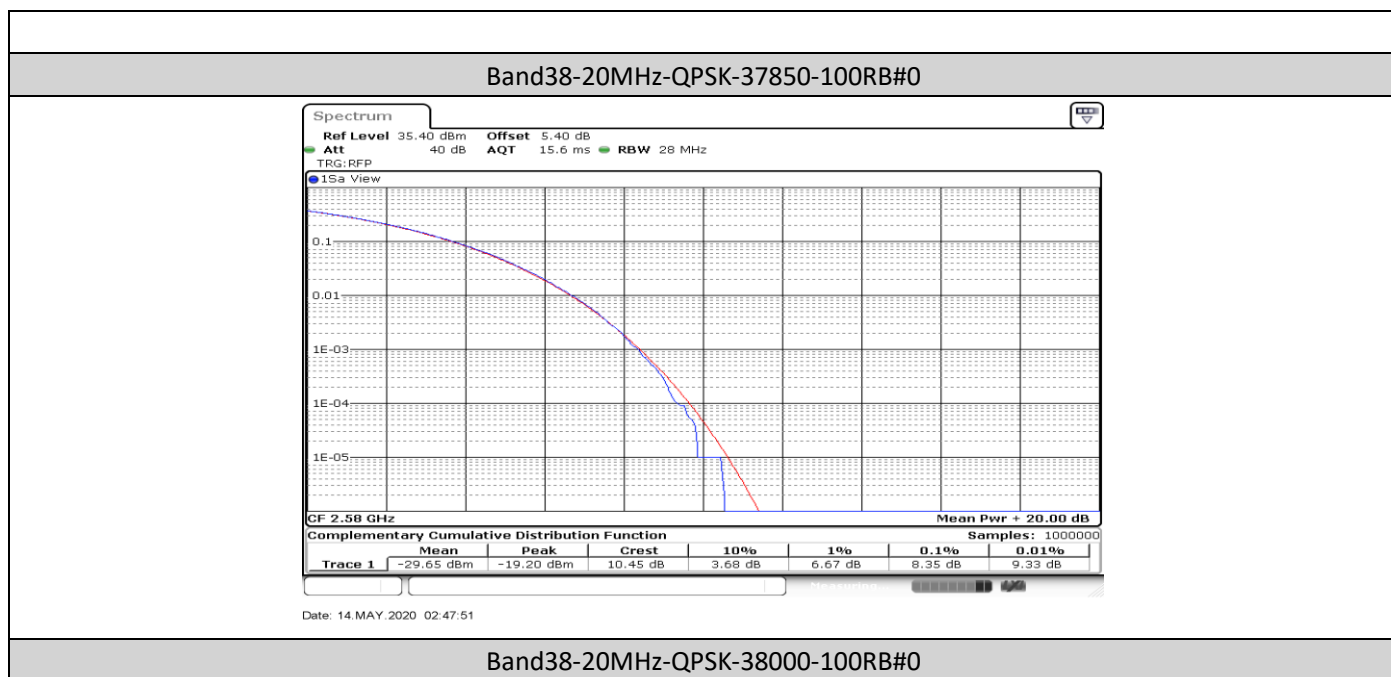


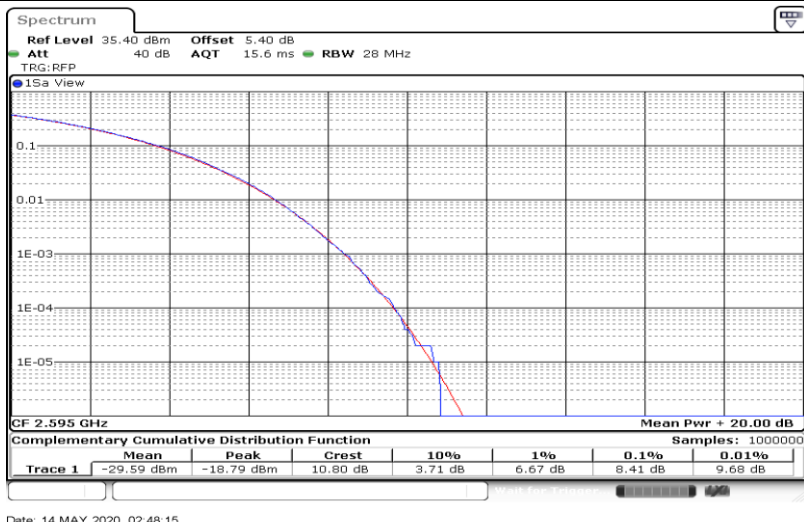
2. Peak-to-Average Ratio (CCDF)

2.1. Test Result

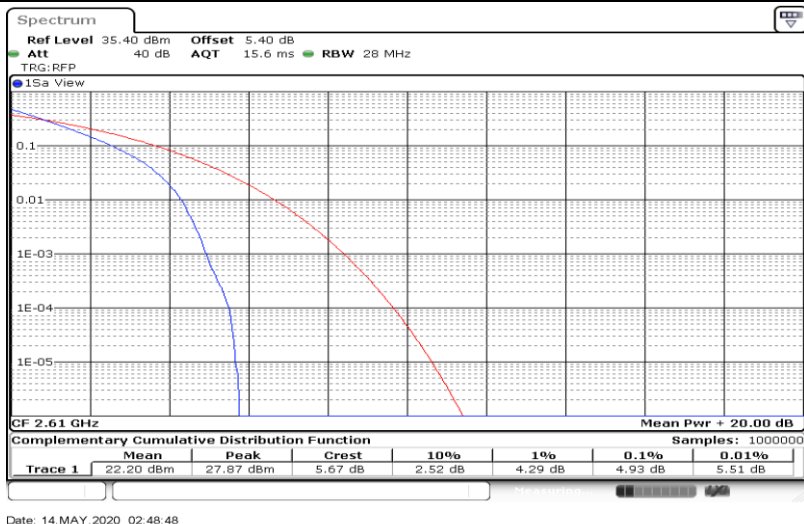
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band38	20MHz	QPSK	37850	100RB#0	8.35	13	PASS
Band38	20MHz	QPSK	38000	100RB#0	8.41	13	PASS
Band38	20MHz	QPSK	38150	100RB#0	4.93	13	PASS
Band38	20MHz	16QAM	37850	27RB#0	6.32	13	PASS
Band38	20MHz	16QAM	38000	27RB#0	8.23	13	PASS
Band38	20MHz	16QAM	38150	27RB#0	8.32	13	PASS

2.2. Test Plots



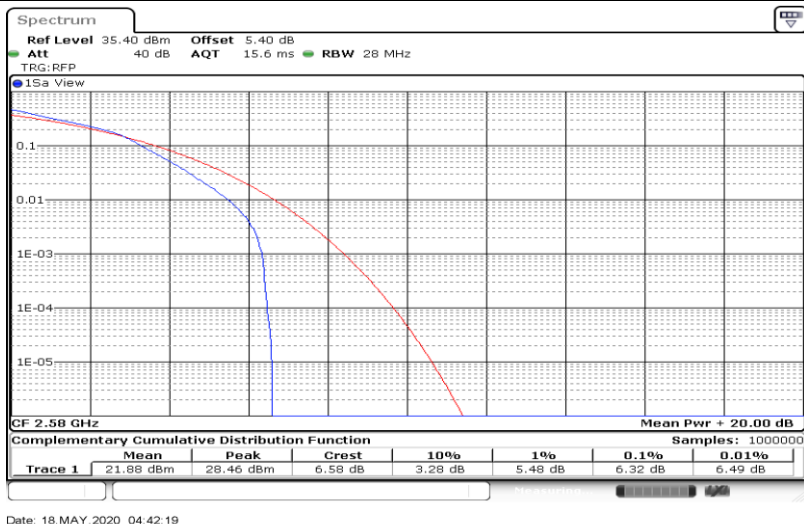


Band38-20MHz-QPSK-38150-100RB#0

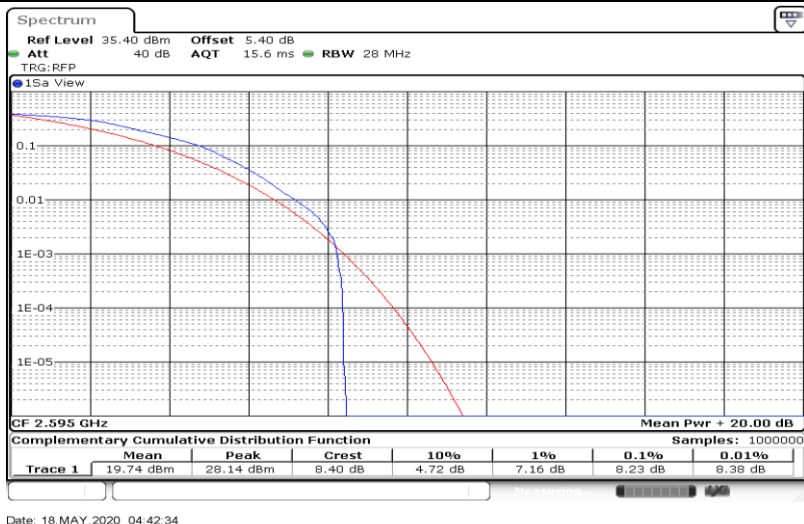


Band38-20MHz-16QAM-37850-27RB#0



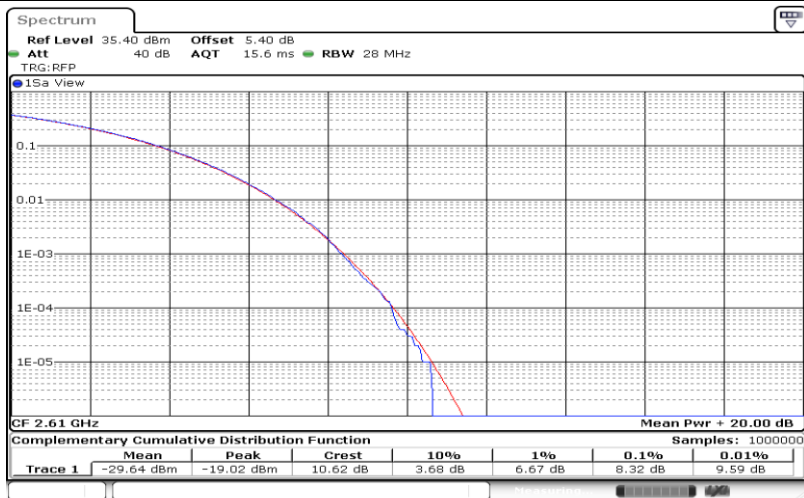


Band38-20MHz-16QAM-38000-27RB#0



Band38-20MHz-16QAM-38150-27RB#0





Date: 18.MAY.2020 04:42:49



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch (CCC Laboratory)

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

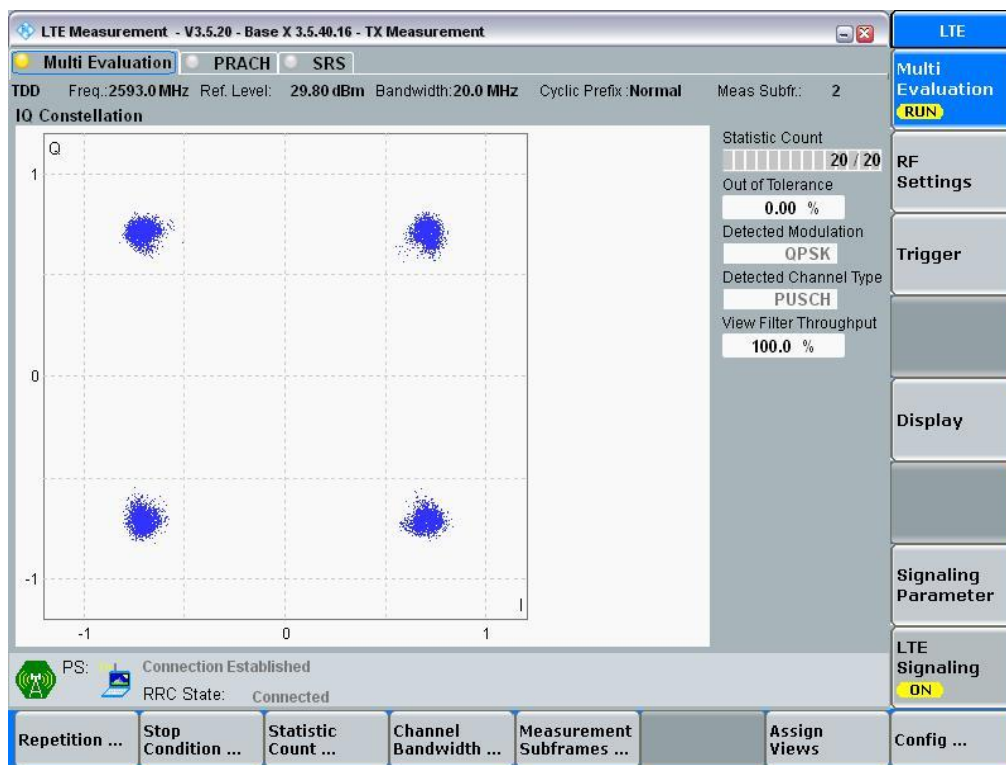
Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

3. Modulation Characteristics

3.1. Test Mode = LTE /TM1 20MHz

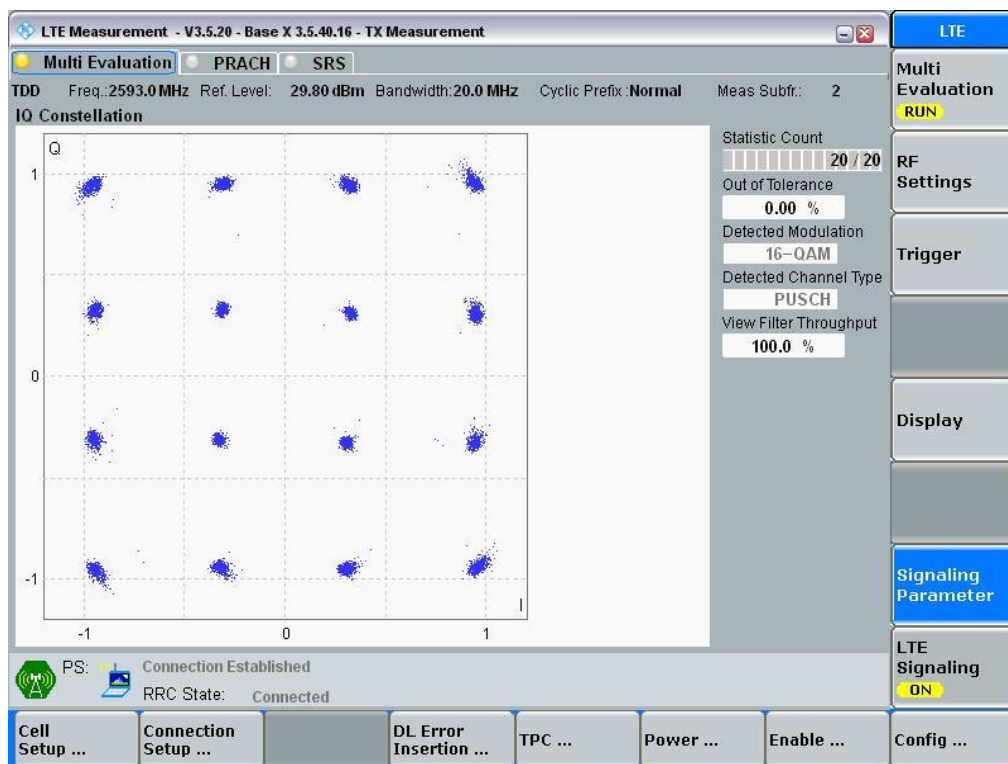
3.1.1. Test Channel = MCH



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

3.2. Test Mode = LTE /TM2 20MHz

3.2.1. Test Channel = MCH





4. 26dB Bandwidth and Occupied Bandwidth

4.1. Test Result

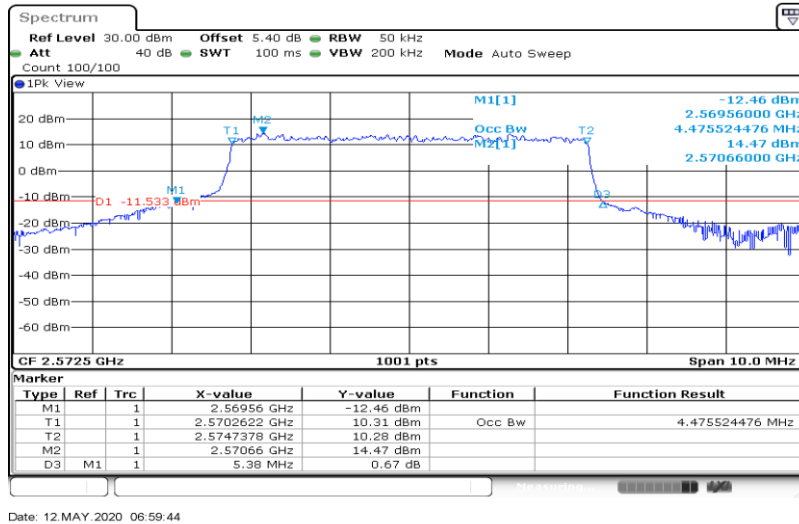
Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band38	5MHz	QPSK	37775	25RB#0	4.476	5.380	PASS
Band38	5MHz	QPSK	38000	25RB#0	4.476	5.400	PASS
Band38	5MHz	QPSK	38225	25RB#0	4.476	5.610	PASS
Band38	5MHz	16QAM	37775	25RB#0	4.476	4.980	PASS
Band38	5MHz	16QAM	38000	25RB#0	4.476	5.010	PASS
Band38	5MHz	16QAM	38225	25RB#0	4.476	5.190	PASS
Band38	10MHz	QPSK	37800	50RB#0	8.931	11.280	PASS
Band38	10MHz	QPSK	38000	50RB#0	8.931	11.280	PASS
Band38	10MHz	QPSK	38200	50RB#0	8.931	11.320	PASS
Band38	10MHz	16QAM	37800	27RB#0	4.915	5.880	PASS
Band38	10MHz	16QAM	38000	27RB#0	4.915	6.120	PASS
Band38	10MHz	16QAM	38200	27RB#0	4.935	6.140	PASS
Band38	15MHz	QPSK	37825	75RB#0	13.576	29.310	PASS
Band38	15MHz	QPSK	38000	75RB#0	13.576	16.200	PASS
Band38	15MHz	QPSK	38175	75RB#0	13.546	16.440	PASS
Band38	15MHz	16QAM	37825	27RB#0	7.463	23.640	PASS
Band38	15MHz	16QAM	38000	27RB#0	6.414	23.700	PASS
Band38	15MHz	16QAM	38175	27RB#0	5.904	9.300	PASS
Band38	20MHz	QPSK	37850	100RB#0	17.942	19.560	PASS
Band38	20MHz	QPSK	38000	100RB#0	17.942	19.520	PASS
Band38	20MHz	QPSK	38150	100RB#0	17.942	19.520	PASS
Band38	20MHz	16QAM	37850	27RB#0	5.195	6.120	PASS
Band38	20MHz	16QAM	38000	27RB#0	5.315	6.520	PASS
Band38	20MHz	16QAM	38150	27RB#0	5.725	6.440	PASS





4.2. Test Plots

Band38-5MHz-QPSK-37775-25RB#0-4.476



Band38-5MHz-QPSK-38000-25RB#0-4.476

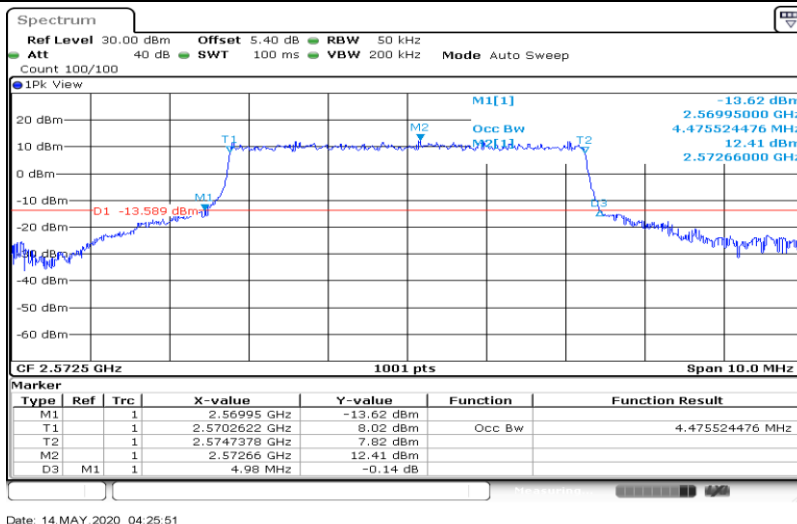


Band38-5MHz-QPSK-38225-25RB#0-4.476



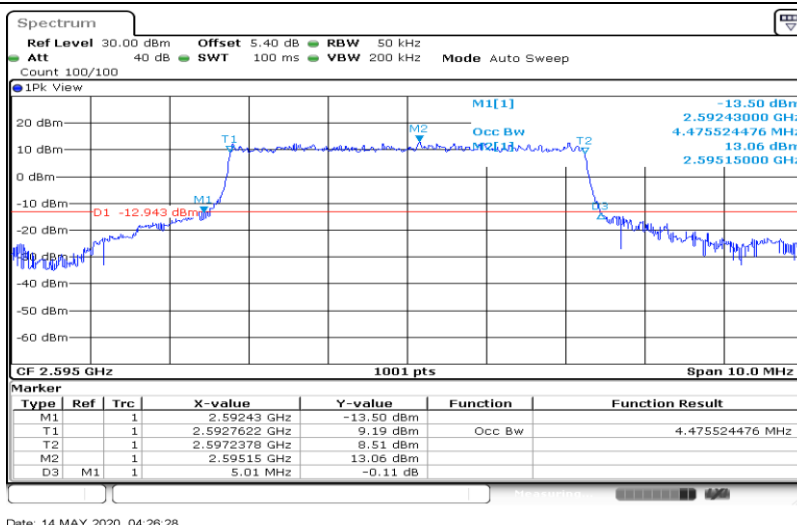


Band38-5MHz-16QAM-37775-25RB#0-4.476

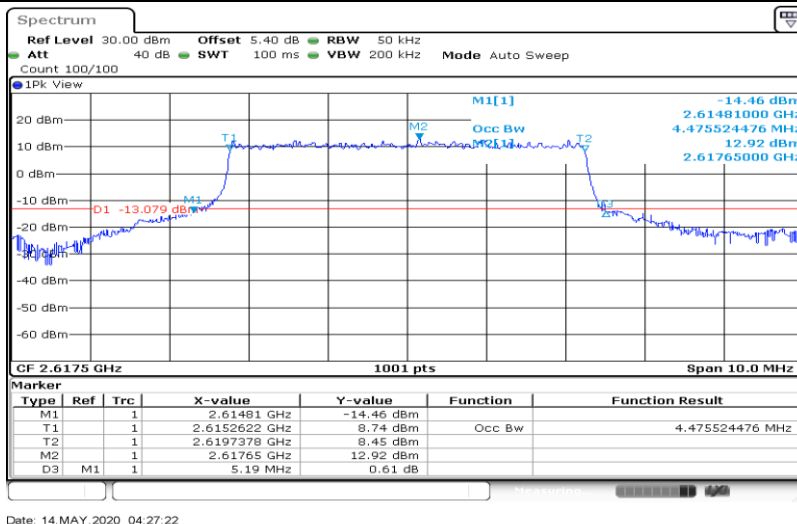


Band38-5MHz-16QAM-38000-25RB#0-4.476





Band38-5MHz-16QAM-38225-25RB#0-4.476

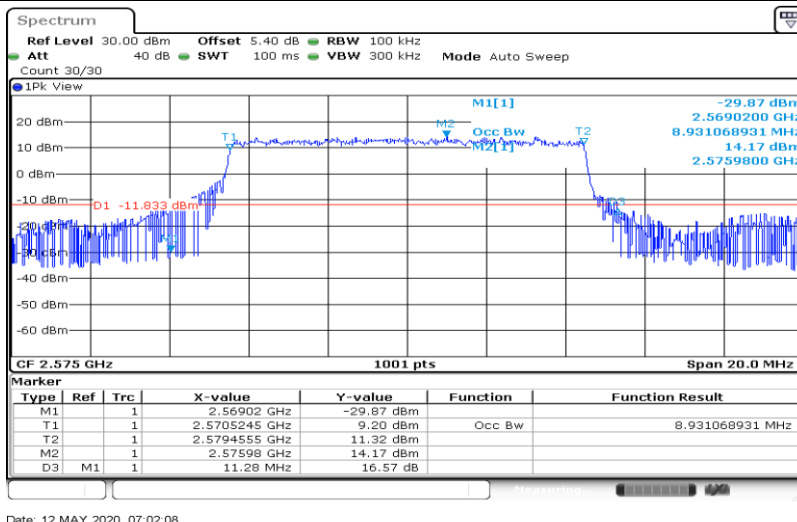


Band38-10MHz-QPSK-37800-50RB#0-8.931



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com



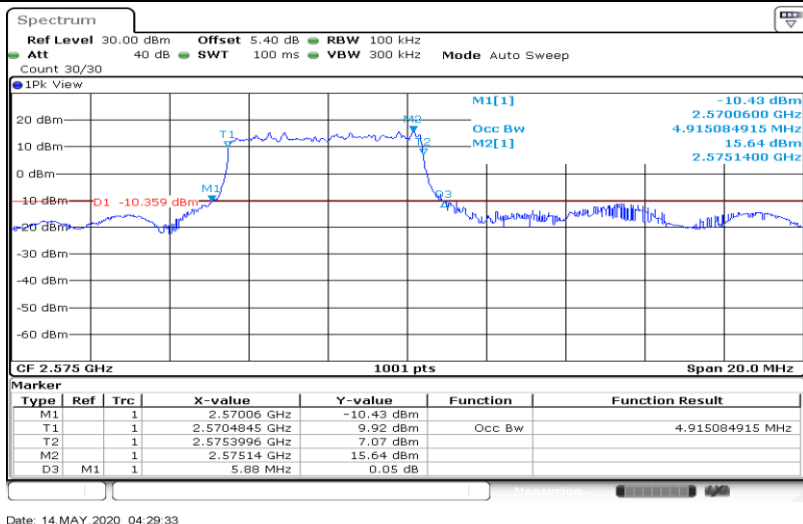
Band38-10MHz-QPSK-38000-50RB#0-8.931



Band38-10MHz-QPSK-38200-50RB#0-8.931

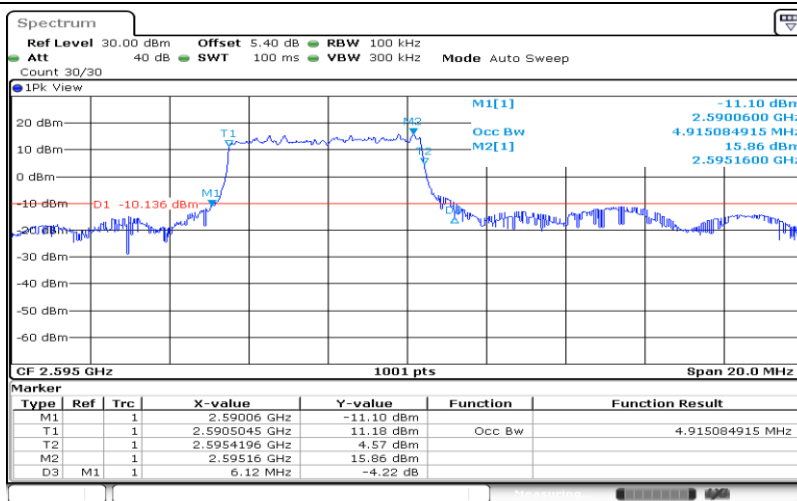


Band38-10MHz-16QAM-37800-27RB#0-4.915



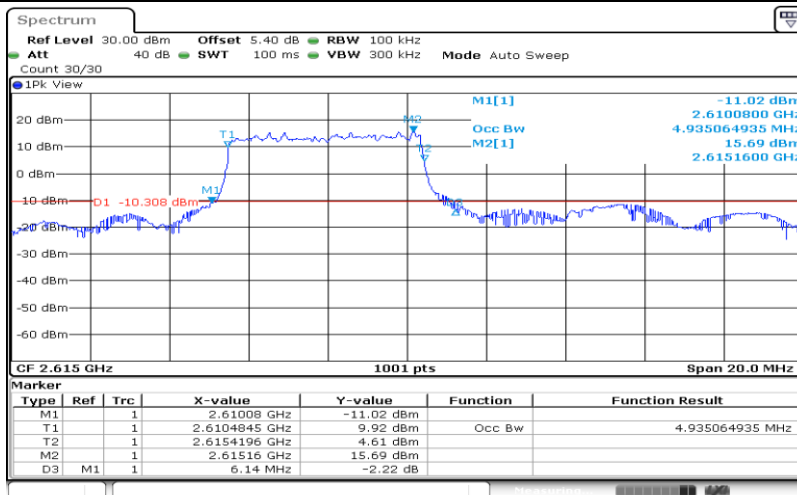
Band38-10MHz-16QAM-38000-27RB#0-4.915





Date: 14.MAY.2020 04:30:49

Band38-10MHz-16QAM-38200-27RB#0-4.935



Date: 14.MAY.2020 04:32:19

Band38-15MHz-QPSK-37825-75RB#0-13.576

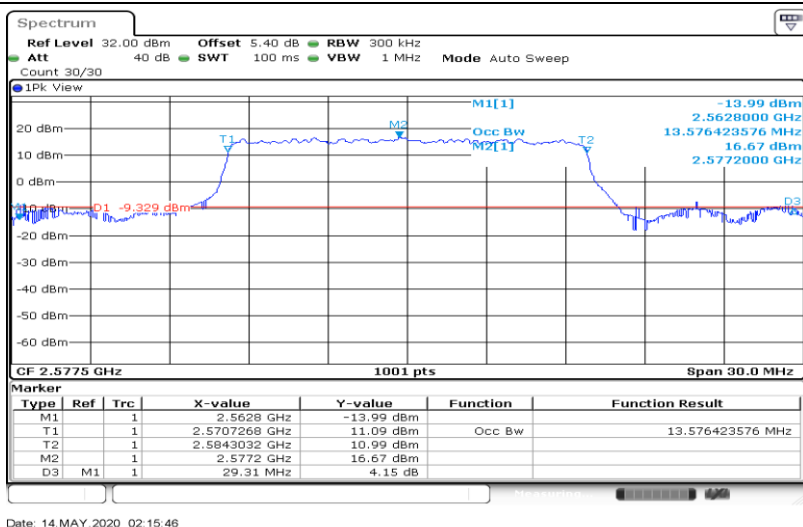


SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch (2019) CMC Laboratory

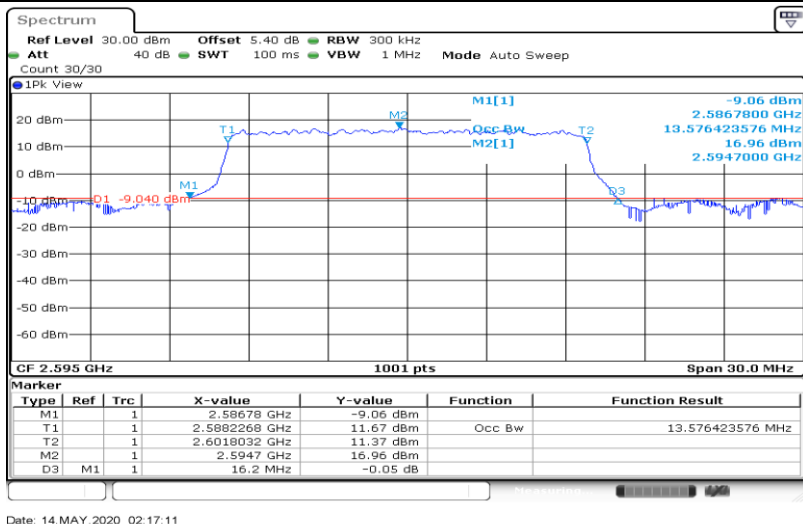
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

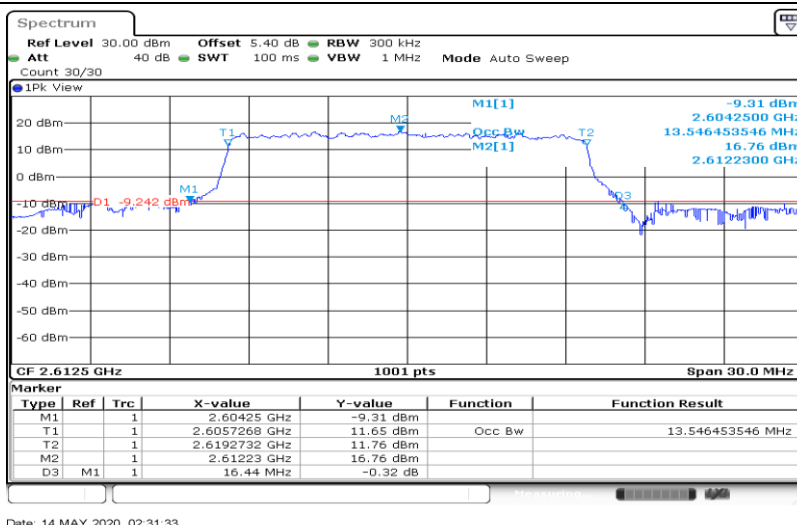


Band38-15MHz-QPSK-38000-75RB#0-13.576

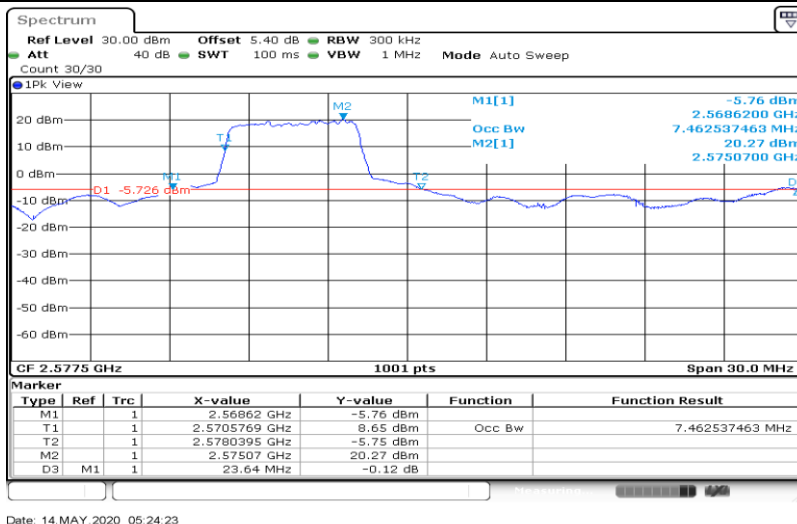


Band38-15MHz-QPSK-38175-75RB#0-13.546



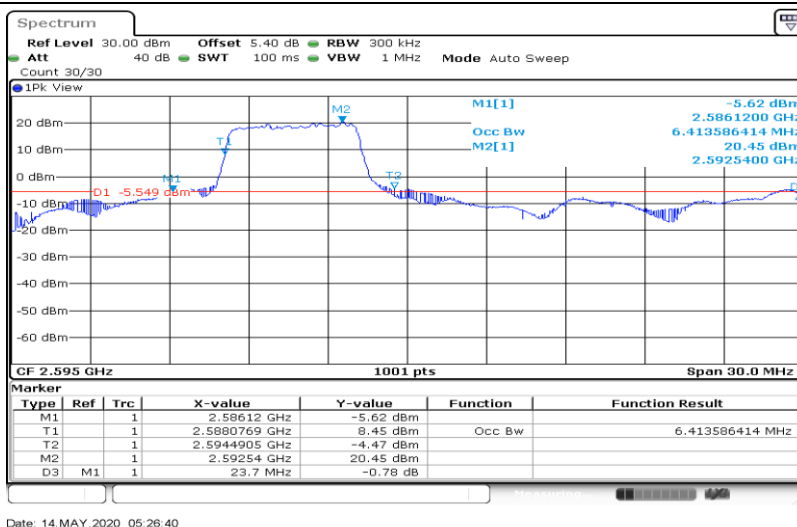


Band38-15MHz-16QAM-37825-27RB#0-7.463

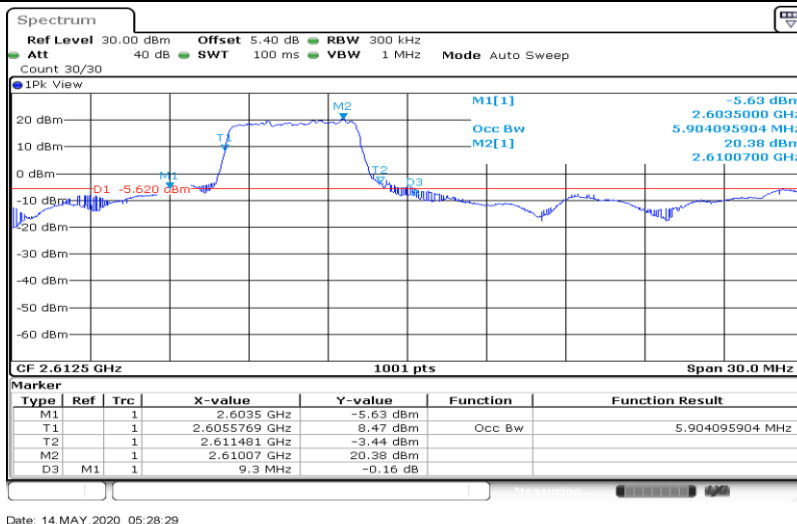


Band38-15MHz-16QAM-38000-27RB#0-6.414



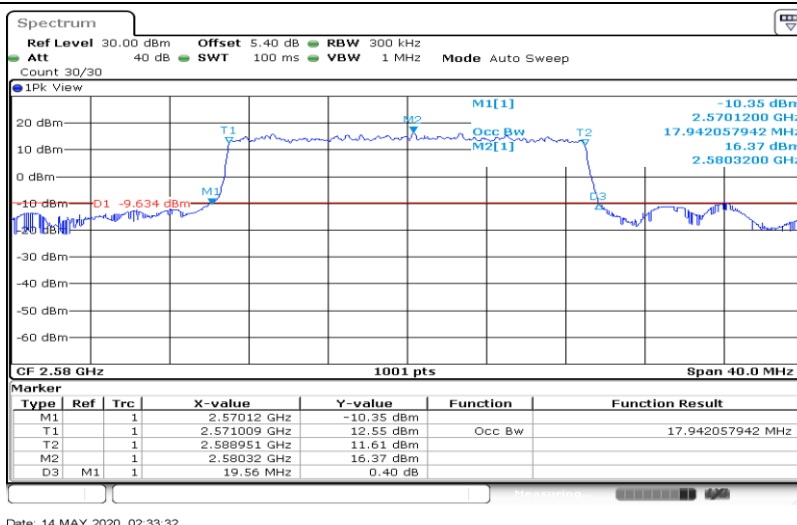


Band38-15MHz-16QAM-38175-27RB#0-5.904

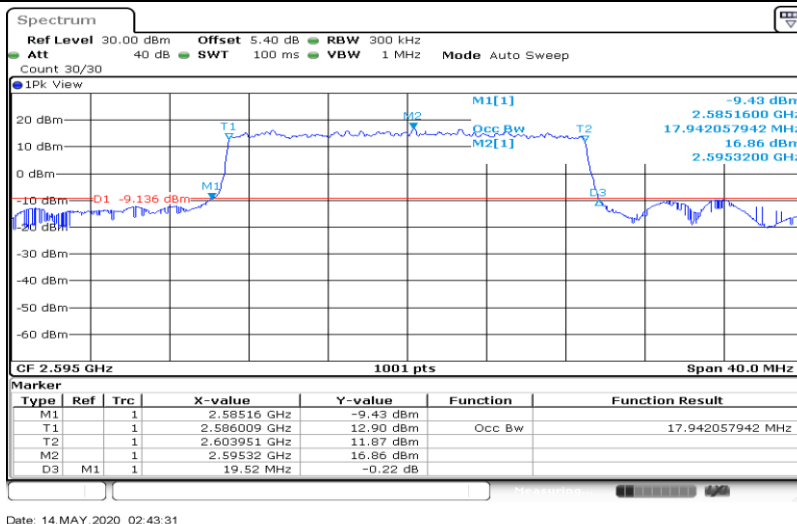


Band38-20MHz-QPSK-37850-100RB#0-17.942



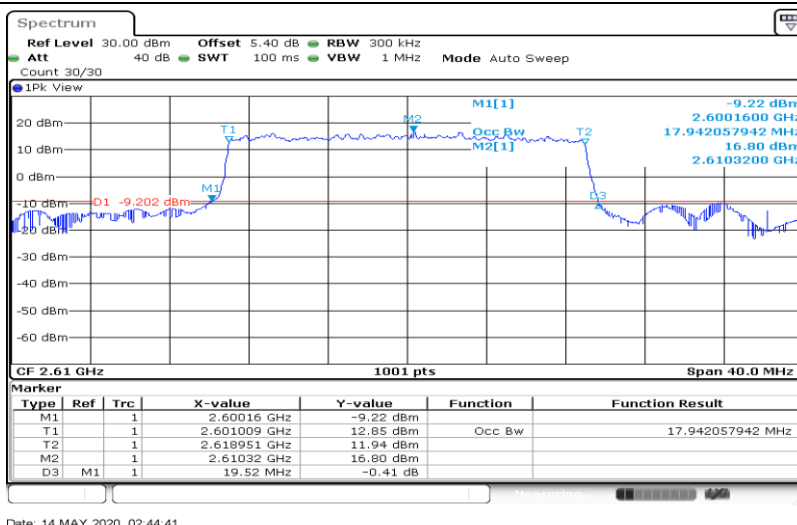


Band38-20MHz-QPSK-38000-100RB#0-17.942

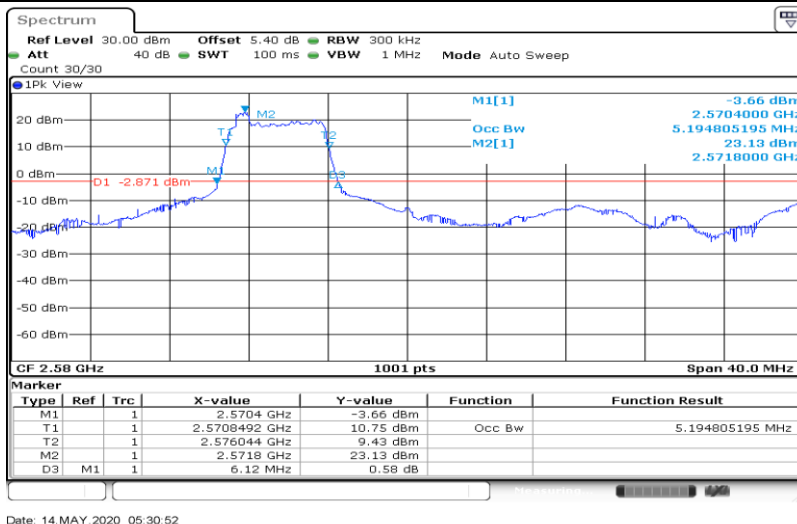


Band38-20MHz-QPSK-38150-100RB#0-17.942



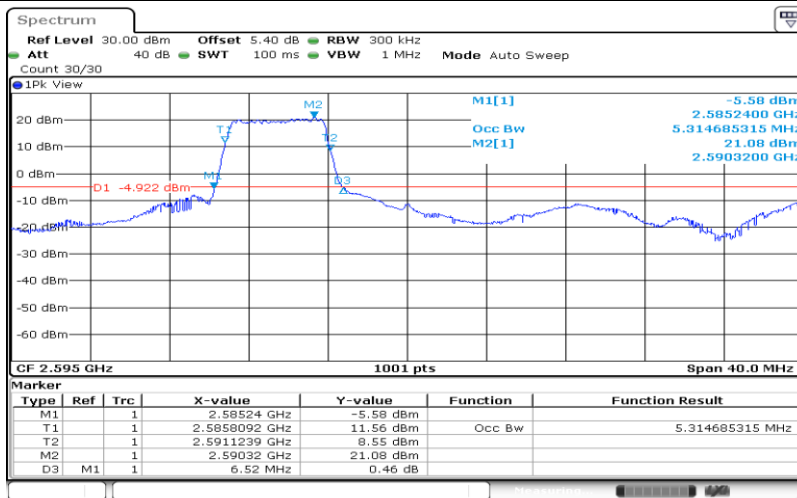


Band38-20MHz-16QAM-37850-27RB#0-5.195



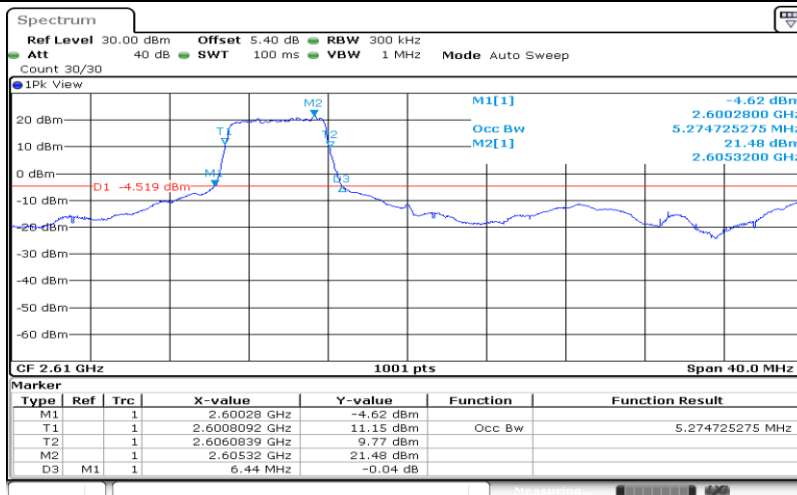
Band38-20MHz-16QAM-38000-27RB#0-5.315





Date: 15.MAY.2020 03:44:21

Band38-20MHz-16QAM-38150-27RB#0-5.315



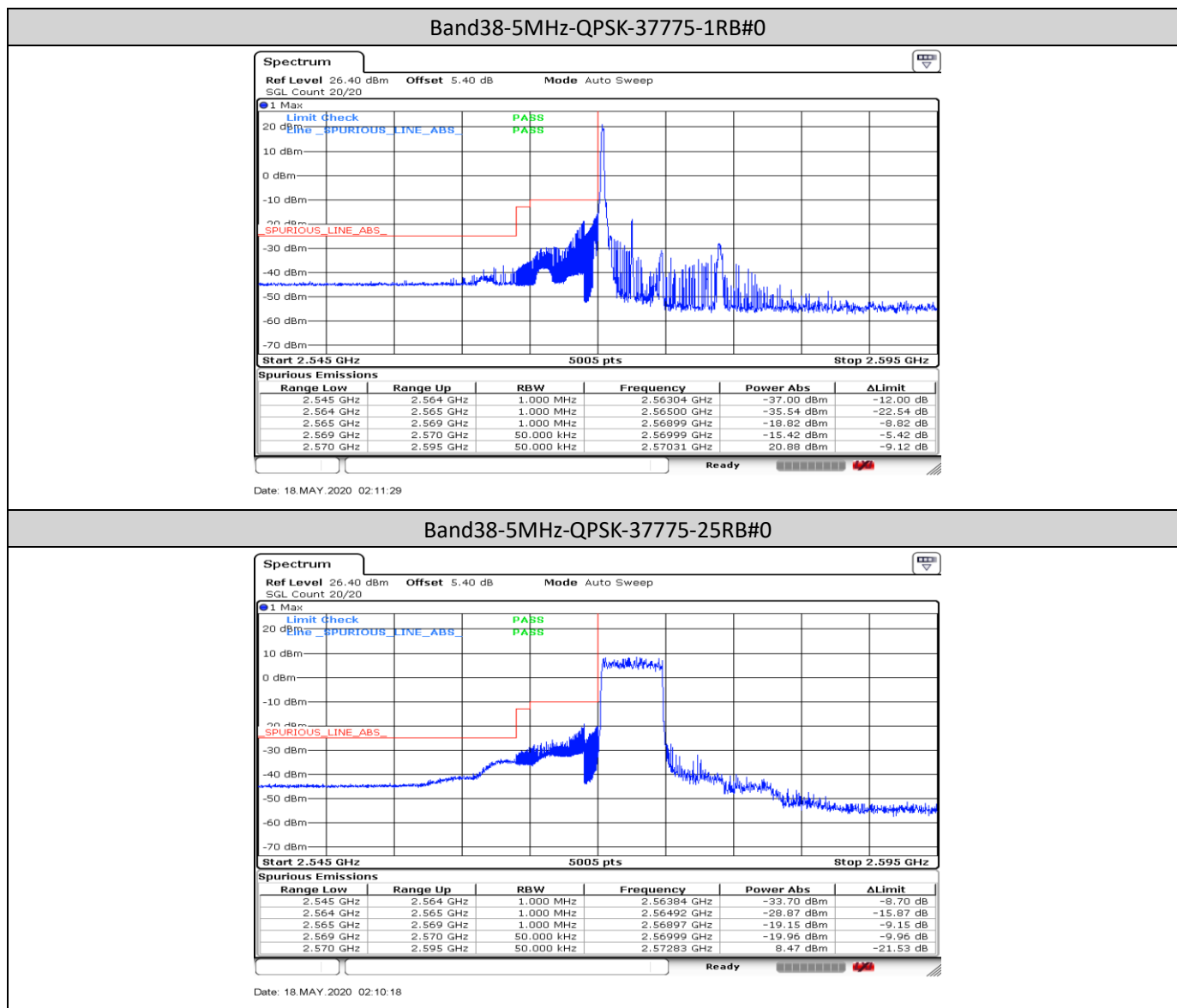
Date: 18.MAY.2020 10:07:36





5. Band Edge Compliance

5.1. Test Plots

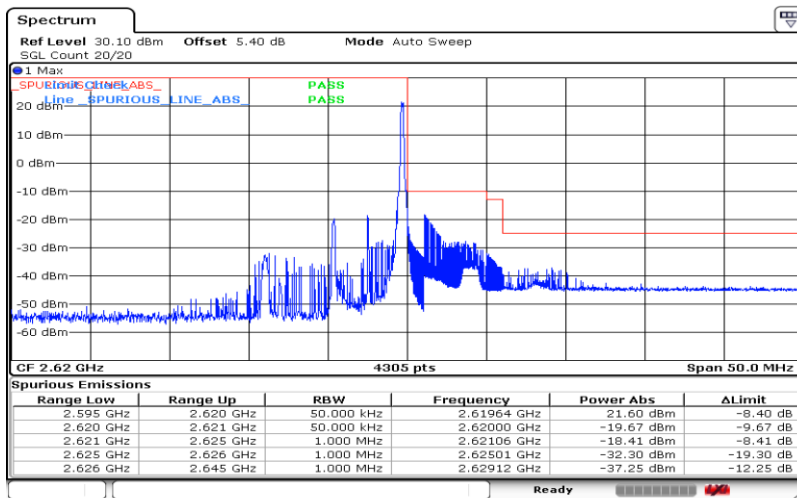


Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com
No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

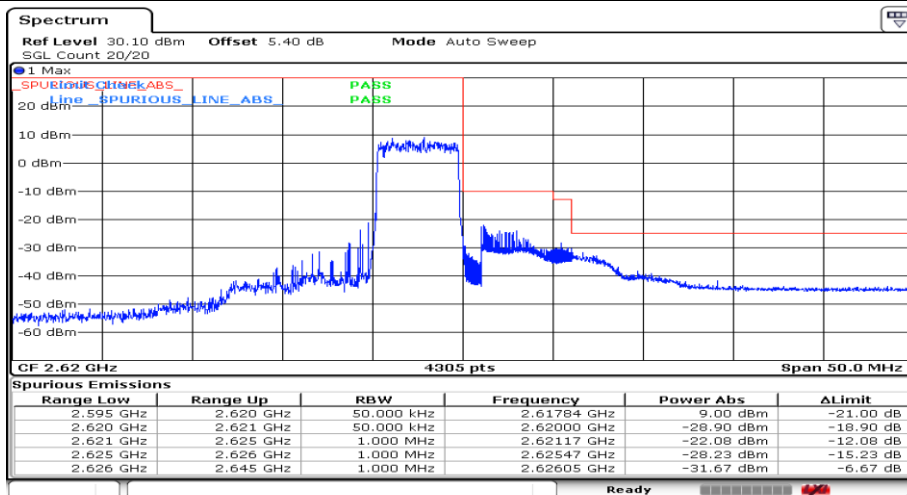


Band38-5MHz-QPSK-38225-1RB#24



Date: 18.MAY.2020 02:17:48

Band38-5MHz-QPSK-38225-25RB#0



Date: 18.MAY.2020 02:18:10



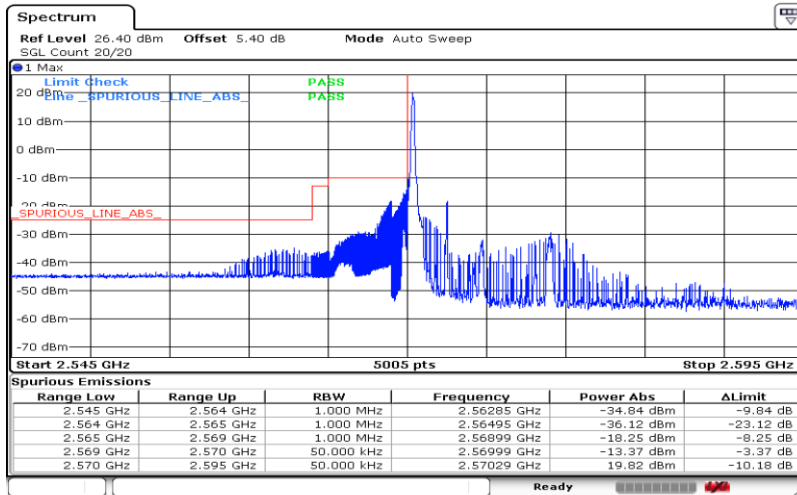
SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com
No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

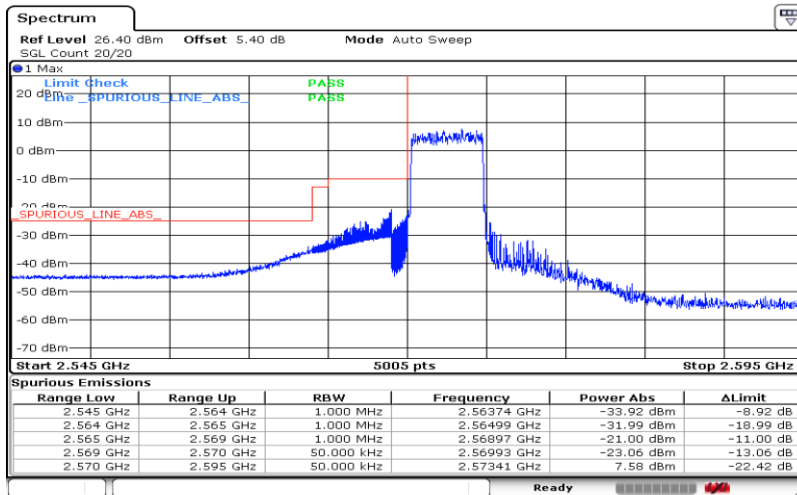


Band38-5MHz-16QAM-37775-1RB#0



Date: 18.MAY.2020 02:13:45

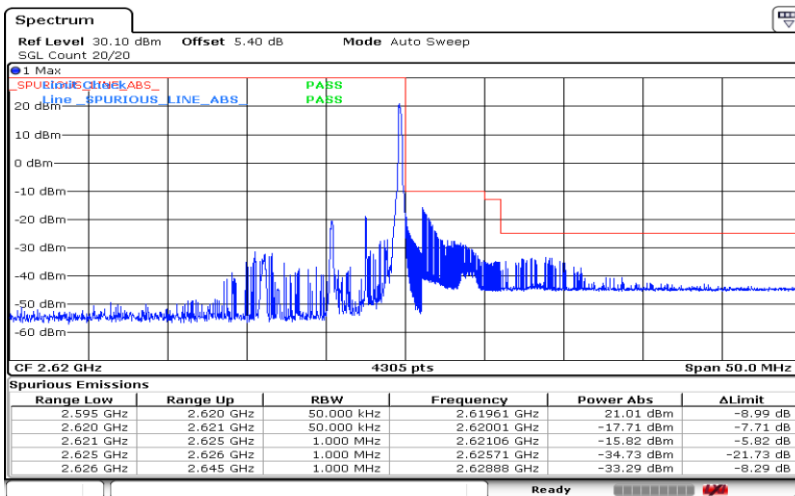
Band38-5MHz-16QAM-37775-25RB#0



Date: 18.MAY.2020 02:14:20

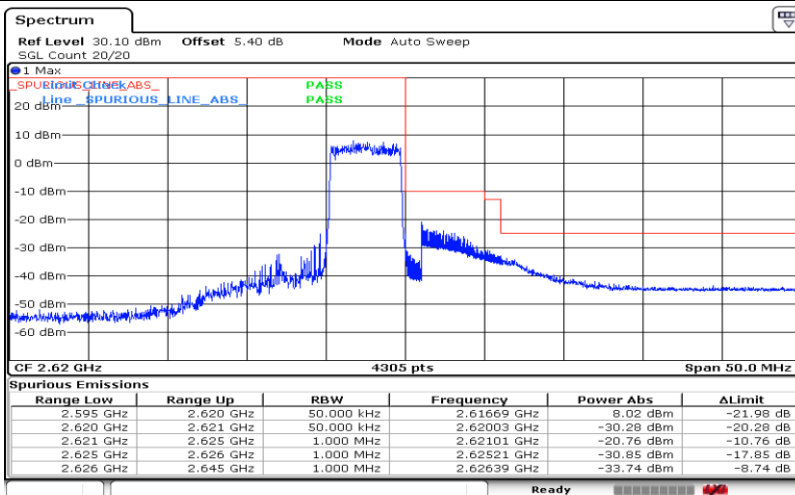


Band38-5MHz-16QAM-38225-1RB#24



Date: 18.MAY.2020 02:16:53

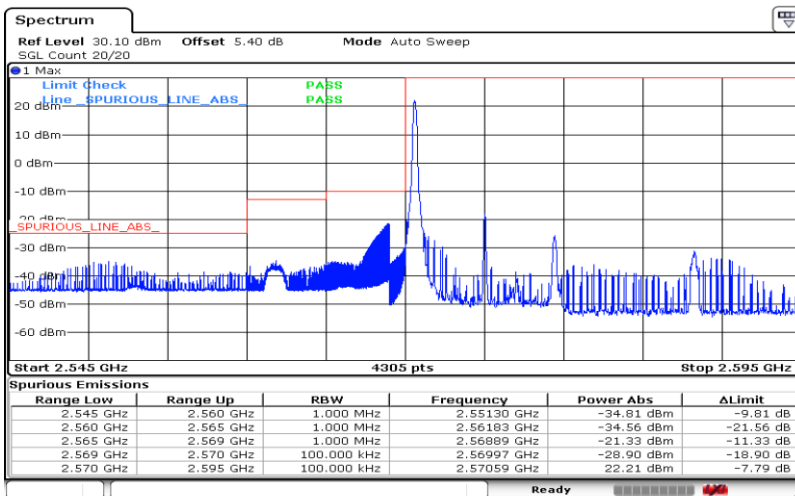
Band38-5MHz-16QAM-38225-25RB#0



Date: 18.MAY.2020 02:15:46

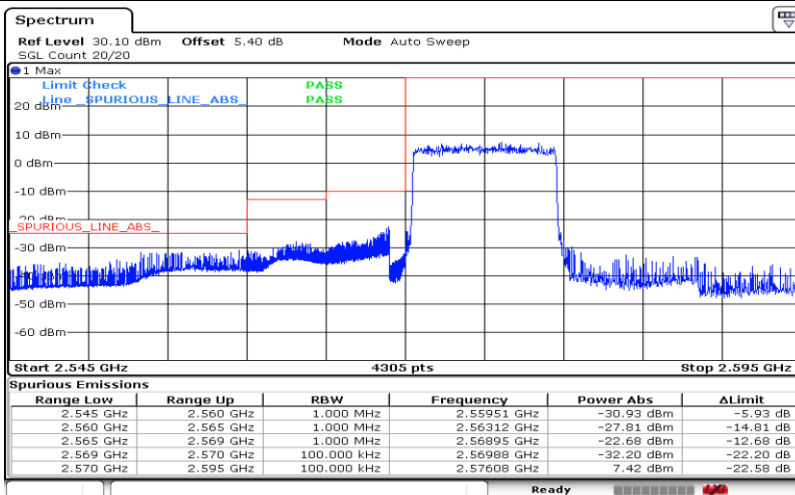


Band38-10MHz-QPSK-37800-1RB#0



Date: 18.MAY.2020 02:22:28

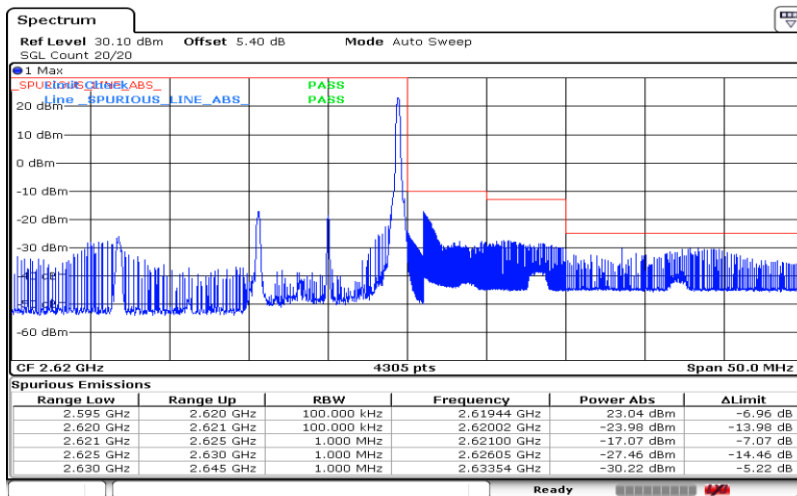
Band38-10MHz-QPSK-37800-50RB#0



Date: 18.MAY.2020 02:21:49

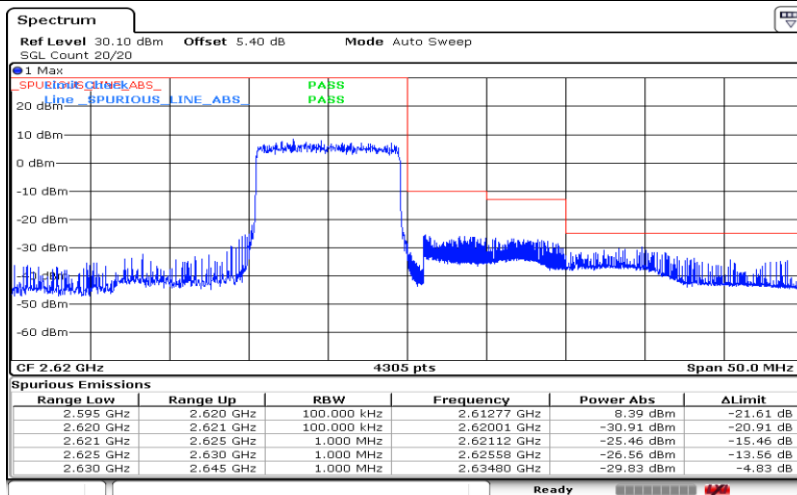


Band38-10MHz-QPSK-38200-1RB#49



Date: 18.MAY.2020 02:28:28

Band38-10MHz-QPSK-38200-50RB#0



Date: 18.MAY.2020 02:29:07

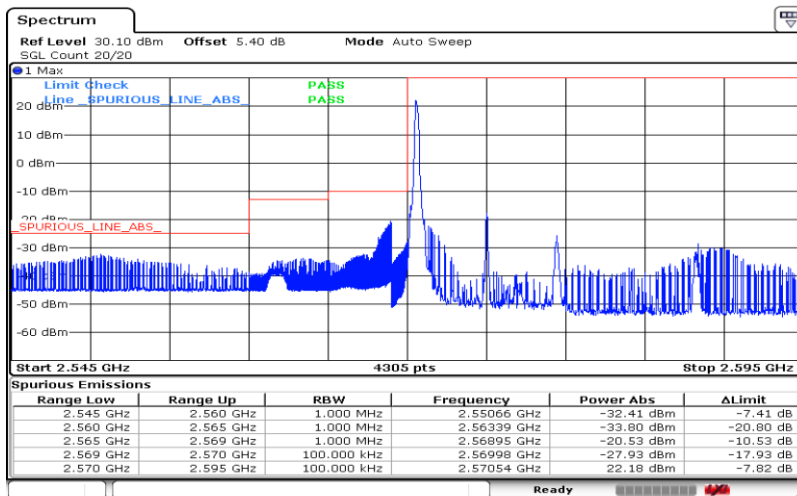


Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

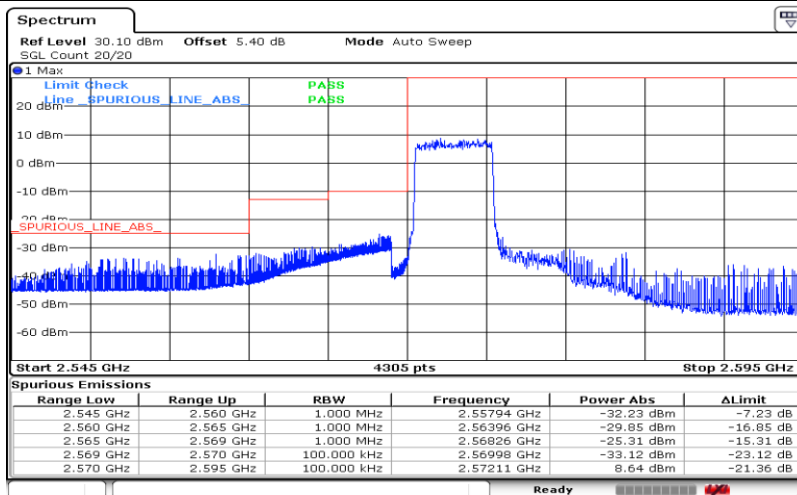


Band38-10MHz-16QAM-37800-1RB#0



Date: 18.MAY.2020 02:24:03

Band38-10MHz-16QAM-37800-27RB#0



Date: 18.MAY.2020 02:25:16



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

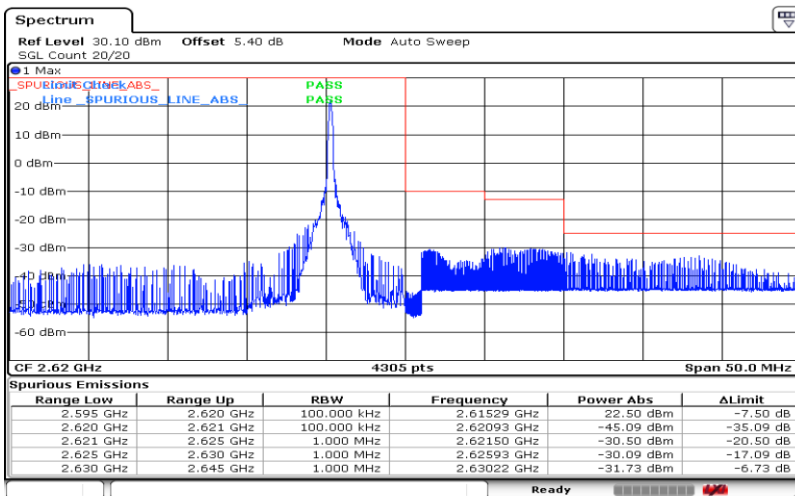
Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

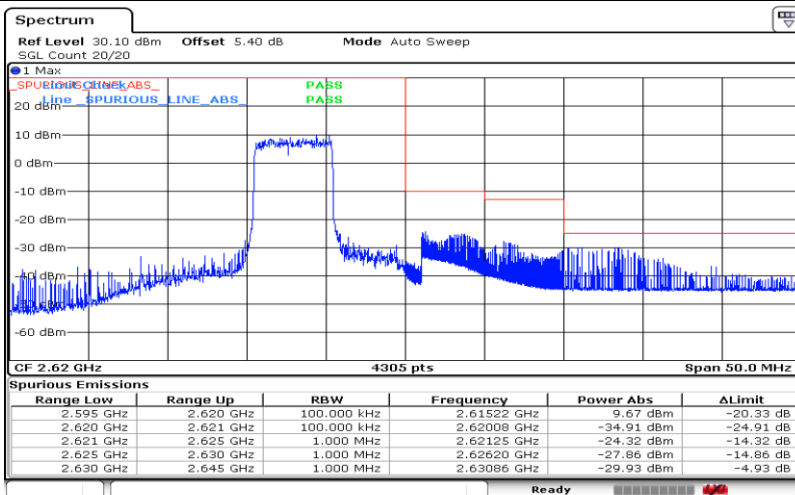
Member of the SGS Group (SGS SA)

Band38-10MHz-16QAM-38200-1RB#26



Date: 18.MAY.2020 02:27:35

Band38-10MHz-16QAM-38200-27RB#0



Date: 18.MAY.2020 02:26:47



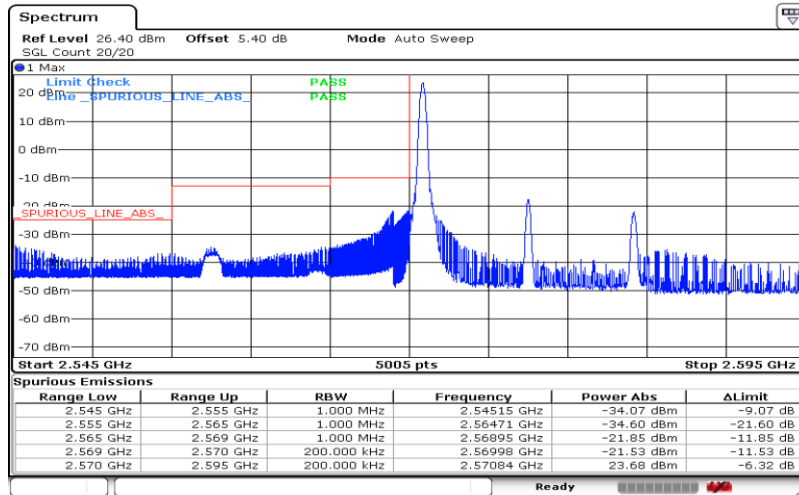
SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch (CMA) Calibration Laboratory

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

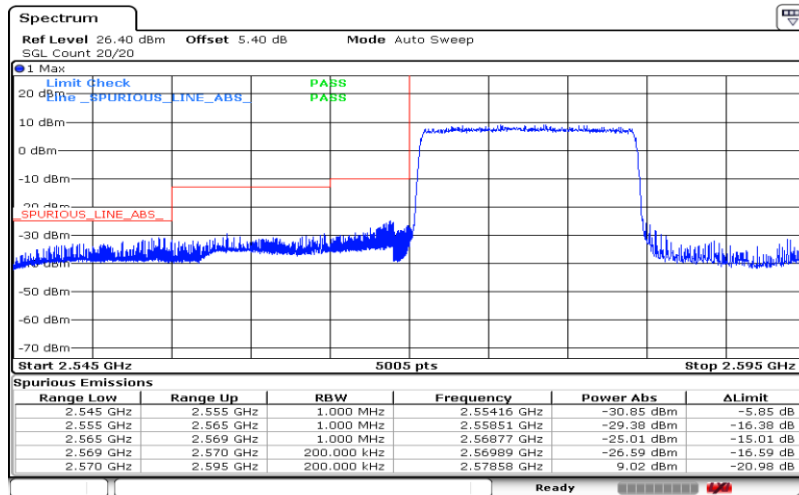
No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

Band38-15MHz-QPSK-37825-1RB#0



Date: 18 MAY 2020 02:31:30

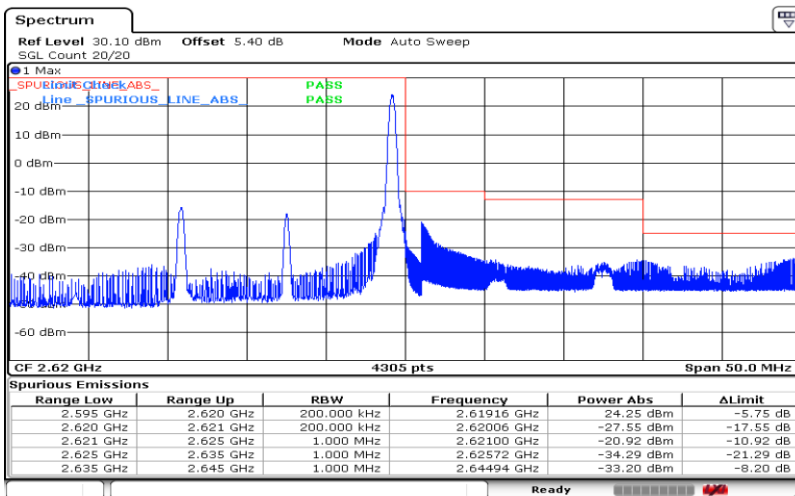
Band38-15MHz-QPSK-37825-75RB#0



Date: 18 MAY 2020 02:30:24

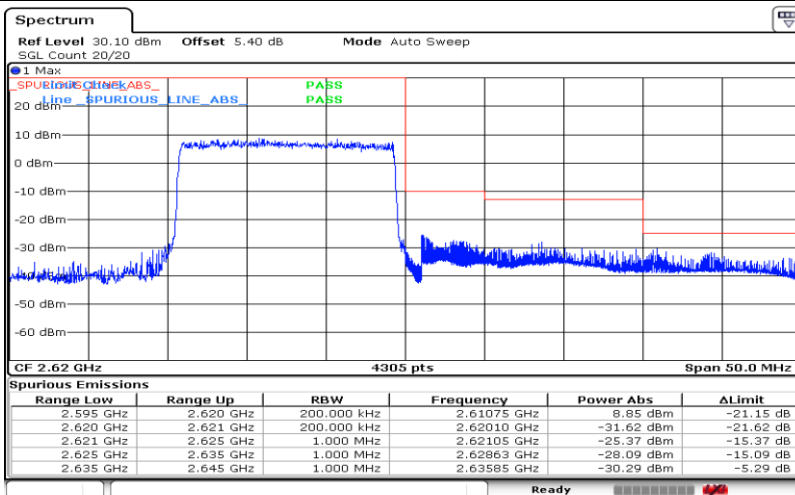


Band38-15MHz-QPSK-38175-1RB#74



Date: 18.MAY.2020 02:39:20

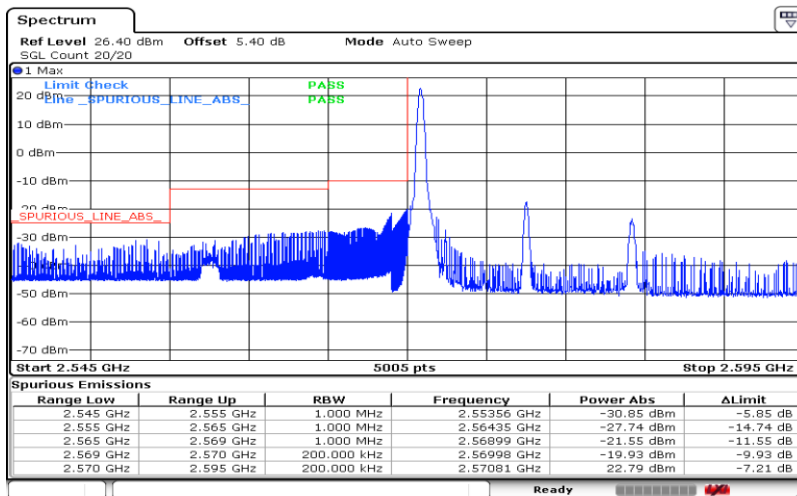
Band38-15MHz-QPSK-38175-75RB#0



Date: 18.MAY.2020 02:40:12

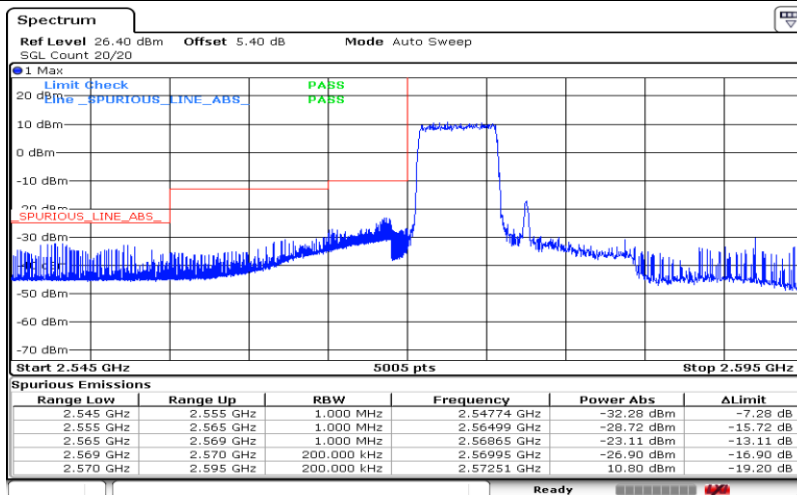


Band38-15MHz-16QAM-37825-1RB#0



Date: 18.MAY.2020 02:33:36

Band38-15MHz-16QAM -37825-75RB#0



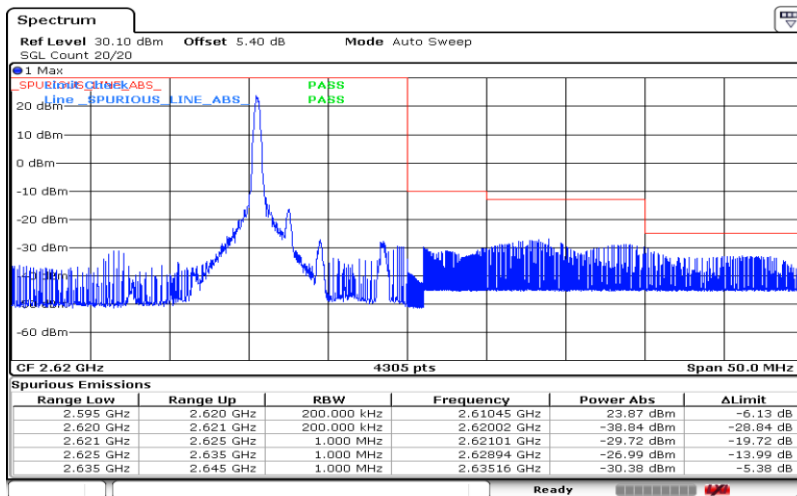
Date: 18.MAY.2020 02:34:08



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

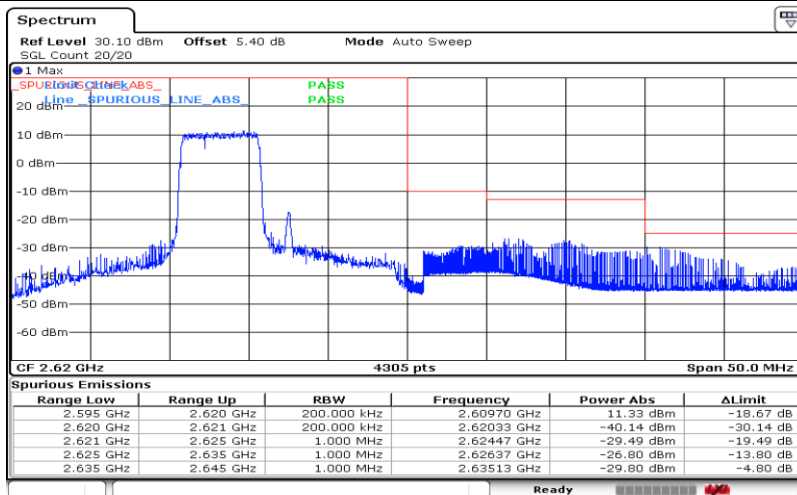
Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

Band38-15MHz-16QAM -38175-1RB#74



Date: 18.MAY.2020 02:38:19

Band38-15MHz-16QAM -38175-75RB#0

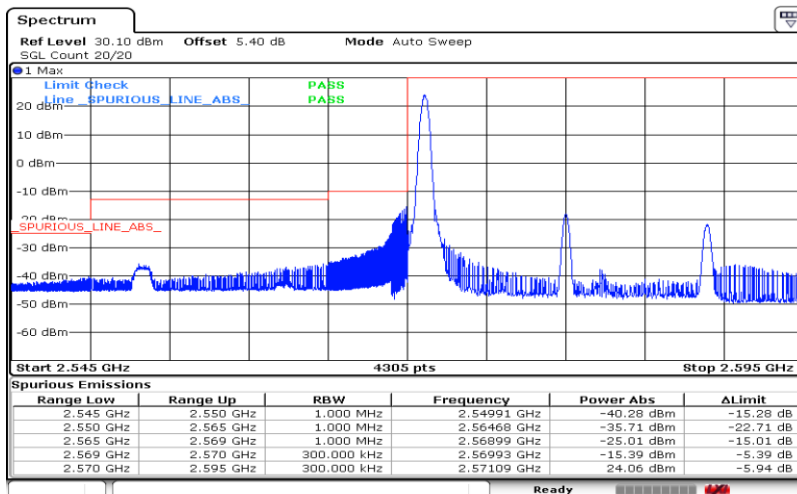


Date: 18.MAY.2020 02:35:35



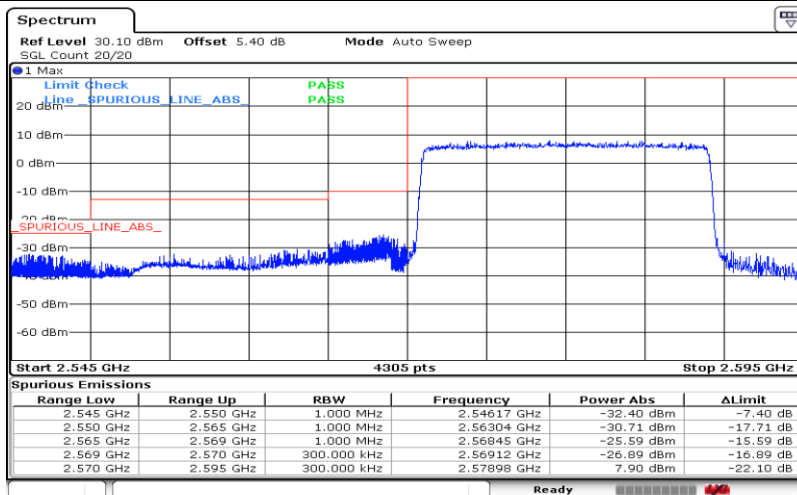


Band38-20MHz-QPSK-37850-1RB#0



Date: 18.MAY.2020 02:43:32

Band38-20MHz-QPSK-37850-100RB#0



Date: 18.MAY.2020 02:42:58



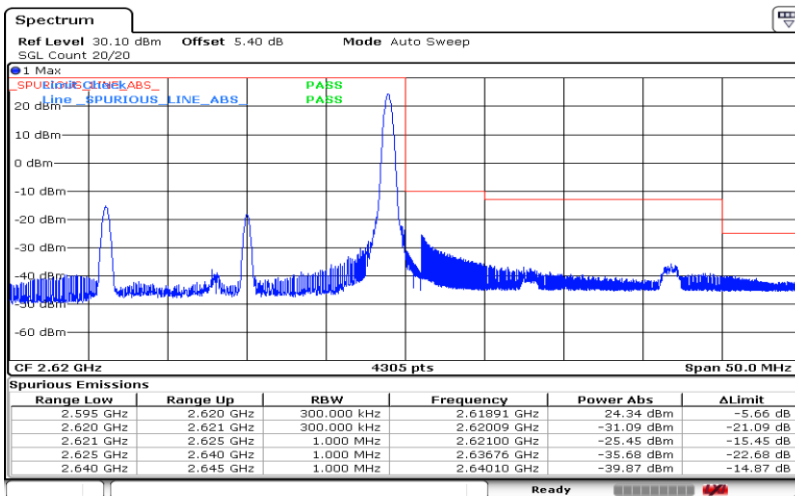
SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

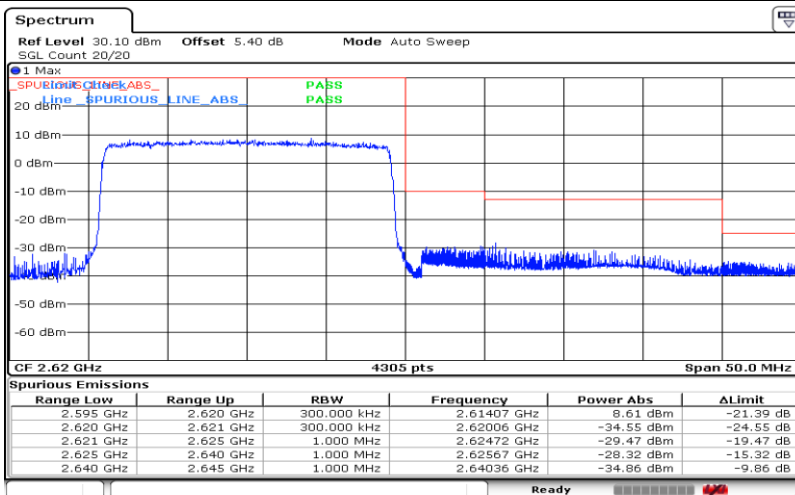
No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

Band38-20MHz-QPSK-38150-1RB#99



Date: 18.MAY.2020 02:48:16

Band38-20MHz-QPSK-38150-100RB#0

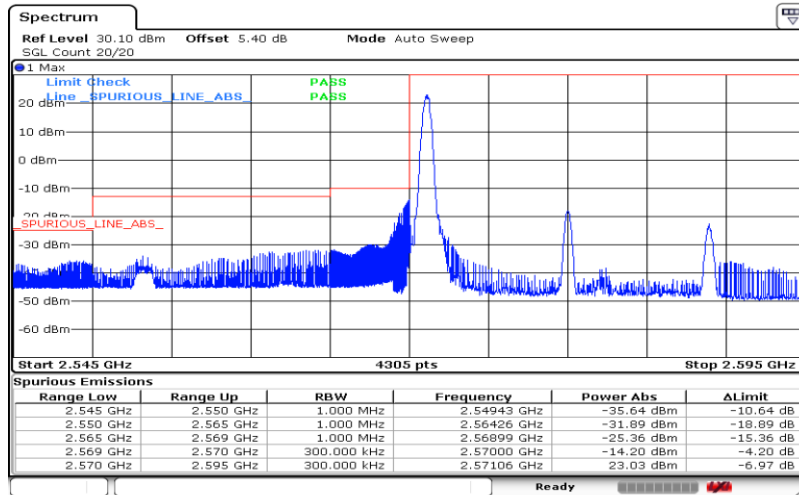


Date: 18.MAY.2020 02:48:43



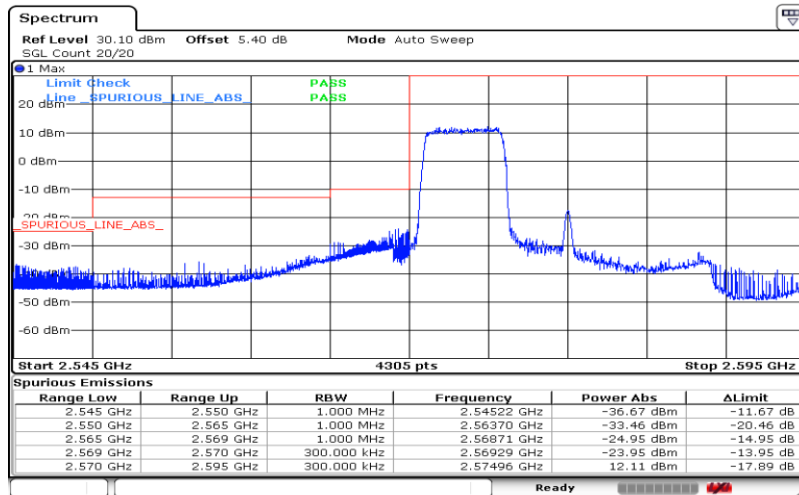


Band38-20MHz-16QAM-37850-1RB#0



Date: 18.MAY.2020 02:43:53

Band38-20MHz-16QAM-37850-27RB#0



Date: 18.MAY.2020 02:44:23



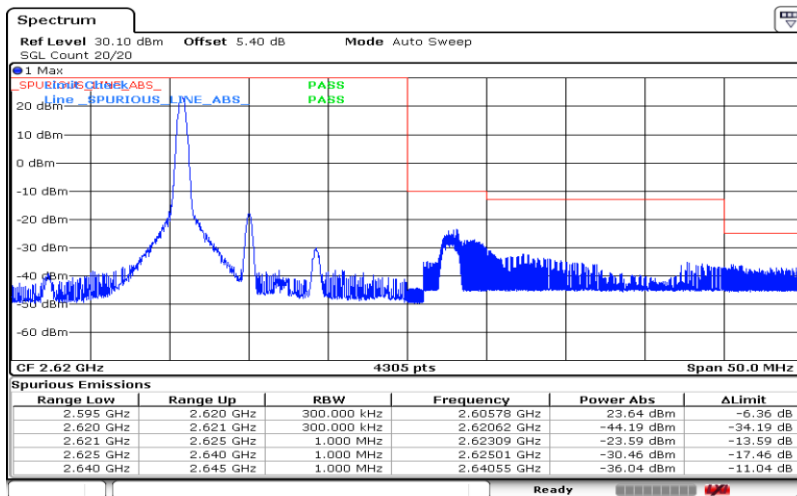
SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

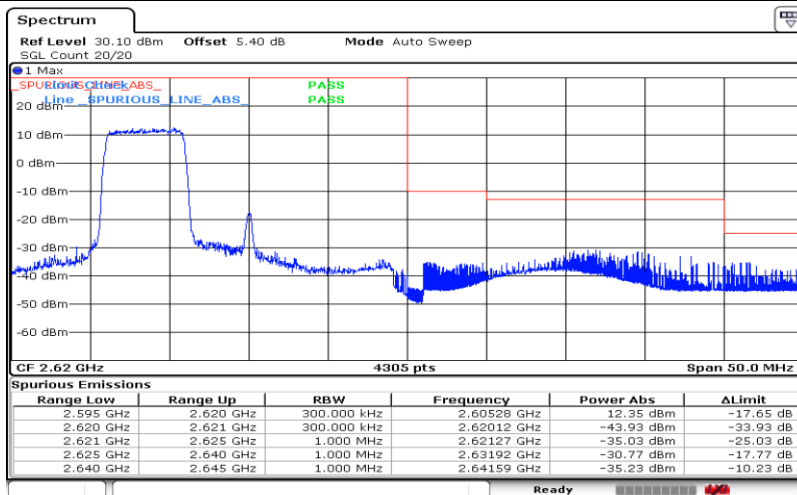
No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

Band38-20MHz-16QAM-38150-1RB#26



Date: 18.MAY.2020 02:47:27

Band38-20MHz-16QAM-38150-27RB#0



Date: 18.MAY.2020 02:46:57

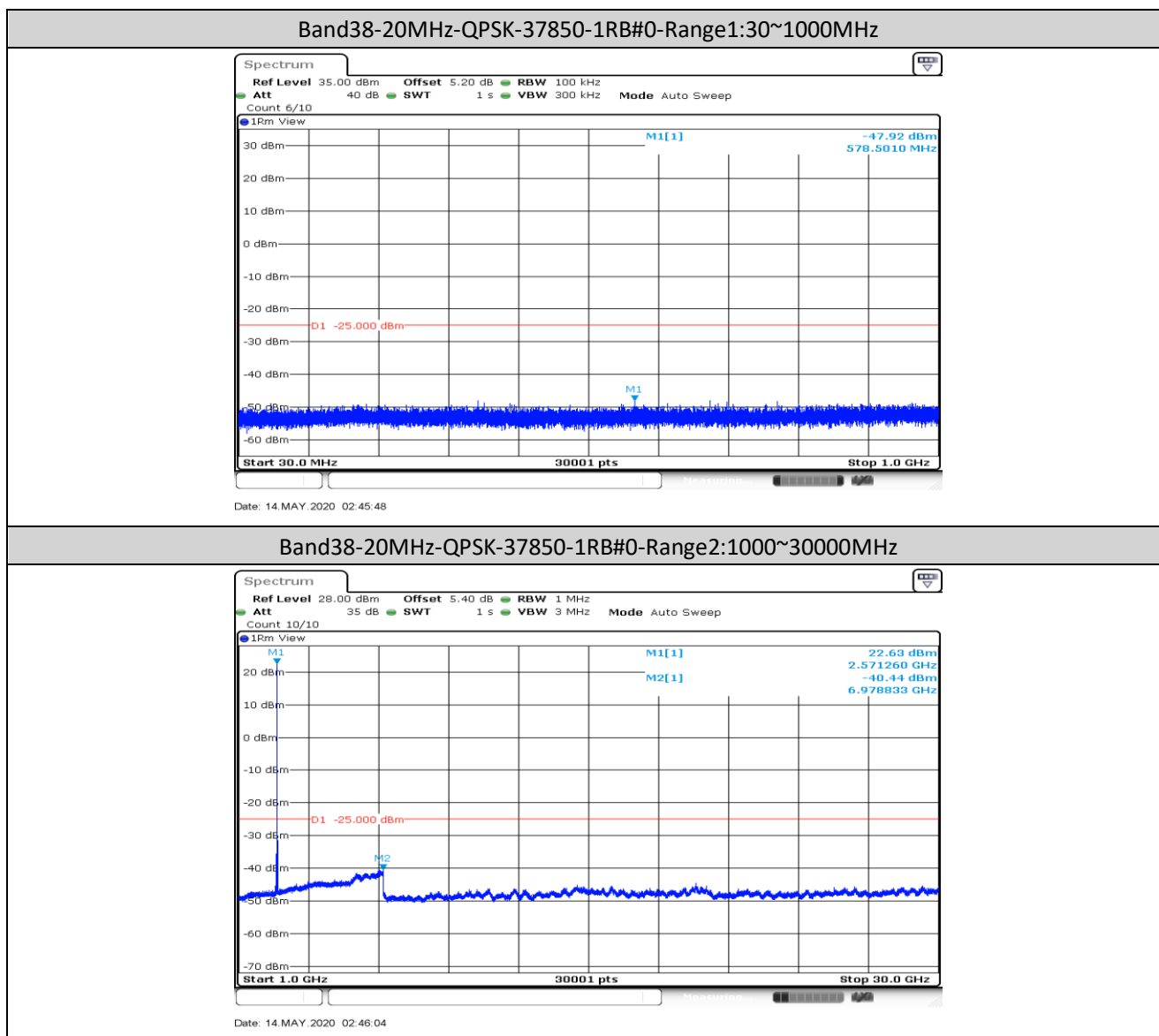


6. Spurious Emission at Antenna Terminal

Remark1: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of $< RBW/2$ so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points = $k * (\text{Span} / RBW)$ " with k between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

Remark2: only the worst case data displayed in this report.

6.1. Test Plots

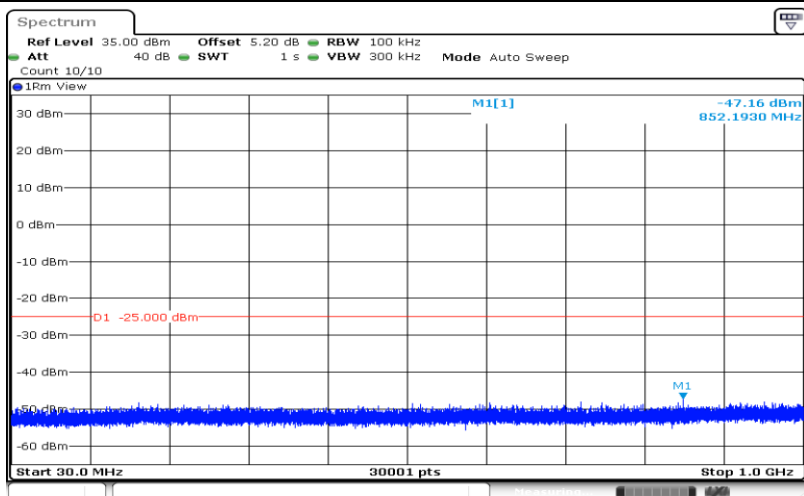


Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch, 120101 Yantian Road, CCC Laboratory.

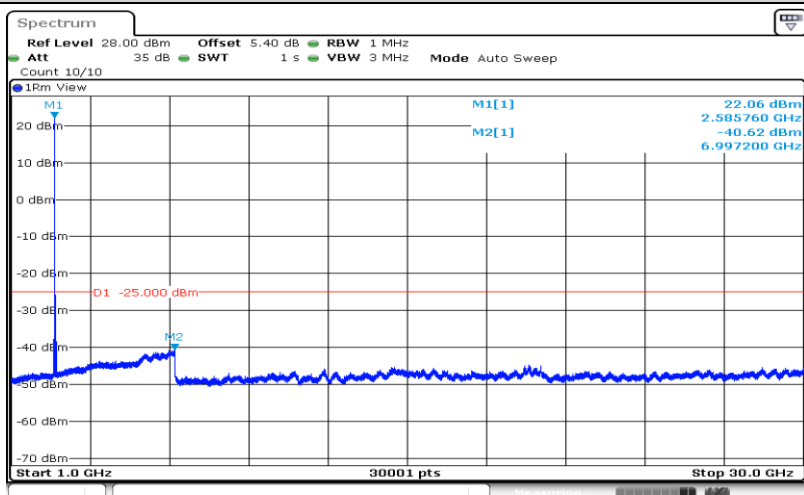
No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

Band38-20MHz-QPSK-38000-1RB#0-Range1:30~1000MHz



Date: 14.MAY.2020 02:46:29

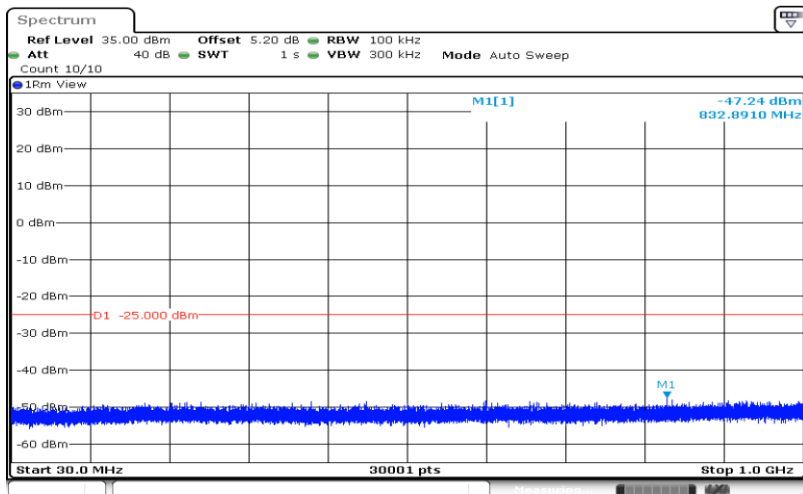
Band38-20MHz-QPSK-38000-1RB#0-Range2:1000~30000MHz



Date: 14.MAY.2020 02:46:45

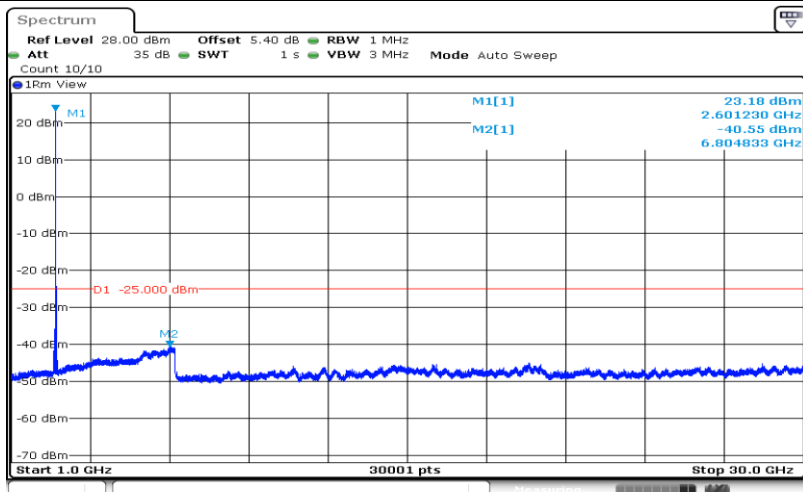


Band38-20MHz-QPSK-38150-1RB#0-Range1:30~1000MHz



Date: 14.MAY.2020 02:47:08

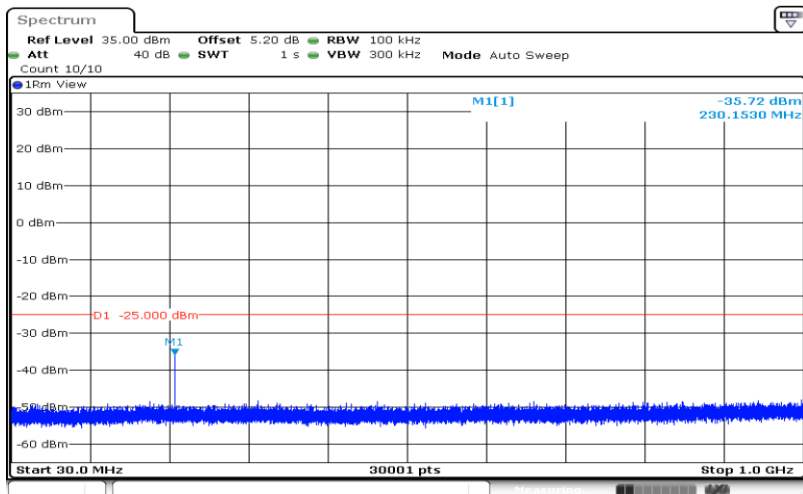
Band38-20MHz-QPSK-38150-1RB#0-Range2:1000~30000MHz



Date: 14.MAY.2020 02:47:24

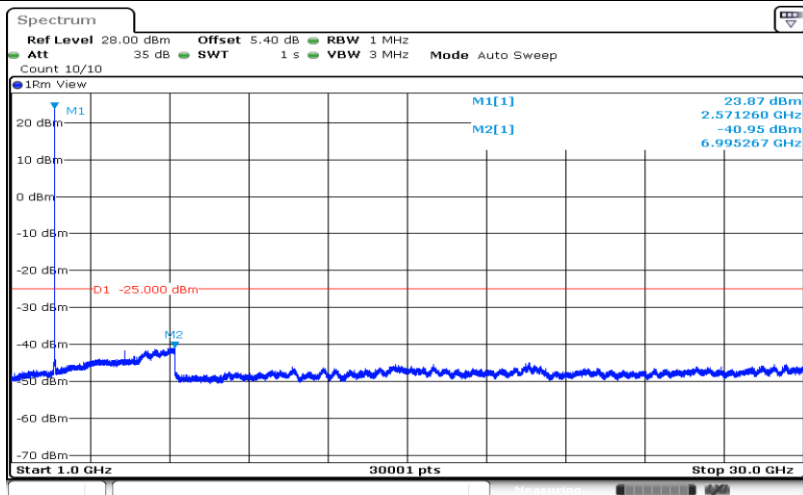


Band38-20MHz-16QAM-37850-1RB#0-Range1:30~1000MHz



Date: 18.MAY.2020 04:40:22

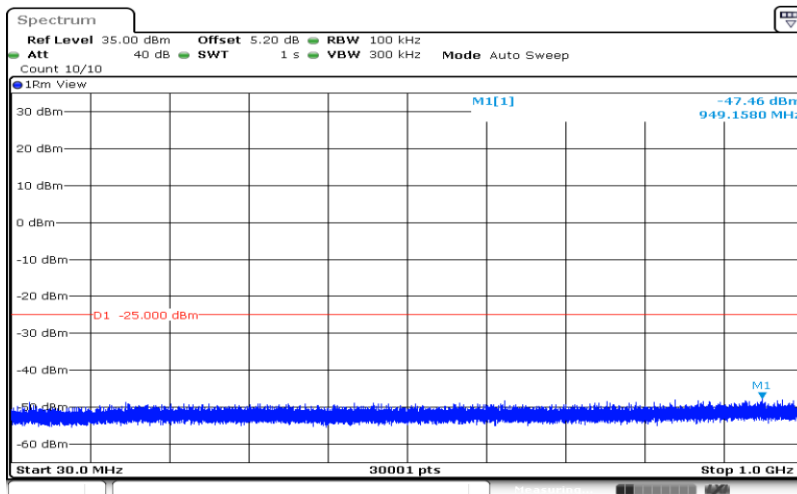
Band38-20MHz-16QAM-37850-1RB#0-Range2:1000~30000MHz



Date: 18.MAY.2020 04:40:39

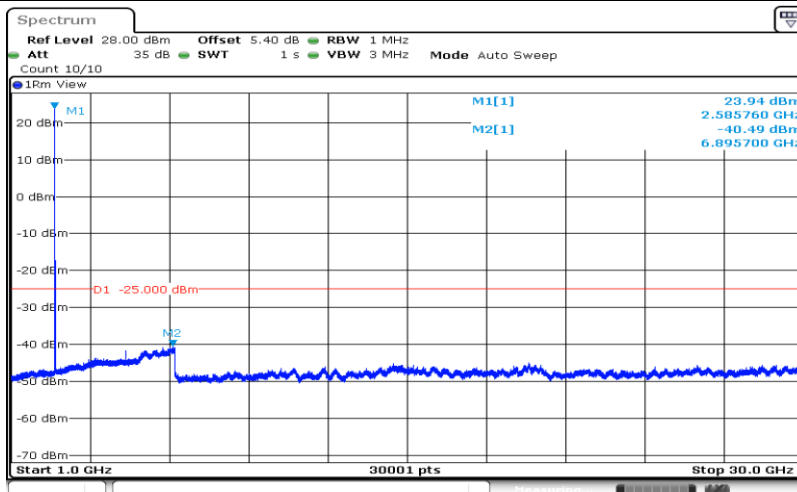


Band38-20MHz-16QAM-38000-1RB#0-Range1:30~1000MHz



Date: 18.MAY.2020 04:41:09

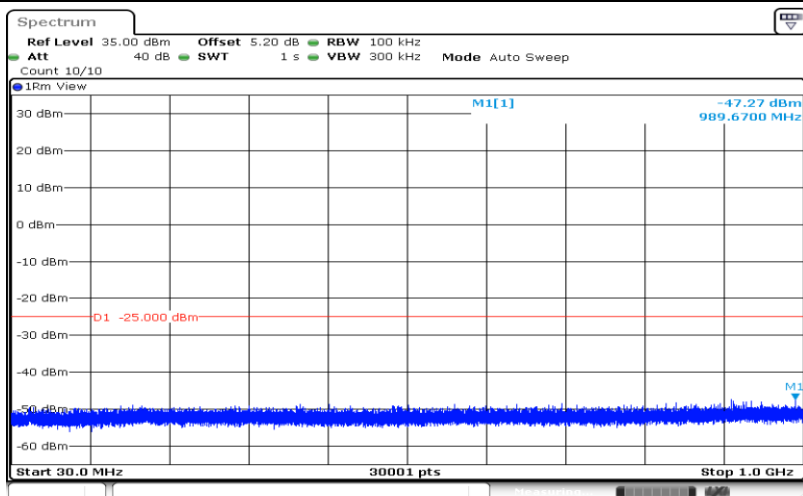
Band38-20MHz-16QAM-38000-1RB#0-Range2:1000~30000MHz



Date: 18.MAY.2020 04:41:25

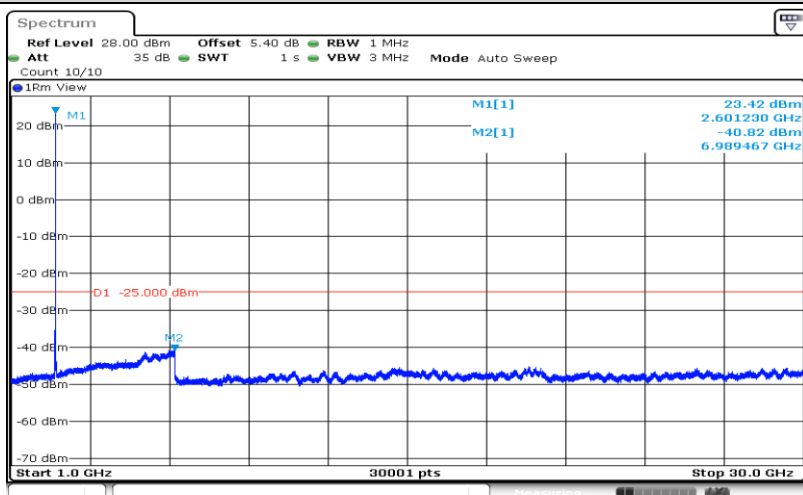


Band38-20MHz-16QAM-38150-1RB#0-Range1:30~1000MHz



Date: 18.MAY.2020 04:41:47

Band38-20MHz-16QAM-38150-1RB#0-Range2:1000~30000MHz



Date: 18.MAY.2020 04:42:04



7. Field Strength of Spurious Radiation

7.1. Test Mode =LTE/TM1 20MHz

7.1.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Height [cm]	Angle [°]	Polarization
64.650000	-79.41	-25.00	54.41	162	352	Vertical
125.000000	-85.62	-25.00	60.62	106	204	Vertical
925.245833	-75.73	-25.00	50.73	179	104	Vertical
5142.075000	-64.34	-25.00	39.34	103	310	Vertical
7713.150000	-50.36	-25.00	25.36	160	264	Vertical
10629.050000	-60.51	-25.00	35.51	214	242	Vertical
63.050000	-75.32	-25.00	50.32	192	174	Horizontal
275.700000	-85.74	-25.00	60.74	266	102	Horizontal
950.866667	-75.22	-25.00	50.22	275	101	Horizontal
5142.075000	-59.89	-25.00	34.89	164	258	Horizontal
7712.825000	-53.19	-25.00	28.19	119	266	Horizontal
10461.350000	-61.44	-25.00	36.44	155	143	Horizontal

7.1.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Height [cm]	Angle [°]	Polarization
65.750000	-80.27	-25.00	55.27	109	198	Vertical
125.000000	-85.86	-25.00	60.86	242	198	Vertical
945.137500	-74.96	-25.00	49.96	260	203	Vertical
5172.300000	-61.10	-25.00	36.10	130	358	Vertical
7758.325000	-46.80	-25.00	21.80	145	171	Vertical
10651.475000	-60.59	-25.00	35.59	173	260	Vertical
62.450000	-75.03	-25.00	50.03	176	200	Horizontal
484.329167	-82.31	-25.00	57.31	124	356	Horizontal
945.962500	-74.18	-25.00	49.18	248	311	Horizontal
5171.975000	-60.53	-25.00	35.53	297	28	Horizontal
7758.325000	-49.15	-25.00	24.15	173	17	Horizontal
10640.750000	-60.51	-25.00	35.51	163	145	Horizontal



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.
Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch (CMAA) Testing Laboratory

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com



7.1.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Height [cm]	Angle [°]	Polarization
64.800000	-79.44	-25.00	54.44	268	202	Vertical
344.600000	-84.61	-25.00	59.61	208	203	Vertical
940.325000	-75.38	-25.00	50.38	130	280	Vertical
5202.200000	-58.63	-25.00	33.63	107	132	Vertical
7803.175000	-47.60	-25.00	22.60	138	100	Vertical
10603.700000	-60.78	-25.00	35.78	182	119	Vertical
62.050000	-75.51	-25.00	50.51	158	360	Horizontal
268.900000	-85.40	-25.00	60.40	224	153	Horizontal
950.133333	-74.59	-25.00	49.59	247	49	Horizontal
5201.875000	-61.90	-25.00	36.90	123	217	Horizontal
7803.175000	-51.07	-25.00	26.07	297	83	Horizontal
10615.400000	-60.82	-25.00	35.82	292	17	Horizontal

Remark:

- 1 According to 971168 D01 Power Meas License Digital Systems, The amplitudes of unwanted emissions that are attenuated more than 20 dB below the applicable limit are not required to be reported.
- 2 The disturbance below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the worst case data displayed in this report.
- 3 all modulation and all Bandwidth had been tested, but only the worst case data displayed in this report.



8. Frequency Stability

8.1. Frequency Vs Voltage

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTEBAND 38	LTE/TM1 20MHz	LCH	TN	VL	-5.30	-0.00206	PASS
				VN	9.28	0.00360	PASS
				VH	0.47	0.00018	PASS
		MCH	TN	VL	-3.05	-0.00118	PASS
				VN	-0.63	-0.00024	PASS
				VH	-1.12	-0.00043	PASS
		HCH	TN	VL	7.52	0.00288	PASS
				VN	-7.30	-0.00280	PASS
				VH	2.51	0.00096	PASS
	LTE/TM2 20MHz	LCH	TN	VL	4.27	0.00166	PASS
				VN	3.19	0.00124	PASS
				VH	-4.84	-0.00188	PASS
		MCH	TN	VL	-1.95	-0.00075	PASS
				VN	1.10	0.00043	PASS
				VH	-7.34	-0.00283	PASS
		HCH	TN	VL	-9.02	-0.00346	PASS
				VN	-5.91	-0.00226	PASS
				VH	4.69	0.00180	PASS





8.2. Frequency Vs Temperature

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTE BAND 38	LTE/TM1 20MHz	LCH	VN	-30	3.67	0.00142	PASS
				-20	-5.42	-0.00210	PASS
				-10	7.72	0.00299	PASS
				0	-3.56	-0.00138	PASS
				10	3.49	0.00135	PASS
				20	-2.87	-0.00111	PASS
				30	-9.46	-0.00367	PASS
				40	1.79	0.00069	PASS
				50	4.19	0.00162	PASS
		MCH	VN	-30	-4.93	-0.00190	PASS
				-20	5.67	0.00218	PASS
				-10	-6.20	-0.00239	PASS
				0	-4.86	-0.00187	PASS
				10	5.20	0.00200	PASS
				20	8.22	0.00317	PASS
				30	5.18	0.00200	PASS
				40	-0.21	-0.00008	PASS
				50	3.52	0.00136	PASS
		HCH	VN	-30	4.08	0.00156	PASS
				-20	-5.89	-0.00226	PASS
				-10	-1.45	-0.00056	PASS
				0	-7.49	-0.00287	PASS
				10	2.35	0.00090	PASS
				20	-4.76	-0.00183	PASS
				30	-3.18	-0.00122	PASS
				40	8.61	0.00330	PASS
				50	7.39	0.00283	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTE BAND 38	LTE/TM2 20MHz	LCH	VN	-30	4.02	0.00156	PASS
				-20	-0.17	-0.00006	PASS
				-10	-0.65	-0.00025	PASS



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

				0	-0.48	-0.00019	PASS
				10	0.93	0.00036	PASS
				20	8.55	0.00332	PASS
				30	7.60	0.00294	PASS
				40	-3.28	-0.00127	PASS
				50	-2.83	-0.00110	PASS
		MCH	VN	-30	6.35	0.00245	PASS
				-20	-3.87	-0.00149	PASS
				-10	-8.13	-0.00313	PASS
				0	8.74	0.00337	PASS
				10	3.86	0.00149	PASS
				20	9.15	0.00353	PASS
				30	-2.02	-0.00078	PASS
				40	-8.61	-0.00332	PASS
				50	-7.94	-0.00306	PASS
		HCH	VN	-30	-9.15	-0.00351	PASS
				-20	-2.53	-0.00097	PASS
				-10	7.59	0.00291	PASS
				0	2.41	0.00092	PASS
				10	-1.81	-0.00070	PASS
				20	-1.54	-0.00059	PASS
				30	2.09	0.00080	PASS
				40	5.96	0.00229	PASS
				50	-0.11	-0.00004	PASS



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com