1 of 67 Page:

# Appendix B

E-UTRA Band 66



2 of 67 Page:

#### CONTENT

1 E	EFFECTIVE (ISOTROPIC) RADIATED POWER	3
1.1	1. Test Result	3
2. P	PEAK-TO-AVERAGE RATIO (CCDF)	9
2.1	1. Test Result	9
2.2	2. TEST PLOTS	9
3. N	MODULATION CHARACTERISTICS	13
3.1	1. TEST MODE = LTE /TM1 20MHz	13
3.1	1.1. TEST CHANNEL = MCH	13
3.2	2. TEST MODE = LTE /TM2 20MHz	14
3.2	2.1. TEST CHANNEL = MCH	14
4. 2	26DB BANDWIDTH AND OCCUPIED BANDWIDTH	15
4.1	1. Test Result	15
4.2	2. TEST PLOTS	16
5. B	BAND EDGE COMPLIANCE	34
5.1	1. TEST PLOTS	34
6. S	SPURIOUS EMISSION AT ANTENNA TERMINAL	58
6.1		
7. F	FIELD STRENGTH OF SPURIOUS RADIATION	64
7.1	1. TEST MODE =LTE/TM1	64
7.1	1.1. TEST CHANNEL = LCH	64
7.1	1.2. TEST CHANNEL = MCH	64
7.1	1.3. TEST CHANNEL = HCH	65
8. F	FREQUENCY STABILITY	66
8.1	1. Frequency Vs Voltage	66
8.2	2. Frequency Vs Temperature	66



Page: 3 of 67

#### 1 Effective (Isotropic) Radiated Power

#### 1.1. Test Result

					Conducted	EIRP	Limit	
Band	Bandwidth	Modulation	Channel	RB Configuration	Power(dBm)	(dBm)	(dBm)	Verdict
DandCC	4 4 1 1 1 -	ODCK	404070	4DD#0				DACC
Band66	1.4MHz	QPSK	131979	1RB#0	22.58 22.52	23.29	30.00	PASS
Band66	1.4MHz	QPSK	131979	1RB#2		23.23	30.00	PASS
Band66	1.4MHz	QPSK QPSK	131979	1RB#5	22.99	23.70	30.00	PASS
Band66	1.4MHz	QPSK QPSK	131979	3RB#1	22.72	23.43	30.00	PASS
Band66	1.4MHz	· ·	131979	3RB#3	22.67	23.38	30.00	PASS
Band66	1.4MHz	QPSK	131979	3RB#0	22.67	23.38	30.00	PASS
Band66	1.4MHz	QPSK	131979	6RB#0	21.97	22.68	30.00	PASS
Band66	1.4MHz	QPSK	132322	1RB#5	22.67	23.38	30.00	PASS
Band66	1.4MHz	QPSK	132322	1RB#2	22.93	23.64	30.00	PASS
Band66	1.4MHz	QPSK	132322	1RB#0	22.98	23.69	30.00	PASS
Band66	1.4MHz	QPSK	132322	3RB#3	22.62	23.33	30.00	PASS
Band66	1.4MHz	QPSK	132322	3RB#1	22.89	23.60	30.00	PASS
Band66	1.4MHz	QPSK	132322	3RB#0	22.70	23.41	30.00	PASS
Band66	1.4MHz	QPSK	132322	6RB#0	21.88	22.59	30.00	PASS
Band66	1.4MHz	QPSK	132665	1RB#2	22.63	23.34	30.00	PASS
Band66	1.4MHz	QPSK	132665	1RB#5	22.56	23.27	30.00	PASS
Band66	1.4MHz	QPSK	132665	1RB#0	22.97	23.68	30.00	PASS
Band66	1.4MHz	QPSK	132665	3RB#0	22.93	23.64	30.00	PASS
Band66	1.4MHz	QPSK	132665	3RB#1	22.96	23.67	30.00	PASS
Band66	1.4MHz	QPSK	132665	3RB#3	22.93	23.64	30.00	PASS
Band66	1.4MHz	QPSK	132665	6RB#0	21.51	22.22	30.00	PASS
Band66	1.4MHz	16QAM	131979	1RB#5	21.96	22.67	30.00	PASS
Band66	1.4MHz	16QAM	131979	1RB#2	21.81	22.52	30.00	PASS
Band66	1.4MHz	16QAM	131979	1RB#0	21.59	22.30	30.00	PASS
Band66	1.4MHz	16QAM	131979	3RB#3	21.74	22.45	30.00	PASS
Band66	1.4MHz	16QAM	131979	3RB#1	21.84	22.55	30.00	PASS
Band66	1.4MHz	16QAM	131979	3RB#0	21.68	22.39	30.00	PASS
Band66	1.4MHz	16QAM	131979	6RB#0	20.76	21.47	30.00	PASS
Band66	1.4MHz	16QAM	132322	1RB#5	21.54	22.25	30.00	PASS
Band66	1.4MHz	16QAM	132322	1RB#0	21.88	22.59	30.00	PASS
Band66	1.4MHz	16QAM	132322	1RB#2	21.68	22.39	30.00	PASS
Band66	1.4MHz	16QAM	132322	3RB#3	21.94	22.65	30.00	PASS
Band66	1.4MHz	16QAM	132322	3RB#0	21.57	22.28	30.00	PASS
Band66	1.4MHz	16QAM	132322	3RB#1	21.93	22.64	30.00	PASS
Band66	1.4MHz	16QAM	132322	6RB#0	20.57	21.28	30.00	PASS
Band66	1.4MHz	16QAM	132665	1RB#0	21.76	22.47	30.00	PASS
Band66	1.4MHz	16QAM	132665	1RB#2	21.81	22.52	30.00	PASS
Band66	1.4MHz	16QAM	132665	1RB#5	21.89	22.60	30.00	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 <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issue 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 a certificate, please contact us at telephone: (86-755) 8307 1443,

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



Report No.: ZR/2019/B001301

4 of 67 Page:

						T		
Band66	1.4MHz	16QAM	132665	3RB#3	21.79	22.50	30.00	PASS
Band66	1.4MHz	16QAM	132665	3RB#1	21.94	22.65	30.00	PASS
Band66	1.4MHz	16QAM	132665	3RB#0	21.52	22.23	30.00	PASS
Band66	1.4MHz	16QAM	132665	6RB#0	20.60	21.31	30.00	PASS
Band66	3MHz	QPSK	131987	1RB#8	22.73	23.44	30.00	PASS
Band66	3MHz	QPSK	131987	1RB#14	22.50	23.21	30.00	PASS
Band66	3MHz	QPSK	131987	1RB#0	22.79	23.50	30.00	PASS
Band66	3MHz	QPSK	131987	8RB#0	21.81	22.52	30.00	PASS
Band66	3MHz	QPSK	131987	8RB#7	22.00	22.71	30.00	PASS
Band66	3MHz	QPSK	131987	8RB#4	21.55	22.26	30.00	PASS
Band66	3MHz	QPSK	131987	15RB#0	21.97	22.68	30.00	PASS
Band66	3MHz	QPSK	132322	1RB#0	22.52	23.23	30.00	PASS
Band66	3MHz	QPSK	132322	1RB#14	22.57	23.28	30.00	PASS
Band66	3MHz	QPSK	132322	1RB#8	22.65	23.36	30.00	PASS
Band66	3MHz	QPSK	132322	8RB#0	21.66	22.37	30.00	PASS
Band66	3MHz	QPSK	132322	8RB#4	21.76	22.47	30.00	PASS
Band66	3MHz	QPSK	132322	8RB#7	21.82	22.53	30.00	PASS
Band66	3MHz	QPSK	132322	15RB#0	21.97	22.68	30.00	PASS
Band66	3MHz	QPSK	132657	1RB#0	22.68	23.39	30.00	PASS
Band66	3MHz	QPSK	132657	1RB#14	22.81	23.52	30.00	PASS
Band66	3MHz	QPSK	132657	1RB#8	22.59	23.30	30.00	PASS
Band66	3MHz	QPSK	132657	8RB#0	21.59	22.30	30.00	PASS
Band66	3MHz	QPSK	132657	8RB#4	21.63	22.34	30.00	PASS
Band66	3MHz	QPSK	132657	8RB#7	21.79	22.50	30.00	PASS
Band66	3MHz	QPSK	132657	15RB#0	21.62	22.33	30.00	PASS
Band66	3MHz	16QAM	131987	1RB#14	21.63	22.34	30.00	PASS
Band66	3MHz	16QAM	131987	1RB#8	21.80	22.51	30.00	PASS
Band66	3MHz	16QAM	131987	1RB#0	21.87	22.58	30.00	PASS
Band66	3MHz	16QAM	131987	8RB#4	20.94	21.65	30.00	PASS
Band66	3MHz	16QAM	131987	8RB#0	20.71	21.42	30.00	PASS
Band66	3MHz	16QAM	131987	8RB#7	20.81	21.52	30.00	PASS
Band66	3MHz	16QAM	131987	15RB#0	20.80	21.51	30.00	PASS
Band66	3MHz	16QAM	132322	1RB#0	21.53	22.24	30.00	PASS
Band66	3MHz	16QAM	132322	1RB#8	21.92	22.63	30.00	PASS
Band66	3MHz	16QAM	132322	1RB#14	21.95	22.66	30.00	PASS
Band66	3MHz	16QAM	132322	8RB#0	20.68	21.39	30.00	PASS
Band66	3MHz	16QAM	132322	8RB#7	20.69	21.40	30.00	PASS
Band66	3MHz	16QAM	132322	8RB#4	20.62	21.33	30.00	PASS
Band66	3MHz	16QAM	132322	15RB#0	20.73	21.44	30.00	PASS
Band66	3MHz	16QAM	132657	1RB#8	21.63	22.34	30.00	PASS
Band66	3MHz	16QAM	132657	1RB#14	21.90	22.61	30.00	PASS
Band66	3MHz	16QAM	132657	1RB#0	21.74	22.45	30.00	PASS
Band66	3MHz	16QAM	132657	8RB#4	20.64	21.35	30.00	PASS
Band66	3MHz	16QAM	132657	8RB#0	20.68	21.39	30.00	PASS
Band66	3MHz	16QAM	132657	8RB#7	20.97	21.68	30.00	PASS
Band66	3MHz	16QAM	132657	15RB#0	20.95	21.66	30.00	PASS
Band66	5MHz	QPSK	131997	1RB#24	22.85	23.56	30.00	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 <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and for electronic format documents subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</a>. 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 a certificate, please contact us at telephone: (85-755) 8307 1443,

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



Report No.: ZR/2019/B001301

5 of 67 Page:

	T	T	T		1			
Band66	5MHz	QPSK	131997	1RB#0	22.60	23.31	30.00	PASS
Band66	5MHz	QPSK	131997	1RB#12	22.91	23.62	30.00	PASS
Band66	5MHz	QPSK	131997	12RB#0	21.77	22.48	30.00	PASS
Band66	5MHz	QPSK	131997	12RB#13	21.87	22.58	30.00	PASS
Band66	5MHz	QPSK	131997	12RB#6	21.76	22.47	30.00	PASS
Band66	5MHz	QPSK	131997	25RB#0	21.87	22.58	30.00	PASS
Band66	5MHz	QPSK	132322	1RB#12	22.77	23.48	30.00	PASS
Band66	5MHz	QPSK	132322	1RB#0	22.52	23.23	30.00	PASS
Band66	5MHz	QPSK	132322	1RB#24	22.84	23.55	30.00	PASS
Band66	5MHz	QPSK	132322	12RB#13	21.91	22.62	30.00	PASS
Band66	5MHz	QPSK	132322	12RB#6	21.79	22.50	30.00	PASS
Band66	5MHz	QPSK	132322	12RB#0	21.96	22.67	30.00	PASS
Band66	5MHz	QPSK	132322	25RB#0	21.77	22.48	30.00	PASS
Band66	5MHz	QPSK	132647	1RB#0	22.88	23.59	30.00	PASS
Band66	5MHz	QPSK	132647	1RB#12	22.52	23.23	30.00	PASS
Band66	5MHz	QPSK	132647	1RB#24	22.80	23.51	30.00	PASS
Band66	5MHz	QPSK	132647	12RB#13	21.80	22.51	30.00	PASS
Band66	5MHz	QPSK	132647	12RB#0	21.90	22.61	30.00	PASS
Band66	5MHz	QPSK	132647	12RB#6	21.82	22.53	30.00	PASS
Band66	5MHz	QPSK	132647	25RB#0	21.62	22.33	30.00	PASS
Band66	5MHz	16QAM	131997	1RB#24	21.71	22.42	30.00	PASS
Band66	5MHz	16QAM	131997	1RB#0	21.73	22.44	30.00	PASS
Band66	5MHz	16QAM	131997	1RB#12	21.61	22.32	30.00	PASS
Band66	5MHz	16QAM	131997	12RB#0	20.87	21.58	30.00	PASS
Band66	5MHz	16QAM	131997	12RB#13	20.71	21.42	30.00	PASS
Band66	5MHz	16QAM	131997	12RB#6	20.77	21.48	30.00	PASS
Band66	5MHz	16QAM	131997	25RB#0	20.83	21.54	30.00	PASS
Band66	5MHz	16QAM	132322	1RB#0	21.89	22.60	30.00	PASS
Band66	5MHz	16QAM	132322	1RB#24	21.62	22.33	30.00	PASS
Band66	5MHz	16QAM	132322	1RB#12	21.52	22.23	30.00	PASS
Band66	5MHz	16QAM	132322	12RB#13	20.88	21.59	30.00	PASS
Band66	5MHz	16QAM	132322	12RB#6	20.88	21.59	30.00	PASS
Band66	5MHz	16QAM	132322	12RB#0	20.97	21.68	30.00	PASS
Band66	5MHz	16QAM	132322	25RB#0	20.70	21.41	30.00	PASS
Band66	5MHz	16QAM	132647	1RB#0	21.84	22.55	30.00	PASS
Band66	5MHz	16QAM	132647	1RB#12	21.54	22.25	30.00	PASS
Band66	5MHz	16QAM	132647	1RB#24	21.80	22.51	30.00	PASS
Band66	5MHz	16QAM	132647	12RB#13	20.72	21.43	30.00	PASS
Band66	5MHz	16QAM	132647	12RB#0	20.72	21.43	30.00	PASS
Band66	5MHz	16QAM	132647	12RB#6	20.55	21.26	30.00	PASS
Band66	5MHz	16QAM	132647	25RB#0	20.78	21.49	30.00	PASS
Band66	10MHz	QPSK	132022	1RB#49	22.53	23.24	30.00	PASS
Band66	10MHz	QPSK	132022	1RB#24	22.61	23.32	30.00	PASS
Band66	10MHz	QPSK	132022	1RB#0	22.85	23.56	30.00	PASS
Band66	10MHz	QPSK	132022	25RB#25	21.57	22.28	30.00	PASS
Band66	10MHz	QPSK	132022	25RB#0	21.82	22.53	30.00	PASS
Band66	10MHz	QPSK	132022	25RB#12	21.80	22.51	30.00	PASS
24.1400	10.711 12	ζ. σ.τ	.02022	201.01112			55.55	. , .00



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 <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and for electronic format documents subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx</a>. 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 a certificate, please contact us at telephone: (85-755) 8307 1443,

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



Report No.: ZR/2019/B001301

6 of 67 Page:

D = == -100	400411-	ODOK	400000	FODD IIIO	04.04	100.50	20.00	DAGG
Band66	10MHz	QPSK	132022	50RB#0	21.81	22.52	30.00	PASS
Band66	10MHz	QPSK	132322	1RB#49	22.51	23.22	30.00	PASS
Band66	10MHz	QPSK	132322	1RB#24	22.98	23.69	30.00	PASS
Band66	10MHz	QPSK	132322	1RB#0	22.69	23.40	30.00	PASS
Band66	10MHz	QPSK	132322	25RB#12	21.52	22.23	30.00	PASS
Band66	10MHz	QPSK	132322	25RB#25	21.51	22.22	30.00	PASS
Band66	10MHz	QPSK	132322	25RB#0	21.63	22.34	30.00	PASS
Band66	10MHz	QPSK	132322	50RB#0	21.88	22.59	30.00	PASS
Band66	10MHz	QPSK	132622	1RB#49	22.76	23.47	30.00	PASS
Band66	10MHz	QPSK	132622	1RB#24	22.95	23.66	30.00	PASS
Band66	10MHz	QPSK	132622	1RB#0	22.53	23.24	30.00	PASS
Band66	10MHz	QPSK	132622	25RB#25	21.60	22.31	30.00	PASS
Band66	10MHz	QPSK	132622	25RB#12	21.80	22.51	30.00	PASS
Band66	10MHz	QPSK	132622	25RB#0	21.78	22.49	30.00	PASS
Band66	10MHz	QPSK	132622	50RB#0	21.77	22.48	30.00	PASS
Band66	10MHz	16QAM	132022	1RB#0	21.95	22.66	30.00	PASS
Band66	10MHz	16QAM	132022	1RB#49	21.78	22.49	30.00	PASS
Band66	10MHz	16QAM	132022	1RB#24	21.97	22.68	30.00	PASS
Band66	10MHz	16QAM	132022	25RB#0	20.85	21.56	30.00	PASS
Band66	10MHz	16QAM	132022	25RB#12	20.73	21.44	30.00	PASS
Band66	10MHz	16QAM	132022	25RB#25	20.91	21.62	30.00	PASS
Band66	10MHz	16QAM	132022	50RB#0	20.74	21.45	30.00	PASS
Band66	10MHz	16QAM	132322	1RB#0	21.90	22.61	30.00	PASS
Band66	10MHz	16QAM	132322	1RB#49	21.92	22.63	30.00	PASS
Band66	10MHz	16QAM	132322	1RB#24	21.56	22.27	30.00	PASS
Band66	10MHz	16QAM	132322	25RB#12	20.79	21.50	30.00	PASS
Band66	10MHz	16QAM	132322	25RB#25	20.54	21.25	30.00	PASS
Band66	10MHz	16QAM	132322	25RB#0	20.95	21.66	30.00	PASS
Band66	10MHz	16QAM	132322	50RB#0	20.79	21.50	30.00	PASS
Band66	10MHz	16QAM	132622	1RB#24	21.93	22.64	30.00	PASS
Band66	10MHz	16QAM	132622	1RB#49	21.70	22.41	30.00	PASS
Band66	10MHz	16QAM	132622	1RB#0	21.63	22.34	30.00	PASS
Band66	10MHz	16QAM	132622	25RB#0	20.68	21.39	30.00	PASS
Band66	10MHz	16QAM	132622	25RB#12	20.56	21.27	30.00	PASS
Band66	10MHz	16QAM	132622	25RB#25	20.56	21.27	30.00	PASS
Band66	10MHz	16QAM	132622	50RB#0	20.55	21.26	30.00	PASS
Band66	15MHz	QPSK	132047	1RB#74	22.58	23.29	30.00	PASS
Band66	15MHz	QPSK	132047	1RB#38	22.86	23.57	30.00	PASS
Band66	15MHz	QPSK	132047	1RB#0	22.68	23.39	30.00	PASS
Band66	15MHz	QPSK	132047	36RB#0	21.72	22.43	30.00	PASS
Band66	15MHz	QPSK	132047	36RB#39	21.65	22.36	30.00	PASS
Band66	15MHz	QPSK	132047	36RB#18	21.86	22.57	30.00	PASS
Band66	15MHz	QPSK	132047	75RB#0	21.61	22.32	30.00	PASS
Band66	15MHz	QPSK	132322	1RB#38	22.94	23.65	30.00	PASS
Band66	15MHz	QPSK	132322	1RB#0	22.85	23.56	30.00	PASS
Band66	15MHz	QPSK	132322	1RB#74	22.96	23.67	30.00	PASS
Band66	15MHz	QPSK	132322	36RB#39	21.99	22.70	30.00	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 <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and for electronic format documents subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</a>. 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 a certificate, please contact us at telephone: (85-755) 8307 1443,

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



Report No.: ZR/2019/B001301

7 of 67 Page:

			1		1	1		
Band66	15MHz	QPSK	132322	36RB#18	21.79	22.50	30.00	PASS
Band66	15MHz	QPSK	132322	36RB#0	21.51	22.22	30.00	PASS
Band66	15MHz	QPSK	132322	75RB#0	21.97	22.68	30.00	PASS
Band66	15MHz	QPSK	132597	1RB#38	22.63	23.34	30.00	PASS
Band66	15MHz	QPSK	132597	1RB#74	22.66	23.37	30.00	PASS
Band66	15MHz	QPSK	132597	1RB#0	22.74	23.45	30.00	PASS
Band66	15MHz	QPSK	132597	36RB#39	21.75	22.46	30.00	PASS
Band66	15MHz	QPSK	132597	36RB#0	21.50	22.21	30.00	PASS
Band66	15MHz	QPSK	132597	36RB#18	21.76	22.47	30.00	PASS
Band66	15MHz	QPSK	132597	75RB#0	21.55	22.26	30.00	PASS
Band66	15MHz	16QAM	132047	1RB#74	21.65	22.36	30.00	PASS
Band66	15MHz	16QAM	132047	1RB#38	21.61	22.32	30.00	PASS
Band66	15MHz	16QAM	132047	1RB#0	21.89	22.60	30.00	PASS
Band66	15MHz	16QAM	132047	36RB#39	20.56	21.27	30.00	PASS
Band66	15MHz	16QAM	132047	36RB#18	20.77	21.48	30.00	PASS
Band66	15MHz	16QAM	132047	36RB#0	20.84	21.55	30.00	PASS
Band66	15MHz	16QAM	132047	75RB#0	20.90	21.61	30.00	PASS
Band66	15MHz	16QAM	132322	1RB#74	21.61	22.32	30.00	PASS
Band66	15MHz	16QAM	132322	1RB#38	21.88	22.59	30.00	PASS
Band66	15MHz	16QAM	132322	1RB#0	21.69	22.40	30.00	PASS
Band66	15MHz	16QAM	132322	36RB#39	20.90	21.61	30.00	PASS
Band66	15MHz	16QAM	132322	36RB#0	20.89	21.60	30.00	PASS
Band66	15MHz	16QAM	132322	36RB#18	20.79	21.50	30.00	PASS
Band66	15MHz	16QAM	132322	75RB#0	20.59	21.30	30.00	PASS
Band66	15MHz	16QAM	132597	1RB#0	21.92	22.63	30.00	PASS
Band66	15MHz	16QAM	132597	1RB#74	21.61	22.32	30.00	PASS
Band66	15MHz	16QAM	132597	1RB#38	21.80	22.51	30.00	PASS
Band66	15MHz	16QAM	132597	36RB#0	20.56	21.27	30.00	PASS
Band66	15MHz	16QAM	132597	36RB#18	20.57	21.28	30.00	PASS
Band66	15MHz	16QAM	132597	36RB#39	20.62	21.33	30.00	PASS
Band66	15MHz	16QAM	132597	75RB#0	20.52	21.23	30.00	PASS
Band66	20MHz	QPSK	132072	1RB#99	22.69	23.40	30.00	PASS
Band66	20MHz	QPSK	132072	1RB#49	22.66	23.37	30.00	PASS
Band66	20MHz	QPSK	132072	1RB#0	22.99	23.70	30.00	PASS
Band66	20MHz	QPSK	132072	50RB#50	21.79	22.50	30.00	PASS
Band66	20MHz	QPSK	132072	50RB#0	21.84	22.55	30.00	PASS
Band66	20MHz	QPSK	132072	50RB#25	21.79	22.50	30.00	PASS
Band66	20MHz	QPSK	132072	100RB#0	21.91	22.62	30.00	PASS
Band66	20MHz	QPSK	132322	1RB#49	22.88	23.59	30.00	PASS
Band66	20MHz	QPSK	132322	1RB#0	22.67	23.38	30.00	PASS
Band66	20MHz	QPSK	132322	1RB#99	22.60	23.31	30.00	PASS
Band66	20MHz	QPSK	132322	50RB#0	21.75	22.46	30.00	PASS
Band66	20MHz	QPSK	132322	50RB#50	21.77	22.48	30.00	PASS
Band66	20MHz	QPSK	132322	50RB#25	21.76	22.47	30.00	PASS
Band66	20MHz	QPSK	132322	100RB#0	21.63	22.34	30.00	PASS
Band66	20MHz	QPSK	132572	1RB#99	22.69	23.40	30.00	PASS
Band66	20MHz	QPSK	132572	1RB#0	22.67	23.38	30.00	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 <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and for electronic format documents subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</a>. 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 a certificate, please contact us at telephone: (85-755) 8307 1443,

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



Report No.: ZR/2019/B001301

Page: 8 of 67

			ı		li .			
Band66	20MHz	QPSK	132572	1RB#49	22.84	23.55	30.00	PASS
Band66	20MHz	QPSK	132572	50RB#0	21.90	22.61	30.00	PASS
Band66	20MHz	QPSK	132572	50RB#25	21.69	22.40	30.00	PASS
Band66	20MHz	QPSK	132572	50RB#50	21.81	22.52	30.00	PASS
Band66	20MHz	QPSK	132572	100RB#0	21.81	22.52	30.00	PASS
Band66	20MHz	16QAM	132072	1RB#0	21.92	22.63	30.00	PASS
Band66	20MHz	16QAM	132072	1RB#49	21.76	22.47	30.00	PASS
Band66	20MHz	16QAM	132072	1RB#99	21.57	22.28	30.00	PASS
Band66	20MHz	16QAM	132072	50RB#25	20.91	21.62	30.00	PASS
Band66	20MHz	16QAM	132072	50RB#0	20.65	21.36	30.00	PASS
Band66	20MHz	16QAM	132072	50RB#50	20.52	21.23	30.00	PASS
Band66	20MHz	16QAM	132072	100RB#0	20.97	21.68	30.00	PASS
Band66	20MHz	16QAM	132322	1RB#49	21.62	22.33	30.00	PASS
Band66	20MHz	16QAM	132322	1RB#0	21.95	22.66	30.00	PASS
Band66	20MHz	16QAM	132322	1RB#99	21.60	22.31	30.00	PASS
Band66	20MHz	16QAM	132322	50RB#50	20.77	21.48	30.00	PASS
Band66	20MHz	16QAM	132322	50RB#25	20.53	21.24	30.00	PASS
Band66	20MHz	16QAM	132322	50RB#0	20.75	21.46	30.00	PASS
Band66	20MHz	16QAM	132322	100RB#0	20.93	21.64	30.00	PASS
Band66	20MHz	16QAM	132572	1RB#49	21.58	22.29	30.00	PASS
Band66	20MHz	16QAM	132572	1RB#0	21.66	22.37	30.00	PASS
Band66	20MHz	16QAM	132572	1RB#99	21.59	22.30	30.00	PASS
Band66	20MHz	16QAM	132572	50RB#0	20.56	21.27	30.00	PASS
Band66	20MHz	16QAM	132572	50RB#25	20.81	21.52	30.00	PASS
Band66	20MHz	16QAM	132572	50RB#50	20.97	21.68	30.00	PASS
Band66	20MHz	16QAM	132572	100RB#0	20.66	21.37	30.00	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]



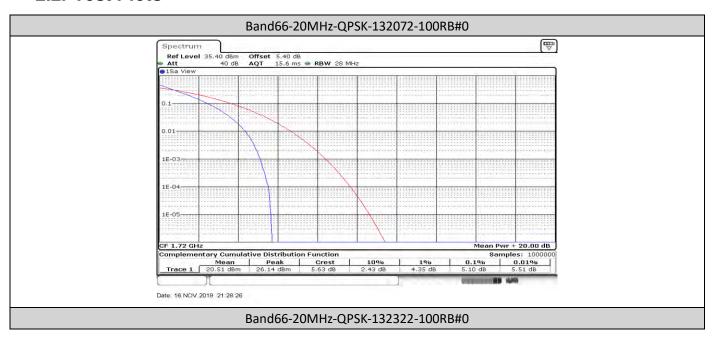
Page: 9 of 67

#### 2. Peak-to-Average Ratio (CCDF)

#### 2.1. Test Result

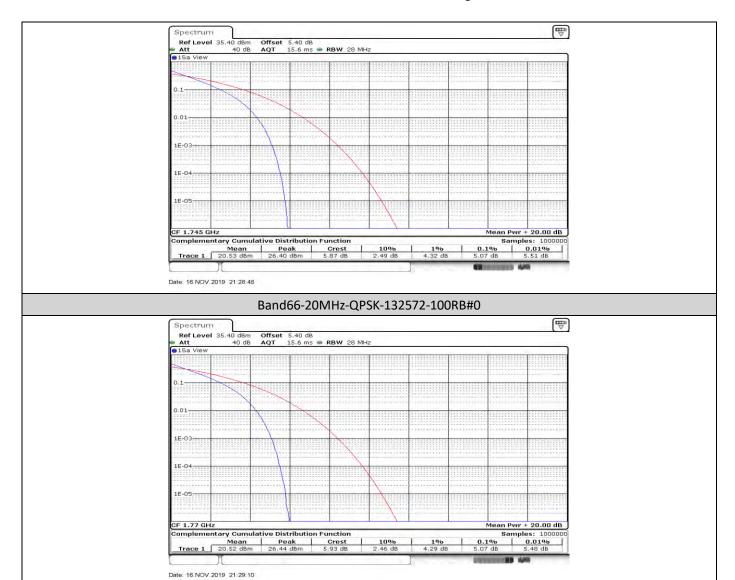
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band66	20MHz	QPSK	132072	100RB#0	5.10	13	PASS
Band66	20MHz	QPSK	132322	100RB#0	5.07	13	PASS
Band66	20MHz	QPSK	132572	100RB#0	5.07	13	PASS
Band66	20MHz	16QAM	132072	100RB#0	6.00	13	PASS
Band66	20MHz	16QAM	132322	100RB#0	5.97	13	PASS
Band66	20MHz	16QAM	132572	100RB#0	5.91	13	PASS

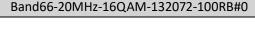
#### 2.2. Test Plots





Page: 10 of 67

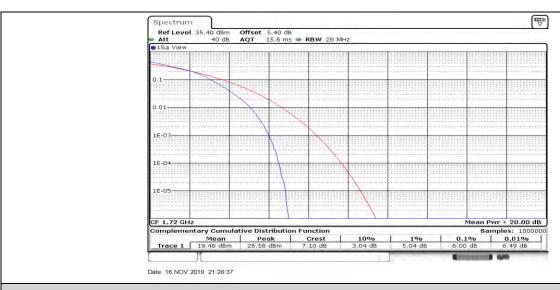






Report No.: ZR/2019/B001301

Page: 11 of 67



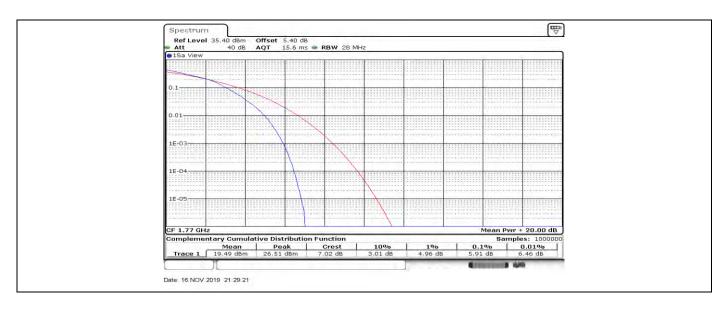
#### Band66-20MHz-16QAM-132322-100RB#0



Band66-20MHz-16QAM-132572-100RB#0



Page: 12 of 67



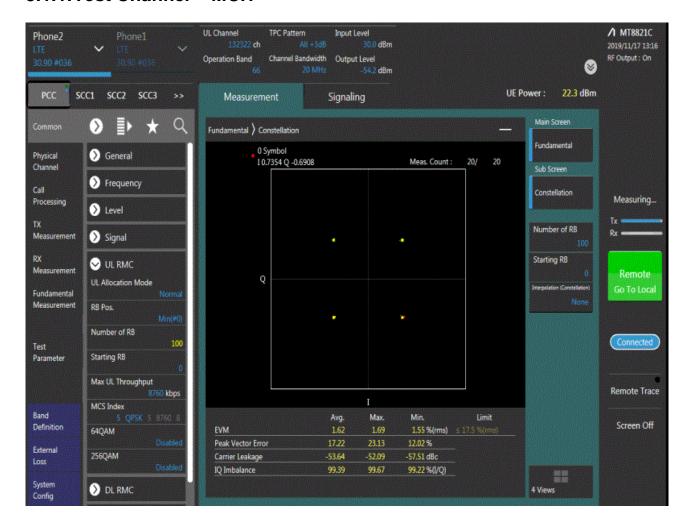


Page: 13 of 67

#### 3. Modulation Characteristics

#### 3.1. Test Mode = LTE /TM1 20MHz

#### 3.1.1.Test Channel = MCH

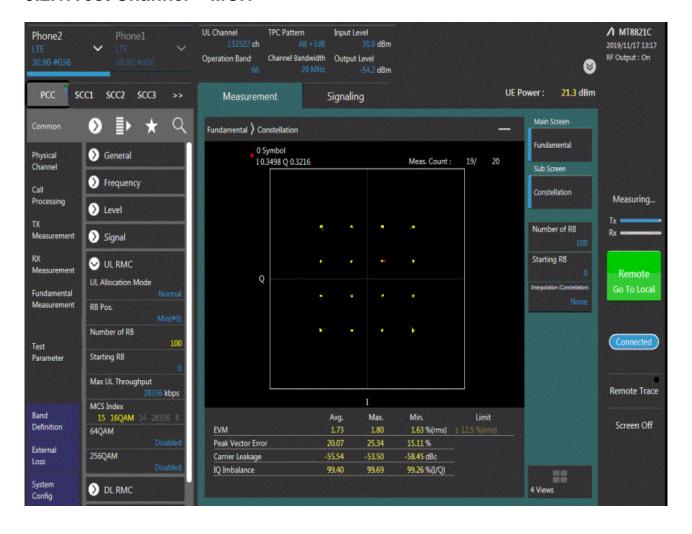




Page: 14 of 67

#### 3.2. Test Mode = LTE /TM2 20MHz

#### 3.2.1.Test Channel = MCH





Page: 15 of 67

#### 4. 26dB Bandwidth and Occupied Bandwidth

#### 4.1. Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band66	1.4MHz	QPSK	131979	6RB#0	1.088	1.281	PASS
Band66	1.4MHz	QPSK	132322	6RB#0	1.088	1.284	PASS
Band66	1.4MHz	QPSK	132665	6RB#0	1.088	1.281	PASS
Band66	1.4MHz	16QAM	131979	6RB#0	1.091	1.290	PASS
Band66	1.4MHz	16QAM	132322	6RB#0	1.091	1.293	PASS
Band66	1.4MHz	16QAM	132665	6RB#0	1.091	1.284	PASS
Band66	3MHz	QPSK	131987	15RB#0	2.691	2.922	PASS
Band66	3MHz	QPSK	132322	15RB#0	2.685	2.922	PASS
Band66	3MHz	QPSK	132657	15RB#0	2.691	2.928	PASS
Band66	3MHz	16QAM	131987	15RB#0	2.679	2.910	PASS
Band66	3MHz	16QAM	132322	15RB#0	2.673	2.898	PASS
Band66	3MHz	16QAM	132657	15RB#0	2.673	2.886	PASS
Band66	5MHz	QPSK	131997	25RB#0	4.476	5.080	PASS
Band66	5MHz	QPSK	132322	25RB#0	4.476	5.090	PASS
Band66	5MHz	QPSK	132647	25RB#0	4.476	5.060	PASS
Band66	5MHz	16QAM	131997	25RB#0	4.496	5.110	PASS
Band66	5MHz	16QAM	132322	25RB#0	4.496	5.070	PASS
Band66	5MHz	16QAM	132647	25RB#0	4.496	5.080	PASS
Band66	10MHz	QPSK	132022	50RB#0	8.951	9.920	PASS
Band66	10MHz	QPSK	132322	50RB#0	8.931	9.920	PASS
Band66	10MHz	QPSK	132622	50RB#0	8.931	9.920	PASS
Band66	10MHz	16QAM	132022	50RB#0	8.951	9.860	PASS
Band66	10MHz	16QAM	132322	50RB#0	8.951	9.960	PASS
Band66	10MHz	16QAM	132622	50RB#0	8.951	9.960	PASS
Band66	15MHz	QPSK	132047	75RB#0	13.516	15.780	PASS
Band66	15MHz	QPSK	132322	75RB#0	13.516	15.060	PASS
Band66	15MHz	QPSK	132597	75RB#0	13.516	15.120	PASS
Band66	15MHz	16QAM	132047	75RB#0	13.487	15.120	PASS
Band66	15MHz	16QAM	132322	75RB#0	13.487	15.210	PASS
Band66	15MHz	16QAM	132597	75RB#0	13.487	15.120	PASS
Band66	20MHz	QPSK	132072	100RB#0	17.942	19.720	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 <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</a>. 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 souch sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing inspection report a certificate, please contact us at telephone: (85-755) 8307 1443,

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

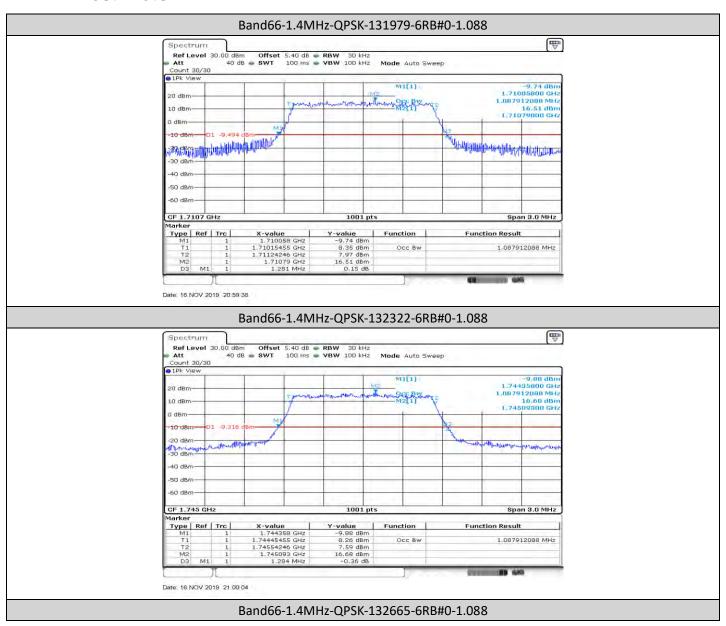


Report No.: ZR/2019/B001301

Page: 16 of 67

Band66	20MHz	QPSK	132322	100RB#0	17.862	19.680	PASS
Band66	20MHz	QPSK	132572	100RB#0	17.942	19.760	PASS
Band66	20MHz	16QAM	132072	100RB#0	17.902	19.600	PASS
Band66	20MHz	16QAM	132322	100RB#0	17.902	19.720	PASS
Band66	20MHz	16QAM	132572	100RB#0	17.942	19.840	PASS

#### 4.2. Test Plots





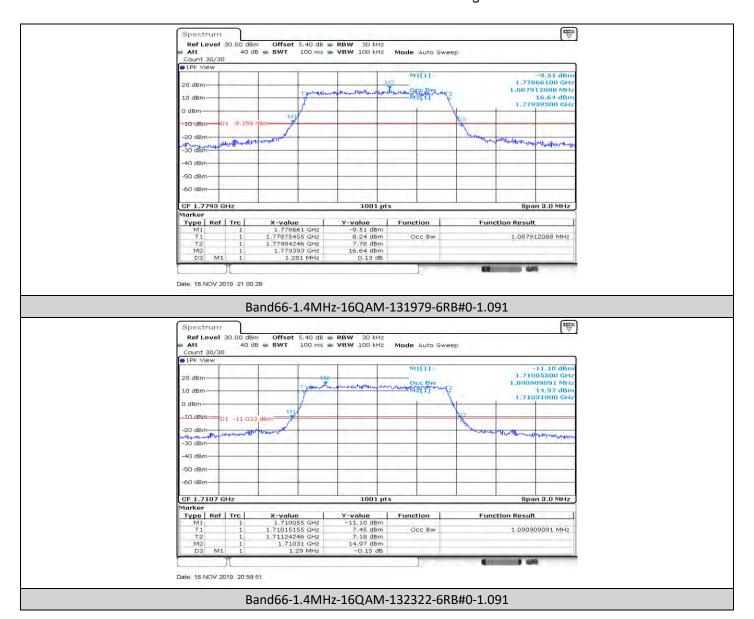
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions</a> for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issue 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 a certificate, please contact us at telephone: (86-755) 8307 1443,

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 tt (86-755) 26012053 ft (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 tt (86-755) 26012053 ft (86-755) 26710594 sgs.china@sgs.com

Report No.: ZR/2019/B001301

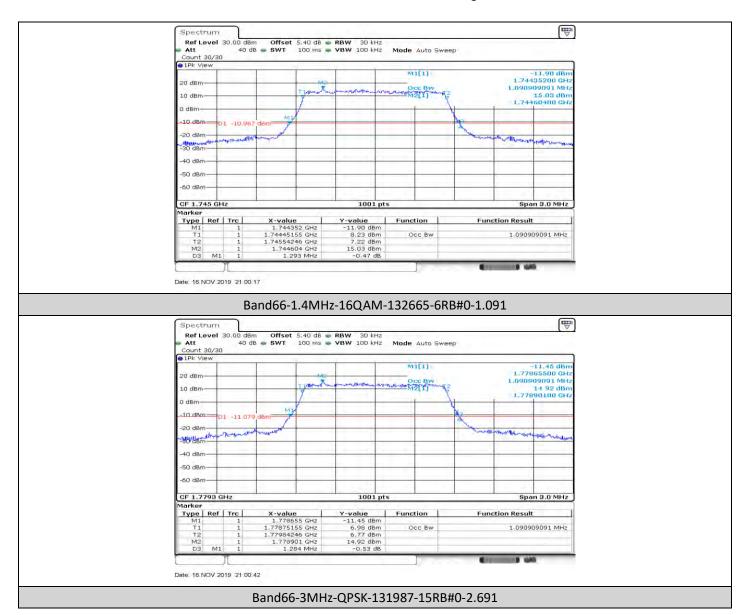
Page: 17 of 67





Report No.: ZR/2019/B001301

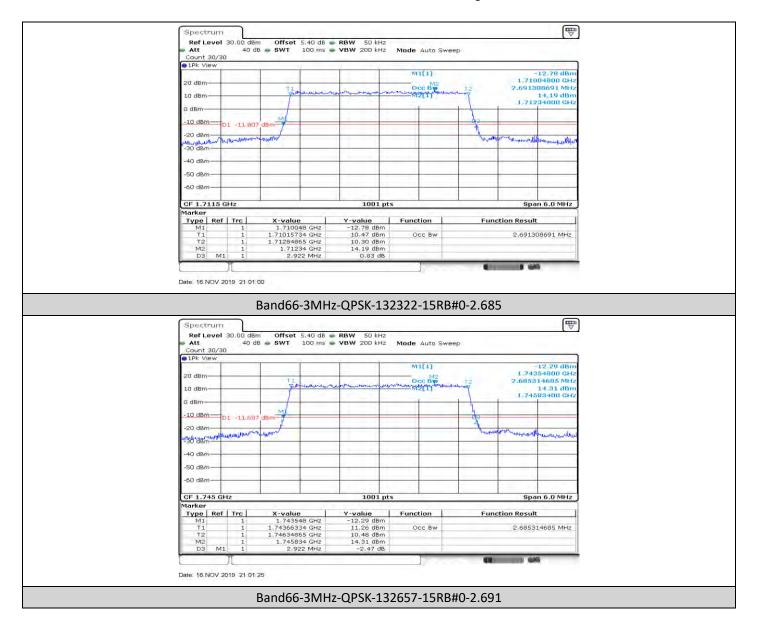
Page: 18 of 67





Report No.: ZR/2019/B001301

Page: 19 of 67





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 <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions</a> for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issue 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.

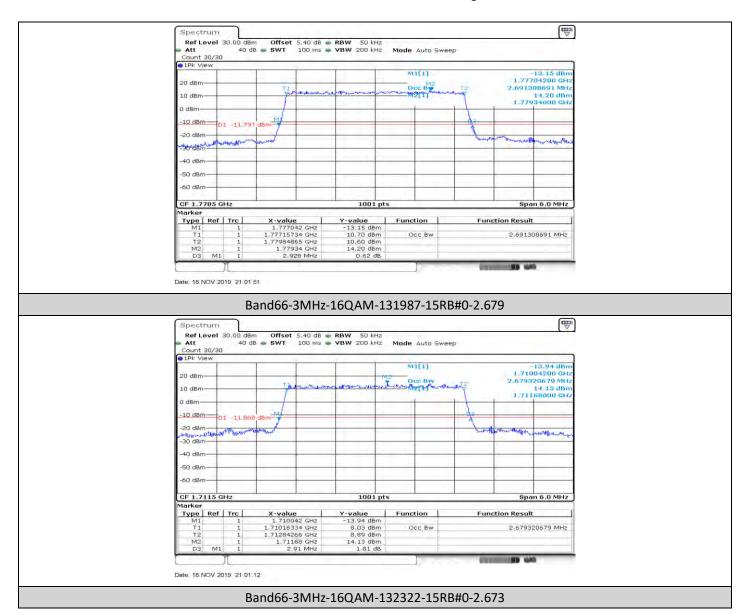
Attention: To check the authenticity of testing inspection report a certificate, please contact us at telephone: (86-755) 8307 1443,

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

Report No.: ZR/2019/B001301

Page: 20 of 67





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 <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions</a> for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issue 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.

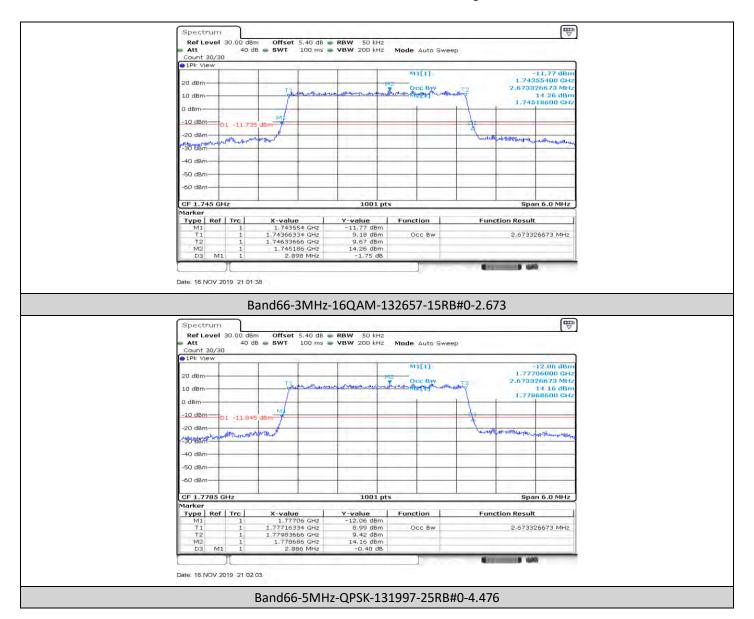
Attention: To check the authenticity of testing inspection report a certificate, please contact us at telephone: (86-755) 8307 1443,

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

Report No.: ZR/2019/B001301

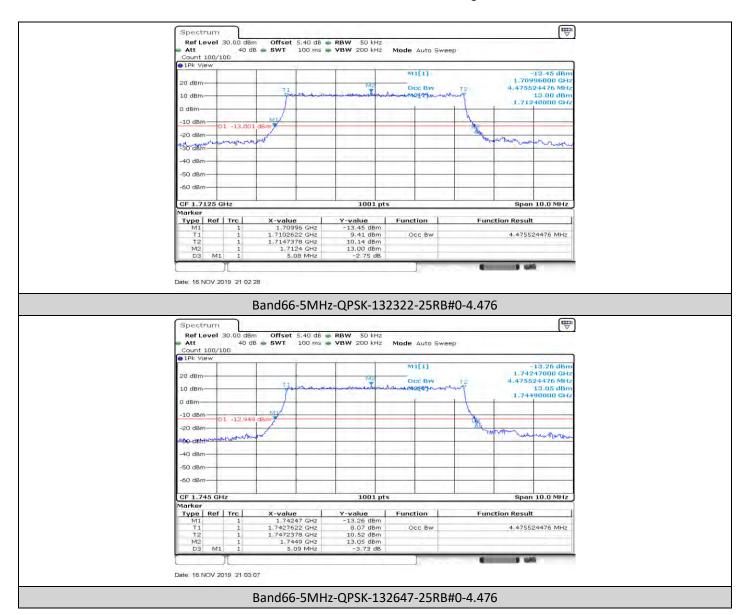
Page: 21 of 67





Report No.: ZR/2019/B001301

Page: 22 of 67

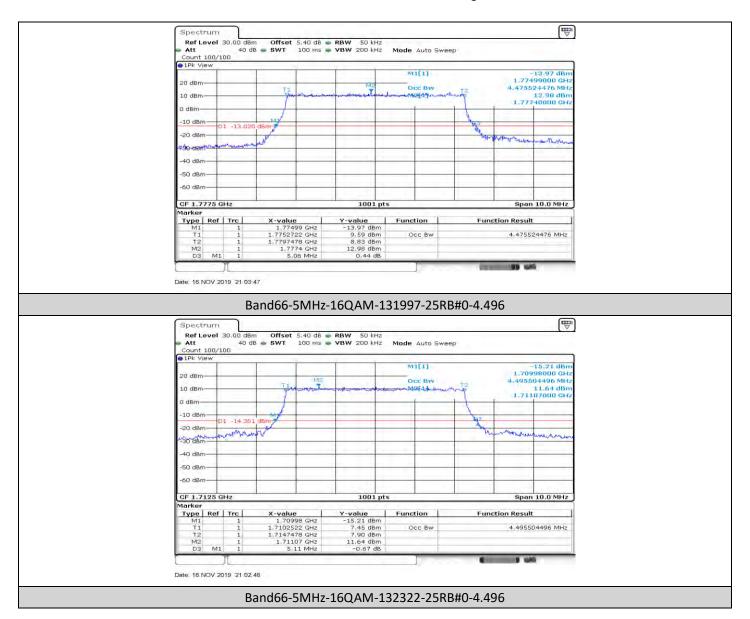






Report No.: ZR/2019/B001301

Page: 23 of 67





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 <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions</a> for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issue 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.

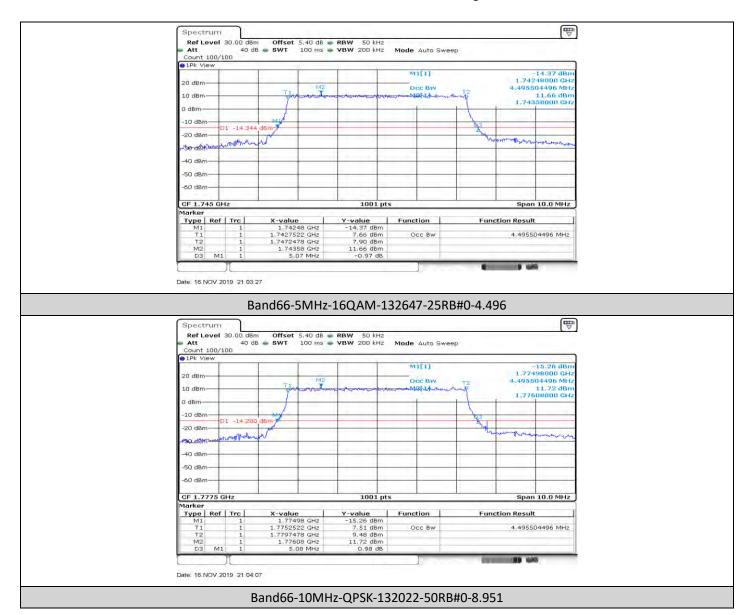
Attention: To check the authenticity of testing inspection report a certificate, please contact us at telephone: (86-755) 8307 1443,

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

Report No.: ZR/2019/B001301

Page: 24 of 67





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 <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions</a> for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issue 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.

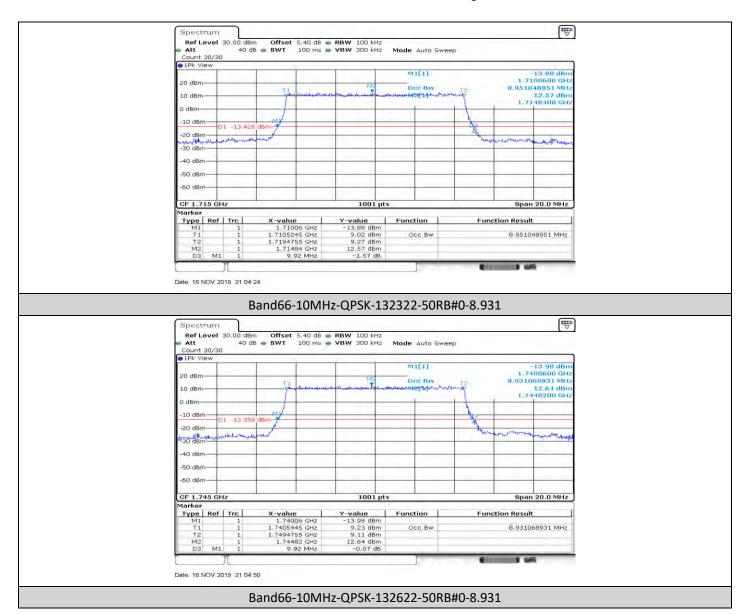
Attention: To check the authenticity of testing inspection report a certificate, please contact us at telephone: (86-755) 8307 1443,

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

Report No.: ZR/2019/B001301

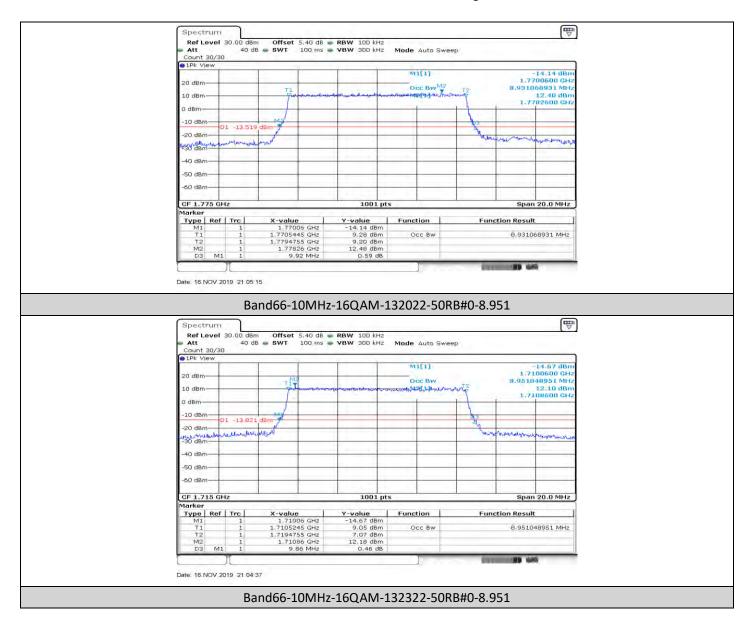
Page: 25 of 67





Report No.: ZR/2019/B001301

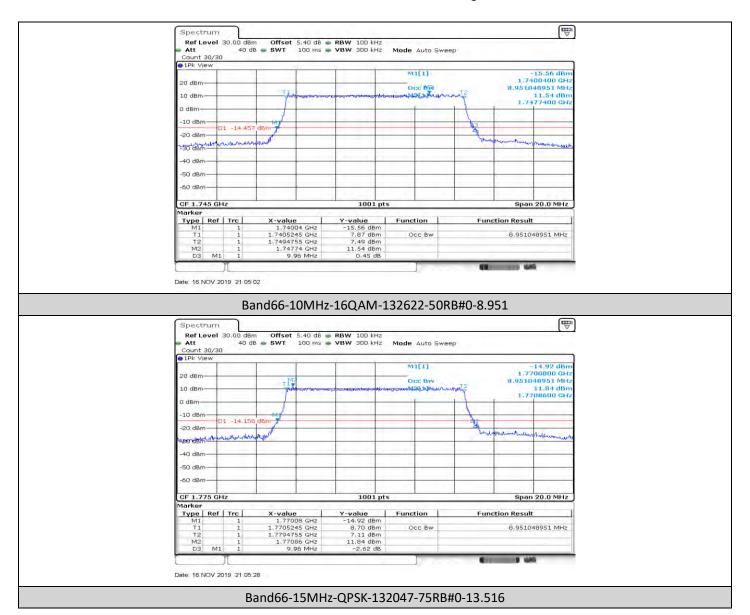
Page: 26 of 67





Report No.: ZR/2019/B001301

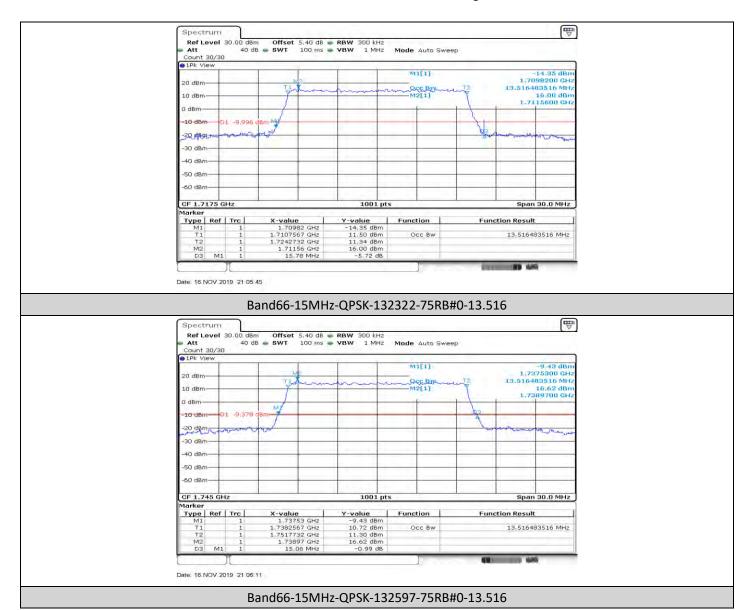
Page: 27 of 67





Report No.: ZR/2019/B001301

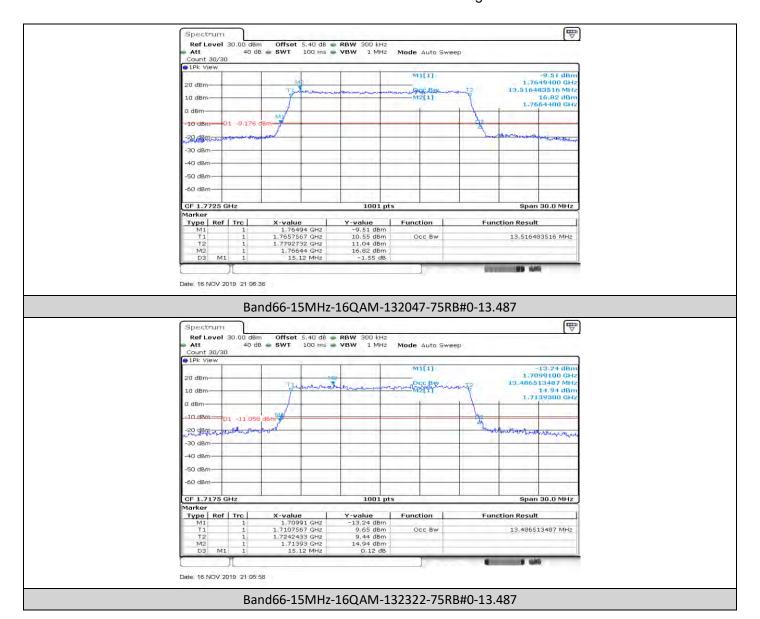
Page: 28 of 67





Report No.: ZR/2019/B001301

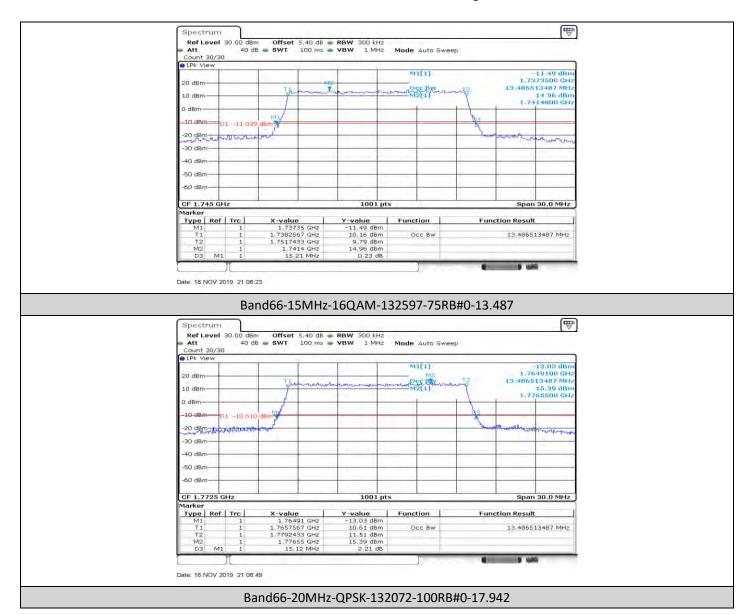
Page: 29 of 67





Report No.: ZR/2019/B001301

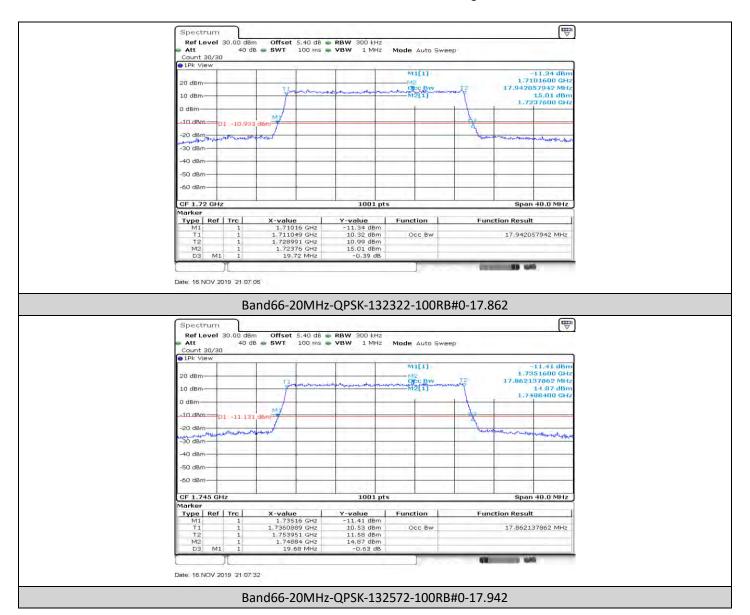
Page: 30 of 67





Report No.: ZR/2019/B001301

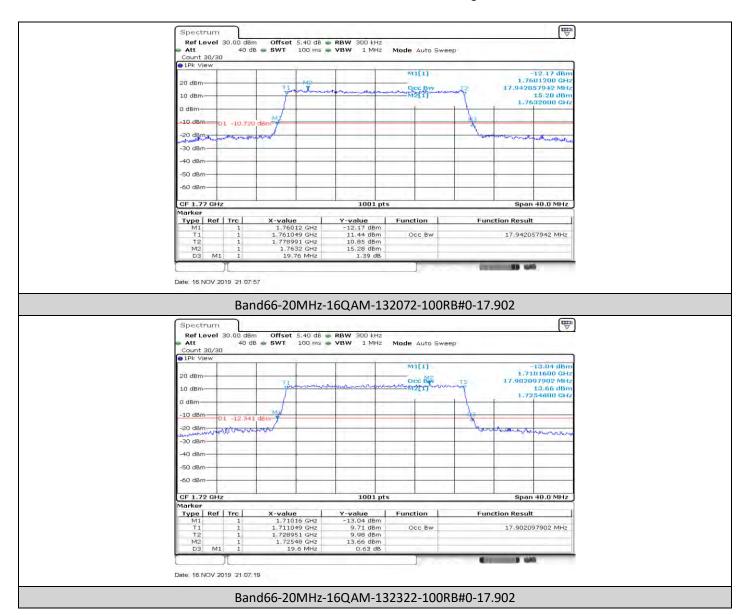
Page: 31 of 67





Report No.: ZR/2019/B001301

Page: 32 of 67





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 <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions</a> for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issue 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 a certificate, please contact us at telephone: (86-755) 8307 1443,

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



Report No.: ZR/2019/B001301

Page: 33 of 67





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 <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issue 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 a certificate, please contact us at telephone: (86-755) 8307 1443,

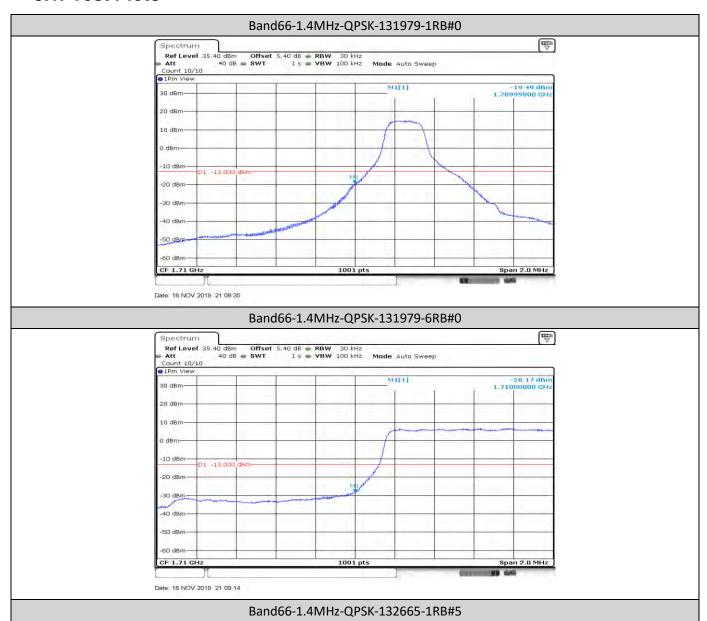
No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn 中国·深圳·科技园中区M-10栋一号厂房

邮编: 518057 t (86-755) 26012053 f (86-755) 26710594

Page: 34 of 67

#### 5. Band Edge Compliance

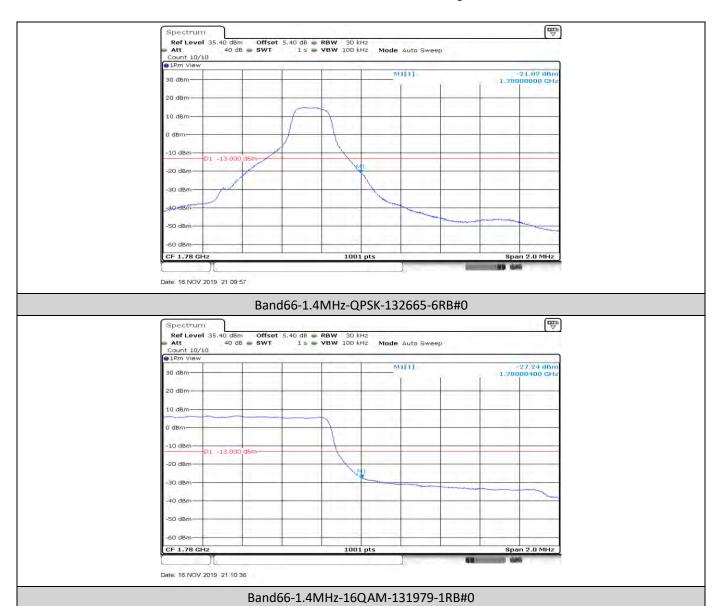
#### 5.1. Test Plots





Report No.: ZR/2019/B001301

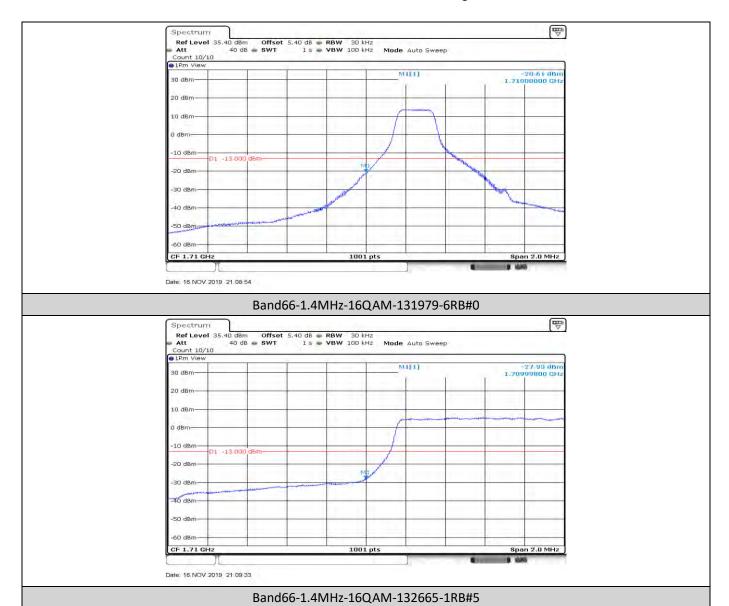
Page: 35 of 67





Report No.: ZR/2019/B001301

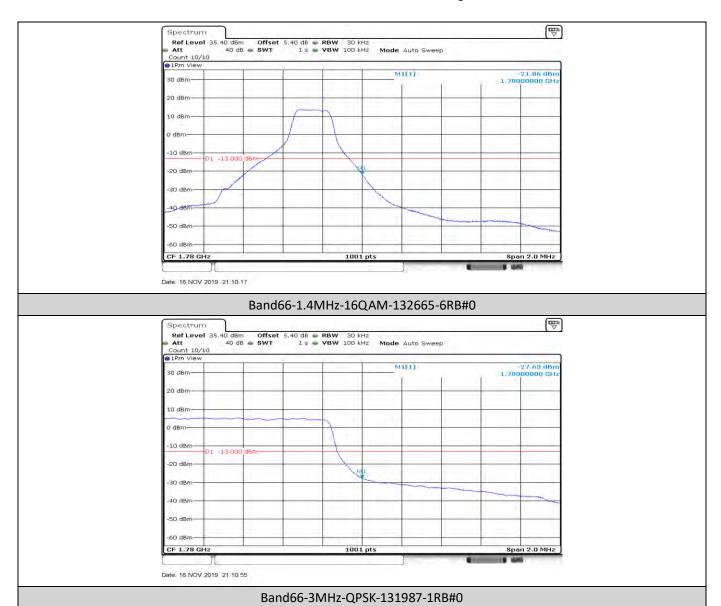
Page: 36 of 67





Report No.: ZR/2019/B001301

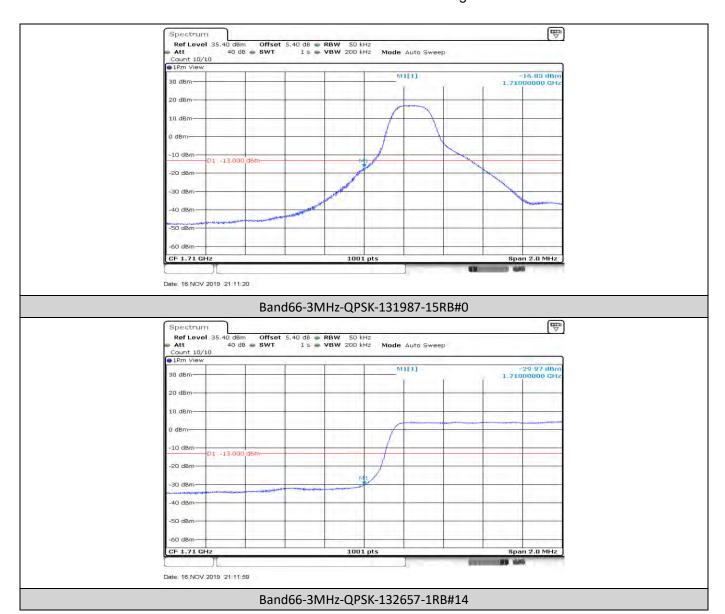
Page: 37 of 67





Report No.: ZR/2019/B001301

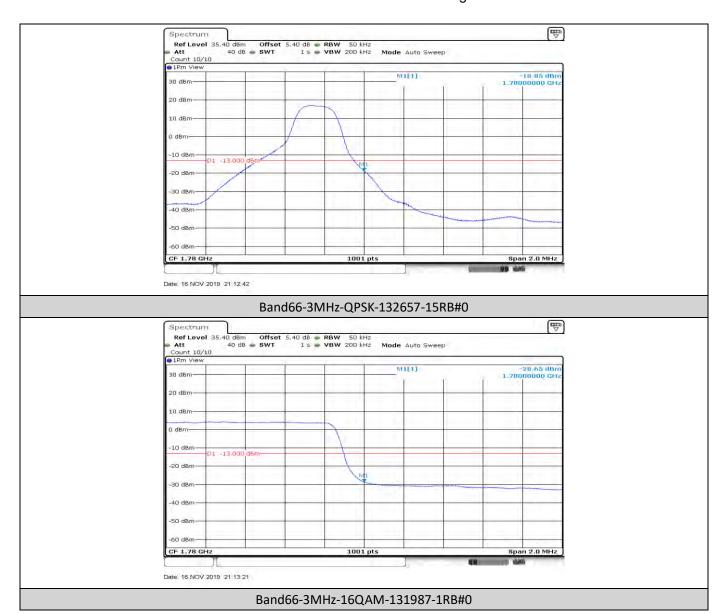
Page: 38 of 67





Report No.: ZR/2019/B001301

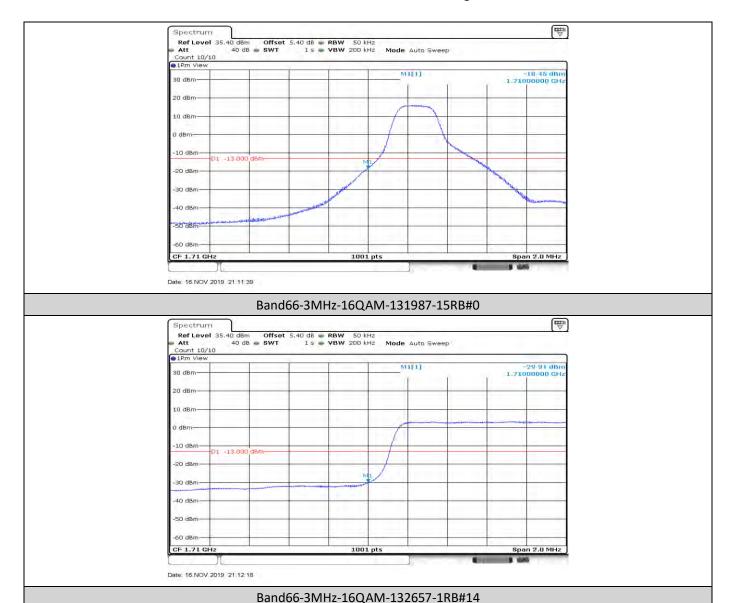
Page: 39 of 67





Report No.: ZR/2019/B001301

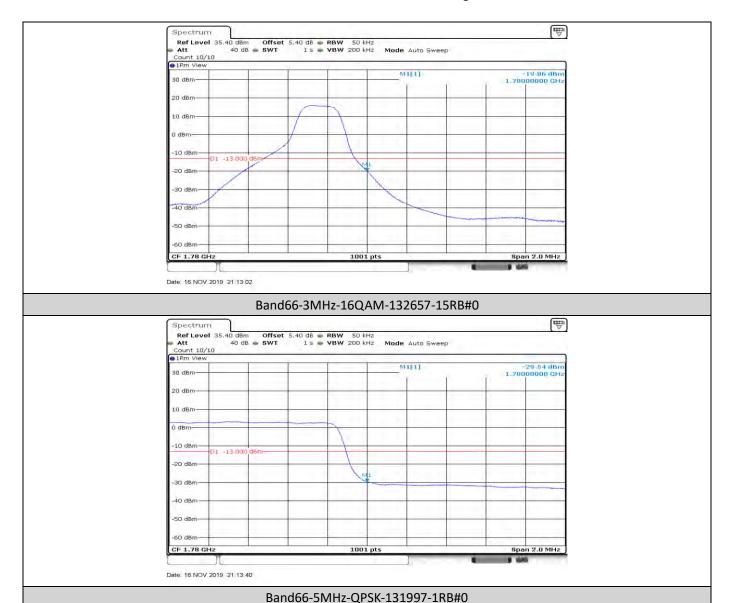
Page: 40 of 67





Report No.: ZR/2019/B001301

Page: 41 of 67

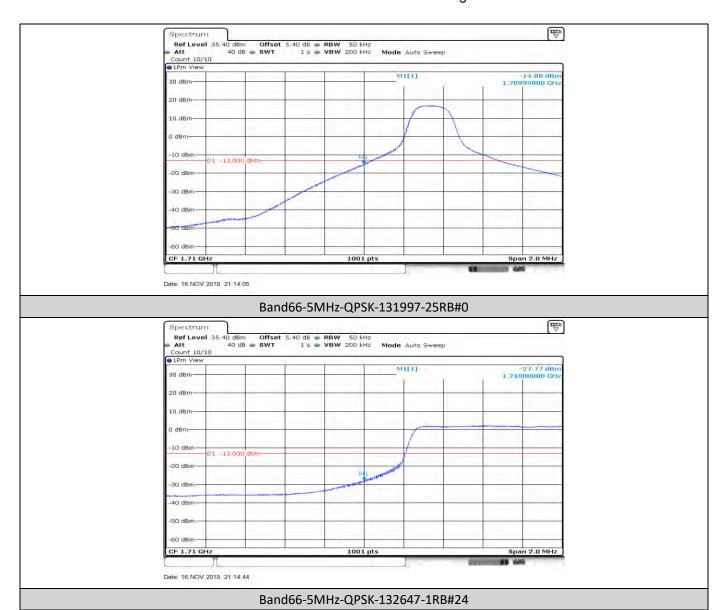






Report No.: ZR/2019/B001301

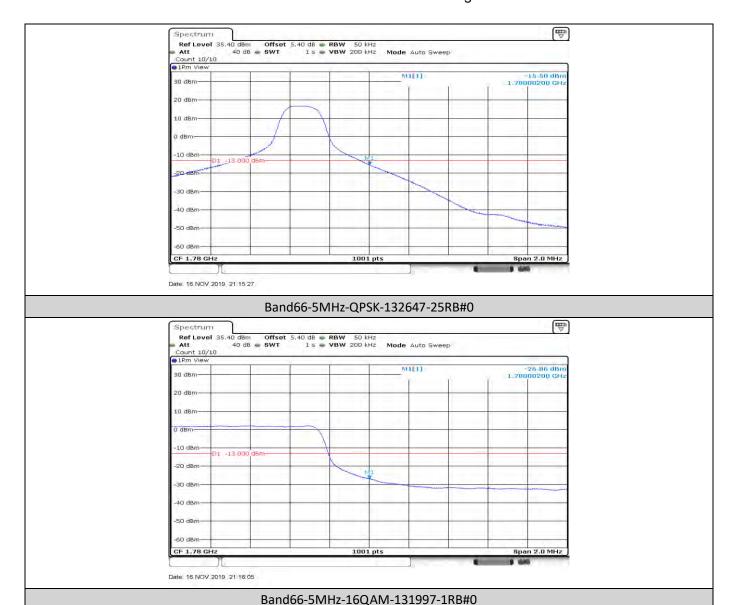
Page: 42 of 67





Report No.: ZR/2019/B001301

Page: 43 of 67





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 <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issue 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 a certificate, please contact us at telephone: (86-755) 8307 1443,

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

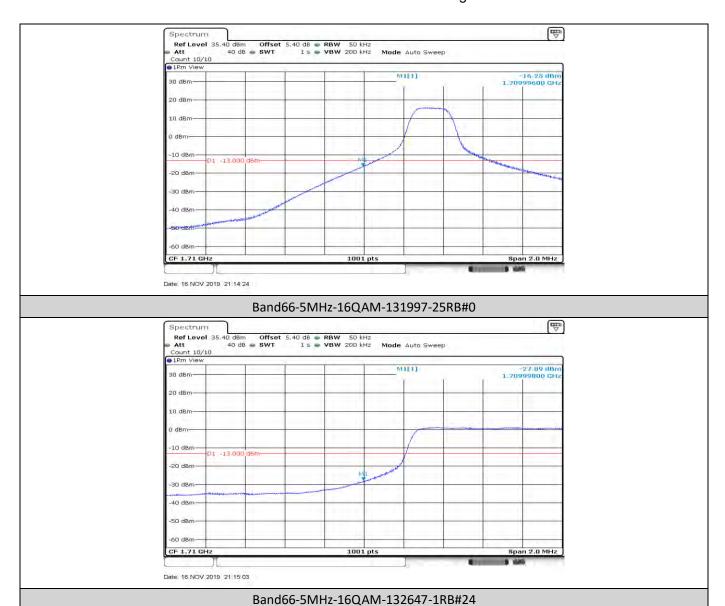
邮编: 518057 t (86-755) 26012053 f (86-755) 26710594

sgs.china@sgs.com



Report No.: ZR/2019/B001301

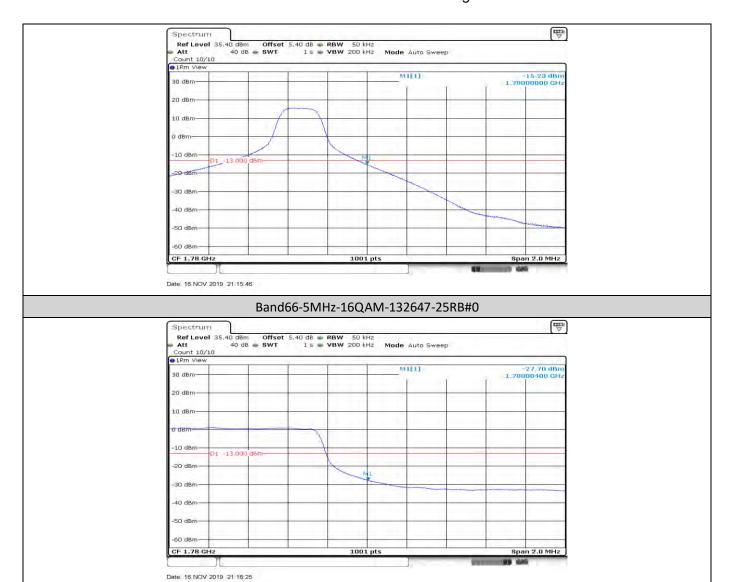
Page: 44 of 67

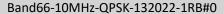




Report No.: ZR/2019/B001301

Page: 45 of 67



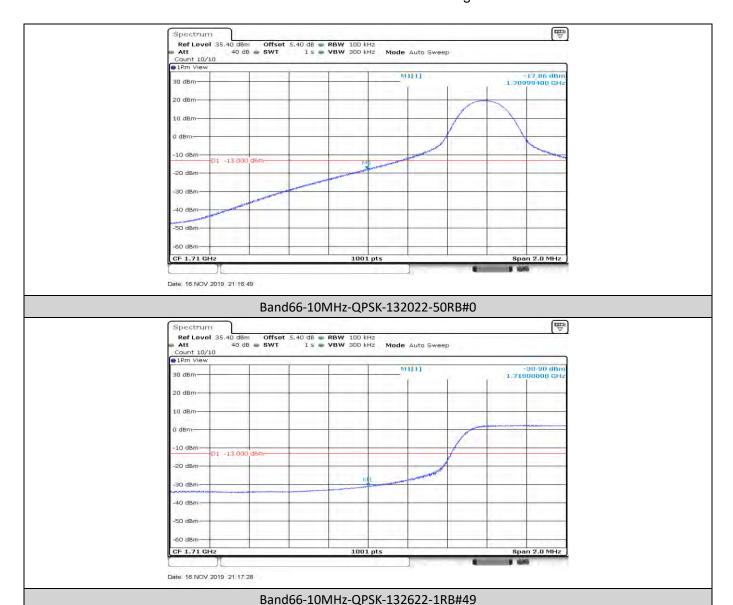






Report No.: ZR/2019/B001301

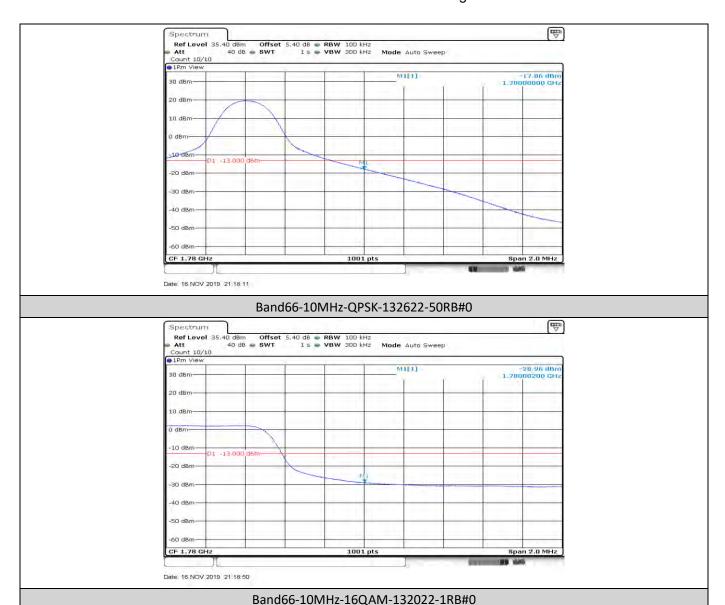
Page: 46 of 67





Report No.: ZR/2019/B001301

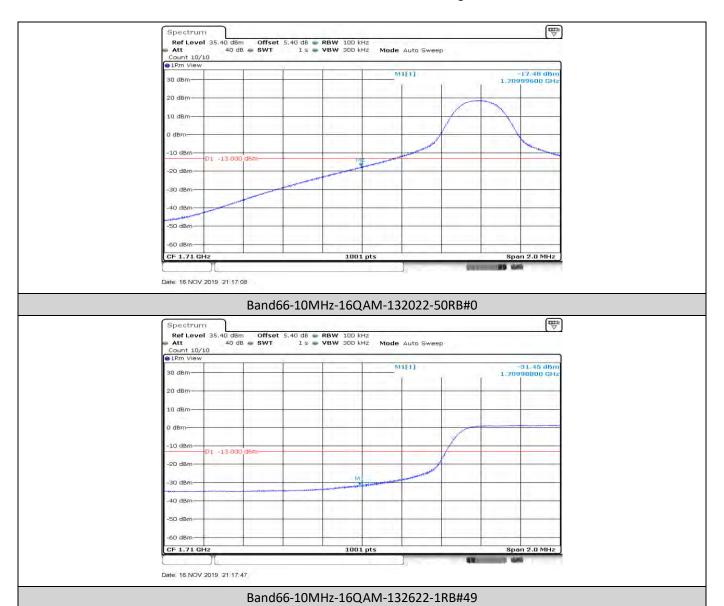
Page: 47 of 67





Report No.: ZR/2019/B001301

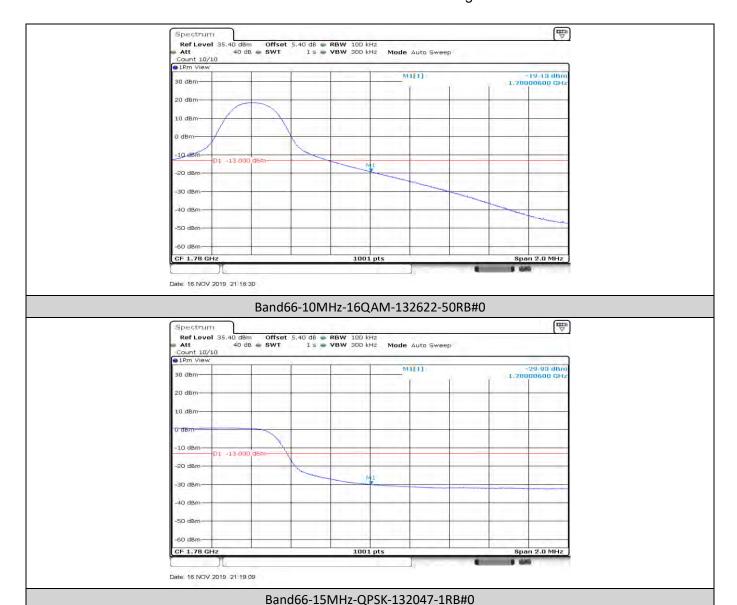
Page: 48 of 67





Report No.: ZR/2019/B001301

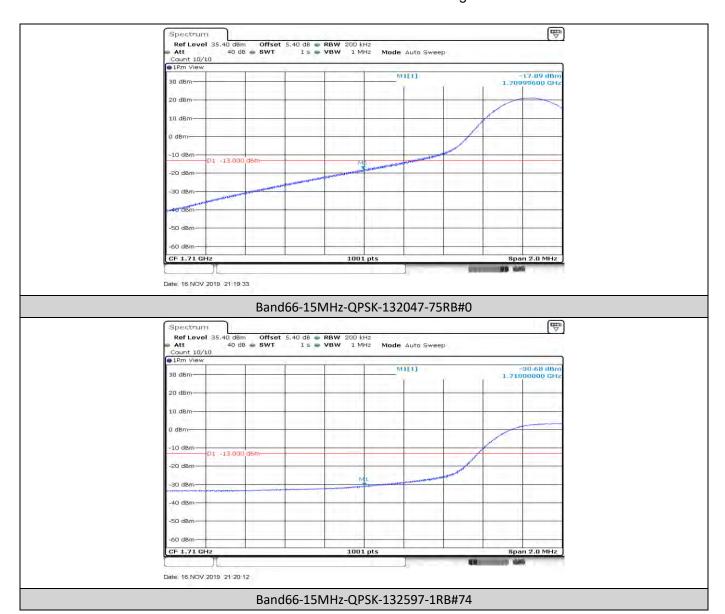
Page: 49 of 67





Report No.: ZR/2019/B001301

Page: 50 of 67

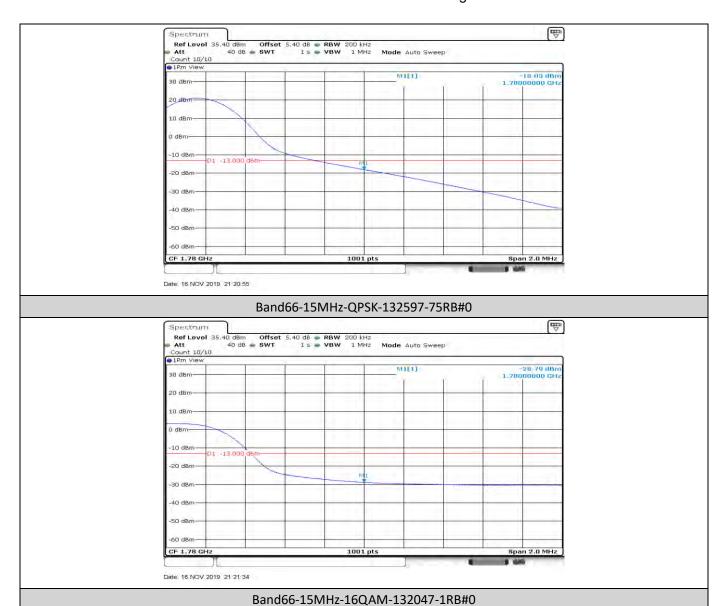






Report No.: ZR/2019/B001301

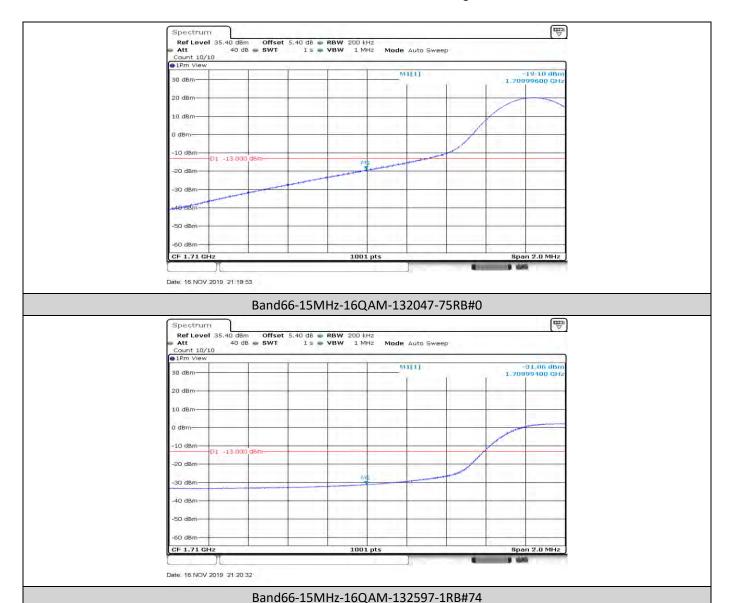
Page: 51 of 67





Report No.: ZR/2019/B001301

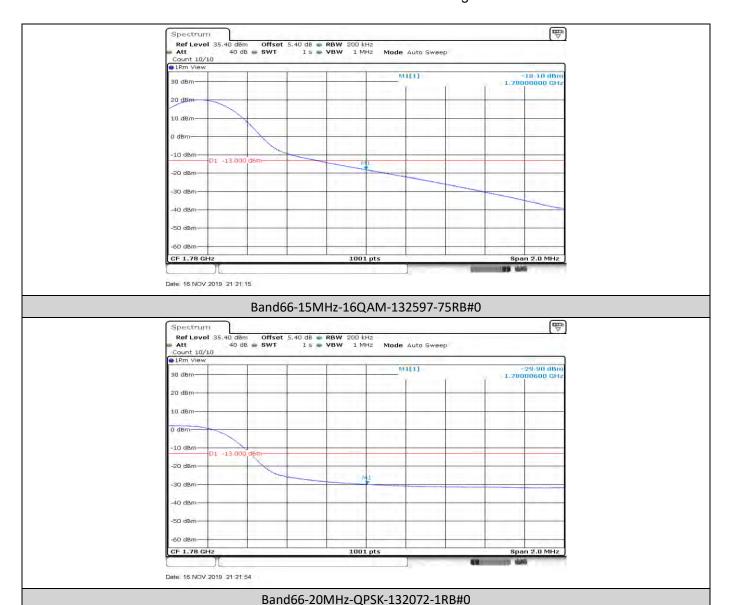
Page: 52 of 67





Report No.: ZR/2019/B001301

Page: 53 of 67

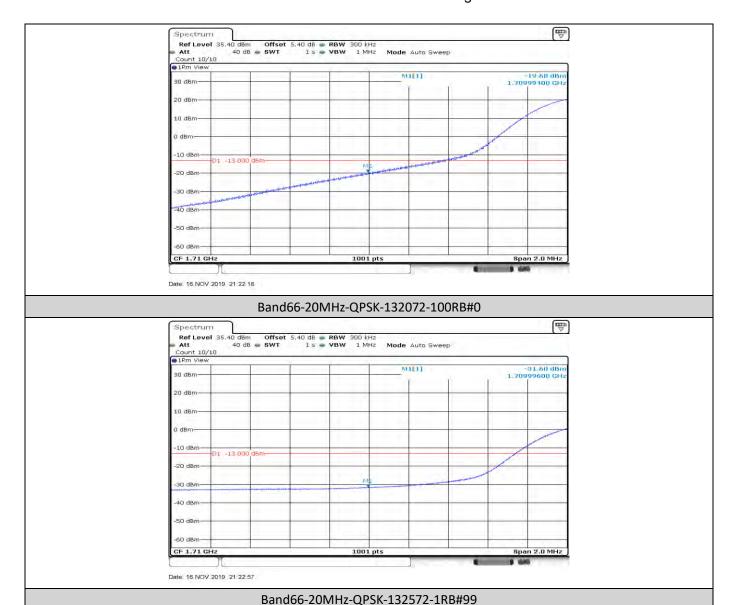






Report No.: ZR/2019/B001301

Page: 54 of 67





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 <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issue 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 a certificate, please contact us at telephone: (86-755) 8307 1443,

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



Report No.: ZR/2019/B001301

Page: 55 of 67



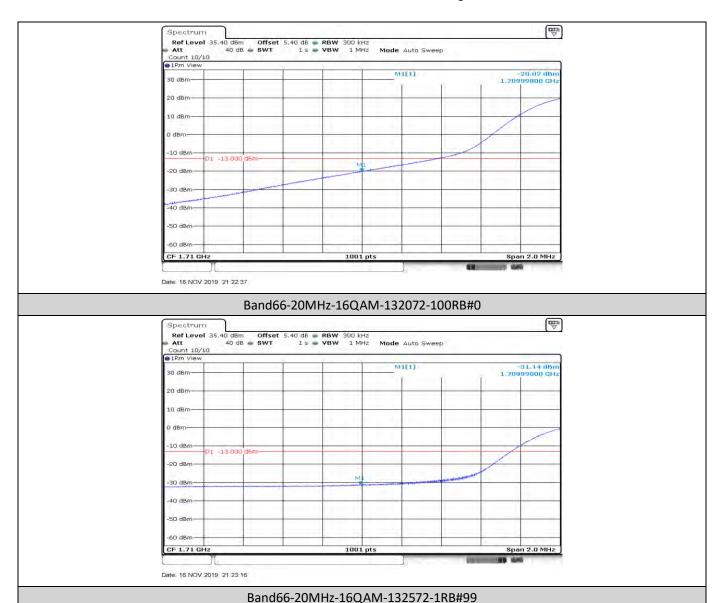
Band66-20MHz-16QAM-132072-1RB#0





Report No.: ZR/2019/B001301

Page: 56 of 67

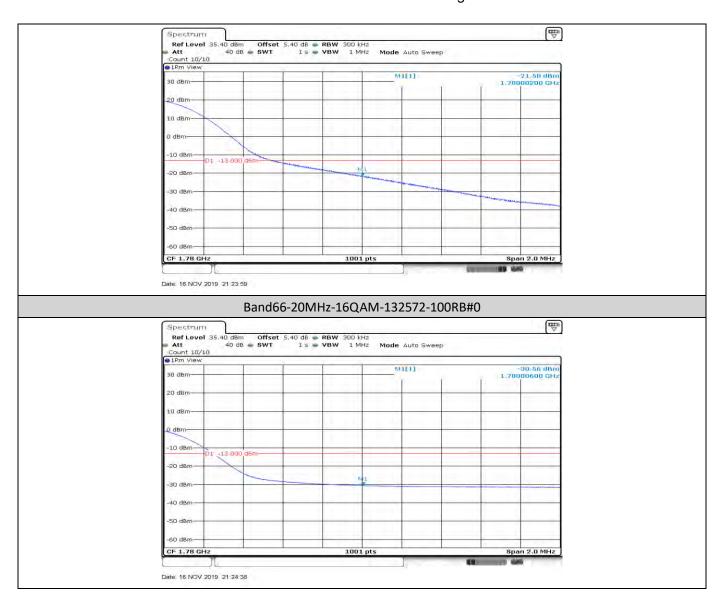






Report No.: ZR/2019/B001301

Page: 57 of 67





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 <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issue 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 a certificate, please contact us at telephone: (86-755) 8307 1443,

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

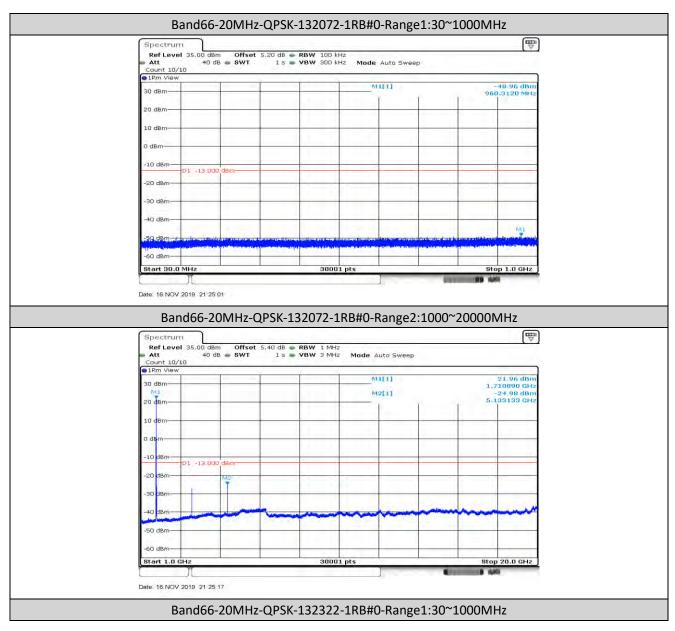
Page: 58 of 67

### 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 \* (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

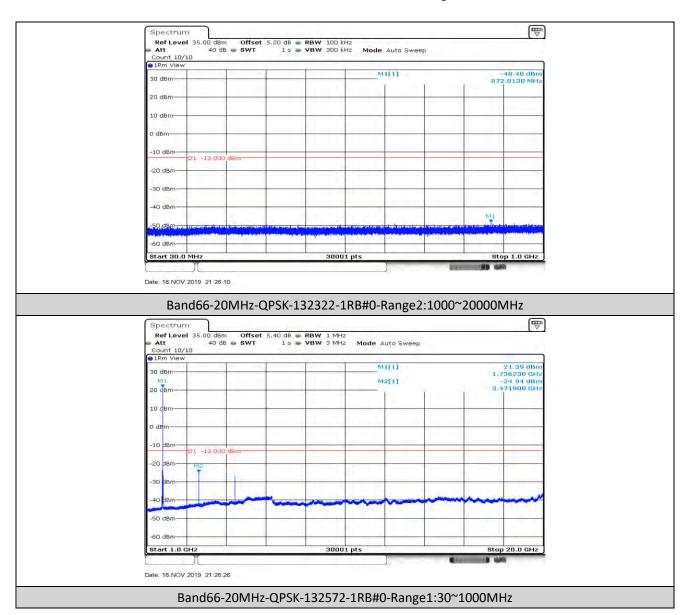






Report No.: ZR/2019/B001301

Page: 59 of 67

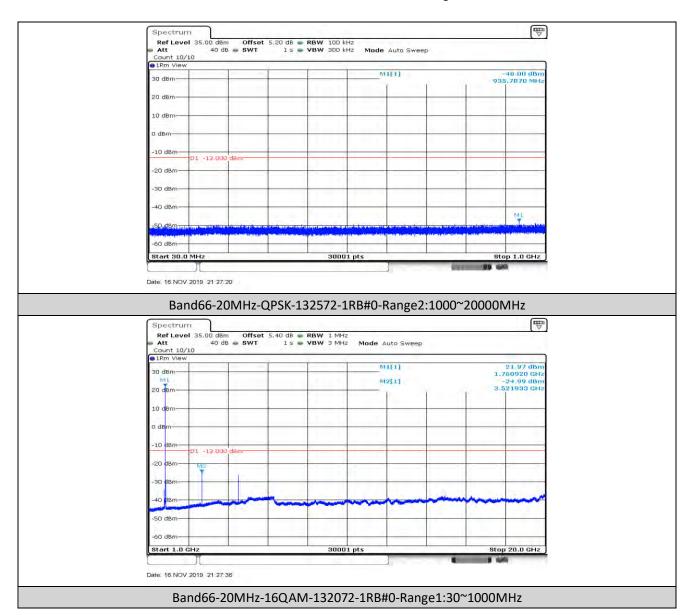






Report No.: ZR/2019/B001301

Page: 60 of 67

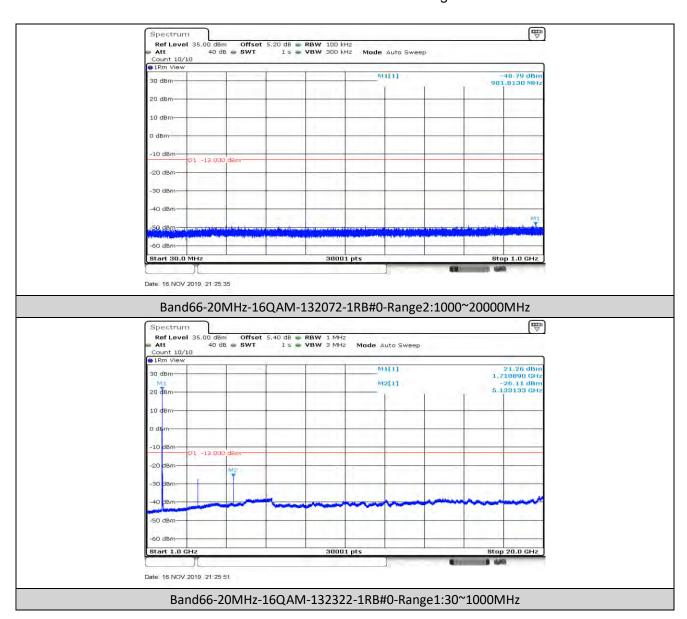






Report No.: ZR/2019/B001301

Page: 61 of 67

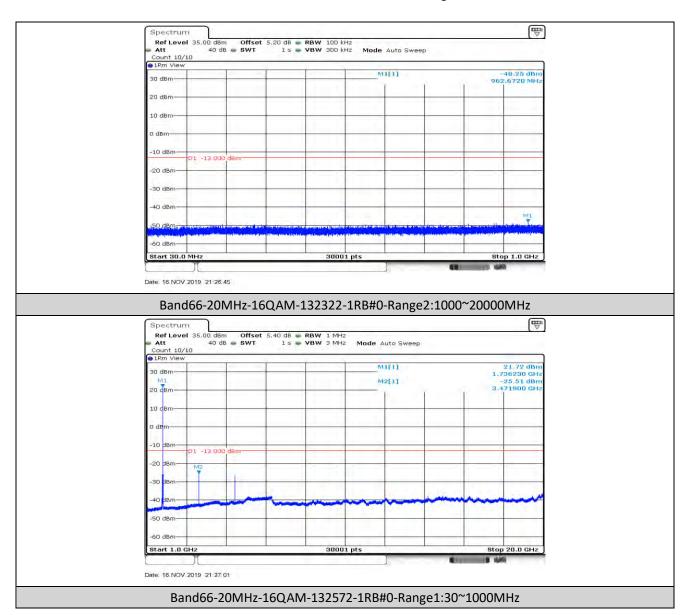






Report No.: ZR/2019/B001301

Page: 62 of 67

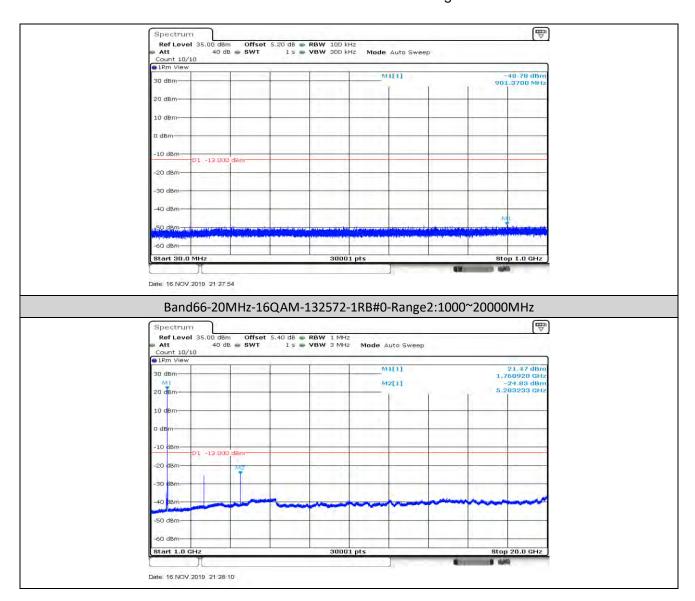






Report No.: ZR/2019/B001301

Page: 63 of 67





Page: 64 of 67

### 7. Field Strength of Spurious Radiation

### 7.1. Test Mode =LTE/TM1

### 7.1.1.Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
35.5778	-76.65	-13.00	63.65	Vertical
66.6678	-71.53	-13.00	58.53	Vertical
768.0129	-69.44	-13.00	56.44	Vertical
3422.0141	-29.99	-13.00	16.99	Vertical
6844.1281	-45.47	-13.00	32.47	Vertical
8555.6852	-45.51	-13.00	32.51	Vertical
35.5778	-56.17	-13.00	43.17	Horizontal
768.1099	-75.84	-13.00	62.84	Horizontal
3422.0141	-29.00	-13.00	16.00	Horizontal
6844.6282	-45.39	-13.00	32.39	Horizontal
8555.1852	-48.76	-13.00	35.76	Horizontal
16403.4468	-37.68	-13.00	24.68	Horizontal

### 7.1.2.Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
66.6193	-70.46	-13.00	57.46	Vertical
3472.0157	-31.42	-13.00	18.42	Vertical
5208.5736	-53.25	-13.00	40.25	Vertical
6944.1315	-43.49	-13.00	30.49	Vertical
8680.6894	-44.81	-13.00	31.81	Vertical
12152.3051	-43.19	-13.00	30.19	Vertical
35.7718	-60.79	-13.00	47.79	Horizontal
73.5552	-78.30	-13.00	65.30	Horizontal
540.0030	-69.29	-13.00	56.29	Horizontal
3472.0157	-28.27	-13.00	15.27	Horizontal
6944.1315	-44.95	-13.00	31.95	Horizontal
8680.6894	-47.71	-13.00	34.71	Horizontal



Page: 65 of 67

#### 7.1.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
66.6678	-70.38	-13.00	57.38	Vertical
121.7181	-73.68	-13.00	60.68	Vertical
3522.0174	-26.22	-13.00	13.22	Vertical
7044.1348	-43.92	-13.00	30.92	Vertical
8805.6935	-43.19	-13.00	30.19	Vertical
12327.8109	-40.71	-13.00	27.71	Vertical
35.5778	-61.06	-13.00	48.06	Horizontal
768.0129	-60.96	-13.00	47.96	Horizontal
3522.0174	-24.74	-13.00	11.74	Horizontal
7044.6348	-45.13	-13.00	32.13	Horizontal
9273.7091	-48.39	-13.00	35.39	Horizontal
16398.9466	-37.73	-13.00	24.73	Horizontal

#### Remark:

- 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.
- 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.



Page: 66 of 67

## 8. Frequency Stability

### 8.1. Frequency Vs Voltage

Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temper ature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band66	20MHz	QPSK	132072	100RB#0	VL	NT	-2.50	-0.001453	±2.5	PASS
Band66	20MHz	QPSK	132072	100RB#0	VN	NT	-3.20	-0.001860	±2.5	PASS
Band66	20MHz	QPSK	132072	100RB#0	VH	NT	1.50	0.000872	±2.5	PASS
Band66	20MHz	QPSK	132322	100RB#0	VL	NT	1.80	0.001032	±2.5	PASS
Band66	20MHz	QPSK	132322	100RB#0	VN	NT	6.80	0.003897	±2.5	PASS
Band66	20MHz	QPSK	132322	100RB#0	VH	NT	-13.40	-0.007679	±2.5	PASS
Band66	20MHz	QPSK	132572	100RB#0	VL	NT	-11.30	-0.006384	±2.5	PASS
Band66	20MHz	QPSK	132572	100RB#0	VN	NT	0.20	0.000113	±2.5	PASS
Band66	20MHz	QPSK	132572	100RB#0	VH	NT	-0.10	-0.000056	±2.5	PASS
Band66	20MHz	16QAM	132072	100RB#0	VL	NT	0.90	0.000523	±2.5	PASS
Band66	20MHz	16QAM	132072	100RB#0	VN	NT	-6.10	-0.003547	±2.5	PASS
Band66	20MHz	16QAM	132072	100RB#0	VH	NT	-14.60	-0.008488	±2.5	PASS
Band66	20MHz	16QAM	132322	100RB#0	VL	NT	-0.60	-0.000344	±2.5	PASS
Band66	20MHz	16QAM	132322	100RB#0	VN	NT	-6.80	-0.003897	±2.5	PASS
Band66	20MHz	16QAM	132322	100RB#0	VH	NT	-14.40	-0.008252	±2.5	PASS
Band66	20MHz	16QAM	132572	100RB#0	VL	NT	0.70	0.000395	±2.5	PASS
Band66	20MHz	16QAM	132572	100RB#0	VN	NT	-3.70	-0.002090	±2.5	PASS
Band66	20MHz	16QAM	132572	100RB#0	VH	NT	-5.00	-0.002825	±2.5	PASS

### 8.2. Frequency Vs Temperature

Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temper ature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band66	20MHz	QPSK	132072	100RB#0	NV	-30	-10.20	-0.005930	±2.5	PASS
Band66	20MHz	QPSK	132072	100RB#0	NV	-20	-6.40	-0.003721	±2.5	PASS
Band66	20MHz	QPSK	132072	100RB#0	NV	0	-8.80	-0.005116	±2.5	PASS
Band66	20MHz	QPSK	132072	100RB#0	NV	10	-0.30	-0.000174	±2.5	PASS
Band66	20MHz	QPSK	132072	100RB#0	NV	20	-8.60	-0.005000	±2.5	PASS
Band66	20MHz	QPSK	132322	100RB#0	NV	-30	-7.20	-0.004126	±2.5	PASS
Band66	20MHz	QPSK	132322	100RB#0	NV	-20	-1.80	-0.001032	±2.5	PASS
Band66	20MHz	QPSK	132322	100RB#0	NV	0	-10.50	-0.006017	±2.5	PASS
Band66	20MHz	QPSK	132322	100RB#0	NV	10	-6.20	-0.003553	±2.5	PASS
Band66	20MHz	QPSK	132322	100RB#0	NV	20	-8.10	-0.004642	±2.5	PASS
Band66	20MHz	QPSK	132572	100RB#0	NV	-30	-0.60	-0.000339	±2.5	PASS
Band66	20MHz	QPSK	132572	100RB#0	NV	-20	0.10	0.000056	±2.5	PASS
Band66	20MHz	QPSK	132572	100RB#0	NV	0	-3.70	-0.002090	±2.5	PASS
Band66	20MHz	QPSK	132572	100RB#0	NV	10	-1.80	-0.001017	±2.5	PASS
Band66	20MHz	QPSK	132572	100RB#0	NV	20	-1.30	-0.000734	±2.5	PASS
Band66	20MHz	16QAM	132072	100RB#0	NV	-30	-6.30	-0.003663	±2.5	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 <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions</a> for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issue 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 attention, 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 a certificate, please contact us at telephone: (86-755) 8307 1443,

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 tt (86-755) 26012053 ft (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 tt (86-755) 26012053 ft (86-755) 26710594 sgs.china@sgs.com



Report No.: ZR/2019/B001301

67 of 67 Page:

Band66	20MHz	16QAM	132072	100RB#0	NV	-20	1.40	0.000814	±2.5	PASS
Band66	20MHz	16QAM	132072	100RB#0	NV	0	-11.00	-0.006395	±2.5	PASS
Band66	20MHz	16QAM	132072	100RB#0	NV	10	-2.60	-0.001512	±2.5	PASS
Band66	20MHz	16QAM	132072	100RB#0	NV	20	0.80	0.000465	±2.5	PASS
Band66	20MHz	16QAM	132322	100RB#0	NV	-30	-3.80	-0.002178	±2.5	PASS
Band66	20MHz	16QAM	132322	100RB#0	NV	-20	-1.60	-0.000917	±2.5	PASS
Band66	20MHz	16QAM	132322	100RB#0	NV	0	2.10	0.001203	±2.5	PASS
Band66	20MHz	16QAM	132322	100RB#0	NV	10	-7.20	-0.004126	±2.5	PASS
Band66	20MHz	16QAM	132322	100RB#0	NV	20	-2.90	-0.001662	±2.5	PASS
Band66	20MHz	16QAM	132572	100RB#0	NV	-30	-11.80	-0.006667	±2.5	PASS
Band66	20MHz	16QAM	132572	100RB#0	NV	-20	-6.80	-0.003842	±2.5	PASS
Band66	20MHz	16QAM	132572	100RB#0	NV	0	-5.30	-0.002994	±2.5	PASS
Band66	20MHz	16QAM	132572	100RB#0	NV	10	2.20	0.001243	±2.5	PASS
Band66	20MHz	16QAM	132572	100RB#0	NV	20	-3.00	-0.001695	±2.5	PASS

