

198 Kezhu Road, Scientech Park, Guangzhou Economic & Technological

Development District, Guangzhou, China 510663

Telephone: +86 (0) 20 82155555 Fax: +86 (0) 20 82075059

Email: ee.guangzhou@sgs.com

Application No.: GZCR2103000013AT

Page: 1 of 61

FCC ID: OJFDHRU-DHPAM-7

# Appendix B

# Test Data and Result Details of GZCR2103000013AT



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 & certificate, please contact us attelephone: (86-755) 8307 1443, \*\*Attention: To check the authenticity of testing /inspection report & certificate, please contact us attelephone: (86-755) 8307 1643, \*\*Certificate, please contact us attelephone: (86-755) 830

or email: CN. Doccheck@sgs.com d. No.198 (kezhu Road, Scientech Park, Guangzhou Exonomic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn 中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 2 of 61

FCC ID: OJFDHRU-DHPAM-7

#### 1 Lower & Upper 700MHz (only for downlink: 728-757MHz)

#### 1.1 AGC threshold level

Test Conf.	AGC Threshold level
DL_1S_M_AWGN_AWGN	0.23dBm
DL_1S_M_AWGN_GSM	-0.11dBm



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/Terms-e-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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: <a href="mailto:CN\_Doccheck@cgs.com">CN\_Doccheck@cgs.com</a>

or email: CN.Doccheck@sgs.com
No.198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn
中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com

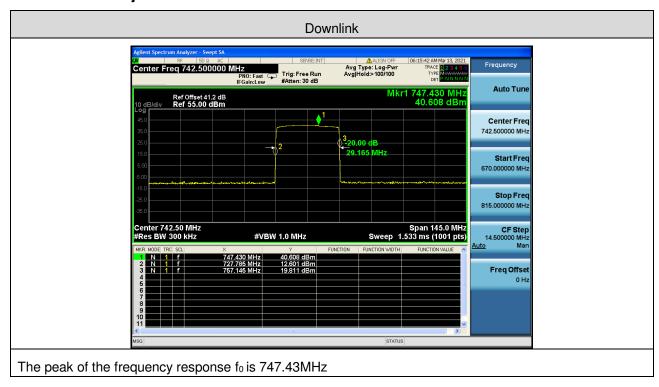


Application No.: GZCR2103000013AT

Page: 3 of 61

FCC ID: OJFDHRU-DHPAM-7

#### 1.2 Out-of-band rejection





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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

or email: CN.Doccheck@sgs.com

No.198 Kezhu Road, Scientedh Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn

中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

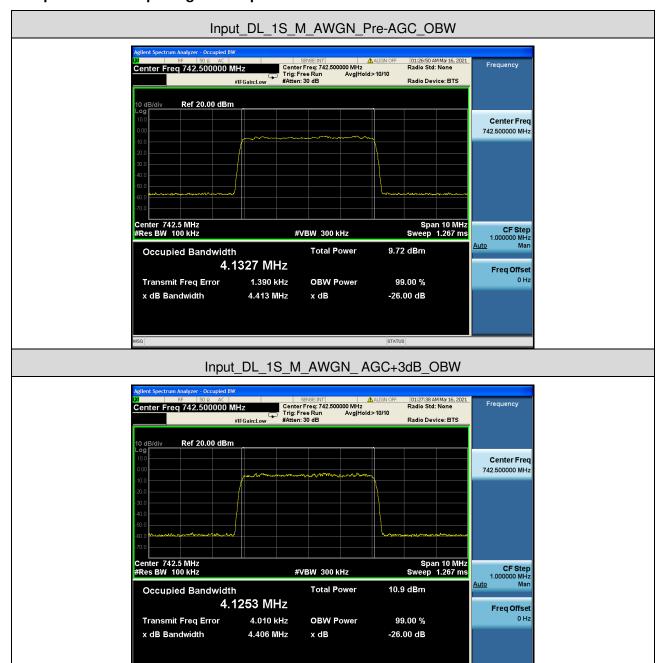


Application No.: GZCR2103000013AT

Page: 4 of 61

FCC ID: OJFDHRU-DHPAM-7

#### 1.3 Input-versus-output signal comparison





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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

or email: CN\_Doccheck@sus\_com .Mo(98/kan/ Road, Solentech Park, Guangrahu Comonic & Technology Development District, Guangrahu, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn 中国 • 广州 • 经济技术开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 5 of 61

FCC ID: OJFDHRU-DHPAM-7

### Output DL 1S M AWGN Pre-AGC OBW SEMSE:INT ALIGN C Center Freq: 742.500000 MHz Trig: Free Run Avg|Hold:>10/10 #Atten: 30 dB Center Freq 742.500000 MHz Ref 60.00 dBm Center Fred Span 10 MHz Sweep 1.267 ms Center 742.5 MHz #Res BW 100 kHz CF Step 1.000000 MH #VBW 300 kHz Occupied Bandwidth 4.1188 MHz Freq Offset 1.088 kHz **OBW Power** 99.00 % Transmit Freq Error 4.414 MHz -26.00 dB x dB Bandwidth x dB Output\_DL\_1S\_M\_AWGN\_ AGC+3dB\_OBW 04:56:09 AM Mar 16, 2021 Radio Std: None Center Freq: 742.500000 MHz Trig: Free Run Avg|Hold:>10/10 #Atten: 30 dB enter Freq 742.500000 MHz #IFGain:Low Ref 60.00 dBm Center Fred 742.500000 MHz

#VBW 300 kHz
Total Power

x dB

**OBW Power** 

Occupied Bandwidth

Transmit Freq Error

x dB Bandwidth

4.1296 MHz

6.469 kHz

4.409 MHz



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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

Span 10 MHz Sweep 1.267 ms

47.6 dBm

99.00 %

-26.00 dB

CF Step 1.000000 MH: Mar

Frea Offset

or email: CN. Doccheck@sgs.com

1. No.198 (kezhu Road, Scientech Park, Guangzhou Exonomic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn
中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 6 of 6

FCC ID: OJFDHRU-DHPAM-7

### Input\_DL\_1S\_M\_GSM\_Pre-AGC\_OBW SEMSE:INT ALIGN C Center Freq: 742.500000 MHz Trig: Free Run Avg|Hold:>10/10 #Atten: 30 dB Center Freq 742.500000 MHz Ref 20.00 dBm Center Fred Center 742.5 MHz #Res BW 3 kHz CF Step 100.000 kHz #VBW 10 kHz Occupied Bandwidth 246.30 kHz Freq Offset 935 Hz **OBW Power** 99.00 % Transmit Freq Error 309.8 kHz -26.00 dB x dB Bandwidth x dB Input\_DL\_1S\_M\_GSM\_AGC+3dB\_OBW 03:38:22 AM Mar 16, 2021 Radio Std: None Center Freq: 742.500000 MHz Trig: Free Run Avg|Hold:>10/10 #Atten: 30 dB nter Freq 742.500000 MHz Ref 20.00 dBm Center Fred 742.500000 MHz Center 742.5 MHz #Res BW 3 kHz Span 1 MHz Sweep 136.1 ms #VBW 10 kHz

Total Power

**OBW Power** 

x dB

Occupied Bandwidth

Transmit Freq Error

x dB Bandwidth

244.95 kHz

264 Hz

309.2 kHz

6.01 dBm

99.00 %

-26.00 dB



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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

or email: CN\_Doccheck@sgs\_com .Mo.(98/Karlu Road, Scientech Park, Guargahou Comonic & Technology Development District, Guargahou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn 中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com

Frea Offset



Application No.: GZCR2103000013AT

Page: 7 of 61

FCC ID: OJFDHRU-DHPAM-7

#### Output\_DL\_1S\_M\_GSM\_Pre-AGC\_OBW



#### Output\_DL\_1S\_M\_GSM\_AGC+3dB\_OBW





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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

or email: CN.Doccheck@sgs.com

No.198 Kezhu Road, Scientedh Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn

中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 8 of 61

FCC ID: OJFDHRU-DHPAM-7

#### Remark:

Compare the spectral plot of the input signal to the output signal affirm that they are similar (in passband and roll off characteristic features and relative spectral locations). The test result complies with the requirement.



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/Terms-e-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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: <a href="mailto:CN\_Doccheck@cgs.com">CN\_Doccheck@cgs.com</a>

to No.198 (zeru) track, General Park, Guargriou Exonomic & Technology Development District, Guargriou, China 5 10663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn 中国 · 广州 · 经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 9 of 61

FCC ID: OJFDHRU-DHPAM-7

#### 1.4 Mean output power and amplifier/booster gain

Test Conf.	Test Freq. f <sub>0</sub> (MHz)	Signal Level	Input Power (dBm)	Output Power (dBm)	Gain (dB)	Verdict
		Pre-AGC	0.13	43.34	43.21	PASS
DL_1S_AWGN	747.43	AGC+3dB	3.33	43.31	/	PASS
		Pre-AGC	-0.21	43.16	43.37	PASS
DL_1S_GSM	747.43	AGC+3dB	2.79	43.21	/	PASS

#### Remark:

According to the declaration from the applicant, the single antenna gain should not exceed 12.5dBi, the Directional gain =  $G_{ANT}$  + 10 log ( $N_{ANT}$ ) dBi = 12.5dBi+10log (2) dBi= 15.5dBi.

ERP= EIRP-2.15dB,

The total maximum ERP for the EUT is (43.34dBm+43.34dBm) +15.5dBi-2.15dB=59.70dBm (933.25W) which don't exceed the required ERP limit (1000W/MHz).



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-a-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-a-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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@cgs.com



Application No.: GZCR2103000013AT

Page: 10 of 61 FCC ID: OJFDHRU-DHPAM-7

#### 1.5 Out-of-band/out-of-block (including intermodulation) emissions and spurious emissions

Note:

The tested max conducted power for single antenna port is 43.34dBm, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least  $43 + 10 \log (P) dB$ , the limit corresponds to an absolute limit of -13 dBm.

Here,

P=43.34dBm= 21.58W.

So the limit =

P(dBm)- [43 + 10 log (21.58W)] = -13dBm

The EUT supports 2x2 MIMO and the emissions were measured at one of output port, so the limit line was set to -16.01dBm in following test plots in order to determine the test result conveniently.



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 iliability, 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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@gs.com.



Application No.: GZCR2103000013AT

Page: 11 of 61

FCC ID: OJFDHRU-DHPAM-7

#### DL 1S B AWGN Pre-AGC Out-of-band emission



#### DL\_1S\_B\_AWGN\_AGC+3\_Out-of-band emission





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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

or email: CN. Doccheck@sgs.com

1. No.198 (kezhu Road, Scientech Park, Guangzhou Exonomic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn
中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

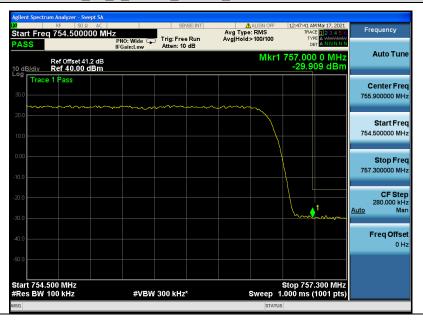
Page: 12 of 61

FCC ID: OJFDHRU-DHPAM-7

#### DL 1S T AWGN Pre-AGC Out-of-band emission



#### DL\_1S\_T\_AWGN\_AGC+3\_Out-of-band emission





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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

or email: <u>CN. Doccheck@sgs.com</u> 10. No. 199 Kezhu Road, Solentech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn 中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 13 of 61

FCC ID: OJFDHRU-DHPAM-7

### DL 2S B AWGN Pre-AGC Out-of-band emission Avg Type: RMS Avg|Hold:>100/100 Start Freq 727.700000 MHz Auto Tun Ref Offset 41.2 dB Ref 40.00 dBm Center Fred 731.600000 MH Start Freq 727.700000 MHz Stop Freq 735.500000 MH CF Step 780.000 kHz Freq Offset Start 727.700 MHz #Res BW 100 kHz Stop 735.500 MHz Sweep 1.000 ms (1001 pts) #VBW 300 kHz\* DL\_2S\_B\_AWGN\_AGC+3\_Out-of-band emission Frequency tart Freq 727.700000 MHz Avg Type: RMS Avg|Hold:>100/100 PNO: Wide Trig: Free Run IFGain:Low #Atten: 30 dB Auto Tune Ref Offset 41.2 dB Ref 40.00 dBm 731.600000 MHz Start Fred 727.700000 MHz Stop Fred 735.500000 MHz <u>Auto</u> Frea Offset



Start 727.700 MHz #Res BW 100 kHz

#VBW 300 kHz\*

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 full. 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@css.com

Stop 735.500 MHz Sweep 1.000 ms (1001 pts)

or email: CN.Doccheck@sgs.com d. No.198 (kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn 中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

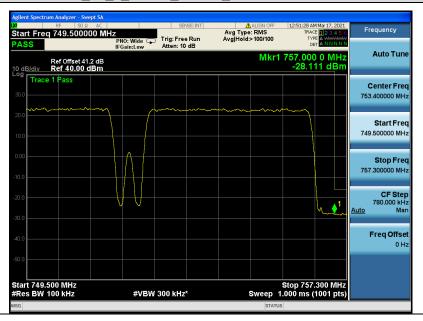
Page: 14 of 61

FCC ID: OJFDHRU-DHPAM-7

#### DL 2S T AWGN Pre-AGC Out-of-band emission



#### DL\_2S\_T\_AWGN\_AGC+3\_Out-of-band emission





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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

No.198 (Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn



Application No.: GZCR2103000013AT

Page: 15 of 61

FCC ID: OJFDHRU-DHPAM-7

#### DL 1S B GSM Pre-AGC Out-of-band emission



#### DL\_1S\_B\_GSM\_AGC+3\_Out-of-band emission





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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

No.198 (Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn



Application No.: GZCR2103000013AT

Page: 16 of 61

FCC ID: OJFDHRU-DHPAM-7

#### DL 1S\_T\_GSM\_Pre-AGC\_Out-of-band emission



#### DL\_1S\_T\_GSM\_AGC+3\_Out-of-band emission





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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

No.198 (Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn

邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

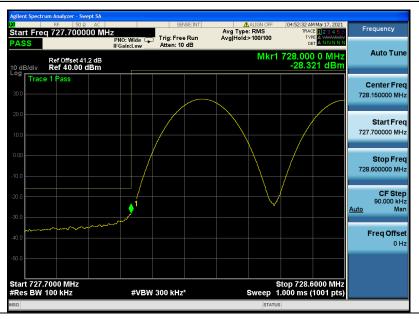
Page: 17 of 61

FCC ID: OJFDHRU-DHPAM-7

#### DL 2S B GSM Pre-AGC Out-of-band emission



#### DL\_2S\_B\_GSM\_AGC+3\_Out-of-band emission





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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

No.198 (Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn



Application No.: GZCR2103000013AT

Page: 18 of 61

FCC ID: OJFDHRU-DHPAM-7

#### DL 2S T GSM Pre-AGC Out-of-band emission



#### DL\_2S\_T\_GSM\_AGC+3\_Out-of-band emission





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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

No.198 (Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn

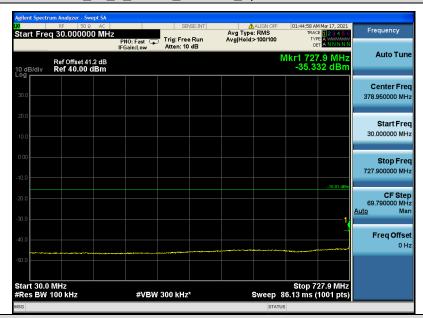


Application No.: GZCR2103000013AT

Page: 19 of 61

FCC ID: OJFDHRU-DHPAM-7

#### DL\_1S\_B\_AWGN\_Pre-AGC\_Spurious emission 1



#### DL\_1S\_B\_AWGN\_Pre-AGC\_Spurious emission 2





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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

No.198 (Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn 中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

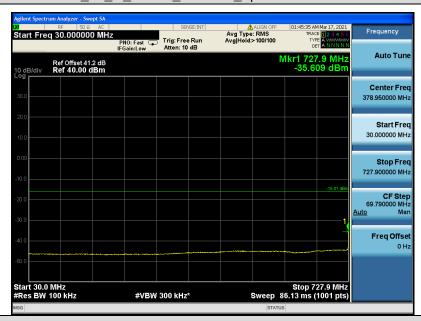


Application No.: GZCR2103000013AT

Page: 20 of 61

FCC ID: OJFDHRU-DHPAM-7

#### DL\_1S\_M\_AWGN\_Pre-AGC\_Spurious emission 1



#### DL\_1S\_M\_AWGN\_Pre-AGC\_Spurious emission 2





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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

or email: CN. Doccheck@sgs.com

1. No.198 (kezhu Road, Scientech Park, Guangzhou Exonomic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn
中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com

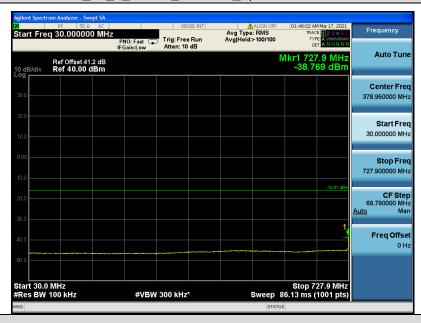


Application No.: GZCR2103000013AT

Page: 21 of 61

FCC ID: OJFDHRU-DHPAM-7

#### DL\_1S\_T\_AWGN\_Pre-AGC\_Spurious emission 1



#### DL\_1S\_T\_AWGN\_Pre-AGC\_Spurious emission 2





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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

No.198 (Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn

邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

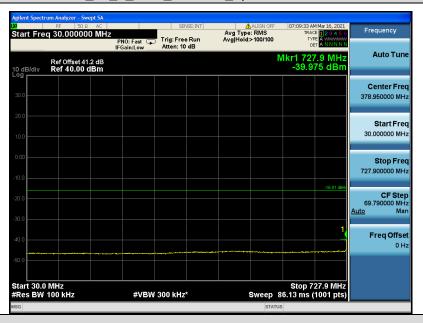


Application No.: GZCR2103000013AT

Page: 22 of 61

FCC ID: OJFDHRU-DHPAM-7

#### DL\_1S\_B\_GSM\_Pre-AGC\_Spurious emission 1



#### DL\_1S\_B\_GSM\_Pre-AGC\_Spurious emission 2





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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

or email: <u>CN.Doccheck@sgs.com</u>
No.198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn
中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com

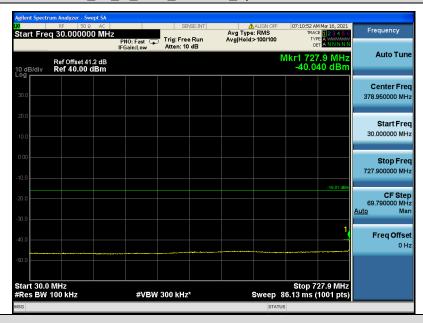


Application No.: GZCR2103000013AT

Page: 23 of 61

FCC ID: OJFDHRU-DHPAM-7

#### DL\_1S\_M\_GSM\_Pre-AGC\_Spurious emission 1



#### DL\_1S\_M\_GSM\_Pre-AGC\_Spurious emission 2





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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

or email: CN.Doccheck@sgs.com d. No.198 (kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn 中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com

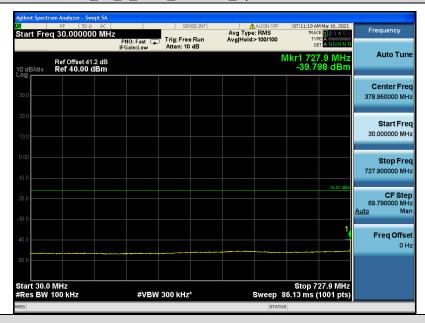


Application No.: GZCR2103000013AT

Page: 24 of 61

FCC ID: OJFDHRU-DHPAM-7

#### DL\_1S\_T\_GSM\_Pre-AGC\_Spurious emission 1



#### DL\_1S\_T\_GSM\_Pre-AGC\_Spurious emission 2





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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

No.198 (Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn

邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 25 of 61

FCC ID: OJFDHRU-DHPAM-7

#### 1.6 Frequency Stability

Note:

- 1. At 10 °C intervals of temperatures between −30 °C and +50 °C at the manufacturer's rated supply voltage, here the rated supply voltage is AC 110V.
- 2. At +20 °C temperature and  $\pm 15\%$  supply voltage variations. If a product is specified to operate over a range of input voltage, then the -15% variation is applied to the lowermost voltage and the +15% is applied to the uppermost voltage.
- 3. The frequency stabilities can be maintained within the authorized bands of operation. Meet the requirement.
- 4. Frequency stability has been tested using an AWGN test signal and a GSM-TDMA test signal, only the worst-case was recorded in this report.



Application No.: GZCR2103000013AT

Page: 26 of 61 FCC ID: OJFDHRU-DHPAM-7

Frequency stability vs temperature								
Temperature (°C)	Test Conf.	Test data (MHz)	Tolerance (ppm)	Verdict				
50		742.501592	0.04	PASS				
40		742.502217	0.88	PASS				
30		742.501684	0.16	PASS				
20		742.501563	Reference	PASS				
10	DL_1S_M_AWGN	742.501453	-0.15	PASS				
0		742.501813	0.34	PASS				
-10		742.501603	0.05	PASS				
-20		742.501723		PASS				
-30		742.501921	0.48	PASS				

Frequency stability vs voltage								
Voltage (V)	Test Conf.	Test data (MHz)	Tolerance (ppm)	Verdict				
AC 93.5		742.501452	-0.15	PASS				
AC 110	DL_1S_M_AWGN	742.501563	Reference	PASS				
AC 126.5		742.501238	-0.44	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/Terms-e-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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: <a href="mailto:CN\_Doccheck@cgs.com">CN\_Doccheck@cgs.com</a>

. Mo.198 Kezhu Road, Solenlech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn 中国 - 广州 - 经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 27 of 61 FCC ID: OJFDHRU-DHPAM-7

#### 1.7 Radiated spurious emissions

Note:

1. The tested max conducted power for single antenna port is 43.34dBm, the 2x2 MIMO total power is 43.34dBm+43.34dBm= 43.16W.

The power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least  $43 + 10 \log (P) dB$ , the limit corresponds to an absolute limit of -13 dBm.

Here,

P=43.16W.

So the limit =

P(dBm)-[43 + 10 log (43.16W)] = -13dBm

- 2. The radiated test performed at bottom / middle / top channel, the data with more than 20db margin, therefore, only the worst-case middle channel test data was recorded in the report.
- 3. The disturbance from 9kHz to 30MHz was very low and 20dB below the limit, therefore, the data was not recorded in the report.



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

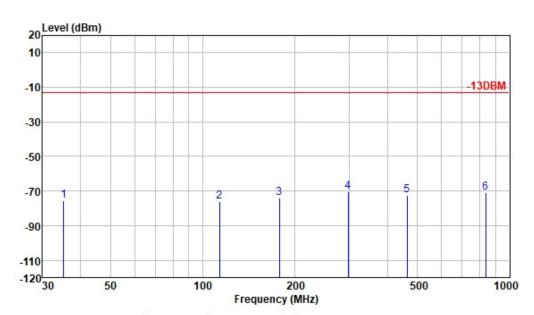
to No.198 (zeru) track, General Park, Guargriou Exonomic & Technology Development District, Guargriou, China 5 10663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn 中国 · 广州 · 经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 28 of 61 FCC ID: OJFDHRU-DHPAM-7

#### DL 1S M AWGN Horizontal 30MHz~1GHz



		Read Correction			Limit	Over	
	Freq	Level	Factor	Level	Line	Limit	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	35.13	-78.35	2.85	-75.50	-12.99	-62.51	HORIZONTAL
2	113.32	-67.45	-8.75	-76.20	-12.99	-63.21	HORIZONTAL
3	177.51	-67.79	-6.05	-73.84	-12.99	-60.85	HORIZONTAL
4	297.22	-67.10	-3.07	-70.17	-12.99	-57.18	HORIZONTAL
5	463.97	-72.92	0.31	-72.61	-12.99	-59.62	HORIZONTAL
6	836.24	-78.05	7.17	-70.88	-12.99	-57.89	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 <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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

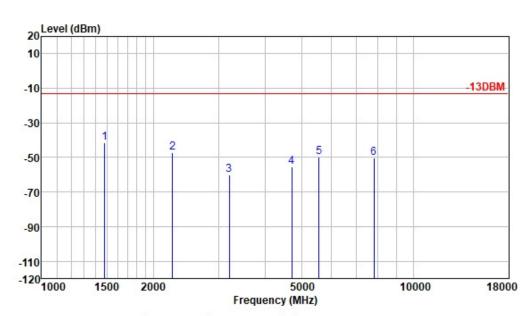
or email: <u>CN.Doccheck@sgs.com</u>
No.198 Kezhu Road, Szientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn
中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 29 of 61 FCC ID: OJFDHRU-DHPAM-7

#### DL 1S M AWGN Horizontal above 1GHz



		Read C	orrection	on	Limit	Over	
	Freq	Level	Factor	Level	Line	Limit	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	1477.28	-46.25	4.70	-41.55	-12.99	-28.56	HORIZONTAL
2	2252.85	-56.78	9.44	-47.34	-12.99	-34.35	HORIZONTAL
3	3196.09	-62.47	2.23	-60.24	-12.99	-47.25	HORIZONTAL
4	4707.89	-63.16	7.81	-55.35	-12.99	-42.36	HORIZONTAL
5	5567.14	-63.46	13.68	-49.78	-12.99	-36.79	HORIZONTAL
6	7829.86	-64.13	14.12	-50.01	-12.99	-37.02	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 <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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

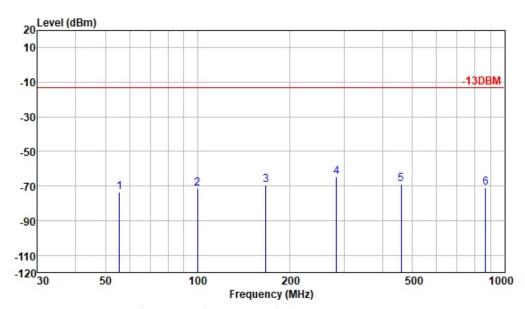
or email: <u>CN.Doccheck@sgs.com</u>
No.198 Kezhu Road, Szientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn
中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 30 of 61 FCC ID: OJFDHRU-DHPAM-7

# DL 1S M AWGN Vertical 30MHz~1GHz



		Read C	orrection	on	Limit	0ver	
	Freq	Level	Factor	Level	Line	Limit	Pol/Phase
52	MHz	dBm	dB	dBm	dBm	dB	V.
1	55.41	-69.76	-3.97	-73.73	-12.99	-60.74	VERTICAL
2	99.88	-66.20	-5.14	-71.34	-12.99	-58.35	VERTICAL
3	166.65	-65.58	-3.94	-69.52	-12.99	-56.53	VERTICAL
4	282.99	-62.13	-2.70	-64.83	-12.99	-51.84	VERTICAL
5	460.73	-70.32	1.67	-68.65	-12.99	-55.66	VERTICAL
6	866.09	-78.98	8.24	-70.74	-12.99	-57.75	VERTICAL



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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

No.198 (Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn

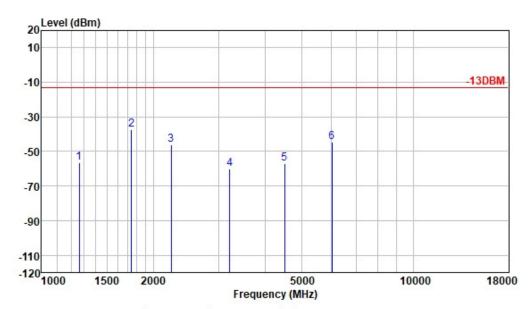
邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 31 of 61 FCC ID: OJFDHRU-DHPAM-7

#### DL 1S M AWGN Vertical above 1GHz



		Read Correction			Limit	0ver	
	Freq	Level	Factor	Level	Line	Limit	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	1263.80	-60.47	4.20	-56.27	-12.99	-43.28	VERTICAL
2	1746.90	-43.29	5.70	-37.59	-12.99	-24.60	VERTICAL
3	2233.40	-55.72	9.47	-46.25	-12.99	-33.26	VERTICAL
4	3205.35	-62.47	2.62	-59.85	-12.99	-46.86	VERTICAL
5	4508.14	-63.17	6.02	-57.15	-12.99	-44.16	VERTICAL
6	6036.42	-64.18	19.49	-44.69	-12.99	-31.70	VERTICAL



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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

No.198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn

中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 32 of 61

FCC ID: OJFDHRU-DHPAM-7

2 FirstNet (only for downlink: 758-768MHz)

#### 2.1 AGC threshold level

Test Conf.	AGC Threshold level		
DL_1S_M_AWGN_AWGN	0.16dBm		



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/Terms-e-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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: <a href="mailto:CN\_Doccheck@cgs.com">CN\_Doccheck@cgs.com</a>

or email: CN.Doccheck@sgs.com
No.198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn
中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com

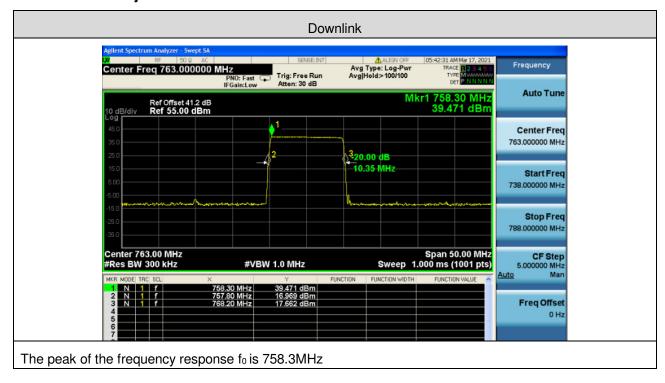


Application No.: GZCR2103000013AT

Page: 33 of 61

FCC ID: OJFDHRU-DHPAM-7

#### 2.2 Out-of-band rejection





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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

or email: CN\_Doccheck@sgs.com

No.198 Kezhu Road, Sdentech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn

中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com

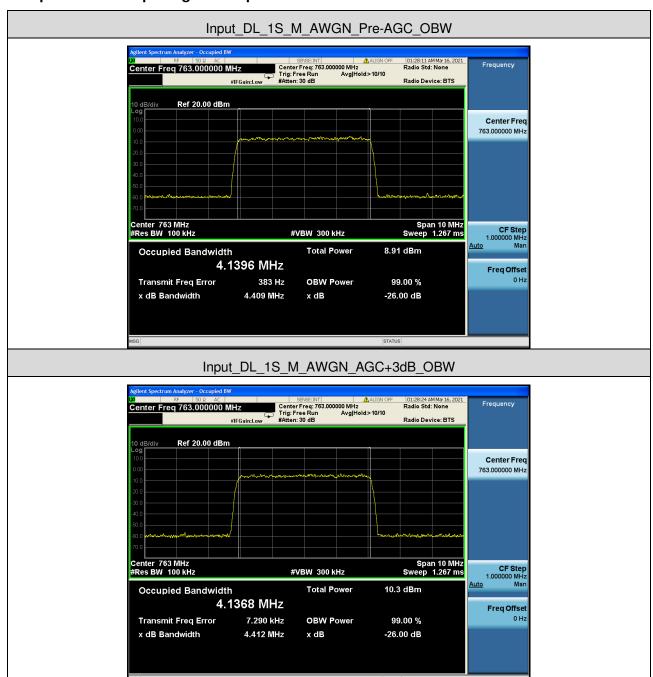


Application No.: GZCR2103000013AT

Page: 34 of 61

FCC ID: OJFDHRU-DHPAM-7

#### 2.3 Input-versus-output signal comparison





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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

or email: CN. <u>Doccheck@sus.com</u> Mr.198/ezhu Roxi, Scientech Park, Guangshou Economic & Technology Development District, Guangshou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn 中国 · 广州 · 经济技术开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com

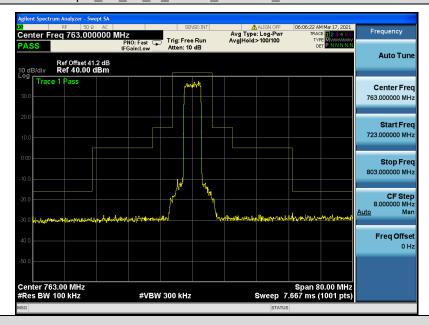


Application No.: GZCR2103000013AT

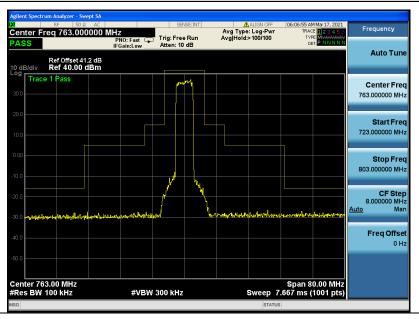
Page: 35 of 61

FCC ID: OJFDHRU-DHPAM-7

#### Input\_DL\_1S\_M\_AWGN\_Pre-AGC\_Emission Mask



#### Input\_DL\_1S\_M\_AWGN\_AGC+3dB\_Emission Mask





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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

or email: CN.Doccheck@sgs.com d. No.198 (kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn 中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com

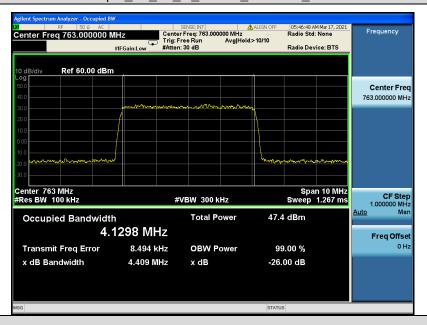


Application No.: GZCR2103000013AT

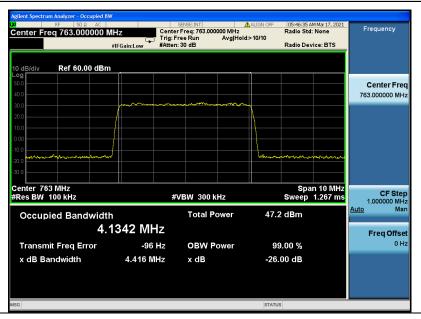
Page: 36 of 61

FCC ID: OJFDHRU-DHPAM-7

#### Output DL 1S M AWGN Pre-AGC OBW



#### Output\_DL\_1S\_M\_AWGN\_AGC+3dB\_OBW





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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

or email: CN. Doccheck@sgs.com

1. No.198 (kezhu Road, Scientech Park, Guangzhou Exonomic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn
中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com

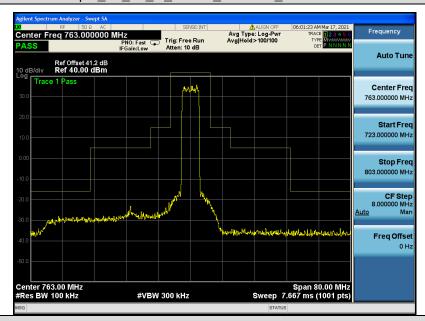


Application No.: GZCR2103000013AT

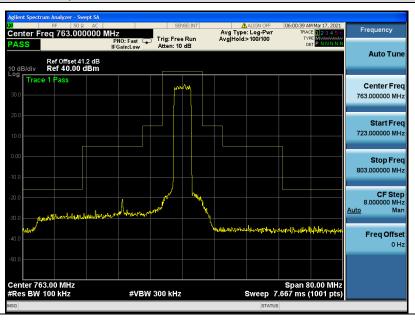
Page: 37 of 61

FCC ID: OJFDHRU-DHPAM-7

#### Output\_DL\_1S\_M\_AWGN\_Pre-AGC\_Emission Mask



#### Output\_DL\_1S\_M\_AWGN\_AGC+3dB\_Emission Mask



#### Remark:

Compare the spectral plot of the input signal to the output signal affirm that they are similar (in passband and roll off characteristic features and relative spectral locations). The test result complies with the requirement.



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/Terms-e-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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@cgs.com

or email: CN: <u>Doccheck@sag.com</u> /hu(98/6ath Road, Sdeinteh) Park, Guangrahu Gromonic & Technology Development District, Guangrahu, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn 中国 • 广州 • 经济技术开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 38 of 61 FCC ID: OJFDHRU-DHPAM-7

### 2.4 Input/output power and amplifier/booster gain

Test Conf.	Test Freq. f <sub>0</sub> (MHz) Signal Level		Input Power (dBm)	Output Power (dBm)	Gain (dB)	Verdict
		Pre-AGC	0.00	43.09	43.09	PASS
DL_1S_AWGN	758.3	AGC+3dB	3.00	43.16	/	PASS

#### Remark:

According to the declaration from the applicant, the single antenna gain should not exceed 12.5dBi, the Directional gain =  $G_{ANT}$  + 10 log ( $N_{ANT}$ ) dBi = 12.5dBi+10log (2) dBi= 15.5dBi.

ERP= EIRP-2.15dB

The total maximum ERP for the EUT is (43.16dBm+43.16dBm) +15.5dBi-2.15dB=59.52dBm (895.36W) which don't exceed the required ERP limit (1000W).



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/Terms-e-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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@cgs.com

To M.198 Karth Read, Sciented Park, Guangzhou Eronnic & Technology Development District, Guangzhou, China 5 10663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn 中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 39 of 61

FCC ID: OJFDHRU-DHPAM-7

### 2.5 Noise Figure

Test Conf.	Noise Figure (dB)	Limit (dB)	Verdict	
DL_1S_B_AWGN	8.34	9	PASS	
DL_1S_M_AWGN	8.61	9	PASS	
DL 1S T AWGN	8.73	9	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/Terms-e-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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: <a href="mailto:CN\_Doccheck@cgs.com">CN\_Doccheck@cgs.com</a>

to No.198 Kearlu Roat, Soiented Park, Guangarbou Economic & Technology Development District, Guangarbou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn 中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 40 of 61 FCC ID: OJFDHRU-DHPAM-7

#### 2.6 Out-of-band/out-of-block (including intermodulation) emissions and spurious emissions

Note: 1. 90.543(c) Out-of-band emission limit.

the power of any emission must be reduced below the mean output power (P) by at least

43 + 10log (P) dB, Here,

P=43.16dBm= 20.7W

So the limit = P(dBm)- [43 + 10 log (20.7W)] = -13dBm

The EUT supports 2x2 MIMO and the emissions were measured at one of output port, so the limit line was set to -16.01dBm in following test plots in order to determine the test result conveniently.

2. 90.543e (1) limit:

On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations.

Here, P=43.16dBm= 20.7W

So the limit = P(dBm)- [76 + 10 log (20.7W)] = -46dBm

The EUT supports 2x2 MIMO and the emissions were measured at one of output port, so the limit line was set to -49.01dBm in following test plots in order to determine the test result conveniently.

3. 90.543 (e)(3) limit:

On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least 43 + 10 log (P) dB

Here, P=43.16dBm= 20.7W

So the limit =

P(dBm)- [43 + 10 log (20.7W)] = -13dBm

The EUT supports 2x2 MIMO and the emissions were measured at one of output port, so the limit line was set to -16.01dBm in following test plots in order to determine the test result conveniently.



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

or email: EM\_Doccheck@sag.com .Mo(18) Kezhwada, Salenteh Pate, Glampfout Enormic & Technology Development District, Guangatiou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn 中国 - 广州 - 经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 41 of 61

FCC ID: OJFDHRU-DHPAM-7

### DL\_B\_CW\_Pre-AGC\_Intermodulation Avg Type: RMS Avg|Hold:>100/100 enter Freg 758,300000 MHz Auto Tun Ref Offset 41.2 dB Ref 41.20 dBm Center Fred Start Freq Stop Freq 758.350000 MH CF Step 10.000 kHz Freq Offset Span 100.0 kHz Sweep (FFT) ~12.40 ms (1001 pts) Center 758.30000 MHz #Res BW 300 Hz #VBW 1.0 kHz DL\_B\_CW\_Pre-AGC\_Intermodulation Frequency Center Freq 758.300000 MHz Avg Type: RMS Avg|Hold:>100/100 PNO: Close Trig: Free Run IFGain:Auto Atten: 10 dB Auto Tune Ref Offset 41.2 dB Ref 41.20 dBm Center Fred 758.300000 MHz Start Fred 758.250000 MHz Stop Fred 758.350000 MHz <u>Auto</u> Frea Offset Span 100.0 kHz Sweep (FFT) ~12.40 ms (1001 pts) Center 758.30000 MHz #Res BW 300 Hz **#VBW 1.0 kHz**



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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

or email: CN: <u>Doccheck@sag.com</u> .Mo(98/Kath Road, Scientech Park, Guargrahu Comonic & Technology Development District, Guargrahou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn 中国 - 广州 - 经济技术开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 42 of 61

FCC ID: OJFDHRU-DHPAM-7

### DL\_B\_CW\_AGC+3dB\_Intermodulation Avg Type: RMS Avg|Hold:>100/100 enter Freg 758,300000 MHz Auto Tun Ref Offset 41.2 dB Ref 41.20 dBm Center Fred Start Freq Stop Freq 758.350000 MH CF Step 10.000 kHz Freq Offset Span 100.0 kHz Sweep (FFT) ~12.40 ms (1001 pts) Center 758.30000 MHz #Res BW 300 Hz #VBW 1.0 kHz DL B CW AGC+3dB Intermodulation Frequency Center Freq 758.300000 MHz Avg Type: RMS Avg|Hold:>100/100 PNO: Close Trig: Free Run IFGain:Auto Atten: 10 dB Auto Tune Ref Offset 41.2 dB Ref 41.20 dBm -19 750 dBi Center Fred 758.300000 MHz Start Fred 758.250000 MHz Stop Fred 758.350000 MHz <u>Auto</u> Frea Offset Span 100.0 kHz Sweep (FFT) ~12.40 ms (1001 pts) Center 758.30000 MHz #Res BW 300 Hz **#VBW 1.0 kHz**



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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

or email: <u>CN.Doccheck@sgs.com</u>
No.198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn
中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com

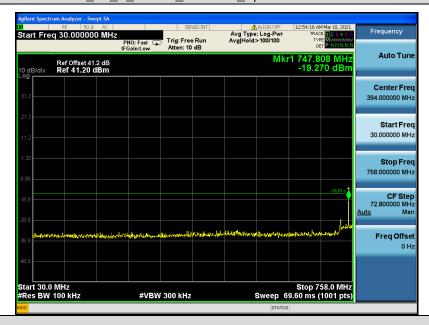


Application No.: GZCR2103000013AT

Page: 43 of 61

FCC ID: OJFDHRU-DHPAM-7

#### DL\_1S\_B\_AWGN\_Pre-AGC\_Spurious emission 1



#### DL\_1S\_B\_AWGN\_Pre-AGC\_Spurious emission 2





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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

No.198 (Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn

邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 44 of 61

FCC ID: OJFDHRU-DHPAM-7

### DL\_1S\_B\_AWGN\_Pre-AGC\_Spurious emission 3



#### DL\_1S\_B\_AWGN\_Pre-AGC\_Spurious emission 4





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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

or email: CN\_Doccheck@sgs.com
No.198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn
中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com

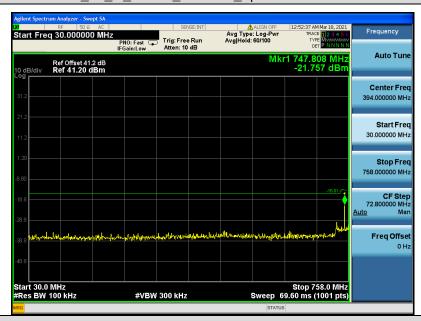


Application No.: GZCR2103000013AT

Page: 45 of 61

FCC ID: OJFDHRU-DHPAM-7

#### DL\_1S\_M\_AWGN\_Pre-AGC\_Spurious emission 1



#### DL\_1S\_M\_AWGN\_Pre-AGC\_Spurious emission 2





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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

No.198 (Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn



Application No.: GZCR2103000013AT

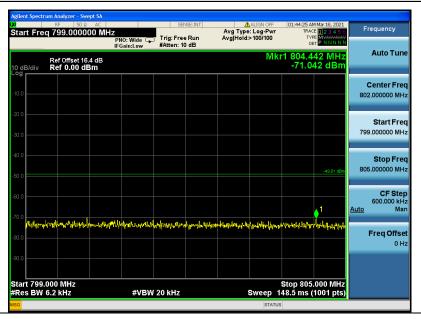
Page: 46 of 61

FCC ID: OJFDHRU-DHPAM-7

#### DL\_1S\_M\_AWGN\_Pre-AGC\_Spurious emission 3



#### DL\_1S\_M\_AWGN\_Pre-AGC\_Spurious emission 4





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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

No.198 (Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn

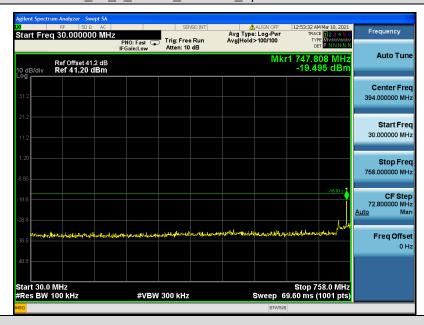


Application No.: GZCR2103000013AT

Page: 47 of 61

FCC ID: OJFDHRU-DHPAM-7

### DL\_1S\_T\_AWGN\_Pre-AGC\_Spurious emission 1



#### DL\_1S\_T\_AWGN\_Pre-AGC\_Spurious emission 2





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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

or email: CN.Doccheck@sgs.com 1. No.199 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn 中国・广州・经济技术开发区科学城科珠路198号 邮編: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

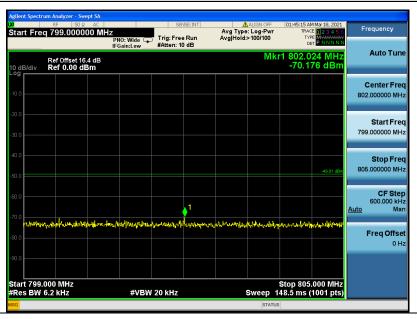
Page: 48 of 61

FCC ID: OJFDHRU-DHPAM-7

#### DL\_1S\_T\_AWGN\_Pre-AGC\_Spurious emission 3



#### DL\_1S\_T\_AWGN\_Pre-AGC\_Spurious emission 4





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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

No.198 (Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn

邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 49 of 61

FCC ID: OJFDHRU-DHPAM-7

### 2.7 Frequency Stability

Note:

- 1. At 10 °C intervals of temperatures between −30 °C and +50 °C at the manufacturer's rated supply voltage, here the rated supply voltage is AC 110V.
- 2. At +20 °C temperature and  $\pm 15\%$  supply voltage variations. If a product is specified to operate over a range of input voltage, then the -15% variation is applied to the lowermost voltage and the +15% is applied to the uppermost voltage.
- 3. The frequency stabilities can be maintained within the authorized bands of operation. Meet the requirement.



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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@ags.com



Application No.: GZCR2103000013AT

Page: 50 of 61 FCC ID: OJFDHRU-DHPAM-7

Frequency stability vs temperature								
Temperature (°C)	Test Conf.	Test data (MHz)	Tolerance (ppm)	Verdict				
50		763.000293	0.06	PASS				
40		763.000532		PASS				
30		763.000393		PASS				
20		763.000246	Reference	PASS				
10	DL_1S_M_AWGN	763.000132	-0.15	PASS				
0		763.000445	0.26	PASS				
-10		763.000345	0.13	PASS				
-20		763.000545		PASS				
-30		763.000493	0.32	PASS				

Frequency stability vs voltage							
Voltage (V)	Test Conf.	Test data (MHz)	Tolerance (ppm)	Verdict			
AC 93.5V		763.000383	0.18	PASS			
AC 110V	DL_1S_M_AWGN	763.000246	Reference	PASS			
AC 126.5V		763.000335	0.12	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/Terms-e-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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: <a href="mailto:CN\_Doccheck@cgs.com">CN\_Doccheck@cgs.com</a>

. Mo.198 Kezhu Road, Solenlech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn 中国 - 广州 - 经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 51 of 61 FCC ID: OJFDHRU-DHPAM-7

#### 2.8 Noise/emission at antenna terminal

Note:

Good engineering practice must be used regarding the radiation of intermodulation products and noise. Thus, the ERP of intermodulation products should not exceed the level -30dBm in 10kHz measurement bandwidth and the ERP of noise within the passband should not exceed the level -43dBm in 10kHz measurement bandwidth and the ERP of noise on spectrum more than 1MHz outside of the passband should not exceed the level -70dBm in 10kHz measurement bandwidth. In the event of harmful interference caused by any given deployment, the FCC may require additional attenuation or filtering of the emissions and/or noise from signal boosters or signal booster systems, as necessary to eliminate the interference. Detailed setting was declared by manufacturer and stated in the user manual.

Below test plots were only for recorded the case without engineering practice for refence.



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 iliability, 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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@gs.com.

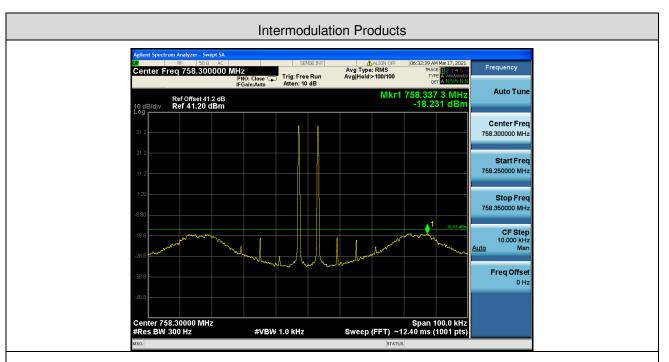
or email: EM\_Doccheck@sag.com | Most | Machine | Most |



Application No.: GZCR2103000013AT

Page: 52 of 61

FCC ID: OJFDHRU-DHPAM-7



#### Remark:

According to the declaration from the applicant, the single antenna gain should not exceed 12.5dBi, the Directional gain =  $G(ANT) + 10 \log (NANT) dBi = 12.5dBi + 10 \log (2) dBi = 15.5dBi$ .

ERP= EIRP-2.15dB

The conducted max intermodulation product is -18.231dBm/300Hz = -3dBm/10kHz, the conducted intermodulation product for 2X2 MIMO is 0dBm/10kHz, ERP of intermodulation products is 0dBm+15.5dBi-2.15dB=13.35dBm/10kHz.

Applicant must use good engineering practice to make sure that the ERP of intermodulation products should not exceed the level –30dBm in 10kHz measurement bandwidth.



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-a-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-a-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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@cgs.com

or email: CN: <u>Doccheck@sag.com</u> .Mo(98/Kath Road, Scientech Park, Guargrahu Comonic & Technology Development District, Guargrahou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn 中国 - 广州 - 经济技术开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 53 of 61

FCC ID: OJFDHRU-DHPAM-7

### Noise outside of the passband Avg Type: Log-Pwr AvgIHold:>100/100 Start Freg 30.000000 MHz PNO: Fast Trig: Free Run FGain: I ow Atten: 30 dB Auto Tun Ref 20.00 dBm Center Fred 388.500000 MH Start Freq 30.000000 MHz Stop Freq 747.000000 MH CF Step 71.700000 MHz Freq Offset Start 30.0 MHz #Res BW 10 kHz **#VBW 10 kHz** Noise outside of the passband Frequency tart Freq 778.000000 MHz Avg Type: Log-Pwr Avg|Hold:>100/100 PNO: Fast Trig: Free Run IFGain:Low Atten: 30 dB Auto Tune Mkr1 5.382 GH. -<u>60</u>.814 dBn Ref 20.00 dBm 4.229000000 GHz Start Fred 778.000000 MH Stop Fred 7.680000000 GH <u>Auto</u> Frea Offset Stop 7.680 GHz Sweep 83.22 s (1001 pts) Start 778 MHz #Res BW 10 kHz **#VBW 10 kHz**



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.

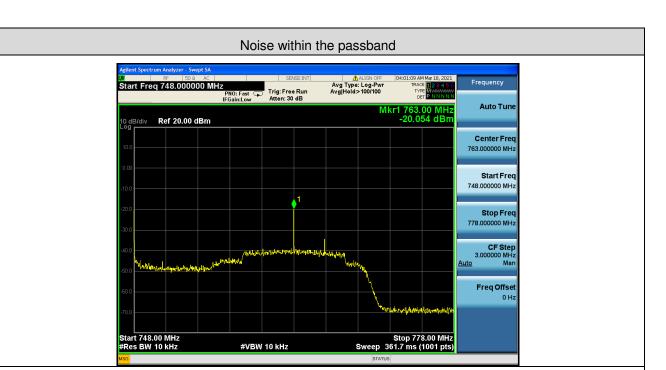
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

or email: <u>CN.Doccheck@sgs.com</u>
No.198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn
中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 54 of 61 FCC ID: OJFDHRU-DHPAM-7



#### Remark:

According to the declaration from the applicant, the single antenna gain should not exceed 12.5dBi, the Directional gain =  $G(ANT) + 10 \log (NANT) dBi = 12.5dBi + 10 \log (2) dBi = 15.5dBi$ .

ERP= EIRP-2.15dB

The conducted max. noise on spectrum more than 1 MHz outside of the passband is -28.886dBm/10kHz, the conducted max. noise on spectrum more than 1 MHz outside of the passband for 2X2 MIMO is -25.88dBm/10kHz, ERP of noise on spectrum more than 1 MHz outside of the passband is -25.88dBm+15.5dBi-2.15dB=-12.53dBm/10kHz.

The conducted max. noise within the passband is -20.054dBm, the conducted max. noise within the passband for 2X2 MIMO is -17.21dBm/10kHz, ERP of noise within the passband is -17.21dBm+15.5dBi-2.15dB=-3.9dBm/10kHz.

Applicant must use good engineering practice to make sure that the ERP of noise within the passband should not exceed the level –43dBm in 10kHz measurement bandwidth and the ERP of noise on spectrum more than 1 MHz outside of the passband should not exceed the level –70dBm in 10 kHz measurement bandwidth.



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-a-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-a-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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@cgs.com



Application No.: GZCR2103000013AT

Page: 55 of 61 FCC ID: OJFDHRU-DHPAM-7

#### 2.9 Radiated spurious emissions

Note: 1. 47 CFR Part 90.219(e)(3)

Spurious emissions from a signal booster must not exceed –13 dBm within any 100 kHz measurement bandwidth.

The tested max conducted power for single antenna port is 43.16dBm. the 2x2 MIMO total power is 43.16dBm+43.16dBm= 41.4W.

The any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB.

Here,

P=41.4W

So the limit =

P(dBm)-[43 + 10 log (41.4W)] = -13dBm

2. 47 CFR Part 90.543(f)

For operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559-1610 MHz shall be limited to -70 dBW/MHz (i.e. -40dBm) equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW (i.e. -50dBm) EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

- 3. The radiated test performed at bottom / middle / top channel, the data with more than 20db margin, therefore, only the worst-case middle channel test data was recorded in the report.
- 4. The disturbance from 9kHz to 30MHz was very low and 20dB below the limit, therefore, the data was not recorded in the report.



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

of enals: <u>km. verifier 11 to the part of the part o</u>



Application No.: GZCR2103000013AT

Page: 56 of 61 FCC ID: OJFDHRU-DHPAM-7

#### DL 1S M AWGN Horizontal 30MHz~1GHz 20 Level (dBm) 13DBM -10 -30 -50 3 -70 2 -90 -110 -120<sub>30</sub> 50 100 200 1000 500 Frequency (MHz) Limit Read Correction Over Freq Level Factor Level Line Limit Pol/Phase MHz dBm dB dBm dBm dB -77.78 2.89 -74.89 -12.99 -61.90 HORIZONTAL 1 34.76 100.58 -69.46 -9.60 -79.06 -12.99 -66.07 HORIZONTAL 3 -58.07 -6.39 -64.46 -12.99 -51.47 162.04 HORIZONTAL 274.19 -60.88 -2.75 -63.63 -12.99 -50.64 HORIZONTAL 5 511.84 -73.93 0.43 -73.50 -12.99 -60.51 HORIZONTAL 6 906.48 -78.98 9.04 -69.94 -12.99 -56.95 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 <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 & certificate, please contact us at telephone: (86-755) 8307 1443,

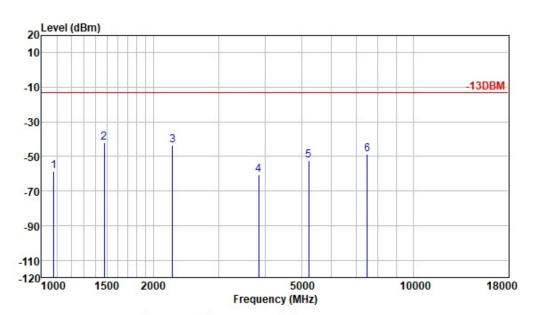
. Mo.198 Kezhu Road, Solenlech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn 中国 - 广州 - 经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 57 of 61 FCC ID: OJFDHRU-DHPAM-7

#### DL 1S M AWGN Horizontal above 1GHz



		Read Correction			Limit	Over		
	Freq	Level	Factor	Level	Line	Limit	Pol/Phase	
	MHz	dBm	dB	dBm	dBm	dB		
1	1078.05	-59.95	1.62	-58.33	-12.99	-45.34	HORIZONTAL	
2	1473.01	-46.85	4.70	-42.15	-12.99	-29.16	HORIZONTAL	
3	2252.85	-52.80	9.44	-43.36	-12.99	-30.37	HORIZONTAL	
4	3834.44	-63.95	3.16	-60.79	-12.99	-47.80	HORIZONTAL	
5	5224.15	-64.59	12.41	-52.18	-12.99	-39.19	HORIZONTAL	
6	7497.65	-64.59	15.83	-48.76	-12.99	-35.77	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 <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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

No.198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn

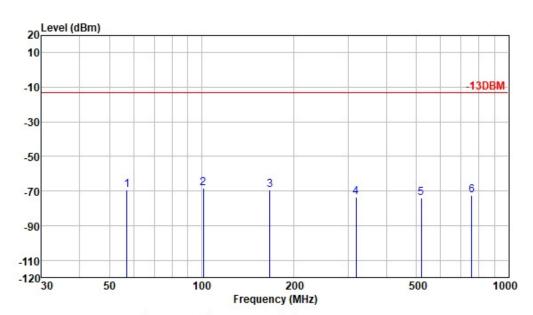
邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 58 of 61 FCC ID: OJFDHRU-DHPAM-7

### DL\_1S\_M\_AWGN\_Vertical\_30MHz~1GHz



		Read Correction			Limit Over			
	Freq	Level	Factor	Level	Line	Limit	Pol/Phase	
	MHz	dBm	dB	dBm	dBm	dB	V-1	
1	56.99	-66.31	-3.09	-69.40	-12.99	-56.41	VERTICAL	
2	101.29	-63.45	-5.08	-68.53	-12.99	-55.54	VERTICAL	
3	166.65	-65.58	-3.94	-69.52	-12.99	-56.53	VERTICAL	
4	318.82	-70.77	-2.55	-73.32	-12.99	-60.33	VERTICAL	
5	519.06	-75.38	1.16	-74.22	-12.99	-61.23	VERTICAL	
6	758.04	-79.14	6.55	-72.59	-12.99	-59.60	VERTICAL	



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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

or email: CN.Doccheck@sgs.com

No.198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn

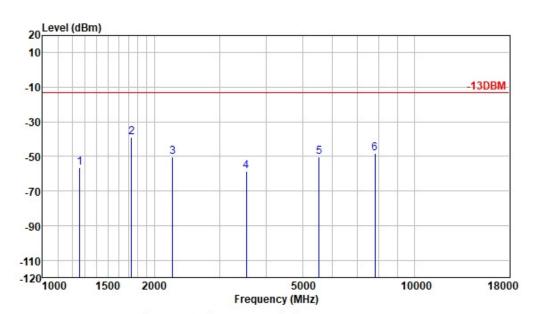
中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 59 of 61 FCC ID: OJFDHRU-DHPAM-7

#### DL 1S M AWGN Vertical above 1GHz



		Read Correction			Limit	0ver		
	Freq	Level	Factor	Level	Line	Limit	Pol/Phase	
	MHz	dBm	dB	dBm	dBm	dB		
1	1260.15	-60.46	4.11	-56.35	-12.99	-43.36	VERTICAL	
2	1736.83	-44.64	5.68	-38.96	-12.99	-25.97	VERTICAL	
3	2239.86	-59.56	9.49	-50.07	-12.99	-37.08	VERTICAL	
4	3526.13	-63.06	4.31	-58.75	-12.99	-45.76	VERTICAL	
5	5535.05	-64.84	14.36	-50.48	-12.99	-37.49	VERTICAL	
6	7829.86	-65.10	16.69	-48.41	-12.99	-35.42	VERTICAL	



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 & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ags.com

No.198 (Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn

邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 60 of 61 FCC ID: OJFDHRU-DHPAM-7

#### DL 1S M AWGN Horizontal 1559MHz~1610MHz 20 Level (dBm) -10 -30 -50DBM -50 4 3 2 -70 -90 -110 -120 1559 1610 Frequency (MHz) Limit Read Correction 0ver Freq Level Factor Level Line Limit Pol/Phase MHz dBm dB dBm dBm dB -49.99 -14.52 -69.58 5.07 -64.51 HORIZONTAL 1 1563.62 2 1571.95 -70.81 -65.71 -49.99 -15.72 HORIZONTAL 5.10 3 5.14 -64.45 -49.99 -14.46 1580.78 -69.59 HORIZONTAL 4 1591.04 -67.71 5.20 -62.51 -49.99 -12.52 HORIZONTAL 5 1600.34 -69.32 5.24 -64.08 -49.99 -14.09 HORIZONTAL 6 1607.77 -68.59 5.28 -63.31 -49.99 -13.32 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 <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 & certificate, please contact us at telephone: (86-755) 8307 1443,

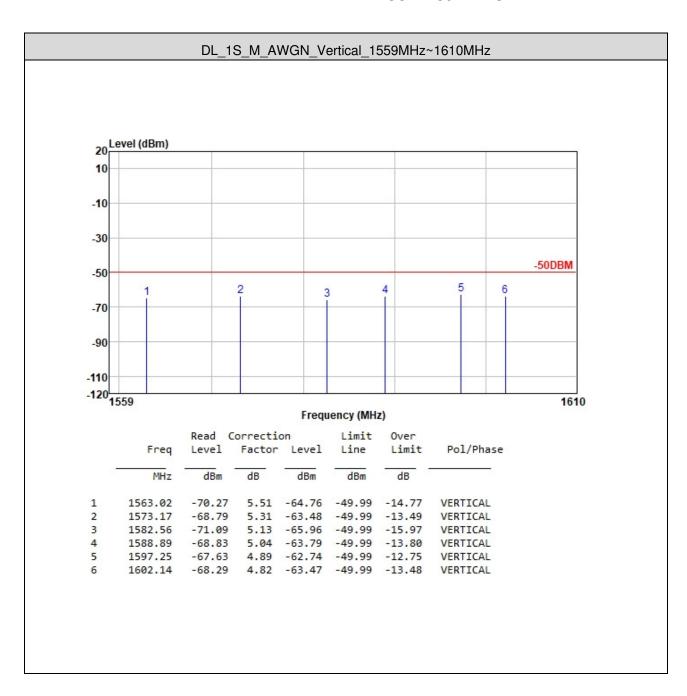
Actention: 10 check the authenticity of testing inspection report & certificate, please contact us at telephone: (86-35) 830 / 1443, or email: CN. Doccheck@sgs.com

d. No.198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com



Application No.: GZCR2103000013AT

Page: 61 of 61 FCC ID: OJFDHRU-DHPAM-7



#### -- End of Appendix B--



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 ocupation of 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,

Mr 188 /carlu Road, Scientech Park, Guangshou Economic & Technology Development District, Guangshou, Chira 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn 中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com