

SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch EMC-ARF-05 Rev 1.1 Page: 1 of 36 FCC ID: OJFDMRUG22325

Appendix -

# Test Data and Result for report GZCR230600056902

(For WCS Band DL)



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 <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions/Terms-enD-condit/</u>

中国 · 广州 · 经济技术开发区科学城科珠路198号

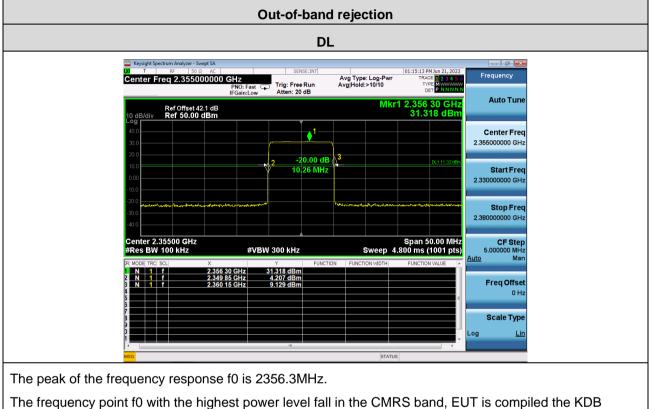
Member of the SGS Group (SGS SA)



EMC-ARF-05 Rev 1.1

Page: 2 of 36

#### 1 Out-of-band rejection



935210 D05 Signal Booster Measurements v01r04 Out-of-band rejection verification test 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 http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document does not exoncerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this lest 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

1200-millioneaninada, olemeaninad, olangunucuminida revininagi persepinienicumi, olargunuc onne 510663 t (80-20) 82155555 f (80-20) 82075058 sgs.china@sgs.com



EMC-ARF-05 Rev 1.1

Page: 3 of 36

#### 2 Input versus Output comparison

Occupied Bandwidth								
Test Path	Test Signal	Test Channel	Signal Level	Verdict				
	4.1MHz	MCH	Pre-AGC	PASS				
	AWGN	WOIT	3dB above AGC	PASS				
5	100MHz	MCH	Pre-AGC	PASS*				
DL	AWGN		3dB above AGC	PASS*				
	0014	МСН	Pre-AGC	PASS				
	GSM		3dB above AGC	PASS				

#### Remark:

1. \* The band supports maximum channel BW is 10MHz @ NR, so the output signal OBW was less than the input when 100MHz AWGN was as stimulus signal.

2. 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.



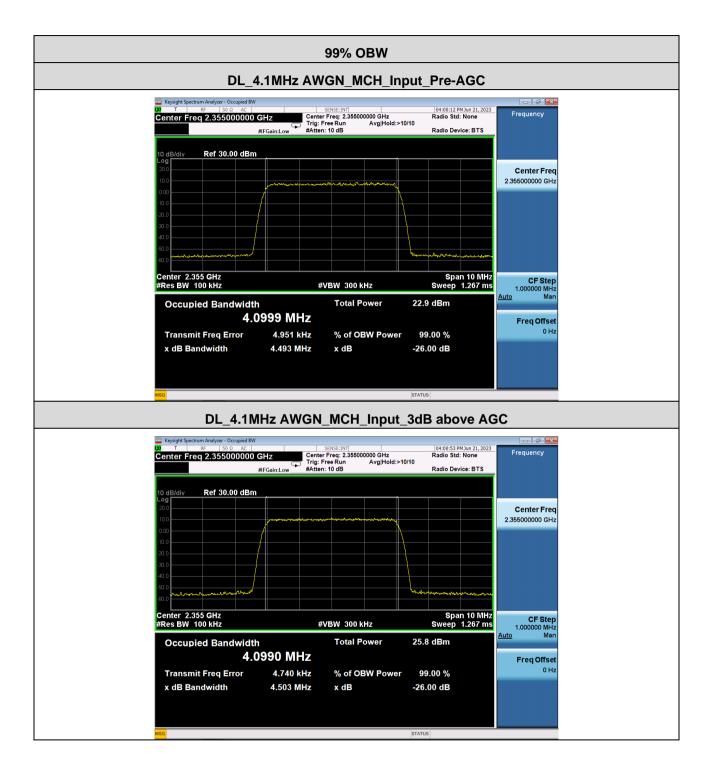
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document does not exoncerate parties to a transaction from exercising all their rights and obligations under the transaction documents. 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) lested and such sample(s) are retained for 30 days only. Attention report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@sgs.com

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



EMC-ARF-05 Rev 1.1

Page: 4 of 36





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 document. 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@asgs.com</a>.

ne. 150 netablit Nati, Stellah Mati, Stell



EMC-ARF-05 Rev 1.1

Page: 5 of 36





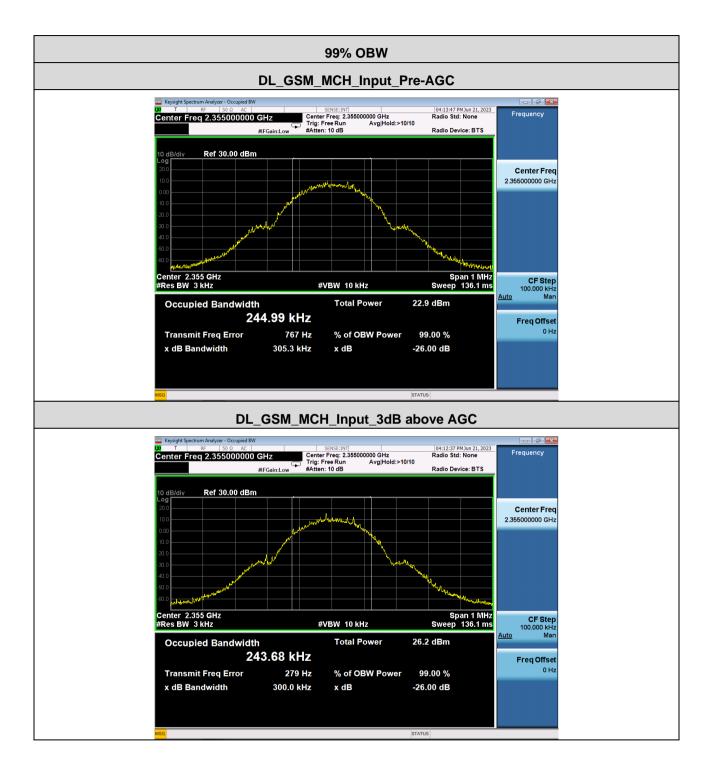
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic 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 exoncrate 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: GNN.Doccheck@ags.com</a>.

no. iso acid unda, cominicar an, coaligande cominicar relating of premium in the second of the sec



EMC-ARF-05 Rev 1.1

Page: 6 of 36





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 <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</u>. 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@gs.com

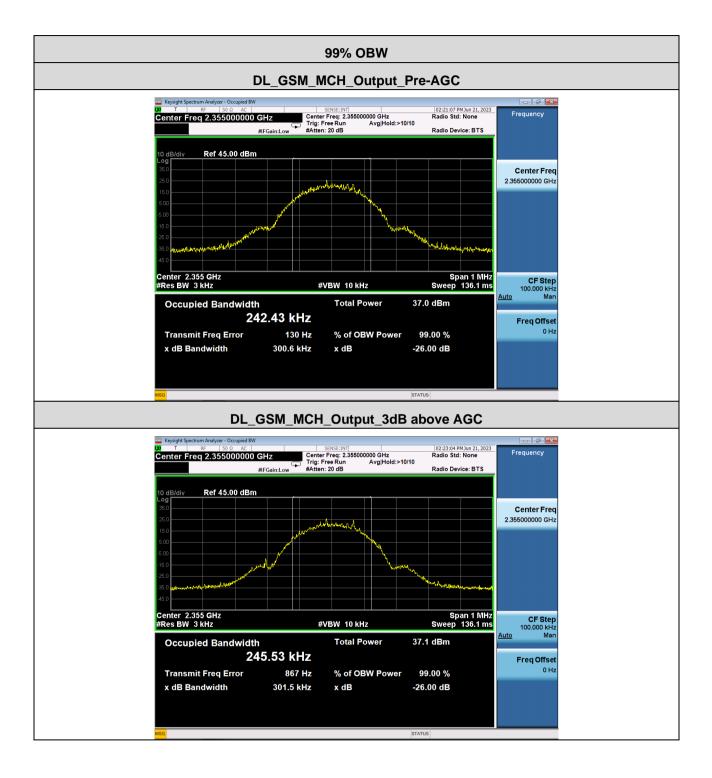
中国·广州·经济技术开发区科学城科珠路198号

Member of the SGS Group (SGS SA)



EMC-ARF-05 Rev 1.1

Page: 7 of 36





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 <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</u>. 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@gs.com

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



EMC-ARF-05 Rev 1.1

Page: 8 of 36





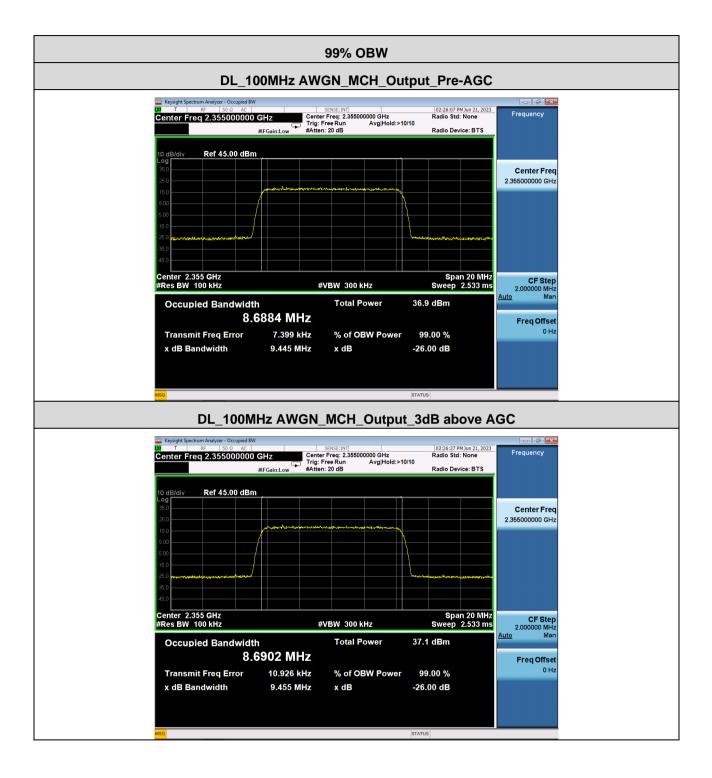
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic 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 document. 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@asgs.com</a>.

ne. 150 netablit Nati, Stellah Mati, Stell



EMC-ARF-05 Rev 1.1

Page: 9 of 36





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 document. 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@asgs.com</a>.

no. iso acid unda, cominicar an, coaligande cominicar relating of premium in the second of the sec



EMC-ARF-05 Rev 1.1

Page: 10 of 36

#### 3 Output power and amplifier/booster gain

	Mean output power and gain										
	Test Path	Test Freq. f0 (MHz)	Test Signal	Signal Level	Input power (dBm)	Output Power (dBm)	SISO EIRP (W)	Total EIRP (W)	Gain (dB)		
			4.1MHz AWGN	Pre-AGC	23.00	37.28	53.46	213.80	14.28		
				3dB above AGC	26.00	37.45	55.60	222.34	/		
	<b>.</b> .	0050 0	100MHz	Pre-AGC	23.00	36.68	46.56	186.21	13.68		
	DL 2356.	2356.3	2356.3 AWGN	3dB above AGC	26.00	36.96	49.66	198.61	/		
				Pre-AGC	23.00	37.66	58.35	233.35	14.66		
		GSM	3dB above AGC	26.00	37.32	53.96	215.78	/			

Remark:

1. f0 is from Out-of-band Rejection test in the report.

2. EIRP= output power (dBm)+ antenna gain (dBi), the antenna gain is 10dBi declared by the manufacturer, the directional gain =  $G_{ANT}$  + 10 log (N<sub>ANT</sub>) dBi = 13dBi.

3. The conducted test performed at ANT 1 port only due to the two MIMO ports with identical design(Hardware & software) and radio output.

			Mean outp	out power			
Test Path	Test Freq. f0 (MHz)	Test Signal	Signal Level	Output Power (dBm/MHz)	SISO EIRP (W/MHz)	Total EIRP (W/MHz)	Verdict
		4.1MHz	Pre-AGC	31.01	12.62	50.47	PASS
		AWGN 100MHz	3dB above AGC	31.27	13.40	53.59	PASS
			Pre-AGC	28.72	7.45	29.79	PASS
DL	2356.3	AWGN	3dB above AGC	28.57	7.20	28.78	PASS
		GSM	Pre-AGC	37.66	58.35	233.35	PASS
			3dB above AGC	37.32	53.96	215.78	PASS

Remark:

1. f0 is from Out-of-band Rejection test in the report.

2. EIRP= output power (dBm)+ antenna gain (dBi), the antenna gain is 10dBi declared by the manufacturer, the directional gain =  $G_{ANT}$  + 10 log (N<sub>ANT</sub>) dBi = 13dBi.

3. The output power is limited to an EIRP of 400W/MHz.

4. The conducted test performed at ANT 1 port only due to the two MIMO ports with identical design(Hardware & software) and radio output.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. 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 relatined 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@asp.com.

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



EMC-ARF-05 Rev 1.1

Page: 11 of 36

Mean output power										
Test Path	Test Freq. f0 (MHz)	Test Signal	Signal Level	Output Power (dBm/5MHz)	SISO EIRP (W/5MHz)	Total EIRP (W/5MHz)	Verdict			
		4.1MHz AWGN 2356.3 100MHz AWGN	Pre-AGC	37.28	53.46	213.80	PASS			
			3dB above AGC	37.45	55.60	222.34	PASS			
	0050.0		Pre-AGC	35.44	35.00	139.96	PASS			
DL	2356.3		3dB above AGC	35.21	33.19	132.74	PASS			
		0014	Pre-AGC	37.66	58.35	233.35	PASS			
		GSM	3dB above AGC	37.32	53.96	215.78	PASS			

Remark:

1. f0 is from Out-of-band Rejection test in the report.

2. EIRP= output power (dBm)+ antenna gain (dBi), the antenna gain is 10dBi declared by the manufacturer, the directional gain =  $G_{ANT}$  + 10 log (N<sub>ANT</sub>) dBi = 13dBi.

3. The output power is limited to an EIRP of 2000W/5MHz.

4. The conducted test performed at ANT 1 port only due to the two MIMO ports with identical design(Hardware & software) and radio output.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-eDocument.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exconerate parties to a transaction from exercising all their rights and obligations under the transaction documents. 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) test entation, for 30 days on). Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@egs.com

1d. 1% 138 kazhu Rad, Sainteki Park, Guarghu Exonnic & Technolog Development Distrid, Guarghu, 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



EMC-ARF-05 Rev 1.1

Page: 12 of 36

Peak-to-average ratio (PAR)									
Test path	Test freq. f0 (MHz)	Test Signal	Signal level	PAR (dB)	Limit (dB)	Verdict			
	2356.3	4.1MHz	Pre-AGC	8.24		PASS			
		2356.3 100MHz AWGN	3dB above AGC	8.16	110	PASS			
DL			Pre-AGC	8.16	≤13	PASS			
			3dB above AGC	8.05		PASS			
Remark: The GSM signal is narrow band signal with extremity low PAR values (the worst case is lower than 0.3dB), so only the test plots for 4.1MHz and 100MHz AWGN (pre-AGC) were record in the report for demonstrate PAR compliance.									



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 <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</u>. 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@gs.com

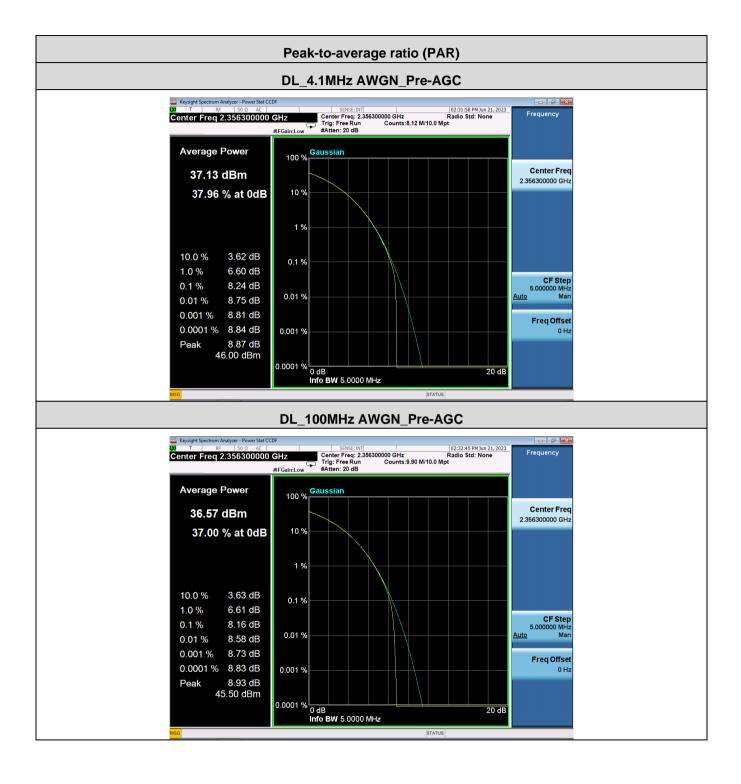
中国・广州・经济技术开发区科学城科珠路198号

Member of the SGS Group (SGS SA)



EMC-ARF-05 Rev 1.1

Page: 13 of 36





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 <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</u>. 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@gs.com

no. iso hazur koad, soemiechram, olangunou commited, ieominogy uzeredument usend, olangunou, uma 510663 1 (86-20) 82 (55555 f (86-20) 820/5058 www.sgsgl/outp.com/i 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



EMC-ARF-05 Rev 1.1

Page: 14 of 36

	Out-of-band/out-of-block(including intermodulation) emissions									
Test Path	Test Channel	Test Signal	Stimulus Condition	Signal Level	Worst conducted test level (dBm)	Limit (dBm)	Verdict			
			One signal	Pre-AGC	-34.76		PASS			
	LCH		input	3dB above AGC	-35.35		PASS			
	LCH		Two signals	Pre-AGC	-34.73		PASS			
		5MHz	input	3dB above AGC	-35.44		PASS			
DL		AWGN	One signal	Pre-AGC	-31.50	≤-16	PASS			
	НСН		input	3dB above AGC	-33.01		PASS			
			Two signals	Pre-AGC	-32.16		PASS			
			input	3dB above AGC	-32.31		PASS			
			One signal	Pre-AGC	-23.31	-	PASS			
			input	3dB above AGC	-23.55		PASS			
	LCH		Two signals	Pre-AGC	-22.89		PASS			
		100MHz	input	3dB above AGC	-23.30	≤-16	PASS			
DL		AWGN		Pre-AGC	-19.52		PASS			
				3dB above AGC	-19.82		PASS			
	HCH		Two signals	Pre-AGC	-20.79		PASS			
			input	3dB above AGC	-20.09		PASS			

#### 4 Out-of-band/out-of-block(including intermodulation) emissions

Remark:

1. The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10log10 (P) dB, here,

P = 37dBm = 5.02W

the limit = 37dBm - [43 + 10 log10 (5.02W)] dB = -13dBm

2. For 2x2 MIMO, ANT1 port was measured and the limit was showed -13dBm- 10lg(2)= -16dBm 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/Terms-en/

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



EMC-ARF-05 Rev 1.1

Page: 15 of 36

Out-of-band/out-of-block(including intermodulation) emissions									
Test Path	Test Channel	Test Signal	Stimulus Condition	Signal Level	Worst conducted test level (dBm)	Limit (dBm)	Verdict		
			One signal	Pre-AGC	-26.50		PASS		
			input	3dB above AGC	-26.13	- ≤-16 -	PASS		
	LCH	GSM One in ICH	Two signals input One signal input	Pre-AGC	-26.91		PASS		
				3dB above AGC	-26.61		PASS		
DL				Pre-AGC	-24.06		PASS		
				3dB above AGC	-23.68		PASS		
	псп		Two signals	Pre-AGC	-26.42		PASS		
			input	3dB above AGC	-25.62		PASS		

Remark:

1. The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least  $43 + 10\log 10$  (P) dB, here,

P = 37 dBm = 5.02W

the limit = 37dBm - [43 + 10 log10 (5.02W)] dB = -13dBm

2. For 2×2 MIMO, ANT1 port was measured and the limit was showed -13dBm- 10lg(2)= -16dBm to determine the test result conveniently.



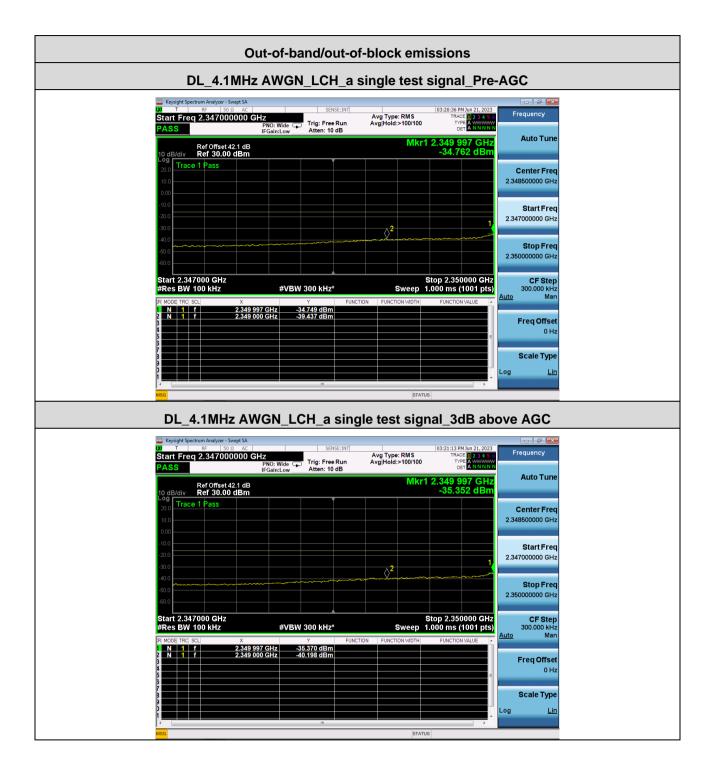
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document does not exconcrate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document is 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 accriticate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@sgs.com</a>. (No: 88/ebit PARK, Guarghou Commet Disrid, Guarghou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn.

100-201 62-77. rul - rul



EMC-ARF-05 Rev 1.1

Page: 16 of 36



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 exoncrate 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: GNN.Doccheck@ags.com</a>.

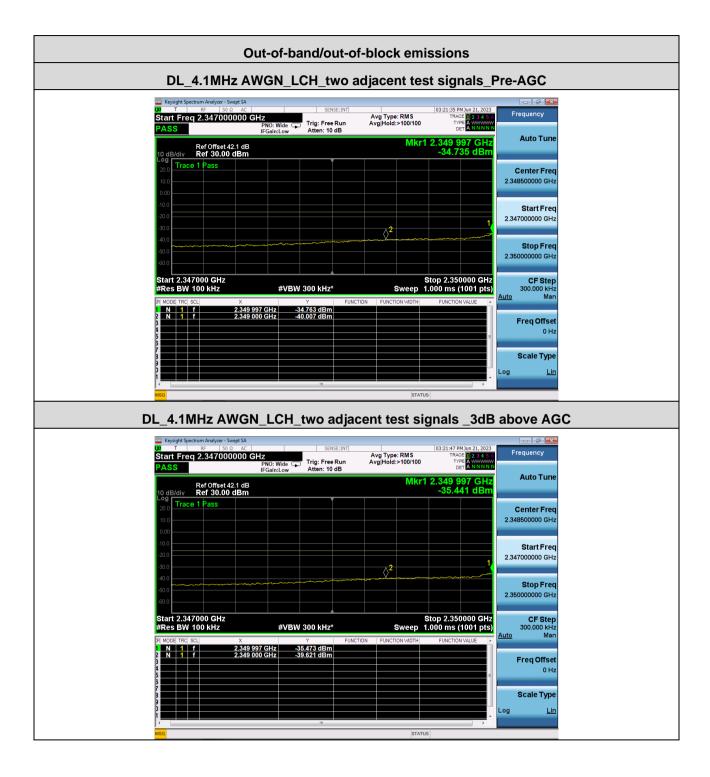
中国·广州·经济技术开发区科学城科珠路198号





EMC-ARF-05 Rev 1.1

Page: 17 of 36



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 exoncrate 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: GNN.Doccheck@ags.com</a>.

中国·广州·经济技术开发区科学城科珠路198号

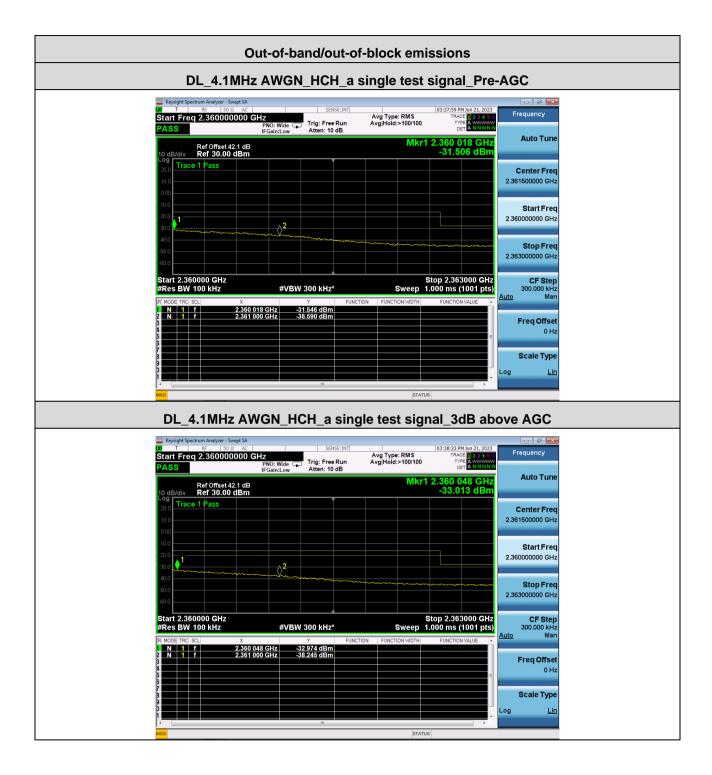


Member of the SGS Group (SGS SA)



EMC-ARF-05 Rev 1.1

Page: 18 of 36



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 exoncrate 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: GNN.Doccheck@ags.com</a>.

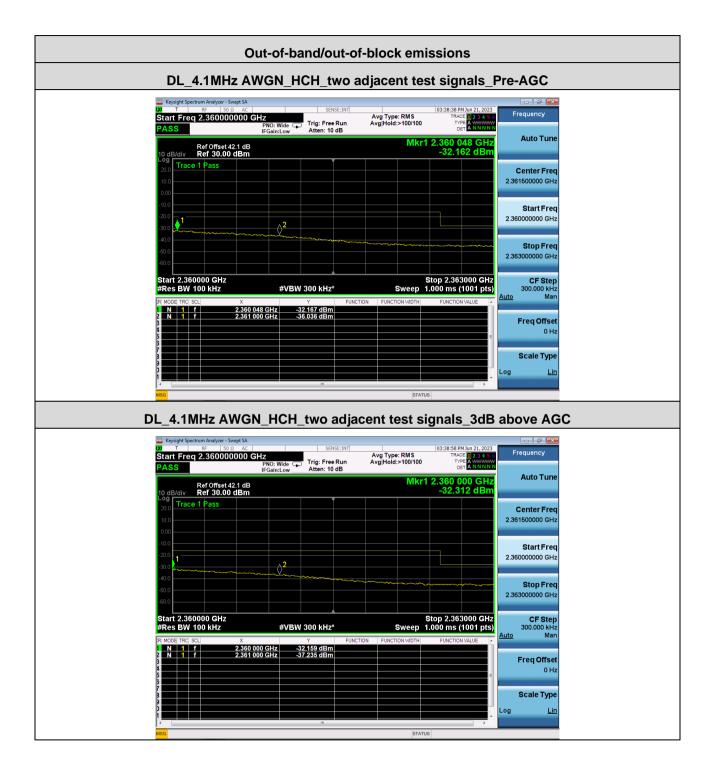
中国·广州·经济技术开发区科学城科珠路198号





EMC-ARF-05 Rev 1.1

Page: 19 of 36



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 exoncrate 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: GNN.Doccheck@ags.com</a>.

中国·广州·经济技术开发区科学城科珠路198号

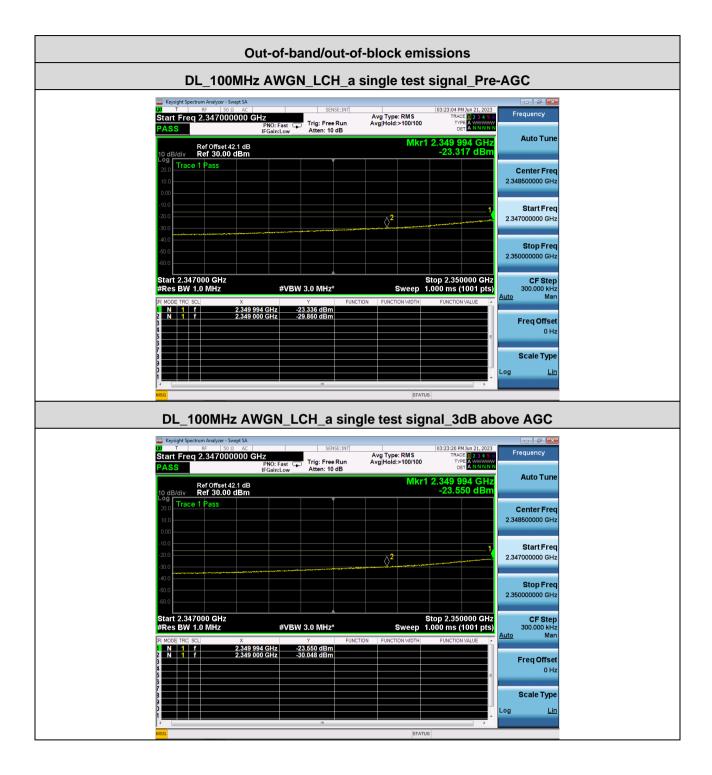


Member of the SGS Group (SGS SA)



EMC-ARF-05 Rev 1.1

Page: 20 of 36

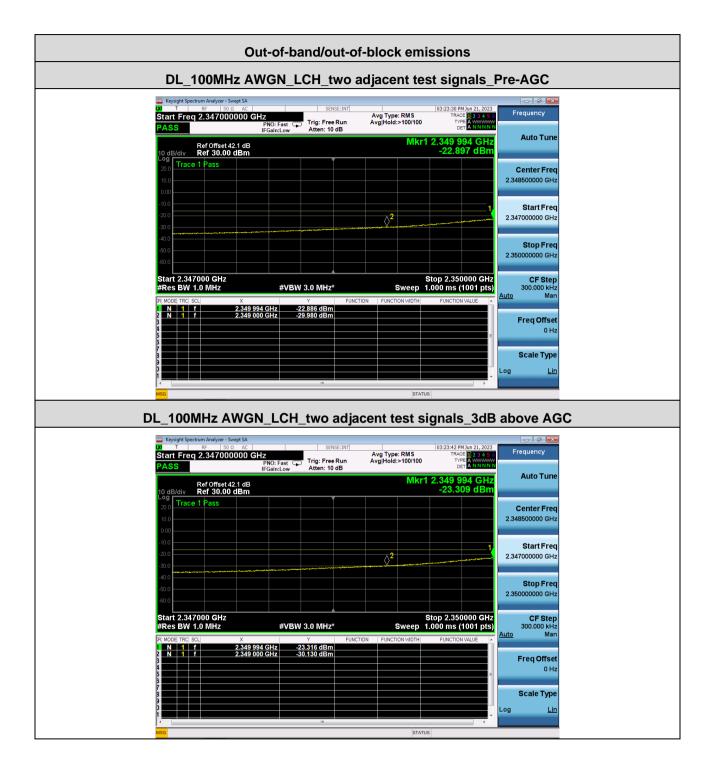






EMC-ARF-05 Rev 1.1

Page: 21 of 36



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 exoncrate 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: GNN.Doccheck@ags.com</a>.

中国·广州·经济技术开发区科学城科珠路198号

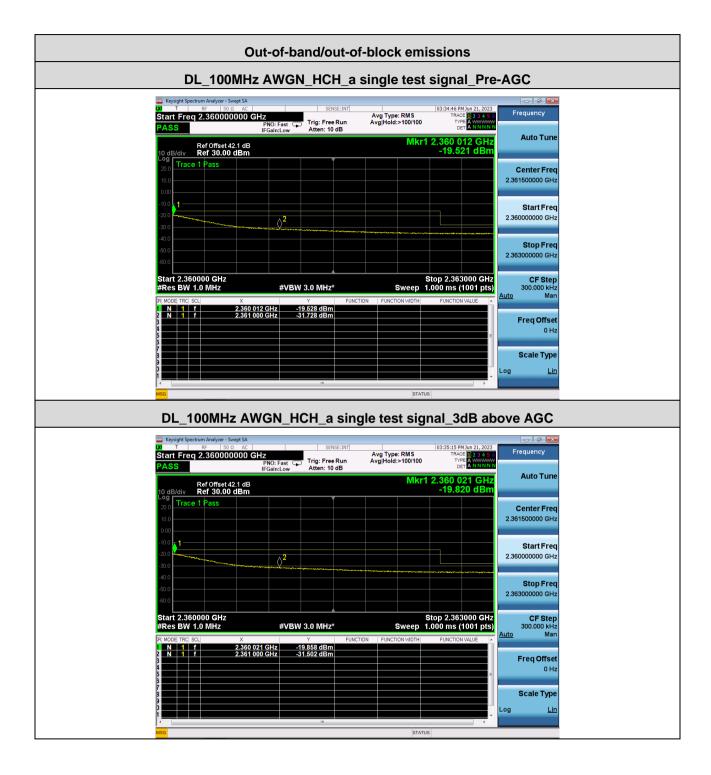


邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com Member of the SGS Group (SGS SA)



EMC-ARF-05 Rev 1.1

Page: 22 of 36



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 exoncrate 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: GNN.Doccheck@ags.com</a>.

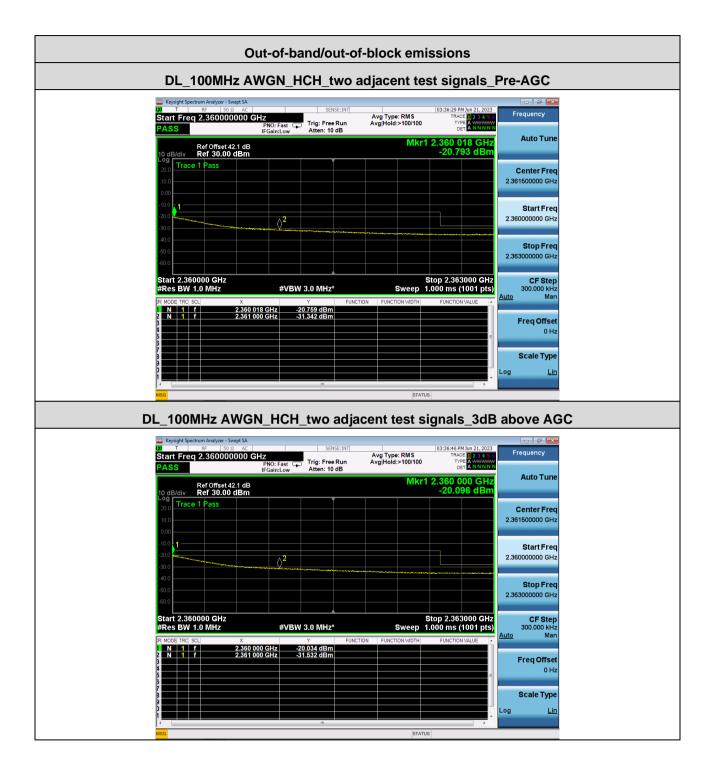
中国 · 广州 · 经济技术开发区科学城科珠路198号





EMC-ARF-05 Rev 1.1

Page: 23 of 36



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 exoncrate 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: GNN.Doccheck@ags.com</a>.

中国·广州·经济技术开发区科学城科珠路198号

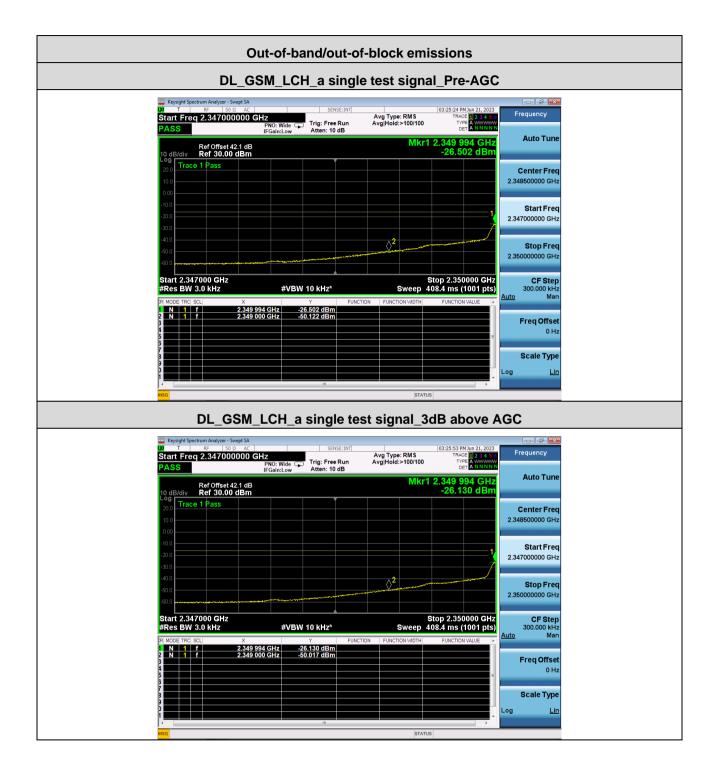


邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com Member of the SGS Group (SGS SA)



EMC-ARF-05 Rev 1.1

Page: 24 of 36



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 <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</u>. 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@gs.com

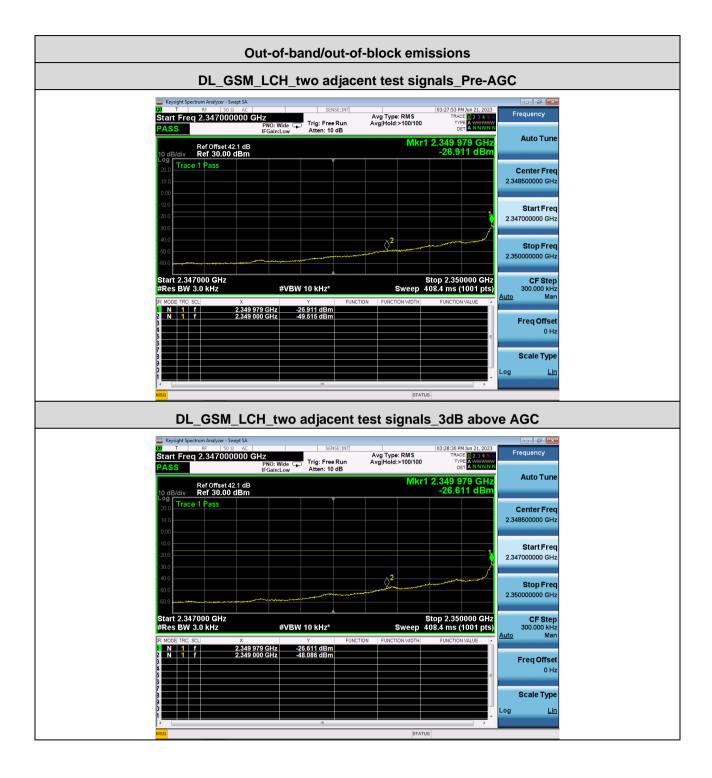
中国 · 广州 · 经济技术开发区科学城科珠路198号





EMC-ARF-05 Rev 1.1

Page: 25 of 36



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 <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</u>. 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@gs.com

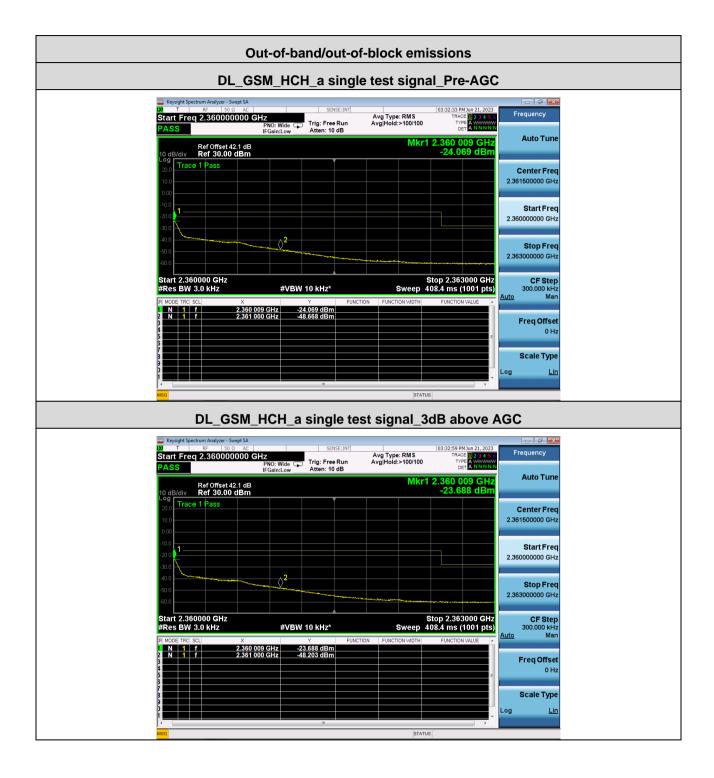
中国·广州·经济技术开发区科学城科珠路198号





EMC-ARF-05 Rev 1.1

Page: 26 of 36



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 exoncrate 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: GNN.Doccheck@ags.com</a>.

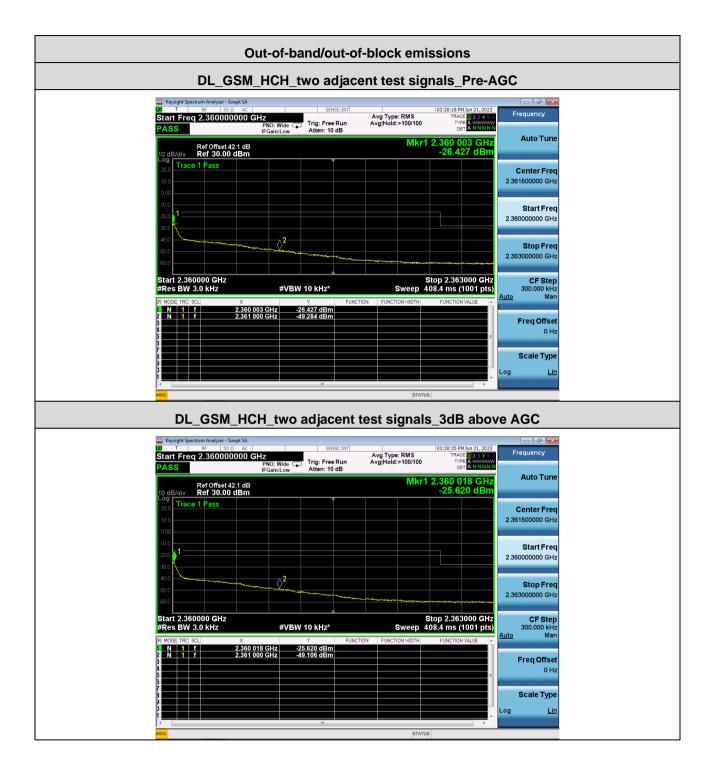
中国 · 广州 · 经济技术开发区科学城科珠路198号





EMC-ARF-05 Rev 1.1

Page: 27 of 36



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 <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</u>. 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@gs.com

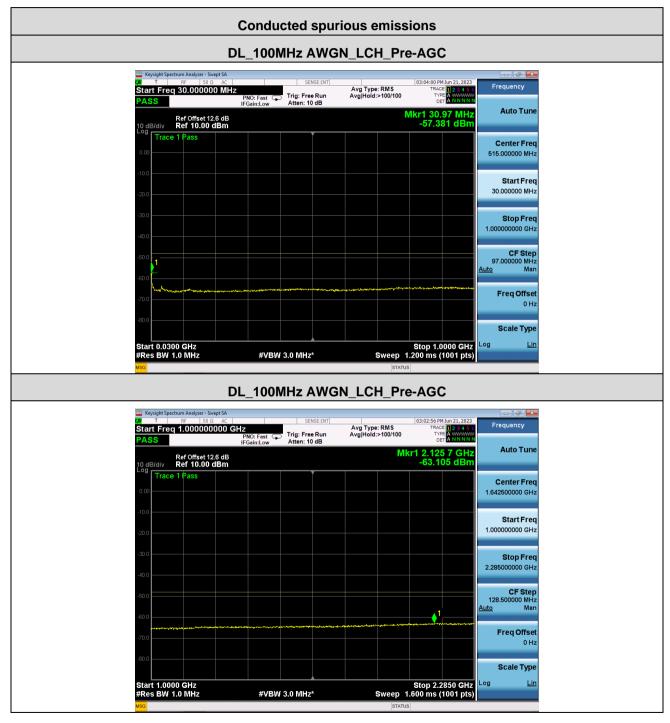
中国·广州·经济技术开发区科学城科珠路198号





EMC-ARF-05 Rev 1.1

Page: 28 of 36



#### **5 Conducted Spurious emissions**

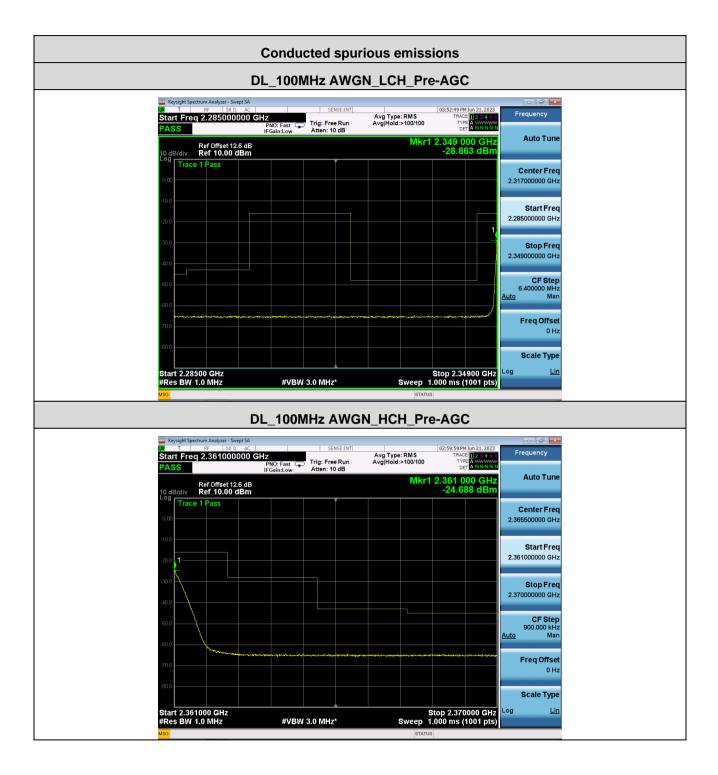


Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not excore the approval of the Company. Any unathorized alteration, forgery or faisification 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) test and such sample(s) are retained for 30 days on). Attention: To check the authenticity of testing inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@egs.cm Co.,Ltd. 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



EMC-ARF-05 Rev 1.1

Page: 29 of 36



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 <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</u>. 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@gs.com

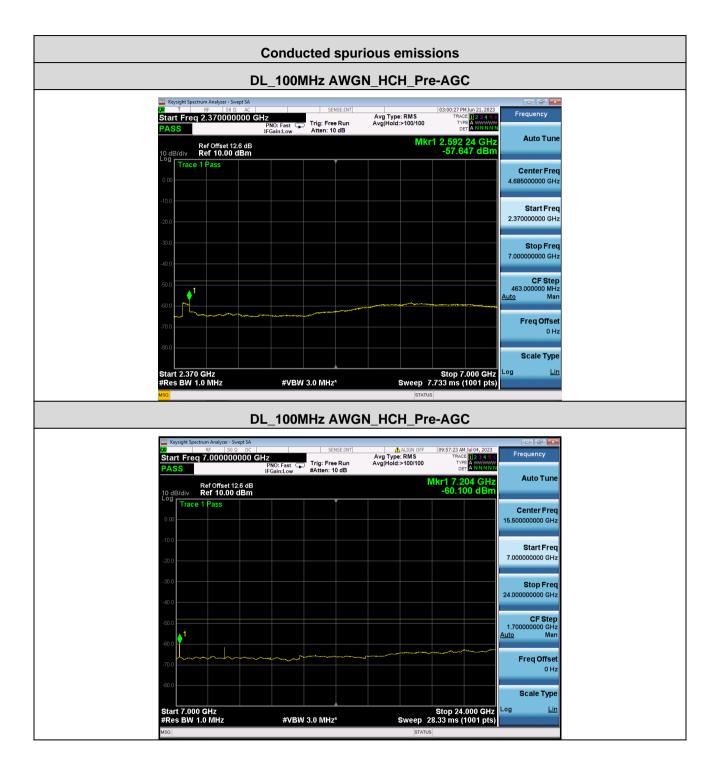
中国·广州·经济技术开发区科学城科珠路198号





EMC-ARF-05 Rev 1.1

Page: 30 of 36



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 <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</u>. 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@gs.com

中国 · 广州 · 经济技术开发区科学城科珠路198号





EMC-ARF-05 Rev 1.1

Page: 31 of 36

#### Remark:

1. The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10log10 (P) dB, here,

P = 37 dBm = 5.02W,

the limit = 37dBm - [43 + 10 log10 (5.02W)] dB = -13dBm

2. For 2x2 MIMO, ANT1 port was measured and the limit was showed -13dBm- 10lg(2)= -16dBm to determine the test result conveniently.

3. The spurious emissions 9kHz to 30MHz were very low and not displayed in this report.

4. All modes (LCH/MCH/HCH, with GSM signal/ with 4.1MHz AWGN signal/ with 100MHz AWGN signal) had been tested, only show the worst-case in this 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 http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document does not exconcrate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this terport 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

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



EMC-ARF-05 Rev 1.1

Page: 32 of 36

#### **6 Frequency Stability**

Frequency stability vs voltage									
Test path	Test Freq. (MHz)	Test Signal	Temperature	Voltage	Freq. error (Hz)	Tolerance (ppm)	Verdict		
		4.1MHz	TN	VL	9	0.0038	PASS		
	2355	AWGN	TN	VH	16	0.0068	PASS		
		100MHz AWGN	TN	VL	10	0.0042	PASS		
DL			TN	VH	15	0.0064	PASS		
		GSM	TN	VL	11	0.0047	PASS		
			TN	VH	12	0.0051	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 <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</u>. 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@gs.com

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



EMC-ARF-05 Rev 1.1

Page: 33 of 36

			Frequency stal	bility vs tempera	ture		
Test Path	Test Freq. (MHz)	Test Signal	Voltage	Temperature (℃)	Freq. error (Hz)	Tolerance (ppm)	Verdict
			VN	+50	19	0.0081	PASS
			VN	+40	18	0.0076	PASS
			VN	+30	19	0.0081	PASS
			VN	+20	16	0.0068	PASS
	2355	4.1MHz AWGN	VN	+10	18	0.0076	PASS
			VN	0	22	0.0093	PASS
			VN	-10	13	0.0055	PASS
			VN	-20	10	0.0042	PASS
			VN	-30	8	0.0034	PASS
	2355		VN	+50	19	0.0081	PASS
		100MHz AWGN	VN	+40	19	0.0081	PASS
			VN	+30	12	0.0051	PASS
			VN	+20	18	0.0076	PASS
DL			VN	+10	15	0.0064	PASS
			VN	0	18	0.0076	PASS
			VN	-10	23	0.0098	PASS
			VN	-20	13	0.0055	PASS
			VN	-30	17	0.0072	PASS
			VN	+50	21	0.0089	PASS
			VN	+40	20	0.0085	PASS
			VN	+30	11	0.0047	PASS
			VN	+20	11	0.0047	PASS
	2355	GSM	VN	+10	14	0.0059	PASS
			VN	0	8	0.0034	PASS
			VN	-10	8	0.0034	PASS
			VN	-20	12	0.0051	PASS
			VN	-30	12	0.0051	PASS



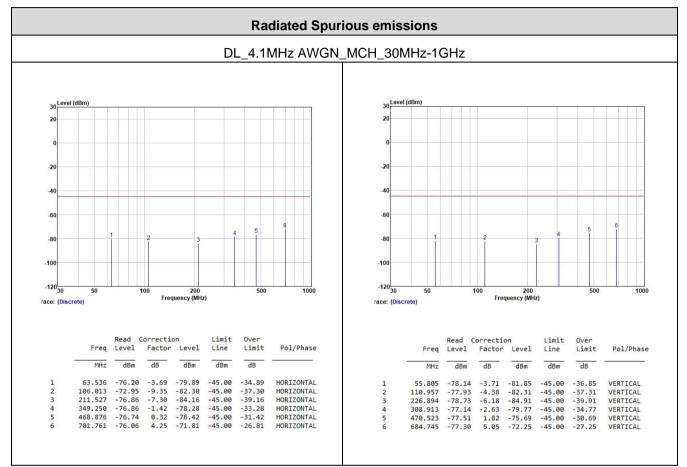
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document does not excore the reproduced except in full, without prior written approval of the Company. Any unatthorized alteration, forgery or faisification of the content or appearance of this document is unlawful and offenders may be prosecuted to the subset monthing to do any. Any unatthorized alteration, forgery or faisification of the content or escuts shown in this test report refer only to the sample(s) test and such sample(s) are retained for 30 days on). Attention: To check the authenticity of testing inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: **CN\_Doccheck@ess.com** 

or email: Ex. Concerneerxee sas.com concluit. In Water Mark Grand State Park Grand State Concerneer To State Concerneer State Park State Concerneer State Park Sta



EMC-ARF-05 Rev 1.1

Page: 34 of 36



#### 7 Radiated Spurious emissions



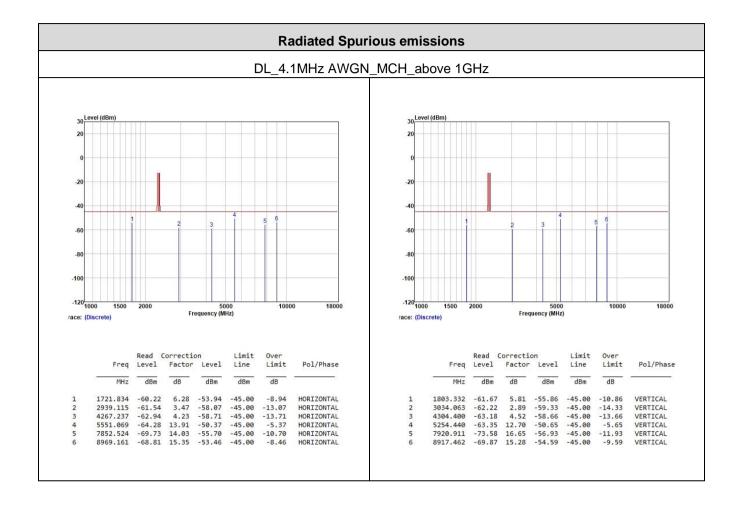
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions/Terms-enDocument.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not excore excore a transaction from exercising all their rights and obligations under the transaction documents. 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 on). Attention: To check the authenticity of testing inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@ess.com

Co.L.L.I. M. 198 Kazha Read, Skeineth Park, Garaghou Exononic & Technology Development District, Guargahou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn torratory. 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



EMC-ARF-05 Rev 1.1

Page: 35 of 36





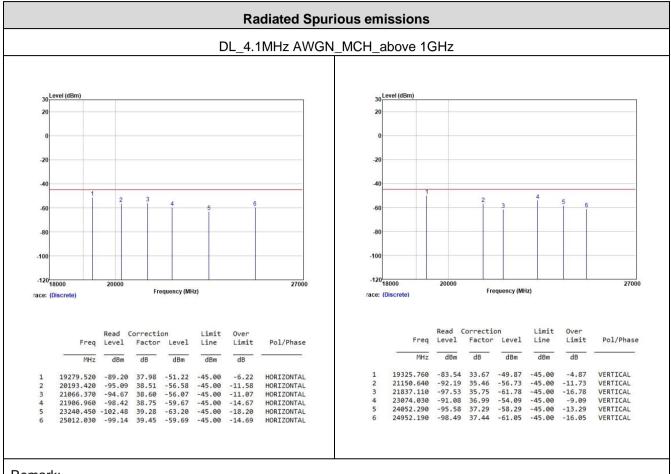
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-eDocument.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exconerate parties to a transaction from exercising all their rights and obligations under the transaction documents. 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) test entation, for 30 days on). Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@egs.com

Co.Ltd. [M:(8) Kazu Read, Salentch Park, Guargaton Economic & Technology Development District, Guargatou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn woralony. 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.cchina@sgs.com



EMC-ARF-05 Rev 1.1

Page: 36 of 36



Remark:

Pre-test was performed for all modes (LCH/MCH/HCH, with GSM signal/ with 4.1MHz AWGN signals/ with 100MHz AWGN signals). The spurious emissions 9kHz to 30MHz were very low and not displayed in this report. Therefore, only show the worst-case data in this report.

--End of Appendix--



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exconcrate parties to a transaction from exercising all their rights and obligations under the transaction documents. 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) is test eating. Any endown in this is test report refer only to the sample(s) is ner 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

中国·广州·经济技术开发区科学城科珠路198号

Member of the SGS Group (SGS SA)