

Certification Test Report

FCC ID: R7PEG1R1S5 IC: 5294A-EG1R1S5

FCC Rule Part: 15.247 IC Radio Standards Specification: RSS-210

ACS Report Number: 14-0179.W06.2A

Manufacturer: Landis+Gyr Technology, Inc. Model: G5 26-1905

Test Begin Date: April 25, 2014 Test End Date: September 3, 2014

Report Issue Date: October 6, 2014

FOR THE SCOPE OF ACCREDITATION UNDER LAB Code 200612-0

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Reviewed by:

Kirby Munroe Director, Wireless Certifications ACS, Inc.

This test report shall not be reproduced except in full. This report may be reproduced in part with prior written consent of ACS, Inc. The results contained in this report are representative of the sample(s) submitted for evaluation.
This report contains 20 pages

TABLE OF CONTENTS

1.1 PURPOSE	1	GENERAL	3
1.2 PRODUCT DESCRIPTION		1.1 PURPOSE	3
1.3 TEST METHODOLOGY AND CONSIDERATIONS 1 2 TEST FACILITIES 4 2.1 LOCATION 4 2.2 LABORATORY ACCREDITATIONS/RECOGNITIONS/CERTIFICATIONS 4 2.3 RADIATED EMISSIONS TEST SITE DESCRIPTION 5 2.3.1 Semi-Anechoic Chamber Test Site 5 2.4 CONDUCTED EMISSIONS TEST SITE DESCRIPTION 7 3 APPLICABLE STANDARD REFERENCES 7 4 LIST OF TEST EQUIPMENT 8 5 SUPPORT EQUIPMENT 8 6 EQUIPMENT UNDER TEST SETUP BLOCK DIAGRAM 9 7 SUMMARY OF TESTS 10 7.1 ANTENNA REQUIREMENT – FCC 15.203 10 7.2 POWER LINE CONDUCTED EMISSIONS – FCC 15.207, IC: RSS-GEN 7.2.4 10 7.2.1 Measurement Procedure 10 7.3.1 Measurement Procedure 11 7.3.2 Measurement Procedure 11 7.3.4 Measurement Procedure 12 7.4.1 Measurement Procedure 12 7.4.1 Measurement Procedure 12 7.5.1		1.2 PRODUCT DESCRIPTION	3
2.1 LOCATION 4 2.2 LABORATORY ACCREDITATIONS/RECOGNITIONS/CERTIFICATIONS 4 2.3 RADIATED EMISSIONS TEST SITE DESCRIPTION 5 2.3.1 Semi-Anechoic Chamber Test Site 5 2.3.2 Open Area Tests Site (OATS) 6 2.4 CONDUCTED EMISSIONS TEST SITE DESCRIPTION 7 3 APPLICABLE STANDARD REFERENCES 7 4 LIST OF TEST EQUIPMENT 8 5 SUPPORT EQUIPMENT 8 6 EQUIPMENT UNDER TEST SETUP BLOCK DIAGRAM 9 7 SUMMARY OF TESTS 10 7.1 ANTENNA REQUIREMENT – FCC 15.203 10 7.2 POWER LINE CONDUCTED EMISSIONS – FCC 15.207, IC: RSS-GEN 7.2.4 10 7.2.1 Measurement Results 10 7.3 Measurement Results 11 7.3 Measurement Results 11 7.4 FUNDAMENTAL EMISSION OUTPUT POWER – FCC 15.247(B)(3), IC: RSS-210 A8.4(4) 12 7.4.1 Measurement Results 11 7.4 FUNDAMENTAL EMISSION OUTPUT POWER – FCC 15.247(B)(3), IC: RSS-210 A8.4(4) 12 7.5.1			
2.2 LABORATORY ACCREDITATIONS/RECOGNITIONS/CERTIFICATIONS 4 2.3 RADIATED EMISSIONS TEST SITE DESCRIPTION 5 2.3.1 Semi-Anechoic Chamber Test Site 5 2.3.2 Open Area Tests Site (OATS) 5 2.4 CONDUCTED EMISSIONS TEST SITE DESCRIPTION 5 3 APPLICABLE STANDARD REFERENCES 5 4 LIST OF TEST EQUIPMENT 5 5 SUPPORT EQUIPMENT 5 6 EQUIPMENT UNDER TEST SETUP BLOCK DIAGRAM 5 7 SUMMARY OF TESTS 10 7.1 ANTENNA REQUIREMENT – FCC 15.203 10 7.2 Measurement Procedure 10 7.2.1 Measurement Procedure 10 7.3.2 Measurement Procedure 10 7.3.3 GBB /99% BANDWIDTH – FCC 15.247(A)(2), IC: RSS-210 A8.2(A) 11 7.3.1 Measurement Procedure 12 7.4.1 Measurement Procedure 12 7.4.2 Measurement Procedure 12 7.4.4 FUNDAMENTAL EMISSION OUTPUT POWER – FCC 15.247(B)(3), IC: RSS-210 A8.4(4) 12 7.4.1 Measurement Results </th <td>2</td> <td>TEST FACILITIES</td> <td> 4</td>	2	TEST FACILITIES	4
2.2 LABORATORY ACCREDITATIONS/RECOGNITIONS/CERTIFICATIONS 4 2.3 RADIATED EMISSIONS TEST SITE DESCRIPTION 5 2.3.1 Semi-Anechoic Chamber Test Site 5 2.3.2 Open Area Tests Site (OATS) 5 2.4 CONDUCTED EMISSIONS TEST SITE DESCRIPTION 5 3 APPLICABLE STANDARD REFERENCES 5 4 LIST OF TEST EQUIPMENT 5 5 SUPPORT EQUIPMENT 5 6 EQUIPMENT UNDER TEST SETUP BLOCK DIAGRAM 5 7 SUMMARY OF TESTS 10 7.1 ANTENNA REQUIREMENT – FCC 15.203 10 7.2 Measurement Procedure 10 7.2.1 Measurement Procedure 10 7.3.2 Measurement Procedure 10 7.3.3 GBB /99% BANDWIDTH – FCC 15.247(A)(2), IC: RSS-210 A8.2(A) 11 7.3.1 Measurement Procedure 12 7.4.1 Measurement Procedure 12 7.4.2 Measurement Procedure 12 7.4.4 FUNDAMENTAL EMISSION OUTPUT POWER – FCC 15.247(B)(3), IC: RSS-210 A8.4(4) 12 7.4.1 Measurement Results </th <td></td> <td>2.1 LOCATION</td> <td>Δ</td>		2.1 LOCATION	Δ
2.3 RADIATED EMISSIONS TEST SITE DESCRIPTION 5 2.3.1 Semi-Anechoic Chamber Test Site 5 2.3.2 Open Area Tests Site (OATS) 6 2.4 CONDUCTED EMISSIONS TEST SITE DESCRIPTION 7 3 APPLICABLE STANDARD REFERENCES 7 4 LIST OF TEST EQUIPMENT 8 5 SUPPORT EQUIPMENT 8 6 EQUIPMENT UNDER TEST SETUP BLOCK DIAGRAM 9 7 SUMMARY OF TESTS 10 7.1 ANTENNA REQUIREMENT – FCC 15.203 10 7.2 POWER LINE CONDUCTED EMISSIONS – FCC 15 207, IC: RSS-GEN 7.2.4 10 7.3.1 Measurement Procedure 10 7.3 60B /99% BANDWIDTH – FCC 15.247(A)(2), IC: RSS-210 A8.2(A) 11 7.3.1 Measurement Results 11 7.4.1 Measurement Results 11 7.4.1 Measurement Results 12 7.5.1 Emissions into Non-restricted Frequency Bands 14 7.5.2 Emissions into Non-restricted Frequency Bands 14 7.5.2 Emissions into Non-restricted Frequency Bands 14 7.5.2 <			
2.3.1 Semi-Anechoic Chamber Test Site 5 2.3.2 Open Area Test Site (OATS) 6 2.4 CONDUCTED EMISSIONS TEST SITE DESCRIPTION 7 3 APPLICABLE STANDARD REFERENCES 7 4 LIST OF TEST EQUIPMENT 8 5 SUPPORT EQUIPMENT 5 6 EQUIPMENT UNDER TEST SETUP BLOCK DIAGRAM 5 7 SUMMARY OF TESTS 10 7.1 ANTENNA REQUIREMENT – FCC 15.203 16 7.2 POWER LINE CONDUCTED EMISSIONS – FCC 15.207, IC: RSS-GEN 7.2.4 16 7.2.1 Measurement Procedure 17 7.2.2 Measurement Procedure 16 7.3.1 Measurement Procedure 17 7.3.2 Measurement Procedure 17 7.3.4 FUNDAMENTAL EMISSION OUTPUT POWER – FCC 15.247(B)(3), IC: RSS-210 A8.4(4) 11 7.4.1 Measurement Procedure 12 7.5.1 Emission Levels – FCC 15.247(D), 15.205, 15.209; IC RSS-210 2.2/A8.5, RSS-GEN 7.2.2 14 7.5.1 Emission Non-restricted Frequency Bands 14 7.5.1 Measurement Procedure 14 7.5.			
2.3.2 Open Area Tests Site (OATS) 6 2.4 CONDUCTED EMISSIONS TEST SITE DESCRIPTION 7 3 APPLICABLE STANDARD REFERENCES 7 4 LIST OF TEST EQUIPMENT 8 5 SUPPORT EQUIPMENT 9 6 EQUIPMENT UNDER TEST SETUP BLOCK DIAGRAM 9 7 SUMMARY OF TESTS 10 7.1 ANTENNA REQUIREMENT – FCC 15.203 10 7.2 POWER LINE CONDUCTED EMISSIONS – FCC 15.207, IC: RSS-GEN 7.2.4 10 7.2.1 Measurement Procedure 10 7.3 GDB / 99% BANDWIDTH – FCC 15.247(A)(2), IC: RSS-GEN 7.2.4 10 7.3.1 Measurement Results 10 7.3.2 Measurement Results 11 7.4 FUNDAMENTAL EMISSION OUTPUT POWER – FCC 15.247(B)(3), IC: RSS-210 A8.4(4) 12 7.4.1 Measurement Procedure 12 7.5.2 EMISSION LOVELS – FCC 15.247(D), 15.205, 15.209, IC RSS-210 2.2/A8.5, RSS-GEN 7.2.2 14 7.5.1 Emissions into Non-restricted Frequency Bands 14 7.5.1 Measurement Procedure 14 7.5.2 Emissions into Restricted Frequency Bands			
3 APPLICABLE STANDARD REFERENCES. 7 4 LIST OF TEST EQUIPMENT. 8 5 SUPPORT EQUIPMENT. 5 6 EQUIPMENT UNDER TEST SETUP BLOCK DIAGRAM. 5 7 SUMMARY OF TESTS. 16 7.1 ANTENNA REQUIREMENT – FCC 15.203 16 7.2 POWER LINE CONDUCTED EMISSIONS – FCC 15.207, IC: RSS-GEN 7.2.4 16 7.2.1 Measurement Procedure 16 7.2.2 Measurement Procedure 16 7.3.1 Measurement Procedure 16 7.3.2 Measurement Procedure 16 7.4 FUNDAMENTAL EMISSION OUTPUT POWER – FCC 15.247(A)(2), IC: RSS-210 A8.2(A) 11 7.4 FUNDAMENTAL EMISSION OUTPUT POWER – FCC 15.247(B)(3), IC: RSS-210 A8.4(4) 12 7.4.1 Measurement Results 12 7.5 EMISSION LEVELS – FCC 15.247(D), 15 205, 15.209; IC RSS-210 2.2/A8.5, RSS-GEN 7.2.2 14 7.5.1 Emissions into Non-restricted Frequency Bands 14 7.5.2 Emissions into Restricted Frequency Bands 14 7.5.2 Emissions into Restricted Frequency Bands 15 7.5.2 Measurement R		2.3.2 Open Area Tests Site (OATS)	. 6
4 LIST OF TEST EQUIPMENT		2.4 CONDUCTED EMISSIONS TEST SITE DESCRIPTION	7
5 SUPPORT EQUIPMENT 5 6 EQUIPMENT UNDER TEST SETUP BLOCK DIAGRAM 5 7 SUMMARY OF TESTS 10 7.1 ANTENNA REQUIREMENT – FCC 15.203 10 7.2 POWER LINE CONDUCTED EMISSIONS – FCC 15.207, IC: RSS-GEN 7.2.4 16 7.2.1 Measurement Procedure 10 7.2.2 Measurement Results 10 7.3 60B /99% BANDWIDTH – FCC 15.247(A)(2), IC: RSS-210 A8.2(A) 11 7.3.1 Measurement Results 11 7.4 FUNDAMENTAL EMISSION OUTPUT POWER – FCC 15.247(B)(3), IC: RSS-210 A8.4(4) 12 7.4.4 FUNDAMENTAL EMISSION OUTPUT POWER – FCC 15.247(B)(3), IC: RSS-210 A8.4(4) 12 7.4.4 Measurement Results 14 7.5.1 Measurement Results 14 7.5.1 Emissions into Non-restricted Frequency Bands 14 7.5.2 Emissions into Restricted Frequency Bands 17 7.5.1.2 Measurement Procedure 15 7.5.2.3 Measurement Results 14 7.5.2 Emissions into Restricted Frequency Bands 17 7.5.2.4 Sample Calculation 15	3	APPLICABLE STANDARD REFERENCES	7
5 SUPPORT EQUIPMENT 5 6 EQUIPMENT UNDER TEST SETUP BLOCK DIAGRAM 5 7 SUMMARY OF TESTS 10 7.1 ANTENNA REQUIREMENT – FCC 15.203 10 7.2 POWER LINE CONDUCTED EMISSIONS – FCC 15.207, IC: RSS-GEN 7.2.4 16 7.2.1 Measurement Procedure 10 7.2.2 Measurement Results 10 7.3 60B /99% BANDWIDTH – FCC 15.247(A)(2), IC: RSS-210 A8.2(A) 11 7.3.1 Measurement Results 11 7.4 FUNDAMENTAL EMISSION OUTPUT POWER – FCC 15.247(B)(3), IC: RSS-210 A8.4(4) 12 7.4.4 FUNDAMENTAL EMISSION OUTPUT POWER – FCC 15.247(B)(3), IC: RSS-210 A8.4(4) 12 7.4.4 Measurement Results 14 7.5.1 Measurement Results 14 7.5.1 Emissions into Non-restricted Frequency Bands 14 7.5.2 Emissions into Restricted Frequency Bands 17 7.5.1.2 Measurement Procedure 15 7.5.2.3 Measurement Results 14 7.5.2 Emissions into Restricted Frequency Bands 17 7.5.2.4 Sample Calculation 15	4	LIST OF TEST EOUIPMENT	8
6 EQUIPMENT UNDER TEST SETUP BLOCK DIAGRAM 5 7 SUMMARY OF TESTS 10 7.1 ANTENNA REQUIREMENT – FCC 15.203 10 7.2 POWER LINE CONDUCTED EMISSIONS – FCC 15.207, IC: RSS-GEN 7.2.4 10 7.2.1 Measurement Procedure 10 7.2.2 Measurement Results 10 7.3 6DB / 99% BANDWIDTH – FCC 15.247(A)(2), IC: RSS-210 A8.2(A) 11 7.3.1 Measurement Procedure 11 7.3.2 Measurement Results 11 7.4 FUNDAMENTAL EMISSION OUTPUT POWER – FCC 15.247(B)(3), IC: RSS-210 A8.4(4) 12 7.4.1 Measurement Results 11 7.4.2 Measurement Results 12 7.4.3 Measurement Results 12 7.4.4 Measurement Results 12 7.5.1 Emissions into Non-restricted Frequency Bands 14 7.5.1 Measurement Procedure 14 7.5.2 Emissions into Restricted Frequency Bands 14 7.5.2.1 Measurement Procedure 17 7.5.2.4 Sample Calculation 15 7.5.2.3 Measurement Res	-	-	
7 SUMMARY OF TESTS. 16 7.1 ANTENNA REQUIREMENT – FCC 15.203 10 7.2 POWER LINE CONDUCTED EMISSIONS – FCC 15.207, IC: RSS-GEN 7.2.4 10 7.2.1 Measurement Procedure. 10 7.2.2 Measurement Results. 10 7.3 6DB / 99% BANDWIDTH – FCC 15.247(A)(2), IC: RSS-210 A8.2(A) 11 7.3.1 Measurement Procedure. 11 7.3.2 Measurement Procedure. 11 7.3.1 Measurement Procedure. 11 7.3.2 Measurement Procedure. 11 7.4 FUNDAMENTAL EMISSION OUTPUT POWER – FCC 15.247(B)(3), IC: RSS-210 A8.4(4) 12 7.4.1 Measurement Results. 12 7.5 EMISSION LEVELS – FCC 15.247(D), 15.205, 15.209; IC RSS-210 2.2/A8.5, RSS-GEN 7.2.2. 14 7.5.1 Measurement Procedure. 14 7.5.2 Emissions into Non-restricted Frequency Bands. 14 7.5.2 Measurement Results. 14 7.5.2 Measurement Results. 14 7.5.2.3 Measurement Procedure. 15 7.5.2.4 Sample Calculation: 15	5	SUPPORT EQUIPMENT	9
7.1 ANTENNA REQUIREMENT - FCC 15.203 10 7.2 POWER LINE CONDUCTED EMISSIONS - FCC 15.207, IC: RSS-GEN 7.2.4 10 7.2.1 Measurement Procedure. 10 7.2.2 Measurement Results 10 7.3 6DB / 99% BANDWIDTH - FCC 15.247(A)(2), IC: RSS-210 A8.2(A) 11 7.3.1 Measurement Results 10 7.3.2 Measurement Results 11 7.4 FUNDAMENTAL EMISSION OUTPUT POWER - FCC 15.247(B)(3), IC: RSS-210 A8.4(4) 12 7.4.1 Measurement Procedure 12 7.4.2 Measurement Results 12 7.5 EMISSION LEVELS - FCC 15.247(D), 15.205, 15.209; IC RSS-210 2.2/A8.5, RSS-GEN 7.2.2 14 7.5.1 Measurement Procedure 12 7.5.1 Measurement Procedure 14 7.5.1 Measurement Procedure 14 7.5.2 Measurement Results 14 7.5.2.1 Measurement Results 14 7.5.2.2 Duty Cycle Correction 15 7.5.2.3 Measurement Results 17 7.5.2.4 Sample Calculation: 16 7.6.1 Me	6	EQUIPMENT UNDER TEST SETUP BLOCK DIAGRAM	9
7.1 ANTENNA REQUIREMENT - FCC 15.203 10 7.2 POWER LINE CONDUCTED EMISSIONS - FCC 15.207, IC: RSS-GEN 7.2.4 10 7.2.1 Measurement Procedure. 10 7.2.2 Measurement Results 10 7.3 6DB / 99% BANDWIDTH - FCC 15.247(A)(2), IC: RSS-210 A8.2(A) 11 7.3.1 Measurement Results 10 7.3.2 Measurement Results 11 7.4 FUNDAMENTAL EMISSION OUTPUT POWER - FCC 15.247(B)(3), IC: RSS-210 A8.4(4) 12 7.4.1 Measurement Procedure 12 7.4.2 Measurement Results 12 7.5 EMISSION LEVELS - FCC 15.247(D), 15.205, 15.209; IC RSS-210 2.2/A8.5, RSS-GEN 7.2.2 14 7.5.1 Measurement Procedure 12 7.5.1 Measurement Procedure 14 7.5.1 Measurement Procedure 14 7.5.2 Measurement Results 14 7.5.2.1 Measurement Results 14 7.5.2.2 Duty Cycle Correction 15 7.5.2.3 Measurement Results 17 7.5.2.4 Sample Calculation: 16 7.6.1 Me	7	SUMMARY OF TESTS	10
7.2 POWER LINE CONDUCTED EMISSIONS – FCC 15.207, IC: RSS-GEN 7.2.4 10 7.2.1 Measurement Procedure 10 7.2.2 Measurement Results 10 7.3 6DB / 99% BANDWIDTH – FCC 15.247(A)(2), IC: RSS-210 A8.2(A) 11 7.3.1 Measurement Procedure 11 7.3.2 Measurement Results 11 7.4 FUNDAMENTAL EMISSION OUTPUT POWER – FCC 15.247(B)(3), IC: RSS-210 A8.4(4) 12 7.4.1 Measurement Results 12 7.4.2 Measurement Results 12 7.4.1 Measurement Results 12 7.5.1 Emissions into Non-restricted Frequency Bands 12 7.5.1 Measurement Results 14 7.5.2 Duty Cycle Correction 14 7.5.2.1 Measurement Results 14 7.5.2.2 Duty Cycle Correction 17 7.5.2.3 Measurement Results 17 7.5.2.4 Sample Calculation: 18 7.6.1 Measurement Procedure 16 7.6.2 Measurement Procedure 16 7.6.1 Measurement Results 17 <td></td> <td></td> <td></td>			
7.2.1 Measurement Procedure. 10 7.2.2 Measurement Results. 10 7.3 6DB / 99% BANDWIDTH – FCC 15.247(A)(2), IC: RSS-210 A8.2(A) 11 7.3.1 Measurement Procedure. 11 7.3.2 Measurement Results. 11 7.4 FUNDAMENTAL EMISSION OUTPUT POWER – FCC 15.247(B)(3), IC: RSS-210 A8.4(4) 12 7.4.1 Measurement Procedure. 12 7.4.2 Measurement Results. 12 7.4.3 Measurement Results. 12 7.4.4 Measurement Results. 12 7.4.5 EMISSION LEVELS – FCC 15.247(D), 15.205, 15.209; IC RSS-210 2.2/A8.5, RSS-GEN 7.2.2. 14 7.5.1 Emissions into Non-restricted Frequency Bands. 14 7.5.1.1 Measurement Procedure 14 7.5.2 Measurement Results 14 7.5.2.1 Measurement Results 15 7.5.2 Duty Cycle Correction 17 7.5.2.3 Measurement Results 15 7.6 MAXIMUM POWER SPECTRAL DENSITY IN THE FUNDAMENTAL EMISSION – FCC 15.247(E) IC: 15 7.6.1 Measurement Procedure 15			
7.2.2 Measurement Results 10 7.3 6DB / 99% BANDWIDTH – FCC 15.247(A)(2), IC: RSS-210 A8.2(A) 11 7.3.1 Measurement Procedure 11 7.3.2 Measurement Results 11 7.4 FUNDAMENTAL EMISSION OUTPUT POWER – FCC 15.247(B)(3), IC: RSS-210 A8.4(4) 12 7.4.1 Measurement Procedure 12 7.4.2 Measurement Results 12 7.5 EMISSION LEVELS – FCC 15.247(D), 15.205, 15.209; IC RSS-210 2.2/A8.5, RSS-GEN 7.2.2 14 7.5.1 Emissions into Non-restricted Frequency Bands 14 7.5.1.1 Measurement Procedure 14 7.5.2 Emissions into Restricted Frequency Bands 14 7.5.2.1 Measurement Results 14 7.5.2 Duty Cycle Correction 14 7.5.2.2 Duty Cycle Correction 15 7.5.2.3 Measurement Results 15 7.6 MAXIMUM POWER SPECTRAL DENSITY IN THE FUNDAMENTAL EMISSION – FCC 15.247(E) IC: 15 7.6.1 Measurement Procedure 15 7.6.2 Measurement Results 15 7.6.1 Measurement Results 15			
7.3 6DB / 99% BANDWIDTH – FCC 15.247(A)(2), IC: RSS-210 A8.2(A) 11 7.3.1 Measurement Procedure 11 7.3.2 Measurement Results 11 7.4 FUNDAMENTAL EMISSION OUTPUT POWER – FCC 15.247(B)(3), IC: RSS-210 A8.4(4) 12 7.4.1 Measurement Procedure 12 7.4.2 Measurement Results 12 7.5 EMISSION LEVELS – FCC 15.247(D), 15.205, 15.209; IC RSS-210 2.2/A8.5, RSS-GEN 7.2.2 14 7.5.1 Emissions into Non-restricted Frequency Bands 14 7.5.1.1 Measurement Results 14 7.5.2 Emissions into Restricted Frequency Bands 14 7.5.2.1 Measurement Results 14 7.5.2 Duty Cycle Correction 17 7.5.2.3 Measurement Results 14 7.5.2.4 Sample Calculation: 15 7.6 MAXIMUM POWER SPECTRAL DENSITY IN THE FUNDAMENTAL EMISSION – FCC 15.247(E) IC: 15 7.6.1 Measurement Results 15 7.6.2 Measurement Results 15 7.6.2 Measurement Results 15 7.6.2 Measurement Results 15 </th <td></td> <td></td> <td></td>			
7.3.2 Measurement Results 14 7.4 FUNDAMENTAL EMISSION OUTPUT POWER – FCC 15.247(B)(3), IC: RSS-210 A8.4(4) 13 7.4.1 Measurement Procedure 14 7.4.2 Measurement Results 15 7.5 EMISSION LEVELS – FCC 15.247(D), 15.205, 15.209; IC RSS-210 2.2/A8.5, RSS-GEN 7.2.2 14 7.5.1 Emissions into Non-restricted Frequency Bands 14 7.5.1.1 Measurement Results 14 7.5.2 Emissions into Restricted Frequency Bands 17 7.5.2 Emissions into Restricted Frequency Bands 17 7.5.2 Duty Cycle Correction 17 7.5.2.1 Measurement Procedure 17 7.5.2.2 Duty Cycle Correction 17 7.5.2.4 Sample Calculation: 18 7.6 MAXIMUM POWER SPECTRAL DENSITY IN THE FUNDAMENTAL EMISSION – FCC 15.247(E) IC: 19 7.6.1 Measurement Procedure 16 7.6.2 Measurement Results 19 7.6.2 Measurement Results 19 7.6.2 Measurement Results 19 7.6.2 Measurement Results 19 <td></td> <td>7.3 6DB / 99% BANDWIDTH – FCC 15.247(A)(2), IC: RSS-210 A8.2(A)</td> <td>11</td>		7.3 6DB / 99% BANDWIDTH – FCC 15.247(A)(2), IC: RSS-210 A8.2(A)	11
7.4 FUNDAMENTAL EMISSION OUTPUT POWER – FCC 15.247(B)(3), IC: RSS-210 A8.4(4) 13 7.4.1 Measurement Procedure. 13 7.4.2 Measurement Results 13 7.5 EMISSION LEVELS – FCC 15.247(D), 15.205, 15.209; IC RSS-210 2.2/A8.5, RSS-GEN 7.2.2 14 7.5.1 Emissions into Non-restricted Frequency Bands 14 7.5.1.1 Measurement Results 14 7.5.2 Emissions into Restricted Frequency Bands 17 7.5.2 Emissions into Restricted Frequency Bands 17 7.5.2 Duty Cycle Correction 17 7.5.2.3 Measurement Results 17 7.5.2.4 Sample Calculation: 18 7.6 MAXIMUM POWER SPECTRAL DENSITY IN THE FUNDAMENTAL EMISSION – FCC 15.247(E) IC: 19 7.6.1 Measurement Results 19 7.6.2 Measurement Results 19 7.6.1 Measurement Results 19 7.6.2 Measurement Results 19 7.6.2 Measurement Results 19 7.6.1 Measurement Results 19 7.6.2 Measurement Results 19		7.3.1 Measurement Procedure	11
7.4.1Measurement Procedure137.4.2Measurement Results137.5EMISSION LEVELS – FCC 15.247(D), 15.205, 15.209; IC RSS-210 2.2/A8.5, RSS-GEN 7.2.2147.5 <i>Emissions into Non-restricted Frequency Bands</i> 147.5.1Measurement Procedure147.5.2 <i>Emissions into Restricted Frequency Bands</i> 147.5.2.1Measurement Procedure147.5.2.2Duty Cycle Correction177.5.2.3Measurement Results177.5.2.4Sample Calculation:187.6MAXIMUM POWER SPECTRAL DENSITY IN THE FUNDAMENTAL EMISSION – FCC 15.247(E) IC:RSS-210 A8.2(B)197.6.1Measurement Procedure197.6.2Measurement Results197.6.2Measurement Results19			
7.4.2Measurement Results137.5EMISSION LEVELS – FCC 15.247(D), 15.205, 15.209; IC RSS-210 2.2/A8.5, RSS-GEN 7.2.2147.5.1Emissions into Non-restricted Frequency Bands147.5.1.1Measurement Procedure147.5.2Emissions into Restricted Frequency Bands147.5.2Emissions into Restricted Frequency Bands177.5.2.1Measurement Procedure177.5.2.2Duty Cycle Correction177.5.2.3Measurement Results177.5.2.4Sample Calculation:187.6MAXIMUM POWER SPECTRAL DENSITY IN THE FUNDAMENTAL EMISSION – FCC 15.247(E) IC:197.6.1Measurement Procedure197.6.2Measurement Results197.6.2Measurement Results19		7.4 FUNDAMENTAL EMISSION OUTPUT POWER – FCC 15.247(B)(3), IC: RSS-210 A8.4(4)	13
7.5EMISSION LEVELS – FCC 15.247(D), 15.205, 15.209; IC RSS-210 2.2/A8.5, RSS-GEN 7.2.2.147.5.1Emissions into Non-restricted Frequency Bands.147.5.1.1Measurement Procedure.147.5.2Emissions into Restricted Frequency Bands.177.5.2.1Measurement Procedure.177.5.2.2Duty Cycle Correction177.5.2.3Measurement Results177.5.2.4Sample Calculation:187.6MAXIMUM POWER SPECTRAL DENSITY IN THE FUNDAMENTAL EMISSION – FCC 15.247(E) IC:RSS-210 A8.2(B)197.6.1Measurement Procedure.197.6.2Measurement Results197.6.2Measurement Results197.6.2Measurement Results197.6.2Measurement Results197.6.2Measurement Results197.6.2Measurement Results197.6.2Measurement Results197.6.2Measurement Results197.6.2Measurement Results197.6.2Measurement Results197.6.3Measurement Results197.6.4Measurement Results197.6.5Measurement Results197.6.2Measurement Results197.6.3Measurement Results197.6.4Measurement Results197.6.5Measurement Results197.6.6Measurement Results197.6.7Measurement Results197.6.8 <td></td> <td></td> <td></td>			
7.5.1Emissions into Non-restricted Frequency Bands147.5.1.1Measurement Procedure147.5.2Measurement Results147.5.2Emissions into Restricted Frequency Bands177.5.2.1Measurement Procedure177.5.2.2Duty Cycle Correction177.5.2.3Measurement Results177.5.2.4Sample Calculation:187.6MAXIMUM POWER SPECTRAL DENSITY IN THE FUNDAMENTAL EMISSION – FCC 15.247(E) IC:RSS-210 A8.2(B)197.6.1Measurement Results197.6.2Measurement Results19			
7.5.1.1Measurement Procedure147.5.1.2Measurement Results147.5.2Emissions into Restricted Frequency Bands177.5.2.1Measurement Procedure177.5.2.2Duty Cycle Correction177.5.2.3Measurement Results177.5.2.4Sample Calculation:187.6MAXIMUM POWER SPECTRAL DENSITY IN THE FUNDAMENTAL EMISSION – FCC 15.247(E) IC:RSS-210 A8.2(B)197.6.1Measurement Procedure197.6.2Measurement Results197.6.2Measurement Results197.6.2Measurement Results197.6.2Measurement Results19			
7.5.1.2Measurement Results147.5.2Emissions into Restricted Frequency Bands177.5.2.1Measurement Procedure177.5.2.2Duty Cycle Correction177.5.2.3Measurement Results177.5.2.4Sample Calculation:187.6MAXIMUM POWER SPECTRAL DENSITY IN THE FUNDAMENTAL EMISSION – FCC 15.247(E) IC:RSS-210 A8.2(B)197.6.1Measurement Procedure7.6.2Measurement Results19197.6.2Measurement Results197.6.2Measurement Results197.6.2Measurement Results197.6.2Measurement Results197.6.2Measurement Results197.6.2Measurement Results197.6.2Measurement Results197.6.2Measurement Results			
7.5.2 Emissions into Restricted Frequency Bands 17 7.5.2.1 Measurement Procedure 17 7.5.2.2 Duty Cycle Correction 17 7.5.2.3 Measurement Results 17 7.5.2.4 Sample Calculation: 18 7.6 MAXIMUM POWER SPECTRAL DENSITY IN THE FUNDAMENTAL EMISSION – FCC 15.247(E) IC: 19 7.6.1 Measurement Procedure 19 7.6.2 Measurement Results 19 7.6.2 Measurement Results 19			
7.5.2.2 Duty Cycle Correction 17 7.5.2.3 Measurement Results 17 7.5.2.4 Sample Calculation: 18 7.6 MAXIMUM POWER SPECTRAL DENSITY IN THE FUNDAMENTAL EMISSION – FCC 15.247(E) IC: 19 RSS-210 A8.2(B) 19 7.6.1 Measurement Procedure 19 7.6.2 Measurement Results 19			
7.5.2.3 Measurement Results 17 7.5.2.4 Sample Calculation: 18 7.6 MAXIMUM POWER SPECTRAL DENSITY IN THE FUNDAMENTAL EMISSION – FCC 15.247(E) IC: 19 RSS-210 A8.2(B) 19 7.6.1 Measurement Procedure. 19 7.6.2 Measurement Results 19			
7.5.2.4 Sample Calculation: 18 7.6 MAXIMUM POWER SPECTRAL DENSITY IN THE FUNDAMENTAL EMISSION – FCC 15.247(E) IC: 19 RSS-210 A8.2(B) 19 7.6.1 Measurement Procedure. 19 7.6.2 Measurement Results 19			
7.6 MAXIMUM POWER SPECTRAL DENSITY IN THE FUNDAMENTAL EMISSION – FCC 15.247(E) IC: RSS-210 A8.2(B) 19 7.6.1 Measurement Procedure 19 7.6.2 Measurement Results 19			
RSS-210 A8.2(B)197.6.1Measurement Procedure7.6.2Measurement Results1919			10
7.6.1Measurement Procedure			19
7.6.2 Measurement Results			
8 CONCLUSION			
	8	CONCLUSION	20

1 GENERAL

1.1 Purpose

The purpose of this report is to demonstrate compliance with Part 15 Subpart C of the FCC's Code of Federal Regulations and Industry Canada's Radio Standards Specification RSS-210 Certification for modular approval.

1.2 **Product Description**

The G5 26-1905 contains (1) 900 MHz LAN frequency hopping spread spectrum radio and (1) 2.4 GHz direct sequence spread spectrum Zigbee radio. This report addresses the 2.4 GHz direct sequence spread spectrum Zigbee radio only.

Technical Information:

Detail	Description			
Frequency Range	2405 – 2475 MHz			
Number of Channels	15			
Modulation Format	O-QPSK			
Operating Voltage	4.0Vdc			
Antenna Type / Gain Integral F-type / 5.0dBi				

Manufacturer Information: Landis+Gyr Technology, Inc. 30000 Mill Creek Ave., Suite 100 Alpharetta, GA 30022

EUT Serial Numbers: 50758429

Test Sample Condition: The test samples were provided in good working order with no visible defects.

1.3 Test Methodology and Considerations

The EUT was evaluated in an orientation representative of final installation.

Both the 900 MHz LAN radio and the 2.4 GHz Zigbee radio can transmit simultaneously therefore radiated inter-modulation products were evaluated and found to be in compliance.

For the purpose of RF conducted measurements, the EUT was modified with a temporary 50 ohm antenna connector.

Software power setting during test: -1; -6 (high channel)

2 TEST FACILITIES

2.1 Location

The radiated and conducted emissions test sites are located at the following address:

Advanced Compliance Solutions 5015 B.U. Bowman Drive Buford, GA 30518 Phone: (770) 831-8048 Fax: (770) 831-8598

2.2 Laboratory Accreditations/Recognitions/Certifications

ACS is accredited to ISO/IEC 17025 by the National Institute of Standards and Technology under their National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 200612-0. Unless otherwise specified, all tests methods described within this report are covered under the ISO/IEC 17025 scope of accreditation.

The Semi-Anechoic Chamber Test Site, Open Area Test Site (OATS) and Conducted Emissions Site have been fully described, submitted to, and accepted by the FCC, Industry Canada and the Japanese Voluntary Control Council for Interference by information technology equipment.

FCC Registration Number: 511277 Industry Canada Lab Code: IC 4175A VCCI Member Number: 1831

- VCCI OATS Registration Number R-1526
- VCCI Conducted Emissions Site Registration Number: C-1608

2.3 Radiated Emissions Test Site Description

2.3.1 Semi-Anechoic Chamber Test Site

The Semi-Anechoic Chamber Test Site consists of a 20' x 30' x 18' shielded enclosure. The chamber is lined with Toyo Ferrite Grid Absorber, model number FFG-1000. The ferrite tile grid is 101 x 101 x 19mm thick and weighs approximately 550 grams. These tiles are mounted on steel panels and installed directly on the inner walls of the chamber.

The turntable is 150cm in diameter and is located 160cm from the back wall of the chamber. The chamber is grounded via 1 - 8' copper ground rod, installed at the center of the back wall, it is bound to the ground plane using 3/4" stainless steel braided cable.

The turntable is all steel, flush mounted table installed in an all steel frame. The table is remotely operated from inside the control room located 25' from the range. The turntable is electrically bonded to the surrounding ground plane via steel fingers installed on the edge of the turn table. The steel fingers make constant contact with the ground plane during operation.

Behind the turntable is a 3' x 6' x 4' deep shielded pit used for support equipment if necessary. The pit is equipped with 1 - 4" PVC chases from the turntable to the pit that allow for cabling to the EUT if necessary. The underside of the turntable can be accessed from the pit so cables can be supplied to the EUT from the pit.

A diagram of the Semi-Anechoic Chamber Test Site is shown in Figure 2.3-1 below:

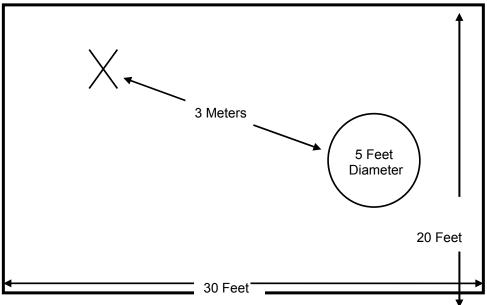


Figure 2.3-1: Semi-Anechoic Chamber Test Site

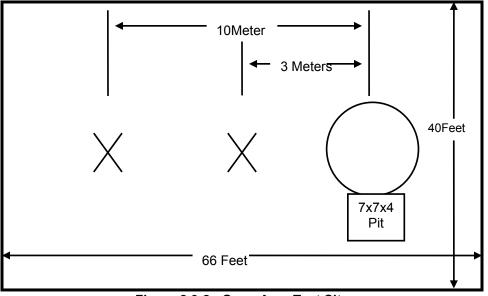
2.3.2 Open Area Tests Site (OATS)

The open area test site consists of a 40' x 66' concrete pad covered with a perforated electroplated galvanized sheet metal. The perforations in the sheet metal are 1/8" holes that are staggered every 3/16". The individual sheets are placed to overlap each other by 1/4" and are riveted together to provide a continuous seam. Rivets are spaced every 3" in a 3 x 20 meter perimeter around the antenna mast and EUT area. Rivets in the remaining area are spaced as necessary to properly secure the ground plane and maintain the electrical continuity.

The entire ground plane extends 12' beyond the turntable edge and 16' beyond the antenna mast when set to a 10 meter measurement distance. The ground plane is grounded via 4 - 8' copper ground rods, each installed at a corner of the ground plane and bound to the ground plane using 3/4" stainless steel braided cable.

The turntable is an all aluminum 10' flush mounted table installed in an all aluminum frame. The table is remotely operated from inside the control room located 40' from the range. The turntable is electrically bonded to the surrounding ground plane via steel fingers installed on the edge of the turn table. The steel fingers make constant contact with the ground plane during operation.

Adjacent to the turntable is a 7' x 7' square and 4' deep concrete pit used for support equipment if necessary. The pit is equipped with 5 - 4" PVC chases from the pit to the control room that allow for cabling to the EUT if necessary. The underside of the turntable can be accessed from the pit so cables can be supplied to the EUT from the pit. The pit is covered with 2 sheets of 1/4" diamond style re-enforced steel sheets. The sheets are painted to match the perforated steel ground plane; however the underside edges have been masked off to maintain the electrical continuity of the ground plane. All reflecting objects are located outside of the ellipse defined in ANSI C63.4.



A diagram of the Open Area Test Site is shown in Figure 2.3-2 below:

Figure 2.3-2: Open Area Test Site

2.4 Conducted Emissions Test Site Description

The AC mains conducted EMI site is located in the main EMC lab. It consists of an 8' x 8' solid aluminum horizontal ground reference plane (GRP) bonded every 3" to an 8' X 8' vertical ground plane.

The site is of sufficient size to test table top and floor standing equipment in accordance with section 6.1.4 of ANSI C63.4.

A diagram of the room is shown below in figure 4.1.3-1:

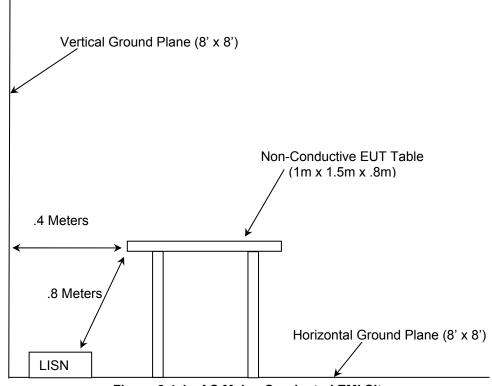


Figure 2.4-1: AC Mains Conducted EMI Site

3 APPLICABLE STANDARD REFERENCES

The following standards were used:

- ANSI C63.4-2003: Method of Measurements of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the 9KHz to 40GHz
- ANSI C63.10-2009: American National Standard for Testing Unlicensed Wireless Devices
- US Code of Federal Regulations (CFR): Title 47, Part 2, Subpart J: Equipment Authorization Procedures, 2014
- US Code of Federal Regulations (CFR): Title 47, Part 15, Subpart C: Radio Frequency Devices, Intentional Radiators, 2014
- FCC KDB 558074 D01 DTS Meas Guidance v03r02 Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247, June 5, 2014
- Industry Canada Radio Standards Specification: RSS-210 Low-power License-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment, Issue 8, Dec 2010
- Industry Canada Radio Standards Specification: RSS-GEN General Requirements and Information for the Certification of Radiocommunication Equipment, Issue 3, Dec 2010.

4 LIST OF TEST EQUIPMENT

The calibration interval of test equipment is annually or the manufacturer's recommendations. Where the calibration interval deviates from the annual cycle based on the instrument manufacturer's recommendations, it shall be stated below.

			•	•		Calibration	
AssetID	Manufacturer	Model #	Equipment Type	Serial #	Last Calibration Date	Due Date	
1	Rohde & Schwarz	ESMI - Display	Spectrum Analyzers	833771/007	8/2/2012	8/2/2014	
1	Rohde & Schwarz	ESMI - Display	Spectrum Analyzers	833771/007	7/11/2014	7/11/2016	
2	Rohde & Schwarz	ESMI-Receiver	Spectrum Analyzers	839587/003	8/2/2012	8/2/2014	
2	Rohde & Schwarz	ESMI-Receiver	Spectrum Analyzers	839587/003	7/11/2014	7/11/2016	
30	Spectrum Technologies	DRH-0118	Antennas	970102	4/23/2013	4/23/2015	
40	EMCO	3104	Antennas	3211	2/14/2013	2/14/2015	
73	Agilent	8447D	Amplifiers	2727A05624	7/16/2013	7/16/2014	
73	Agilent	8447D	Amplifiers	2727A05624	7/15/2014	7/15/2015	
167	ACS	Chamber EMI Cable Set	Cable Set	167	11/7/2013	11/7/2014	
168	Hewlett Packard	11947A	Attenuators	44829	1/27/2014	1/27/2015	
267	Agilent	N1911A	Meters	MY45100129	7/30/2013	7/30/2015	
268	Agilent	N1921A	Sensors	MY45240184	7/30/2013	7/30/2015	
292	Florida RF Cables	SMR-290AW- 480.0-SMR	Cables	None	3/17/2014	3/17/2015	
316	Rohde Schwarz	ESH3-Z5	LISN	861189-010	8/15/2013	8/15/2015	
324	ACS	Belden	Cables	8214	6/17/2013	6/17/2014	
324	ACS	Belden	Cables	8214	6/4/2014	6/4/2015	
334	Rohde&Schwarz	3160-09	Antennas	49404	11/4/2010	NCR	
335	Suhner	SF-102A	Cables	882/2A	7/23/2014	7/23/2015	
338	Hewlett Packard	8449B	Amplifiers	3008A01111	7/30/2013	7/30/2015	
340	Aeroflex/Weinschel	AS-20	Attenuators	7136	7/30/2013	7/30/2014	
340	Aeroflex/Weinschel	AS-20	Attenuators	7136	7/14/2014	7/14/2015	
345	Suhner Sucoflex	102A	Cables	1077/2A	7/23/2014	7/23/2015	
412	Electro Metrics	LPA-25	Antennas	1241	7/27/2012	7/27/2014	
412	Electro Metrics	LPA-25	Antennas	1241	7/24/2014	7/24/2016	
422	Florida RF	SMS-200AW-72.0- SMR	Cables	805	11/7/2013	11/7/2014	
432	Microwave Circuits	H3G020G4	Filters	264066	6/2/2014	6/2/2015	
616	Florida RF Cables	SMRE-200W-12.0- SMRE	Cables	N/A	9/26/2013	9/26/2014	
622	Rohde & Schwarz	FSV40	Analyzers	101338	11/19/2013	11/19/2014	
RE361	Agilent	AT/E7405A	Analyzers	MY42000089	5/30/2014	5/30/2016	

Note: All testing performed during equipment active calibration cycles.

5 SUPPORT EQUIPMENT

Item	Equipment Type Manufacturer Model Number		Serial Number	
1	DC Power Supply Hewlett Packard		E3630A	KR64308603
	Wall Wart Power			
2	Supply	Seven Start	SS105	N/A

Table 5-1: Support Equipment

6 EQUIPMENT UNDER TEST SETUP BLOCK DIAGRAM

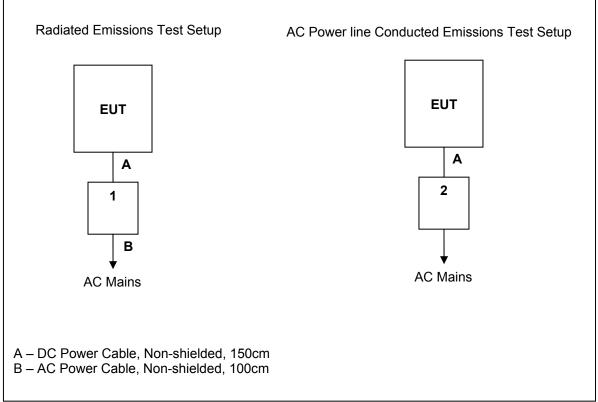


Figure 6-1: Test Setup Block Diagram

7 SUMMARY OF TESTS

Along with the tabular data shown below, plots were taken of all signals deemed important enough to document.

7.1 Antenna Requirement – FCC 15.203

The EUT utilizes an F-type antenna which cannot be removed without permanently damaging the device thus satisfying Part 15.203. The gain on the F-type antenna is 5dBi.

7.2 Power Line Conducted Emissions – FCC 15.207, IC: RSS-Gen 7.2.4

7.2.1 Measurement Procedure

ANSI C63.4 sections 6 and 7 were the guiding documents for this evaluation. Conducted emissions were performed from 150kHz to 30MHz with the spectrum analyzer's resolution bandwidth set to 9kHz and the video bandwidth set to 30kHz. The calculation for the conducted emissions is as follows:

Corrected Reading = Analyzer Reading + LISN Loss + Cable Loss Margin = Applicable Limit - Corrected Reading

7.2.2 Measurement Results

Results of the test are shown below in Tables 7.2.2-1 and 7.2.2-2.

Frequency (MHz)	Uncorrected Reading		Total Correction Factor	Corrected Level		Limit		Margin (dB)	
	Quasi- Peak	Average	(dB)	Quasi-Peak	Average	Quasi-Peak	Average	Quasi-Peak	Average
0.230038	12.573	6.773	10.16	22.733	16.933	63.713	53.713	40.98	36.78
0.41288	11.456	5.478	10.183	21.638	15.661	58.489	48.489	36.851	32.829
0.504	11.488	5.353	10.201	21.688	15.554	56	46	34.312	30.446
1.12552	10.546	3.661	10.319	20.865	13.98	56	46	35.135	32.02
1.41817	10.08	3.561	10.352	20.432	13.913	56	46	35.568	32.087
1.69391	10.066	3.085	10.364	20.43	13.449	56	46	35.57	32.551

Table 7.2.2-1: Conducted EMI Results – Line 1

Table 7.2.2-2: Conducted EMI Results – Line 2

Frequency (MHz)	Uncorrected Reading		Total Correction Factor	Corrected	Corrected Level		it	Margin	(dB)
	Quasi- Peak	Average	(dB)	Quasi-Peak	Average	Quasi-Peak	Average	Quasi-Peak	Average
0.156248	10.865	6.649	10.214	21.078	16.862	65.821	55.821	44.743	38.959
0.4993	7.728	3.422	10.2	17.928	13.622	56.02	46.02	38.092	32.398
4.41721	4.457	0.306	10.21	14.667	10.516	56	46	41.333	35.484
4.98	4.342	0.017	10.21	14.552	10.227	56	46	41.448	35.773
4.9801	4.227	-0.072	10.21	14.437	10.138	56	46	41.563	35.862
17.1744	3.186	-1.153	10.69	13.876	9.537	60	50	46.124	40.463

7.3 6dB / 99% Bandwidth – FCC 15.247(a)(2), IC: RSS-210 A8.2(a)

7.3.1 Measurement Procedure

The 6dB bandwidth was measured in accordance with the FCC KDB 558074 D01 DTS Meas Guidance v03r02. The Resolution Bandwidth (RBW) of the spectrum analyzer was set to 100 kHz. The Video Bandwidth (VBW) was set to \geq 3 times the RBW. The trace was set to max hold with a peak detector active. The marker-delta function of the spectrum analyzer was utilized to determine the 6 dB bandwidth of the emission.

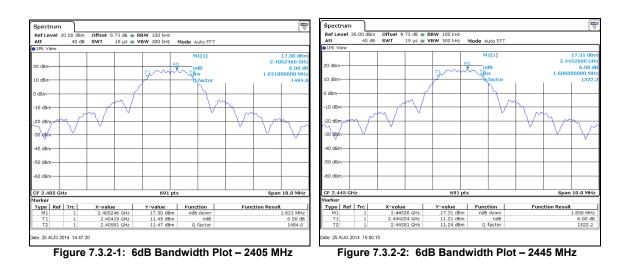
The occupied bandwidth measurement function of the spectrum analyzer was used to measure the 99% bandwidth. The span of the analyzer was set to capture all products of the modulation process, including the emission sidebands. The resolution bandwidth was set to as close to 1% of the selected span as is possible without being below 1%. The video bandwidth was set to 3 times the resolution bandwidth. A sampling detector was used.

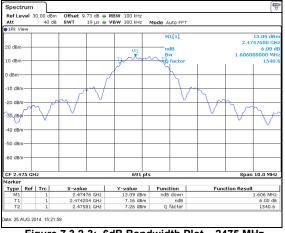
7.3.2 Measurement Results

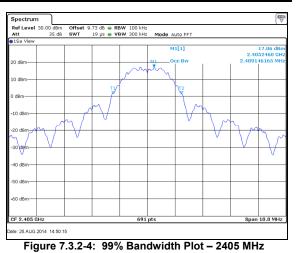
Results are shown below in table 7.3.2-1 and figures 7.3.2-1 to 7.3.2-6:

Frequency [MHz]	6dB Bandwidth [MHz]	99% Bandwidth [MHz]
2405	1.621	2.489
2445	1.606	2.460
2475	1.606	2.475

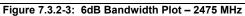
Table 7.3.2-1: 6dB / 99% Bandwidth











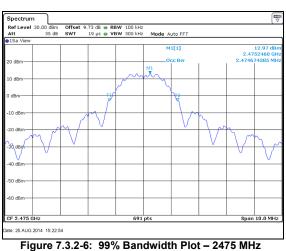


Figure 7.3.2-5: 99% Bandwidth Plot – 2445 MHz

7.4 Fundamental Emission Output Power – FCC 15.247(b)(3), IC: RSS-210 A8.4(4)

7.4.1 Measurement Procedure

The maximum peak conducted output power was measured in accordance with FCC KDB 558074 D01 DTS Meas Guidance v03r02 utilizing the PKPM1 Peak power meter method. The RF output of the equipment under test was directly connected to the input of the peak power meter applying suitable attenuation.

7.4.2 Measurement Results

Results are shown below in Table 7.4.2-1.

Frequency (MHz)	Output Power (dBm)
2405	20.71
2445	20.61
2475	16.51

 Table 7.4.2-1:
 Maximum Peak Conducted Output Power

7.5 Emission Levels – FCC 15.247(d), 15.205, 15.209; IC RSS-210 2.2/A8.5, RSS-Gen 7.2.2

7.5.1 Emissions into Non-restricted Frequency Bands

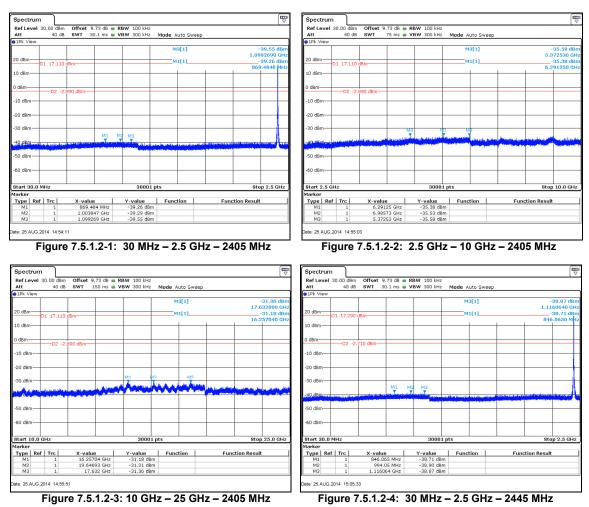
7.5.1.1 Measurement Procedure

The unwanted emissions into non-restricted bands were measured conducted in accordance with FCC KDB 558074 D01 DTS Meas Guidance v03r02. The RF output of the equipment under test was directly connected to the input of the spectrum analyzer applying suitable attenuation. The Resolution Bandwidth (RBW) of the spectrum analyzer was set to 100 kHz. The Video Bandwidth (VBW) was set to \geq 300 kHz. Span was set to 1.5 times the DTS bandwidth. The trace was set to max hold with a peak detector active. The resulting spectrum analyzer peak level was used to determine the reference level with respect to the 20 dBc limit. The spectrum span was then adjusted for the measurement of spurious emissions from 30MHz to 25GHz, 10 times the highest fundamental frequency.

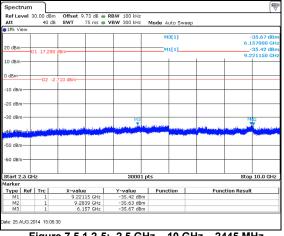
Band-edge compliance was determined using the conducted marker-delta method in which the radio frequency power that is produced by the EUT is at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of desired power.

7.5.1.2 Measurement Results

RF Conducted Emissions are displayed in Figures 7.5.1.2-1 through 7.5.1.2-11.



IC: 5294A-EG1R1S5



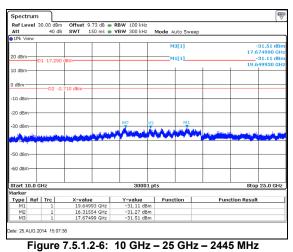
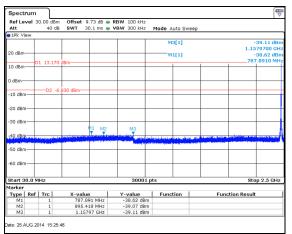


Figure 7.5.1.2-5: 2.5 GHz - 10 GHz - 2445 MHz



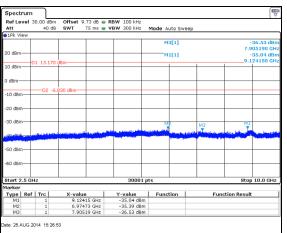


Figure 7.5.1.2-7: 30 MHz - 2.5 GHz - 2475 MHz

Figure 7.5.1.2-8: 2.5 GHz - 10 GHz - 2475 MHz

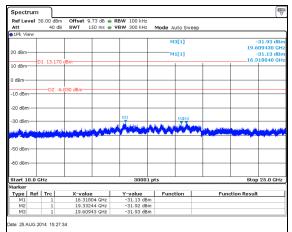
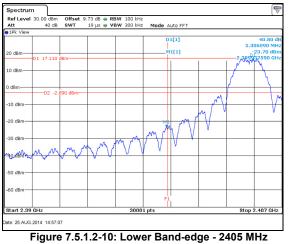


Figure 7.5.1.2-9: 10 GHz – 25 GHz – 2475 MHz



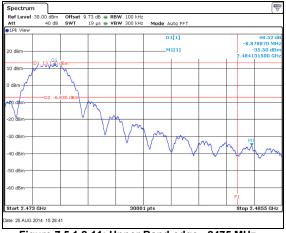


Figure 7.5.1.2-11: Upper Band-edge - 2475 MHz

7.5.2 Emissions into Restricted Frequency Bands

7.5.2.1 Measurement Procedure

The unwanted emissions into restricted bands were measured radiated over the frequency range of 30MHz to 25GHz, 10 times the highest fundamental frequency.

The EUT was rotated through 360° and the receive antenna height was varied from 1m to 4m so that the maximum radiated emissions level would be detected. For frequencies below 1000MHz, quasi-peak measurements were made using a resolution bandwidth RBW of 120 kHz and a video bandwidth VBW of 300 kHz. For frequencies above 1000MHz, peak and average measurements were made with RBW and VBW of 1 MHz and 3 MHz respectively. The average emissions were further corrected by applying the duty cycle correction of the EUT for comparison to the average limit.

Each emission found to be in a restricted band as defined by section 15.205, including any emission at the operational band-edge, was compared to the radiated emission limits as defined in section 15.209.

7.5.2.2 Duty Cycle Correction

For average radiated measurements, using a 66% duty cycle, the measured level was reduced by a factor -3.61dB. The duty cycle correction factor is determined using the formula: 20log (66/100) = -3.61dB.

A detailed analysis of the duty cycle timing is provided in the Theory of Operation accompanying the application for certification.

7.5.2.3 Measurement Results

Radiated spurious emissions found in the band of 30MHz to 25GHz are reported in the table 7.5.2.3-1 below.

Frequency (MHz)	Level (dBuV)		Antenna Polarity	Correction Factors	Corrected Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
· · ·	pk	Qpk/Avg	(H/V)	(dB)	pk	Qpk/Avg	pk	Qpk/Avg	pk	Qpk/Avg
	2405 MHz									
2390	63.01	55.17	V	-6.39	56.62	45.18	74.0	54.0	17.4	8.8
2390	62.61	54.66	Н	-6.39	56.22	44.67	74.0	54.0	17.8	9.3
12025	50.95	41.23	Н	14.68	65.63	52.30	83.5	63.5	17.9	11.2
12025	51.84	42.42	V	14.68	66.52	53.49	83.5	63.5	17.0	10.0
				2440 MHz						
7335	53.87	45.47	Н	8.05	61.92	49.91	74.0	54.0	12.1	4.1
7335	49.89	40.49	V	8.05	57.94	44.93	74.0	54.0	16.1	9.1
12225	48.69	38.15	Н	15.78	64.47	50.32	83.5	63.5	19.0	13.2
12225	46.77	35.34	V	15.78	62.55	47.51	83.5	63.5	21.0	16.0
	2475 MHz									
2483.5	70.55	60.83	Н	-5.88	64.67	51.34	74.0	54.0	9.3	2.7
2483.5	72.13	62.35	V	-5.88	66.25	52.86	74.0	54.0	7.7	1.1

 Table 7.5.2.3-1: Radiated Spurious Emissions Tabulated Data

7.5.2.4 Sample Calculation:

 $R_c = R_U + CF_T$

Where:

- CF_T = Total Correction Factor (AF+CA+AG)-DC (Average Measurements Only)
- R_U = Uncorrected Reading
- R_c = Corrected Level
- AF = Antenna Factor
- CA = Cable Attenuation
- AG = Amplifier Gain
- DC = Duty Cycle Correction Factor

Example Calculation: Peak

Corrected Level: 50.95 + 14.68 = 65.63dBuV/m Margin: 83.5dBuV/m - 65.63dBuV/m = 17.9dB

Example Calculation: Average

Corrected Level: 41.23 + 14.68 - 3.609 = 52.30dBuV Margin: 63.5dBuV - 52.30dBuV = 11.2dB

7.6 Maximum Power Spectral Density in the Fundamental Emission – FCC 15.247(e) IC: RSS-210 A8.2(b)

7.6.1 Measurement Procedure

The power spectral density was measured in accordance with the FCC KDB 558074 D01 DTS Meas Guidance v03r02 utilizing the PKPSD (peak PSD) method. The RF output of the equipment under test was directly connected to the input of the spectrum analyzer applying suitable attenuation. The Resolution Bandwidth (RBW) of the spectrum analyzer was set to 3 kHz. The Video Bandwidth (VBW) was set to 10 kHz. Span was set to 1.5 times the DTS bandwidth. The trace was set to max hold with a peak detector active.

7.6.2 Measurement Results

Results are shown below in table 7.6.2-1 and figures 7.6.2-1 to 7.6.2-3.

Table 7.6.2-1: Peak Power Spectral Density						
Frequency PSD Level (MHz) (dBm)						
2405	6.47					
2445	5.85					
2475	1.89					

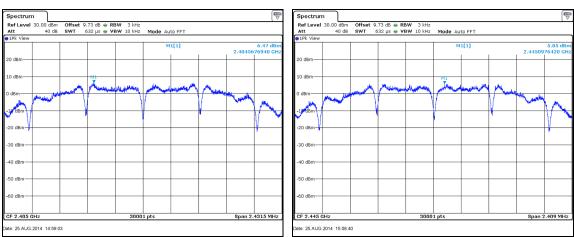
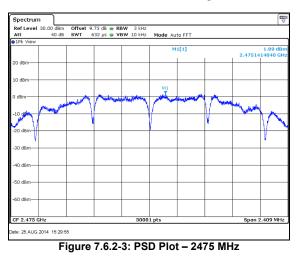


Figure 7.6.2-1: PSD Plot – 2405 MHz

Figure 7.6.2-2: PSD Plot - 2445 MHz



8 CONCLUSION

In the opinion of ACS, Inc. the G5 26-1905, manufactured by Landis+Gyr Technology, Inc. meets the requirements of FCC Part 15 subpart C and Industry Canada's Radio Standards Specification RSS-210.

END REPORT