



Report No. : FG461112

: 1 of 25

Page Number

FCC RADIO TEST REPORT

FCC ID : N7NHL78C

Equipment : Radio Module

Brand Name : AirPrime Model Name : HL7812

Applicant : Sierra Wireless, ULC

13811 Wireless Way, Richmond, BC V6V 3A4 Canada

Manufacturer : Sierra Wireless, ULC

13811 Wireless Way, Richmond, BC V6V 3A4 Canada

Standard : FCC 47 CFR Part 2, and 25

The product was received on Jun. 11, 2024 and testing was performed from Jun. 20, 2024 to Jan. 03, 2025. We, Sporton International Inc. Wensan Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval from Sporton International Inc. Wensan Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

TEL: 886-3-327-0868

Sporton International Inc. Wensan Laboratory

No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C)

FAX: 886-3-327-0855 Issue Date : Jan. 13, 2025 Report Template No.: BU5-FGLTE Version 1.0 Report Version : 01

Table of Contents

Hi	story o	of This Test Report	3		
Summary of Test Result					
1	Gene	eral Description	6		
	1.1	Product Feature of Equipment Under Test	6		
	1.2	Modification of EUT			
	1.3	Testing Location			
	1.4	Applied Standards	7		
2	Test	Configuration of Equipment Under Test	8		
	2.1	Test Mode	8		
	2.2	Connection Diagram of Test System	8		
	2.3	Support Unit used in test configuration and system			
	2.4	Measurement Results Explanation Example	9		
	2.5	Frequency List of Low/Middle/High Channels	10		
3	Test	Result	11		
	3.1	RF Output Power	11		
	3.2	Frequency Stability			
	3.3	Occupied Bandwidth	13		
	3.4	Conducted Emissions Mask	14		
	3.5	Conducted Spurious Emission	16		
	3.6	Field Strength of Spurious Radiation	18		
	3.7	Additional Limits on Emissions from Mobile Earth Station	21		
4	List	of Measuring Equipment	24		
5	Mose	surament Uncertainty	25		

TEL: 886-3-327-0868 Page FAX: 886-3-327-0855 Issue

Report Template No.: BU5-FGLTE Version 1.0

Page Number : 2 of 25

Issue Date : Jan. 13, 2025

Report No. : FG461112

Report Version : 01



Appendix A. Test Results of Conducted Test

	•	Conducted Output Power(Average power and EIRP)	A1-1
	•	Occupied Bandwidth	A1-2
	•	Conducted Emissions Mask	A1-4
	•	Conducted Spurious Emission	A1-18
	•	Emission limits for protection of aeronautical service	A1-19
	•	Frequency Stability	A1-49
	•	Conducted Output Power(Average power and EIRP)	A2-1
	•	Occupied Bandwidth	A2-2
	•	Conducted Emissions Mask	A2-4
	•	Conducted Spurious Emission	A2-17
	•	Emission limits for protection of aeronautical service	A2-18
	•	Frequency Stability	A2-50
Appendix	B. Te	st Results of Radiated Test	B1
\nnendix	C Te	st Setup Photographs	C1

Report No. : FG461112

 TEL: 886-3-327-0868
 Page Number
 : 3 of 25

 FAX: 886-3-327-0855
 Issue Date
 : Jan. 13, 2025

History of this test report

Report No. : FG461112

Report No.	Version	Description	Issue Date
FG461112	01	Initial issue of report	Jan. 13, 2025

TEL: 886-3-327-0868 Page Number : 4 of 25 FAX: 886-3-327-0855 Issue Date : Jan. 13, 2025

Summary of Test Result

Report No. : FG461112

Report Section	FCC Rule	Description	Limit	Result	Remark	
3.1	§2.1046(a)	RF Output Power	40dBW(max)	PASS	_	
0.1	§25.204(a)	Tit Galpat Towor	Todbvv (max)	17.00		
3.2	§2.1055	Frequency Stability	within 0.001 percent of the	PASS		
3.2	§25.202(d)	Frequency Stability	reference frequency.	FASS	-	
3.3	§2.1049	Occupied Bandwidth	-	PASS	-	
3.4	§2.1051	Conducted Emissions Mask	§25.202(f)	PASS	-	
	§25.202(f)		3====(·)			
3.5	§2.1051	Conducted Spurious	§25.202(f)	Pass	_	
0.0	§25.202(f)	Emission	320.202(1)	. 400		
2.6	§2.1053	Field Strength of Spurious	\$25 202(f)	D4 00	32.18 dB	
3.6	§25.202(f)	Radiation	§25.202(f)	PASS	under the limit at 8000.00 MHz	
	Additional Limits on					
3.7	§25.216(c)(e)(h)(i)	Emissions from Mobile Earth	§25.216(c)(e)(h)(i)	PASS	-	
		Station				

Conformity Assessment Condition:

- The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the
 regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who
 shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken
 into account.
- 2. The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty".

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: Steve Chen Report Producer: Lucy Wu

TEL: 886-3-327-0868 Page Number : 5 of 25
FAX: 886-3-327-0855 Issue Date : Jan. 13, 2025

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature						
General Specs	General Specs					
LTE and NTN	LTE and NTN					
Antenna Type WWAN: Fixed External Ante NTN: Fixed External Antenn						
Antonno Goin	NTN Band 23: 8.5 dBi					
Antenna Gain	NTN Band 255 : 8.5 dBi					

Report No. : FG461112

Remark: The above EUT's information was declared by manufacturer. Please refer to Disclaimer in report summary.

1.2 Modification of EUT

No modifications are made to the EUT during all test items.

TEL: 886-3-327-0868 Page Number : 6 of 25 FAX: 886-3-327-0855 Issue Date : Jan. 13, 2025

1.3 Testing Location

Test Site	Sporton International Inc. Wensan Laboratory				
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855				
Test Site No.	Sporton Site No.				
rest Site No.	TH05-HY	03CH12HY			
Test Engineer	Alston Tsai	Jack Cheng, Tim Lee and Wilson Wu			
Temperature (°C)	23.6~24.8 20~25				
Relative Humidity (%)	51.2~53.6 50~60				

Report No. : FG461112

Note: The test site complies with ANSI C63.4 2014 requirement.

FCC Designation No.: TW3786

1.4 Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC 47 CFR Part 2, 25
- ANSI C63.26-2015
- FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01
- FCC KDB 414788 D01 Radiated Test Site v01r01

Remark:

- 1. All the test items were validated and recorded in accordance with the standards without any modification during the testing.
- 2. The TAF code is not including all the FCC KDB listed without accreditation.

TEL: 886-3-327-0868 Page Number : 7 of 25
FAX: 886-3-327-0855 Issue Date : Jan. 13, 2025

2 Test Configuration of Equipment Under Test

2.1 Test Mode

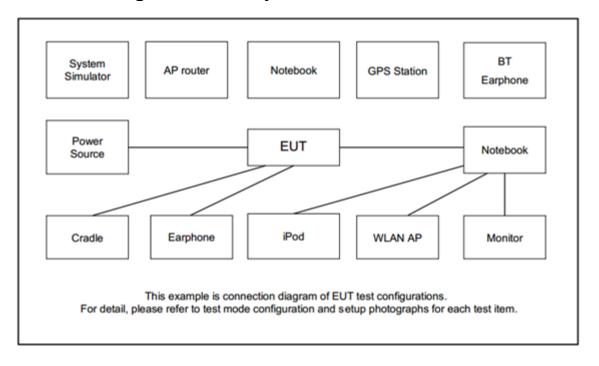
Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

Report No. : FG461112

For radiated measurement, the measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in two degree (Degree 0 or Degree 90), and adjusting the measurement antenna orientation, following C63.26 exploratory test procedures and only the worst case emissions were reported in this report.

Support band and evaluated information					
Supported band	B23, B255				
Evaluated and Tested band	B23, B255				

2.2 Connection Diagram of Test System



TEL: 886-3-327-0868 Page Number : 8 of 25
FAX: 886-3-327-0855 Issue Date : Jan. 13, 2025

2.3 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m
2.	Fixture	Sierra Wireless	HL DevKit	N/A	N/A	N/A

Report No. : FG461112

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example:

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.2 dB and 10dB attenuator.

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).
=
$$4.2 + 10 = 14.2$$
 (dB)

TEL: 886-3-327-0868 Page Number : 9 of 25
FAX: 886-3-327-0855 Issue Date : Jan. 13, 2025

2.5 Frequency List of Low/Middle/High Channels

Band 23 Channel and Frequency List						
Channel/Frequency(MHz)	Lowest	Middle	Highest			
Channel	25501	25600	25699			
Frequency	2000.1	2010	2019.9			

Report No. : FG461112

Band 255 Channel and Frequency List							
Channel/Frequency(MHz)	Lowest	Middle	Highest				
Channel	261505	261674	261843				
Frequency	1626.6	1643.5	1660.4				

TEL: 886-3-327-0868 Page Number : 10 of 25
FAX: 886-3-327-0855 Issue Date : Jan. 13, 2025

3 Test Result

3.1 RF Output Power

3.1.1 Description of the Conducted Output Power Measurement

FCC Part 25.204 (a)

In bands shared coequally with terrestrial radio communication services, the equivalent isotropically radiated power transmitted in any direction towards the horizon by an earth station, other than an ESV, operating in frequency bands between 1 and 15 GHz, shall not exceed the following limits except as provided for in paragraph (c) of this section:

Report No.: FG461112

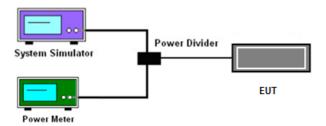
- + 40 dBW in any 4 kHz band for θ ≤0°
- $+40 + 3\theta$ dBW in any 4 kHz band for $0^{\circ} < \theta \le 5^{\circ}$

Where θ is the angle of elevation of the horizon viewed from the center of radiation of the antenna of the earth station and measured in degrees as positive above the horizontal plane and negative below it.

3.1.2 Test Procedures

The output power is measured by using power meter when the transmitter is operating at the manufacturer's rated power and modulated with signals. The maximum antenna gain of EUT for the test range will then be added to the measured conducted power to calculate the EIRP. Since the power meter can only measure the overall power, the measured result will be worse than the one measured in 4 kHz RBW. The test result will be compared to the most restricted limit: +40 dBW.

3.1.3 Test Setup



3.1.4 Test Results

Please refer to Appendix A.

TEL: 886-3-327-0868 Page Number : 11 of 25
FAX: 886-3-327-0855 Issue Date : Jan. 13, 2025

3.2 Frequency Stability

3.2.1 Description of the Frequency Stability Measurement

FCC Part 25.202 (d) Frequency tolerance, Earth stations. The carrier frequency of each earth station transmitter authorized in these services shall be maintained within 0.001 percent of the reference frequency.

Report No.: FG461112

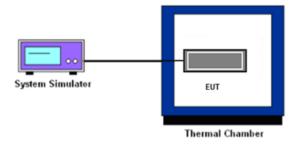
3.2.2 Test Procedures for Temperature Variation

- 1. The testing follows FCC KDB 971168 D01 v03r01 Section 9.
- 2. The EUT was set up in the thermal chamber and connected with the system simulator.
- 3. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
- 4. With power OFF, the temperature was raised in 10°C steps up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

3.2.3 Test Procedures for Voltage Variation

- 1. The testing follows FCC KDB 971168 D01 Section 9.
- 2. The EUT was placed in a temperature chamber at 20±5° C and connected with the system simulator.
- 3. The power supply voltage to the EUT was varied from the lowermost voltage to the uppermost voltage. The range is specified by manufacturer.
- 4. The variation in frequency was measured for the worst case.

3.2.4 Test Setup



3.2.5 Test Results

Please refer to Appendix A.

TEL: 886-3-327-0868 Page Number : 12 of 25
FAX: 886-3-327-0855 Issue Date : Jan. 13, 2025

3.3 Occupied Bandwidth

3.3.1 Description of Occupied Bandwidth Measurement

The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

Report No. : FG461112

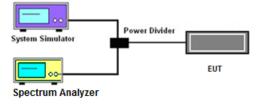
3.3.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.3.3 Test Procedures

- 1. The testing follows FCC KDB 971168 D01 v03r01 Section 4.2.
- 2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
- The spectrum analyzer center frequency is set to the nominal EUT channel center frequency.
 The span range for the spectrum analyzer shall be between two and five times the anticipated OBW.
- 4. The nominal resolution bandwidth (RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.
- 5. Set the detection mode to peak, and the trace mode to max hold.
- 6. Determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace. (this is the reference value)
- 7. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

3.3.4 Test Setup



3.3.5 Test Result

Please refer to Appendix A.

TEL: 886-3-327-0868 Page Number : 13 of 25
FAX: 886-3-327-0855 Issue Date : Jan. 13, 2025

3.4 Conducted Emissions Mask

3.4.1 Description of Conducted Spurious Emission Measurement

FCC Part 25.202(f) Emissions Limitations The mean power of the emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

Report No. : FG461112

- (1) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 50% up to and including 100% of the authorized bandwidth: 25 decibels:
- (2) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 100% up to and including 250% of the authorized bandwidth: 35 decibels;

3.4.2 Measuring Instruments

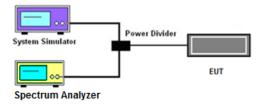
The measuring equipment is listed in the section 4 of this test report.

3.4.3 Test Procedures

- 1. The testing follows FCC KDB 971168 v03r01 D01 Section 6.1.
- 2. The EUT was connected to the spectrum analyzer.
- The RF output of EUT was connected to the spectrum analyzer by an RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 4. The highest RF power within the transmitting frequency was measured.
- 5. Make the measurement with the spectrum analyzer's RBW = 5kHz, VBW = 20kHz, taking the record of the worst unwanted emission.
- 6. If the test result in Step 5 exceed the limit, the following procedure will be used:
 - 6.1. Make the measurement with the spectrum analyzer's RBW = 1kHz, VBW = 3kHz.
 - 6.2. Record all measured worst frequencies.
 - 6.3. Use the Channel Power Function of the Spectrum Analyzer.
 - 6.4. Measure the powers of 4kHz bandwidth center the worst frequencies.
- 7. The limit line is derived from FCC 25.202 (f) below the transmitter power P(Watts)

TEL: 886-3-327-0868 Page Number : 14 of 25 FAX: 886-3-327-0855 Issue Date : Jan. 13, 2025

3.4.4 Test Setup



Report No. : FG461112

3.4.5 Test Result

Please refer to Appendix A.

TEL: 886-3-327-0868 Page Number : 15 of 25
FAX: 886-3-327-0855 Issue Date : Jan. 13, 2025

3.5 Conducted Spurious Emission

3.5.1 Description of Conducted Spurious Emission Measurement

FCC Part 25.202(f) Emissions Limitations The mean power of the emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

Report No. : FG461112

(3) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 250% of the authorized bandwidth: an amount equal to 43 decibels plus 10 times Logarithm (to the base 10) of the transmitter power in watts.

3.5.2 Measuring Instruments

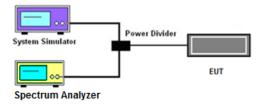
The measuring equipment is listed in the section 4 of this test report.

3.5.3 Test Procedures

- 1. The testing follows FCC KDB 971168 v03r01 D01 Section 6.1.
- 2. The EUT was connected to the spectrum analyzer.
- 3. The RF output of EUT was connected to the spectrum analyzer by an RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 4. The highest RF power within the transmitting frequency was measured.
- Peak detector is used instead of RMS detector since the measured result of Peak detector is worse than the RMS one. If the test result of Peak detector exceed the limit, RMS detector will then be used.
- 6. Make the measurement with the spectrum analyzer's RBW = 100kHz, VBW = 300kHz, taking the record of the worst unwanted emission.
- 7. The conducted spurious emission for the whole frequency range was taken.
- 8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
- 9. The limit line is derived from FCC 25.202 (f) below the transmitter power P(Watts)

TEL: 886-3-327-0868 Page Number : 16 of 25
FAX: 886-3-327-0855 Issue Date : Jan. 13, 2025

3.5.4 Test Setup



Report No. : FG461112

3.5.5 Test Result

Please refer to Appendix A.

TEL: 886-3-327-0868 Page Number : 17 of 25
FAX: 886-3-327-0855 Issue Date : Jan. 13, 2025

3.6 Field Strength of Spurious Radiation

3.6.1 Description of Radiated Spurious Emission

FCC Part 25.202(f) Emissions Limitations The mean power of the emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

Report No. : FG461112

(3) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 250% of the authorized bandwidth: an amount equal to 43 decibels plus 10 times Logarithm (to the base 10) of the transmitter power in watts

3.6.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

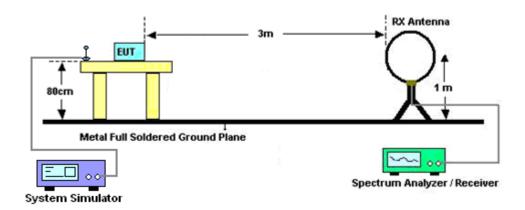
3.6.3 Test Procedures

- 1. The testing follows ANSI C63.26-2015.
- 2. The EUT was placed on a rotatable table with:
 - 0.8 meter above ground for emissions under 1 GHz
 - 1.5 meter above ground for emissions above 1 GHz
- 3. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
- 4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
- 5. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
- Peak detector is used instead of RMS detector since the measured result of Peak detector is worse than the RMS one. If the test result of Peak detector exceed the limit, RMS detector will then be used.
- 7. Make the measurement with the spectrum analyzer's RBW = 100kHz, VBW = 300kHz, taking the record of maximum spurious emission.
- The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

TEL: 886-3-327-0868 Page Number : 18 of 25
FAX: 886-3-327-0855 Issue Date : Jan. 13, 2025

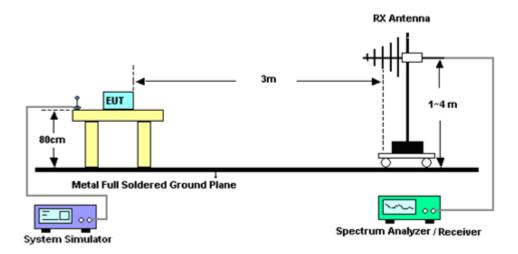
3.6.4 Test Setup

For radiated emissions from 10KHz to 30MHz.



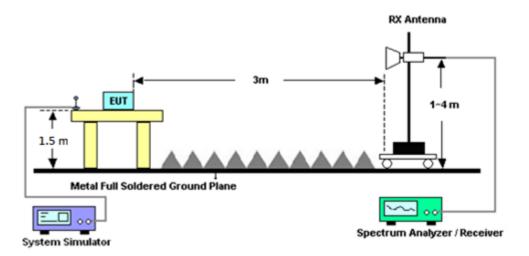
Report No. : FG461112

For radiated emissions from 30MHz to 1GHz



TEL: 886-3-327-0868 Page Number : 19 of 25
FAX: 886-3-327-0855 Issue Date : Jan. 13, 2025

For radiated emissions above 1GHz



Report No. : FG461112

3.6.5 Test Results

Please refer to Appendix B.

TEL: 886-3-327-0868 Page Number : 20 of 25 FAX: 886-3-327-0855 Issue Date : Jan. 13, 2025

3.7 Additional Limits on Emissions from Mobile Earth Station

Additional Limits on emissions from mobile earth stations for protection of aeronautical radionavigation-satellite service and Special requirements for ancillary terrestrial components

operating in the 1626.5-1660.5 MHz and 2000-2020 MHz bands.

3.7.1 Description of Additional Limits on Emissions from Mobile Earth Station

FCC Part 25.216 Emissions Limitations:

(c) The e.i.r.p. density of emissions from mobile earth stations placed in service after July 21, 2002

with assigned uplink frequencies between 1610 MHz and 1660.5 MHz shall not exceed -70

dBW/MHz, averaged over any 2 millisecond active transmission interval, in the band 1559-1605 MHz.

The e.i.r.p. of discrete emissions of less than 700 Hz bandwidth from such stations shall not exceed

-80 dBW, averaged over any 2 millisecond active transmission interval, in the 1559-1605 MHz band.

(e) The e.i.r.p density of emissions from mobile earth stations with assigned uplink frequencies

between 1990 MHz and 2025 MHz shall not exceed -70 dBW/MHz, averaged over any 2 millisecond

active transmission interval, in frequencies between 1559 MHz and 1610 MHz. The e.i.r.p. of discrete

emissions of less than 700 Hz bandwidth from such stations between 1559 MHz and 1605 MHz shall

not exceed -80 dBW, averaged over any 2 millisecond active transmission interval. The e.i.r.p. of

discrete emissions of less than 700 Hz bandwidth from such stations between 1605 MHz and 1610

MHz manufactured more than six months after Federal Register publication of the rule changes adopted in FCC 03-283 shall not exceed -80 dBW, averaged over any 2 millisecond active

transmission interval.

(h) Mobile earth stations manufactured more than six months after Federal Register publication of the

rule changes adopted in FCC 03-283 with assigned uplink frequencies in the 1626.5-1660.5 MHz

band shall suppress the power density of emissions in the 1605-1610 MHz band-segment to an

extent determined by linear interpolation from −70 dBW/MHz at 1605 MHz to −46 dBW/MHz at 1610

MHz, averaged over any 2 millisecond active transmission interval. The e.i.r.p of discrete emissions of

less than 700 Hz bandwidth from such stations shall not exceed a level determined by linear

interpolation from -80 dBW at 1605 MHz to -56 dBW at 1610 MHz, averaged over any 2 millisecond

active transmission interval.

TEL: 886-3-327-0868 FAX: 886-3-327-0855

Report Template No.: BU5-FGLTE Version 1.0

Page Number : 21 of 25

Report No. : FG461112

Issue Date : Jan. 13, 2025

Report Version : 01

(i) The e.i.r.p density of carrier-off state emissions from mobile earth stations manufactured more than six months after Federal Register publication of the rule changes adopted in FCC 03-283 with assigned uplink frequencies between 1 and 3 GHz shall not exceed −80 dBW/MHz in the 1559-1610 MHz band averaged over any two millisecond interval.

Report No. : FG461112

(j) A Root-Mean-Square detector shall be used for all power density measurements.

3.7.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.7.3 Test Procedures

For Conducted test:

- 1. The testing follows FCC KDB 971168 v03r01 D01 Section 6.1.
- 2. The EUT was connected to the spectrum analyzer.
- 3. The RF output of EUT was connected to the spectrum analyzer by an RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 4. The highest RF power within the transmitting frequency was measured.
- Make the measurement with the spectrum analyzer's RBW = 1kHz for discrete emissions,
 RBW = 1MHz for broadband emissions, and VBW = 3 x RBW Taking the record of maximum spurious emission.

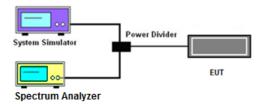
For Radiated test:

- 1. The testing follows ANSI C63.26-2015.
- 2. The EUT was placed on a rotatable table with 1.5 meter above ground.
- 3. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
- The table was rotated 360 degrees to determine the position of the highest spurious emission.
- 5. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
- Make the measurement with the spectrum analyzer's RBW = 1kHz for discrete emissions,
 RBW = 1MHz for broadband emissions, and VBW = 3 x RBW Taking the record of maximum spurious emission.

TEL: 886-3-327-0868 Page Number : 22 of 25
FAX: 886-3-327-0855 Issue Date : Jan. 13, 2025

3.7.4 Test Setup

For conducted test



Report No. : FG461112

For Radiated test, please refer to clause 3.6.4 of this test report.

3.7.5 Test Results

For test results of conducted test, please refer to Appendix A.

For test results of Radiated test, please refer to Appendix B.

TEL: 886-3-327-0868 Page Number : 23 of 25 FAX: 886-3-327-0855 Issue Date : Jan. 13, 2025

4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Signal Analyzer	Rohde & Schwarz	FSV40	101907	10Hz - 40GHz(amp)	Aug. 15, 2023	Jun. 20, 2024~ Aug. 13, 2024	Aug. 14, 2024	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101907	10Hz - 40GHz(amp)	Aug. 21, 2024	Aug. 21, 2024~ Jan. 03, 2025	Aug. 20, 2025	Conducted (TH05-HY)
Radio Communication Analyzer	Anritsu	MT8821C	627227835 6	LTE FDD/TDD DLCA/ULCA	Aug. 24, 2023	Jun. 20, 2024~ Aug. 19, 2024	Aug. 23, 2024	Conducted (TH05-HY)
Radio Communication Analyzer	Anritsu	MT8821C	627227835 6	LTE FDD/TDD DLCA/ULCA	Aug. 19, 2024	Aug. 19, 2024~ Jan. 03, 2025	Aug. 18, 2025	Conducted (TH05-HY)
DC Power Supply	GW Instek	GPE-2323	GET86154 6	0V~64V ; 0A~6A	Jun. 05, 2024	Jun. 20, 2024~ Jan. 03, 2025	Jun. 04, 2025	Conducted (TH05-HY)
Temperature & Humidity Cabinet Chamber	ESPEC	LHU-113	101200586 0	-20℃~85℃	Dec. 13, 2023	Jun. 20, 2024~ Dec. 10, 2024	Dec. 12, 2024	Conducted (TH05-HY)
Temperature & Humidity Cabinet Chamber	ESPEC	LHU-113	101200586 0	-20℃~85℃	Dec. 10, 2024	Dec. 10, 2024~ Jan. 03, 2025	Dec. 09, 2025	Conducted (TH05-HY)
Coupler	MVE	MVE4816	A400014	0.5~18GHz	Mar. 12, 2024	Jun. 20, 2024~ Jan. 03, 2025	Mar. 11, 2025	Conducted (TH05-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Feb. 23, 2024	Dec. 27, 2024~ Dec. 28, 2024	Feb. 22, 2025	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N-06	37059 & 01	30MHz~1GHz	Nov. 27, 2024	Dec. 27, 2024~ Dec. 28, 2024	Nov. 26, 2025	Radiation (03CH12-HY)
Horn Antenna	SCHWARZB ECK	BBHA 9120 D	9120D-021 14	1GHz~18GHz	Jul. 11, 2024	Dec. 27, 2024~ Dec. 28, 2024	Jul. 10, 2025	Radiation (03CH12-HY)
Preamplifier	E-INSTRUME NT TECH LTD.	ERA-100M-18G-5 6-01-A70	EC190026 9	1GHz-18GHz	Dec. 19, 2024	Dec. 27, 2024~ Dec. 28, 2024	Dec. 18, 2025	Radiation (03CH12-HY)
Spectrum Analyzer	Agilent	N9010A	MY534701 18	10Hz~44GHz	Aug. 09, 2024	Dec. 27, 2024~ Dec. 28, 2024	Aug. 08, 2025	Radiation (03CH12-HY)
EMI Test Receiver	Agilent	N9038A(MXE)	MY532900 53	20Hz~26.5GHz	Sep. 09, 2024	Dec. 27, 2024~ Dec. 28, 2024	Sep. 08, 2025	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZB ECK	BBHA 9170	1223	18GHz-40GHz	Jun. 24, 2024	Dec. 27, 2024~ Dec. 28, 2024	Jun. 23, 2025	Radiation (03CH12-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz~40GHz	Dec. 02, 2024	Dec. 27, 2024~ Dec. 28, 2024	Dec. 01, 2025	Radiation (03CH12-HY)
Notch Filter	Wainwright	WHKX12-2700-30 00-18000-60ST	SN2	3GHz High Pass Filter	Mar. 13, 2024	Dec. 27, 2024~ Dec. 28, 2024	Mar. 12, 2025	Radiation (03CH12-HY)
Notch Filter	Wainwright	WLKS1200-12SS	SN2	1.2GHz Low Pass Filter	Mar. 13, 2024	Dec. 27, 2024~ Dec. 28, 2024	Mar. 12, 2025	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	9kHz~30MHz	Mar. 06, 2024	Dec. 27, 2024~ Dec. 28, 2024	Mar. 05, 2025	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30MHz~40GHz	Dec. 19, 2024	Dec. 27, 2024~ Dec. 28, 2024	Dec. 18, 2025	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803955/2	30MHz~40GHz	Nov. 01, 2024	Dec. 27, 2024~ Dec. 28, 2024	Oct. 31, 2025	Radiation (03CH12-HY)
RF Cable	EMCI	EMC101Y-KM-KM -100	240907	30MHz~40GHz	Nov. 14, 2024	Dec. 27, 2024~ Dec. 28, 2024	Dec. 13, 2025	Radiation (03CH12-HY)
Hygrometer	TECPEL	DTM-303B	TP210090	N/A	Aug. 29, 2024	Dec. 27, 2024~ Dec. 28, 2024	Aug. 28, 2025	Radiation (03CH12-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	Dec. 27, 2024~ Dec. 28, 2024	N/A	Radiation (03CH12-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	Dec. 27, 2024~ Dec. 28, 2024	N/A	Radiation (03CH12-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Dec. 27, 2024~ Dec. 28, 2024	N/A	Radiation (03CH12-HY)
Software	Audix	E3 6.2009-8-24	RK-00098 9	N/A	N/A	Dec. 27, 2024~ Dec. 28, 2024	N/A	Radiation (03CH12-HY)

Report No. : FG461112

 TEL: 886-3-327-0868
 Page Number
 : 24 of 25

 FAX: 886-3-327-0855
 Issue Date
 : Jan. 13, 2025

5 Measurement Uncertainty

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of	0.0 ID
Confidence of 95% (U = 2Uc(y))	6.3 dB

Report No. : FG461112

Uncertainty of Radiated Emission Measurement (1 GHz ~ 6 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.7 dB
Confidence of 95% (0 = 20c(y))	

<u>Uncertainty of Radiated Emission Measurement (6 GHz ~ 18 GHz)</u>

Measuring Uncertainty for a Level of	5.0 dB
Confidence of 95% (U = 2Uc(y))	5.0 UB

Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of	5.1 dB
Confidence of 95% (U = 2Uc(y))	3.1 dB

TEL: 886-3-327-0868 Page Number : 25 of 25 FAX: 886-3-327-0855 Issue Date : Jan. 13, 2025

Appendix A. Test Results of Conducted Test

Band 23

Conducted Output Power (Average power) and EIRP

Band 23 SCS 3.75kHz								
Test Frequency	SC Size	Conducted Power (dBm)		Antenna Gain (dBi)	EIRP Power (dBm)		Result	
(MHz)		BPSK	QPSK		BPSK	QPSK		
2000.1	1SC0	23.69	23.70	8.50	32.19	32.20		
2000.1	1SC47	23.60	23.63	8.50	32.10	32.13		
2010	1SC0	23.85	23.88	8.50	32.35	32.38	PASS	
2010	1SC47	23.86	23.90	8.50	32.36	32.40	PASS	
2019.9	1SC0	23.58	23.62	8.50	32.08	32.12		
2019.9	1SC47	23.62	23.66	8.50	32.12	32.16		

Report No. : FG461112

Band 23 SCS 15kHz							
Test Frequency (MHz)	SC Size	Po	ucted wer Bm) QPSK	Antenna Gain (dBi)	EIRP Power (dBm) BPSK QPSK		Result
	1SC0	24.06	24.16	8.50	32.56	32.66	
	1SC11	23.98	24.13	8.50	32.48	32.63	
	3SC0	-	23.61	8.50	-	32.11	
2000.1	3SC9		23.57	8.50	-	32.07	
	6SC0	-	22.96	8.50	-	31.46	
	6SC6	-	22.95	8.50	-	31.45	
	12SC0	-	21.82	8.50	-	30.32	
	1SC0	23.91	24.19	8.50	32.41	32.69	
	1SC11	24.17	24.20	8.50	32.67	32.70	
	3SC0	-	23.70	8.50	-	32.20	
2010	3SC9	-	23.62	8.50	-	32.12	PASS
	6SC0	-	23.16	8.50	-	31.66	
	6SC6	-	23.19	8.50	-	31.69	
	12SC0	-	22.14	8.50	-	30.64	
	1SC0	24.07	24.14	8.50	32.57	32.64	
	1SC11	24.16	24.10	8.50	32.66	32.60	
	3SC0	-	23.70	8.50	-	32.20	
2019.9	3SC9	-	23.69	8.50	-	32.19	
	6SC0	-	23.08	8.50	-	31.58	
	6SC6	-	23.02	8.50	-	31.52	
	12SC0		22.21	8.50	-	30.71	

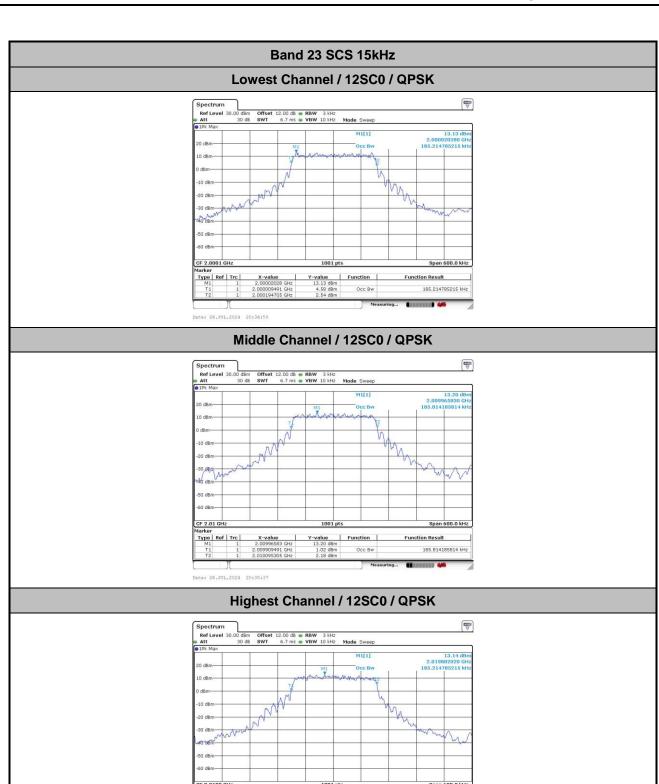
TEL: 886-3-327-0868 Page Number : A1-1 of 49

Occupied Bandwidth

Mode	Band 23 : 99%OBW(kHz)
scs	15kHz
Mod.	QPSK
SC Size	12SC0
Lowest CH	185.215
Middle CH	185.814
Highest CH	185.215

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-2 of 49



Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-3 of 49

Function Result

185.214785215 kHz

Type | Ref | Trc |

X-value 2.01988202

Conducted Emissions Mask

	B23 L CH 2000.1 MHz									
scs	Modulation	sc	Measured Value	Measured Value	Verified Value	Limit	Δlimit	Result		
(kHz)	Wodulation	config	(dBm / 3 kHz)	(dBm / 4 kHz)	(dBm / 4 kHz)	(dBm / 4 kHz)	(dB)	Result		
3.75	BPSK	1SC0	-14.52	-13.27	-	-3.55	-9.72	Pass		
3.75	BPSK	1SC47	-9.50	-8.25	-	-3.51	-4.74	Pass		
3.75	QPSK	1SC0	-14.70	-13.45	-	-3.89	-9.56	Pass		
3.75	QPSK	1SC47	-10.05	-8.80	-	-4.25	-4.55	Pass		
15	BPSK	1SC0	-7.14	-5.89	-	-3.71	-2.18	Pass		
15	BPSK	1SC11	-4.93	-3.68	-	-3.24	-0.44	Pass		
15	QPSK	1SC0	-8.21	-6.96	-	-3.61	-3.35	Pass		
15	QPSK	1SC11	-5.26	-4.01	-	-3.64	-0.37	Pass		
15	QPSK	3SC0	-12.27	-11.02	-	-4.71	-6.31	Pass		
15	QPSK	3SC9	-7.23	-5.98	-	-4.51	-1.47	Pass		
15	QPSK	6SC0	-15.99	-14.74	-	-5.19	-9.55	Pass		
15	QPSK	6SC6	-10.54	-9.29	-	-5.42	-3.87	Pass		
15	QPSK	12SC0	-15.26	-14.01	-	-6.59	-7.42	Pass		

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-4 of 49



B23 M CH 2010 MHz SCS SC **Measured Value Measured Value Verified Value** Limit ∆limit Modulation Result (dBm / 3 kHz) (dBm / 4 kHz) (dBm / 4 kHz) | (dBm / 4 kHz) (dB) (kHz) config 3.75 **BPSK** 1SC0 -11.56 -10.31 -3.34 -6.97 Pass 3.75 **BPSK** 1SC47 -10.72 -9.47 -5.12 -4.35 Pass **QPSK** 3.75 1SC0 -14.07 -12.82 -6.24 -6.58 Pass 3.75 **QPSK** 1SC47 -8.54 -7.29 -2.57 -4.72 Pass -1.65 **BPSK** 1SC0 Pass 15 -6.83 -5.58 -3.93 _ 15 **BPSK** 1SC11 -3.69 -2.44 -2.15 -0.29 Pass 15 **QPSK** 1SC0 -6.55 -5.30 -3.66 -1.64 **Pass QPSK** 1SC11 -5.94 -4.69 15 -3.76 -0.93 **Pass** -**QPSK** 3SC0 -8.08 -4.36 -2.47 **Pass** 15 -6.83 **QPSK** 3SC9 -5.70 15 -6.95 -4.65 -1.05 **Pass** 15 **QPSK** 6SC0 -12.08 -10.83 -5.50 -5.33 **Pass QPSK** 6SC6 -10.32 -9.07 -5.39 -3.68 **Pass** 15 15 **QPSK** 12SC0 -16.05 -14.80 -6.22 -8.58 Pass

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-5 of 49



B23 H CH 2019.9 MHz SCS SC **Measured Value Measured Value Verified Value** Limit ∆limit Modulation Result (dBm / 3 kHz) (dBm / 4 kHz) (dBm / 4 kHz) (dBm / 4 kHz) (kHz) config (dB) 3.75 **BPSK** 1SC0 -13.62 -12.37 -5.42 -6.95 Pass **BPSK** 1SC47 -14.15 -12.90 -4.54 -8.36 Pass 3.75 3.75 **QPSK** 1SC0 -13.02 -11.77 -4.89 -6.88 **Pass QPSK** 1SC47 -15.63 -14.38 3.75 -6.34 -8.04 **Pass BPSK** -3.61 15 1SC0 -6.14 -4.89 -1.28 **Pass** 15 **BPSK** 1SC11 -6.43 -5.18 -4.05 -1.13 **Pass QPSK** 1SC0 -6.50 -5.25 -3.94 -1.31 15 **Pass QPSK** 1SC11 15 -6.86 -5.61 -4.80 -0.81 **Pass** 15 **QPSK** 3SC0 -8.54 -7.29 -4.83 -2.46 **Pass QPSK** 15 3SC9 -11.43 -10.18 -4.72 -5.46 Pass 15 **QPSK** 6SC0 -11.87 -10.62 -5.41 -5.21 **Pass** Pass **QPSK** 6SC6 -13.93 -12.68 -7.37 15 -5.31 **QPSK** 12SC0 -16.46 -15.21 15 -6.29 -8.92 **Pass**

Report No. : FG461112

Remark: The above results of RBW 3kHz should be added a factor of 10log(4kHz/3kHz) = 1.25dB.

If the result of the Mask method with factor fails, then the Channel Power method will be used.

TEL: 886-3-327-0868 Page Number : A1-6 of 49

Band 23 SCS 3.75kHz Lowest Channel / 1SC0 / BPSK Lowest Channel / 1SC0 / BPSK - CP Spectrum Ref Level 30.00 dBm SGL Count 100/100 10 dBm--10 dBm--20 dBm N/A au abn Date: 28.JUL.2024 21:51:51 Middle Channel / 1SC0 / BPSK Middle Channel / 1SC0 / BPSK - CP Spectrum e1Rm AvgPwr Limit ¢heck -10 dBm-20 dBm--30 dBm -40 dBm-N/A -50 dBm -60 dBm-Span 2.0 MHz Highest Channel / 1SC0 / BPSK Highest Channel / 1SC0 / BPSK - CP Ref Level 30.00 dB SGL Count 100/100 10 dBmdBm--10 dBm -20 dBm-30 dBm 40 dBm N/A Date: 29.JUL.2024 01:05:25

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-7 of 49

Band 23 SCS 3.75kHz Lowest Channel / 1SC47 / BPSK Lowest Channel / 1SC47 / BPSK-CP Spectrum Ref Level 30.00 dBm SGL Count 100/100 10 dBm--10 dBm-20 dBm N/A | 1334 pts | 1334 pts | 1346 pts Date: 28.JUL.2024 21:55:41 Middle Channel / 1SC47 / BPSK Middle Channel / 1SC47 / BPSK-CP Spectrum e1Rm AvgPwr Limit ¢heck -10 dBm--20 dBm--30 dBm -40 dBm-N/A -50 dBm Span 2.0 MH Highest Channel / 1SC47 / BPSK Highest Channel / 1SC47 / BPSK-CP Ref Level 30.00 dB SGL Count 100/100 e 1Rm AvgPwr Limit check 10 dBmdBm--10 dBm -20 dBm--30 dBm 40 dBm N/A Date: 29.JUL.2024 00:57:02

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-8 of 49

Band 23 SCS 3.75kHz Lowest Channel / 1SC0 / QPSK Lowest Channel / 1SC0 / QPSK - CP Spectrum Ref Level 30.00 dBm SGL Count 100/100 10 dBm--10 dBm-20 dBm N/A | 1,334 pts | 1,344 pts | 1,34 Date: 28.JUL.2024 21:58:23 Middle Channel / 1SC0 / QPSK Middle Channel / 1SC0 / QPSK - CP Spectrum e1Rm AvgPwr Limit ¢heck -10 dBm--20 dBm--30 dBm 40 dBm-N/A -50 dBm Span 2.0 MHz Highest Channel / 1SC0 / QPSK Highest Channel / 1SC0 / QPSK - CP Ref Level 30.00 dB SGL Count 100/100 10 dBmdBm--10 dBm -20 dBm--30 dBm 40 dBm N/A Date: 29.JUL.2024 01:12:12

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-9 of 49

Band 23 SCS 3.75kHz Lowest Channel / 1SC47 / QPSK Lowest Channel / 1SC47 / QPSK-CP Spectrum Ref Level 30.00 dBm SGL Count 100/100 10 dBm--10 dBm-20 dBm N/A | 1,334 pts | 1,344 pts | 1,34 Date: 28.JUL.2024 22:01:17 Middle Channel / 1SC47 / QPSK Middle Channel / 1SC47 / QPSK-CP Spectrum e1Rm AvgPwr Limit ¢heck -10 dBm-20 dBm--30 dBm -40 dBm-N/A -50 dBm Span 2.0 MHz Highest Channel / 1SC47 / QPSK Highest Channel / 1SC47 / QPSK-CP Ref Level 30.00 dB SGL Count 100/100 e 1Rm AvgPwr Limit check 10 dBmdBm--10 dBm -20 dBm--30 dBm 40 dBm N/A Date: 29.JUL.2024 01:08:41

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-10 of 49

Band 23 SCS 15kHz Lowest Channel / 1SC0 / BPSK Lowest Channel / 1SC0 / BPSK - CP Ref Level 30.00 dBm Offset 12.58 dB SGL Count 100/100

1Rm AvgPwr
Limit check Mode Sweep 20 dBm2 10 dBm--10 dBm -20 dBm 30 dBm N/A Date: 28.JUL.2024 21:46:11 Middle Channel / 1SC0 / BPSK Middle Channel / 1SC0 / BPSK - CP Spectrum -10 dBm-N/A 50 dBm 60 dBm-Date: 28.JUL.2024 23:29:36 Highest Channel / 1SC0 / BPSK Highest Channel / 1SC0 / BPSK - CP Spectrum ●1Rm AvgPwr Limit ¢heck 30 dBm 40 dBm-N/A -50 dBm 60 dBm-Span 2.0 MHz

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-11 of 49

Band 23 SCS 15kHz Lowest Channel / 1SC11 / BPSK Lowest Channel / 1SC11 / BPSK-CP Ref Level 30.00 dBm Offset 12.58 dB SGL Count 100/100

1Rm AvgPwr
Limit check Mode Sweep 20 dBm2 10 dBm--10 dBm--20 dBm 30 dBm N/A Date: 29.JUL.2024 16:33:06 Middle Channel / 1SC11 / BPSK Middle Channel / 1SC11 / BPSK - CP Spectrum 10 dBm--10 dBm-N/A 50 dBm -ab dem-Date: 16.JUL.2024 23:32:09 Highest Channel / 1SC11 / BPSK Highest Channel / 1SC11 / BPSK-CP Spectrum ●1Rm AvgPwr Limit ¢heck 30 dBm 40 dBm-N/A -50 dBm ou dem Span 2.0 MHz

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-12 of 49

Band 23 SCS 15kHz Lowest Channel / 1SC0 / QPSK Lowest Channel / 1SC0 / QPSK - CP Spectrum Ref Level 30.00 dBm Offset 12.58 dB SGL Count 100/100

1Rm AvgPwr
Limit check Mode Sweep 20 dBm2 10 dBm--10 dBm--20 dBm 30 dBm N/A Date: 28.JUL.2024 21:34:23 Middle Channel / 1SC0 / QPSK Middle Channel / 1SC0 / QPSK - CP Spectrum 10 dBm--10 dBm-N/A 50 dBm -60 dBm-Date: 28.JUL.2024 23:33:50 Highest Channel / 1SC0 / QPSK Highest Channel / 1SC0 / QPSK - CP Spectrum ●1Rm AvgPwr Limit ¢heck -10 dBm 30 dBm 40 dBm-N/A 50 dBm -60 dBm-Span 2.0 MHz

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-13 of 49

Band 23 SCS 15kHz Lowest Channel / 1SC11 / QPSK Lowest Channel / 1SC11 / QPSK - CP Ref Level 30.00 dBm Offset 12.58 dB SGL Count 100/100

1Rm AvgPwr
Limit check Mode Sweep 20 dBm2 10 dBm--10 dBm--20 dBm 30 dBm N/A | Standard: Non-| Table | Stan Date: 28.JUL.2024 21:38:04 Middle Channel / 1SC11 / QPSK Middle Channel / 1SC11 / QPSK - CP Spectrum 10 dBm--10 dBm-N/A 50 dBmeo dem Date: 28.JUL.2024 23:37:04 Highest Channel / 1SC11 / QPSK - CP Highest Channel / 1SC11 / QPSK Spectrum ●1Rm AvgPwr Limit ¢heck 30 dBm 40 dBm-N/A -50 dBm Span 2.0 MH

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-14 of 49

Band 23 SCS 15kHz Lowest Channel / 3SC0 / QPSK Lowest Channel / 3SC9 / QPSK Ref Level 30.00 dBm Offset 13.16 dB SGL Count 100/100

18m AvgPwr
Limit dheck Ref Level 30.00 dBm Offset 13.16 dB SGL Count 100/100

1Rm AvgPwr
Limit check Mode Sweep Mode Sweep 20 dBm² 20 dBm² 10 dBm-10 dBmdBm 0 dBm--10 dBm -10 dBm -20 dBm 20 dBm 30 dBm -30 dBm | Standard Stendards None
The January 1200.00 btz RBW 3.00 btz

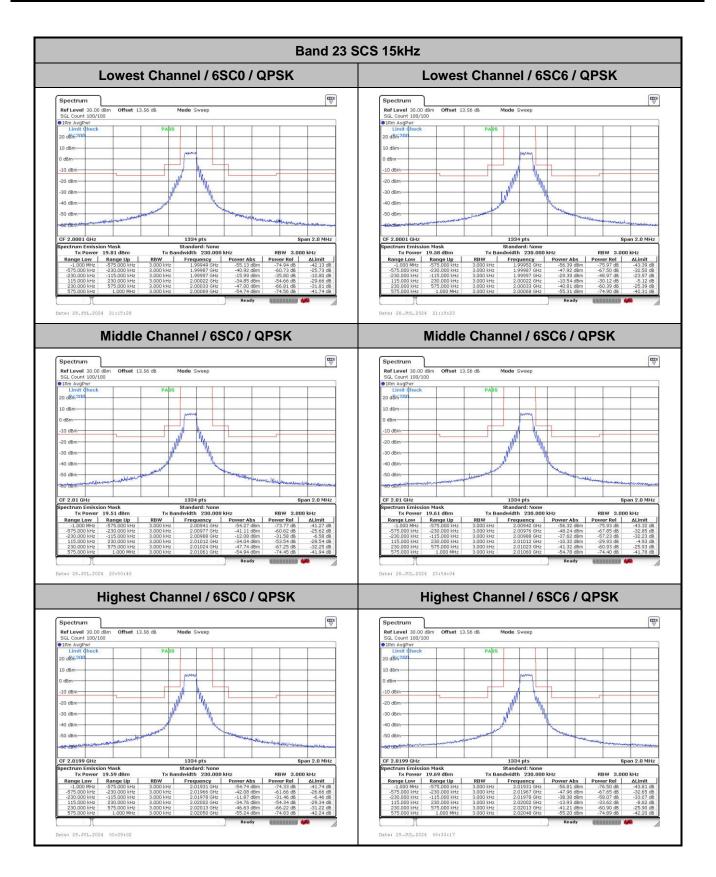
RBW Frequency Power Abs Power Rb 1200.00 btz

3000 btz 1,99952 dts -56,39 dtm -76,87 dt -34,39 dt
3000 btz 1,99960 dts -48,63 dtm -691.2 dt -341.2 dt
3000 btz 2,09980 dts -39,52 dtm -601.2 dt -341.2 dt
3000 btz 2,00022 dtm -2,52 dtm -2,72 dt -2,72 dt
3000 btz 2,00022 dtm -2,53 dt dtm -2,72 dt -2,72 dt -4,04 Date: 28.JUL.2024 21:23:49 Date: 28.JUL.2024 21:28:18 Middle Channel / 3SC0 / QPSK Middle Channel / 3SC9 / QPSK Spectrum Ref Level 30.00 dBm Offset 13.16 dB SGL Count 100/100 10 dBm 10 dBm--10 dBm--10 dBm 50 dBm 50 dam-| Standard: None | Tk Bandwidth | 230.000 kHz | RBW | 3.000 kHz | RBW | 3.000 kHz | RBW | 3.000 kHz | 3.000 kHz | 3.000 kHz | 3.000 kHz | 73.99 dB | 40.36 Date: 28.JUL.2024 23:41:48 Highest Channel / 3SC0 / QPSK Highest Channel / 3SC9 / QPSK Spectrum Spectrum Ref Level 30.00 SGL Count 100/1 e 1Rm AvgPwr Limit Check -10 dBm -10 dBm -20 dBm-30 dBm -30 dBm 40 dBm-40 dBm-50 dBm ou dBm-Span 2.0 MHz Span 2.0 MH | Standard: None | 3andwidth | 230,000 kHz | Frequency | Power Abs | 2,01917 GHz | -56,19 dB Тх Ва

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-15 of 49





Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-16 of 49

Band 23 SCS 15kHz Lowest Channel / 12SC0 / QPSK N/A Spectrum

Ref Level 30.00 dBm Offset 15.08 dB SGL Count 100/100

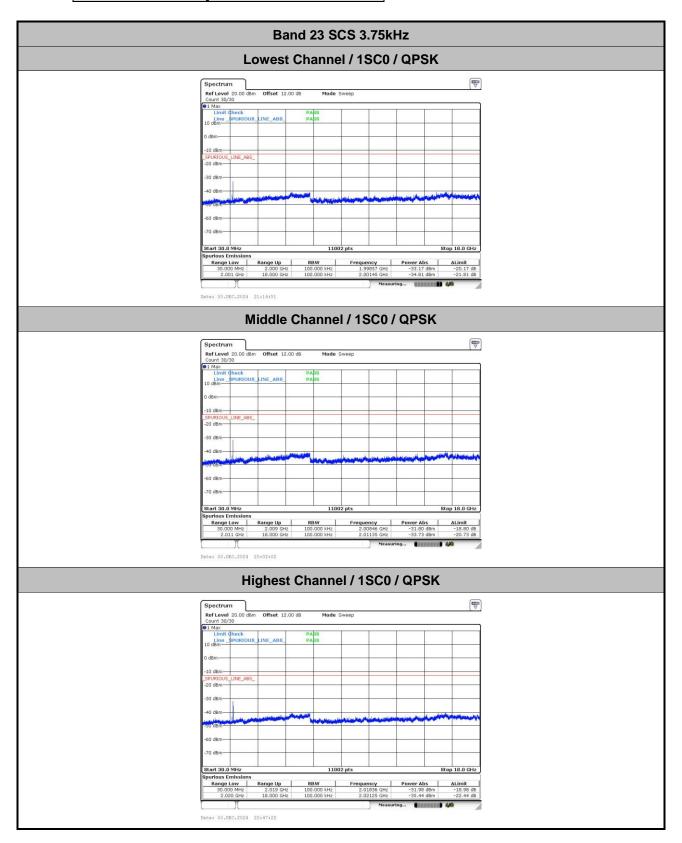
© 1Pm AvgPwr

Limit dheck Mode Sweep 20 dBm²¹ 10 dBm--10 dBm--20 dBm -30 dBm | Standard: None | Stan Date: 28.JUL.2024 21:10:54 Middle Channel / 12SC0 / QPSK N/A Spectrum 10 dBm--10 dBm--50 dBm-60 dBm Date: 28.JUL.2024 23:57:53 Highest Channel / 12SC0 / QPSK N/A Spectrum e 1Rm AvgPwr Limit Check -30 dBm -40 dBm-50 dBm au dem ····

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-17 of 49

Conducted Spurious Emission

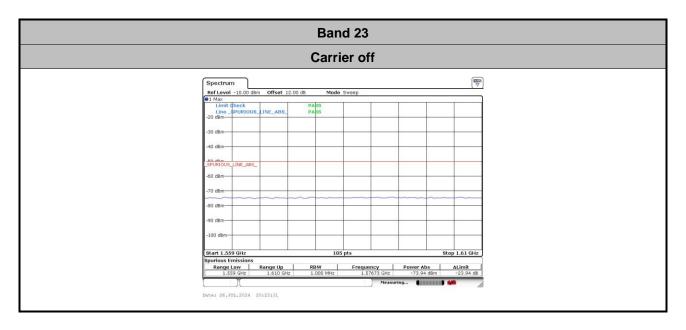


Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-18 of 49

Emission limits for protection of aeronautical service

Report No. : FG461112



B23 L CH 2000.1MHz Broad Band									
SCS (kHz)	Modulation	SC Setting	Measured Conducted Value (dBm/MHz)	Gain (dBi)	Measured EIRP Value (dBm/MHz)	Limt (dBm/MHz)	∆ Limit (dB)	Test Result	
3.75	BPSK	1SC0	-52.89	8.50	-44.39	-40.00	-4.39	Pass	
3.75	BPSK	1SC47	-53.19	8.50	-44.69	-40.00	-4.69	Pass	
3.75	QPSK	1SC0	-53.28	8.50	-44.78	-40.00	-4.78	Pass	
3.75	QPSK	1SC47	-53.43	8.50	-44.93	-40.00	-4.93	Pass	
15	BPSK	1SC0	-53.81	8.50	-45.31	-40.00	-5.31	Pass	
15	BPSK	1SC11	-53.72	8.50	-45.22	-40.00	-5.22	Pass	
15	QPSK	1SC0	-53.78	8.50	-45.28	-40.00	-5.28	Pass	
15	QPSK	1SC11	-53.42	8.50	-44.92	-40.00	-4.92	Pass	
15	QPSK	3SC0	-53.92	8.50	-45.42	-40.00	-5.42	Pass	
15	QPSK	3SC9	-54.02	8.50	-45.52	-40.00	-5.52	Pass	
15	QPSK	6SC0	-53.67	8.50	-45.17	-40.00	-5.17	Pass	
15	QPSK	6SC6	-53.67	8.50	-45.17	-40.00	-5.17	Pass	
15	QPSK	12SC0	-53.53	8.50	-45.03	-40.00	-5.03	Pass	

TEL: 886-3-327-0868 Page Number : A1-19 of 49

B23 M CH 2010MHz Broad Band Measured Measured SCS Conducted Gain **EIRP** Limt **∆** Limit Modulation SC Setting **Test Result** Value Value (kHz) (dBi) (dBm/MHz) (dB) (dBm/MHz) (dBm/MHz) 3.75 **BPSK 1SC0** -53.25 8.50 -44.75 -40.00 -4.75 **Pass BPSK** 1SC47 3.75 -53.50 8.50 -45.00 -40.00 -5.00 Pass 3.75 **QPSK 1SC0** -53.36 8.50 -44.86 -40.00 -4.86 **Pass** 3.75 **QPSK** 1SC47 -53.09 8.50 -44.59 -40.00 -4.59 Pass 15 **BPSK** 1SC0 -44.59 -40.00 -4.59 -53.09 8.50 Pass 15 **BPSK** 1SC11 -52.95 8.50 -44.45 -40.00 -4.45 Pass 15 **QPSK** 1SC0 -53.03 8.50 -44.53 -40.00 -4.53 Pass 15 **QPSK** 1SC11 -52.97 8.50 -44.47 -40.00 -4.47 Pass 15 **QPSK** 3SC0 -45.00 -40.00 -53.50 8.50 -5.00 Pass **QPSK** 15 **3SC9** -52.96 8.50 -44.46 -40.00 -4.46 Pass 15 **QPSK** 6SC0 -44.91 -53.41 8.50 -40.00 -4.91 Pass 15 **QPSK** -53.72 8.50 -45.22 -40.00 -5.22 6SC6 Pass 15 **QPSK** -5.04 12SC0 -53.54 8.50 -45.04 -40.00 **Pass**

Report No. : FG461112

B23 H CH 2019.9MHz Broad Band									
SCS (kHz)	Modulation	SC Setting	Measured Conducted Value (dBm/MHz)	Gain (dBi)	Measured EIRP Value (dBm/MHz)	Limt (dBm/MHz)	∆ Limit (dB)	Test Result	
3.75	BPSK	1SC0	-52.84	8.50	-44.34	-40.00	-4.34	Pass	
3.75	BPSK	1SC47	-53.27	8.50	-44.77	-40.00	-4.77	Pass	
3.75	QPSK	1SC0	-53.14	8.50	-44.64	-40.00	-4.64	Pass	
3.75	QPSK	1SC47	-53.28	8.50	-44.78	-40.00	-4.78	Pass	
15	BPSK	1SC0	-53.09	8.50	-44.59	-40.00	-4.59	Pass	
15	BPSK	1SC11	-53.33	8.50	-44.83	-40.00	-4.83	Pass	
15	QPSK	1SC0	-53.09	8.50	-44.59	-40.00	-4.59	Pass	
15	QPSK	1SC11	-53.06	8.50	-44.56	-40.00	-4.56	Pass	
15	QPSK	3SC0	-53.08	8.50	-44.58	-40.00	-4.58	Pass	
15	QPSK	3SC9	-53.36	8.50	-44.86	-40.00	-4.86	Pass	
15	QPSK	6SC0	-53.67	8.50	-45.17	-40.00	-5.17	Pass	
15	QPSK	6SC6	-53.50	8.50	-45.00	-40.00	-5.00	Pass	
15	QPSK	12SC0	-53.51	8.50	-45.01	-40.00	-5.01	Pass	

Remark: The max hold trace is used initially. If the result of the max hold trace fails, then the plot will be zoomed in on the frequency with the worst signal, and the average trace will be used.

TEL: 886-3-327-0868 Page Number : A1-20 of 49



B23 L CH 2000.1MHz Discrete Measured Measured SCS Conducted Gain **EIRP** Limt **∆ Limit** Modulation | SC Setting **Test Result** (kHz) Value (dBi) Value (dBm/kHz) (dB) (dBm/30kHz) (dBm/30kHz) 3.75 **BPSK** 1SC0 -60.79 8.50 -52.29 -50.00 -2.29 Pass **BPSK** 1SC47 3.75 -60.45 8.50 -51.95 -50.00 -1.95 **Pass QPSK** 1SC0 3.75 -59.79 8.50 -51.29 -50.00 -1.29 Pass **QPSK** 1SC47 3.75 -60.60 8.50 -52.10 -50.00 -2.10Pass 15 **BPSK** 1SC0 -60.28 -50.00 8.50 -51.78 -1.78 Pass 15 **BPSK** 1SC11 -60.59 8.50 -52.09 -50.00 -2.09 Pass 15 **QPSK** 1SC0 -2.28 -60.78 8.50 -52.28-50.00 Pass 15 **QPSK** 1SC11 -60.48 8.50 -51.98 -50.00 -1.98 Pass 15 QPSK 3SC0 -60.87 8.50 -52.37 -50.00 -2.37 Pass 15 **QPSK 3SC9** -60.31 8.50 -51.81 -50.00 -1.81 Pass 15 **QPSK** 6SC0 -1.70 -60.20 8.50 -51.70 -50.00 Pass 15 **QPSK** 6SC6 -60.22 8.50 -51.72 -50.00 -1.72 Pass 15 QPSK 12SC0 -1.42 -59.92 8.50 -51.42 -50.00 Pass

Report No. : FG461112

B23 M CH 2010MHz Discrete								
SCS (kHz)	Modulation	SC Setting	Measured Conducted Value (dBm/30kHz)	Gain (dBi)	Measured EIRP Value (dBm/30kHz)	Limt (dBm/kHz)	∆ Limit (dB)	Test Result
3.75	BPSK	1SC0	-60.53	8.50	-52.03	-50.00	-2.03	Pass
3.75	BPSK	1SC47	-59.99	8.50	-51.49	-50.00	-1.49	Pass
3.75	QPSK	1SC0	-59.39	8.50	-50.89	-50.00	-0.89	Pass
3.75	QPSK	1SC47	-59.47	8.50	-50.97	-50.00	-0.97	Pass
15	BPSK	1SC0	-60.20	8.50	-51.70	-50.00	-1.70	Pass
15	BPSK	1SC11	-60.01	8.50	-51.51	-50.00	-1.51	Pass
15	QPSK	1SC0	-60.25	8.50	-51.75	-50.00	-1.75	Pass
15	QPSK	1SC11	-59.17	8.50	-50.67	-50.00	-0.67	Pass
15	QPSK	3SC0	-60.19	8.50	-51.69	-50.00	-1.69	Pass
15	QPSK	3SC9	-59.76	8.50	-51.26	-50.00	-1.26	Pass
15	QPSK	6SC0	-60.63	8.50	-52.13	-50.00	-2.13	Pass
15	QPSK	6SC6	-60.27	8.50	-51.77	-50.00	-1.77	Pass
15	QPSK	12SC0	-60.29	8.50	-51.79	-50.00	-1.79	Pass

TEL: 886-3-327-0868 Page Number : A1-21 of 49



B23 H CH 2019.9MHz Discrete Measured Measured SCS Conducted Gain **EIRP** Limt **∆ Limit** Modulation | SC Setting **Test Result** (kHz) Value (dBi) Value (dBm/kHz) (dB) (dBm/30kHz) (dBm/30kHz) 3.75 **BPSK** 1SC0 -59.83 8.50 -51.33 -50.00 -1.33 Pass **BPSK** 1SC47 3.75 -60.15 8.50 -51.65 -50.00 -1.65 **Pass QPSK** 1SC0 3.75 -60.55 8.50 -52.05 -50.00 -2.05 Pass 3.75 **QPSK** 1SC47 -59.34 8.50 -50.84 -50.00 -0.84Pass 15 **BPSK** 1SC0 -60.52 8.50 -52.02 -50.00 -2.02 Pass 15 **BPSK** 1SC11 -60.14 8.50 -51.64 -50.00 -1.64 Pass 15 **QPSK** 1SC0 -60.06 8.50 -51.56 -50.00 -1.56 Pass 15 **QPSK** 1SC11 -59.45 8.50 -50.95 -50.00 -0.95 Pass 15 **QPSK** 3SC0 -59.62 8.50 -51.12 -50.00 -1.12 Pass 15 **QPSK 3SC9** -60.52 8.50 -52.02 -50.00 -2.02 Pass **QPSK** 15 6SC0 -60.90 8.50 -52.40 -50.00 -2.40Pass 15 **QPSK** 6SC6 -60.33 -51.83 -50.00 -1.83 8.50 **Pass** 15 QPSK 12SC0 -60.70 8.50 -52.20 -50.00 -2.20 Pass

Report No. : FG461112

Remark: The RBW is set to 30 kHz initially. If the result of the RBW 30 kHz fails, then the plot will be zoomed in on the frequency with the worst signal, and the RBW will be set to 1 kHz.

TEL: 886-3-327-0868 Page Number : A1-22 of 49

Band 23 SCS 3.75kHz **BPSK** Lowest Channel / 1SC0 Broadband Lowest Channel / 1SC0 Broadband - Zoom in Verify Spectrum
 Nange Low
 Range Up
 RBW
 Frequency
 Power Abs
 ALimit

 1.559 GHz
 1.610 GHz
 1.000 MHz
 1.60480 GHz
 -\$2.89 dBm
 -12.89 dB
 Middle Channel / 1SC0 Broadband Middle Channel / 1SC0 Broadband - Zoom in Verify Spectrum Ref Level 0.00 dBm Offset 12.00 dB -30 dBm-Date: 30.DEC.2024 19:45:21 **Highest Channel / 1SC0 Broadband** Highest Channel / 1SC0 Broadband - Zoom in Verify Spectrum Limit check
Line spurious LINE_ABS_ -30 dBm-Date: 30.DEC.2024 22:30:52

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-23 of 49

Lowest Channel / 1SC47 Broadband Lowest Channel / 1SC47 Broadband - Zoom in Verify Spectrum Ref Level 0.00 dBm Offset 12.00 dB SPURIOUS 70 dBm 80 dBm-
 RBW
 Frequency
 Power Abs
 ΔLimit

 1.000 MHz
 1.60777 GHz
 -53.19 dBm
 -13.19 dB
 Middle Channel / 1SC47 Broadband Middle Channel / 1SC47 Broadband - Zoom in Verify Ref Level 0.00 dBm Offset 12.00 dB 1 Max 20 dBm--30 dBm-SPURIOUS LINE_ABS_ 50 dBm--60 dBm-70 dBm
 Range Lov
 Range Up
 RBW
 Frequency
 Power Abs
 ALimit

 1.559 Gtz
 1.610 Gtz
 1.000 MHz
 1.60081 GHz
 -53.50 dBm
 -13.50 dB
 Highest Channel / 1SC47 Broadband Highest Channel / 1SC47 Broadband - Zoom in Verify Spectrum -20 dBm-30 dBm 60 dBm
 RBW
 Frequency
 Power Abs
 ∆Limit

 1.000 MHz
 1.58351 GHz
 -53.27 dBm
 -13.27 dB
 Date: 30.DEC.2024 22:37:29

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-24 of 49

Lowest Channel / 1SC0 Discrete Lowest Channel / 1SC0 Discrete - Zoom in Verify Spectrum Ref Level 0.00 dBm Offset 12.00 dB SPURIOUS 60 dBm
 Frequency
 Power Abs
 ΔLimit

 1.59562 GHz
 -60.79 dBm
 -10.79 dB
 Middle Channel / 1SC0 Discrete - Zoom in Verify Middle Channel / 1SC0 Discrete Ref Level 0.00 dBm M1[1] 40 dBm 70 dBm **Highest Channel / 1SC0 Discrete** Highest Channel / 1SC0 Discrete - Zoom in Verify Spectrum M1[1] 60 dBm
 Frequency
 Power Abs
 ΔLimit

 1.57676 GHz
 -59.83 dBm
 -9.83 dB
 Date: 30.DEC.2024 22:32:38

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-25 of 49

Lowest Channel / 1SC47 Discrete Lowest Channel / 1SC47 Discrete - Zoom in Verify Spectrum Ref Level 0.00 dBm Offset 12.00 dB 40 dBm-SPURIOUS -60 dBm-
 RBW
 Frequency
 Power Abs
 ΔLimit

 30.000 kHz
 1.60678 GHz
 -60.45 dBm
 -10.45 dB
 Middle Channel / 1SC47 Discrete Middle Channel / 1SC47 Discrete - Zoom in Verify Ref Level 0.00 dBm Offset 12.00 dB 1 Max M1[1] 40 dBm-INE_ABS_ -60 dBm 70 dBm-
 purious Emissions
 Range Low
 Range Up
 RBW
 Frequency
 Power Abs
 ALimit

 1.559 Gtz
 1.610 GHz
 30.000 kHz
 1.56354 GHz
 -59.99 dBm
 -9.99 dBm
 Highest Channel / 1SC47 Discrete Highest Channel / 1SC47 Discrete - Zoom in Verify Spectrum M1[1]
 RBW
 Frequency
 Power Abs
 ∆Limit

 30.000 kHz
 1.58165 GHz
 -60.15 dBm
 -10.15 dB
 Date: 30.DEC.2024 22:40:03

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-26 of 49

Band 23 SCS 3.75kHz **QPSK** Lowest Channel / 1SC0 Broadband Lowest Channel / 1SC0 Broadband - Zoom in Verify Spectrum
 Nange Low
 Range Up
 RBW
 Frequency
 Power Abs
 ALimit

 1.559 GHz
 1.610 GHz
 1.000 MHz
 1.57608 GHz
 -53.28 dBm
 -13.20 dB
 Middle Channel / 1SC0 Broadband Middle Channel / 1SC0 Broadband - Zoom in Verify Spectrum Ref Level 0.00 dBm Offset 12.00 dB -30 dBm-Date: 30.DEC.2024 20:03:29 **Highest Channel / 1SC0 Broadband** Highest Channel / 1SC0 Broadband - Zoom in Verify Spectrum Limit check
Line spurious LINE_ABS_ -30 dBm-

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-27 of 49

FAX: 886-3-327-0855

Date: 30.DEC.2024 22:48:35

Lowest Channel / 1SC47 Broadband Lowest Channel / 1SC47 Broadband - Zoom in Verify Spectrum Ref Level 0.00 dBm Offset 12.00 dB SPURIOUS 70 dBm
 RBW
 Frequency
 Power Abs
 ΔLimit

 1.000 MHz
 1.58004 GHz
 -53.43 dBm
 -13.43 dB
 Middle Channel / 1SC47 Broadband - Zoom in Verify Middle Channel / 1SC47 Broadband Ref Level 0.00 dBm Offset 12.00 dB 1 Max 20 dBm -30 dBm-SPURIOUS LINE_ABS_ 50 dBm--60 dBm-70 dBm
 Range Lov
 Range Up
 R8W
 Frequency
 Power Abs
 ALImit

 1.559 GHz
 1.610 GHz
 1.000 Metz
 1.57361 GHz
 -53.09 dBm
 -13.09 dB
 Highest Channel / 1SC47 Broadband Highest Channel / 1SC47 Broadband - Zoom in Verify Spectrum 20 dBm-30 dBm 60 dBm
 RBW
 Frequency
 Power Abs
 ∆Limit

 1.000 MHz
 1.58648 GHz
 -53.28 dBm
 -13.28 dB
 Date: 30.DEC.2024 22:56:20

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-28 of 49

Lowest Channel / 1SC0 Discrete Lowest Channel / 1SC0 Discrete - Zoom in Verify Spectrum Ref Level 0.00 dBm Offset 12.00 dB SPURIOUS 60 dBm-
 Frequency
 Power Abs
 ΔLimit

 1.59125 GHz
 -59.79 dBm
 -9.79 dB
 Middle Channel / 1SC0 Discrete - Zoom in Verify Middle Channel / 1SC0 Discrete Ref Level 0.00 d8m M1[1] 40 dBm LINE_ABS_ 60 dBm-70 dBm
 Range Low
 Range Up
 RBW
 Frequency
 Power Abs
 ALimit

 1.559 GHz
 1.610 GHz
 90.000 kHz
 1.60042 GHz
 -59.39 dBm
 -9.39 dB
 Highest Channel / 1SC0 Discrete Highest Channel / 1SC0 Discrete - Zoom in Verify Spectrum M1[1]
 Frequency
 Power Abs
 ΔLimit

 1.60324 GHz
 -60.55 dBm
 -10.55 dB
 Date: 30.DEC.2024 22:49:39

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-29 of 49

Lowest Channel / 1SC47 Discrete Lowest Channel / 1SC47 Discrete - Zoom in Verify Spectrum Ref Level 0.00 dBm Offset 12.00 dB SPURIOUS Middle Channel / 1SC47 Discrete Middle Channel / 1SC47 Discrete - Zoom in Verify Ref Level 0.00 dBm M1[1] -40 dBm-LINE_ABS_ -60 dBm-70 dBm-
 Renge Low
 Range Up
 RBW
 Frequency
 Power Abs
 ALimit

 1.559 GHz
 1.610 GHz
 90.000 kHz
 1.60069 GHz
 -59.47 dBm
 -9.47 dB
 Highest Channel / 1SC47 Discrete Highest Channel / 1SC47 Discrete - Zoom in Verify Spectrum M1[1] 60 dBm
 Frequency
 Power Abs
 ΔLimit

 1.57128 GHz
 -59.34 dBm
 -9.34 dB
 Date: 30.DEC.2024 22:59:52

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-30 of 49

Band 23 SCS 15kHz **BPSK** Lowest Channel / 1SC0 Broadband Lowest Channel / 1SC0 Broadband - Zoom in Verify Spectrum
 Range Low
 Range Ly
 RBW
 Frequency
 Power Abs
 ΔLimit

 1.559 GHz
 1.610 GHz
 1.000 MHz
 1.58351 GHz
 -53.81 dBm
 -13.81 dB
 Middle Channel / 1SC0 Broadband Middle Channel / 1SC0 Broadband - Zoom in Verify Spectrum Ref Level 0.00 dBm Offset 12.00 dB -30 dBm-Date: 30.DEC.2024 20:13:07 **Highest Channel / 1SC0 Broadband** Highest Channel / 1SC0 Broadband - Zoom in Verify Spectrum Limit check
Line spurious LINE_ABS_ -30 dBm-

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-31 of 49

FAX: 886-3-327-0855

Date: 30.DEC.2024 23:04:53

Lowest Channel / 1SC11 Broadband Lowest Channel / 1SC11 Broadband -Verify Spectrum Ref Level 0.00 dBm Offset 12.00 dB SPURIOUS 70 dBm
 RBW
 Frequency
 Power Abs
 ΔLimit

 1.000 MHz
 1.60827 GHz
 -53.72 dBm
 -13.72 dB
 Middle Channel / 1SC11 Broadband Middle Channel / 1SC11 Broadband -Verify Ref Level 0.00 dBm Offset 12.00 dB 1 Max -30 dBm-SPURIOUS LINE_ABS_ 50 dBm--60 dBm-70 dBm
 Range Lov
 Range Up
 R8W
 Frequency
 Power Abs
 ALimit

 1.559 GHz
 1.650 GHz
 1.000 Metz
 1.58103 GHz
 -52.95 dBm
 -12.95 dB
 Highest Channel / 1SC11 Broadband Highest Channel / 1SC11 Broadband -Verify Spectrum 20 dBm-
 RBW
 Frequency
 Power Abs
 ∆Limit

 1.000 MHz
 1.57608 GHz
 -53.33 dBm
 -13.33 dB
 Date: 30.DEC.2024 23:08:05

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-32 of 49

Lowest Channel / 1SC0 Discrete Lowest Channel / 1SC0 Discrete - Zoom in Verify Spectrum Ref Level 0.00 dBm Offset 12.00 dB SPURIOUS 60 dBm Middle Channel / 1SC0 Discrete - Zoom in Verify Middle Channel / 1SC0 Discrete Ref Level 0.00 dBm Offset 12.00 dB 1 Max M1[1] 40 dBm--60 dBm-70 dBm **Highest Channel / 1SC0 Discrete** Highest Channel / 1SC0 Discrete - Zoom in Verify Spectrum M1[1]
 RBW
 Frequency
 Power Abs
 ∆Limit

 30.000 kHz
 1.58360 GHz
 -60.52 dBm
 -10.52 dB
 Date: 30.DEC.2024 23:06:03

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-33 of 49

Lowest Channel / 1SC11 Discrete Lowest Channel / 1SC11 Discrete - Zoom in Verify Spectrum Ref Level 0.00 dBm Offset 12.00 dB 40 dBm-SPURIOUS, 60 dBm-
 RBW
 Frequency
 Power Abs
 ΔLimit

 30.000 kHz
 1.57667 GHz
 -60.59 dBm
 -10.59 dB
 Middle Channel / 1SC11 Discrete Middle Channel / 1SC11 Discrete - Zoom in Verify Ref Level 0.00 dBm M1[1] -30 dBm -40 dBm-LINE_ABS_ -60 dBm-70 dBm-
 Renge Low
 Range Up
 RBW
 Frequency
 Power Abs
 ALimit

 1.559 GHz
 1.610 GHz
 90.000 kHz
 1.59802 GHz
 -60.01 dBm
 -10.01 dB
 Highest Channel / 1SC11 Discrete Highest Channel / 1SC11 Discrete - Zoom in Verify Spectrum M1[1]
 RBW
 Frequency
 Power Abs
 ∆Limit

 30.000 kHz
 1.60522 GHz
 -60.14 dBm
 -10.14 dB
 Date: 30.DEC.2024 23:08:52

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-34 of 49

Band 23 SCS 15kHz **QPSK** Lowest Channel / 1SC0 Broadband Lowest Channel / 1SC0 Broadband - Zoom in Verify Spectrum
 Range Low
 Range Ly
 RBW
 Frequency
 Power Abs
 ΔLimit

 1.559 GHz
 1.610 GHz
 1.000 MHz
 1.57658 GHz
 -53.78 dBm
 -13.78 dB
 Middle Channel / 1SC0 Broadband Middle Channel / 1SC0 Broadband - Zoom in Verify Spectrum Ref Level 0.00 dBm Offset 12.00 dB -30 dBm-Date: 30.DEC.2024 20:21:11 **Highest Channel / 1SC0 Broadband** Highest Channel / 1SC0 Broadband - Zoom in Verify Spectrum Limit check
Line spurious LINE_ABS_ -30 dBm-

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-35 of 49

FAX: 886-3-327-0855

Date: 30.DEC.2024 23:10:52

Lowest Channel / 1SC11 Broadband Lowest Channel / 1SC11 Broadband - Zoom in Verify Spectrum Ref Level 0.00 dBm Offset 12.00 dB SPURIOUS 70 dBm 80 dBm 90 dBm-
 RBW
 Frequency
 Power Abs
 ΔLimit

 1.000 MHz
 1.57113 GHz
 -53.42 dBm
 -13.42 dB
 Middle Channel / 1SC11 Broadband - Zoom in Verify Middle Channel / 1SC11 Broadband Ref Level 0.00 dBm Offset 12.00 1 Max 20 dBm -30 dBm-SPURIOUS LINE_ABS_ -50 dBm--60 dBm-70 dBm
 purlous Emissions

 Range Low
 Range Up
 RBW
 Frequency
 Power Abs
 ALimit

 1.559 GHz
 1.610 GHz
 1.000 MHz
 1.57113 GHz
 -52.97 dBm
 -12.97 dB
 Highest Channel / 1SC11 Broadband Highest Channel / 1SC11 Broadband - Zoom in Verify Spectrum Ref Level 1.38 dBm SPURIOUS 60 dBm-70 dBm
 RBW
 Frequency
 Power Abs
 ∆Limit

 1.000 MHz
 1.58846 GHz
 -53.06 dBm
 -13.06 dB
 Date: 30.DEC.2024 23:14:43

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-36 of 49

Lowest Channel / 3SC0 Broadband Lowest Channel / 3SC0 Broadband - Zoom in Verify Spectrum Ref Level 0.00 dBm Offset 12.00 dB SPURIOUS 70 dBm
 RBW
 Frequency
 Power Abs
 ΔLimit

 1.000 MHz
 1.58252 GHz
 -53.92 dBm
 -13.92 dB
 Middle Channel / 3SC0 Broadband - Zoom in Verify Middle Channel / 3SC0 Broadband Ref Level 0.00 dBm Offset 12.00 dB 1 Max -30 dBm-SPURIOUS LINE_ABS_ 50 dBm-60 dBm-70 dBm
 purfous Emissions

 Range Low
 Range Up
 RBW
 Frequency
 Power Abs
 ALimit

 1.559 GHz
 1.610 GHz
 1.000 MHz
 1.59539 GHz
 -53.50 dBm
 -13.50 dB
 Highest Channel / 3SC0 Broadband Highest Channel / 3SC0 Broadband - Zoom in Verify Spectrum 20 dBm-
 RBW
 Frequency
 Power Abs
 ∆Limit

 1.000 MHz
 1.59638 GHz
 -53.08 dBm
 -13.08 dB
 Date: 30.DEC.2024 23:18:33

Report No. : FG461112

TEL: 886-3-327-0868 Page Number : A1-37 of 49