

FCC Measurement/Technical Report on

SARA-R510M8S

FCC ID: XPYUBX19KM01 IC: 8595A-UBX19KM01

Test Report Reference: MDE_UBLOX_1905_FCC_01_rev01

Test Laboratory:

7layers GmbH Borsigstrasse 11 40880 Ratingen Germany





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7layers GmbH

Geschäftsführer/ Borsigstraße 11 Managing Directors: 40880 Ratingen, Germany Frank Spiller Bernhard Retka

T +49 (0) 2102 749 0 F +49 (0) 2102 749 350 Alexandre Norré-Oudard Registergericht/registered: Düsseldorf HRB 75554

USt-Id.-Nr./VAT-No. DE203159652 Steuer-Nr./TAX-No. 147/5869/0385 a Bureau Veritas Group Company

www.7layers.com



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1 APPLIED STANDARDS AND TEST SUMMARY

1.1 APPLIED STANDARDS

Type of Authorization

Certification for a cellular mobile device.

Applicable FCC Rules

Prepared in accordance with the requirements of FCC Rules and Regulations as listed in 47 CFR Ch.1 Parts 2 and 22, (10-1-18 Edition). The following subparts are applicable to the results in this test report.

Part 2, Subpart J - Equipment Authorization Procedures, Certification

Part 22, Subpart H - Cellular Radiotelephone Service

§ 22.905 – Channels for cellular service

§ 22.913 – Effective radiated power limits

§ 22.917 – Emission limitations for cellular equipment

The tests were selected and performed with reference to:

- FCC Public Notice 971168 applying "Measurement guidance for certification of licensed digital transmitters" 971168 D01 v03r01, 2018-04-09
- ANSI C63.26: 2015

Type of Authorization

Certification for a cellular mobile device.

Applicable FCC Rules

Prepared in accordance with the requirements of FCC Rules and Regulations as listed in 47 CFR Ch.1 Parts 2 and 90, (10-1-18 Edition). The following subparts are applicable to the results in this test report.

Part 2, Subpart J - Equipment Authorization Procedures, Certification

Part 90; Private Land Mobile Radio Services

Subpart S—REGULATIONS GOVERNING LICENSING AND USE OF FREQUENCIES IN THE 806-824, 851-869, 896-901, AND 935-940 MHZ BANDS

Subpart R—REGULATIONS GOVERNING THE LICENSING AND USE OF FREQUENCIES IN THE 763-775 AND 793-805 MHZ BANDS



§ 90.635 – Limitations on power and antenna height § 90.543 – Emission limitations

§ 90.539 - Frequency stability

The tests were selected and performed with reference to:

- FCC Public Notice 971168 applying "Measurement guidance for certification of licensed digital transmitters" 971168 D01 v03r01, 2018-04-09
- ANSI C63.26: 2015

Type of Authorization

Certification for a cellular mobile device.

Applicable FCC Rules

Prepared in accordance with the requirements of FCC Rules and Regulations as listed in 47 CFR Ch.1 Parts 2 and 24, (10-1-18 Edition). The following subparts are applicable to the results in this test report.

Part 2, Subpart J - Equipment Authorization Procedures, Certification

Part 24, Subpart E - Broadband PCS

§ 24.232 - Power and antenna height limits

\$ 24.235 - Frequency stability

§ 24.238 – Emission limitations for Broadband PCS equipment

The tests were selected and performed with reference to:

- FCC Public Notice 971168 applying "Measurement guidance for certification of licensed digital transmitters" 971168 D01 v03r01, 2018-04-09
- ANSI C63,26: 2015

Type of Authorization

Certification for a cellular mobile device.

Applicable FCC Rules

Prepared in accordance with the requirements of FCC Rules and Regulations as listed in 47 CFR Ch.1 Parts 2 and 27, (10-1-18 Edition). The following subparts are applicable to the results in this test report.

Part 2, Subpart J - Equipment Authorization Procedures, Certification

TEST REPORT REFERENCE: MDE_UBLOX_1905_FCC_01_rev01



Part 27; Miscellaneous Wireless Communications Services Subpart C – Technical standards

§ 27.50 – Power and duty cycle limits

§ 27.53 – Emission limits

§ 27.54 – Frequency stability

The tests were selected and performed with reference to:

• FCC Public Notice 971168 applying "Measurement guidance for certification of licensed digital transmitters" 971168 D01 v03r01, 2018-04-09

• ANSI C63.26: 2015



Summary Test Results:

The EUT complied with all performed tests as listed in chapter 1.3 Measurement Summary / Signatures.

1.2 FCC-IC CORRELATION TABLE

Correlation of measurement requirements for Cellular Mobile Devices from FCC and ISED Canada

FCC Part 22

Measurement	FCC reference	ISED reference
RF Output Power	§ 2.1046 § 22.913	RSS-GEN Issue 5, 6.12 RSS-132 Issue 3, 5.4
Peak-Average-Ratio	-	RSS 132 Issue 3: 5.4
Emission and Occupied bandwidth	§ 2.1049	RSS-GEN Issue 5, 6.7
Spurious Emission at Antenna Terminals	§ 2.1051 § 22.917	RSS-GEN Issue 5, 6.13 RSS-132 Issue 3, 5.5
Band Edge Compliance	§ 2.1051 § 22.917	RSS-GEN Issue 4, 6.13 RSS-132 Issue 3, 5.5
Frequency stability	§ 2.1055 § 22.355	RSS-GEN Issue 5, 6.11 RSS-132 Issue 3: 5.3
Field strength of spurious radiation	§ 2.1053 § 22.917	RSS-GEN Issue 5, 6.13 RSS-132 Issue 3: 5.5



FCC Part 90

Measurement	FCC reference	ISED reference
RF Output Power	§ 2.1046 § 90.635	RSS-GEN Issue 5, 6.12
Peak to Average-Ratio	§ 90.635	
Emission and Occupied bandwidth	§ 2.1049	RSS-GEN Issue 5, 6.7
Spurious Emission at Antenna Terminals	§ 2.1051 § 90.543	RSS-GEN Issue 5, 6.13
Band Edge Compliance	§ 2.1051 § 90.543	RSS-GEN Issue 5, 6.13
Frequency stability	§ 2.1055 § 90.539	RSS-GEN Issue 5, 6.11
Field strength of spurious radiation	§ 2.1053 § 90.543	RSS-GEN Issue 5, 6.13

FCC Part 24

Measurement	FCC reference	ISED reference
RF Output Power	§ 2.1046 § 24.232	RSS-GEN Issue 5, 6.12 RSS-133 Issue 6, 6.4
Peak-Average-Ratio	§ 24.232	RSS 133 Issue 6: 6.4
Emission and Occupied bandwidth	§ 2.1049	RSS-GEN Issue 5, 6.7
Spurious Emission at Antenna Terminals	§ 2.1051 § 24.238	RSS-GEN Issue 5, 6.13 RSS-133 Issue 6, 6.5
Band Edge Compliance	§ 2.1051 § 24.238	RSS-GEN Issue 5, 6.13 RSS-133 Issue 6, 6.5
Frequency stability	§ 2.1055 § 24.235	RSS-GEN Issue 5, 6.11 RSS-133 Issue 6: 6.3
Field strength of spurious radiation	§ 2.1053 § 24.236	RSS-GEN Issue 5, 6.13 RSS-133 Issue 6: 6.5



FCC Part 27

Measurement	FCC reference	ISED reference
RF Output Power	§ 2.1046 § 27.50	RSS-GEN Issue 5, 6.12 RSS-130 Issue 2, 4.6.2/4.6.3 RSS-139 Issue 3, 6.5 RSS-199 Issue 3, 4.4
Peak to Average-Ratio	§ 27.50	RSS-130 Issue 2: 4.6.1 RSS 139 Issue 3: 6.5 RSS-199 Issue 3, 4.4
Emission and Occupied bandwidth	§ 2.1049	RSS-GEN Issue 5, 6.7
Spurious Emission at Antenna Terminals	§ 2.1051 § 27.53	RSS-GEN Issue 5, 6.13 RSS-130 Issue 2: 4.7.1/4.7.2 RSS-139 Issue 3, 6.6 RSS-199 Issue 3, 4.5
Band Edge Compliance	§ 2.1051 § 27.53	RSS-GEN Issue 5, 6.13 RSS-130 Issue 2: 4.7.1/4.7.2 RSS-139 Issue 3, 6.6 RSS-199 Issue 3, 4.5
Frequency stability	§ 2.1055 § 27.54	RSS-GEN Issue 5, 6.11 RSS-130 Issue 2: 4.5 RSS-139 Issue 3: 6.4 RSS-199 Issue 3, 4.3
Field strength of spurious radiation	§ 2.1053 § 27.53	RSS-GEN Issue 5, 6.13 RSS-130 Issue 2: 4.7.1/4.7.2 RSS-139 Issue 3: 6.6 RSS-199 Issue 3, 4.5



1.3 MEASUREMENT SUMMARY / SIGNATURES

47 CFR CHAPTER I FCC PART 22 § 2.1046 § 22.913 Subpart H RF Output power

RF Output power				
The measurement was performed according to ANSI	Final F	Final Result		
OP-Mode	Setup	Date	FCC	IC
Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method	-			
CAT-M1, eFDD 26 16QAM, high channel, 1.4 MHz, 1, conducted	S01 AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 26 16QAM, high channel, 1.4 MHz, 5, conducted	S01 AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 26 16QAM, low channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 26 16QAM, low channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 26 16QAM, mid channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 26 16QAM, mid channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 26 QPSK, high channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 26 QPSK, high channel, 1.4 MHz, 3, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 26 QPSK, high channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 26 QPSK, low channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 26 QPSK, low channel, 1.4 MHz, 3, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 26 QPSK, low channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 26 QPSK, mid channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 26 QPSK, mid channel, 1.4 MHz, 3, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 26 QPSK, mid channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 5 16QAM, high channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 5 16QAM, high channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 5 16QAM, low channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 5 16QAM, low channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 5 16QAM, mid channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 5 16QAM, mid channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 5 QPSK, high channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 5 QPSK, high channel, 1.4 MHz, 3, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 5 QPSK, high channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 5 QPSK, low channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 5 QPSK, low channel, 1.4 MHz, 3, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 5 QPSK, low channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 5 QPSK, mid channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 5 QPSK, mid channel, 1.4 MHz, 3, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 5 QPSK, mid channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-28	Passed	Passed



47 CFR CHAPTER I FCC PART 22	§ 2.1055 § 22.355
Subpart H	

Frequency stability	Frequency stability						
The measurement was performed according to ANSI C63.26: 2015				Final Result			
OP-Mode Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks,	Setup	Date	FCC	IC			
Measurement method							
CAT-M1, eFDD 5 QPSK, mid channel, 1.4 MHz, 1, con	ducted S01_AR11	2020-01-27	Passed	Passed			
CAT-M1, eFDD 26 QPSK, mid channel, 1.4 MHz, 1, conducted COMMENT: eFDD26 was tested for Part90	-	-	-	-			

47 CFR CHAPTER I FCC PART 22 § 2.1051 § 22.917 Subpart H

Spurious emissions at antenna terminals The measurement was performed according to ANSI C63.26: 2015 Final Result						
OP-Mode	Setup	Date	FCC	IC		
Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method	- r					
CAT-M1, eFDD 26 QPSK, high channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-28	Passed	Passed		
CAT-M1, eFDD 26 QPSK, low channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-28	Passed	Passed		
CAT-M1, eFDD 26 QPSK, mid channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-28	Passed	Passed		
CAT-M1, eFDD 5 QPSK, high channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-27	Passed	Passed		
CAT-M1, eFDD 5 QPSK, low channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-27	Passed	Passed		
CAT-M1, eFDD 5 OPSK, mid channel, 1,4 MHz, 1, conducted	S01 AR11	2020-01-27	Passed	Passed		

47 CFR CHAPTER I FCC PART 22 § 2.1053 § 22.917 Subpart H

Field strength of spurious radiation The measurement was performed according to Al	Final Re	esult		
OP-Mode Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method	Setup	Date	FCC	IC
CAT-M1, eFDD 26 QPSK, high channel, 1.4 MHz, 1, radiated	S01_AR11	2020-01-31	Passed	Passed
CAT-M1, eFDD 26 QPSK, low channel, 1.4 MHz, 1, radiated	S01_AR11	2020-01-31	Passed	Passed
CAT-M1, eFDD 26 QPSK, mid channel, 1.4 MHz, 1, radiated	S01_AR11	2020-01-31	Passed	Passed
CAT-M1, eFDD 5 QPSK, high channel, 1.4 MHz, 1, radiated	S01_AR11	2020-01-31	Passed	Passed
CAT-M1, eFDD 5 QPSK, low channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 5 QPSK, mid channel, 1.4 MHz, 1, radiated	S01_AR11 S01_AR11	2020-01-31 2020-01-31	Passed Passed	Passed Passed

47 CFR CHAPTER I FCC PART 22 § 2.1049 Subpart H

Emission and occupied bandwidth The measurement was performed according to ANSI C63.26: 2015 Final					
OP-Mode Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method	Setup	Date	FCC	IC	
CAT-M1, eFDD 26 16QAM, high channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-22	Passed	Passed	
CAT-M1, eFDD 26 16QAM, low channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-22	Passed	Passed	
CAT-M1, eFDD 26 16QAM, mid channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-22	Passed	Passed	



47 CFR CHAPTER I FCC PART 22 § 2.1049 Subpart H

Emission and occupied bandwidth The measurement was performed according to ANSI C63.26: 2015 Final Result					
The measurement was performed according to ANS	Final	Result			
OP-Mode	Setup	Date	FCC	IC	
Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method	•				
CAT-M1, eFDD 26 QPSK, high channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-22	Passed	Passed	
CAT-M1, eFDD 26 QPSK, low channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-22	Passed	Passed	
CAT-M1, eFDD 26 QPSK, mid channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-22	Passed	Passed	
CAT-M1, eFDD 5 16QAM, high channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-22	Passed	Passed	
CAT-M1, eFDD 5 16QAM, low channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-22	Passed	Passed	
CAT-M1, eFDD 5 16QAM, mid channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-22	Passed	Passed	
CAT-M1, eFDD 5 QPSK, high channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-22	Passed	Passed	
CAT-M1, eFDD 5 QPSK, low channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-22	Passed	Passed	
CAT-M1, eFDD 5 QPSK, mid channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-22	Passed	Passed	

47 CFR CHAPTER I FCC PART 22 § 2.1051 § 22.917 Subpart H

Band edge compliance The measurement was performed according to ANS	Final Result			
OP-Mode Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method	Setup	Date	FCC	IC
CAT-M1, eFDD 26 16QAM, high channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-21	Passed	Passed
CAT-M1, eFDD 26 16QAM, low channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-21	Passed	Passed
CAT-M1, eFDD 26 QPSK, high channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-21	Passed	Passed
CAT-M1, eFDD 26 QPSK, low channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-21	Passed	Passed
CAT-M1, eFDD 5 16QAM, high channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-27	Passed	Passed
CAT-M1, eFDD 5 16QAM, low channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-27	Passed	Passed
CAT-M1, eFDD 5 QPSK, high channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-27	Passed	Passed
CAT-M1, eFDD 5 QPSK, low channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-27	Passed	Passed

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Peak-average-ratio The measurement was performed according to ANSI	Final Result			
OP-Mode Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method	Setup	Date	FCC	IC
CAT-M1, eFDD 26 16QAM, high channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-29	Passed	Passed
CAT-M1, eFDD 26 16QAM, low channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-29	Passed	Passed
CAT-M1, eFDD 26 16QAM, mid channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-29	Passed	Passed
CAT-M1, eFDD 26 QPSK, high channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-29	Passed	Passed
CAT-M1, eFDD 26 QPSK, low channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-29	Passed	Passed
CAT-M1, eFDD 26 QPSK, mid channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-29	Passed	Passed
CAT-M1, eFDD 5 16QAM, high channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-29	Passed	Passed
CAT-M1, eFDD 5 16QAM, low channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-29	Passed	Passed
CAT-M1, eFDD 5 16QAM, mid channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-29	Passed	Passed
CAT-M1, eFDD 5 QPSK, high channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-29	Passed	Passed
CAT-M1, eFDD 5 QPSK, low channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-29	Passed	Passed



47 CFR CHAPTER I FCC PART 22 - Subpart H

Peak-average-ratio

The measurement was performed according to ANSI C63.26: 2015 Final Result

OP-Mode
Technology, Radio Technology, Operating Frequency,
ChBW, Ressource Blocks, Measurement method
CAT-M1, eFDD 5 QPSK, mid channel, 1.4 MHz, 6, conducted
S01_AR11
2020-01-29
Passed
Passed

47 CFR CHAPTER I FCC PART 24 § 2.1046 § 24.232 Subpart E

RF Output power The measurement was performed according to ANSI C63.26: 2015 **Final Result OP-Mode FCC** IC Setup **Date** Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method CAT-M1, eFDD 2 16QAM, high channel, 1.4 MHz, 1, conducted S01_AR11 2020-01-27 Passed Passed CAT-M1, eFDD 2 16QAM, high channel, 1.4 MHz, 5, conducted S01_AR11 2020-01-27 Passed Passed CAT-M1, eFDD 2 16QAM, low channel, 1.4 MHz, 1, conducted S01_AR11 2020-01-27 Passed Passed CAT-M1, eFDD 2 16QAM, low channel, 1.4 MHz, 5, conducted S01_AR11 2020-01-27 Passed Passed 2020-01-27 CAT-M1, eFDD 2 16QAM, mid channel, 1.4 MHz, 1, conducted S01_AR11 Passed Passed CAT-M1, eFDD 2 16QAM, mid channel, 1.4 MHz, 5, conducted S01_AR11 2020-01-27 Passed Passed CAT-M1, eFDD 2 QPSK, high channel, 1.4 MHz, 1, conducted 2020-01-27 Passed S01 AR11 Passed CAT-M1, eFDD 2 QPSK, high channel, 1.4 MHz, 3, conducted S01 AR11 2020-01-27 Passed Passed S01_AR11 Passed CAT-M1, eFDD 2 QPSK, high channel, 1.4 MHz, 6, conducted 2020-01-27 Passed CAT-M1, eFDD 2 QPSK, low channel, 1.4 MHz, 1, conducted S01 AR11 2020-01-27 Passed Passed CAT-M1, eFDD 2 QPSK, low channel, 1.4 MHz, 3, conducted S01_AR11 2020-01-27 Passed Passed CAT-M1, eFDD 2 QPSK, low channel, 1.4 MHz, 6, conducted S01 AR11 2020-01-27 Passed Passed CAT-M1, eFDD 2 QPSK, mid channel, 1.4 MHz, 1, conducted S01 AR11 2020-01-27 Passed Passed CAT-M1, eFDD 2 QPSK, mid channel, 1.4 MHz, 3, conducted 2020-01-27 S01 AR11 Passed Passed CAT-M1, eFDD 2 QPSK, mid channel, 1.4 MHz, 6, conducted S01 AR11 2020-01-27 Passed Passed S01 AR11 CAT-M1, eFDD 25 16QAM, high channel, 1.4 MHz, 1, conducted 2020-01-28 Passed Passed CAT-M1, eFDD 25 16QAM, high channel, 1.4 MHz, 5, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 25 16QAM, low channel, 1.4 MHz, 1, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 25 16QAM, low channel, 1.4 MHz, 5, conducted 2020-01-28 Passed S01 AR11 Passed S01 AR11 CAT-M1, eFDD 25 16QAM, mid channel, 1.4 MHz, 1, conducted 2020-01-28 Passed Passed 2020-01-28 CAT-M1, eFDD 25 16QAM, mid channel, 1.4 MHz, 5, conducted S01 AR11 Passed Passed CAT-M1, eFDD 25 QPSK, high channel, 1.4 MHz, 1, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 25 QPSK, high channel, 1.4 MHz, 3, conducted S01 AR11 2020-01-28 Passed Passed S01 AR11 2020-01-28 Passed Passed CAT-M1, eFDD 25 QPSK, high channel, 1.4 MHz, 6, conducted CAT-M1, eFDD 25 QPSK, low channel, 1.4 MHz, 1, conducted S01 AR11 2020-01-28 Passed Passed CAT-M1, eFDD 25 QPSK, low channel, 1.4 MHz, 3, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 25 QPSK, low channel, 1.4 MHz, 6, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 25 QPSK, mid channel, 1.4 MHz, 1, conducted S01_AR11 2020-01-28 Passed Passed

S01_AR11

S01_AR11

2020-01-28

2020-01-28

CAT-M1, eFDD 25 QPSK, mid channel, 1.4 MHz, 3, conducted

CAT-M1, eFDD 25 QPSK, mid channel, 1.4 MHz, 6, conducted

Passed

Passed

Passed

Passed



Frequency stability The measurement was performed according to ANS	ST C63 26: 20	115	Final F	Result
The measurement was performed decording to Aive	7 005.20. 20)1J	i iliaj i	\csu c
OP-Mode	Setup	Date	FCC	IC
Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method				
CAT-M1, eFDD 2 QPSK, mid channel, 1.4 MHz, 1, conducted	S01 AR11	2020-01-27	Passed	Passed
CAT-M1, eFDD 25 QPSK, mid channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-27	Passed	Passed
47 CFR CHAPTER I FCC PART 24 § 2.10 Subpart E	51 § 24.23	3		
Spurious emissions at antenna terminal				
The measurement was performed according to ANS	SI C63.26: 20	015	Final F	Result
OP-Mode	Setup	Date	FCC	IC
Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method				
CAT-M1, eFDD 2 QPSK, high channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-22	Passed	Passed
CAT-M1, eFDD 2 QPSK, low channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-22	Passed	Passed
CAT-M1, eFDD 2 QPSK, mid channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-22	Passed	Passed
CAT-M1, eFDD 25 QPSK, high channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-22	Passed	Passed
CAT-M1, eFDD 25 QPSK, low channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-22	Passed	Passed
CAT-M1, eFDD 25 QPSK, mid channel, 1.4 MHz, 1, conducted	CO1 AD11			
	S01_AR11 53 § 24.23	2020-01-22	Passed	Passed
	53 § 24.23(5	Passed Final F	
47 CFR CHAPTER I FCC PART 24 § 2.10 Subpart E Field strength of spurious radiation The measurement was performed according to ANS OP-Mode Technology, Radio Technology, Operating Frequency,	53 § 24.23(5		
47 CFR CHAPTER I FCC PART 24 § 2.10 Subpart E Field strength of spurious radiation The measurement was performed according to ANS OP-Mode Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method	53 § 24.230 SI C63.26: 20 Setup	015 Date	Final F	Result IC
47 CFR CHAPTER I FCC PART 24 § 2.10 Subpart E Field strength of spurious radiation The measurement was performed according to ANS OP-Mode Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method CAT-M1, eFDD 2 QPSK, high channel, 1.4 MHz, 1, radiated	53 § 24.230 SI C63.26: 20 Setup S01_AR11	Date 2020-01-31	Final F FCC Passed	Result IC Passed
47 CFR CHAPTER I FCC PART 24 § 2.10 Subpart E Field strength of spurious radiation The measurement was performed according to ANS OP-Mode Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method CAT-M1, eFDD 2 QPSK, high channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 2 QPSK, low channel, 1.4 MHz, 1, radiated	53 § 24.230 SI C63.26: 20 Setup S01_AR11 S01_AR11	Date 2020-01-31 2020-01-31	Final F FCC Passed Passed	Result IC Passed Passed
47 CFR CHAPTER I FCC PART 24 § 2.10 Subpart E Field strength of spurious radiation The measurement was performed according to ANS OP-Mode Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method CAT-M1, eFDD 2 QPSK, high channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 2 QPSK, low channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 2 QPSK, mid channel, 1.4 MHz, 1, radiated	53 § 24.230 SI C63.26: 20 Setup S01_AR11 S01_AR11 S01_AR11	Date 2020-01-31 2020-01-31 2020-01-31	Final F FCC Passed Passed Passed	Result IC Passed Passed Passed Passed
47 CFR CHAPTER I FCC PART 24 § 2.10 Subpart E Field strength of spurious radiation The measurement was performed according to ANS OP-Mode Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method CAT-M1, eFDD 2 QPSK, high channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 2 QPSK, low channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 2 QPSK, mid channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, high channel, 1.4 MHz, 1, radiated	53 § 24.230 SI C63.26: 20 Setup S01_AR11 S01_AR11 S01_AR11 S01_AR11	Date 2020-01-31 2020-01-31 2020-01-31 2020-01-31	Final F FCC Passed Passed Passed Passed Passed	Result IC Passed Passed Passed Passed Passed
47 CFR CHAPTER I FCC PART 24 § 2.10 Subpart E Field strength of spurious radiation The measurement was performed according to ANS OP-Mode Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method CAT-M1, eFDD 2 QPSK, high channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 2 QPSK, low channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 2 QPSK, mid channel, 1.4 MHz, 1, radiated	53 § 24.230 SI C63.26: 20 Setup S01_AR11 S01_AR11 S01_AR11	Date 2020-01-31 2020-01-31 2020-01-31	Final F FCC Passed Passed Passed	Result IC Passed Passed Passed Passed
47 CFR CHAPTER I FCC PART 24 Subpart E Field strength of spurious radiation The measurement was performed according to ANS OP-Mode Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method CAT-M1, eFDD 2 QPSK, high channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 2 QPSK, low channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 2 QPSK, mid channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, high channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, low channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, mid channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, mid channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, mid channel, 1.4 MHz, 1, radiated	53 § 24.230 Setup So1_AR11 S01_AR11 S01_AR11 S01_AR11 S01_AR11 S01_AR11 S01_AR11	Date 2020-01-31 2020-01-31 2020-01-31 2020-01-31 2020-01-31	Final F FCC Passed Passed Passed Passed Passed Passed	Result IC Passed Passed Passed Passed Passed Passed
47 CFR CHAPTER I FCC PART 24 Subpart E Field strength of spurious radiation The measurement was performed according to ANS OP-Mode Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method CAT-M1, eFDD 2 QPSK, high channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 2 QPSK, low channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 2 QPSK, mid channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, high channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, low channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, mid channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, mid channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, mid channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, mid channel, 1.4 MHz, 1, radiated	53 § 24.230 Setup So1_AR11 S01_AR11 S01_AR11 S01_AR11 S01_AR11 S01_AR11 S01_AR11	Date 2020-01-31 2020-01-31 2020-01-31 2020-01-31 2020-01-31	Final F FCC Passed Passed Passed Passed Passed Passed	Result IC Passed Passed Passed Passed Passed Passed
47 CFR CHAPTER I FCC PART 24 Subpart E Field strength of spurious radiation The measurement was performed according to ANS OP-Mode Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method CAT-M1, eFDD 2 QPSK, high channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 2 QPSK, low channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 2 QPSK, mid channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, high channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, low channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, mid channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, mid channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, mid channel, 1.4 MHz, 1, radiated	53 § 24.230 Setup So1_AR11 So1_AR11 So1_AR11 So1_AR11 So1_AR11 So1_AR11 49	Date 2020-01-31 2020-01-31 2020-01-31 2020-01-31 2020-01-31	Final F FCC Passed Passed Passed Passed Passed Passed	Passed Passed Passed Passed Passed Passed Passed
47 CFR CHAPTER I FCC PART 24 Subpart E Field strength of spurious radiation The measurement was performed according to ANS OP-Mode Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method CAT-M1, eFDD 2 QPSK, high channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 2 QPSK, low channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 2 QPSK, mid channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, high channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, low channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, mid channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, mid channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, mid channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, mid channel, 1.4 MHz, 1, radiated 47 CFR CHAPTER I FCC PART 24 Subpart E Emission and occupied bandwidth	53 § 24.230 Setup So1_AR11 So1_AR11 So1_AR11 So1_AR11 So1_AR11 So1_AR11 49	Date 2020-01-31 2020-01-31 2020-01-31 2020-01-31 2020-01-31	Final F FCC Passed Passed Passed Passed Passed Passed	Passed Passed Passed Passed Passed Passed Passed
47 CFR CHAPTER I FCC PART 24 Subpart E Field strength of spurious radiation The measurement was performed according to ANS OP-Mode Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method CAT-M1, eFDD 2 QPSK, high channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 2 QPSK, low channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 2 QPSK, mid channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, high channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, low channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, mid ch	53 § 24.230 Setup So1_AR11 So1_AR11 So1_AR11 So1_AR11 So1_AR11 So1_AR11 So1_AR11 So1_AR11	Date 2020-01-31 2020-01-31 2020-01-31 2020-01-31 2020-01-31	Final F FCC Passed Passed Passed Passed Passed Passed Passed	Passed Passed Passed Passed Passed Passed Passed Passed
47 CFR CHAPTER I FCC PART 24 Subpart E Field strength of spurious radiation The measurement was performed according to ANS OP-Mode Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method CAT-M1, eFDD 2 QPSK, high channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 2 QPSK, low channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 2 QPSK, mid channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, high channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, low channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, mid ch	53 § 24.230 Setup So1_AR11 So1_AR11 So1_AR11 So1_AR11 So1_AR11 So1_AR11 So1_AR11 So1_AR11	Date 2020-01-31 2020-01-31 2020-01-31 2020-01-31 2020-01-31	Final F FCC Passed Passed Passed Passed Passed Passed Passed	Passed Passed Passed Passed Passed Passed Passed Passed
47 CFR CHAPTER I FCC PART 24 Subpart E Field strength of spurious radiation The measurement was performed according to ANS OP-Mode Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method CAT-M1, eFDD 2 QPSK, high channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 2 QPSK, low channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 2 QPSK, mid channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, high channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, low channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, mid cha	53 § 24.230 Setup So1_AR11	Date 2020-01-31 2020-01-31 2020-01-31 2020-01-31 2020-01-31	Final F FCC Passed Passed Passed Passed Passed Passed Final F FCC	Result IC Passed Passed Passed Passed Passed Passed
47 CFR CHAPTER I FCC PART 24 Subpart E Field strength of spurious radiation The measurement was performed according to ANS OP-Mode Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method CAT-M1, eFDD 2 QPSK, high channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 2 QPSK, low channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 2 QPSK, mid channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, high channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, low channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, mid channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, mid channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, mid channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 25 QPSK, mid channel, 1.4 MHz, 1, radiated OP-Mode Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method CAT-M1, eFDD 2 16QAM, high channel, 1.4 MHz, 5, conducted	53 § 24.230 Setup S01_AR11	Date 2020-01-31 2020-01-31 2020-01-31 2020-01-31 2020-01-31 2020-01-31 2020-01-32	Final F FCC Passed Passed Passed Passed Passed Passed Final F FCC Passed	Result IC Passed Passed Passed Passed Passed Passed Passed Passed

S01_AR11

S01_AR11

2020-01-22

2020-01-22

CAT-M1, eFDD 2 QPSK, high channel, 1.4 MHz, 6, conducted

CAT-M1, eFDD 2 QPSK, low channel, 1.4 MHz, 6, conducted

Passed

Passed

Passed

Passed



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Subpart E	

Emission and occupied bandwidth The measurement was performed according to ANSI C63.26: 2015				Final Result		
OP-Mode Technology, Radio Technology, Operating Frequency, ChRW, Descourse Placks, Measurement method	Setup	Date	FCC	IC		
ChBW, Ressource Blocks, Measurement method CAT-M1, eFDD 2 QPSK, mid channel, 1,4 MHz, 6, conducted	S01 AR11	2020-01-22	Passed	Passed		
CAT-M1, eFDD 25 16QAM, high channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-22	Passed	Passed		
CAT-M1, eFDD 25 16QAM, low channel, 1.4 MHz, 5, conducted	_ S01_AR11	2020-01-22	Passed	Passed		
CAT-M1, eFDD 25 16QAM, mid channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-22	Passed	Passed		
CAT-M1, eFDD 25 QPSK, high channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-22	Passed	Passed		
CAT-M1, eFDD 25 QPSK, low channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-22	Passed	Passed		
CAT-M1, eFDD 25 QPSK, mid channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-22	Passed	Passed		

Subpart E Band edge compliance

The measurement was performed according to ANSI C63.26: 2015				Final Result		
OP-Mode Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method	Setup	Date	FCC	IC		
CAT-M1, eFDD 2 16QAM, high channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-27	Passed	Passed		
CAT-M1, eFDD 2 16QAM, low channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-27	Passed	Passed		
CAT-M1, eFDD 2 QPSK, high channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-27	Passed	Passed		
CAT-M1, eFDD 2 QPSK, low channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-27	Passed	Passed		
CAT-M1, eFDD 25 16QAM, high channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-27	Passed	Passed		
CAT-M1, eFDD 25 16QAM, low channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-27	Passed	Passed		
CAT-M1, eFDD 25 QPSK, high channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-27	Passed	Passed		
CAT-M1, eFDD 25 QPSK, low channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-27	Passed	Passed		

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Peak to Average Ratio				
The measurement was performed according to ANSI	Final F	Result		
OP-Mode	Setup	Date	FCC	IC
Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method				
CAT-M1, eFDD 2 16QAM, high channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-29	Passed	Passed
CAT-M1, eFDD 2 16QAM, low channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-29	Passed	Passed
CAT-M1, eFDD 2 16QAM, mid channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-29	Passed	Passed
CAT-M1, eFDD 2 QPSK, high channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-29	Passed	Passed
CAT-M1, eFDD 2 QPSK, low channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-29	Passed	Passed
CAT-M1, eFDD 2 QPSK, mid channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-29	Passed	Passed
CAT-M1, eFDD 25 16QAM, high channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-29	Passed	Passed
CAT-M1, eFDD 25 16QAM, low channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-29	Passed	Passed
CAT-M1, eFDD 25 16QAM, mid channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-29	Passed	Passed
CAT-M1, eFDD 25 QPSK, high channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-29	Passed	Passed
CAT-M1, eFDD 25 QPSK, low channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-29	Passed	Passed
CAT-M1, eFDD 25 QPSK, mid channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-29	Passed	Passed



47 CFR CHAPTER I FCC PART 27 § 2.1046 § 27.50 Subpart C

RF Output Power The measurement was performed according to ANSI C63.26: 2015 Final Result **OP-Mode** FCC IC Setup Date Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method CAT-M1, eFDD 12 16QAM, high channel, 1.4 MHz, 1, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 12 16QAM, high channel, 1.4 MHz, 5, conducted S01_AR11 2020-01-28 Passed Passed 2020-01-28 CAT-M1, eFDD 12 16QAM, low channel, 1.4 MHz, 1, conducted S01_AR11 Passed Passed CAT-M1, eFDD 12 16QAM, low channel, 1.4 MHz, 5, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 12 16QAM, mid channel, 1.4 MHz, 1, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 12 16QAM, mid channel, 1.4 MHz, 5, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 12 QPSK, high channel, 1.4 MHz, 1, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 12 QPSK, high channel, 1.4 MHz, 3, conducted S01 AR11 2020-01-28 Passed Passed CAT-M1, eFDD 12 QPSK, high channel, 1.4 MHz, 6, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 12 QPSK, low channel, 1.4 MHz, 1, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 12 QPSK, low channel, 1.4 MHz, 3, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 12 QPSK, low channel, 1.4 MHz, 6, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 12 QPSK, mid channel, 1.4 MHz, 1, conducted S01_AR11 2020-01-28 Passed Passed Passed CAT-M1, eFDD 12 QPSK, mid channel, 1.4 MHz, 3, conducted S01_AR11 2020-01-28 Passed CAT-M1, eFDD 12 QPSK, mid channel, 1.4 MHz, 6, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 13 16QAM, high channel, 1.4 MHz, 1, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 13 16QAM, high channel, 1.4 MHz, 5, conducted 2020-01-28 S01_AR11 Passed Passed CAT-M1, eFDD 13 16QAM, low channel, 1.4 MHz, 1, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 13 16QAM, low channel, 1.4 MHz, 5, conducted S01 AR11 2020-01-28 Passed Passed CAT-M1, eFDD 13 16QAM, mid channel, 1.4 MHz, 1, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 13 16QAM, mid channel, 1.4 MHz, 5, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 13 QPSK, high channel, 1.4 MHz, 1, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 13 QPSK, high channel, 1.4 MHz, 3, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 13 QPSK, high channel, 1.4 MHz, 6, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 13 QPSK, low channel, 1.4 MHz, 1, conducted 2020-01-28 S01 AR11 Passed Passed CAT-M1, eFDD 13 QPSK, low channel, 1.4 MHz, 3, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 13 QPSK, low channel, 1.4 MHz, 6, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 13 QPSK, mid channel, 1.4 MHz, 1, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 13 QPSK, mid channel, 1.4 MHz, 3, conducted 2020-01-28 Passed S01_AR11 Passed CAT-M1, eFDD 13 QPSK, mid channel, 1.4 MHz, 6, conducted S01 AR11 2020-01-28 Passed Passed S01_AR11 CAT-M1, eFDD 13 16QAM, high channel, 1.4 MHz, 1, conducted 2020-01-28 Passed Passed CAT-M1, eFDD 13 16QAM, high channel, 1.4 MHz, 5, conducted S01 AR11 2020-01-28 Passed Passed CAT-M1, eFDD 4 16QAM, high channel, 1.4 MHz, 1, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 4 16QAM, high channel, 1.4 MHz, 5, conducted S01 AR11 2020-01-28 Passed Passed S01_AR11 CAT-M1, eFDD 4 16QAM, low channel, 1.4 MHz, 1, conducted 2020-01-28 Passed Passed CAT-M1, eFDD 4 16QAM, low channel, 1.4 MHz, 5, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 4 16QAM, mid channel, 1.4 MHz, 1, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 4 16QAM, mid channel, 1.4 MHz, 5, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 4 QPSK, high channel, 1.4 MHz, 1, conducted S01_AR11 2020-01-28 Passed Passed S01_AR11 CAT-M1, eFDD 4 QPSK, high channel, 1.4 MHz, 3, conducted 2020-01-28 Passed Passed CAT-M1, eFDD 4 QPSK, high channel, 1.4 MHz, 6, conducted S01_AR11 2020-01-28 Passed Passed S01_AR11 2020-01-28 CAT-M1, eFDD 4 QPSK, low channel, 1.4 MHz, 1, conducted Passed Passed CAT-M1, eFDD 4 QPSK, low channel, 1.4 MHz, 3, conducted S01_AR11 2020-01-28 Passed Passed CAT-M1, eFDD 4 QPSK, low channel, 1.4 MHz, 6, conducted 2020-01-28 Passed S01_AR11 Passed CAT-M1, eFDD 4 QPSK, mid channel, 1.4 MHz, 1, conducted S01_AR11 2020-01-28 Passed Passed



47 CFR CHAPTER I FCC PART 27 § 2.104 Subpart C	6 § 27.50			
RF Output Power				
The measurement was performed according to ANSI	C63.26: 20	15	Final F	Result
OP-Mode	Setup	Date	FCC	IC
Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method				
CAT-M1, eFDD 4 QPSK, mid channel, 1.4 MHz, 3, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 4 QPSK, mid channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-28	Passed	Passed
47 CFR CHAPTER I FCC PART 27 § 2.105 Subpart C	5 § 27 . 54			
Frequency stability				
The measurement was performed according to ANSI	C63.26: 20	15	Final F	Result
OP-Mode	Setup	Date	FCC	IC
Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method				
CAT-M1, eFDD 12 QPSK, mid channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-27	Passed	Passed
CAT-M1, eFDD 13 QPSK, mid channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-27	Passed	Passed
CAT-M1, eFDD 4 QPSK, mid channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-27	Passed	Passed
Subpart C	1 § 27.53			
Spurious emissions at antenna terminals The measurement was performed according to ANSI	C63.26: 20	15	Final F	Result
OP-Mode Technology Padio Technology Operating Frequency	Setup	Date	FCC	IC
Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method				
CAT-M1, eFDD 12 QPSK, high channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-26	Passed	Passed
CAT-M1, eFDD 12 QPSK, low channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-26	Passed	Passed
CAT-M1, eFDD 12 QPSK, mid channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-26	Passed	Passed
CAT-M1, eFDD 13 QPSK, high channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-26	Passed	Passed
CAT-M1, eFDD 13 QPSK, low channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-26	Passed	Passed
CAT-M1, eFDD 13 QPSK, mid channel, 1.4 MHz, 1, conducted	CO1 AD11			
CAT-M1, eFDD 4 QPSK, high channel, 1.4 MHz, 1, conducted	S01_AR11	2020-01-26	Passed	Passed
	S01_AR11 S01_AR11	2020-01-26	Passed Passed	Passed Passed
CAT-M1, eFDD 4 QPSK, low channel, 1.4 MHz, 1, conducted				
	S01_AR11	2020-01-26	Passed	Passed
CAT-M1, eFDD 4 QPSK, low channel, 1.4 MHz, 1, conducted CAT-M1, eFDD 4 QPSK, mid channel, 1.4 MHz, 1, conducted	S01_AR11 S01_AR11	2020-01-26 2020-01-26	Passed Passed	Passed Passed
CAT-M1, eFDD 4 QPSK, low channel, 1.4 MHz, 1, conducted CAT-M1, eFDD 4 QPSK, mid channel, 1.4 MHz, 1, conducted 47 CFR CHAPTER I FCC PART 27 § 2.105	S01_AR11 S01_AR11 S01_AR11	2020-01-26 2020-01-26	Passed Passed	Passed Passed
CAT-M1, eFDD 4 QPSK, low channel, 1.4 MHz, 1, conducted CAT-M1, eFDD 4 QPSK, mid channel, 1.4 MHz, 1, conducted 47 CFR CHAPTER I FCC PART 27 Subpart C § 2.105	S01_AR11 S01_AR11 S01_AR11	2020-01-26 2020-01-26 2020-01-26	Passed Passed	Passed Passed Passed
CAT-M1, eFDD 4 QPSK, low channel, 1.4 MHz, 1, conducted CAT-M1, eFDD 4 QPSK, mid channel, 1.4 MHz, 1, conducted 47 CFR CHAPTER I FCC PART 27 § 2.105 Subpart C Field strength of spurious radiation The measurement was performed according to ANSI OP-Mode	S01_AR11 S01_AR11 S01_AR11	2020-01-26 2020-01-26 2020-01-26	Passed Passed Passed	Passed Passed Passed
CAT-M1, eFDD 4 QPSK, low channel, 1.4 MHz, 1, conducted CAT-M1, eFDD 4 QPSK, mid channel, 1.4 MHz, 1, conducted 47 CFR CHAPTER I FCC PART 27 § 2.105 Subpart C Field strength of spurious radiation The measurement was performed according to ANSI	S01_AR11 S01_AR11 S01_AR11 63 § 27.53 C63.26: 20	2020-01-26 2020-01-26 2020-01-26	Passed Passed Passed	Passed Passed Passed
CAT-M1, eFDD 4 QPSK, low channel, 1.4 MHz, 1, conducted CAT-M1, eFDD 4 QPSK, mid channel, 1.4 MHz, 1, conducted 47 CFR CHAPTER I FCC PART 27 § 2.105 Subpart C Field strength of spurious radiation The measurement was performed according to ANSI OP-Mode Technology, Radio Technology, Operating Frequency,	S01_AR11 S01_AR11 S01_AR11 63 § 27.53 C63.26: 20	2020-01-26 2020-01-26 2020-01-26	Passed Passed Passed	Passed Passed Passed
CAT-M1, eFDD 4 QPSK, low channel, 1.4 MHz, 1, conducted CAT-M1, eFDD 4 QPSK, mid channel, 1.4 MHz, 1, conducted 47 CFR CHAPTER I FCC PART 27 Subpart C Field strength of spurious radiation The measurement was performed according to ANSI OP-Mode Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method	S01_AR11 S01_AR11 S01_AR11 3 § 27.53 C63.26: 20	2020-01-26 2020-01-26 2020-01-26	Passed Passed Passed Final F	Passed Passed Passed Result IC
CAT-M1, eFDD 4 QPSK, low channel, 1.4 MHz, 1, conducted CAT-M1, eFDD 4 QPSK, mid channel, 1.4 MHz, 1, conducted 47 CFR CHAPTER I FCC PART 27 § 2.105 Subpart C Field strength of spurious radiation The measurement was performed according to ANSI OP-Mode Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method CAT-M1, eFDD 12 QPSK, high channel, 1.4 MHz, 1, radiated	\$01_AR11 \$01_AR11 \$01_AR11 3 § 27.53 C63.26: 20 Setup \$01_AR11	2020-01-26 2020-01-26 2020-01-26 15 Date 2020-01-31	Passed Passed Passed Final F FCC Passed	Passed Passed Passed Result IC
CAT-M1, eFDD 4 QPSK, low channel, 1.4 MHz, 1, conducted CAT-M1, eFDD 4 QPSK, mid channel, 1.4 MHz, 1, conducted 47 CFR CHAPTER I FCC PART 27 § 2.105 Subpart C Field strength of spurious radiation The measurement was performed according to ANSI OP-Mode Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method CAT-M1, eFDD 12 QPSK, high channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 12 QPSK, low channel, 1.4 MHz, 1, radiated	\$01_AR11 \$01_AR11 \$01_AR11 63 § 27.53 C63.26: 20 Setup \$01_AR11 \$01_AR11	2020-01-26 2020-01-26 2020-01-26 15 Date 2020-01-31 2020-01-31	Passed Passed Passed Final F FCC Passed Passed	Passed Passed Passed Result IC Passed Passed
CAT-M1, eFDD 4 QPSK, low channel, 1.4 MHz, 1, conducted CAT-M1, eFDD 4 QPSK, mid channel, 1.4 MHz, 1, conducted 47 CFR CHAPTER I FCC PART 27 § 2.105 Subpart C Field strength of spurious radiation The measurement was performed according to ANSI OP-Mode Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method CAT-M1, eFDD 12 QPSK, high channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 12 QPSK, low channel, 1.4 MHz, 1, radiated CAT-M1, eFDD 12 QPSK, mid channel, 1.4 MHz, 1, radiated	S01_AR11 S01_AR11 S01_AR11 63 § 27.53 C63.26: 20 Setup S01_AR11 S01_AR11 S01_AR11	2020-01-26 2020-01-26 2020-01-26 15 Date 2020-01-31 2020-01-31 2020-01-31	Passed Passed Passed Final F FCC Passed Passed Passed	Passed Passed Passed Result IC Passed Passed Passed Passed Passed

TEST REPORT REFERENCE: MDE_UBLOX_1905_FCC_01_rev01



47 CFR CHAPTER I FCC PART 27 § 2.1053 § 27.53 Subpart C

Subpart							
Field strength of spurious radiation							
The measurement was performed according to ANS:	Final Result						
OP-Mode	Setup	Date	FCC	IC			
Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method	•						
CAT-M1, eFDD 13 QPSK, mid channel, 1.4 MHz, 1, radiated	S01_AR11	2020-01-31	Passed	Passed			
CAT-M1, eFDD 4 QPSK, high channel, 1,4 MHz, 1, radiated	S01_AR11	2020-01-31	Passed	Passed			
CAT-M1, eFDD 4 QPSK, low channel, 1.4 MHz, 1, radiated	S01_AR11	2020-01-31	Passed	Passed			
CAT-M1, eFDD 4 QPSK, mid channel, 1.4 MHz, 1, radiated	S01_AR11	2020-01-31	Passed	Passed			
47 CFR CHAPTER I FCC PART 27 8 2.104	19						

47 CFR CHAPTER I FCC PART 27 § 2.1049 Subpart C

Emission and occupied bandwidth

The measurement was performed according to ANSI C63.26: 2015				Final Result		
OP-Mode Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method	Setup	Date	FCC	IC		
CAT-M1, eFDD 12 16QAM, high channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-22	Passed	Passed		
CAT-M1, eFDD 12 16QAM, low channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-22	Passed	Passed		
CAT-M1, eFDD 12 16QAM, mid channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-22	Passed	Passed		
CAT-M1, eFDD 12 QPSK, high channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-22	Passed	Passed		
CAT-M1, eFDD 12 QPSK, low channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-22	Passed	Passed		
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CAT-M1, eFDD 12 QPSK, mid channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-22	Passed	Passed
CAT-M1, eFDD 13 16QAM, high channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-22	Passed	Passed
CAT-M1, eFDD 13 16QAM, low channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-22	Passed	Passed
CAT-M1, eFDD 13 16QAM, mid channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-22	Passed	Passed
CAT-M1, eFDD 13 QPSK, high channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-22	Passed	Passed
CAT-M1, eFDD 13 QPSK, low channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-22	Passed	Passed
CAT-M1, eFDD 13 QPSK, mid channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-22	Passed	Passed

CAT-M1, eFDD 4 16QAM, high channel, 1.4 MHz, 5, conducted S01_AR11 2020-01-22 Passed Passed CAT-M1, eFDD 4 16QAM, low channel, 1.4 MHz, 5, conducted S01_AR11 2020-01-22 Passed Passed 2020-01-22 CAT-M1, eFDD 4 16QAM, mid channel, 1.4 MHz, 5, conducted S01_AR11 Passed Passed CAT-M1, eFDD 4 QPSK, high channel, 1.4 MHz, 6, conducted S01 AR11 2020-01-22 Passed Passed CAT-M1, eFDD 4 QPSK, low channel, 1.4 MHz, 6, conducted S01_AR11 Passed Passed 2020-01-22 CAT-M1, eFDD 4 QPSK, mid channel, 1.4 MHz, 6, conducted S01 AR11 2020-01-22 Passed Passed

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Band edge compliance The measurement was performed according to ANSI C63.26: 2015			Final Result	
OP-Mode Technology, Radio Technology, Operating Frequency, ChBW, Ressource Blocks, Measurement method	Setup	Date	FCC	IC
CAT-M1, eFDD 12 16QAM, high channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-27	Passed	Passed
CAT-M1, eFDD 12 16QAM, low channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-27	Passed	Passed
CAT-M1, eFDD 12 QPSK, high channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-27	Passed	Passed
CAT-M1, eFDD 12 QPSK, low channel, 1.4 MHz, 6, conducted	S01_AR11	2020-01-27	Passed	Passed
CAT-M1, eFDD 13 16QAM, high channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-28	Passed	Passed
CAT-M1, eFDD 13 16QAM, low channel, 1.4 MHz, 5, conducted	S01_AR11	2020-01-28	Passed	Passed

TEST REPORT REFERENCE: MDE_UBLOX_1905_FCC_01_rev01