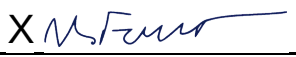
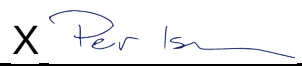


Prüfbericht-Nr.: Test report no.:	60440951-001	Auftrags-Nr.: Order no.:	23870482 030	Seite 1 von 20 Page 1 of 20	
Kunden-Referenz-Nr.: Client reference no.:	2311184	Auftragsdatum: Order date:	2020.12.09		
Auftraggeber: Client:	Wittra Sweden AB				
Prüfgegenstand: Test item:	Gateway 1.0 US				
Bezeichnung / Typ-Nr.: Identification / Type no.:	Gateway 1.0 / FCC ID:2AYHX00347				
Auftrags-Inhalt: Order content:	Accredited testing according to FCC Part 15B				
Prüfgrundlage: Test specification:	FCC 47 CFR Part 15B with parts 15.107 & 15.109 ANSI C63.4: 2014				
Wareneingangsdatum: Date of sample receipt:	2020.12.09				
Prüfmuster-Nr.: Test sample no.:	See section 2.3				
Prüfzeitraum: Testing period:	2021.01.22 – 2021.02.23				
Ort der Prüfung: Place of testing:	Lund, Sweden				
Prüflaboratorium: Testing laboratory:	TÜV Rheinland Sweden				
Prüfergebnis*: Test result*:	Pass				
überprüft von: reviewed by:			genehmigt von: authorized by:		
Datum: 2021.04.16 Date:	Signed by: Niall Forrester		Datum: 2021.04.16 Date:	Signed by: Per Isacson	
Stellung / Position:	Senior Technical Expert		Stellung / Position:	Lab Manager	
Sonstiges / Other:					
Zustand des Prüfgegenstandes bei Anlieferung: Condition of the test item at delivery:			Prüfmuster vollständig und unbeschädigt Test item complete and undamaged		
* Legende:	1 = sehr gut P(ass) = entspricht o.g. Prüfgrundlage(n)	2 = gut F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	3 = befriedigend F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	4 = ausreichend N/A = nicht anwendbar	5 = mangelhaft N/T = nicht getestet
* Legend:	1 = very good P(ass) = passed a.m. test specification(s)	2 = good F(ail) = failed a.m. test specification(s)	3 = satisfactory F(ail) = failed a.m. test specification(s)	4 = sufficient N/A = not applicable	5 = poor N/T = not tested
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts.</i>					

Revision History60440951-00160440951-001

REVISION	DATE	REMARKS	AUTHOR
001	2021.04.16	First release	Nial Forrester
Note: Latest revision report will replace all previous reports			
This report based on FCC Part 15B no JBP Template version 1.2			

Summary of Test Results

FCC 47 CFR Rule Part	Test Description	Applicability	Report Section	RESULT	REMARKS
15.107	AC Power Line Conducted Emissions (Unintentional Radiators)	YES	4.1	PASS	
15.109	Radiated Emissions (Unintentional Radiators)	YES	4.2	PASS	

Possible test case verdicts:

- | | |
|--|-----------------------|
| - Test case does not apply to the test object: | N/A |
| - Test object complies with the requirement: | PASS or COMPLIANT |
| - Test object does not meet the requirement: | FAIL or NOT COMPLIANT |
| - Test case not performed on the test object: | N.P. |

Table of Contents

1. GENERAL INFORMATION	4
1.1 Test Site.....	4
1.2 Client Information	4
2. PRODUCT INFORMATION.....	5
2.1 General Description.....	5
2.2 Device Characteristics.....	5
2.3 Test Samples	5
2.4 Wireless Technologies and Bands Supported by the EUT.....	6
2.5 Antenna Information.....	6
2.6 Simultaneous Transmission Capabilities	6
2.7 Wireless Technology Details	7
2.8 Ancillary Equipment.....	7
2.9 EUT Diagrams.....	7
3. TEST METHODS	8
3.1 Test Standards.....	8
3.2 Additional references.....	8
3.3 Limits	9
3.4 Description of Test Methods and Equipment Setup	10
3.5 EUT Operation Modes.....	13
3.6 Deviations from the Test Standard	13
3.7 Environmental Conditions.....	13
4. TEST RESULTS	14
4.1 Test Results – AC Power Line Conducted Emissions (Unintentional Trans.)	14
4.2 Test Results – Radiated Emissions (Unintentional Transmitter).....	16
5. TEST EQUIPMENT STATUS.....	19
5.1 List of Hardware with Calibration Dates	19
5.2 Software / Firmware Versions.....	20
6. MEASUREMENT UNCERTAINTY	20
6.1 Measurement Uncertainty for Conducted Emissions	20
6.2 Measurement Uncertainty for SAC 5 (Radiated Emissions & Band Edge)	20
7. PHOTOGRAPHS.....	20

1. GENERAL INFORMATION

1.1 Test Site

Test Facility:	TÜV Rheinland Sweden AB
Address:	Mobilvägen 10
	223 62 Lund
	Sweden
Swedac Registration Number:	10325
FCC Test Firm Registration Number:	517458
ISED Test Site Registration Number:	24753

1.2 Client Information

Company Name:	Wittra Sweden AB
Address:	Rosenlundsgatan 40 OTR
	118 53 Stockholm
	Sweden
Contact Person:	Warwick Taws
Contact e-Mail / Telephone	wat@wittra.se

2. PRODUCT INFORMATION

2.1 General Description

Model name:	Gateway 1.0 US
Manufacturer:	TT Electronics PLC
Model number / Marketing name:	Gateway 1.0 US
FCC ID:	2AYHX00347
Description:	Gateway acting as a bridge between the wireless sensor network and the internet
Ancillary Equipment:	See section 2.8

The device incorporates the following pre-certified module:

- Raspberry Pi 4 Model B FCC ID: 2ABCB-RPI4B

The Raspberry Pi includes Bluetooth Low Energy. Other RF transmitters (IEEE 802.15.4 “Sub-GHz” and a second Bluetooth Low Energy transmitter) are implemented on an internal component of the Gateway, described below as “Border Router”.

2.2 Device Characteristics

Type of Power Supply	AC/DC Adapter
Nominal Supply Voltage	12VDC
Supply Voltage Range	10-16VDC
Operating Temperature Range	0°C to +50°C
Operating Air Humidity Range	Environment rating IP64
Highest Internal Frequency Source	5850.0 MHz

2.3 Test Samples

EUT #	EUT ID	Description	Used For:
1	A002972080-021	Gateway 1.0	Conducted emission
2	A003002493-002	Gateway 1.0	Radiated emission

2.4 Wireless Technologies and Bands Supported by the EUT

Technology	Band	Frequency Range (Tx)	Evaluation Performed*
IEEE 802.15.4g (BR)	915 MHz	902.0 MHz – 928.0 MHz	YES
Bluetooth LE (BR)	2.4 GHz	2400.0 MHz – 2483.5 MHz	YES
Bluetooth LE (RPi)	2.4 GHz	2400.0 MHz – 2483.5 MHz	YES

*This statement refers only to this report. Other wireless technologies may be covered by other reports.

2.5 Antenna Information

Technology	Band	Number of Antennas	Antenna Type(s)	Gain
IEEE 802.15.4g (BR)	915 MHz	1	Printed foil 50 Ω	2.20 dBi
Bluetooth LE (BR)	2.4 GHz	1	Printed foil 50 Ω	1.40 dBi
Bluetooth LE (RPi)	2.4 GHz	1	PCB trace antenna	3.50 dBi

2.6 Simultaneous Transmission Capabilities

The device supports no simultaneous transmission capabilities

The Bluetooth Low Energy and IEEE 802.15.4 transmitters in the “Border Router” cannot transmit simultaneously.

The Bluetooth Low Energy transmitter in the Raspberry Pi is active only during firmware updates of the device and cannot transmit simultaneously with either of the transmitters in the Border Router

2.7 Wireless Technology Details

Technology	Band	Rated Power (dBm)	Modulation Type(s)	No. of Channels	Channel Spacing	Adaptivity
IEEE 802.15.4g (Border Router)	902-928 MHz	12	2-GFSK	129	0.2 MHz	N/A
Bluetooth LE (Border Router)	2.4 GHz	5	GFSK	40	2 MHz	N/A
Bluetooth LE (Raspberry Pi)	2.4 GHz	5	GFSK	40	2 MHz	N/A

2.8 Ancillary Equipment

ID	Description	Manufacturer / Model	Hardware & Software Versions
A002972080-010	AC/DC Power supply	-	-
A002972080-013	Case	Wittra Sweden AB	-
A002972080-033	US Antenna	Wittra Sweden AB	-
A003001797-001	Inline filter	Wittra Sweden AB	-

2.9 EUT Diagrams

N/A

3. TEST METHODS

3.1 Test Standards

Testing was performed according to the following standards / references

Standard	Version	Description
FCC 47 CFR 15.107	-	Conducted limits
FCC 47 CFR 15.109	-	Radiated emission limits

3.2 Additional references

The following standards / references were also considered for the testing

Standard	Version	Description
ANSI C63.4	2014	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

3.3 Limits

FCC 47 CFR Rule Part	Test Description	Limit Reference (FCC 47 CFR Reference)
15.107	AC Power Line Conducted Emissions (Unintentional Radiators)	15.107 (a) for Class B Devices
15.109	Radiated Emissions (Unintentional Radiators)	15.109 (a) for Class B Devices *See Note 1

Interpretation of the measurement results has been performed in accordance with ANSI C63.4 section 10.2.8.2

Compliance with the requirements has been based on the results of the measurements compared to the specified limits, not taking into account measurement instrumentation uncertainty.

Measurement Uncertainty figures are stated in section 6

Note 1

Radiated Emissions limits in the tables from 47 CFR sections 15.109 are presented in $\mu\text{V/m}$. Measurements on the test system are made in $\text{dB}\mu\text{V/m}$. To convert between these, the following adjustment is used:

$$\text{New Limit} = 20 \log \left(\frac{\text{Original Limit}}{10^6} \right) + 120$$

Example: from 15.209(a) the limit for 30MHz – 88MHz is $100\mu\text{V/m}$ at 3m. This gives:

$$\text{New Limit} = 20 \log \left(\frac{100}{10^6} \right) + 120 = 40\text{dB}\mu\text{V/m at 3m}$$

Additionally, in some cases testing has been performed at distances other than those specified in the tables. When this has occurred, the limits have been adjusted in accordance with the requirements in 47 CFR 15.31, using an extrapolation factor of 40dB/decade at frequencies below 30MHz and 20dB/decade at or above 30MHz

Example: from 15.209(a) the limit for 1.705MHz – 30MHz is $30\mu\text{V/m}$ (=29.54 $\text{dB}\mu\text{V/m}$) at 30m

$$\text{Limit@3m} = \text{Limit@30m} + 40 \log \left(\frac{30}{3} \right) = 29.54 + 40.00 = 69.54 \text{ dB}\mu\text{V/m at 3m}$$

Example: from 15.209(a) the limit for 1GHz – 18GHz is $500\mu\text{V/m}$ (=53.98 $\text{dB}\mu\text{V/m}$) at 3m

$$\text{Limit@1m} = \text{Limit@3m} + 20 \log \left(\frac{3}{1} \right) = 53.98 + 9.54 = 63.52 \text{ dB}\mu\text{V/m at 1m}$$

3.4 Description of Test Methods and Equipment Setup

3.4.1 General Description

Testing was performed in accordance with the various requirements of ANSI C63.4 and ANSI C63.10. Any deviations from the test methods are described in section 3.6

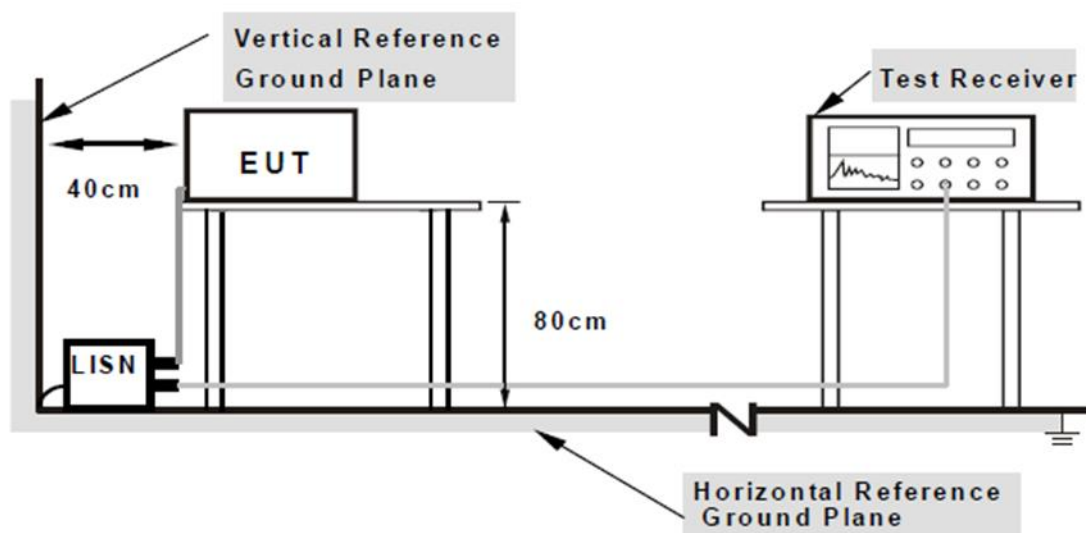
Where different arrangements of equipment were used for different types of measurements, these are tabulated in section 3.4.2 and details of each arrangement are included in subsequent sections

3.4.2 Test Equipment Setup Used by Test Type

FCC 47 CFR Rule Part	Test Description	Test Equipment Used
15.107	AC Power Line Conducted Emissions (Unintentional Radiators)	Conducted Emissions
15.109	Radiated Emissions (Unintentional Radiators)	SAC5

3.4.3 Test Equipment Setup – Conducted Emissions

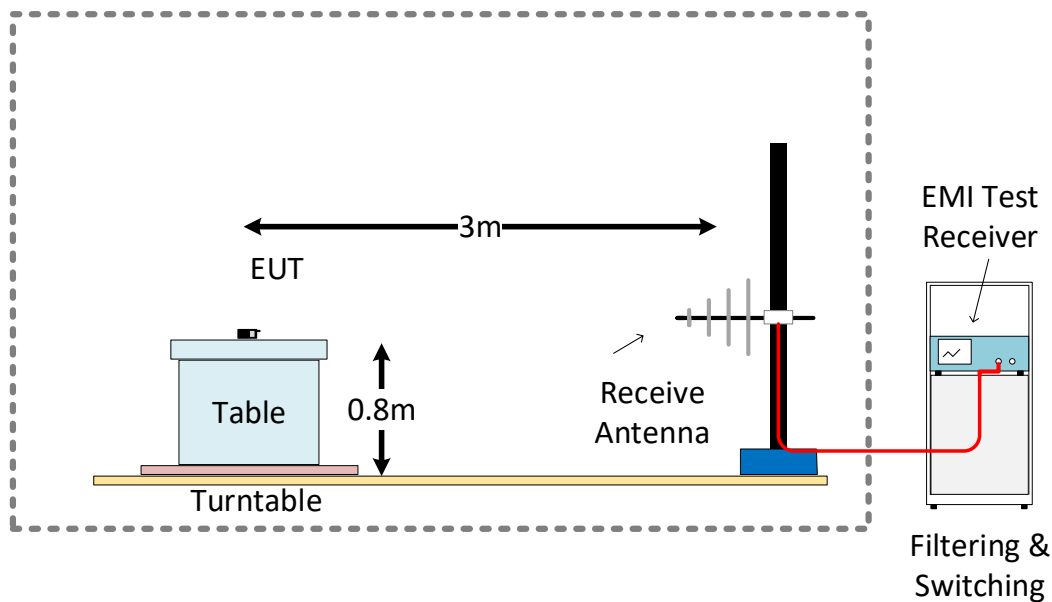
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The LISNs provide 50Ω/ 50μH of coupling impedance for the measuring instrument.
- The lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched. Emission levels over 10 dB under the prescribed limits could not be reported.



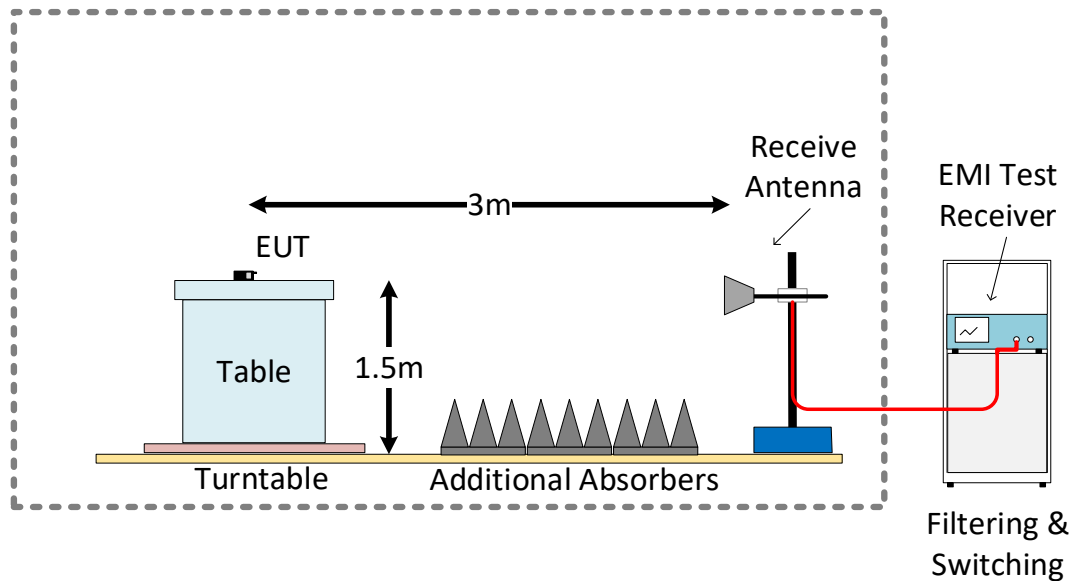
3.4.4 Test Equipment Setup – SAC 5 (Radiated Emissions)

- For frequency range 30MHz-1GHz Log-Periodic Antenna was used. Antenna elevated from 100 cm from floor to 400 cm from floor, and was placed at 3 m from center of turntable in tilted position. The equipment under test (EUT) was placed at the middle of the turntable at 150 cm height from floor. The antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations. Repeat the measurement steps until the maximum emissions were obtained.
- For frequency range 1GHz-18GHz horn Antenna was used. Antenna elevated from 100 cm from floor to 200 cm from floor, and was placed at 3 m from center of turntable. The equipment under test (EUT) was placed at the middle of the turntable at 150 cm height from floor. The antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations. Repeat the measurement steps until the maximum emissions were obtained.
- For frequency range 18GHz-40GHz double horn Antenna was used. Antenna's height was adjusted to 150 cm from floor, and 1 m distance to center of turntable. The equipment under test (EUT) was placed at the middle of the turntable on at 150 cm height from floor.
- For all frequency ranges the turntable was rotated 360° for obtaining the maximum emission.

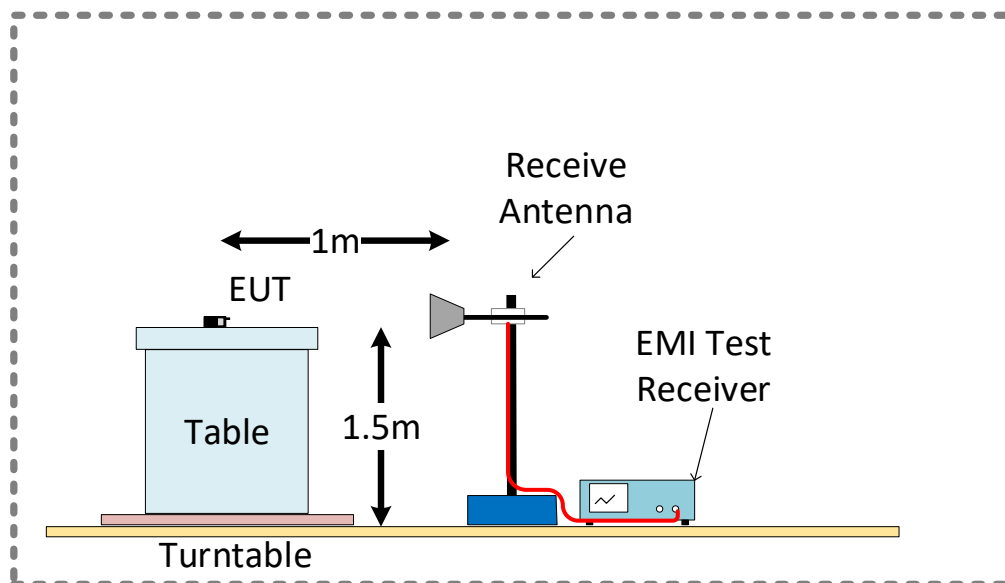
SAC 5 Test Setup Configuration 30MHz – 1GHz



SAC 5 Test Setup Configuration 1GHz – 18GHz



SAC 5 Test Setup Configuration 18GHz – 40GHz



3.5 EUT Operation Modes

Operation mode	Description
Idle Mode	Device is powered up, all radio technologies in receive-only mode.

3.6 Deviations from the Test Standard

None.

3.7 Environmental Conditions

3.7.1 Environmental Conditions – SAC5 (Radiated Emissions)

Environmental Conditions Log – SAC5

Date	Time	Temperature (°C)	Relative Humidity (%)
2021.02.19	07:46	18.3	29
2021.02.23	08:19	18.4	35

4. TEST RESULTS

4.1 Test Results – AC Power Line Conducted Emissions (Unintentional Trans.)

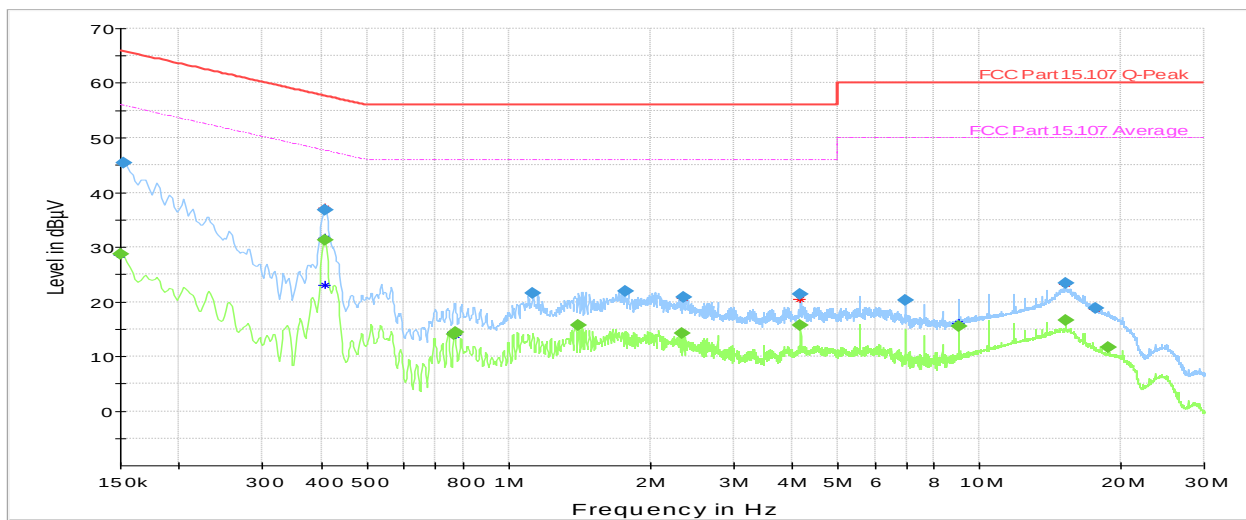
4.1.1 AC Power Line Conducted Emissions (Unintentional) – Test Summary

Test Specification	FCC 47 CFR 15.107 (Part 15 Subpart B)	
Test Engineer & Date	Fariborz Abasi	2021.01.22
EUT and Ancillary Equipment IDs	A002972080-021	A002972080-013 A002972080-010
EUT Operation Mode(s)	1	
EUT Wireless Configuration(s)	Idle Mode	
EUT Hardware Configuration(s)	N/A	
Overall Result	PASS	
Test Parameter	Frequency Range	Result*
AC Power Line Emissions - Idle Mode	150 kHz – 30 MHz	PASS

* For detailed measurements, see tables and graphs in sections below

4.1.2 AC Power Line Conducted Emissions (Unintentional) – Test Details

Test mode condition	Conducted Emissions	
Sweep frequency	150 kHz – 30 MHz	
Standard	FCC 47 Part 15.107	
EUT	A002972080-021	
Ancillary Equipment	A002972080-013 A002972080-010	
Test Engineer	Fariborz Abasi	Date: 2021.01.22



* Preview Result 2-CAV Critical_Freqs QPK
♦ Final_Result QPK
— Preview Result 1-QPK
♦ Final_Result CAV
* Critical_Freqs CAV
— FCC Part 15.107 Average

Frequency (MHz)	QuasiPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
0.150000	---	28.67	56.00	27.33	1000.0	9.000	N	ON	9.7
0.152250	45.49	---	65.88	20.39	1000.0	9.000	L1	ON	9.7
0.406500	---	31.36	47.72	16.36	1000.0	9.000	L1	ON	9.6
0.408750	36.74	---	57.67	20.93	1000.0	9.000	L1	ON	9.6
0.766500	---	14.02	46.00	31.98	1000.0	9.000	N	ON	9.6
0.768750	---	14.38	46.00	31.62	1000.0	9.000	N	ON	9.6
1.128750	21.59	---	56.00	34.41	1000.0	9.000	N	ON	9.7
1.410000	---	15.66	46.00	30.34	1000.0	9.000	N	ON	9.7
1.770000	21.84	---	56.00	34.16	1000.0	9.000	N	ON	9.7
2.332500	---	14.25	46.00	31.75	1000.0	9.000	N	ON	9.8
2.359500	20.81	---	56.00	35.19	1000.0	9.000	N	ON	9.8
4.170750	21.37	---	56.00	34.63	1000.0	9.000	N	ON	9.8
4.170750	---	15.77	46.00	30.23	1000.0	9.000	N	ON	9.8
6.954000	20.31	---	60.00	39.69	1000.0	9.000	N	ON	9.8
9.039750	---	15.53	50.00	34.47	1000.0	9.000	N	ON	9.9
15.294750	23.37	---	60.00	36.63	1000.0	9.000	N	ON	10.0
15.294750	---	16.53	50.00	33.47	1000.0	9.000	L1	ON	9.9
17.632500	18.77	---	60.00	41.23	1000.0	9.000	N	ON	10.1
18.773250	---	11.68	50.00	38.32	1000.0	9.000	N	ON	10.1

4.2 Test Results – Radiated Emissions (Unintentional Transmitter)

4.2.1 Radiated Emissions (Unintentional) – Test Summary

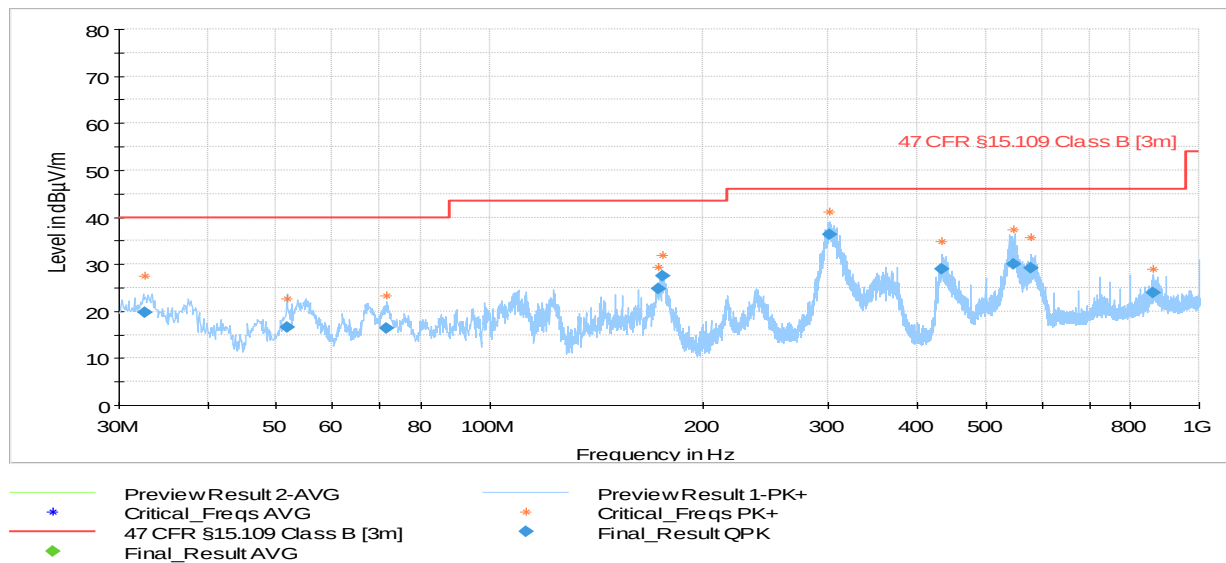
Test Specification	FCC 47 CFR 15.109 (Part 15 Subpart B)	
Test Engineer & Date	Niall Forrester	2021.02.19 – 2021.02.23
EUT and Ancillary Equipment IDs	A003002493-002	A002972080-013 A002972080-010 A002972080-033 A003001797-001
EUT Operation Mode(s)	1	
EUT Wireless Configuration(s)	Idle Mode	
EUT Hardware Configuration(s)	N/A	
Overall Result	PASS	
Test Parameter	Frequency Range	Result*
Radiated Emissions - Idle Mode	30 MHz – 1 GHz	PASS
Radiated Emissions - Idle Mode	1 GHz – 18 GHz	PASS

* For detailed measurements, see tables and graphs in sections below

4.2.2 Radiated Emissions (Unintentional) – Test Details

30MHz – 1GHz

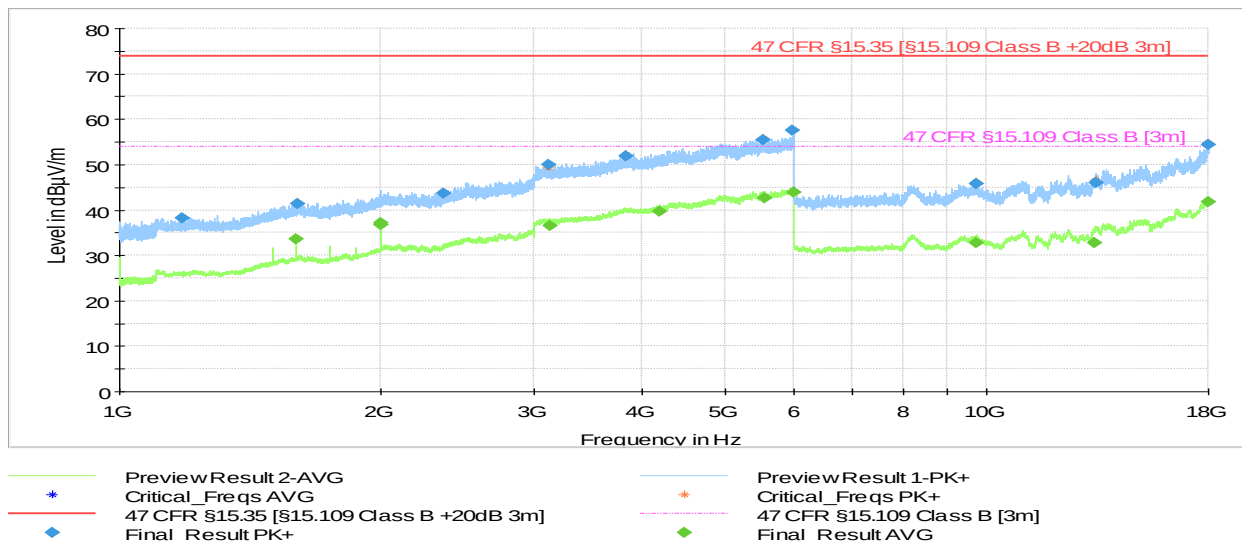
Test mode condition	Idle mode	
Antenna orientation	Horizontal and Vertical	
Sweep frequency	30 MHz – 1 GHz	
Standard	47 CFR FCC Part 15 subpart B	
EUT	A003002493-002	
Ancillary Equipment	A002972080-013 A002972080-010 A002972080-033 A003001797-001	
Test Engineer	Niall Forrester	Date: 2021-02-19
Chamber details	Chamber: SAC 5	



Frequency (MHz)	QuasiPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
32.677960	19.81	---	40.00	20.19	1000.0	120.000	125.0	V	334.0
51.887480	16.57	---	40.00	23.43	1000.0	120.000	125.0	V	322.0
71.527280	16.39	---	40.00	23.61	1000.0	120.000	275.0	V	206.0
172.549920	24.69	---	43.52	18.83	1000.0	120.000	125.0	V	202.0
175.020120	27.51	---	43.52	16.01	1000.0	120.000	175.0	H	68.0
301.112200	36.35	---	46.02	9.67	1000.0	120.000	125.0	H	112.0
433.975440	28.93	---	46.02	17.09	1000.0	120.000	283.0	H	266.0
548.706120	30.06	---	46.02	15.96	1000.0	120.000	100.0	V	72.0
578.940200	29.19	---	46.02	16.83	1000.0	120.000	100.0	V	-4.0
862.315920	23.91	---	46.02	22.11	1000.0	120.000	283.0	V	296.0

1GHz – 18GHz

Test mode condition	Idle mode	
Antenna orientation	Horizontal and Vertical	
Sweep frequency	1 GHz – 18 GHz	
Standard	47 CFR FCC Part 15 subpart B	
EUT	A003002493-002	
Ancillary Equipment	A002972080-013 A002972080-010 A002972080-033 A003001797-001	
Test Engineer	Niall Forrester	Date: 2021-02-23
Chamber details	Chamber: SAC 5	



Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
1179.576000	38.11	---	73.98	35.87	1000.0	1000.000	185.0	H	-4.0
1600.066000	---	33.52	53.98	20.46	1000.0	1000.000	293.0	H	132.0
1606.316000	41.37	---	73.98	32.61	1000.0	1000.000	100.0	V	98.0
1999.882000	---	36.81	53.98	17.16	1000.0	1000.000	215.0	H	82.0
2000.019000	---	37.08	53.98	16.90	1000.0	1000.000	215.0	H	82.0
2364.144000	43.63	---	73.98	30.35	1000.0	1000.000	343.0	H	278.0
3124.629000	50.07	---	73.98	23.91	1000.0	1000.000	108.0	V	278.0
3130.574000	---	36.60	53.98	17.38	1000.0	1000.000	265.0	V	86.0
3838.748000	51.81	---	73.98	22.17	1000.0	1000.000	335.0	H	232.0
4192.195000	---	39.58	53.98	14.40	1000.0	1000.000	335.0	V	322.0
5525.543000	55.54	---	73.98	18.44	1000.0	1000.000	393.0	H	128.0
5533.235000	---	42.72	53.98	11.26	1000.0	1000.000	193.0	H	52.0
5974.702000	57.49	---	73.98	16.49	1000.0	1000.000	193.0	H	132.0
5979.669000	---	43.97	53.98	10.01	1000.0	1000.000	185.0	H	322.0
9716.312000	---	32.67	53.98	21.31	1000.0	1000.000	393.0	V	218.0
9738.533000	45.80	---	73.98	28.18	1000.0	1000.000	365.0	V	6.0
13310.350000	---	32.85	53.98	21.13	1000.0	1000.000	215.0	H	38.0
13344.136000	45.98	---	73.98	28.00	1000.0	1000.000	143.0	H	188.0
17978.889000	54.47	---	73.98	19.51	1000.0	1000.000	100.0	H	142.0
17989.907000	---	41.79	53.98	12.19	1000.0	1000.000	135.0	V	218.0

5. TEST EQUIPMENT STATUS

5.1 List of Hardware with Calibration Dates

5.1.1 Hardware List – Conducted Emissions System

Type	Manufacturer	Model	Serial Number / ID	Calibration Date	Calibration Due
Two-Line V-network	Rohde & Schwarz	ENV216	101090 2704076	2020.07.16	2021.07.16
Test Receiver 9KHz to 3.5 GHz	Rohde & Schwarz	ESR3	101674 2704016	2020.07.17	2021.07.17
RF PROBE	Fischer Custom Communication	F-52	22 2902256	2019.04.09	2021.04.09

5.1.2 Hardware List – SAC5 System

Type	Manufacturer	Model	Serial Number / ID	Calibration Date	Calibration Due
EMI Test Receiver	Rohde & Schwarz	ESW44	101760 2881044	2020.07.17	2021.07.17
Ultra Broadband Antenna	Rohde & Schwarz	HL562E	100988 2823181	2019.07.23	2021.07.23
Double Ridged Waveguide Horn Antenna	Rohde & Schwarz	HF907	102678 2823164	2019.07.15	2021.07.15
Control Device	Maturo	NCD	NCD/393/2372.01	N/A	N/A
Open Switch & Control Unit	Rohde & Schwarz	OSP150	100081 2884198	2020.08.04	2021.08.04
Open Switch & Control Unit	Rohde & Schwarz	OSP120	100084 2761253	2020.08.04	2021.08.04
Shielded Filter Unit	Rohde & Schwarz	OSP-F Extension 1	101333 2761265	2020.08.04	2021.08.04
Shielded Filter Unit	Rohde & Schwarz	OSP-F Extension 2	101335 2761266	2020.08.04	2021.08.04
Shielded Filter Unit	Rohde & Schwarz	OSP-F Base Unit	101330 2761262	2020.08.04	2021.08.04
Humidity Temperature Probe	Lufft	OPUS 20	126.0118.0802.033 2771042	2020.07.31	2022.07.31

5.2 Software / Firmware Versions

Equipment	Software / Firmware Name	Version
Conducted Emissions System	EMC 32	V10.60.10
SAC 5	EMC 32	V10.60.10

6. MEASUREMENT UNCERTAINTY

6.1 Measurement Uncertainty for Conducted Emissions

Parameter	Uncertainty (Coverage Factor k=2)
Conducted emissions with LISN 150KHz to 30 MHz	2.98 dB

6.2 Measurement Uncertainty for SAC 5 (Radiated Emissions & Band Edge)

Parameter	Uncertainty (Coverage Factor k=2)
Field Strength 10 Hz -9 kHz	3.38 dB
Field Strength 9 kHz -30 MHz	3.38 dB
Field Strength 30 MHz -1000 MHz	3.38 dB
Field Strength 1 GHz -18 GHz	4.88 dB
Field Strength 18 GHz - 40 GHz	5.14 dB

7. PHOTOGRAPHS

For photographs see Appendix 1.