Prüfbericht-Nr.: *Test report no.:*	**60435681-002**	**Auftrags-Nr.:** *Order no.*:	23870436 030	Seite 1 von 22 *Page 1 of 22*
Kunden-Referenz-Nr.: *Client reference no.:*	2285816	**Auftragsdatum:** *Order date:*	2020.09.20	
Auftraggeber: *Client:*	The Raymond Corporation			
Prüfgegenstand: *Test item:*	Display, Remote Receiver Unit (RRU)			
Bezeichnung / Typ-Nr.: *Identification / Type no.:*	08-1338021-01 Display / FCC ID: 2AYXJ-1338021			
Auftrags-Inhalt: *Order content*:	Accredited testing according to FCC 47 CFR Part 15			
Prüfgrundlage: *Test specification:*	FCC 47 CFR Part 15.225 with parts 15.207, 15.209 & 15.215 ANSI C63.10: 2013			

Wareneingangsdatum: *Date of sample receipt:*	2020.09.30
Prüfmuster-Nr.: *Test sample no:*	See section 2.3
Prüfzeitraum: *Testing period:*	2020.10.15 - 2020.11.03
Ort der Prüfung: *Place of testing:*	Lund, Sweden
Prüflaboratorium: *Testing laboratory:*	TÜV Rheinland Sweden
Prüfergebnis*: *Test result*:*	Pass

überprüft von: reviewed by:	X Signed by: Niall Forrester	**genehmigt von:** authorized by:	X Signed by: Per Isacsson
Datum: 2021.09.09 *Date:*		**Datum: 2021.09.09** *Date:*	
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	2 = gut	3 = befriedigend	4 = ausreichend	5 = mangelhaft
	P(ass) = entspricht o.g. Prüfgrundlage(n)		F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
** Legend:*	*1 = very good*	*2 = good*	*3 = satisfactory*	*4 = sufficient*	*5 = poor*
	P(ass) = passed a.m. test specification(s)		*F(ail) = failed a.m. test specification(s)*	*N/A = not applicable*	*N/T = not tested*

Revision History60435681-00260435681-002

REVISION	DATE	REMARKS	AUTHOR
001	2021.01.27	First release	Niall Forrester
002	2021.09.09	Added FCC ID	Niall Forrester
Note: Latest revision report will replace all previous reports			
This report based on FCC Part 15.225 Template version 1.0			

Summary of Test Results

FCC 47 CFR Rule Part	Test Description	Applicability	Report Section	RESULT	REMARKS
15.207	AC Power Line Conducted Emissions (Intentional Radiators)	YES	4.1	N.P.	See 15.247 / 15B reports
15.209 & 15.225 (a,b,c,d)	Radiated Emissions (Intentional Radiators)	YES	4.2	PASS	
15.215 (c)	20 dB bandwidth	YES	4.3	PASS	
15.225 (e)	Frequency Tolerance	YES	4.4	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

1.1 Test Site

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

1.2 Client Information

Company Name:	**The Raymond Corporation**
Address:	**22 S Canal St**
	Greene, NY 13778
Contact Person:	**Ben Grotton**
Contact e-Mail / Telephone	**(607) 656-2311 x2040**

2. PRODUCT INFORMATION

2.1 General Description

Model name:	Display
Manufacturer:	Scanfil
Model number / Marketing name:	08-1338021-01
FCC ID:	2AYXJ-1338021
Description:	Display, Remote Receiver Unit (RRU)
Ancillary Equipment:	None

2.2 Device Characteristics

Type of Power Supply	DC
Nominal Supply Voltage	24V
Supply Voltage Range	21.6V – 26.4V
Operating Temperature Range	0ºC - 70 ºC
Operating Air Humidity Range	-
Highest Internal Frequency Source	2480 MHz

2.3 Test Samples

EUT #	EUT ID	Description	Used For:
1	A002921819-003	Standard Sample	Radiated emissions ‚Conducted' radio tests

2.4 Wireless Technologies and Bands Supported by the EUT

Technology	Band	Frequency Range (Tx)	Evaluation Performed*
NFC	13.56 MHz	13.56 MHz	YES
BLE	2.4 GHz	2402 MHz - 2480 MHz	NO

*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
NFC	13.56 MHz	1	PCB Loop	2.00
BLE	2.4 GHz	1	PIFA	4.26

2.6 Wireless Technology Details

Technology	Band	Modulation Type(s)	No. of Channels	Channel Spacing	Adaptivity
NFC	13.56 MHz	ASK	1	-	N/A
BLE	2.4 GHz	GFSK	40	2 MHz	N/A

2.7 Ancillary Equipment

None

2.8 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 15.225	-	Operation within the band 13.110 – 14.010 MHz
FCC 47 CFR 15.207	-	Conducted limits
FCC 47 CFR 15.209	-	Radiated emission limits; general requirements
FCC 47 CFR 15.215	-	Additional provisions to the general radiated emission limitations

3.2 Additional references

The following standards / references were also considered for the testing

Standard	Version	Description
ANSI C63.10	2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

3.3 Limits

FCC 47 CFR Rule Part	Test Description	Limit Reference (FCC 47 CFR Reference)
15.207	AC Power Line Conducted Emissions (Intentional Radiators)	15.207 (a)
15.209 & 15.225 (a,b,c,d)	Radiated Emissions (Intentional Radiators)	15.209 (a) *See Note 1
15.215 (c)	20 dB bandwidth	15.215 (c)
15.225 (e)	Frequency Tolerance	15.225 (e)

Note 1

Radiated Emissions limits in the tables from 47 CFR sections 15.109 & 15.209 are presented in µV/m. Measurements on the test system are made in dBµV/m. To convert between these, the following adjustment is used:

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

Example: from 15.209(a) the limit for 30MHz – 88MHz is 100µV/m at 3m. This gives:

$New\ Limit = 20\log\left(\frac{100}{10^6}\right)$+120 = 40dBµV/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 30µV/m (=29.54 dBµV/m) at 30m

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

Example: from 15.209(a) the limit for 1GHz – 18GHz is 500µV/m (=53.98 dBµV/m) at 3m

$Limit@1m = Limit@3m + 20\log\left(\frac{3}{1}\right)$ = 53.98 +9.54 = 63.52 dBµV/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 3.7

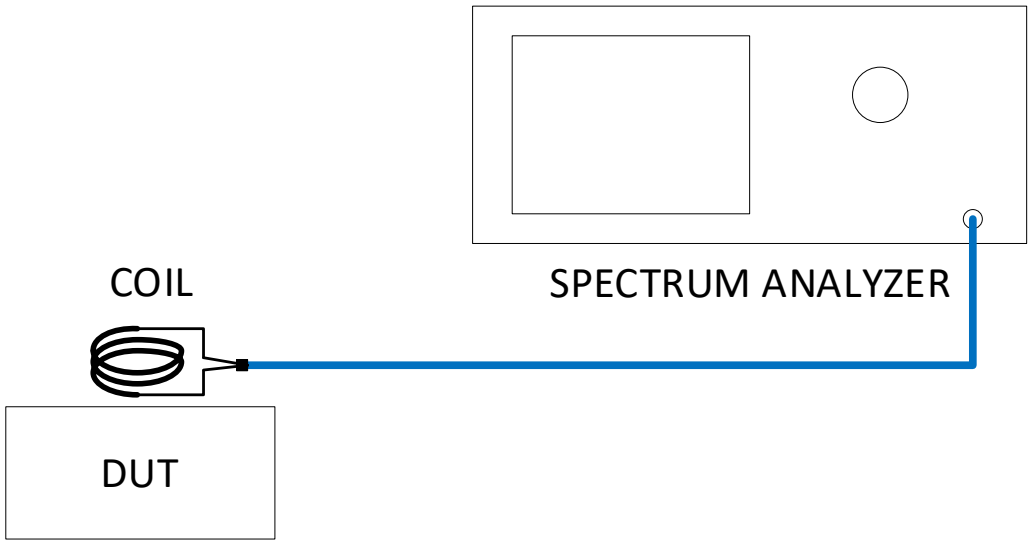
Where different arrangements of equipment were used for different types of measurements, these are tabulated in section 3.4.2 and details of each arrangement are included in subsequent sections

3.4.2 Test Equipment Setup Used by Test Type

FCC 47 CFR Rule Part	Test Description	Test Equipment Used
15.207	AC Power Line Conducted Emissions (Intentional Radiators)	Conducted Emissions
15.209 & 15.225 (a,b,c,d)	Radiated Emissions (Intentional Radiators)	SAC5
15.215 (c)	20 dB bandwidth	Conducted Radio
15.225 (e)	Frequency Tolerance	Conducted Radio

3.4.3 Test Equipment Setup – Conducted Radio

The device under test was connected to the Spectrum Analyzer via a coil antenna placed close to the transmitting NFC coil. The DUT was placed in a temperature chamber where required to control the ambient temperature. Where appropriate, temperature and supply voltage were measure using calibrated equipment.

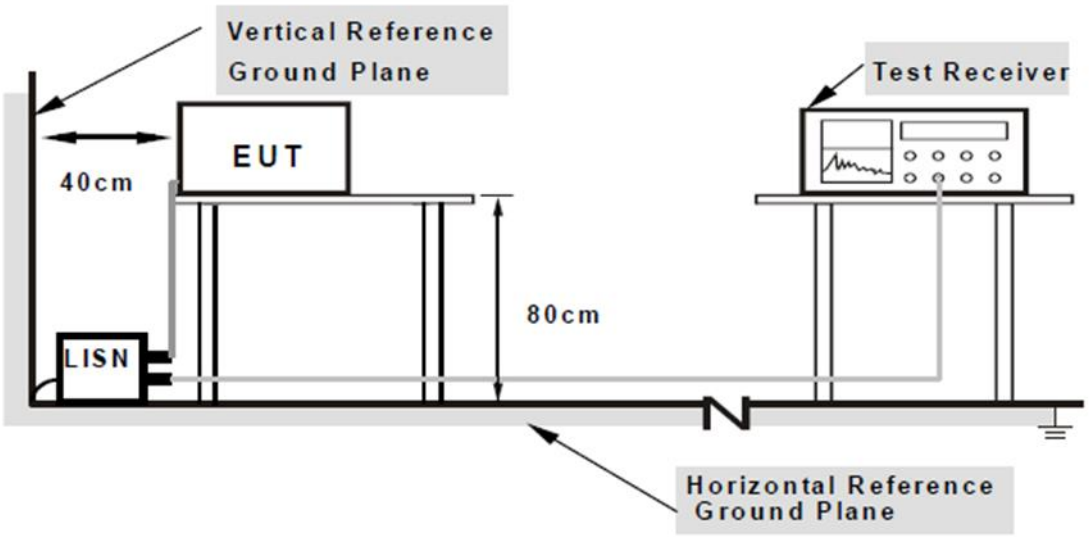


3.4.4 Test Equipment Setup – Conducted Emissions

- 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.



3.4.5 Test Equipment Setup – SAC 5 (Radiated Emissions)

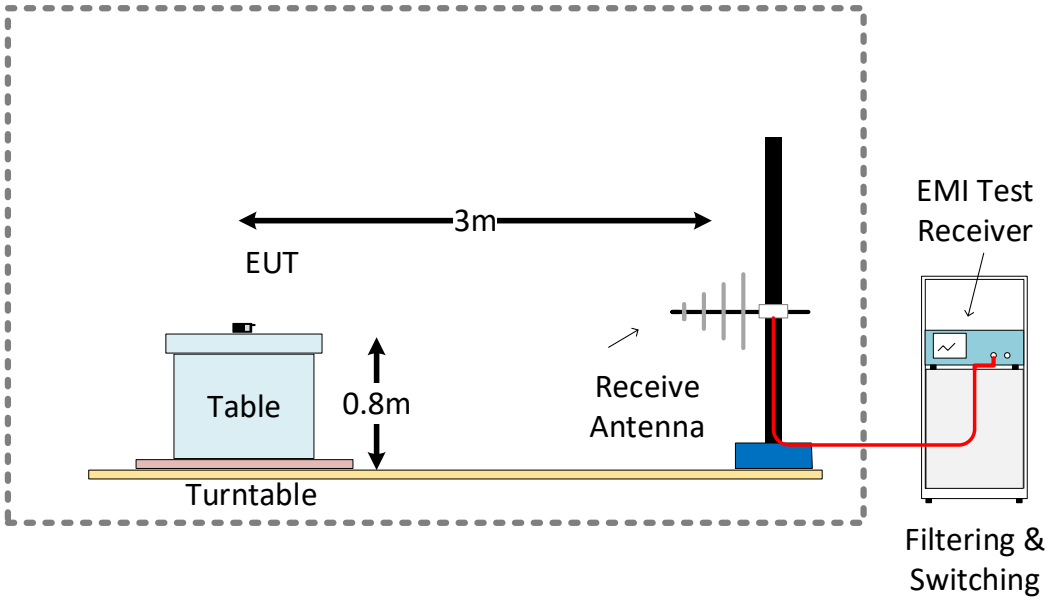
- For frequency range 30MHz-1GHz Log-Periodic Antenna was used. Antenna elevated from 100 cm from floor to 400 cm from floor, and was placed at 3 m from center of turntable in tilted position. The equipment under test (EUT) was placed at the middle of the turntable at 150 cm height from floor. The antenna 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 to150 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



3.5 EUT Configuration During Test

N/A

3.6 EUT Operation Modes

Operation mode	Description
1	Continuous Transmit – Device is set to transmit random data continuously

3.7 Deviations from the Test Standard

None

3.8 Environmental Conditions

3.8.1 Environmental Conditions – Conducted Radio

Environmental Conditions Log – Conducted radio

Date	Time	Temperature (°C)	Relative Humidity (%)
2020.11.02	07:44	23.1	50
2020.11.03	10:49	23.9	40

3.8.2 Environmental Conditions – SAC5 (Radiated Emissions)

Environmental Conditions Log – SAC5

Date	Time	Temperature (°C)	Relative Humidity (%)
2020.10.15	08:30	18.5	49
2020.10.19	07:37	19.1	46

4. TEST RESULTS

4.1 Test Results – AC Power Line Conducted Emissions (Intentional Transmitter)

Testing for AC Power Line Conducted Emissions covered by reports for FCC 47 CFR Part 15.247 and 15B

4.2 Test Results – Radiated Emissions (Intentional Transmitter)

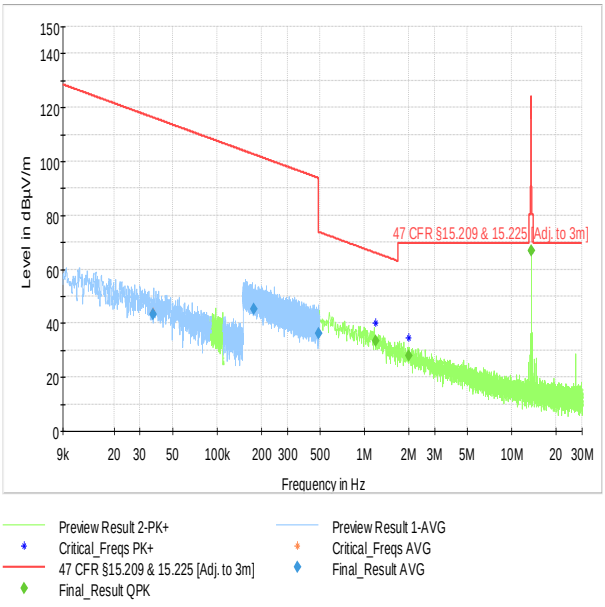
4.2.1 Radiated Emissions (Intentional) – Test Summary

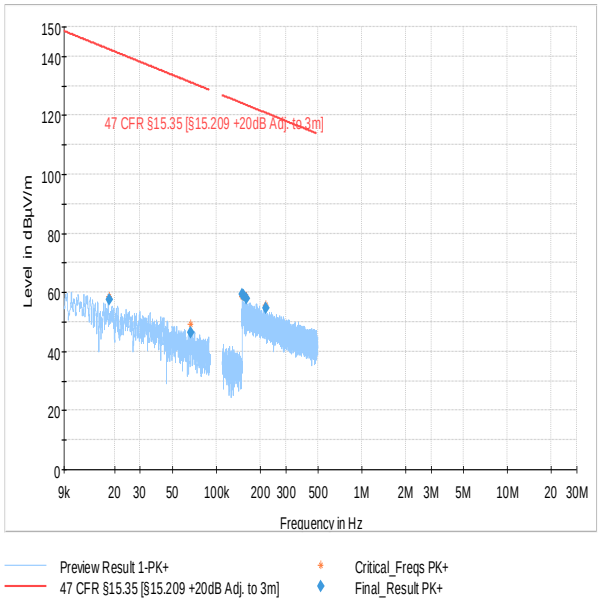
Test Specification	FCC 47 CFR 15.209 (Part 15 Subpart C)	
Test Engineer & Date	Joel Efraimsson Simon Palmhager	2020.10.15 – 2020.10.19
EUT and Ancillary Equipment IDs	A002921819-003	24V DC Power supply
EUT Operation Mode(s)	Continuous Transmit	
EUT Wireless Configuration(s)	NFC 13.56 MHz	
EUT Hardware Configuration(s)	-	
Overall Result	PASS	

Test Parameter	Wireless Configuration	Frequency Range	Result
Radiated Emissions	NFC 13.56 MHz	9 kHz – 30 MHz	PASS
Radiated Emissions	NFC 13.56 MHz	30 MHz – 1 GHz	PASS

4.2.2 Radiated Emissions (Intentional) – Test Details

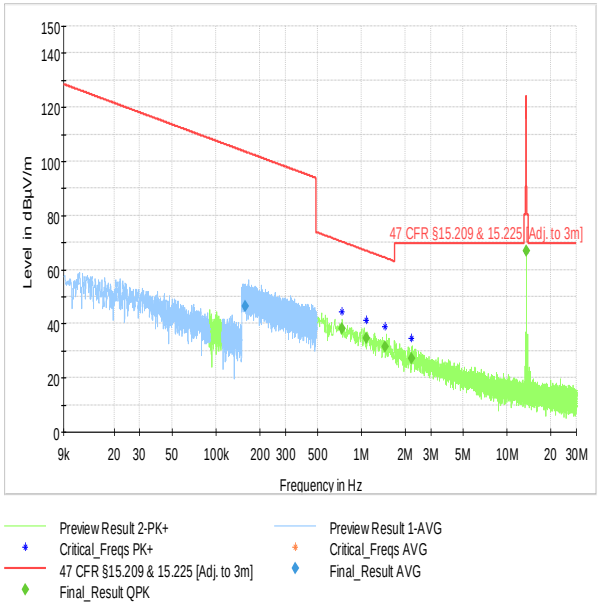
Test mode condition	NFC 13.56 MHz	
Antenna orientation	Loop Antenna Parallel to Axis	
Sweep frequency	9 kHz-30 MHz	
Standard	47 CFR FCC Part 15 subpart C	
EUT	A002921819-003	
Ancillary Equipment	24V DC from power supply	
Test Engineer	Joel Efraimsson	Date: 2020-10-19
Chamber details	Chamber: SAC 5	

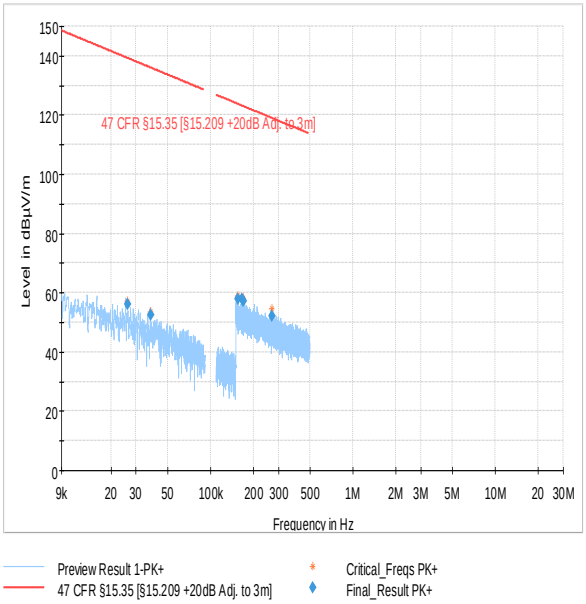




Frequency (MHz)	Average (dBuV/m)	QuasiPeak (dBuV/m)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
0.036907	43.45	---	---	116.26	72.81	1000.0	0.200	100.0	H	23.0
0.178567	45.38	---	---	102.57	57.18	1000.0	9.000	100.0	H	25.0
0.489948	36.31	---	---	93.80	57.49	1000.0	9.000	100.0	H	11.0
1.190511	---	33.35	---	66.09	32.73	1000.0	9.000	100.0	H	45.0
2.004784	---	28.08	---	69.54	41.46	1000.0	9.000	100.0	H	306.0
13.559925	---	66.98	---	124.00	57.02	1000.0	9.000	100.0	H	64.0
0.018417	---	---	57.70	142.30	84.60	1000.0	0.200	100.0	H	135.0
0.066521	---	---	46.56	131.15	84.59	1000.0	0.200	100.0	H	279.0
0.151254	---	---	59.36	124.01	64.65	1000.0	9.000	100.0	H	153.0
0.154580	---	---	58.95	123.82	64.87	1000.0	9.000	100.0	H	315.0
0.161199	---	---	57.93	123.46	65.53	1000.0	9.000	100.0	H	135.0
0.219751	---	---	54.61	120.77	66.16	1000.0	9.000	100.0	H	43.0

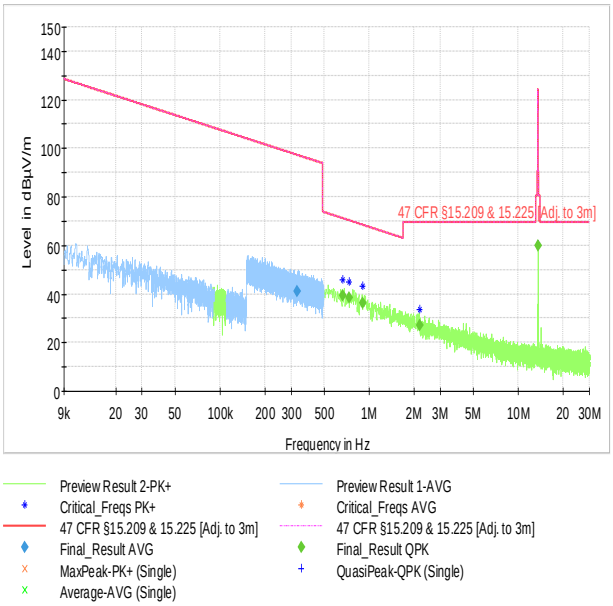
Test mode condition	NFC 13.56 MHz	
Antenna orientation	Loop Antenna Perpendicular to Axis	
Sweep frequency	9 kHz-30 MHz	
Standard	47 CFR FCC Part 15 subpart C	
EUT	A002921819-003	
Ancillary Equipment	24V DC from power supply	
Test Engineer	Joel Efraimsson	Date: 2020-10-19
Chamber details	Chamber: SAC 5	

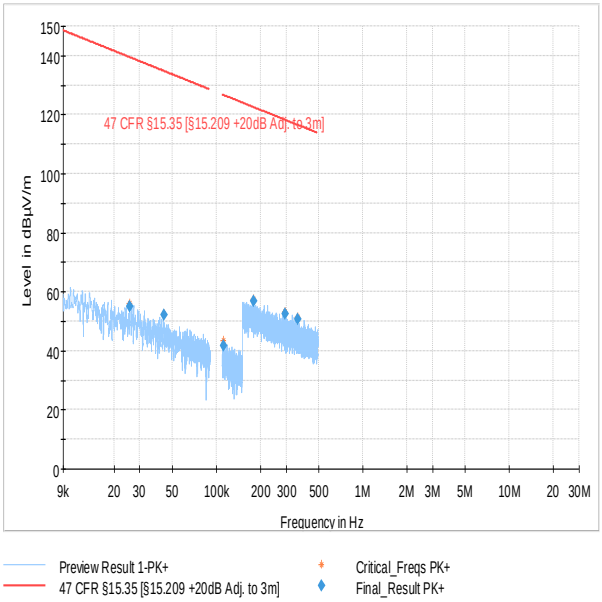




Frequency (MHz)	Average (dBuV/m)	QuasiPeak (dBuV/m)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
0.159282	46.38	---	---	103.56	57.19	1000.0	9.000	100.0	H	244.0
0.733699	---	38.14	---	70.29	32.15	1000.0	9.000	100.0	H	306.0
1.082103	---	34.60	---	66.92	32.32	1000.0	9.000	100.0	H	281.0
1.453401	---	31.41	---	64.36	32.95	1000.0	9.000	100.0	H	45.0
2.210073	---	27.11	---	69.54	42.43	1000.0	9.000	100.0	H	-41.0
13.560006	---	66.95	---	124.00	57.05	1000.0	9.000	100.0	H	-2.0
0.026319	---	---	56.17	139.20	83.02	1000.0	0.200	100.0	H	-26.0
0.037973	---	---	52.37	136.02	83.65	1000.0	0.200	100.0	H	-45.0
0.155673	---	---	57.82	123.76	65.94	1000.0	9.000	100.0	H	49.0
0.167041	---	---	57.91	123.15	65.23	1000.0	9.000	100.0	H	-15.0
0.169985	---	---	57.24	123.00	65.75	1000.0	9.000	100.0	H	315.0
0.270888	---	---	52.27	118.95	66.68	1000.0	9.000	100.0	H	43.0

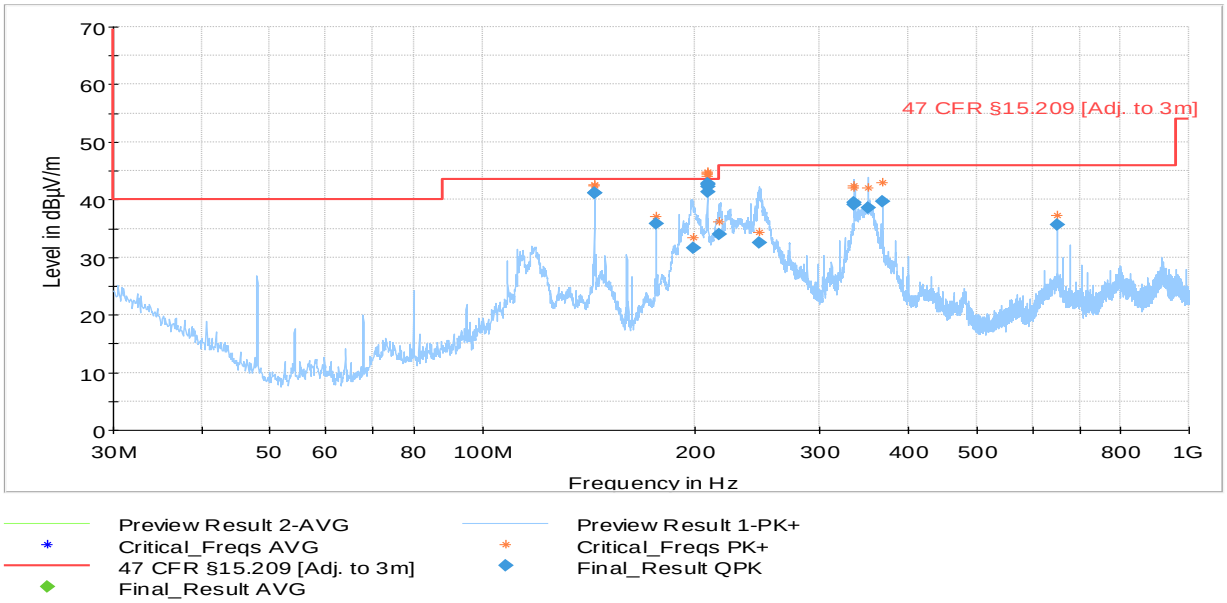
Test mode condition	NFC 13.56 MHz	
Antenna orientation	Loop Antenna Parallel to floor	
Sweep frequency	9 kHz-30 MHz	
Standard	47 CFR FCC Part 15 subpart C	
EUT	A002921819-003	
Ancillary Equipment	24V DC from power supply	
Test Engineer	Joel Efraimsson	Date: 2020-10-19
Chamber details	Chamber: SAC 5	





Frequency (MHz)	Average (dBuV/m)	QuasiPeak (dBuV/m)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
0.330583	40.93	---		97.22	56.29	1000.0	9.000	100.0	H	-45.0
0.665319	---	39.41		71.14	31.73	1000.0	9.000	100.0	H	167.0
0.736763	---	38.35		70.26	31.90	1000.0	9.000	100.0	H	307.0
0.902876	---	36.38		68.49	32.11	1000.0	9.000	100.0	H	-45.0
2.173209	---	27.22		69.54	42.33	1000.0	9.000	100.0	H	11.0
13.559772	---	59.84		124.00	64.16	1000.0	9.000	100.0	H	-2.0
0.025641			54.88	139.43	84.54	1000.0	0.200	100.0	H	-27.0
0.043921			52.16	134.75	82.59	1000.0	0.200	100.0	H	112.0
0.111788			41.79	126.64	84.84	1000.0	0.200	100.0	H	75.0
0.180215			56.67	122.49	65.82	1000.0	9.000	100.0	H	304.0
0.294154			52.49	118.23	65.75	1000.0	9.000	100.0	H	225.0
0.357748			50.63	116.53	65.90	1000.0	9.000	100.0	H	-27.0

Test mode condition	NFC 13.56 MHz	
Antenna orientation	Horizontal and Vertical	
Sweep frequency	30 MHz – 1 GHz	
Standard	47 CFR FCC Part 15 subpart C	
EUT	A002921819-003	
Ancillary Equipment	24V DC from power supply	
Test Engineer	Simon Palmhager	Date: 2020-10-15
Chamber details	Chamber: SAC 5	



Frequency (MHz)	QuasiPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
144.025840	41.21	43.52	2.31	1000.0	120.000	233.0	H	40.0
144.032840	41.24	43.52	2.29	1000.0	120.000	225.0	H	40.0
176.006600	35.77	43.52	7.75	1000.0	120.000	275.0	H	116.0
198.435760	31.66	43.52	11.86	1000.0	120.000	270.0	V	116.0
207.954240	41.34	43.52	2.18	1000.0	120.000	275.0	H	176.0
207.959880	42.24	43.52	1.28	1000.0	120.000	171.0	H	162.0
207.972920	42.64	43.52	0.88	1000.0	120.000	183.0	H	188.0
208.027360	42.83	43.52	0.69	1000.0	120.000	175.0	H	176.0
216.380960	34.00	46.02	12.02	1000.0	120.000	100.0	V	52.0
246.148640	32.57	46.02	13.45	1000.0	120.000	100.0	V	64.0
336.017600	39.54	46.02	6.48	1000.0	120.000	225.0	V	22.0
336.044680	39.08	46.02	6.94	1000.0	120.000	183.0	V	22.0
352.024360	38.62	46.02	7.40	1000.0	120.000	100.0	H	68.0
367.988040	39.67	46.02	6.35	1000.0	120.000	204.0	V	26.0
650.875400	35.64	46.02	10.38	1000.0	120.000	133.0	H	162.0

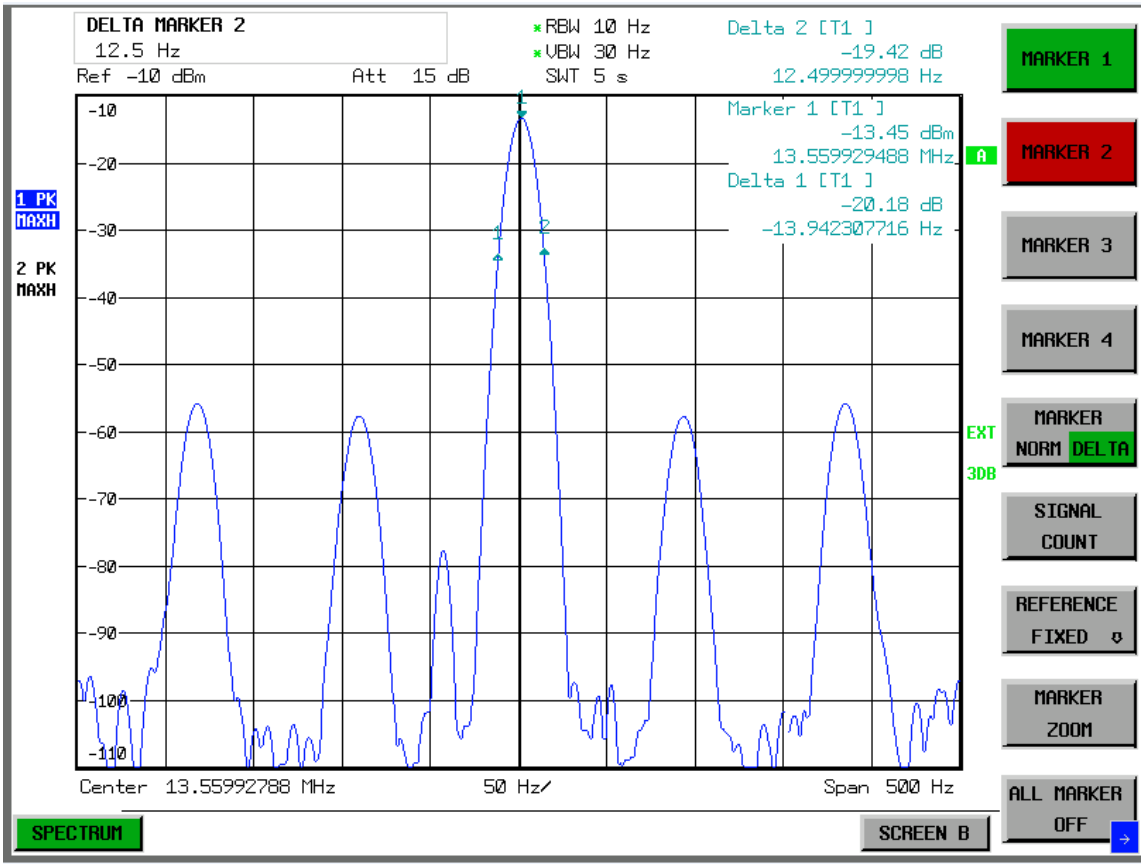
4.3 Test Results – 20dB Bandwidth

4.3.1 20dB Bandwidth – Test Summary

Test Specification	FCC 47 CFR 15.215 (c) (Part 15 Subpart C)	
Test Engineer & Date	Sam Ebadeh	2020.11.02
EUT and Ancillary Equipment IDs	A002921819-003	24V DC Power supply
EUT Operation Mode(s)	Continuous Transmit	
EUT Wireless Configuration(s)	NFC 13.56 MHz	
EUT Hardware Configuration(s)	-	
Overall Result	PASS	

Test Parameter	Wireless Configuration	Measured Frequency (MHz)	Limit (MHz)	Result
20dB Bandwidth - Lower	NFC 13.56 MHz	13.559915	>13.553	PASS
20dB Bandwidth - Lower	NFC 13.56 MHz	13.559941	<13.567	PASS

4.3.2 20dB Bandwidth – Test Details



4.4 Test Results – Frequency Tolerance

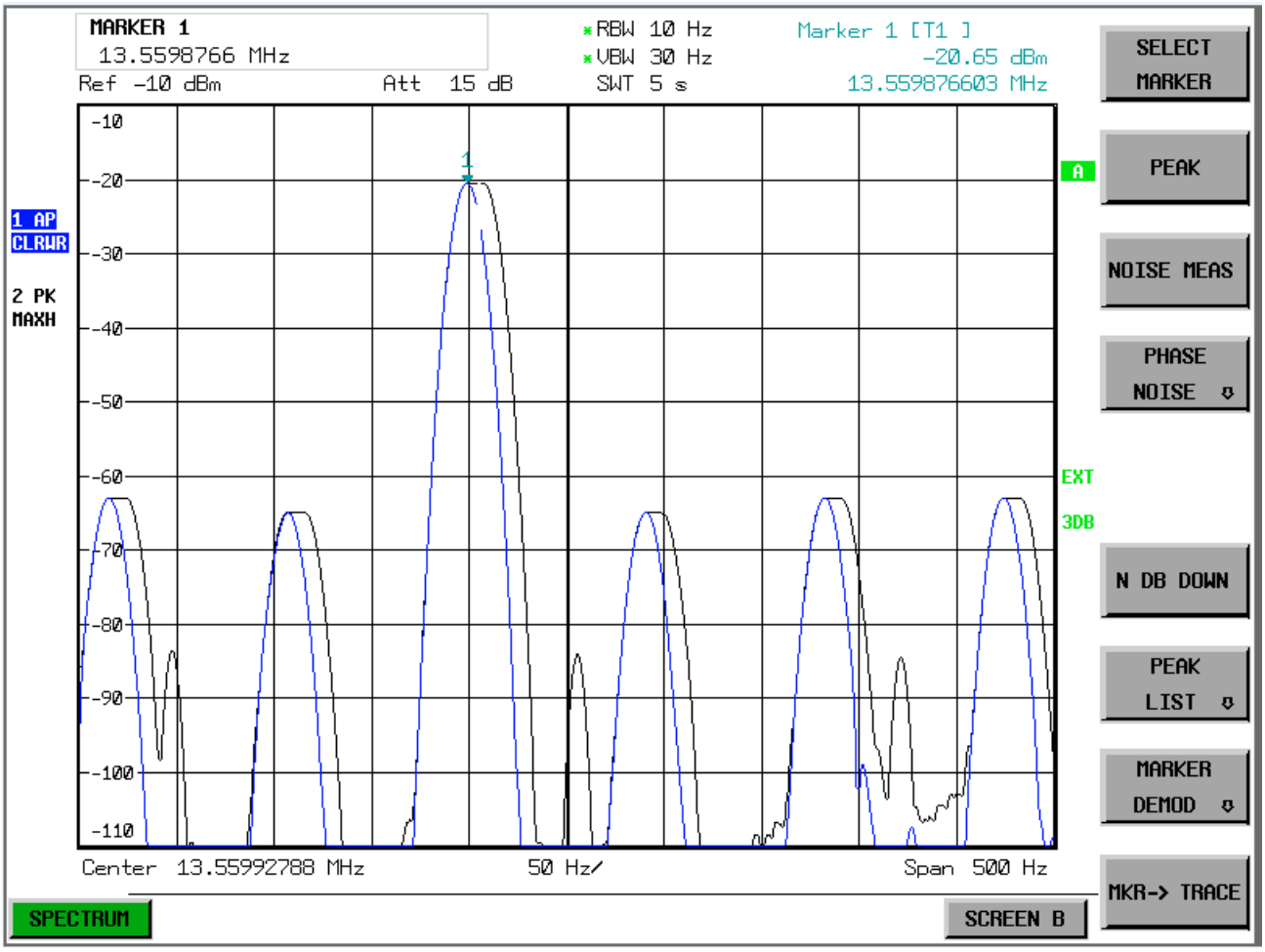
4.4.1 Frequency Tolerance – Test Summary

Test Specification	FCC 47 CFR 15.225 (e) (Part 15 Subpart C)	
Test Engineer & Date	Sam Ebadeh	2020.11.02 – 2020.11.03
EUT and Ancillary Equipment IDs	A002921819-003	24V DC Power supply
EUT Operation Mode(s)	Continuous Transmit	
EUT Wireless Configuration(s)	NFC 13.56 MHz	
EUT Hardware Configuration(s)	-	
Overall Result	PASS	

Test Parameter	Wireless Config.	Measured Frequency (MHz)				Limit* (MHz)	Result
		Start	2 Min.	5 Min.	10 Min.		
Frequency @ 24.0V / -20°C	NFC 13.56 MHz	13.559950	13.559959	13.559966	13.559968	13.558644-13.561356	PASS
Frequency @ 24.0V / -10°C	NFC 13.56 MHz	13.559973	13.559979	13.559984	13.559986	13.558644-13.561356	PASS
Frequency @ 24.0V / 0°C	NFC 13.56 MHz	13.559990	13.559988	13.559987	13.559987	13.558644-13.561356	PASS
Frequency @ 24.0V / 10°C	NFC 13.56 MHz	13.559984	13.559979	13.559975	13.559972	13.558644-13.561356	PASS
Frequency @ 21.60 / 20°C	NFC 13.56 MHz	13.559962	13.559955	13.559950	13.559946	13.558644-13.561356	PASS
Frequency @ 26.4V / 20°C	NFC 13.56 MHz	13.559965	13.559958	13.559952	13.559947	13.558644-13.561356	PASS
Frequency @ 24.0V / 20°C	NFC 13.56 MHz	13.559964	13.559956	13.559951	13.559946	13.558644-13.561356	PASS
Frequency @ 24.0V / 30°C	NFC 13.56 MHz	13.559919	13.559914	13.559912	13.559912	13.558644-13.561356	PASS
Frequency @ 24.0V / 40°C	NFC 13.56 MHz	13.559892	13.559889	13.559889	13.559888	13.558644-13.561356	PASS
Frequency @ 24.0V / 50°C	NFC 13.56 MHz	13.559884	13.559881	13.559878	13.559877	13.558644-13.561356	PASS

*Limit based on 13.56MHz +/- 0.01%

4.4.2 Frequency Tolerance – Test Details (Worst Case Plot)



5. TEST EQUIPMENT STATUS

5.1 List of Hardware with Calibration Dates

5.1.1 Hardware List – Conducted Radio

Type	Manufacturer	Model	Serial Number / ID	Calibration Date	Calibration Due
Spectrum Analyzer	Rohde & Schwarz	FSU26	100308 2704108	2020-07-14	2021-07-14
Digital Multimeter	Fluke	87	61320241 2744110	2020-07-09	2021-07-09
Single Input Thermometer	Fluke	51-2	41410362WS 2807523	2020-07-23	2021-07-23
Temperature Probe	Fluke	80PK-1	WPL26041802 2807528	2020-07-23	2021-07-23
Temperature Chamber	Vötsch	VT4002	58566081940010 2717693	N/A	N/A
Temp. & Humidity Logger	Lufft	Opus 20	113.0118.0802.033 2771025	2020-07-31	2022-07-31

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	1236.0118.0802.033 2771042	2020.07.31	2022.07.31

5.2 Software / Firmware Versions

Equipment	Software / Firmware Name	Version
Conducted Radio	N/A	-
SAC 5	EMC 32	V10.60.10

6. MEASUREMENT UNCERTAINTY

6.1 Measurement Uncertainty for Conducted Radio

Parameter	Uncertainty (Coverage Factor k=2)
20dB Channel Bandwidth & 99% Occupied bandwidth (15.215c)	<5%
Frequency Tolerance (15.225e)	0.33 ppm

6.2 Measurement Uncertainty for Conducted Emissions

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

6.3 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

See Appendix 1