

**FCC LISTED, REGISTRATION
NUMBER: 720267**

Test report No:

**IC LISTED REGISTRATION
NUMBER IC 4621A-1**

NIE: 43480RRF.003

Test report

REFERENCE STANDARD: USA FCC Part 15.225 and Part 15.209

Identificación del objeto ensayado.....: Identification of item tested	SmartPhone
Marca Trade	YotaPhone
Modelo y/o referencia tipo Model and /or type reference	YD201
Other identification of the product	Commercial name: YOTAPHONE2 FCC ID: 2ADHW201 IC ID: 12469A-201
Final HW version	P2
Final SW version	3.9
IMEI TAC	004402600038271, 004402600038354
Características Features	Bluetooth EDR+LE, WiFi b/g/n20, NFC and 2G/3G cellular
Peticionario Applicant	YOTA DEVICES LTD Arch. Makariou & Kalograion, 4, Nicolaides Sea View City, 9th Floor, Flat/Offices 903 -904, Block A-B, 6016, Larnaca, Cyprus. Contact person: Jukka Ollila Telephone: +358405433264 e-mail: jollila@yotadevices.com
Método de ensayo solicitado, norma.....: Test method requested, standard	USA FCC Part 15.225 (10–1–13 Edition): Operation within the band 13.110 -14.010. USA FCC Part 15.209 (10–1–13 Edition).: Radiated emission limits, general requirements CANADA RSS-210 Issue 8 (December 2010). CANADA RSS-Gen Issue 4 (November 2014). ANSI C63.10-2013: American National Standard for Testing Unlicensed Wireless Devices.
Resultado.....: Summary	IN COMPLIANCE
Aprobado por (nombre / cargo y firma) Approved by (name / position & signature)	A. Llamas RF Lab. Manager
Fecha de realización Date of issue	2014-12-04

Formato de informe No.: FDT08_15

Report template No

Index

Competences and guarantees.....	4
General conditions.....	4
Uncertainty	4
Usage of samples.....	4
Test sample description	5
Test samples supplier	5
Testing period.....	5
Environmental conditions.....	5
Remarks and comments.....	6
Testing verdicts	8
Appendix A – Test result.....	9

Competences and guarantees

AT4 wireless is a laboratory with a measurement facility in compliance with the requirements of Section 2.948 of the FCC rules and has been added to the list of facilities whose measurements data will be accepted in conjunction with applications for Certification under Parts 15 or 18 of the Commission's Rules. Registration Number: 720267.

AT4 wireless is a laboratory with a measurement site in compliance with the requirements of RSS 212, Issue 1 (Provisional) and has been added to the list of filed sites of the Canadian Certification and Engineering Bureau. Reference File Number: IC 4621A-1.

In order to assure the traceability to other national and international laboratories, AT4 wireless has a calibration and maintenance program for its measurement equipment.

AT4 wireless guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated on the report and, it is based on the knowledge and technical facilities available at AT4 wireless at the time of performance of the test.

AT4 wireless is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

IMPORTANT: No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of AT4 wireless.

General conditions

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of AT4 wireless.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of AT4 wireless and the Accreditation Bodies.

Uncertainty

Uncertainty (factor $k=2$) was calculated according to the AT4 wireless internal document PODT000.

Usage of samples

Samples undergoing test have been selected by: **the client**.

Sample S/01 is composed of the following elements:

Control N°	Description	Model	Serial N°	Date of reception
43116/027	Smartphone with integral antenna	YD201	IMEI: 004402600038271	2014-07-11

1. Sample S/01 has undergone following test(s).
All radiated tests indicated in appendix A.

Sample S/02 is composed of the following elements:

Control N°	Description	Model	Serial N°	Date of reception
43116/038	Smartphone with integral antenna	YD201	IMEI: 004402600038354	2014-07-18

1. Sample S/02 has undergone the test(s).
All conducted tests indicated in appendix A.

Test sample description

The test sample consists of a smartphone with Bluetooth EDR+LE, WiFi b/g/n20, NFC and 2G/3G cellular.

Test samples supplier

YOTA DEVICES LTD

Arch. Makariou & Kalograion, 4, Nicolaides Sea View City, 9th Floor, Flat/Offices 903 -904, Block A-B, 6016, Larnaca, Cyprus.

Contact person: Jukka Ollila

Telephone: +358405433264

e-mail: jollila@yotadevices.com

Testing period

The performed test started on 2014-10-03 and finished on 2014-10-17.

The tests have been performed at AT4 wireless.

Environmental conditions

In the control chamber, the following limits were not exceeded during the test:

Temperature	Min. = 21.5 °C Max. = 21.9 °C
Relative humidity	Min. = 54.8 % Max. = 56.0 %
Shielding effectiveness	> 100 dB
Electric insulation	> 10 kΩ
Reference resistance to earth	< 0,5 Ω

In the semianechoic chamber the following limits were not exceeded during the test.

Temperature	Min. = 20.4 °C Max. = 20.9 °C
Relative humidity	Min. = 46.0 % Max. = 47.7 %
Air pressure	Min. = 1002 mbar Max. = 1009 mbar
Shielding effectiveness	> 100 dB
Electric insulation	> 10 kΩ
Reference resistance to earth	< 0,5 Ω
Normal site attenuation (NSA)	< ±4 dB at 10 m distance between item under test and receiver antenna, (30 MHz to 1000 MHz)
Field homogeneity	More than 75% of illuminated surface is between 0 and 6 dB (26 MHz to 1000 MHz).

In the chamber for conducted measurements the following limits were not exceeded during the test:

Temperature	Min. = 23.7 °C Max. = 24.6 °C
Relative humidity	Min. = 41.3 % Max. = 52.7 %
Air pressure	Min. = 1010 mbar Max. = 1020 mbar
Shielding effectiveness	> 100 dB
Electric insulation	> 10 kΩ
Reference resistance to earth	< 0,5 Ω

Remarks and comments

1: Used instrumentation.

Conducted Measurements

		Last Cal. date	Cal. due date
1.	Spectrum analyser Agilent PSA E4440A	2014/05	2016/05
2.	Climatic chamber HERAEUS VM 07/100	2012/10	2015/10
3.	DC power supply R&S NGPE 40/40	2011/11	2014/11

Radiated Measurements

			Last Cal. date	Cal. due date
1.	Semianechoic Absorber Lined Chamber IR 11. BS		N.A.	N.A.
2.	Control Chamber IR 12.BC		N.A.	N.A.
3.	BiconicalLog antenna ETS LINDGREN 3142E		2014/03	2017/03
4.	Antenna mast EM 1072 NMT		N.A.	N.A.
5.	Rotating table EM 1084-4. ON		N.A.	N.A.
6.	Loop antenna HP 1196 A.		2014/03	2016/03
7.	EMI Test Receiver R&S ESIB26		2013/05	2015/05
8.	Multi Device Controller EMCO 2090		N.A.	N.A.
9.	RF pre-amplifier Schaffner CPA 9231A.		2013/06	2015/06
10.	Antenna tripod EMCO 11968C.		N.A.	N.A.

Testing verdicts

Not applicable	N/A
Pass	P
Fail	F
Not measured	N/M

FCC PART 15 PARAGRAPH	VERDICT			
	NA	P	F	NM
15.225 Subclause (a) / RSS-210 Clause A2.6 (a). Field strength of emissions within the band 13.553 MHz -13.567 MHz		P		
15.225 Subclause (b) / RSS-210 Clause A2.6 (b). Field strength of emissions within the band 13.410 - 13.553 MHz and 13.567 – 13.710 MHz		P		
15.225 Subclause (c) / RSS-210 Clause A2.6 (c). Field strength of emissions within the band 13.110 - 13.410 MHz and 13.710 – 14.010 MHz		P		
15.225 Subclause (d) / RSS-210 Clause A2.6 (d). Field strength of emissions outside of the band 13.110 MHz -14.010 MHz		P		
15.225 Subclause (e) / RSS-210 Clause A2.6. Frequency tolerance of the carrier signal		P		

Appendix A – Test result

INDEX

TEST CONDITIONS	11
Occupied Bandwidth	12
Section 15.225 Subclause (a) / RSS-210 Clause A2.6 (a). Field strength of emissions within the band 13.553 MHz -13.567 MHz	15
Section 15.225 Subclause (b) / RSS-210 Clause A2.6 (b). Field strength of emissions within the band 13.410 MHz -13.553 MHz and 13.567 MHz -13.710 MHz	18
Section 15.225 Subclause (c) / RSS-210 Clause A2.6 (c). Field strength of emissions within the band 13.110 MHz -13.410 MHz and 13.710 MHz -14.010 MHz	24
Section 15.225 Subclause (d) / RSS-210 Clause A2.6 (d). Field strength of emissions outside of the band 13.110 MHz -14.010 MHz.....	30
Section 15.225 Subclause (e) / RSS-210 Clause A2.6. Frequency tolerance of the carrier signal	38

TEST CONDITIONS

Power supply (V):

$$V_{\text{nominal}} = 3.8 \text{ Vdc}$$

$$V_{\text{max}} = 4.2 \text{ Vdc (*)}$$

$$V_{\text{min}} = 3.4 \text{ Vdc (*)}$$

The subscripts nom, min and max indicate voltage test conditions (nominal, minimum and maximum respectively, as declared by the applicant).

(*): Declared by applicant

Type of power supply = DC voltage from rechargeable battery.

Type of antenna = Integral antenna

Operating Temperature Range (°C):

$$T_n = +15 \text{ to } +35$$

TEST FREQUENCIES:

Nominal Operating frequency: 13.56 MHz

CONDUCTED MEASUREMENTS

The equipment under test was set up in a shielded room and it is connected to the spectrum analyser.

RADIATED MEASUREMENTS

All radiated tests were performed in a semi-anechoic chamber. The measurement antenna (Loop antenna for the range between 9 kHz to 30 MHz and Bilog antenna for the range between 30 MHz to 200 MHz) is situated at a distance of 3 m.

For radiated emissions in the range 9 kHz to 30 MHz that is performed at a distance closer than the specified distance, an inverse proportionality factor of 40 dB per decade is used to normalize the measured data for determining compliance.

The equipment under test was set up on a non-conductive (wooden) platform one meter above the ground plane and the situation and orientation was varied to find the maximum radiated emission. It was also rotated 360° and in the range between 30 MHz and 200 MHz the antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

In the range between 9 kHz and 30 MHz the measurements were made in the three different orientation planes of the loop antenna to determine the maximum received field.

In the range between 30 MHz and 200 MHz the measurements were made in both horizontal and vertical planes of polarization.

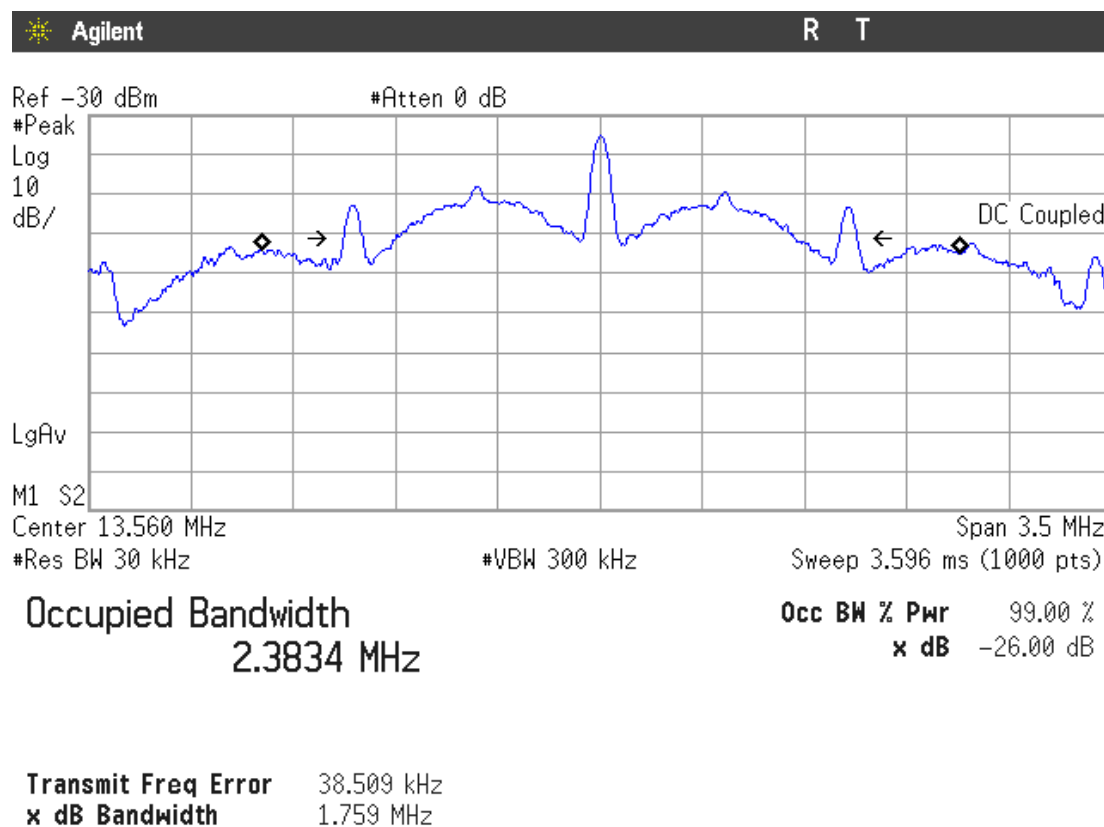
Occupied Bandwidth

RESULTS

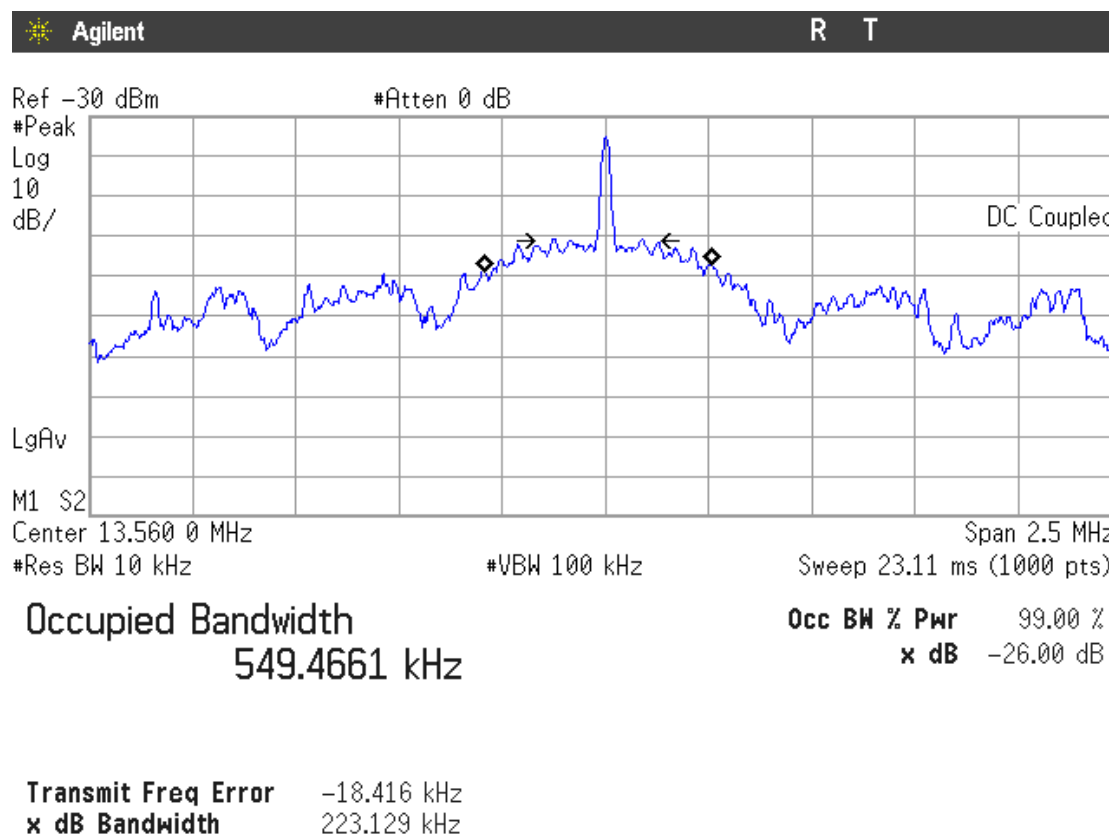
99 % Occupied Bandwidth (see next plots).

Operation mode	99% occupied bandwith (kHz)
NFC-A at 424 kbps	2383.40
NFC-B at 424 kbps	549.47
NFC-F at 424 kbps	1356.30
Measurement uncertainty (Hz)	±16

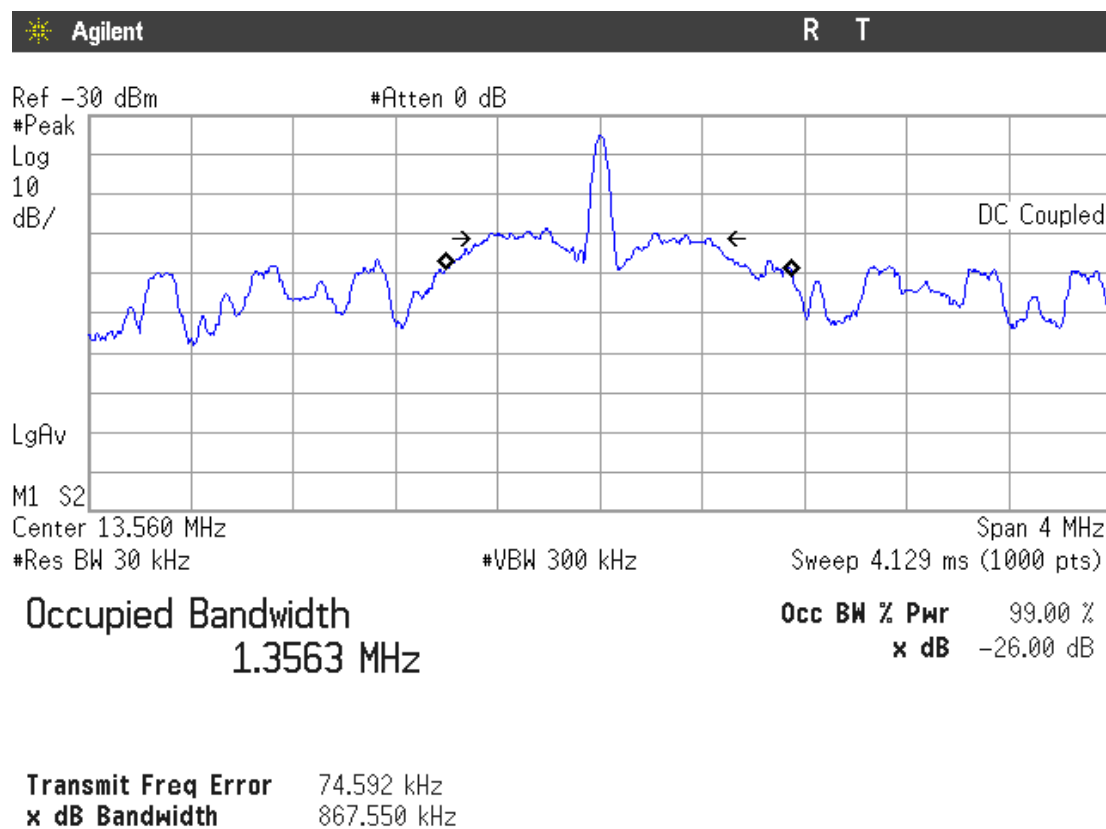
Operation mode: NFC-A at 424 kbps



Operation mode: NFC-B at 424 kbps



Operation mode: NFC-F at 424 kbps



Section 15.225 Subclause (a) / RSS-210 Clause A2.6 (a). Field strength of emissions within the band 13.553 MHz -13.567 MHz

SPECIFICATION

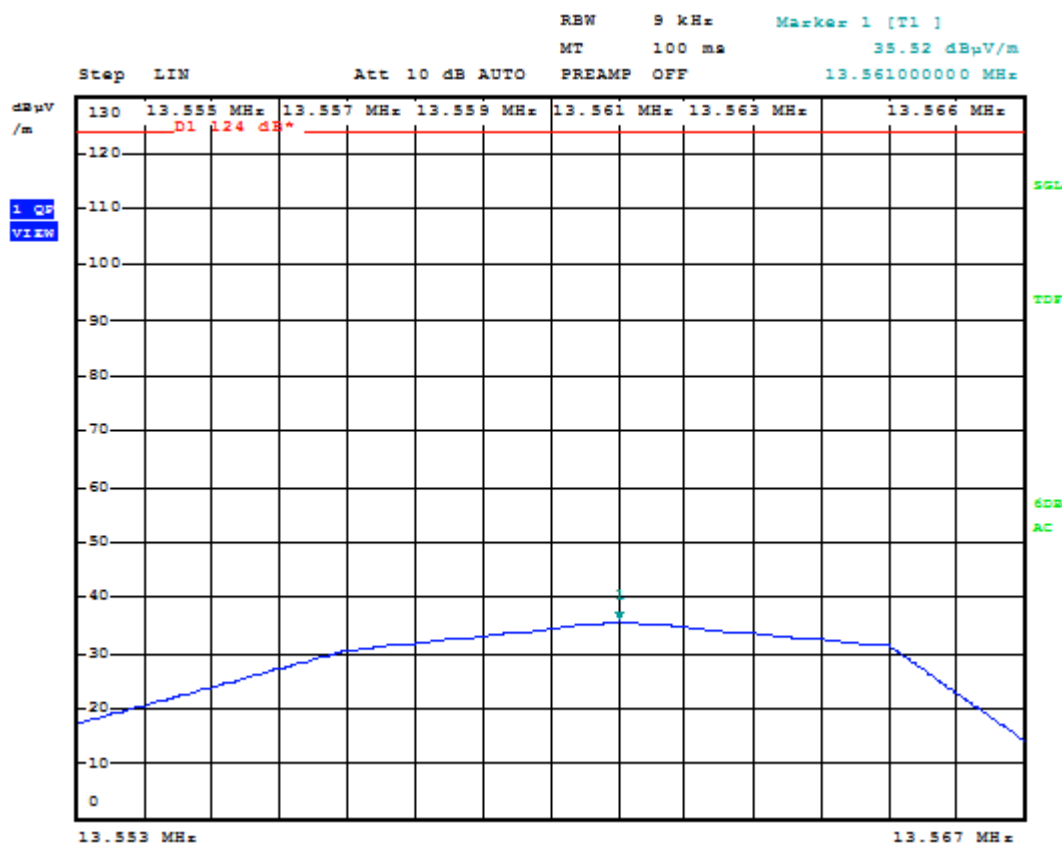
The field strength of any emissions within the band 13.553 – 13.567 MHz shall not exceed 15,848 microvolts/meter (84 dB μ V/m) at 30 meters.

RESULTS

Measurement distance: 3 meters

1. Operation mode: NFC-A.

A preliminary scan determined that the worst case is for 106 kbps bit rate.



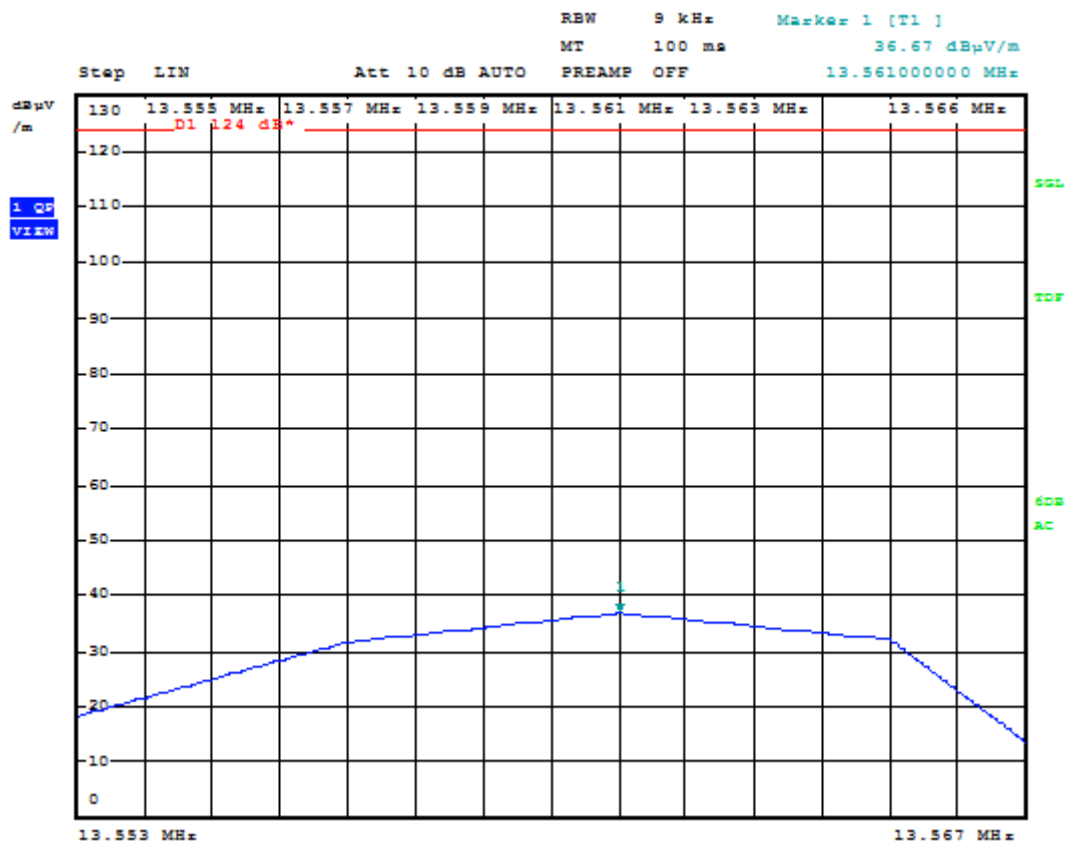
Note: The limit shown in the above plot is extrapolated to 3 meters

Frequency (MHz)	Maximum field strength (dB μ V/m) measured at 3 m (quasi-peak detector)	Maximum field strength (dB μ V/m) extrapolated to 30 m (40 dB/decade)
13.561	35.52	-4.48
Measurement uncertainty (dB)	± 3.2	

Verdict: PASS

2. Operation mode: NFC-B.

A preliminary scan determined that the worst case is for 106 kbps bit rate.



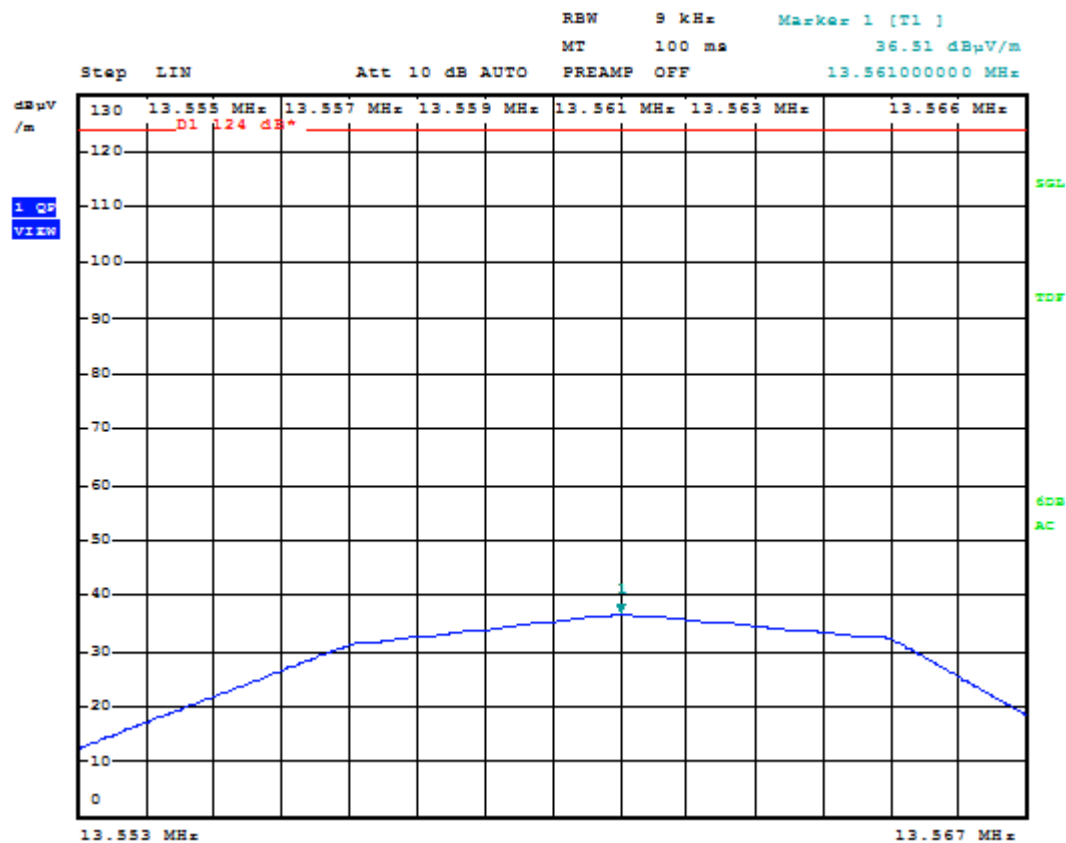
Note: The limit shown in the above plot is extrapolated to 3 meters

Frequency (MHz)	Maximum field strength (dBμV/m) measured at 3 m (quasi-peak detector)	Maximum field strength (dBμV/m) extrapolated to 30 m (40 dB/decade)
13.561	36.67	-3.33
Measurement uncertainty (dB)	±3.2	

Verdict: PASS

3. Operation mode: NFC-F.

A preliminary scan determined that the worst case is for 212 kbps bit rate.



Note: The limit shown in the above plot is extrapolated to 3 meters

Frequency (MHz)	Maximum field strength (dBμV/m) measured at 3 m (quasi-peak detector)	Maximum field strength (dBμV/m) extrapolated to 30 m (40 dB/decade)
13.561	36.51	-3.49
Measurement uncertainty (dB)	±3.2	

Verdict: PASS

Section 15.225 Subclause (b) / RSS-210 Clause A2.6 (b). Field strength of emissions within the band 13.410 MHz -13.553 MHz and 13.567 MHz -13.710 MHz

SPECIFICATION

Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter (50.47 dB μ V/m) at 30 meters.

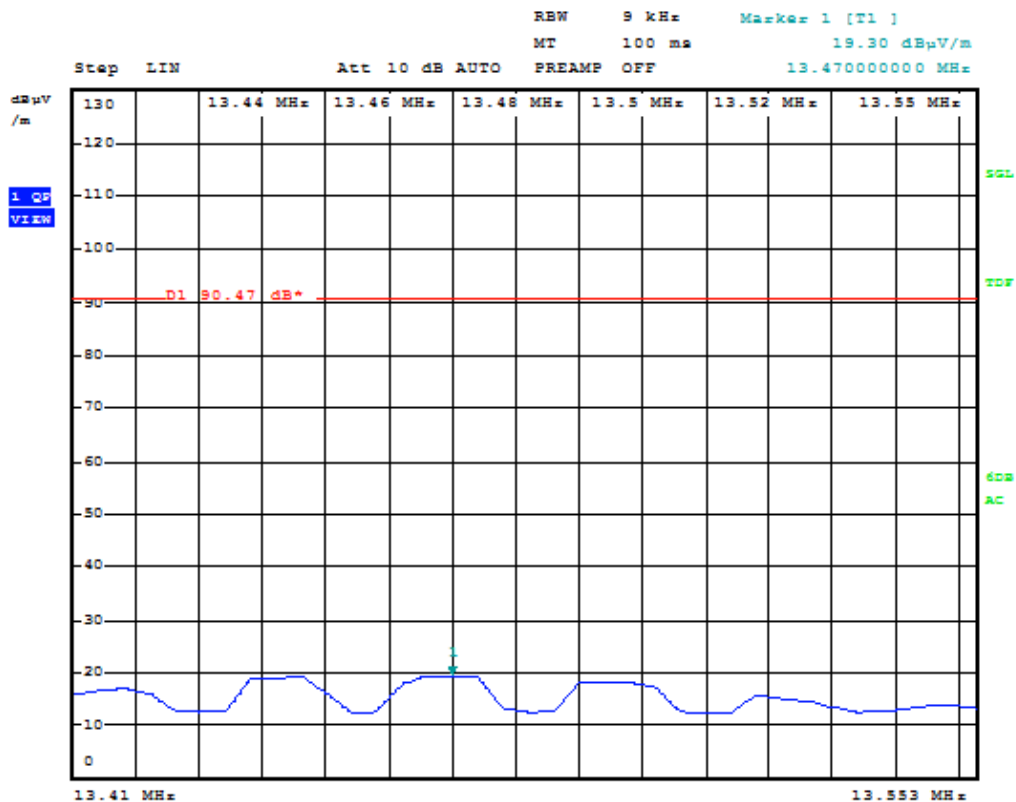
RESULTS

Band 13.410-13.553 MHz

Measurement distance: 3 meters

1. Operation mode: NFC-A.

A preliminary scan determined that the worst case is for 106 kbps bit rate.



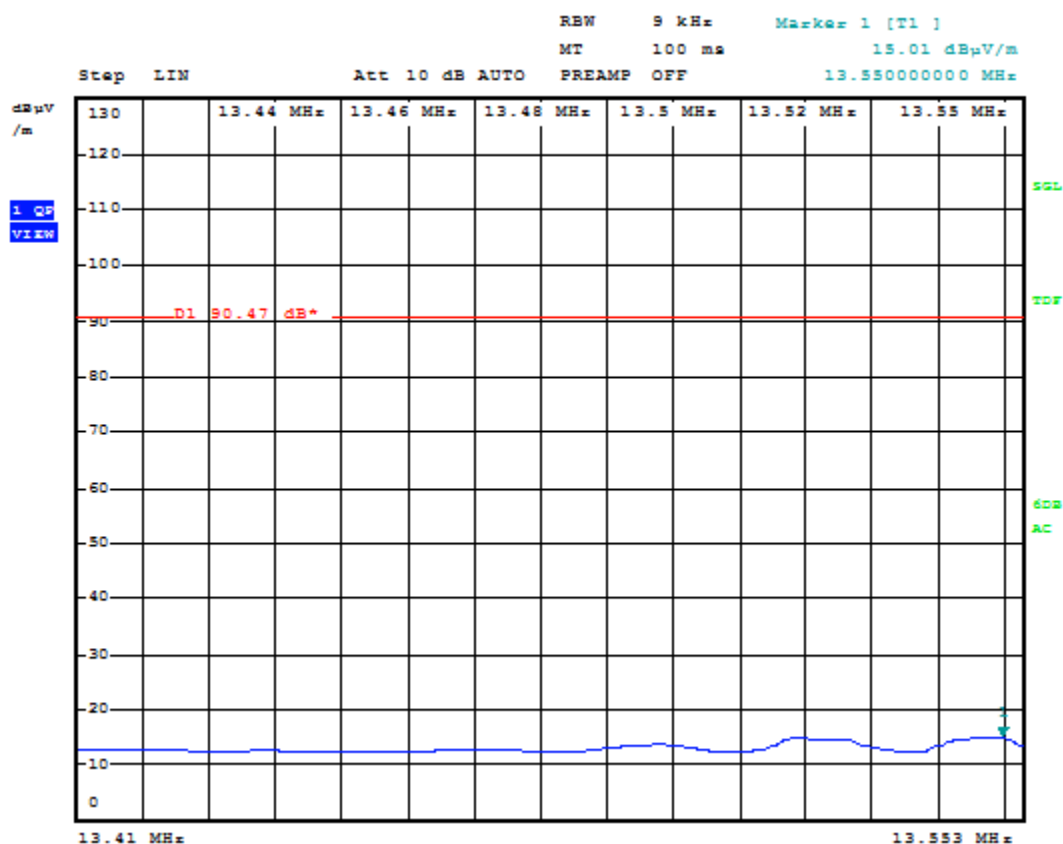
Note: The limit shown in the above plot is extrapolated to 3 meters

Frequency (MHz)	Maximum field strength (dB μ V/m) measured at 3 m (quasi-peak detector)	Maximum field strength (dB μ V/m) extrapolated to 30 m (40 dB/decade)
13.470	19.30	-20.70
Measurement uncertainty (dB)	± 3.2	

Verdict: PASS

2. Operation mode: NFC-B.

A preliminary scan determined that the worst case is for 106 kbps bit rate.



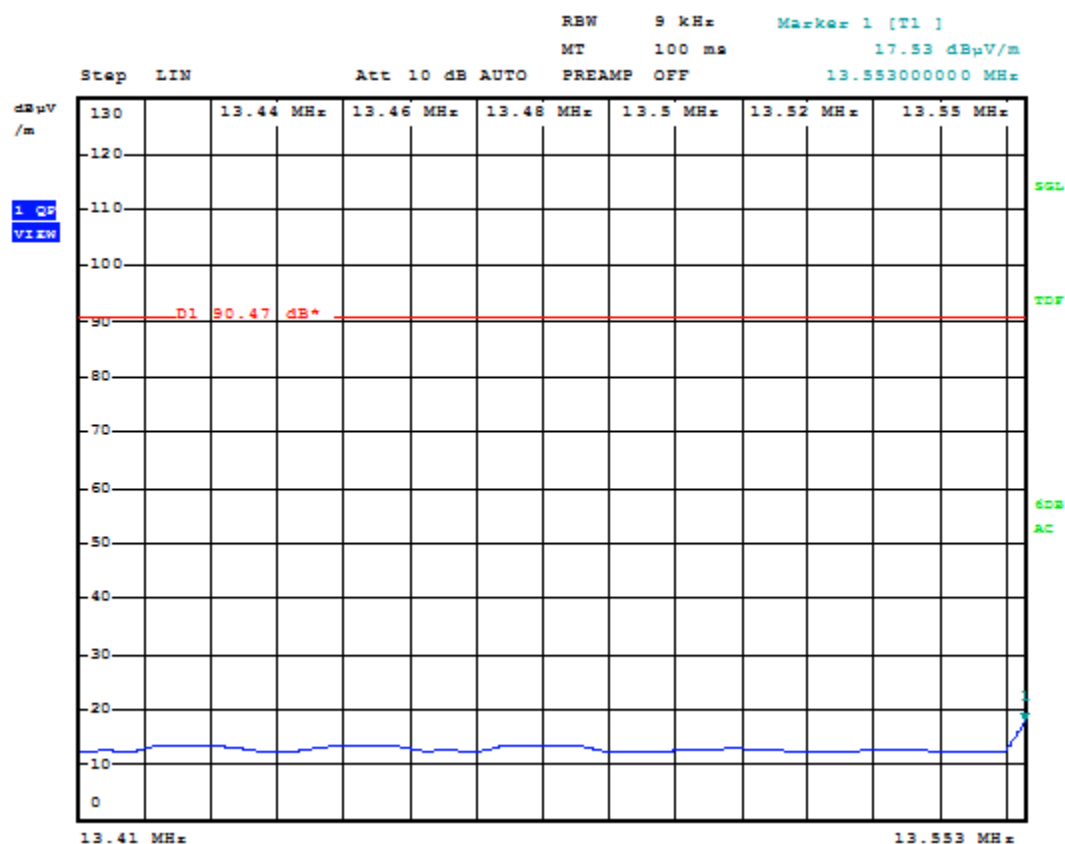
Note: The limit shown in the above plot is extrapolated to 3 meters

Frequency (MHz)	Maximum field strength (dBμV/m) measured at 3 m (quasi-peak detector)	Maximum field strength (dBμV/m) extrapolated to 30 m (40 dB/decade)
13.550	15.01	-24.99
Measurement uncertainty (dB)	±3.2	

Verdict: PASS

3. Operation mode: NFC-F.

A preliminary scan determined that the worst case is for 212 kbps bit rate.



Note: The limit shown in the above plot is extrapolated to 3 meters

Frequency (MHz)	Maximum field strength (dBμV/m) measured at 3 m (quasi-peak detector)	Maximum field strength (dBμV/m) extrapolated to 30 m (40 dB/decade)
13.553	17.53	-22.47
Measurement uncertainty (dB)	±3.2	

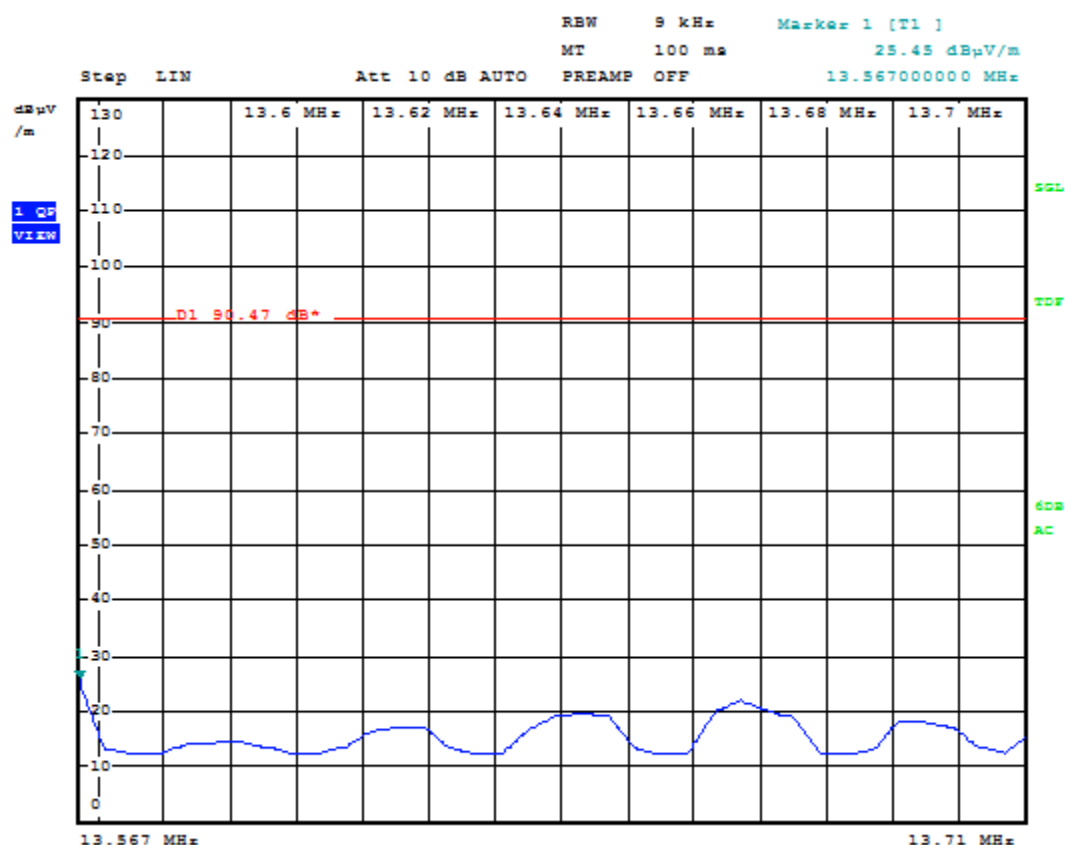
Verdict: PASS

Band 13.567-13.710 MHz

Measurement distance: 3 meters

1. Operation mode: NFC-A.

A preliminary scan determined that the worst case is for 106 kbps bit rate.



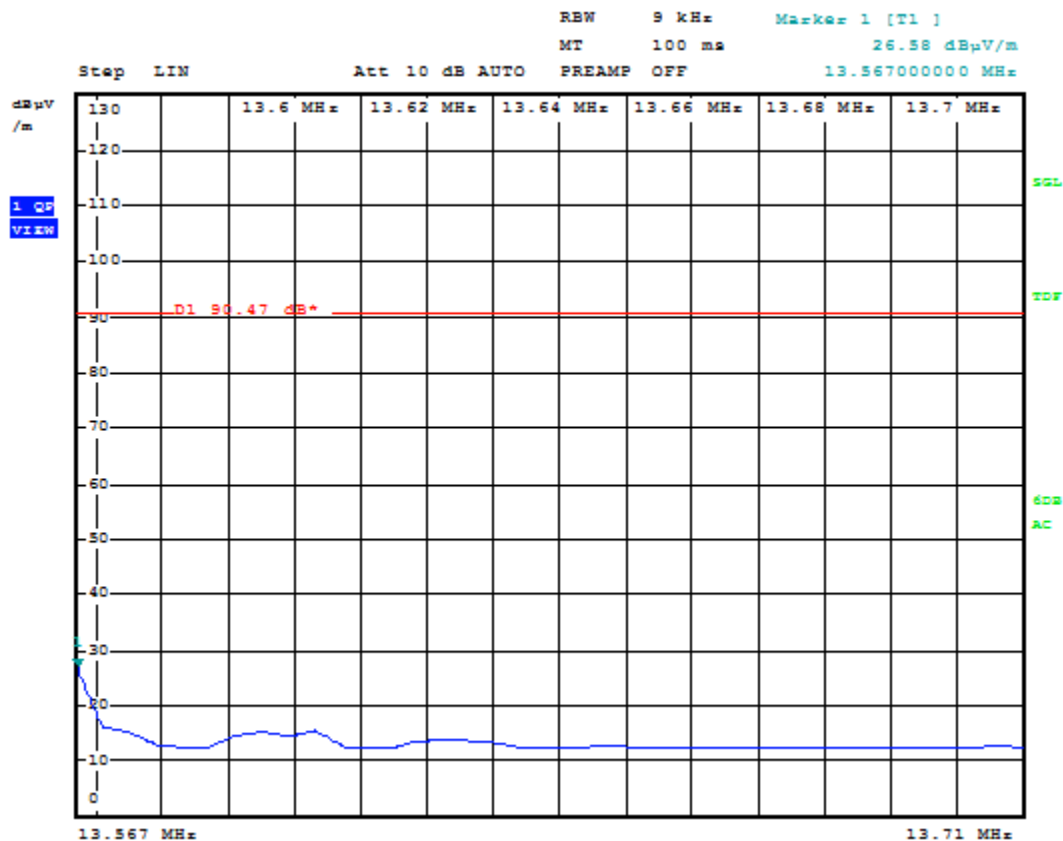
Note: The limit shown in the above plot is extrapolated to 3 meters

Frequency (MHz)	Maximum field strength (dBμV/m) measured at 3 m (quasi-peak detector)	Maximum field strength (dBμV/m) extrapolated to 30 m (40 dB/decade)
13.567	25.45	-14.55
Measurement uncertainty (dB)	±3.2	

Verdict: PASS

2. Operation mode: NFC-B.

A preliminary scan determined that the worst case is for 106 kbps bit rate.



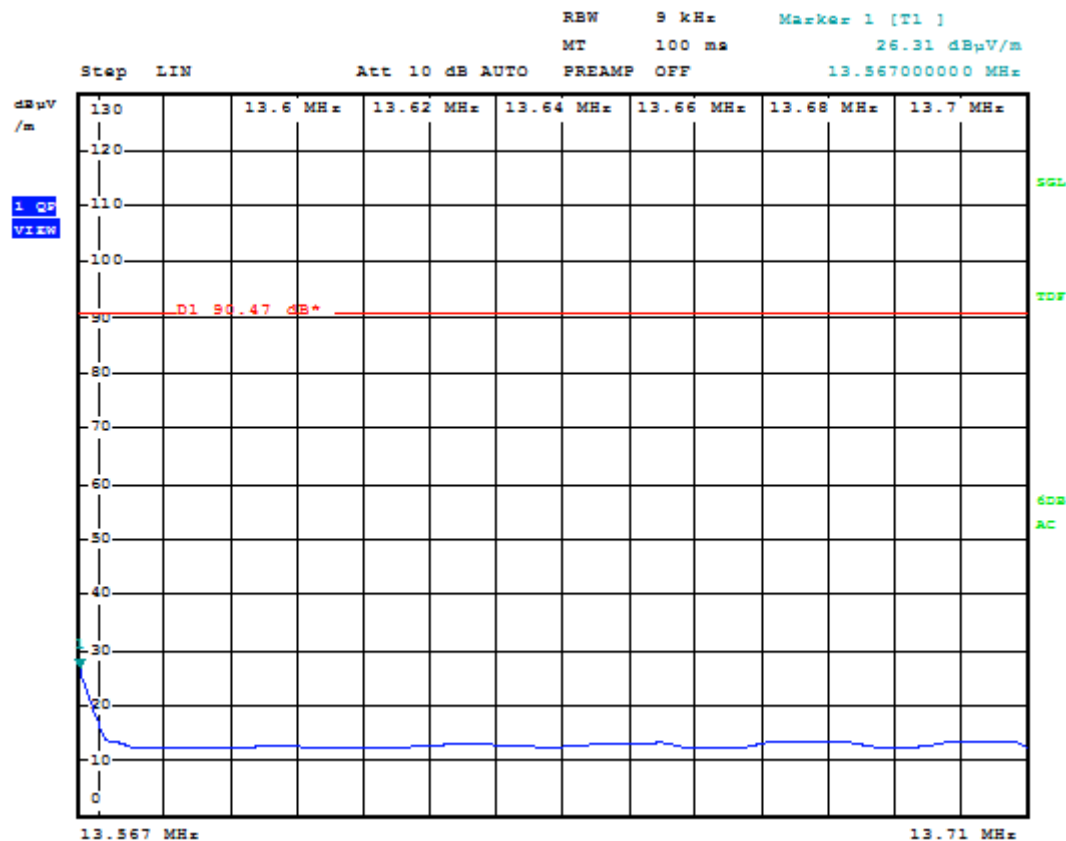
Note: The limit shown in the above plot is extrapolated to 3 meters

Frequency (MHz)	Maximum field strength (dBμV/m) measured at 3 m (quasi-peak detector)	Maximum field strength (dBμV/m) extrapolated to 30 m (40 dB/decade)
13.567	26.58	-13.42
Measurement uncertainty (dB)	±3.2	

Verdict: PASS

3. Operation mode: NFC-F.

A preliminary scan determined that the worst case is for 212 kbps bit rate.



Note: The limit shown in the above plot is extrapolated to 3 meters

Frequency (MHz)	Maximum field strength (dBμV/m) measured at 3 m (quasi-peak detector)	Maximum field strength (dBμV/m) extrapolated to 30 m (40 dB/decade)
13.567	26.31	-13.69
Measurement uncertainty (dB)	±3.2	

Verdict: PASS

Section 15.225 Subclause (c) / RSS-210 Clause A2.6 (c). Field strength of emissions within the band 13.110 MHz -13.410 MHz and 13.710 MHz -14.010 MHz

SPECIFICATION

Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz, the field strength of any emissions shall not exceed 106 microvolts/meter (40.51 dB μ V/m) at 30 meters.

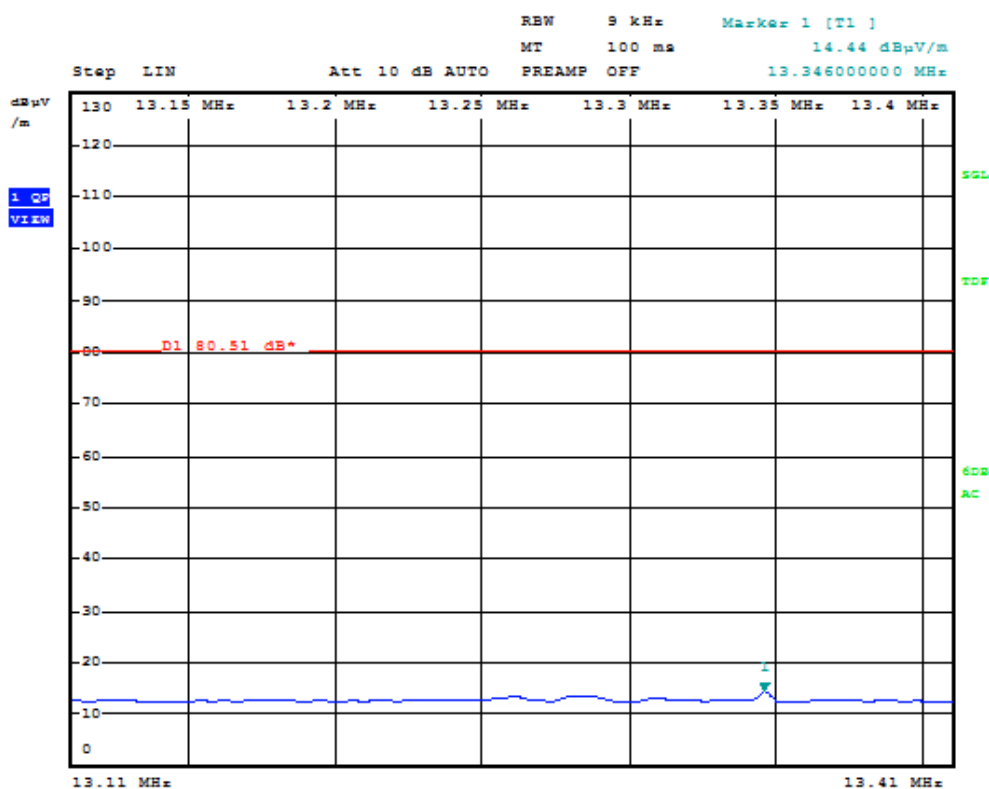
RESULTS

Band 13.110-13.410 MHz

Measurement distance: 3 meters

1. Operation mode: NFC-A.

A preliminary scan determined that the worst case is for 106 kbps bit rate.



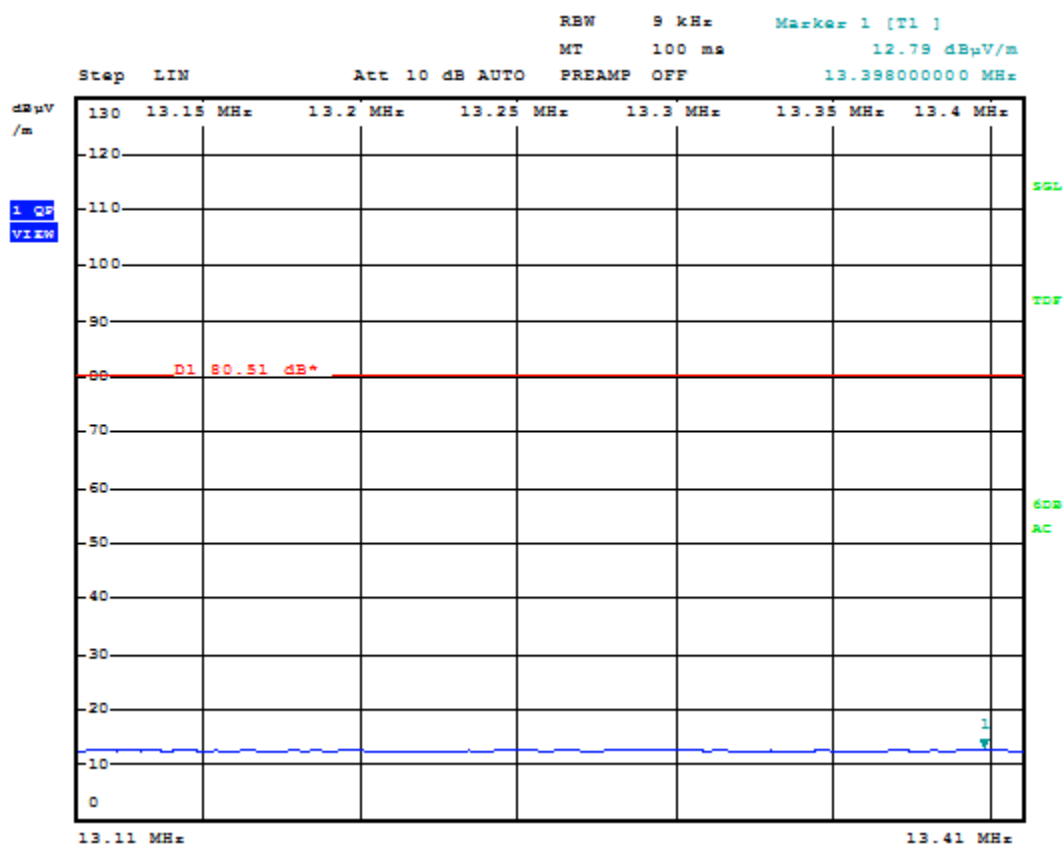
Note: The limit shown in the above plot is extrapolated to 3 meters

Frequency (MHz)	Maximum field strength (dB μ V/m) measured at 3 m (quasi-peak detector)	Maximum field strength (dB μ V/m) extrapolated to 30 m (40 dB/decade)
13.346	14.44	-25.56
Measurement uncertainty (dB)	± 3.2	

Verdict: PASS

2. Operation mode: NFC-B.

A preliminary scan determined that the worst case is for 106 kbps bit rate.



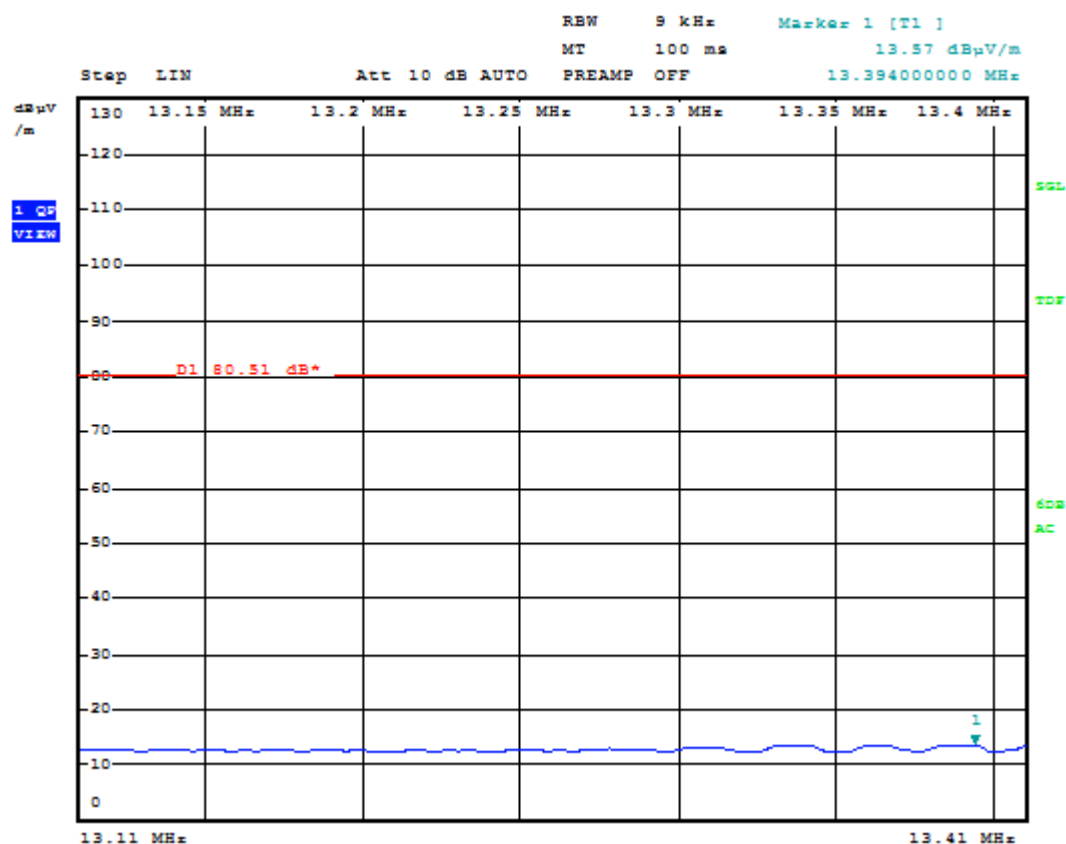
Note: The limit shown in the above plot is extrapolated to 3 meters

Frequency (MHz)	Maximum field strength (dBμV/m) measured at 3 m (quasi-peak detector)	Maximum field strength (dBμV/m) extrapolated to 30 m (40 dB/decade)
13.398	12.79	-27.21
Measurement uncertainty (dB)	±3.2	

Verdict: PASS

3. Operation mode: NFC-F.

A preliminary scan determined that the worst case is for 212 kbps bit rate.



Note: The limit shown in the above plot is extrapolated to 3 meters

Frequency (MHz)	Maximum field strength (dBμV/m) measured at 3 m (quasi-peak detector)	Maximum field strength (dBμV/m) extrapolated to 30 m (40 dB/decade)
13.394	13.57	-26.43
Measurement uncertainty (dB)	±3.2	

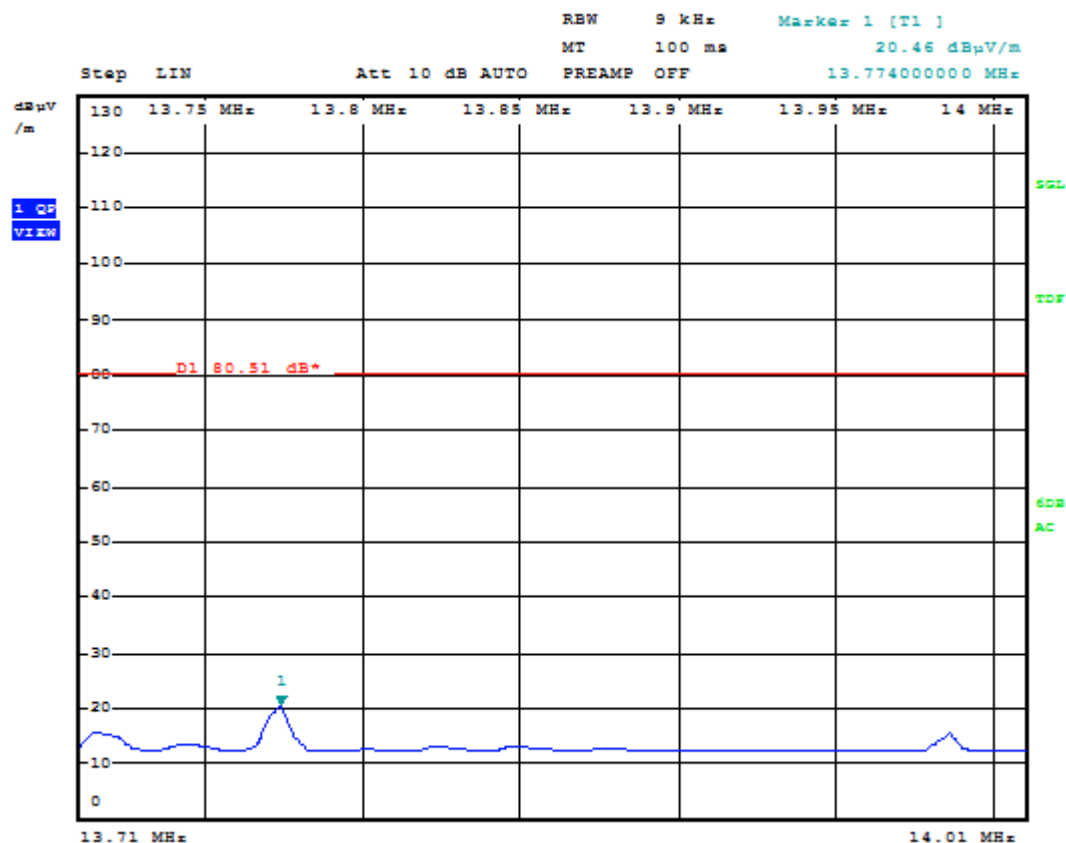
Verdict: PASS

Band 13.710-14.010 MHz

Measurement distance: 3 meters

1. Operation mode: NFC-A.

A preliminary scan determined that the worst case is for 106 kbps bit rate.



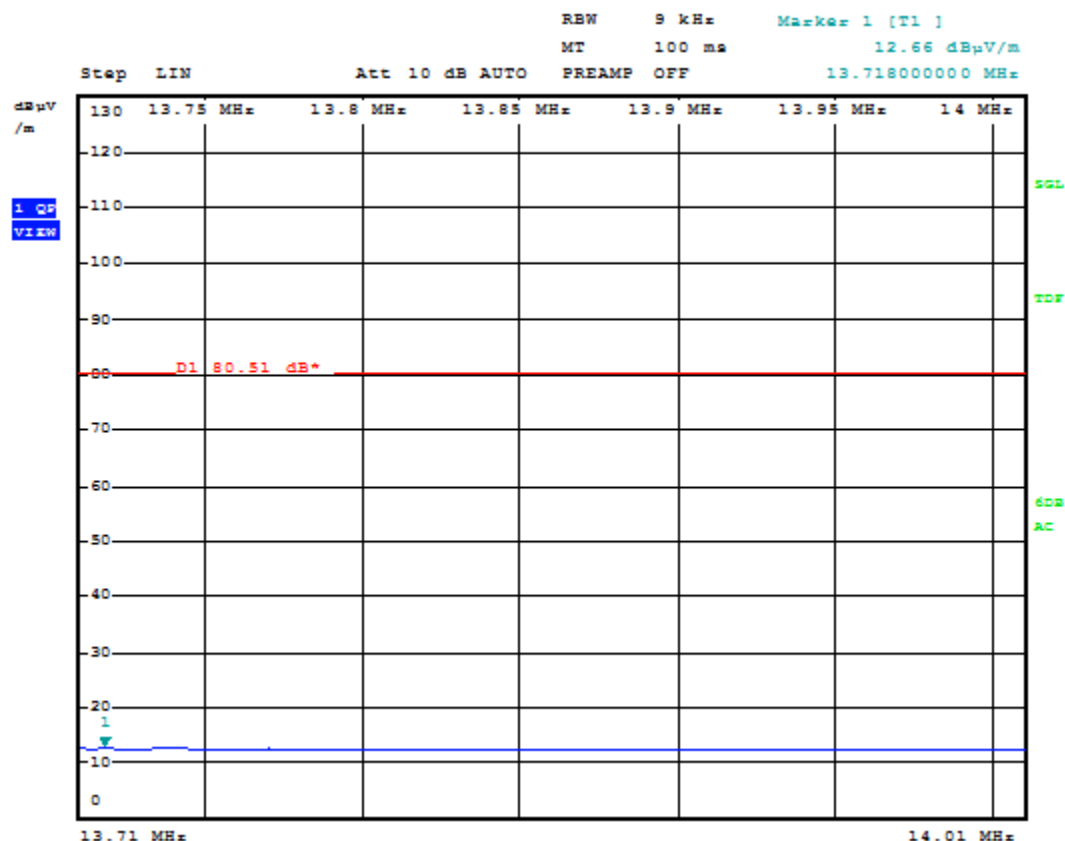
Note: The limit shown in the above plot is extrapolated to 3 meters

Frequency (MHz)	Maximum field strength (dBμV/m) measured at 3 m (quasi-peak detector)	Maximum field strength (dBμV/m) extrapolated to 30 m (40 dB/decade)
13.774	20.46	-19.54
Measurement uncertainty (dB)	±3.2	

Verdict: PASS

2. Operation mode: NFC-B.

A preliminary scan determined that the worst case is for 106 kbps bit rate.



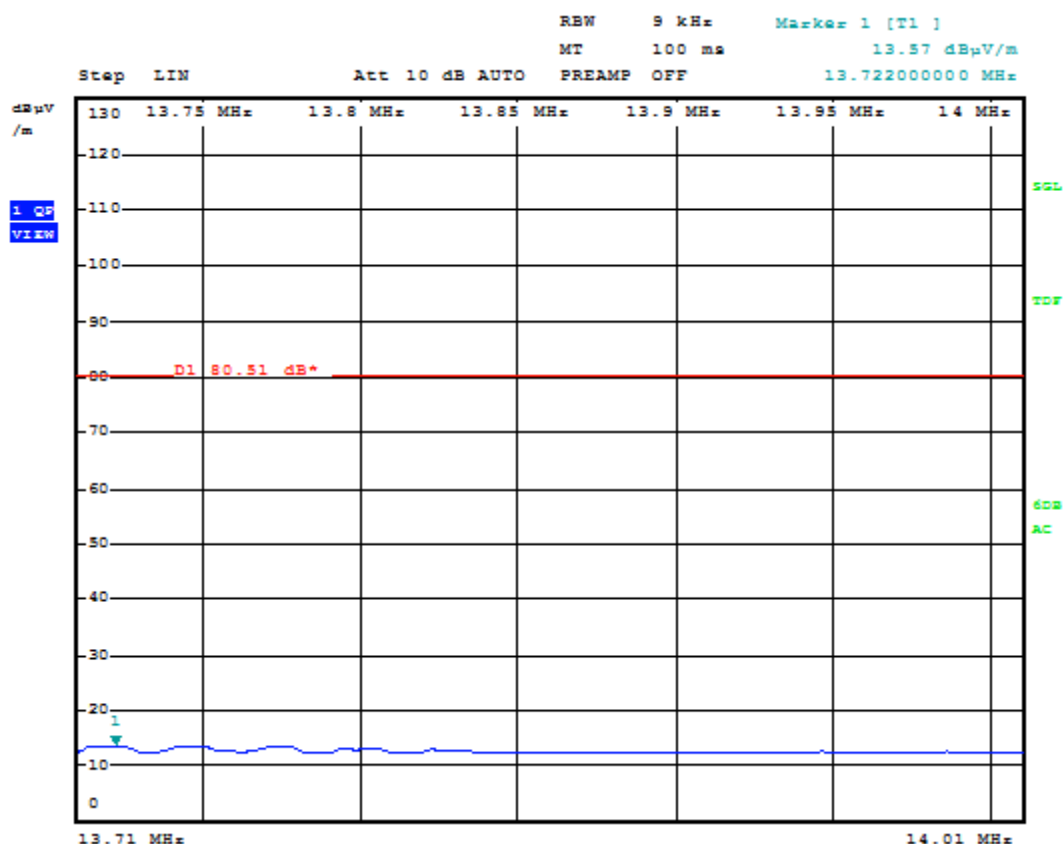
Note: The limit shown in the above plot is extrapolated to 3 meters

Frequency (MHz)	Maximum field strength (dBμV/m) measured at 3 m (quasi-peak detector)	Maximum field strength (dBμV/m) extrapolated to 30 m (40 dB/decade)
13.718	12.66	-27.34
Measurement uncertainty (dB)	±3.2	

Verdict: PASS

3. Operation mode: NFC-F.

A preliminary scan determined that the worst case is for 212 kbps bit rate.



Note: The limit shown in the above plot is extrapolated to 3 meters

Frequency (MHz)	Maximum field strength (dBμV/m) measured at 3 m (quasi-peak detector)	Maximum field strength (dBμV/m) extrapolated to 30 m (40 dB/decade)
13.722	13.57	-26.43
Measurement uncertainty (dB)	±3.2	

Verdict: PASS

Section 15.225 Subclause (d) / RSS-210 Clause A2.6 (d). Field strength of emissions outside of the band 13.110 MHz -14.010 MHz

SPECIFICATION

Field strength of any emissions appearing outside of the band 13.110 MHz - 14.010 MHz band shall not exceed the general radiated emission limits in 15.209:

Frequency Range (MHz)	Field strength ($\mu\text{V/m}$)	Field strength ($\text{dB}\mu\text{V/m}$)	Measurement distance (m)
0.009-0.490	2400/F(kHz)	-	300
0.490-1.705	24000/F(kHz)	-	300
1.705 - 30.0	30	29.54	30
30 - 88	100	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
Above 960	500	54	3

RESULTS:

All tests were performed in a semi-anechoic chamber at a distance of 3 m.

The spectrum was inspected from 9 kHz to 200 MHz searching for spurious signals.

The field strength is calculated by adding correction factor to the measured level from the spectrum analyser. This correction factor includes antenna factor, cable loss and pre-amplifier gain.

Frequency range 9 kHz-30 MHz.

No spurious signals were found for all NFC-A, NFC-B and NFC-F operation modes at less than 20 dB below the limit.

Frequency range 30 MHz-200 MHz

1. Operation mode: NFC-A.

No spurious signals were found for NFC-A operation mode at less than 20 dB below the limit.

2. Operation mode: NFC-B.

A preliminary scan determined that the worst case is for 106 kbps bit rate.

Spurious levels at less than 20 dB below the limit

Spurious frequency (MHz)	Polarization	Detector	Emission Level (dBμV/m)	Measurement Uncertainty (dB)
48.041	V	Quasi-Peak	21.60	± 3.8

3. Operation mode: NFC-F.

A preliminary scan determined that the worst case is for 212 kbps bit rate.

Spurious levels at less than 20 dB below the limit

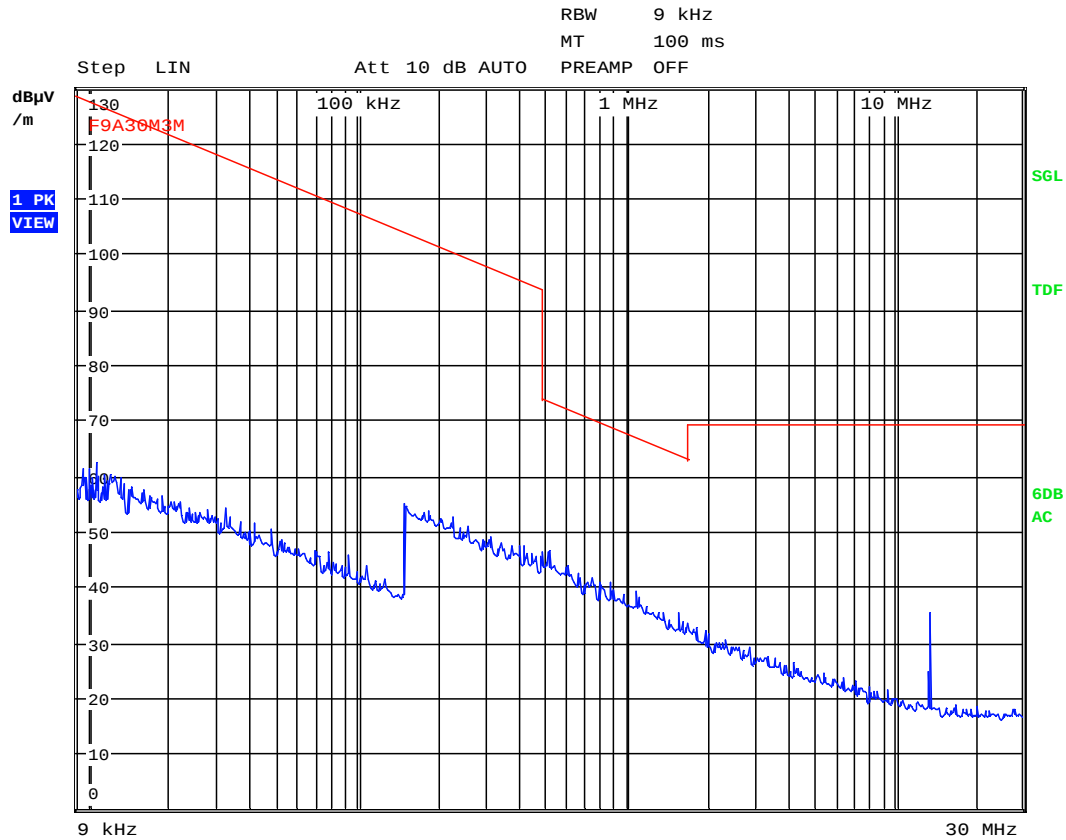
Spurious frequency (MHz)	Polarization	Detector	Emission Level (dBμV/m)	Measurement Uncertainty (dB)
40.434	V	Quasi-Peak	21.62	± 3.8
81.468	V	Quasi-Peak	20.10	± 3.8

Verdict: PASS

FREQUENCY RANGE 9 kHz-30 MHz.

1. Operation mode: NFC-A.

A preliminary scan determined that the worst case is for 106 kbps bit rate.



Resolution bandwidth:

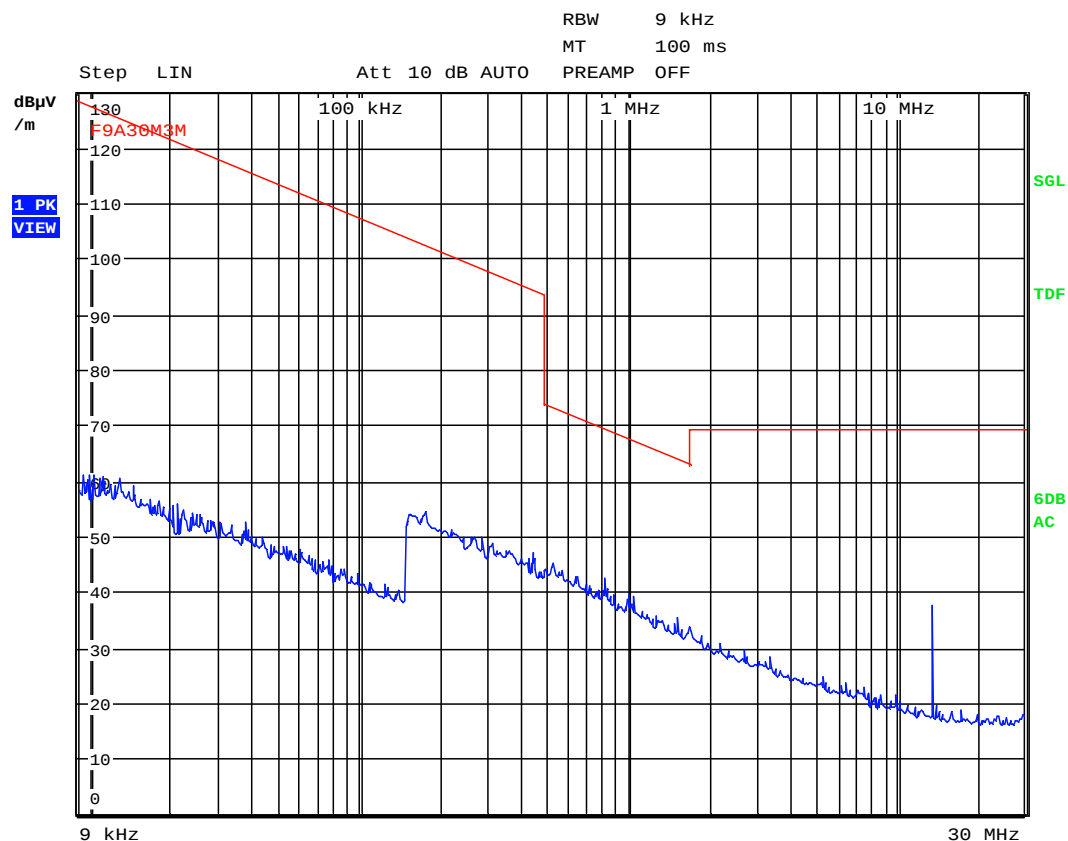
200 Hz for $9 \text{ kHz} \leq f \leq 150 \text{ kHz}$

9 kHz for $150 \text{ kHz} \leq f \leq 30 \text{ MHz}$

Note: The limits shown in the above plot are extrapolated to 3 meters. The highest peak corresponds to the carrier level.

2. Operation mode: NFC-B.

A preliminary scan determined that the worst case is for 106 kbps bit rate.



Resolution bandwidth:

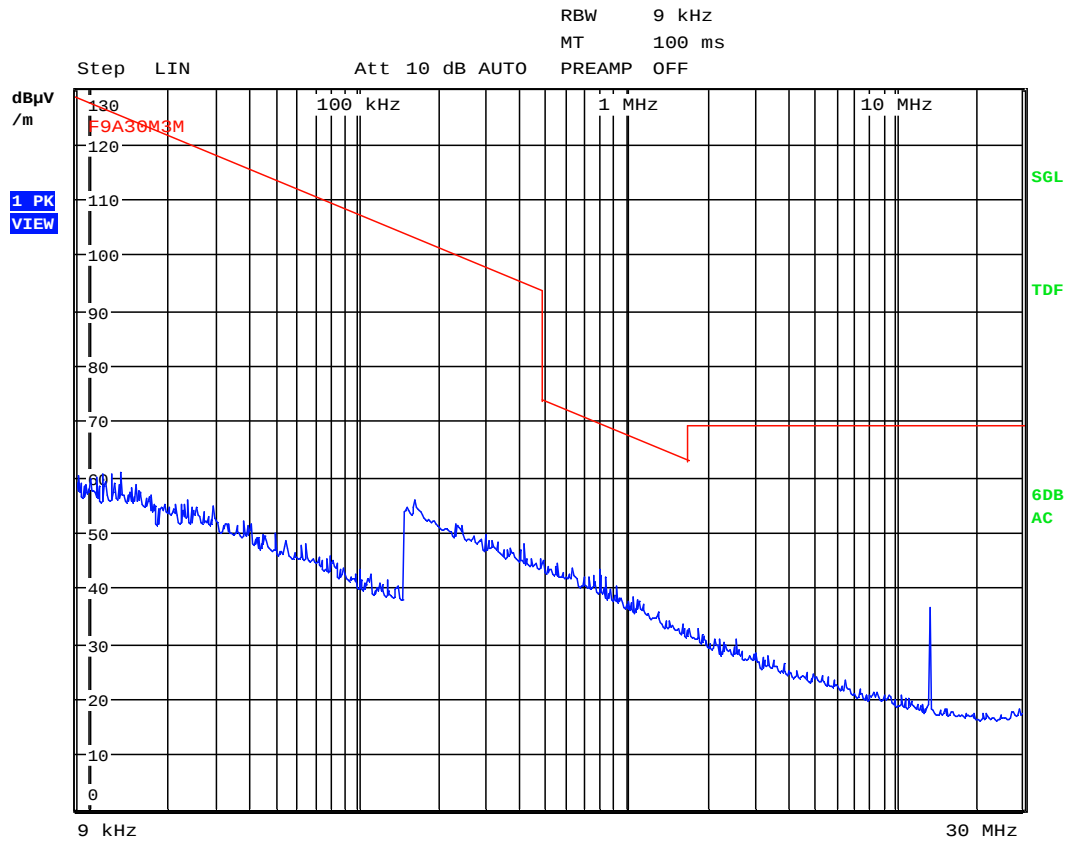
200 Hz for $9 \text{ kHz} \leq f \leq 150 \text{ kHz}$

9 kHz for $150 \text{ kHz} \leq f \leq 30 \text{ MHz}$

Note: The limits shown in the above plot are extrapolated to 3 meters. The highest peak corresponds to the carrier level.

3. Operation mode: NFC-F.

A preliminary scan determined that the worst case is for 212 kbps bit rate.



Resolution bandwidth:

200 Hz for $9 \text{ kHz} \leq f \leq 150 \text{ kHz}$

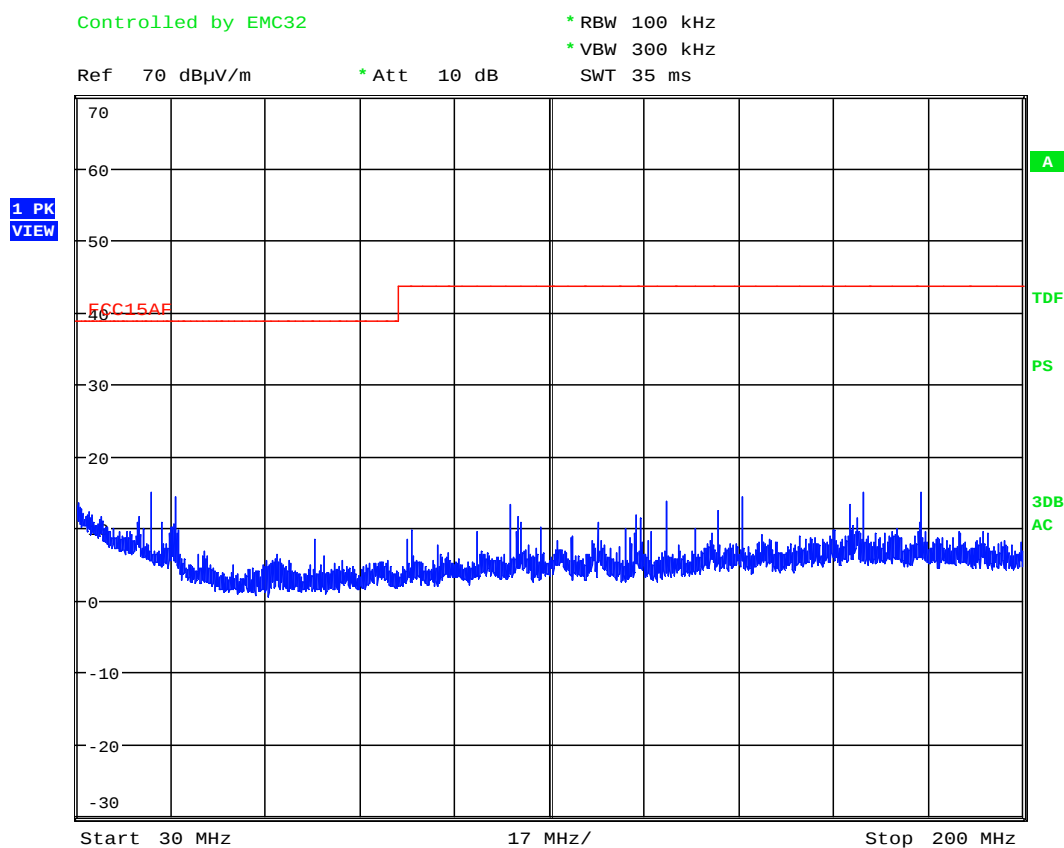
9 kHz for $150 \text{ kHz} \leq f \leq 30 \text{ MHz}$

Note: The limits shown in the above plot are extrapolated to 3 meters. The highest peak corresponds to the carrier level.

FREQUENCY RANGE 30 MHz to 200 MHz.

1. Operation mode: NFC-A.

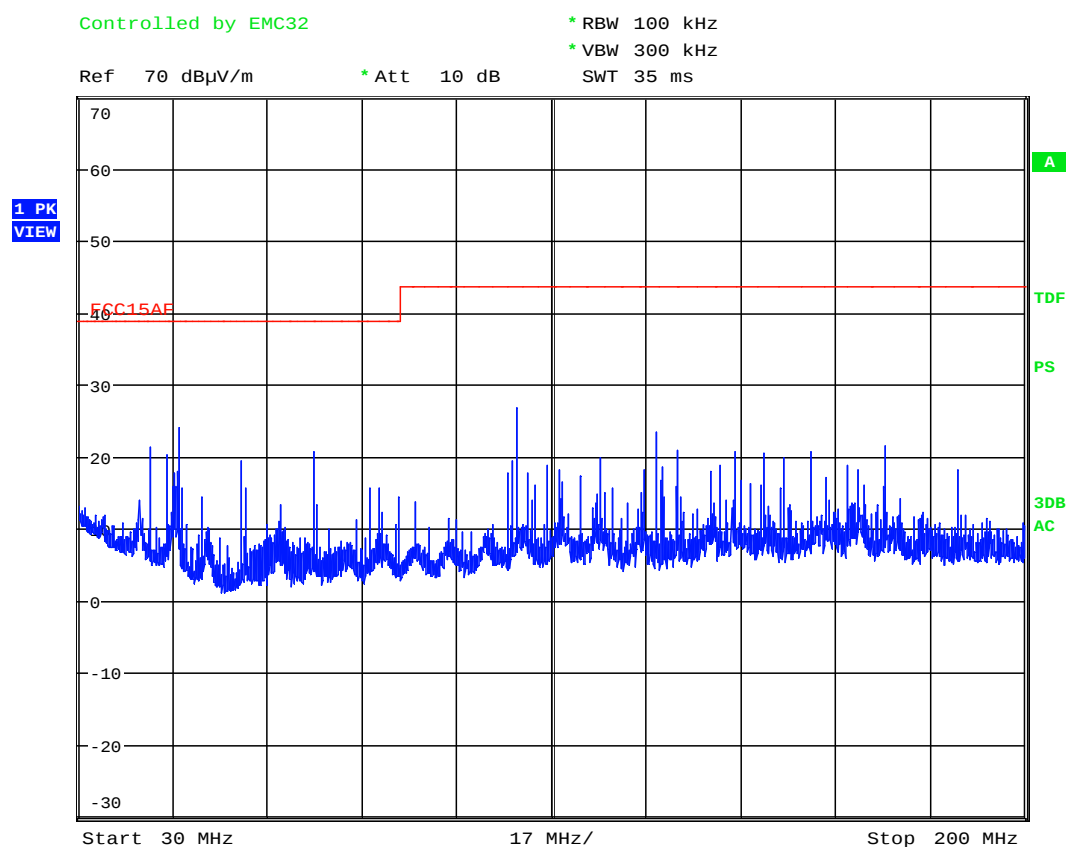
A preliminary scan determined that the worst case is for 106 kbps bit rate.



Note: The above plot shows the results of the scan using peak detector. The highest peaks are maximized and re-measured using a quasi-peak detector.

2. Operation mode: NFC-B.

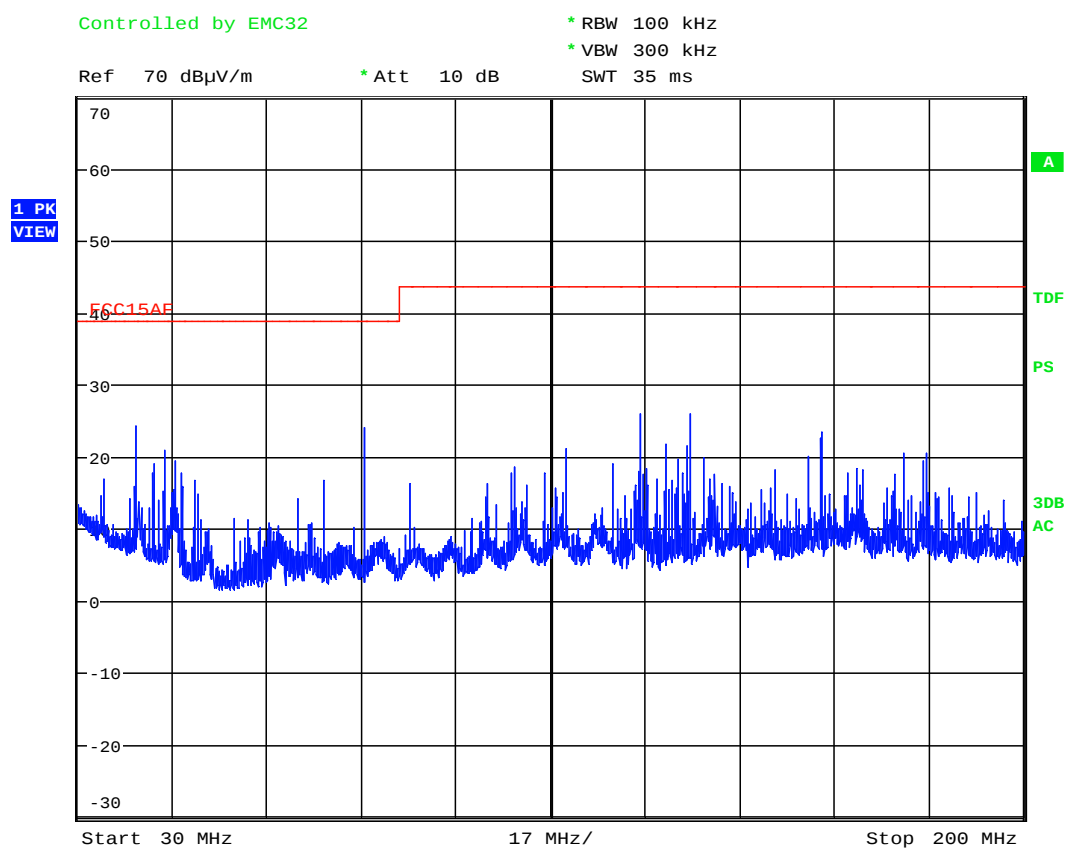
A preliminary scan determined that the worst case is for 106 kbps bit rate.



Note: The above plot shows the results of the scan using peak detector. The highest peaks are maximized and re-measured using a quasi-peak detector.

3. Operation mode: NFC-F.

A preliminary scan determined that the worst case is for 212 kbps bit rate.



Note: The above plot shows the results of the scan using peak detector. The highest peaks are maximized and re-measured using a quasi-peak detector.

Section 15.225 Subclause (e) / RSS-210 Clause A2.6. Frequency tolerance of the carrier signal

SPECIFICATION

FCC §2.1055 (d) and §15.225 (e).

The frequency tolerance of the carrier signal shall be maintained within +/- 0.01% of the operating frequency over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For hand carried, battery powered equipment, reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer.

RESULTS

Nominal operating frequency: 13.56 MHz

Frequency stability over temperature variations.

Temperature (°C)	Frequency Error (Hz)	Frequency Error (%)
+50	1136	0.0083776
+40	1129	0.0083260
+30	1126	0.0083038
+20	1131	0.0083407
+10	1186	0.0087463
0	1198	0.0088348
-10	1229	0.0090634
-20	1240	0.0091445

Frequency stability over voltage variations.

Battery Supply voltage	Voltage (V)	Frequency Error (Hz)	Frequency Error (%)
Vmax	4.4	1178	0.0086873
Vmin	3.4 (*)	1136	0.0083776

(*): Operating end point specified by the manufacturer.

Verdict: PASS