



Test Report No. 9612302364

For Tytocare Ltd

Equipment Under Test:

TytoPro

Model: 900-00002

***From The Standards Institution
Of Israel
Industry Division
Electronics & Telematics Laboratory
EMC Branch***



Certificate Number: AT-1359



Test report No: 9612302364

Page 2 of 31 Pages

Title: TytoPro

Model: 900-00002

FCC ID: 2AHKN-K160401

Table of Contents

1. Applicant information	3
2. Test performance	3
3. Summary of test:	5
4. Equipment under test description	6
4.1 General description	6
5. Test results	8
5.1 Transmitter characteristics	8
5.1.1 Transmitter 6 dB occupied bandwidth	8
5.1.2 Maximum peak conducted output power test	10
5.1.3 Power spectral density test	12
5.1.4 Radiated emissions according to §§ 15.247(d), 15.205(a)	14
5.2 Radiated emissions test according to § 15.209	19
5.3 Conducted emissions test according to § 15.207	22
APPENDIX A Test equipment used	25
APPENDIX B Photo of the test setups	30
APPENDIX C Abbreviations and acronyms	31



Test report No: 9612302364

Page 3 of 31 Pages

Title: TytoPro

Model: 900-00002

FCC ID: 2AHKN-K160401

1. Applicant information

Applicant:	Tytocare Ltd.
Address:	HaOmanut 12, Netanya P.O.B. 4205445, Israel
Sample for test selected by:	The customer
The date of tests:	1, 2, 14 February 2016

Equipment under test information

Description of Equipment Under Test (EUT):	TytoPro
Model:	900-00002
Main board version:	830-00004
Software version:	1.0.02502
Manufactured by:	Tytocare Ltd.

2. Test performance

Location:	SII EMC Section
Purpose of test:	Apparatus compliance verification in accordance with emission requirements
Test specifications:	47CFR part 15.247, 15.205, 15.207, 15.209 and part 1 §1.1310

This Test Report contains 31 pages and may be used only in full.

This Test Report applies only to the specimen tested and may not be applied to other specimens of the same product.



Test report No: 9612302364

Page 4 of 31 Pages

Title: TytoPro

Model: 900-00002

FCC ID: 2AHKN-K160401

Normative References.

FCC 47 CFR Part 15, Subpart C, 2015	Radio Frequency Devices Subpart C – Intentional Radiators
ANSI C63.4: 2014	American National Standard for Method of Measurements of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
ANSI C63.10: 2013	American National Standard for Testing of Unlicensed Wireless Devices.
FCC OET KDB 558074, January 2016	Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247

**Test report No: 9612302364****Page 5 of 31 Pages****Title: TytoPro****Model: 900-00002****FCC ID: 2AHKN-K160401**

3. Summary of test:

The EUT was found to be in compliance with requirements of: 47CFR Part 15, §§ 15.247, 15.205, 15.207 and 15.209.

Transmitter characteristics	Subclasses
Minimum 6 dB bandwidth	15.247(a)(2)
Maximum output power	15.247(b)(3)
Peak power spectral density	15.247(e)
Out of band spurious emissions radiated	15.205, 15.247(d)
Unwanted radiated emissions below 1 GHz	15.209
Conducted emission test on AC main line.	15.207

Electronics and
Telematics Laboratory

March 2016

Name: Eng. Yuri Rozenberg
Position: Head of EMC Branch.

Name: Michael Feldman.
Position: Test engineer.

Measurement uncertainty.

The test equipment has been calibrated according to its recommended procedures and is within the manufacturer's published limit of error.

The laboratory calibrates its standards by a third party (traceable to NIST, USA) on a regular basis according to equipment manufacturer requirements.

In the following table the uncertainty calculation is given.

Test description	Calculated uncertainty U_{LAB}
Conducted measurements	
Frequency error	37.6 Hz
Spurious emission	± 2.98 dB
Radiated emissions	
Electric field strength in a SAR at 3 m distance 30 MHz – 1.0 GHz	± 4.32 dB
Electric field strength in a FAR at 3 m distance 1.0 GHz – 18 GHz	± 4.47
Substitution measurements	
In a FAR at 3 m distance 1.0 GHz – 18 GHz	± 3.41 dB

**Test report No:** 9612302364**Page 6 of 31 Pages****Title:** TytoPro**Model:** 900-00002**FCC ID:** 2AHKN-K160401

4. Equipment under test description.

*The applicant provided description.

4.1 General description

The TytoPro, hereinafter EUT, is an electronic medical device that enables wireless transmission of heart/lungs sound, video streaming, pictures capturing or body temperature directly to physician at one location on an IP network while the patient location is on different IP network. It designed for use either in a home environment or at a clinician. The transmitter of the TytoPro is built on Texas Instruments Wi-Fi chip and Wi-Fi 2.4 GHz flexible polyimide antenna.

EUT technical characteristics

Transmitter technical characteristics.			Note
Assigned frequency band	2400 MHz – 2483.5 MHz		-
Operating frequency range	2412 MHz – 2462 MHz		-
RF channel spacing:	5 MHz		-
Antenna information			
Type	Manufacturer	Model	Antenna gain, dBi
Internal WLAN 2.4 GHz	Ethertronics Ltd.	90000551	3.85

Carrier Frequencies and Channels.

Frequency Band	Channel	Frequency, MHz	Channel	Frequency, MHz
2400 – 2483.5	1	2412	7	2442
	2	2417	8	2447
	3	2422	9	2452
	4	2427	10	2457
	5	2432	11	2462
	6	2437		

Test report No: 9612302364

Page 7 of 31 Pages

Title: TytoPro

Model: 900-00002

FCC ID: 2AHKN-K160401

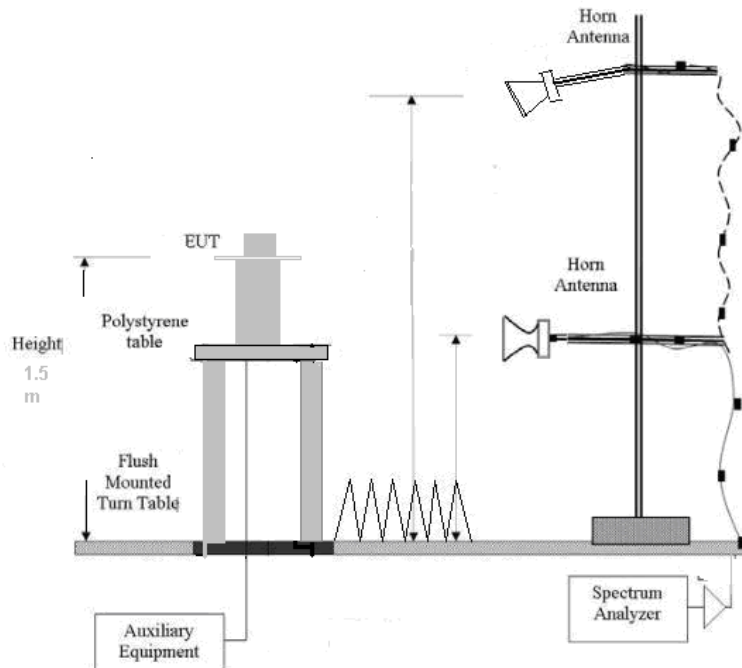


Fig.1. RE test setup above 1 GHz.

**Test report No:** 9612302364**Page 8 of 31 Pages****Title:** TytoPro**Model:** 900-00002**FCC ID:** 2AHKN-K160401

5. Test results

5.1 Transmitter characteristics

5.1.1 Transmitter 6 dB occupied bandwidth.

Method of measurement	558074 D01 DTS Meas Guidance. Section 8.1				
Operating Frequency Range	2412– 2462 MHz				
Detector used	Peak				
Resolution bandwidth	100 kHz				
Video bandwidth	> 3 x RBW.				
Trace mode	Max Hold.				
Sweep time:	Auto couple.				
Ambient Temperature	24 ⁰ C	Relative Humidity	55%	Air Pressure	1011 hPa

The minimum 6 dB occupied bandwidth shall be at least 500 kHz.

Carrier frequency, MHz	Measured 6 dB occupied bandwidth, kHz	Limit, kHz	Reference to plot#
2412	16.48	500	1
2437	15.61	500	2
2462	15.70	500	3

TEST EQUIPMENT USED:

1	3	14				
---	---	----	--	--	--	--



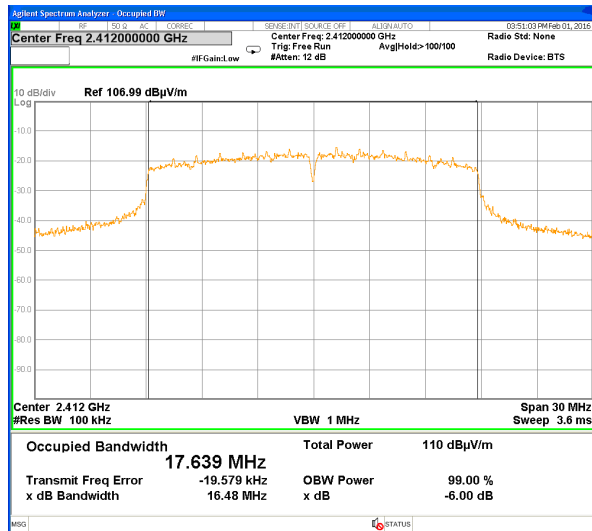
Test report No: 9612302364

Title: TytoPro

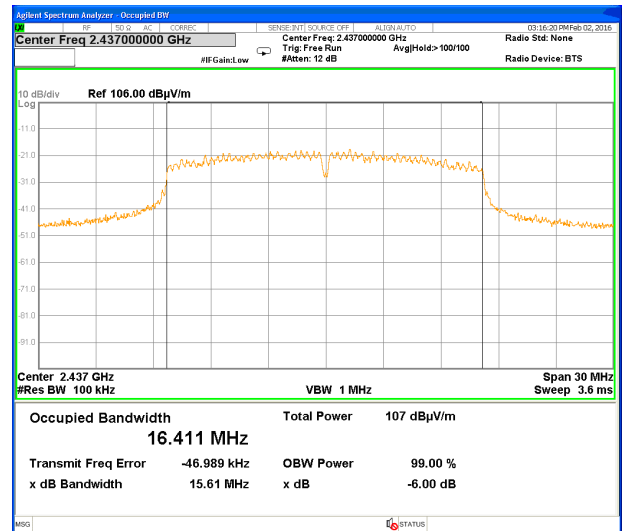
Model: 900-00002

Page 9 of 31 Pages

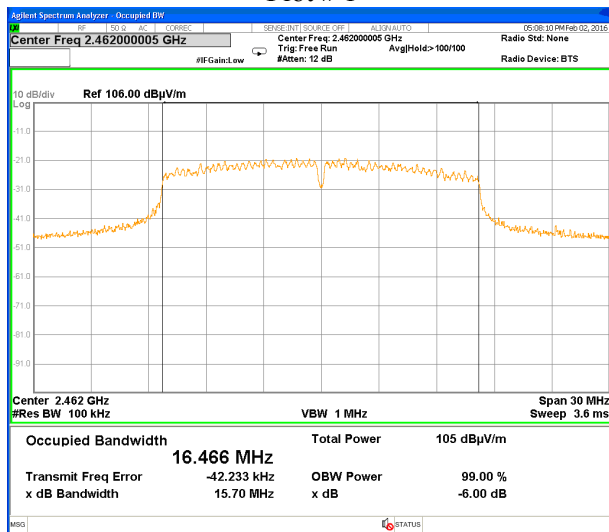
FCC ID: 2AHKN-K160401



Plot # 1



Plot # 2



Plot # 3

**Test report No: 9612302364****Page 10 of 31 Pages****Title: TytoPro****Model: 900-00002****FCC ID: 2AHKN-K160401****5.1.2 Maximum peak conducted output power test.**

Method of measurement	558074 D01 DTS Meas Guidance. Section 3.				
Operating Frequency Range	2412– 2462 MHz				
Detector used	Peak				
Resolution bandwidth	1 MHz				
Video bandwidth	3x RBW.				
Trace mode	Max Hold.				
Ambient Temperature	24 ⁰ C	Relative Humidity	55%	Air Pressure	1011 hPa

For Digital Transmit System the peak conducted output power in the 2400 – 2483.5 MHz band shall not exceed: 1W (30 dBm) or 36 dBm EIRP with antennas gains not exceed 6 dBi.

Carrier frequency, MHz	Field strength, dBμV/m	*Conducted output power, dBm	Conducted output power limit, dBm	Margin, dB	**EIR power, dBm	EIRP limit, dBm	Margin, dB	Reference to plot #
2412	100.345	13.4	30	16.6	17.3	36	18.7	4
2437	100.197	13.1	30	16.9	16.9	36	19.1	5
2462	98.225	11.1	30	18.9	15.0	36	21.0	6

*The peak conducted output power = peak EIR power – Antenna gain.

**EIR power = E Field strength (dBμV/m@3m) - 95.2 + (10 Log DTS bandwidth).

Measured peak field straight level was converted to peak EIRP level and compute by integrating across the DTS bandwidth. The measurement of EIRP provided after verification according to ANSI/TIA-603-D-2010 substitution test method.

EUT was replaced by generator and substitution antenna. Result calculated from generator output level, substitution antenna gain and loss of connected cable was compared with the limit.

Transmitter was operated at continuous transmit mode at bottom, middle and top of the 2400 – 2483.5 MHz frequency band.

TEST EQUIPMENT USED:

1	2	3	5	8	9	14
---	---	---	---	---	---	----



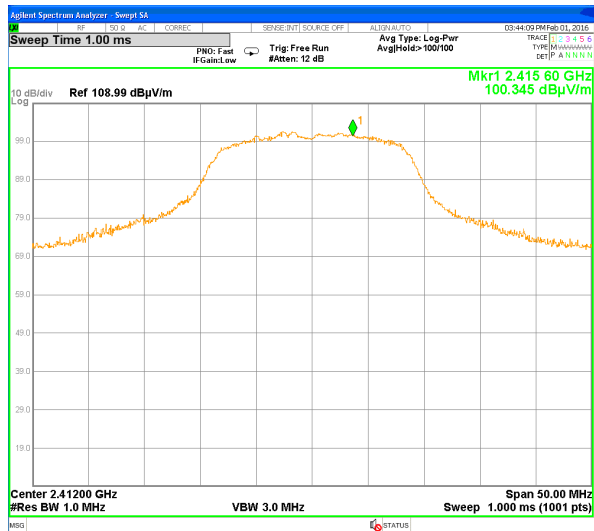
Test report No: 9612302364

Title: TytoPro

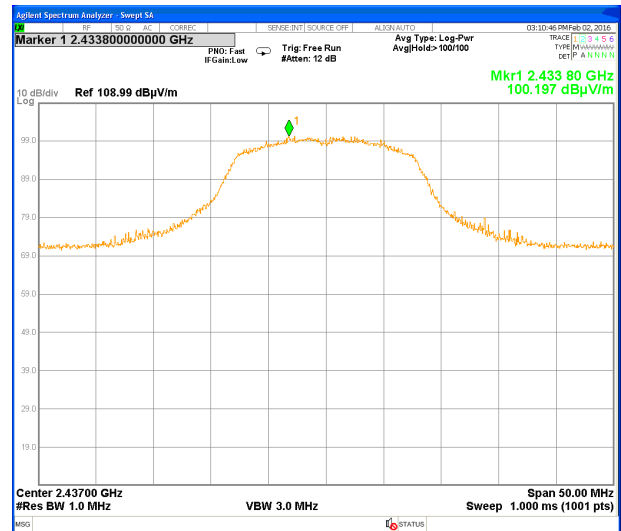
Model: 900-00002

Page 11 of 31 Pages

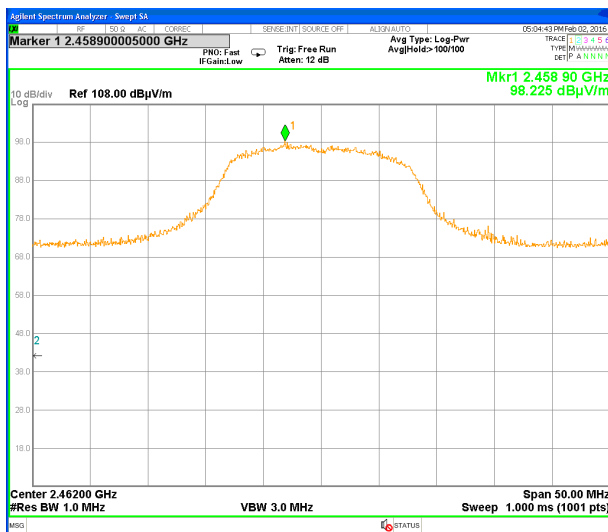
FCC ID: 2AHKN-K160401



Plot # 4. Carrier frequency – 2412 MHz.



Plot # 5. Carrier frequency – 2437 MHz.



Plot # 6. Carrier frequency – 2462 MHz.

**Test report No: 9612302364****Page 12 of 31 Pages****Title: TytoPro****Model: 900-00002****FCC ID: 2AHKN-K160401**

5.1.3 Power spectral density test

Method of measurement 558074 D01 DTS Meas Guidance. Section 10.1.
Operating Frequency Range 2412– 2462 MHz
Detector used Peak
Resolution bandwidth 100 kHz
Video bandwidth 3x RBW.
Trace mode Max Hold.
Ambient Temperature 24° C Relative Humidity 55% Air Pressure 1011 hPa

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

Carrier frequency, MHz	Field strength, dBμV/m	*EIR PSD dBm	**Conducted PSD, dBm	Conducted PSD limit, dBm	Margin, dB	Reference to plot #
2412	91.052	-4.2	-8.0	8.0	16.0	7
2437	91.867	-3.4	-7.2	8.0	15.2	8
2462	91.241	-4.0	-7.8	8.0	15.8	9

*EIR PSD = E Field Strength (dBμV/m@3m) - 95.2.

**Conducted Power Spectral Density = EIR PSD – Antenna gain.

TEST SUMMARY

EUT peak power spectral density result is below PSD limit per 47 CFR 15.247 (e).
The EUT was found complies with standard requirement.

TEST EQUIPMENT USED:

1	3	14				
---	---	----	--	--	--	--



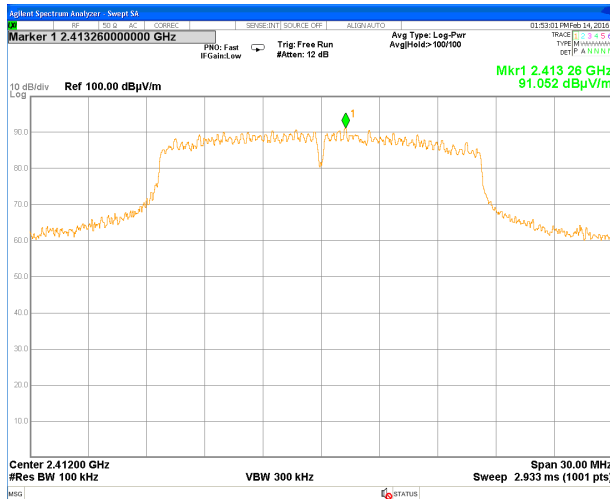
Test report No: 9612302364

Title: TytoPro

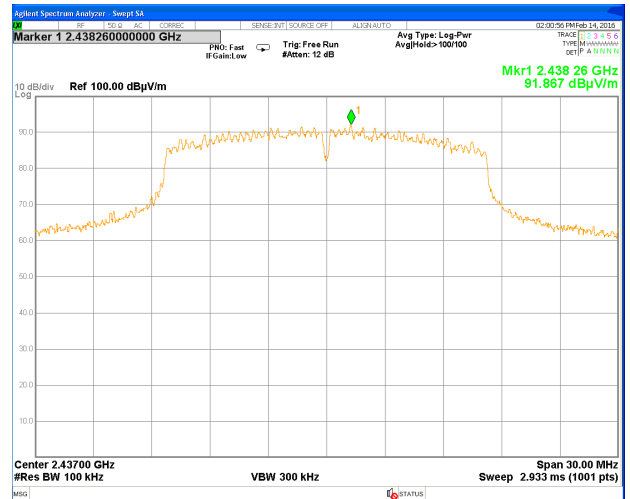
Model: 900-00002

Page 13 of 31 Pages

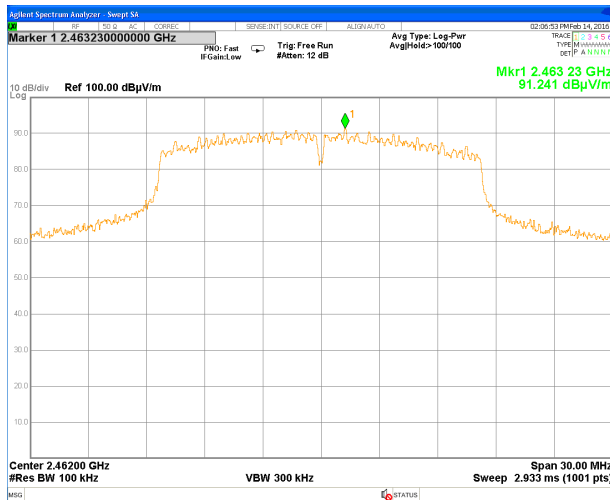
FCC ID: 2AHKN-K160401



Plot # 7. Carrier frequency – 2412 MHz.



Plot # 8. Carrier frequency – 2437 MHz.



Plot # 9. Carrier frequency – 2462 MHz.

**Test report No: 9612302364****Page 14 of 31 Pages****Title: TytoPro****Model: 900-00002****FCC ID: 2AHKN-K160401****5.1.4 Radiated emissions according to §§ 15.247(d), 15.205(a)**

Method of measurement	558074 D01 DTS Meas Guidance. Sec. 12.1.					
Operating Frequency Range	2412– 2462 MHz					
Detector used	Trace 1 – Peak; Trace 2 - RMS					
Resolution bandwidth	1 MHz/100 kHz					
Video bandwidth	3x RBW.					
Trace mode	Max Hold.					
Ambient Temperature	24° C	Relative Humidity	55%	Air Pressure	1011 hPa	

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) must also comply with the radiated emission limits specified in Section 15.209(a).

Carrier frequency 2412 MHz

Frequency, MHz	Radiated emissions, dBμV/m	Peak limit, dBμV/m	Avg limit, dBμV/m	Margin, dB	Note	Note	Reference to plot#
2389.2	62.4	74	-	11.6	*RB	Detector peak	11
2390.0	43.9	-	54	10.1	RB	Detector average	11
2400	57.2	64.6	-	7.4	Band edge	Detector peak.	12
14487	60.3	74.0	-	13.7	RB	Detector peak	14
14487	48.9	-	54	5.1	RB	Detector average	14

*RB – restricted band

**Test report No: 9612302364****Page 15 of 31 Pages****Title: TytoPro****Model: 900-00002****FCC ID: 2AHKN-K160401**Carrier frequency 2437 MHz

Frequency, MHz	Radiated emissions, dB μ V/m	Peak limit, dB μ V/m	Avg limit, dB μ V/m	Margin, dB	Note	Note	Reference to plot#
2348.3	53.8	74	-	>20	RB	Detector peak	16
2373.3	41.9	-	54	12.1	RB	Detector average	16
2400	54.2	65.2	-	11.0	Band edge	Detector peak.	17
14487	59.6	74	-	14.4	RB	Detector peak	19
14487	48.9	-	54	5.1	RB	Detector average	19

Carrier frequency 2462 MHz

Frequency, MHz	Radiated emissions, dB μ V/m	Peak limit, dB μ V/m	Avg limit, dB μ V/m	Margin, dB	Note	Note	Reference to plot#
2366.4	53.2	74	-	>20	RB	Detector peak	21
2349.7	41.9	-	54	12.1	RB	Detector average.	21
2483.5	66.3	74	-	7.7	RB	Detector peak	24
2483.7	44.2	-	54	9.8	RB	Detector average	24
14478	59.6	74	-	14.4	RB	Detector peak	25
14487	49.0	-	54	5.0	RB	Detector average	25

TEST SUMMARY

All emissions outside of the 2400 – 2483.5 MHz band were found below 15.247(d) limits.

TEST EQUIPMENT USED:

1	3	4	10	14	15	
---	---	---	----	----	----	--



Test report No: 9612302364

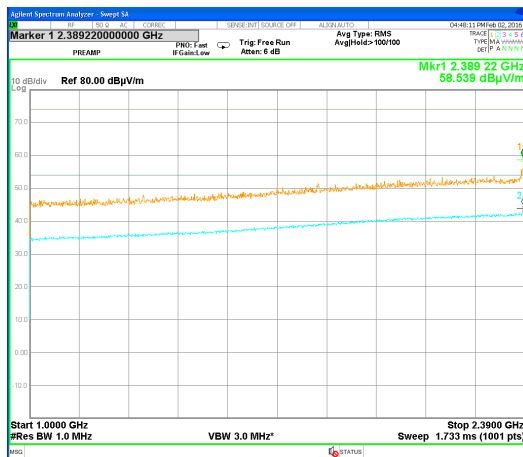
Title: TytoPro

Model: 900-00002

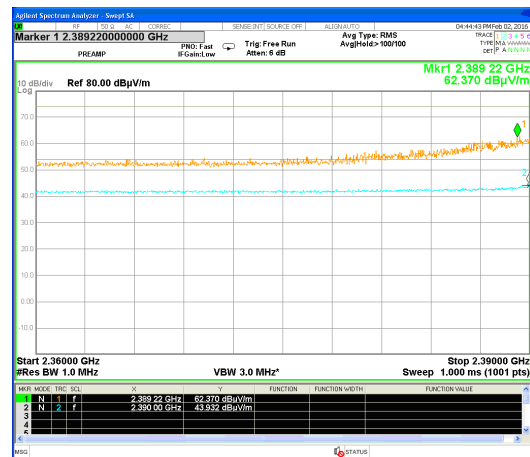
Page 16 of 31 Pages

FCC ID: 2AHKN-K160401

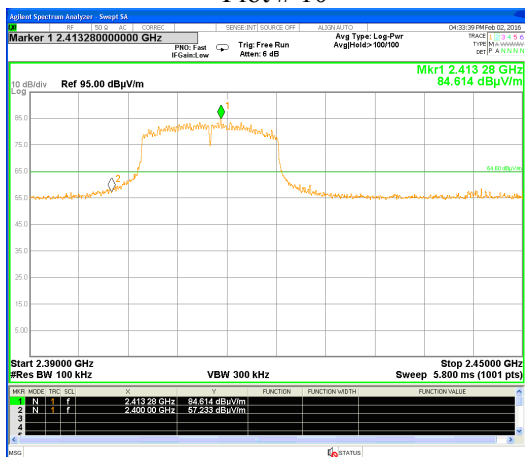
Carrier frequency – 2412 MHz



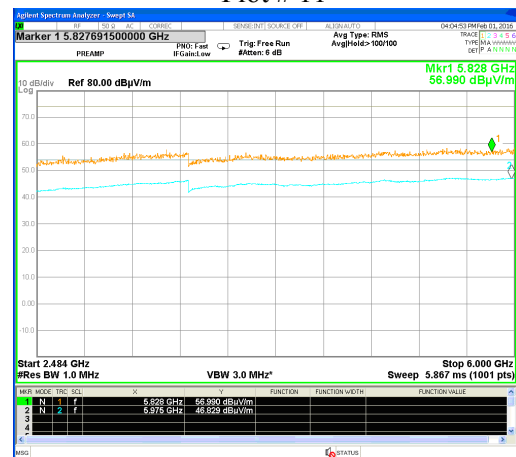
Plot # 10



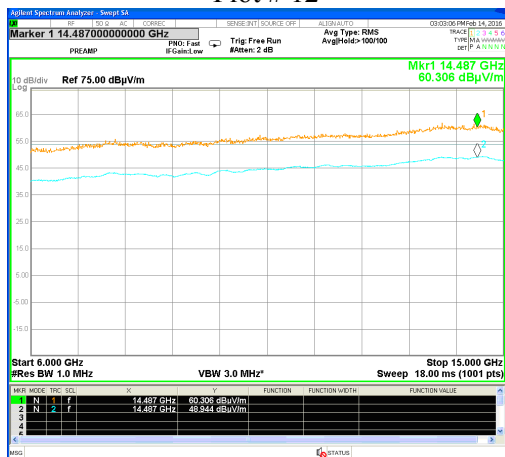
Plot # 11



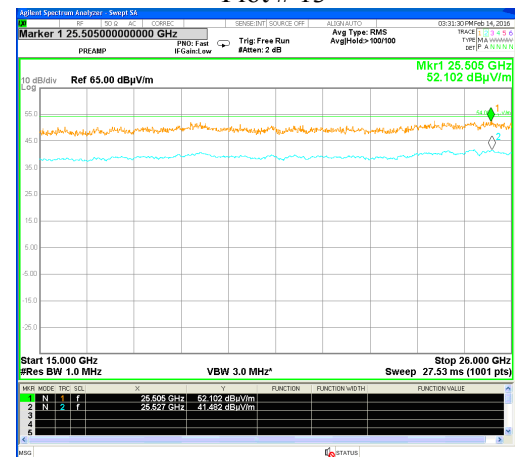
Plot # 12



Plot # 13



Plot # 14.



Plot # 15.



Test report No: 9612302364

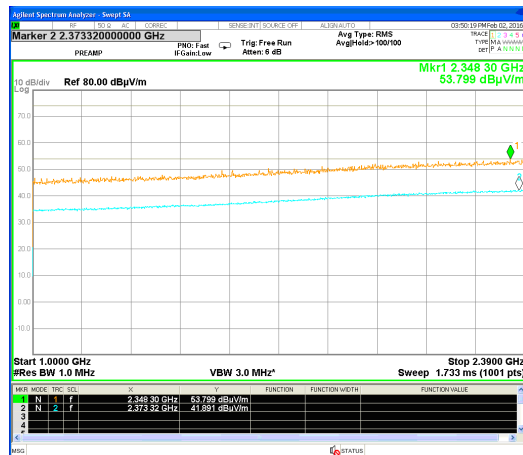
Title: TytoPro

Model: 900-00002

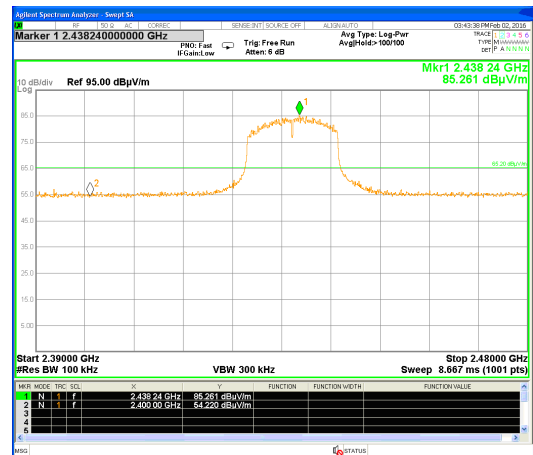
Page 17 of 31 Pages

FCC ID: 2AHKN-K160401

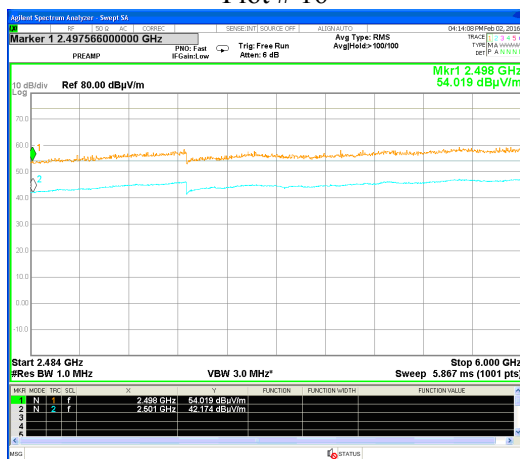
Carrier frequency - 2437 MHz.



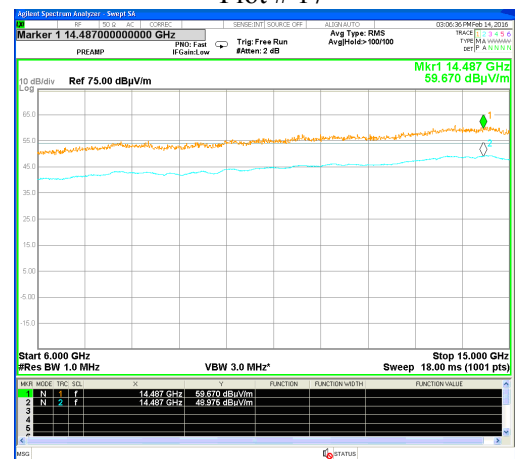
Plot # 16



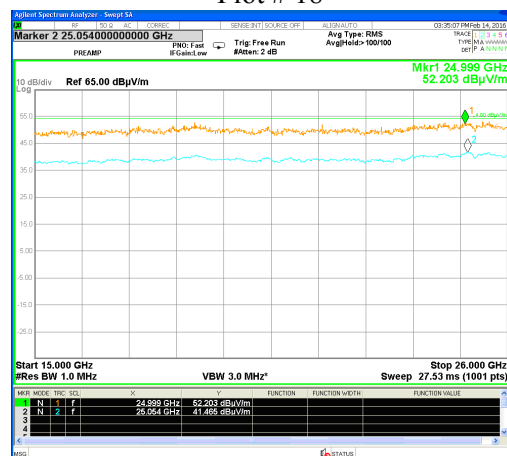
Plot # 17



Plot # 18



Plot # 19



Plot # 20.



Test report No: 9612302364

Title: TytoPro

Model: 900-00002

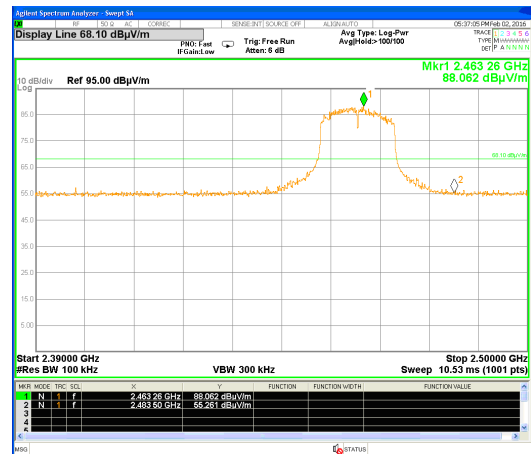
Page 18 of 31 Pages

FCC ID: 2AHKN-K160401

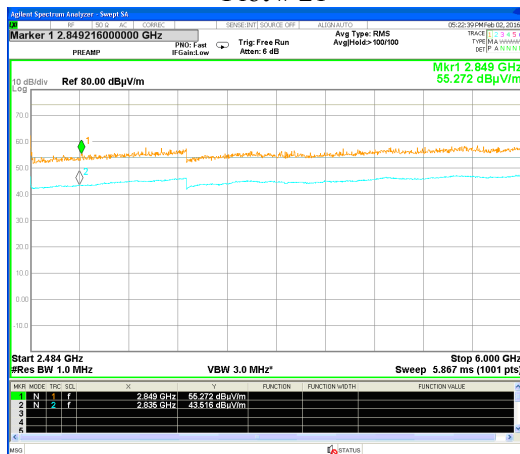
Carrier frequency 2462 MHz



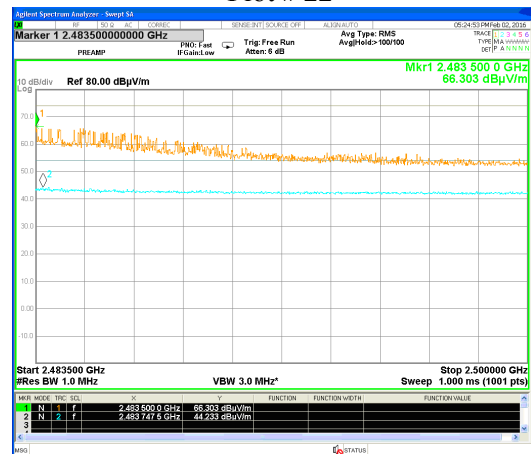
Plot # 21



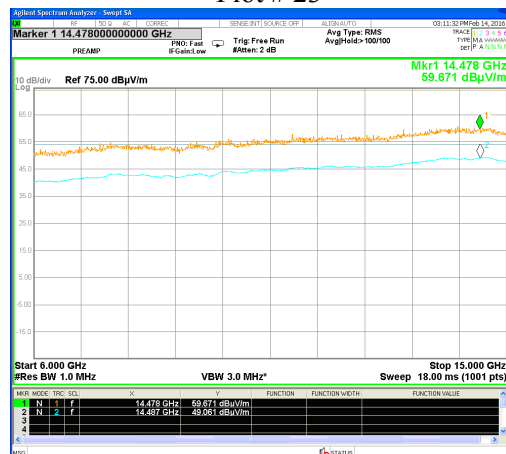
Plot # 22



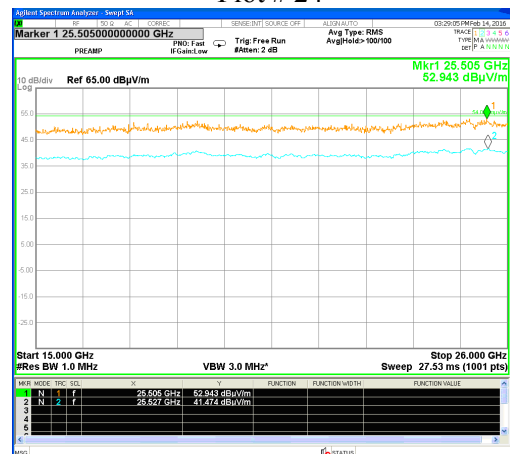
Plot # 23



Plot # 24



Plot # 25



Plot # 26.

**Test report No:** 9612302364**Page 19 of 31 Pages****Title:** TytoPro**Model:** 900-00002**FCC ID:** 2AHKN-K160401

5.2 Radiated emissions test according to § 15.209

Method of measurement	ANSI C63.10 §6.5				
Detectors used	CISPR Quasi-Peak				
Resolution bandwidth	9 kHz/120 kHz				
Video bandwidth	>3 x RBW.				
Trace mode	Free run				
Ambient Temperature	24 ⁰ C	Relative Humidity	55%	Air Pressure	1009 hPa

TEST DESCRIPTION:

The measurements were performed at 3 m test distance in Anechoic chamber. The EUT was arranged on a polystyrene table 0.8 m height placed on the turn - table. The Active Loop antenna in 9 kHz to 30 MHz frequency band and Biconilog antenna in 30 MHz – 1.0 GHz frequency band were used. The emission level was maximized by initially rotating turntable through 360°, varying the antenna height between 1 m and 4 m, rerouting EUT cables and changing antenna polarization from vertical to horizontal.

REQUIREMENTS:

EUT radiated emission shall not exceed value required in section 15.209

TEST RESULT:

Test results are presented in a table below and in plots ## 27 - 29

TEST EQUIPMENT USED:

1	6	14	16			
---	---	----	----	--	--	--

**Test report No:** 9612302364**Page 20 of 31 Pages****Title:** TytoPro**Model:** 900-00002**FCC ID:** 2AHKN-K160401**Radiated emission test results.**

Frequency (MHz)	Antenna Polariz. V/H	Antenna Height m	Turn- table Angle (°)	Emission Level Note 1 dBμV/m	Limit @ 3m dBμV/m	Margin Note 2 dB	Results
82.7	V	1.0	139	31.2	40.0	8.8	Pass
106.3	V	1.0	118	31.5	43.5	12.0	Pass
130.0	V	1.0	234	28.0	43.5	15.5	Pass
200.8	H	1.7	51	35.2	43.5	8.3	Pass
304.0	H	1.2	54	30.6	46.0	15.4	Pass
339.5	H	1.2	80	32.1	46.0	13.9	Pass

Note 1: Emission level = E Reading (dBμV) + Cable loss (dB) + Antenna Factor (dB/m).
For Cable Loss and Antenna Factor refer to Appendix 2.

Note 2: Margin (dB) = Limit (dBμV/m) – Emission level (dBμV/m)



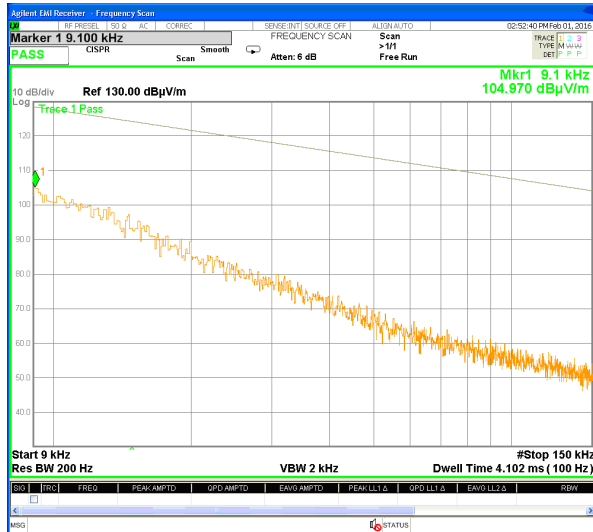
Test report No: 9612302364

Title: TytoPro

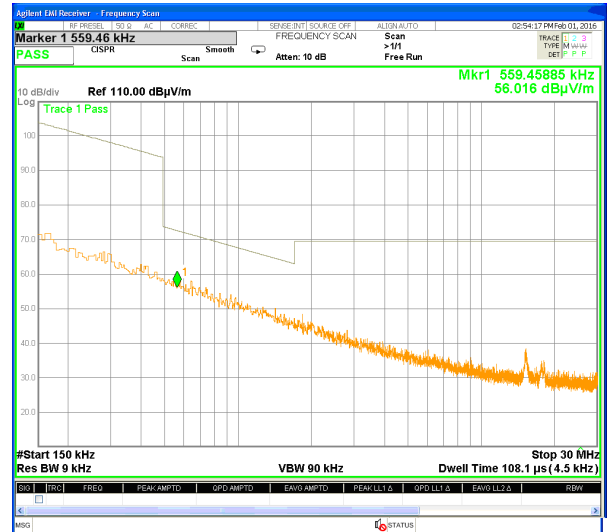
Model: 900-00002

Page 21 of 31 Pages

FCC ID: 2AHKN-K160401

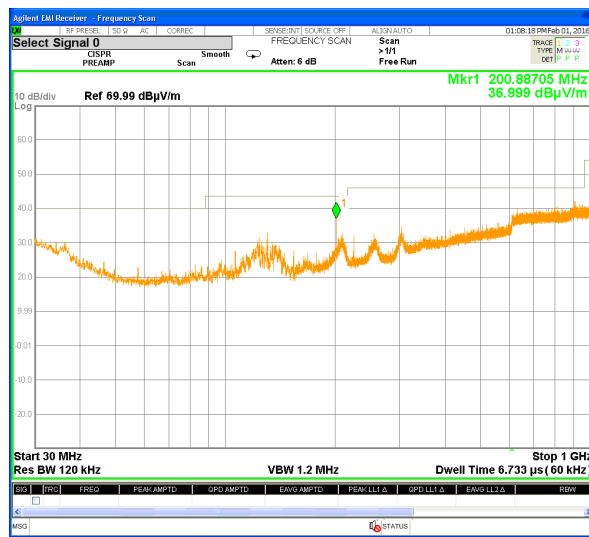


Plot # 27



Plot # 28

Investigation result in 0.009 – 30 MHz frequency range.



Plot # 29. Investigation result in 30 - 1000 MHz frequency range.

**Test report No:** 9612302364**Page 22 of 31 Pages****Title:** TytoPro**Model:** 900-00002**FCC ID:** 2AHKN-K160401**5.3 Conducted emissions test according to § 15.207.**

Method of measurement

ANSI C63.10 §6.2

Ambient Temperature 23° C

Relative Humidity

54%

Air Pressure

1008 hPa

Frequency, MHz	Conducted limit, dBμV	
	QP	AVRG
0.15 - 0.5	66 - 56*	56 - 46*
0.5 - 5	56	46
5 - 30	60	50

* Decreases with the logarithm of the frequency.

TEST PROCEDURE

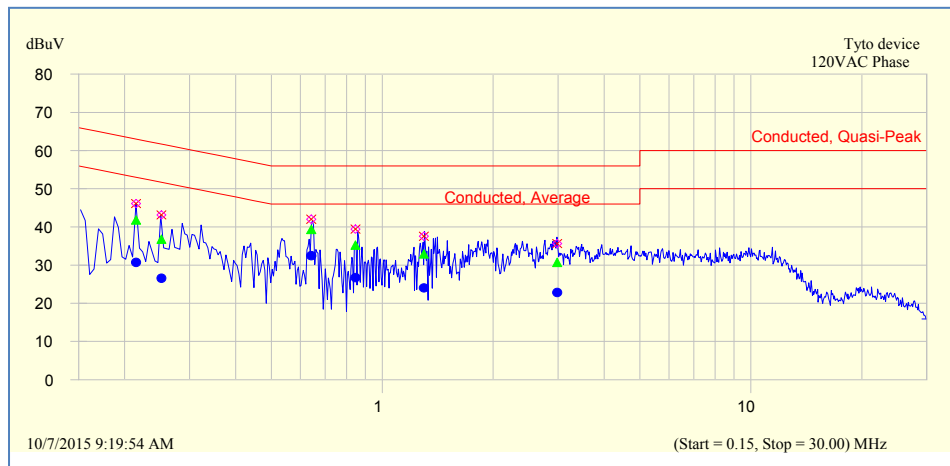
EUT was placed on a wooden table in a shielded chamber at a height of 80 cm from the floor and 40 cm from the vertical reference plane. The measurements were performed at mains terminals by means of LISN, connected to spectrum analyzer. The measurements were made with quasi-peak and average (CISPR) detectors. The position of the EUT cables was varied to determine maximum emission level.

TEST RESULTS:

Charging mode test results present in plots # 30 for line Phase and in plot # 31 for line Neutral.

TEST EQUIPMENT USED:

11	12	13			
----	----	----	--	--	--

**Test report No: 9612302364****Page 23 of 31 Pages****Title: TytoPro****Model: 900-00002****FCC ID: 2AHKN-K160401**

Frequency MHz	Peak dB μ V	QP dB μ V	Limit QP dB	Margin dB	Avg dB μ V	Limit Avg dB	Margin dB
0.22	46.1	41.8	63.0	21.2	30.7	53.0	22.3
0.25	43.1	36.8	61.7	24.9	26.6	51.7	25.1
0.64	42.0	39.4	56.0	16.6	32.5	46.0	13.5
0.85	39.4	35.2	56.0	20.8	26.7	46.0	19.3
1.30	37.6	32.9	56.0	23.1	24.0	46.0	22.0
2.99	35.6	30.7	56.0	25.3	22.8	46.0	23.2



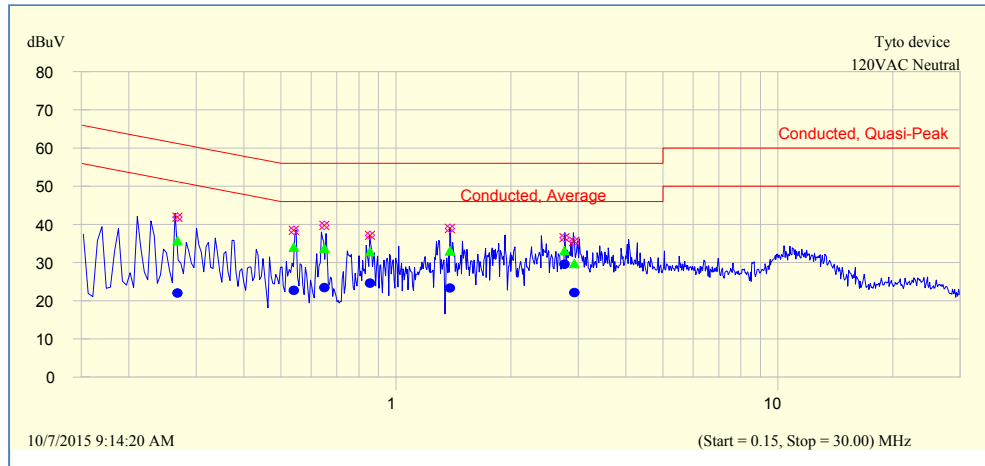
Test report No: 9612302364

Page 24 of 31 Pages

Title: TytoPro

Model: 900-00002

FCC ID: 2AHKN-K160401



Plot # 31. AC line conducted emissions test. Line Neutral.

Frequency MHz	Peak dB μ V	QP dB μ V	Limit QP dB	Margin dB	Avg dB μ V	Limit Avg dB	Margin dB
0.54	38.5	34.1	56.0	21.9	22.7	46.0	23.3
0.65	39.7	33.7	56.0	22.3	23.5	46.0	22.5
0.86	37.1	32.9	56.0	23.1	24.6	46.0	21.4
1.39	38.9	33.1	56.0	22.9	23.3	46.0	22.7
2.76	36.5	33.1	56.0	22.9	29.6	46.0	16.4
2.93	35.5	29.8	56.0	26.2	22.2	46.0	23.8

**Test report No: 9612302364****Page 25 of 31 Pages****Title: TytoPro****Model: 900-00002****FCC ID: 2AHKN-K160401****APPENDIX A Test equipment used.****Test equipment used**

No	Description	Manufacturer information			Due Calibration date
		Name	Model	Serial No	
1	MXE EMI Receiver 20 Hz -26.5 GHz	Agilent	N9038A	SII 650114	March 2016
2	Cable RF 1m	Huber-Suhner	Sucoflex 104	21325/4PE	October 2016
3	Double Ridged Guide Antenna 0.75 – 18 GHz	ETS-Lindgren	3115	00143138	December 2016
4	Broadband Horn antenna 15 – 40 GHz	Schwarzbeck Mess-Electronik	BBHA 9170	9170-341	December 2016
5	Double Ridged Waveguide Horn Antenna 1 – 18 GHz	ETS-Lindgren	3117	00139055	December 2016
6	Antenna Biconilog 26 – 6000 MHz	ETS-Lindgren	31142D	0146490	December 2016
7	Spectrum analyzer 20 Hz-40 GHz	Rohde&Schwarz	ESU 40	100168	November 2016
8	MXG Signal Generator 100 KHz - 20 GHz	Agilent	N5183A	6501148	May 2016
9	Attenuator 3 dB DC – 12.4 GHz	HP	8491A	50469	October 2016
10	USB preamplifier 2 GHz – 50 GHz	Keysight	U7227F	MY55380004	January 2017
11	EMI Receiver 9 kHz-6.5 GHz	HP	8546A+85460A	SII 4068	May 2016
12	LISN 9 kHz – 30 MHz	FCC	LISN 250-32-4-16	SII5023	October 2016
13	Transient limiter 0.009-200 MHz	HP	11947A	3107105	August 2016
14	Cable RF 4m	Huber-Suhner	Sucoflex 104PE	21329/4PE	October 2016
15	Cable RF 0.5m	Huber-Suhner	Multiflex 141	520201	October 2016
16	Active Loop antenna 1.0 kHz – 30 MHz	ETS-Lindgren	6507	00144641	December 2016

**Test report No: 9612302364****Page 26 of 31 Pages****Title: TytoPro****Model: 900-00002****FCC ID: 2AHKN-K160401****Cable Loss (Mast 6 m set cable.)**

Point	Frequency (MHz)	Cable Loss (dB)	Point	Frequency (MHz)	Cable Loss (dB)
1	30	0.3	21	1000	2.5
2	50	0.4	22	1100	2.6
3	100	0.6	23	1200	2.8
4	150	0.8	24	1300	2.9
5	200	1.0	25	1400	3.1
6	250	1.1	26	1500	3.2
7	300	1.2	27	1600	3.3
8	350	1.3	28	1700	3.5
9	400	1.5	29	1800	3.6
10	450	1.6	30	1900	3.7
11	500	1.7	31	2000	3.9
12	550	1.8	32	2100	4.0
13	600	1.9	33	2200	4.1
14	650	1.9	34	2300	4.2
15	700	2.0	35	2400	4.4
16	750	2.1	36	2500	4.6
17	800	2.1	37	2600	4.7
18	850	2.2	38	2700	4.8
19	900	2.3	39	2800	4.9
20	950	2.4	40	2900	5.0

**Test report No: 9612302364****Page 27 of 31 Pages****Title: TytoPro****Model: 900-00002****FCC ID: 2AHKN-K160401****Antenna factor****Biconilog Antenna, ETS-Lindgren mod. 31142D, S/N: 0146490 3 m calibration.**

f / MHz	AF / dB/m	f / MHz	AF / dB/m	f / MHz	AF / dB/m
30	18.7	250	12.0	2750	31.0
35	15.7	300	13.8	3000	31.2
40	12.9	400	16.2	3250	32.7
45	10.6	500	18.6	3500	34.5
50	9.0	600	20.2	3750	34.3
60	7.3	700	21.8	4000	34.5
70	7.7	800	22.9	4250	35.3
80	8.2	900	24.1	4500	35.5
90	9.2	1000	24.8	4750	36.1
100	9.4	1250	26.9	5000	37.4
120	8.5	1500	30.2	5250	38.4
140	8.5	1750	28.5	5000	39.9
160	9.1	2000	28.9	5750	38.2
180	10.5	2250	29.8	6000	39.1
200	10.9	2500	32.5		

**Test report No:** 9612302364**Page 28 of 31 Pages****Title:** TytoPro**Model:** 900-00002**FCC ID:** 2AHKN-K160401**Antenna Factor****Double Ridged Guide Antenna mfr ETS-Lindgren model 3115 1m calibration**

Point	Frequency (MHz)	Antenna Factor (dB/m)
1	1000	23.7
2	1500	25.5
3	2000	28.5
4	2500	28.1
5	3000	29.6
6	3500	31.1
7	4000	32.5
8	4500	32.5
9	5000	33.5
10	5500	34.7
11	6000	36.1
12	6500	36.5
13	7000	37.3
14	7500	38.0
15	8000	37.3
16	8500	37.9
17	9000	38.1
18	9500	38.5
19	10000	38.7
20	10500	38.8
21	11000	38.6
22	11500	38.8
23	12000	38.9
24	12500	39.3
25	13000	40.2
26	13500	40.6
27	14000	40.6
28	14500	40.4
29	15000	39.6
30	15500	39.5
31	16000	39.8
32	16500	40.4
33	17000	41.3
34	17500	42.6
35	18000	43.2

Cable Loss**Type: Sucoflex 104PE; Ser.No.21329/4PE; 4 m length**

Point	Frequency (GHz)	Cable Loss (dB)
0	0.0-1.8	1.67
1	1.8 – 3.6	2.39
2	3.6 – 5.4	3.04
3	5.4-7.2	3.58
4	7.2-9.0	4.06
5	9.0-10.8	4.49
6	10.8-12.6	4.91
7	12.6-14.4	5.31
8	14.4-16.2	5.66
9	16.2-18.00	6.01

**Test report No: 9612302364****Page 29 of 31 Pages****Title: TytoPro****Model: 900-00002****FCC ID: 2AHKN-K160401****Antenna Factor****Broadband Horn Antenna model BBHA 9170 1m calibration**

Point	Frequency (GHz)	Antenna Factor (dB/m)
1	15.0	38.5
2	16.0	37.7
3	17.0	38.1
4	18.0	37.9
5	19.0	38.0
6	20.0	38.0
7	21.0	37.9
8	22.0	38.2
9	23.0	39.6
10	24.0	39.6
11	25.0	39.3
12	26.0	39.5
13	27.0	39.6
14	28.0	39.6
15	30.0	40.1
16	32.0	41.2
17	34.0	41.5
18	35.0	41.9
19	36.0	42.2
20	38.0	43.8
21	40.0	43.2

Antenna Factor**For Antenna Loop MFR ETS Lindgren, Type/Model 6507, S/N: 00144641**

No.	Frequency MHz	Magnetic antenna factor, dBS/m	Electric antenna factor, dB/m
1	9	-21.5	30.0
2	10	-22.0	29.5
3	20	-27.7	23.8
4	50	-32.2	19.4
5	75	-33.0	18.5
6	100	-33.4	18.2
7	150	-33.6	17.9
8	250	-33.7	17.9
9	500	-33.8	17.8
10	750	-33.8	17.7
11	1000	-33.8	17.7
12	2000	-33.7	17.9
13	3000	-33.8	17.8
14	4000	-34.0	17.5
15	5000	-34.3	17.2
16	10000	-35.2	16.4
17	15000	-35.8	15.8
18	20000	-36.0	15.6
19	25000	-36.2	15.3
20	30000	-36.4	15.2



Test report No: 9612302364

Title: TytoPro

Model: 900-00002

Page 30 of 31 Pages

FCC ID: 2AHKN-K160401

APPENDIX B Photo of the test setups.



Photo 1.



Photo 2.



Photo 3.

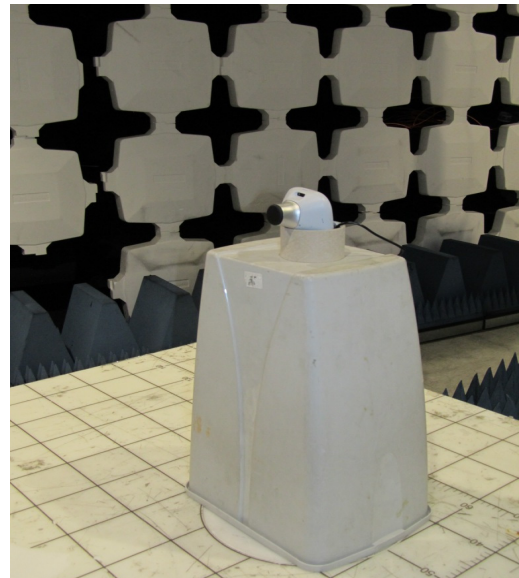


Photo 4.

Setups of radiated emission test.



Test report No: 9612302364

Page 31 of 31 Pages

Title: TytoPro

Model: 900-00002

FCC ID: 2AHKN-K160401

APPENDIX C Abbreviations and acronyms.

The following abbreviations and acronyms are applicable to this test report:

AC	alternating current
cm	centimeter
dB	decibel
dBm	decibel referred to one milliwatt
dB(μ V)	decibel referred to one microvolt
dB(μ V/m)	decibel referred to one microvolt per meter
EBW	emission bandwidth.
EMC	electromagnetic compatibility
EUT	equipment under test
GHz	gigahertz
H	height
Hz	hertz
kHz	kilohertz
L	length
LNA	low noise amplifier
m	meter
Mbps	megabit per second
MHz	megahertz
NA	not applicable
OFDM	Orthogonal Frequency Division Multiple Access
PRBS	pseudo random binary sequence
QP	quasi-peak
RF	radio frequency
RE	radiated emission
SA	spectrum analyzer
rms	root mean square
W	width