



FCC RADIO TEST REPORT FCC ID: 2AS6W-1

Product: Yoto Player

Trade Mark: N/A

Model Name: 1

Family Model: N/A

Report No.: \$18090702104E003

Prepared for

Yoto Ltd

Edspace, Block D, Hackney Community College, Falkirk Street, London, N1 6HQ, United Kingdom

Prepared by

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Page 2 of 27

TEST RESULT CERTIFICATION

Report No.: S18090702104E003

Applicant's name:		
Address:	Edspace, London, N	Block D, Hackney Community College, Falkirk Street, N1 6HQ, United Kingdom
Manufacturer's Name:	Yoto Ltd	
Address:		Block D, Hackney Community College, Falkirk Street, N1 6HQ, United Kingdom
Product description		
Product name:	Yoto Play	er
Model and/or type reference :	1	
Family Model:	N/A	
Standards:	FCC Part	15.225
Test procedure	ANSI C63	3.10-2013
	n complian	sted by NTEK, and the test results show that the acce with the FCC requirements. And it is applicable only t.
•	•	t in full, without the written approval of NTEK, this TEK, personnel only, and shall be noted in the revision of
Date of Test	:	
Date (s) of performance of tests.	:	07 Sep. 2018 ~ 15 Dec. 2018
Date of Issue	:	15 Dec. 2018
Test Result	:	Pass
Testing Engine	er :	Many. Hu
		(Mary Hu)
Technical Man	ager :	Jason chen
	•	(Jason Chen)
Authorized Sig	natory:	Sam. Chew
		(Sam Chen)

Table of Contents	Page
1 . SUMMARY OF TEST RESULTS	4
1.1 TEST FACILITY	5
1.2 MEASUREMENT UNCERTAINTY	5
2. GENERAL INFORMATION	6
2.1 GENERAL DESCRIPTION OF EUT	6
2.2 DESCRIPTION OF TEST MODES	7
2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTE	ED 8
2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)	9
2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS	10
3 . ANTENNA REQUIREMENT	11
3.1 STANDARD REQUIREMENT	11
3.2 EUT ANTENNA	11
4 . EMC EMISSION TEST	12
4.1 CONDUCTED EMISSION MEASUREMENT	12
4.1.1 POWER LINE CONDUCTED EMISSION LIMITS	12
4.1.2 TEST CONFIGURATION 4.1.3 TEST PROCEDURE	12 12
4.1.4 TEST RESULT	13
4.2 RADIATED EMISSION MEASUREMENT	17
4.2.1 RADIATED EMISSION LIMITS	17
4.2.2 TEST PROCEDURE 4.2.3 DEVIATION FROM TEST STANDARD	18 18
4.2.4 TEST SETUP	18
4.2.5 TEST RESULTS (BELOW 30MHZ)	20
4.2.6 TEST RESULTS (BETWEEN 30 – 1000 MHZ)	22
5 . BANDWIDTH TEST	24
5.1 TEST PROCEDURE	24
5.2 DEVIATION FROM STANDARD 5.3 TEST SETUP	24 24
5.4 TEST RESULTS	2 4 25
6. FREQUENCY TOLERANCE	26



1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15, Subpart C (15.225)						
Standard Section	Test Item	Judgment	Remark			
15.207	Conducted Emission	Pass				
15.205(a) 15.209 15.225	Radiated Spurious Emission	Pass				
15.215	20dB Bandwidth	Pass				
15.225	Frequency Tolerance	Pass				
15.203	Antenna Requirement	Pass				

NOTE:

(1) " N/A" denotes test is not applicable in this Test Report.



1.1 TEST FACILITY

All measurement facilities used to collect the measurement data are located at 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen 518126 P.R. China.

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.10 and CISPR Publication 22.

Site Description

CNAS-Lab. : The Laboratory has been assessed and proved to be in

compliance with CNAS-CL01:2006 (identical to ISO/IEC

Report No.: S18090702104E003

17025:2005)

The Certificate Registration Number is L5516.

IC-Registration The Certificate Registration Number is 9270A-1.

FCC- Accredited Test Firm Registration Number: 463705.

Designation Number: CN1184

A2LA-Lab. The Certificate Registration Number is 4298.01

This laboratory is accredited in accordance with the recognized

International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration

laboratories.

This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality

management system

(refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).

Name of Firm : Shenzhen NTEK Testing Technology Co., Ltd.

Site Location : 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang

Street, Bao'an District, Shenzhen 518126 P.R. China.

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $\mathbf{y} \pm \mathbf{U}$, where expended uncertainty \mathbf{U} is based on a standard uncertainty multiplied by a coverage factor of $\mathbf{k=2}$, providing a level of confidence of approximately 95 % $^{\circ}$

No.	Item	Uncertainty
1	Conducted Emission Test	±1.38dB
2	RF power,conducted	±0.16dB
3	Spurious emissions,conducted	±0.21dB
4	All emissions,radiated(<1G)	±4.68dB
5	All emissions,radiated(>1G)	±4.89dB
6	Temperature	±0.5°C
7	Humidity	±2%



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Yoto Player				
Trade Mark	N/A				
Model Name	1				
Family Model	N/A				
Model Difference	N/A				
	The EUT is a Yoto Play	er			
	Operation Frequency:	13.56MHz			
Product Description	Modulation Type:	ASK			
	Number Of Channel	1CH.			
	Antenna Designation:	Loop Antenna			
	Antenna Gain(Peak)	1.0 dBi			
Adapter	Model:RSS1006-153051-W2-B-H Input: 100-120V~50/60Hz 1.4A Output: 5.1V 3mA				
Battery	N/A				
Rating	DC 5.1V from Adapter.				
HW Version	N/A				
SW Version	N/A				

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2.

Table for Filed Antenna

Ant	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	N/A	N/A	Loop Antenna	N/A	1.0	Antenna



2.2 DESCRIPTION OF TEST MODES

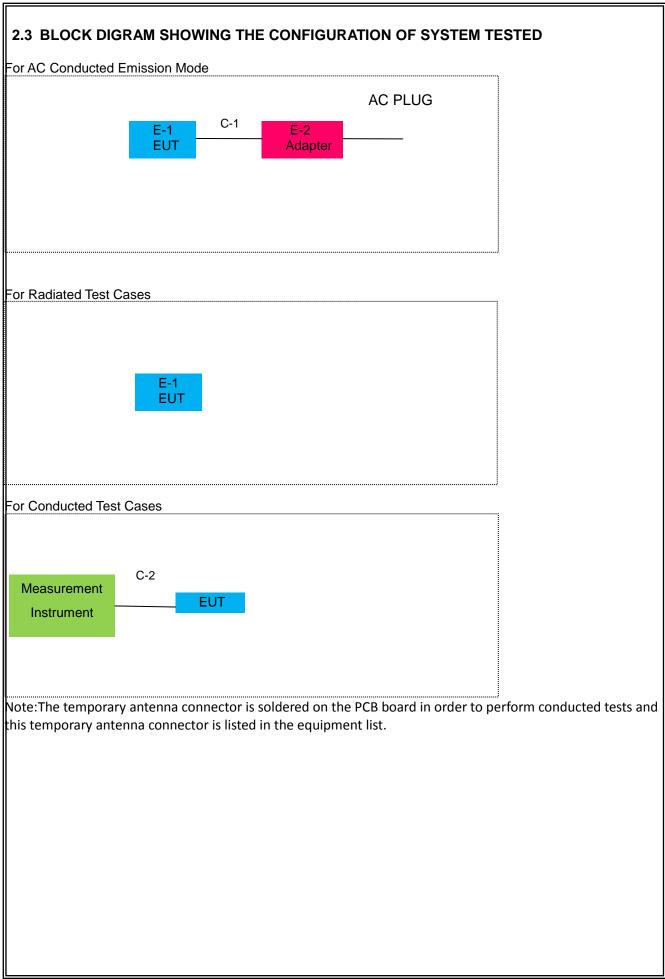
To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	TX-13.56MHz

For Conducted Emission		
Final Test Mode	Description	
Mode 1	TX-13.56MHz	

For Radiated Emission				
Final Test Mode Description				
Mode 1	TX-13.56MHz			





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2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Brand	Model/Type No.	Series No.	Note
E-1	Yoto Player	N/A	1	N/A	EUT
E-2	Adapter	N/A	PSAF10R-050Q	N/A	Peripherals

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	1.0m	
C-2	NO	NO	0.5m	

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in <code>"Length_"</code> column.

Page 10 of 27

Report No.: S18090702104E003

2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation& Conducted Test equipment

vadiatio	na conducted i	rest equiprilent					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibrati on period
1	Spectrum Analyzer	Aglient	E4407B	MY45108040	2018.05.19	2019.05.18	1 year
2	Spectrum Analyzer	Agilent	N9020A	MY49100060	2018.10.08	2019.10.07	1 year
3	Spectrum Analyzer	R&S	FSV40	101417	2018.10.08	2019.10.07	1 year
4	Test Receiver	R&S	ESPI7	101318	2018.05.19	2019.05.18	1 year
5	Bilog Antenna	TESEQ	CBL6111D	31216	2018.04.08	2019.04.07	1 year
6	50Ω Coaxial Switch	Anritsu	MP59B	6200983705	2018.05.19	2020.05.18	3 year
7	Horn Antenna	EM	EM-AH-1018 0	2011071402	2018.04.08	2019.04.07	1 year
8	Active Loop Antenna	SCHWARZBE CK	FMZB 1519 B	055	2018.12.11	2019.12.10	1 year
9	LF Cable	N/A	R-03	N/A	2018.06.05	2021.06.05	3 year
10	PSG Analog Signal Generator	Agilent	E8257D	MY51110112	2018.08.05	2019.08.04	1 year
11	Test Cable (9KHz-30MHz)	N/A	R-01	N/A	2017.04.21	2020.04.20	3 year
12	Test Cable (30MHz-1GHz)	N/A	R-02	N/A	2017.04.21	2020.04.20	3 year

Note:

- 1.We will use the temporary antenna connector (soldered on the PCB board) When conducted test And this temporary antenna connector is listed within the instrument list
- 2. Each piece of equipment is scheduled for calibration once a year except the Test Cable& Aux Equipment which is scheduled for calibration every 3 years.



3. ANTENNA REQUIREMENT

3.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

3.2 EUT ANTENNA

The EUT	antenna	is permanent	attached	antenna.	It comply	with the	e standard	requirem	ent.



4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

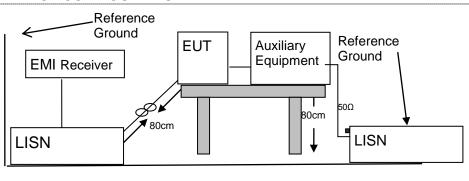
4.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

Fragues ov/MHz)	Conducted	d Emission Limit
Frequency(MHz)	Quasi-peak	Average
0.15-0.5	66-56*	56-46*
0.5-5.0	56	46
5.0-30.0	60	50

Note: 1. *Decreases with the logarithm of the frequency

- 2. The lower limit shall apply at the transition frequencies
- 3. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.1.2 TEST CONFIGURATION



4.1.3 TEST PROCEDURE

According to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 Conducted emissions the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode.

- 1. The EUT was placed 0.4 meter from the conducting wall of the shielding room.
- 2. The EUT was placed on a table which is 0.8m above ground plane.
- Connect EUT to the power mains through a line impedance stabilization network (LISN). All other
 support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of
 coupling impedance for the measuring instrument.
- 4. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40cm long.
- 5. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- 6. LISN at least 80 cm from nearest part of EUT chassis.
- 7. The frequency range from 150KHz to 30MHz was searched.
- 8. Set the test-receiver system to Peak Detect Function and specified bandwidth(IF bandwidth=9KHz) with Maximum Hold Mode
- 9. For the actual test configuration, please refer to the related Item –EUT Test Photos.



4.1.4 TEST RESULT

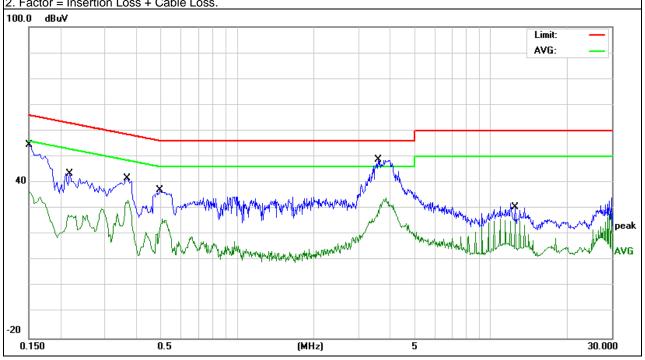
EUT:	Yoto Player	Model Name :	1
Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	1010hPa	Phase :	L
Test Voltage :	DC 5.1V from adapter AC 120V/60Hz	Test Mode:	Mode 1

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Domorle
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Remark
0.15	44.36	10.12	54.48	65.99	-11.51	QP
0.15	26.4	10.12	36.52	55.99	-19.47	AVG
0.2179	33.45	10.13	43.58	62.89	-19.31	QP
0.2179	17.31	10.13	27.44	52.89	-25.45	AVG
0.3699	31.56	10.07	41.63	58.5	-16.87	QP
0.3699	23.03	10.07	33.1	48.5	-15.4	AVG
0.4939	27.26	9.81	37.07	56.1	-19.03	QP
0.4939	16.21	9.81	26.02	46.1	-20.08	AVG
3.5899	38.98	9.75	48.73	56	-7.27	QP
3.5899	24.43	9.75	34.18	46	-11.82	AVG
12.4938	22.35	9.82	32.17	60	-27.83	QP
12.4938	16.08	9.82	25.9	50	-24.1	AVG

Remark:

1. All readings are Quasi-Peak and Average values.

2. Factor = Insertion Loss + Cable Loss.

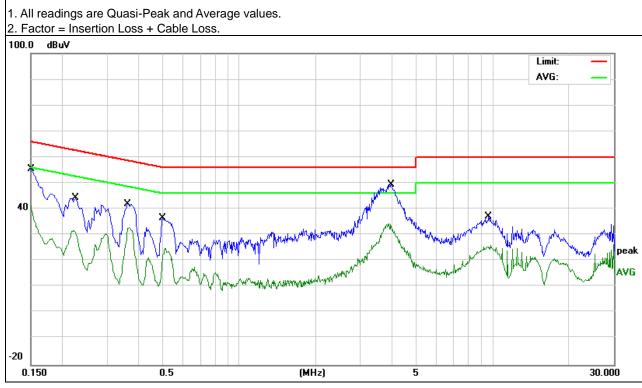


Page 14 of 27 Report No.: S18090702104E003

EUT:	Yoto Player	Model Name :	1
Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	1010hPa	Phase :	N
TASI VANIANA .	DC 5.1V from adapter AC 120V/60Hz	Test Mode:	Mode 1

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Damade
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Remark
0.15	45.28	10.08	55.36	65.99	-10.63	QP
0.15	31.31	10.08	41.39	55.99	-14.6	AVG
0.226	34.44	10.05	44.49	62.59	-18.1	QP
0.226	21.62	10.05	31.67	52.59	-20.92	AVG
0.3659	31.92	10.08	42	58.59	-16.59	QP
0.3659	22.94	10.08	33.02	48.59	-15.57	AVG
0.4979	26.69	9.82	36.51	56.03	-19.52	QP
0.4979	14.99	9.82	24.81	46.03	-21.22	AVG
3.97	39.66	9.72	49.38	56	-6.62	QP
3.97	24.83	9.72	34.55	46	-11.45	AVG
9.6178	27.25	9.76	37.01	60	-22.99	QP
9.6178	16.39	9.76	26.15	50	-23.85	AVG

Remark:



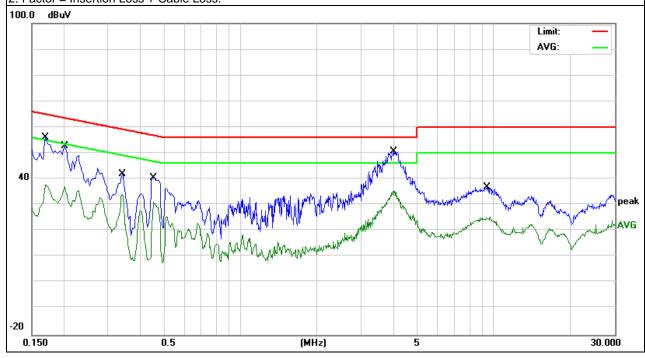


EUT:	Yoto Player	Model Name :	1
Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	1010hPa	Phase :	L
Test Voltage :	DC 5.1V from adapter AC 240V/60Hz	Test Mode :	Mode 1

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Demont
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Remark
0.17	45.96	10.06	56.02	64.96	-8.94	QP
0.17	27.64	10.06	37.7	54.96	-17.26	AVG
0.202	42.73	10.02	52.75	63.52	-10.77	QP
0.202	27.2	10.02	37.22	53.52	-16.3	AVG
0.342	31.94	10.1	42.04	59.15	-17.11	QP
0.342	23.93	10.1	34.03	49.15	-15.12	AVG
0.454	30.54	9.93	40.47	56.8	-16.33	QP
0.454	21.26	9.93	31.19	46.8	-15.61	AVG
4.022	40.82	9.72	50.54	56	-5.46	QP
4.022	25.68	9.72	35.4	46	-10.6	AVG
9.3698	27.13	9.76	36.89	60	-23.11	QP
9.3698	15.82	9.76	25.58	50	-24.42	AVG

Remark:

- All readings are Quasi-Peak and Average values.
 Factor = Insertion Loss + Cable Loss.



Page 16 of 27

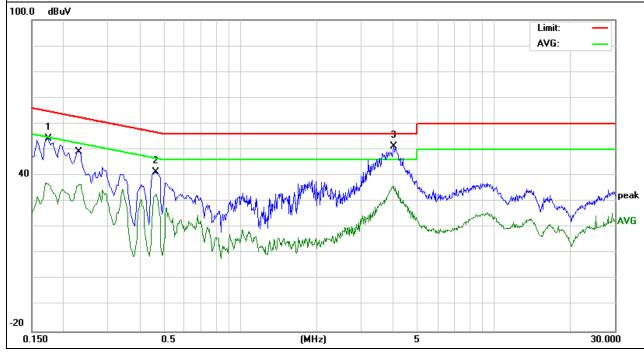
Report No.: S18090702104E003

EUT:	Yoto Player	Model Name :	1
Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	1010hPa	Phase :	N
LIEST VOITAGE .	DC 5.1V from adapter AC 240V/60Hz	Test Mode:	Mode 1

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Domorle
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Remark
0.174	44.12	10.05	54.17	64.76	-10.59	QP
0.462	31.54	9.91	41.45	56.66	-15.21	AVG
4.038	41.45	9.72	51.17	56	-4.83	QP
0.234	26.51	10.06	36.57	52.3	-15.73	AVG
4.022	26.32	9.72	36.04	46	-9.96	QP

Remark:

- All readings are Quasi-Peak and Average values.
 Factor = Insertion Loss + Cable Loss.





4.2 RADIATED EMISSION MEASUREMENT

4.2.1 Radiated Emission Limits (FCC 15.209)

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission level (dBuV/m)=20log Emission level (uV/m).

LIMITS OF RADIATED EMISSION MEASUREMENT (FCC 15.225)

- (a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters, equal to 104dBuV/m at 3 meters.
- (b) 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 at 30 meters, equal to 74.5dBuV/m at 3 meters.
- (c) 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 at 30 meters, equal to 60.5dBuV/m at 3 meters..
- (d) The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in § 15.209.



Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1MHz / 1MHz for Peak

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

4.2.2 TEST PROCEDURE

- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz And above 1GHz,
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m meter. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

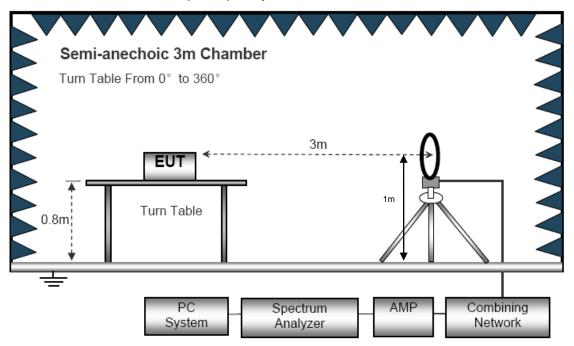
4.2.3 DEVIATION FROM TEST STANDARD

No deviation

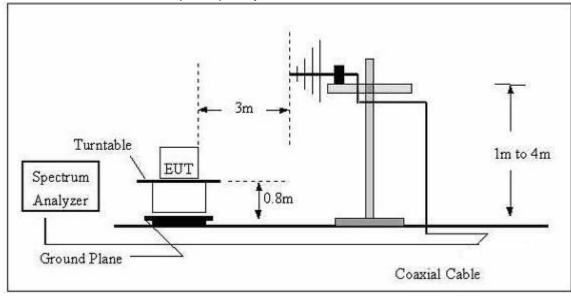


4.2.4 TEST SETUP

(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz

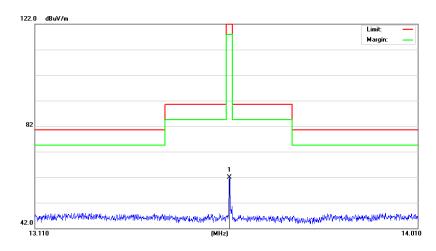




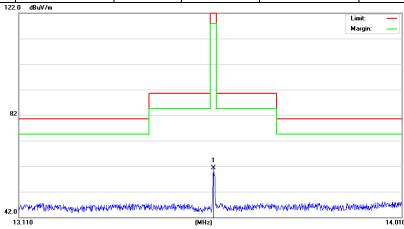
4.2.5 TEST RESULTS (BELOW 30MHz)

EUT:	Yoto Player	Model Name. :	1
Temperature:	20 ℃	Relative Humidtity:	54%
Pressure :	1010 hPa	Test Voltage :	DC 5.1V
Test Mode :	TX-13.56MHz		

Freq.	Reading	Factor	Emission Level	Limit	Margin	Polar
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/@3m)	(dB)	
13.5609	62	0	62	124.0 0	-62	Х



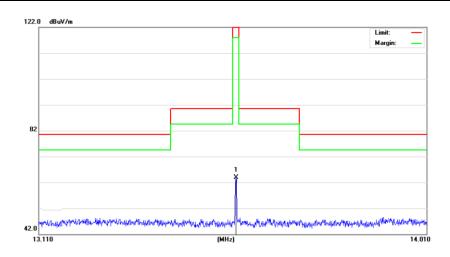
Freq.	Reading	Factor	Emission Level	Limit	Margin	Polar
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/@3m)	(dB)	
13.5609	61.4	0	61.4	124.0 0	-62.6	Υ



Page 21 of 27

Report No.: S18090702104E003

		V 585				
Freq.	Reading	Factor	Emission Level	Limit	Margin	Polar
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/@3m)	(dB)	
13.5609	61.1	0	61.1	124.0 0	-62.9	Z



Spurious emissions at 9kHz~13.110MHz & 14.010MHz~30MHz

Frequency	Ant.Pol.	Emission Level (dBuV/m)	Limits	Margin	Detector
	dΒμV	(aba v/iii)	dBµV/m		
(MHz)	@3m	@3m	@3m	(dB)	
0.061	Х	48.59	111.90	-63.31	QP
1.512	Х	46.26	64.01	-17.75	QP
8.521	Х	41.58	69.54	-27.96	QP
13.441	Х	42.58	69.54	-26.96	QP
22.230	Х	38.36	69.54	-31.18	QP

Note:

Below 30MHz, Pre-test the X, Y, Z axis to find X axis is worst case, so only record X axis test data.

- X: Field strength which this device generates since the position of the charging coil and loop antenna differ by 0 degrees.
- Y: Field strength which this device generates since the position of the charging coil and loop antenna differ by 90 degrees.
- Z: Field strength which this device generates since the position of the charging coil and loop antenna differ by 180 degrees



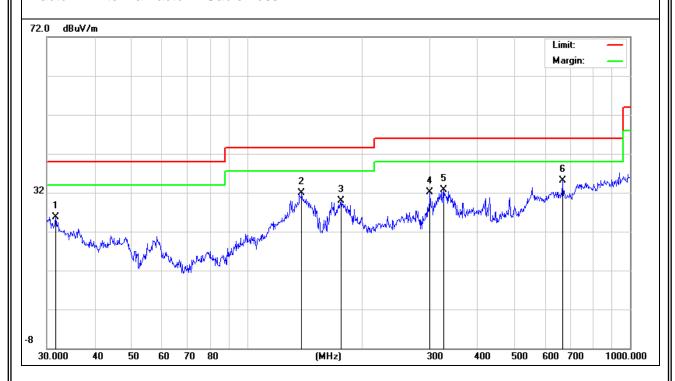
4.2.6 TEST RESULTS (BETWEEN 30 - 1000 MHZ)

EUT:	Yoto Player	Model Name :	1
Temperature:	20 ℃	Relative Humidity:	54%
Pressure :	1010 hPa	Test Voltage :	DC 5.1V
Test Mode :	TX	Polarization:	Horizontal

Freq.	Reading	Factor	Measurement	Limit	Over	Detector
(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector
31.62	7.35	18.32	25.67	40.00	-14.33	QP
138.87	18.66	13.32	31.98	43.50	-11.52	QP
176.27	19.10	10.81	29.91	43.50	-13.59	QP
300.37	16.04	16.09	32.13	46.00	-13.87	QP
326.74	15.94	16.69	32.63	46.00	-13.37	QP
665.80	10.02	24.99	35.01	46.00	-10.99	QP

Remark:

Factor = Antenna Factor + Cable Loss.



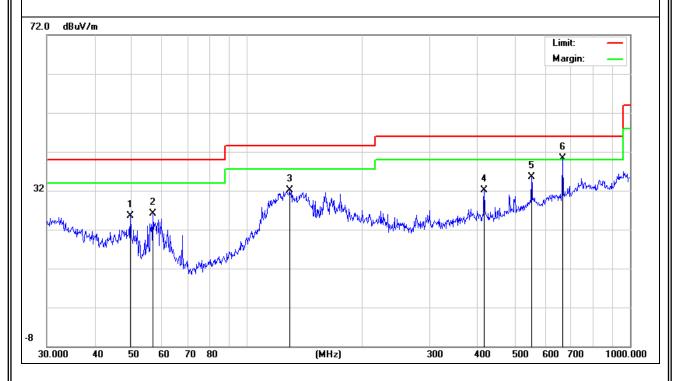
Page 23 of 27 Report No.: S18090702104E003

EUT:	Yoto Player	Model Name :	1
Temperature:	20 ℃	Relative Humidity:	54%
Pressure:	1010 hPa	Test Voltage :	DC 5.1V
Test Mode :	TX	Polarization:	Vertical

\neg	_		_			_	
	Freq.	Reading	Factor	Measurement	Limit	Over	Detector
	(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector
	49.53	15.89	9.71	25.60	40.00	-14.40	QP
	56.79	19.26	6.84	26.10	40.00	-13.90	QP
	129.01	18.65	13.43	32.08	43.50	-11.42	QP
	416.18	11.80	20.21	32.01	46.00	-13.99	QP
	552.88	11.08	24.51	35.59	46.00	-10.41	QP
	665.80	15.24	24.99	40.23	46.00	-5.77	QP

Remark:

Factor = Antenna Factor + Cable Loss.





5. BANDWIDTH TEST

5.1 TEST PROCEDURE

- 1. The transmitter output (antenna port) was connected to the spectrum analyzer in peak mode.
- 2. 20dB Bandwidth the resolution bandwidth of 1 kHz and the video bandwidth of 1 kHz were used.
- 3. Measured the spectrum width with power higher than 20dB below carrier.

5.2 DEVIATION FROM STANDARD

FCC Part15.225

5.3 TEST SETUP

EUT	SPECTRUM
	ANALYZER



5.4 TEST RESULTS

EUT:	Yoto Player	Model Name :	1
Temperature :	26 ℃	Relative Humidity:	54%
Pressure :	1020 hPa	Test Power :	DC 5.1V
Test Mode :	TX		

Test Channel	Frequency (MHz)	20 dBc Bandwidth (kHz)	
CH01	13.56	30.94	





6. FREQUENCY TOLERANCE

6.1 Requirement:

Test FCC Part15.225

Requirement:

Test Method: ANSI C63.4:2003

Requirement: 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 battery operated equipment, the equipment tests

shall be performed using a new battery.

6.2 Test Procedure

1. The EUT was placed on a turn table which is 0.8m above ground plane.

2.Set EUT as normal operation

 ${\tt 3.Set~SPA~Center~Frequency=fundamental~frequency,~RBW,~VBW=10kHz,~Span}\\$

=100kHz.

4.Set SPA Max hold. Mark peak.

.



Test Result

Power Supply	Temperature (°C)	Measured Frequency (MHz)	Frequency Error (MHz)	Result (ppm)	Part 15.225 Limit
DC 3.23V	-20	13.561009	0.001009	74.4100295	+/- 0.01%(100ppm)
	20	13.56101	0.00101	74.4837758	+/- 0.01%(100ppm)
	50	13.561014	0.001014	74.7787611	+/- 0.01%(100ppm)
DC 5.1V	-20	13.561012	0.001012	74.6312684	+/- 0.01%(100ppm)
	20	13.56101	0.00101	74.4837758	+/- 0.01%(100ppm)
	50	13.56101	0.00101	74.4837758	+/- 0.01%(100ppm)
DC 4.37V	-20	13.561103	0.001103	81.3421829	+/- 0.01%(100ppm)
	20	13.561011	0.001011	74.5575221	+/- 0.01%(100ppm)
	50	13.561007	0.001007	74.2625369	+/- 0.01%(100ppm)

END REPORT