

ALT GROUP BABYMOOV CORP.

Application
For
Certification

FCC ID: 2ACYNA014616

Receiver (Tablet) for Babycamera 0 Emission

Model: A014616

Class B Personal Computer

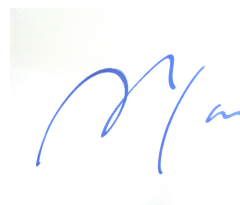
Report No.: 150323009SZN-002

Prepared and Checked by:

Approved by:

Sign on file

Robert Li
Project Engineer



Digitally signed
by Andy Yan
Location: Intertek
Testing Services

Andy Yan
Senior Project Engineer
Date: March 25, 2015

- The test results reported in this test report shall refer only to the sample actually tested and shall not refer or be deemed to refer to bulk from which such a sample may be said to have been obtained.
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TRF No.: FCC 15C_PC_b

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INTERTEK TESTING SERVICES

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MEASUREMENT / TECHNICAL REPORT

ALT GROUP BABYMOOV CORP.

MODEL: A014616

FCC ID: 2ACYNA014616

This report concerns (check one:) Original Grant ☒ Class II Change ☐

Equipment Type: JBC- Part 15 Class B Computing Device/Personal Computer

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? Yes ☐ No ☒

If yes, defer until: _____
date

Company Name agrees to notify the Commission by: _____
date

of the intended date of announcement of the product so that the grant can be issued on that date.

Transition Rules Request per 15.37? Yes ☐ No ☒

If no, assumed Part 15, Subpart B for unintentional radiator – the new 47 CFR [10-01-13 Edition] provision.

Report prepared by:

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List of attached file

Exhibit type	File Description	Filename
Test Report	Test Report	report.pdf
Test Setup Photo	Radiated Emission	radiated photos.pdf
Test Setup Photo	Conducted Emission	conducted photos.pdf
External Photo	External Photo	external photos.pdf
Internal Photo	Internal Photo	internal photos.pdf
Block Diagram	Block Diagram	block.pdf
ID Label/Location	Label Artwork and Location	label.pdf
User Manual	User Manual	manual.pdf
Cover Letter	Confidentiality Letter	request.pdf
Cover Letter	Letter of Agency	agency.pdf

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EXHIBIT 1

GENERAL DESCRIPTION

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1.0 General Description

1.1 Product Description

The Equipment Under Test (EUT) is a Receiver (Tablet) for Babycamera 0 Emission. The device can be used to transfer data with PC directly connected through Mini USB port. For more detailed features description, please refer to the user's manual.

1.2 Related Submittal(s) Grants

This is an application for certification of a computer. For WiFi Function, please refer to the report 150323009SZN-001

1.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.4 (2009). Radiated emission measurement was performed in Semi-anechoic chamber and conducted emission measurement was performed in shield room. For radiated emission measurement, preliminary scans were performed in the semi-anechoic chamber only to determine the worst case modes. All radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "**Justification Section**" of this Application.

1.4 Test Facility

The Semi-anechoic chamber and shielding room used to collect the radiated data and conducted data are **Intertek Test Services Shenzhen Ltd. Kejiyuan Branch** and located at 6F, D Block, Huahan Building, Langshan Road, Nanshan District, Shenzhen, P. R. China. This test facility and site measurement data have been fully placed on file with the FCC (Registration Number: 242492).

EXHIBIT 2
SYSTEM TEST CONFIGURATION

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2.0 **System Test Configuration**

2.1 Justification

The system was configured for Test in a typical fashion (as a customer would normally use it), and in the confines as outlined in ANSI C63.4 (2003).

The Equipment Under Test (EUT) was powered by PC (PC adapter with AC120V/60Hz input) or AC adapter with AC120V/60Hz input during the test. Only the worst case mode reported.

For maximizing emissions, the EUT was rotated through 360°, the antenna height was varied from 1 meter to 4 meters above the ground plane, and the antenna polarization was changed. The step by step procedure for maximizing emissions led to the data reported in Exhibit 3.0.

The rear of unit shall be flushed with the rear of the table.

The equipment under test (EUT) was configured for Test in a typical fashion (as a customer would normally use it). The EUT was placed on turntable, which enabled the engineer to maximize emissions through its placement in the three orthogonal axes.

The frequency range from 30MHz to 6.0GHz (EUT highest frequency is 1.2GHz, so according to 15.33, the test range is update to 6.0GHz) was searched for spurious emissions from the device. Only those emissions reported were detected. All other emissions were at least 20 dB below the applicable limits.

2.2 EUT Exercising Software

The EUT exercise program (provided by client) used during radiated and conducted Test was designed to exercise the various system components in a manner similar to a typical use. The worst case configuration is used in all specified Test.

2.3 Special Accessories

N/A

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2.4 Equipment Modification

Any modifications installed previous to Test by ALT GROUP BABYMOOV CORP. Will be incorporated in each production model sold / leased in the United States.

No modifications were installed by Intertek Test Services Shenzhen Ltd. Kejiyuan Branch.

2.5 Measurement Uncertainty

When determining the test conclusion, the Measurement Uncertainty of test has been considered.

2.6 Support Equipment List and Description

This product was tested in the following configuration:

Refer List:

Description	Manufacturer	Model No.
Switching Adapter	Keen Ocean Industrial Ltd.	S09-012-0500-02000SWP-27246-00L Input: 100-240Vac, 50/60Hz, 0.4Amax Output: 5Vdc, 2000mA
Notebook	LENOVO	T420
Notebook	HP	HP Probook 430 G1
Headphone	N/A	Un-shield, detachable, 1.2m
USB Cable	N/A	Un-shield, detachable, 1.2m
TF Card	Sandisk	Model: BE1011014684G
Hard Disk	Smart.drive	HD-003
1394 Cable	Smart.drive	Unshielded, Length 180cm

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EXHIBIT 3

EMISSION RESULTS

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3.0 **Emission Results**

Data is included worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included.

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3.1 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization and average factors (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below.

$$FS = RA + AF + CF - AG + PD$$

where FS = Field Strength in dB μ V/m

RA = Receiver Amplitude (including preamplifier) in dB μ V

CF = Cable Attenuation Factor in dB

AF = Antenna Factor in dB

AG = Amplifier Gain in dB

PD = Pulse Desensitization in dB

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows:

$$FS = RA + AF + CF - AG + PD$$

Example

Assume a receiver reading of 62.0dB μ V is obtained. The antenna factor of 7.4dB and cable factor of 1.6dB is added. The amplifier gain of 29dB is subtracted. The pulse desensitization factor of the spectrum analyzer was 0dB, and the resultant average factor was -10dB. The net field strength for comparison to the appropriate emission limit is 42dB μ V/m. This value in dB μ V/m was converted to its corresponding level in μ V/m.

$$RA = 62.0\text{dB}\mu\text{V}$$

$$AF = 7.4\text{dB}$$

$$CF = 1.6\text{dB}$$

$$AG = 29.0\text{dB}$$

$$PD = 0\text{dB}$$

$$AV = -10\text{dB}$$

$$FS = 62 + 7.4 + 1.6 - 29 + 0 = 42\text{dB}\mu\text{V/m}$$

$$\text{Level in } \mu\text{V/m} = \text{Common Antilogarithm } [(42\text{dB}\mu\text{V/m})/20] = 125.9\mu\text{V/m}$$

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3.2 Radiated Emission Configuration Photograph

Worst Case Radiated Emission
At
71.22MHz (PC Down loading)

For electronic filing, the worst case radiated emission configuration photograph is saved with filename: radiated photos.pdf.

3.3 Radiated Emission Data

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Judgement: Passed by 7.2dB margin

TEST PERSONNEL:

Sign on file

Robert Li Project Engineer
Typed/Printed Name

January 22, 2015
Date

INTERTEK TESTING SERVICES

Applicant: ALT GROUP BABYMOOV CORP.

Model: A014616

Worst case operating Mode: PC Downloading

Radiated Emissions (30M~1G) Hz

Polarization	Frequency (MHz)	Reading (dBμV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
Horizontal	71.220	42.3	20.0	10.5	32.8	40.0	-7.2
Horizontal	243.885	39.5	20.0	10.5	30.0	46.0	-16.0
Horizontal	638.190	42.4	20.0	12.9	35.3	46.0	-10.7
Vertical	71.220	41.1	20.0	10.5	31.6	40.0	-8.4
Vertical	145.430	35.0	20.0	10.5	25.5	43.5	-18.0
Vertical	167.740	36.1	20.0	10.5	26.6	43.5	-16.9

NOTES:

1. Quasi-Peak detector is used for frequency up to 1GHz.
2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3 meter distances were measured at 0.3- meter and an inverse proportional extrapolation was performed to compare the signal level to the 3 meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. All emissions up to 1GHz are below the QP limit.

INTERTEK TESTING SERVICES

Applicant: ALT GROUP BABYMOOV CORP.

Model: A014616

Worst Case Operating Mode: PC Down loading

Radiated Emissions(1G~6.0G) Hz

Polarization	Frequency (MHz)	Reading (dBμV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBμV/m)	Peak Limit at 3m (dBμV/m)	Margin (dB)
Horizontal	1331.250	53.2	36.1	34.1	51.2	74.0	-22.8
Horizontal	1665.000	63.1	36.1	34.3	61.3	74.0	-12.7
Horizontal	1757.500	50.9	36.1	34.3	49.1	74.0	-24.9
Vertical	1211.250	50.4	36.0	34.1	48.5	74.0	-25.5
Vertical	1846.250	51.9	36.1	34.3	50.1	74.0	-23.9
Vertical	2453.750	46.0	36.3	34.5	44.2	74.0	-29.8

Polarization	Frequency (MHz)	Reading (dBμV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBμV/m)	Average Limit at 3m (dBμV/m)	Margin (dB)
Horizontal	1331.250	36.2	36.1	34.1	34.2	54.0	-19.8
Horizontal	1665.000	37.5	36.1	34.3	35.7	54.0	-18.3
Horizontal	1757.500	38.0	36.1	34.3	36.2	54.0	-17.8
Vertical	1211.250	37.1	36.0	34.1	35.2	54.0	-18.8
Vertical	1846.250	38.9	36.1	34.3	37.1	54.0	-16.9
Vertical	2453.750	38.9	36.3	34.5	37.1	54.0	-16.9

- NOTES: 1. Peak detector is used for Peak Value and Average detector is used for average Value.
2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna used for the emission over 1000MHz.

TRF No.: FCC 15C_PC_b

FCC ID: 2ACYNA014616

Report No.: 150323009SZN-002

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3.4 Conducted Emission Configuration Photograph

Worst Case Conducted Configuration
at
0.402 MHz (PC Downloading Mode)

For electronic filing, the worst case conducted emission configuration photograph is saved with filename: conducted photos.pdf.

3.5 Conducted Emission Data

Judgement: Passed by 14.1 dB margin

TEST PERSONNEL:

Sign on file

Robert Li Project Engineer
Typed/Printed Name

January 22, 2015
Date

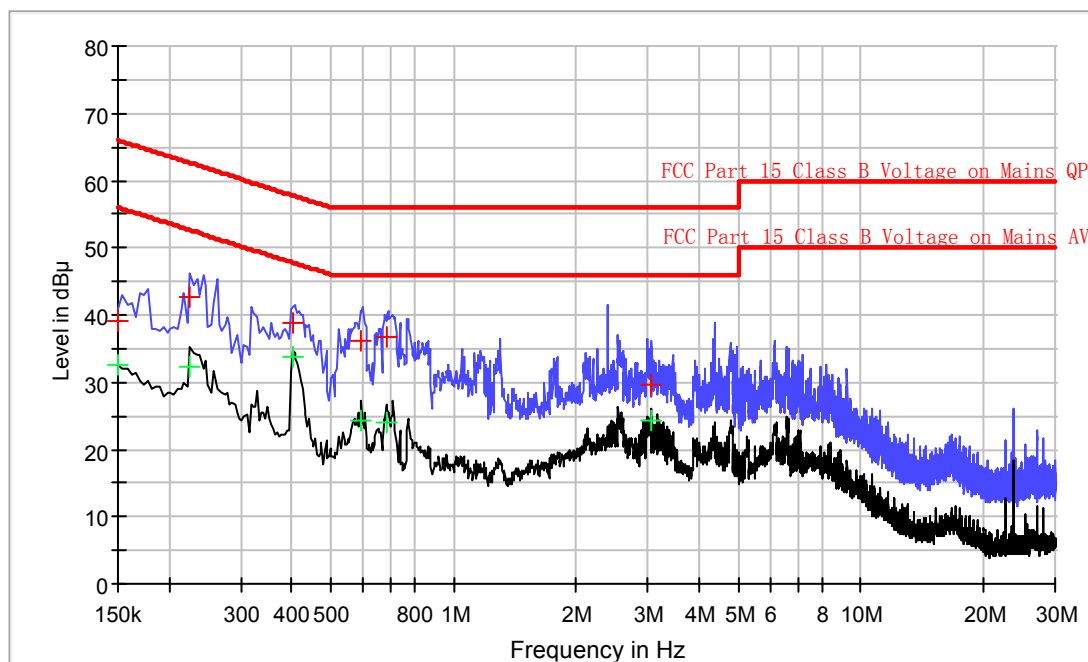
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Applicant: ALT GROUP BABYMOOV CORP.

Model: A014616

Worst case operating Mode: PC Downloading

Conducted Emission Test FCC Part 15



Result Table QP

Frequency (MHz)	QuasiPeak (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.150000	39.1	9.000	L1	9.8	26.9	66.0
0.226000	42.6	9.000	L1	9.8	20.0	62.6
0.402000	38.9	9.000	L1	9.8	18.9	57.8
0.594000	36.3	9.000	L1	9.9	19.7	56.0
0.682000	36.8	9.000	L1	10.0	19.2	56.0
3.046000	29.6	9.000	L1	9.9	26.4	56.0

Result Table AV

Frequency (MHz)	Average (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.150000	32.6	9.000	L1	9.8	23.4	56.0
0.226000	32.4	9.000	L1	9.8	20.2	52.6
0.402000	33.7	9.000	L1	9.8	14.1	47.8
0.594000	24.2	9.000	L1	9.9	21.8	46.0
0.682000	24.1	9.000	L1	10.0	21.9	46.0
3.046000	24.3	9.000	L1	9.9	21.7	46.0

TRF No.: FCC 15C_PC_b

FCC ID: 2ACYN A014616

Report No.: 150323009SZN-002

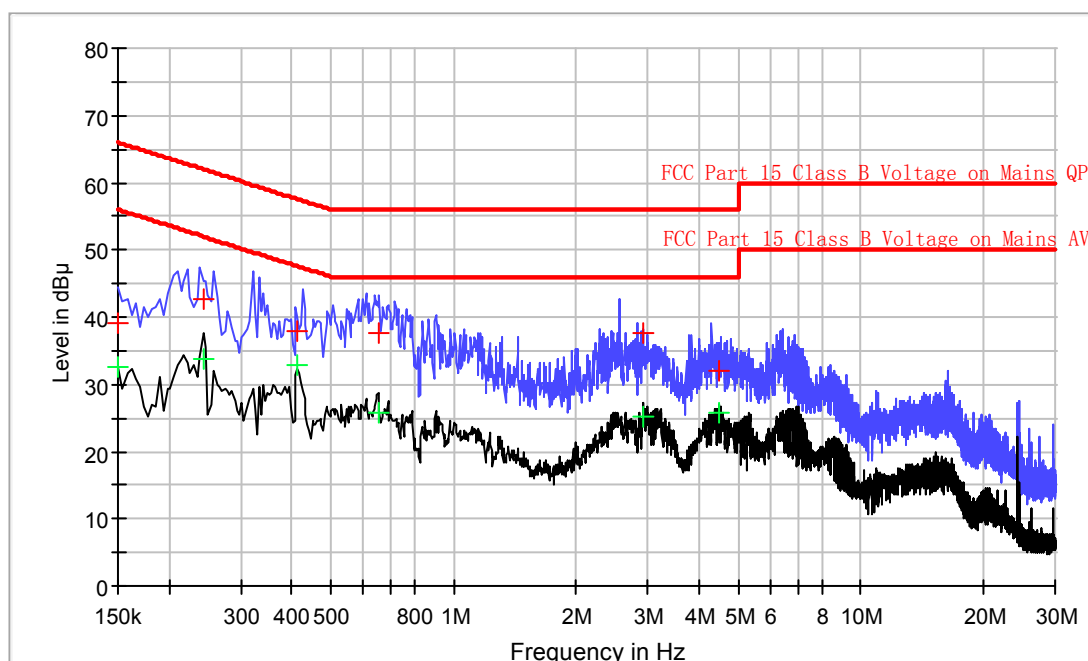
INTERTEK TESTING SERVICES

Applicant: ALT GROUP BABYMOOV CORP.

Model: A014616

Worst case operating Mode: PC Downloading

Conducted Emission Test FCC Part 15



Result Table QP

Frequency (MHz)	QuasiPeak	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μV)
0.150000	39.1	9.000	N	10.0	26.9	66.0
0.242000	42.7	9.000	N	10.1	19.3	62.0
0.414000	38.0	9.000	N	10.1	19.6	57.6
0.654000	37.6	9.000	N	10.2	18.4	56.0
2.926000	37.6	9.000	N	10.3	18.4	56.0
4.482000	31.9	9.000	N	10.3	24.1	56.0

Result Table AV

Frequency (MHz)	Average (dB μV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μV)
0.150000	32.5	9.000	N	10.0	23.5	56.0
0.242000	33.8	9.000	N	10.1	18.2	52.0
0.414000	32.9	9.000	N	10.1	14.7	47.6
0.654000	25.7	9.000	N	10.2	20.3	46.0
2.926000	25.1	9.000	N	10.3	20.9	46.0
4.482000	25.7	9.000	N	10.3	20.3	46.0

TRF No.: FCC 15C_PC_b

FCC ID: 2ACYNA014616

Report No.: 150323009SZN-002

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EXHIBIT 4

EQUIPMENT PHOTOGRAPHS

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4.0 **Equipment Photographs**

For electronic filing, photographs of the tested EUT are saved with filename: external photos.pdf and internal photos.pdf.

EXHIBIT 5
PRODUCT LABELLING

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5.0 **Product Labelling**

For electronics filing, the FCC ID label artwork and the label location are saved with filename: label.pdf.

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EXHIBIT 6

TECHNICAL SPECIFICATIONS

6.0 **Technical Specifications**

For electronic filing, the block diagram of the tested EUT is saved with filename: block.pdf.

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EXHIBIT 7

INSTRUCTION MANUAL

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7.0 Instruction Manual

For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual.pdf.

This manual will be provided to the end-user with each unit sold / leased in the United States.

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EXHIBIT 8

MISCELLANEOUS INFORMATION

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8.0 Miscellaneous Information

This miscellaneous information includes emission measuring procedure.

8.1 Emissions Test Procedures

The following is a description of the test procedure used by Intertek Test Services in the measurements of computer peripheral operating under Part 15, Subpart B rules.

The test set-up and procedures described below are designed to meet the requirements of ANSI C63.4 - 2009.

The computer equipment under test (EUT) is placed on a wooden turntable which is four feet in diameter and approximately one meter in height above the ground plane. During the radiated emissions test, the turntable is rotated and any cables leaving the EUT are manipulated to find the configuration resulting in maximum emissions. The antenna height and polarization are varied during the Test to search for maximum signal levels. The height of the antenna is varied from one to four meters.

Detector function for radiated emissions are in QP mode from the frequency band 30MHz to 1GHz with RBW setting 120kHz. Detector function for radiated emissions are in PK&AV mode from the frequency band above 1GHz with RBW setting 1MHz. Detector function for conducted emissions are in QP & AV mode and IFBW setting is 9kHz from the frequency band 150kHz to 30MHz.

For radiated emission, the frequency range scanned is 30MHz to 6.0GHz. For line-conducted emissions, the range scanned is 150kHz to 30MHz.

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8.1 Emissions Test Procedures (cont'd)

The EUT is warmed up for 15 minutes prior to the test.

Conducted measurements are made as described in ANSI C63.4 - 2009.

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EXHIBIT 9

CONFIDENTIALITY REQUEST

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9.0 **Confidentiality Request**

For electronic filing, the confidentiality request of the tested EUT is saved with filename: request.pdf.

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EXHIBIT 10

TEST EQUIPMENT LIST

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10.0 Test Equipment List

Equipment No.	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
SZ061-03	BiConiLog Antenna	ETS	3142C	00066460	28-Jun-14	28-Jun-15
SZ185-01	EMI Receiver	R&S	ESCI	100547	12-Mar-14	12-Mar-15
SZ061-09	Horn Antenna	ETS	3115	00092346	1-Nov-14	1-Nov-15
SZ056-03	Spectrum Analyzer	R&S	FSP 30	101148	12-Mar-14	12-Mar-15
SZ181-04	Preamplifier	Agilent	8449B	3008A02474	12-Mar-14	12-Mar-15
SZ188-01	Anechoic Chamber	ETS	RFD-F/A-100	4102	2-Mar-14	2-Mar-15
SZ062-02	RF Cable	RADIAL	RG 213U	--	3-Jan-15	3-Jul-15
SZ062-05	RF Cable	RADIAL	0.04-26.5GHz	--	3-Jan-15	3-Jul-15
SZ062-12	RF Cable	RADIAL	0.04-26.5GHz	--	3-Jan-15	3-Jul-15
SZ185-02	EMI Test Receiver	R&S	ESCI	100692	1-Nov-14	1-Nov-15
SZ187-01	Two-Line V-Network	R&S	ENV216	100072	1-Nov-14	1-Nov-15
SZ187-02	Two-Line V-Network	R&S	ENV216	100073	16-Jun-14	16-Jun-15
SZ188-03	Shielding Room	ETS	RFD-100	4100	23-Aug-14	23-Aug-15