

Huawei Technologies Co., Ltd

Application
For
Certification
FCC ID: QISY625-U43

UMTS Mobile Phone

Model: HUAWEI Y625-U43, Y625-U43

Class B Personal Computer Peripherals

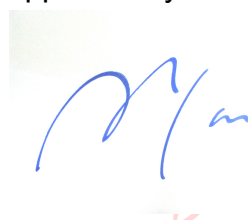
Report No.: 141112043SZN-005

Prepared and Checked by:

Approved by:

Sign on file

Hardy Suo
Assistant Engineer



Digitally signed
by Andy Yan
Location: Intertek
Testing Services

Andy Yan
Senior Project Engineer
Date: December 03, 2014

- 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.
- This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to copy or distribute this report. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results referenced from this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.
- For Terms And Conditions of the services, it can be provided upon request.
- The evaluation data of the report will be kept for 3 years from the date of issuance.

TRF No.: FCC 15C_PC_b

Intertek Testing Services Shenzhen Ltd. Kejiyuan Branch

6F, D Block, Huahan Building, Langshan Road, Nanshan District, Shenzhen, P. R. China
Tel: (86 755) 8601 6288 Fax: (86 755) 8601 6751 Website: www.china.intertek-etlsemko.com

INTERTEK TESTING SERVICES

LIST OF EXHIBITS

INTRODUCTION

<i>EXHIBIT 1:</i>	General Description
<i>EXHIBIT 2:</i>	System Test Configuration
<i>EXHIBIT 3:</i>	Emission Results
<i>EXHIBIT 4:</i>	Equipment Photographs
<i>EXHIBIT 5:</i>	Product Labeling
<i>EXHIBIT 6:</i>	Technical Specifications
<i>EXHIBIT 7:</i>	Instruction Manual
<i>EXHIBIT 8:</i>	Miscellaneous Information
<i>EXHIBIT 9:</i>	Confidentiality Request
<i>EXHIBIT 10:</i>	Test Equipment List

INTERTEK TESTING SERVICES

MEASUREMENT / TECHNICAL REPORT

Huawei Technologies Co., Ltd
MODEL: HUAWEI Y625-U43, Y625-U43

FCC ID: QISY625-U43

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

Equipment Type: JBP-Part 15 Class B Computing Device/Peripherals

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:

Hardy Suo
Intertek Testing Services Shenzhen Ltd.
Kejiyuan Branch
6F, D Block, Huahan Building, Langshan Road
Nanshan District, Shenzhen, P. R. China
Phone: (86 755) 8614 0743
Fax: (86 755) 8601 6751

INTERTEK TESTING SERVICES

Table of Contents

1.0	General Description	2
1.1	Product Description	2
1.2	Related Submittal(s) Grants	2
1.3	Test Methodology	3
1.4	Test Facility	3
2.0	System Test Configuration	5
2.1	Justification	5
2.2	EUT Exercising Software	5
2.3	Special Accessories	5
2.4	Equipment Modification	5
2.5	Measurement Uncertainty	6
2.6	Support Equipment List and Description	6
3.0	Emission Results	8
3.1	Field Strength Calculation	9
3.2	Radiated Emission Configuration Photograph	11
3.3	Radiated Emission Data	11
3.4	Conducted Emission at Mains Terminal	13
3.5	Conducted Emission Configuration Photograph	13
3.6	Conducted Emission Data	13
4.0	Equipment Photographs	17
5.0	Product Labelling	19
6.0	Technical Specifications	21
7.0	Instruction Manual	23
8.0	Miscellaneous Information	25
8.1	Emissions Test Procedures	25
9.0	Confidentiality Request	28
10.0	Test Equipment List	30

INTERTEK TESTING SERVICES

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 Photos	external photos.pdf
Internal Photo	Internal Photos	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	Confidential Letter	request.pdf
Cover Letter	Letter of Agency	agency.pdf

INTERTEK TESTING SERVICES

EXHIBIT 1

GENERAL DESCRIPTION

INTERTEK TESTING SERVICES

1.0 **General Description**

1.1 Product Description

The Equipment Under Test (EUT) is a UMTS Mobile Phone, Model: HUAWEI Y625-U43, Y625-U43. The personal computers can through this UMTS Mobile Phone to read and write data. For more detailed features description, please refer to the user's manual.

The Model: Y625-U43 is the same as the Model: HUAWEI Y625-U43 in hardware aspect. The models are difference in packaging and marketing purpose only.

1.2 Related Submittal(s) Grants

This is an application for certification of a computer peripheral.

Remaining portions are subject to the following procedures:

1. Bluetooth BT 3.0(2.4G band): 141112043SZN-001
2. Bluetooth LE 4.0(2.4G band): 141112043SZN-002
3. WiFi Transceiver (2.4G band): 141112043SZN-003
4. UMTS Mobile Phone (2G&3G): 141112043SZN-004
5. Other function: 141112043SZN-006

INTERTEK TESTING SERVICES

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 Testing 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).

INTERTEK TESTING SERVICES

EXHIBIT 2

SYSTEM TEST CONFIGURATION

INTERTEK TESTING SERVICES

2.0 **System Test Configuration**

2.1 Justification

The system was configured for testing in a typical fashion (as a customer would normally use it), and in the confines as outlined in ANSI C63.4 (2009).

The device was powered by PC USB Port (PC Adapter is powered by AC 120V/60Hz) during the test. The worst case data was reported in this report.

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 testing 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 6.5GHz (The highest frequency of the internal sources of the EUT is 1.3GHz, the measurement shall be made up to 6.5GHz) 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

N/A

2.3 Special Accessories

Shielded USB cable is attached.

2.4 Equipment Modification

Any modifications installed previous to testing by Huawei Technologies Co., Ltd will be incorporated in each production model sold / leased in the United States.

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

INTERTEK TESTING SERVICES

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.
Earphone (Black)	Goertek	HA1-3
	Quancheng	1293#+3283# 3.5MM-150
	Lianchuang	MEMD1532B528000
USB Cable	HongLin	Data Cable USB A Male to Micro USB, shielded, 100cm
	KangRui	
	LianSheng	
	PengYi	
Battery	BYD	HB474284RBC (2000mAh)
	UQC	
Laptop	Lenovo	X1
Hard Disk	Smart.drive	HD-003
USB Cable	Smart.drive	Unshielded, Length 155cm
1394 Cable	Smart.drive	Unshielded, Length 180cm

INTERTEK TESTING SERVICES

EXHIBIT 3

EMISSION RESULTS

INTERTEK TESTING SERVICES

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.

INTERTEK TESTING SERVICES

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.

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

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/m

AG = Amplifier Gain 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:

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

INTERTEK TESTING SERVICES

3.1 Field Strength Calculation (cont'd)

Example

Assume a receiver reading of 62.0dB μ V is obtained. The antenna factor of 7.4dB/m and cable factor of 1.6dB is added. The amplifier gain of 29dB is subtracted. 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.

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

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

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

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

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

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

INTERTEK TESTING SERVICES

3.2 Radiated Emission Configuration Photograph

Worst Case Radiated Emission
At
1991.260MHz

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 7.7dB margin

TEST PERSONNEL:

Sign on file

Hardy Suo, Assistant Engineer
Typed/Printed Name

November 28, 2014
Date

INTERTEK TESTING SERVICES

Applicant: Huawei Technologies Co., Ltd
Model: HUAWEI Y625-U43
Worst case operating Mode: Data transfer

Table 1

Radiated Emissions (30MHz~6.5GHz)

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	165.800	24.9	20.0	10.7	15.6	43.5	-27.9
Horizontal	297.235	30.2	20.0	15.2	25.4	46.0	-20.6
Horizontal	939.860	25.2	20.0	26.5	31.7	46.0	-14.3
Vertical	47.945	27.4	20.0	10.6	18.0	40.0	-22.0
Vertical	78.015	32.0	20.0	8.5	20.5	40.0	-19.5
Vertical	905.910	25.3	20.0	26.4	31.7	46.0	-14.3
Vertical	1991.260	39.9	20.0	26.4	46.3	54.0	-7.7

NOTES:

1. Quasi-Peak detector is used for frequency up to 1GHz and Peak detector is used for frequency from 1-6.5GHz.
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 and all emissions between 1-6.5GHz are below the AV limit.

INTERTEK TESTING SERVICES

3.4 Conducted Emission at Mains Terminal

3.5 Conducted Emission Configuration Photograph

Worst Case Conducted Configuration
at
0.382 MHz

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

3.6 Conducted Emission Data

Judgement: Passed by 10.5 dB margin

TEST PERSONNEL:

Sign on file

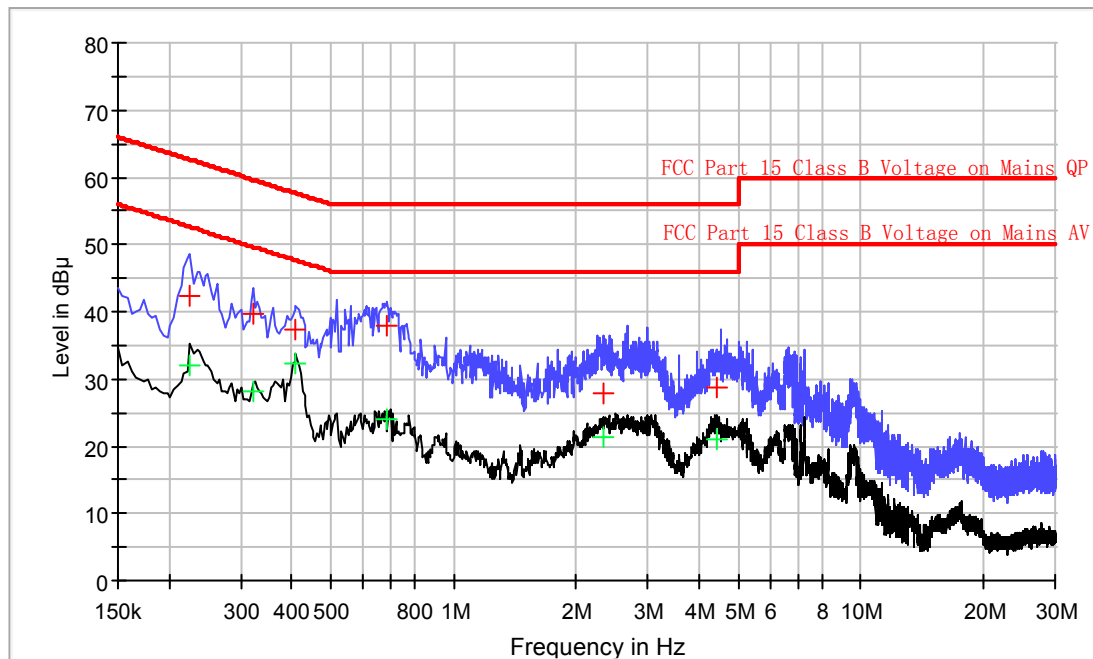
Hardy Suo, Assistant Engineer
Typed/Printed Name

November 28, 2014
Date

INTERTEK TESTING SERVICES

Applicant: Huawei Technologies Co., Ltd
Model: HUAWEI Y625-U43
Worst case operating Mode: Data transfer
Phase: Live

Conducted Emission Test - FCC



Result Table QP

Frequency (MHz)	QuasiPeak (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.226	42.4	L1	9.8	20.2	62.6
0.322	39.8	L1	9.8	19.9	59.7
0.410	37.2	L1	9.8	20.4	57.6
0.686	37.9	L1	10.0	18.1	56.0
2.330	28.0	L1	9.9	28.0	56.0
4.414	28.7	L1	10.0	27.3	56.0

Result Table AV

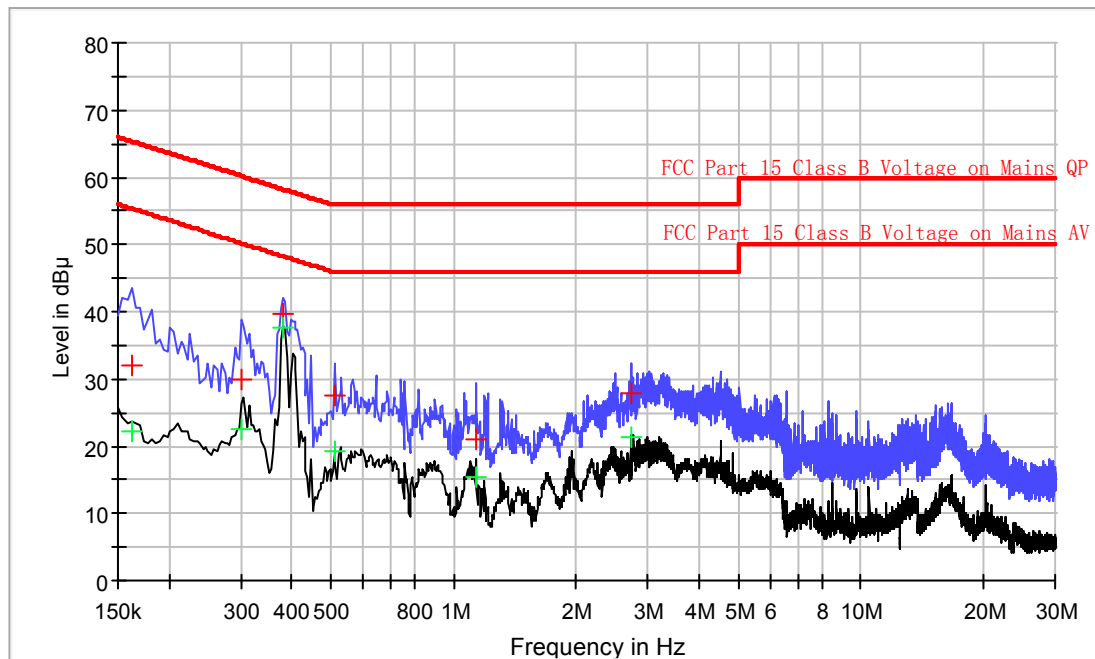
Frequency (MHz)	Average (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.226	32.0	L1	9.8	20.6	52.6
0.322	28.1	L1	9.8	21.6	49.7
0.410	32.4	L1	9.8	15.2	47.6
0.686	24.0	L1	10.0	22.0	46.0
2.330	21.3	L1	9.9	24.7	46.0
4.414	20.9	L1	10.0	25.1	46.0

TRF No.: FCC 15C_PC_b
FCC ID: QISY625-U43
Report No.: 141112043SZN-005

INTERTEK TESTING SERVICES

Applicant: Huawei Technologies Co., Ltd
Model: HUAWEI Y625-U43
Worst case operating Mode: Data transfer
Phase: Neutral

Conducted Emission Test - FCC



Result Table QP

Frequency (MHz)	QuasiPeak (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.162	32.1	N	10.0	33.3	65.4
0.302	29.8	N	10.1	30.4	60.2
0.382	39.6	N	10.1	18.6	58.2
0.510	27.6	N	10.1	28.4	56.0
1.134	21.0	N	10.2	35.0	56.0
2.722	27.9	N	10.3	28.1	56.0

Result Table AV

Frequency (MHz)	Average (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.162	22.2	N	10.0	33.2	55.4
0.302	22.4	N	10.1	27.8	50.2
0.382	37.7	N	10.1	10.5	48.2
0.510	19.3	N	10.1	26.7	46.0
1.134	15.4	N	10.2	30.6	46.0
2.722	21.4	N	10.3	24.6	46.0

INTERTEK TESTING SERVICES

EXHIBIT 4

EQUIPMENT PHOTOGRAPHS

INTERTEK TESTING SERVICES

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

INTERTEK TESTING SERVICES

5.0 **Product Labelling**

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

INTERTEK TESTING SERVICES

EXHIBIT 6

TECHNICAL SPECIFICATIONS

INTERTEK TESTING SERVICES

6.0 Technical Specifications

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

INTERTEK TESTING SERVICES

EXHIBIT 7

INSTRUCTION MANUAL

INTERTEK TESTING SERVICES

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.

INTERTEK TESTING SERVICES

EXHIBIT 8

MISCELLANEOUS INFORMATION

INTERTEK TESTING SERVICES

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 Testing 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 peripheral 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 testing 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 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 6.5GHz. For line-conducted emissions, the range scanned is 150kHz to 30MHz.

INTERTEK TESTING SERVICES

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.

INTERTEK TESTING SERVICES

EXHIBIT 9

CONFIDENTIALITY REQUEST

INTERTEK TESTING SERVICES

9.0 **Confidentiality Request**

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

INTERTEK TESTING SERVICES

EXHIBIT 10

TEST EQUIPMENT LIST

INTERTEK TESTING SERVICES

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-2014	28-Jun-2015
SZ185-01	EMI Receiver	R&S	ESCI	100547	10-Mar-2014	10-Mar-2015
SZ061-09	Horn Antenna	ETS	3115	00092346	1-Nov-2014	1-Nov-2015
EM031-03	EXA Spectrum Analyzer	R&S	FSV40	101506	09-Jun-2014	09-Jun-2015
SZ181-04	Preamplifier	Agilent	8449B	3008A02474	10-Mar-2014	10-Mar-2015
SZ188-01	Anechoic Chamber	ETS	RFD-F/A-100	4102	19-Apr-2014	19-Apr-2015
SZ062-02	RF Cable	RADIALL	RG 213U	--	03-Jul-2014	03-Jan-2015
SZ062-05	RF Cable	RADIALL	0.04-26.5GHz	--	03-Jul-2014	03-Jan-2015
SZ062-12	RF Cable	RADIALL	0.04-26.5GHz	--	03-Jul-2014	03-Jan-2015
SZ067-04	Notch Filter	Micro-Tronics	BRM5070 2-02	--	21-May-2014	21-May-2015
SZ185-02	EMI Test Receiver	R&S	ESCI	100692	9-Nov-2014	9-Nov-2015
SZ187-01	Two-Line V-Network	R&S	ENV216	100072	9-Nov-2014	9-Nov-2015
SZ187-02	Two-Line V-Network	R&S	ENV216	100073	16-Jun-2014	16-Jun-2015
SZ188-03	Shielding Room	ETS	RFD-100	4100	22-Aug-2014	22-Aug-2015