Prüfbericht-Nr.: *Test report no.:*	**60416855 001**	**Auftrags-Nr.:** *Order no.*:	**168273347**	Seite 1 von 16 *Page 1 of 16*
Kunden-Referenz-Nr.: *Client reference no.:*	**N/A**	**Auftragsdatum:** *Order date:*	2020-07-13	
Auftraggeber: *Client:*	Genrui Biotech Inc. 4-10F, Building 3, Geya Technology Park, Guangming District, 518106, Shenzhen, China			
Prüfgegenstand: *Test item:*	Auto Hematology Analyzer			
Bezeichnung / Typ-Nr.: *Identification / Type no.:*	KT-6610, KT-6600, KT-6500, KT-6510, VH50 (Trademark: Genrui)			
Auftrags-Inhalt: *Order content*:	FCC approval			
Prüfgrundlage: *Test specification:*	CFR47 FCC Part 15: Subpart C Section 15.225 CFR47 FCC Part 15: Subpart B Section 15.107 CFR47 FCC Part 15: Subpart B Section 15.109			

Wareneingangsdatum: *Date of sample receipt:*	2020-09-03	Please refer to photo documents
Prüfmuster-Nr.: *Test sample no:*	A002901903-001, 002	
Prüfzeitraum: *Testing period:*	2020-09-04 – 2020-11-16	
Ort der Prüfung: *Place of testing:*	TÜV Rheinland (Shenzhen) Co., Ltd.	
Prüflaboratorium: *Testing laboratory:*	TÜV Rheinland (Shenzhen) Co., Ltd.	
Prüfergebnis*: *Test result*:*	Pass	

geprüft von: *tested by:*	X Chris Chen Signed by: Chris Chen	**genehmigt von:** *authorized by:*	X Lin Lin Signed by: Lin Lin
Datum: *Date:* 2021-07-19		**Ausstellungsdatum:** *Issue date:* 2021-07-19	
Stellung / *Position:*	Senior Project Manager	**Stellung** / *Position:*	Reviewer
Sonstiges / *Other:*	*FCC ID:2AZC7KT0301*		

Zustand des Prüfgegenstandes bei Anlieferung: *Condition of the test item at delivery:*	Prüfmuster vollständig und unbeschädigt *Test item complete and undamaged*

* Legende:	1 = sehr gut	2 = gut	3 = befriedigend	4 = ausreichend	5 = mangelhaft
	P(ass) = entspricht o.g. Prüfgrundlage(n)		F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
** Legend:*	*1 = very good*	*2 = good*	*3 = satisfactory*	*4 = sufficient*	*5 = poor*
	P(ass) = passed a.m. test specification(s)		*F(ail) = failed a.m. test specification(s)*	*N/A = not applicable*	*N/T = not tested*

Test Summary

5.1.1 ANTENNA REQUIREMENT
RESULT: Pass

5.1.2 20DB BANDWIDTH
RESULT: Pass

5.1.3 FREQUENCY TOLERANCE
RESULT: Pass

5.1.4 RADIATED SPURIOUS EMISSION
RESULT: Pass

5.1.5 CONDUCTED EMISSIONS
RESULT: Pass

5.1.6 RADIATED EMISSIONS
RESULT: Pass

Contents

1 General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A: Photographs of the Test Set-up

Appendix B: Test results.

2 Test Sites

2.1 Test Facilities

TÜV Rheinland (Shenzhen) Co., Ltd.
362 Huanguan Road Middle Longhua District, Shenzhen 518110 People's Republic of China

FCC Registration No.: 694916

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Unwanted Emission Testing (TS9975)				
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Until**
EMI Test Receiver	R&S	ESR 7	102021	2021-08-11
System Controller Interface	R&S	SCI-100	S10010038	N/A
OSP	R&S	OSP 120	102040	N/A
Pre-amplifier	R&S	SCU08F1	08320031	2021-08-10
Trilog Broadband Antenna (30 MHz - 7 GHz)	Schwarzbeck	VULB 9162	193	2022-08-08
Active Loop Antenna	Schwarzbeck	FMZB 1513	302	2020-09-30
Test software	R&S	EMC32 (V10.60.10)	N/A	N/A
Control PC	Dell	OptiPlex 7050	36NV9P2	N/A
3m Semi-Anechoic Chamber	Albatross	SAC-3m	APC17151-SAC	2021-07-06
Conducted Emission				
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Until**
EMI Test Receiver	R&S	ESR3	102428	2021-08-16
Artificial Mains Network	R&S	ENV216	102333	2021-08-16
EMC32 test software	R&S	EMC32(Ver.10.30. 01)	N/A	N/A
Radiated Emission				
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Until**
3m SAC	ETS	SAC3	CT001632-Q1362	2021-08-23
EMI Test Receiver	R&S	ESR7	102111	2021-01-02
Horn Antenna	R&S	HF907	102706	2022-08-07
Preamplifier	FIT	SCU-18F	180077	2021-08-16
Trilog-Broadband antenna	SCHWARZBECK	VULB9168	0945	2020-12-08
EMC32 test software	R&S	EMC32(Ver.10.50. 01)	N/A	N/A

2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basics using in house standards or comparisons.

2.5 Measurement Uncertainty

Parameter	Uncertainty
Radio Frequency	±1 x 10-7
Conducted Emission, (9kHz to 150kHz)/(150kHz to 30MHz)	± 3.70 dB / ± 3.30 dB
Radiated Emission (3m SAC), 30MHz to 1000MHz	± 4.52 dB
Radiated Emission (3m SAC), above 1000MHz	± 4.37 dB
Temperature	±1 °C
Humidity	±5 %
Voltage (DC)	±1 %
Voltage (AC, <10kHz)	±2 %

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix A & B of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) Co., Ltd. file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The TÜV Rheinland (Shenzhen) Co., Ltd. Test facility located at 362 Huanguan Road Middle Longhua District, Shenzhen 518110 People's Republic of China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3 General Product Information

3.1 Product Function and Intended Use

The EUT is a Auto Hematology Analyzer, which supports NFC function.

According to the declaration of the applicant, the electrical circuit design and PCB layout are identical, only the model no., colour and some parameters described are different for market strategy.

For details refer to the User Manual, Technical Description and Circuit Diagram.

3.2 Ratings and System Details

Table 2: Technical Specification of EUT

General Information of EUT	Value
Kind of Equipment	Auto Hematology Analyzer
Type Designation	KT-6610, KT-6600, KT-6500, KT-6510, VH50
FCC ID	2AZC7KT0301
Operating Voltage	AC 100-240V, 50/60Hz
Testing Voltage	AC 120V/60Hz
Technical Specification of RFID	
Operating Frequency	13.56 MHz
Type of Modulation	ASK
Channel Number	1 channel
Antenna Type	PCB Layout antenna
Antenna Gain	0 dBi

3.3 Independent Operation Modes

The basic operation modes are:

A. On, NFC wireless transmitting mode
B. On, NFC operation mode
C. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

- Application Form

4 Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

Radio Spectrum: The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All tests were performed according to the procedures in ANSI C63.10: 2013 & ANSI C63.4: 2014.

According to clause 3.1, all tests were performed on model *KT-6610* in this report.

4.3 Special Accessories and Auxiliary Equipment

N/A

4.4 Countermeasures to Achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF).

No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

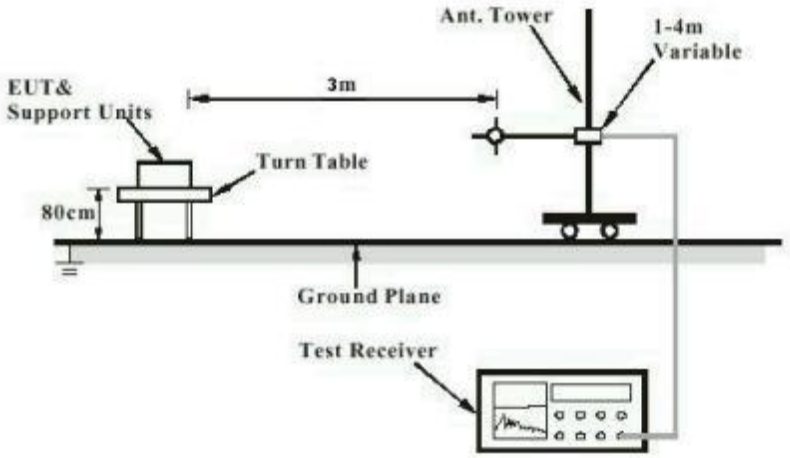


Diagram of Measurement Configuration for Conducted Transmitter Measurement

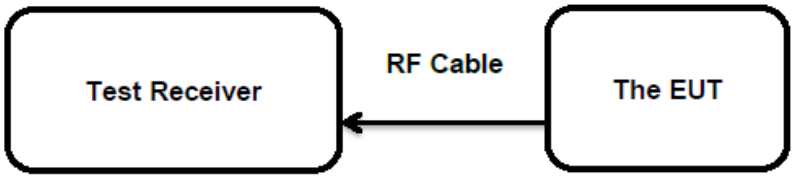
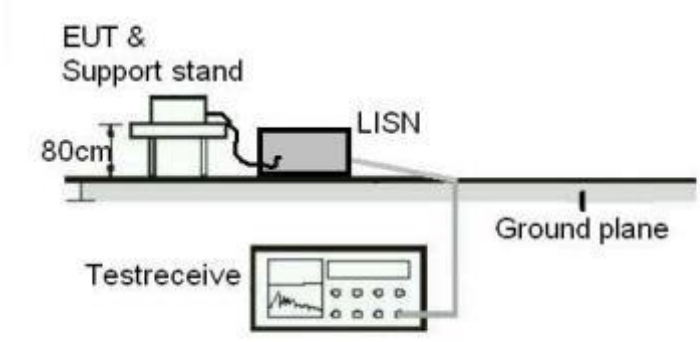


Diagram of Measurement Equipment Configuration for Mains Conduction Measurement



5 Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT: **Pass**

Test Specification
Test standard : FCC Part 15.203

According to the manufacturer declared, the EUT has an air coil antenna, the directional gain of antenna of RFID is 0 dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT Photo for further details.

5.1.2 20dB Bandwidth

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.215 (c)
Basic standard	:	ANSI C63.10: 2013
Limits	:	N/A
Kind of test site	:	Shielded Room

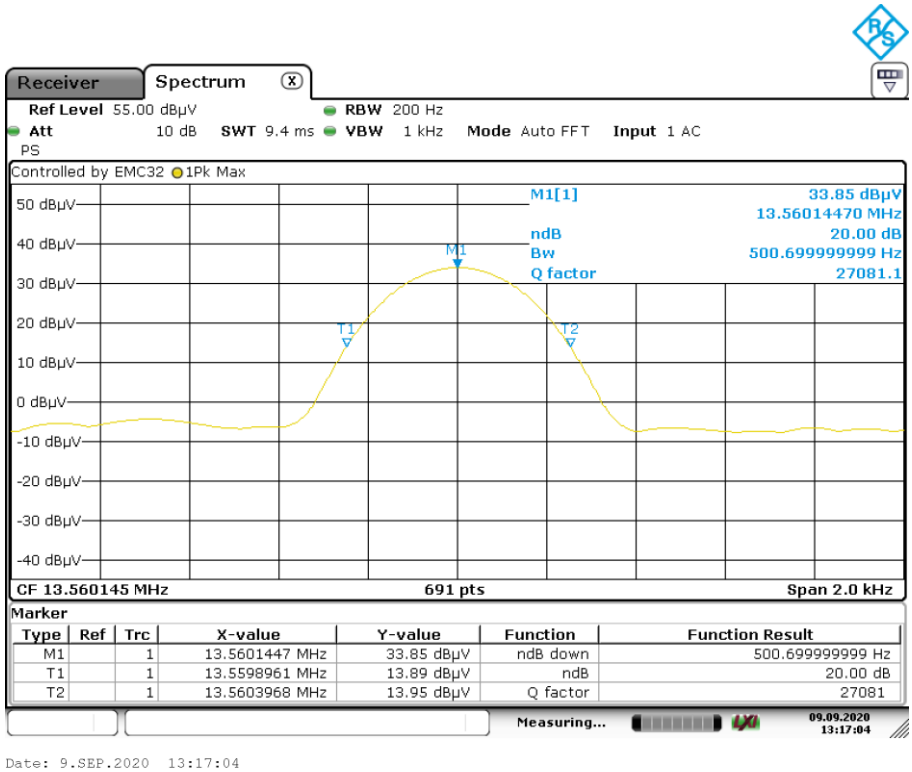
Test Setup

Date of testing	:	2020-09-09
Input voltage	:	AC 120V/60Hz
Operation mode	:	A
Ambient temperature	:	25 °C
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

For details refer to following test result.

Table 3: Test Result of 20dB Bandwidth

Test Frequency (MHz)	20dB Bandwidth (KHz)	F_L (MHz)	F_H (MHz)	Limit (MHz)	Result
13.56	3.25	13.559	13.560	13.553-13.567	Pass



5.1.3 Frequency Tolerance

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.225 (e)
Basic standard	:	ANSI C63.10: 2013
Limits	:	1.356 KHz
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2020-09-09
Input voltage	:	AC 120V/60Hz
Operation mode	:	A
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

For details refer to following test result.

Table 4: Test Result of Frequency Tolerance

Test Frequency (MHz)	Test Conditions		Test Results (KHz)	Deviation (KHz)	Limit (KHz)	Result
	Temp(°C)	Volt(V AC)				
13.56	-20	120	13561.094	0.094	±0.01% (1.356 KHz)	Pass
	-10	120	13561.099	0.099		Pass
	0	120	13561.112	0.112		Pass
	10	120	13561.104	0.104		Pass
	20	120	13561.157	0.157		Pass
	30	120	13561.129	0.129		Pass
	40	120	13561.221	0.221		Pass
	50	120	13561.264	0.264		Pass
	20	102	13561.298	0.298		Pass
		138	13561.271	0.271		Pass
Note: Deviation (kHz) = (Test Result-13.56MHz)*1000						

5.1.4 Radiated Spurious Emission

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.209 & 15.205
Basic standard	:	ANSI C63.10: 2013
Limits	:	Refer to 15.209(a)
Kind of test site	:	3m Semi-anechoic Chamber

Test Setup

Date of testing	:	2020-09-09 ~ 2020-09-10
Input voltage	:	AC 120V/60Hz
Operation mode	:	A
Ambient temperature	:	24 ℃
Relative humidity	:	47 %
Atmospheric pressure	:	101 kPa

For the measurement records, refer to the appendix B.

5.1.5 Conducted emissions

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.201
Basic standard	:	ANSI C63.4:2014
Frequency range	:	150KHz - 30MHz
Classification	:	Class B
Limit		FCC Part 15.207 (a)
Kind of test site	:	3m Semi-anechoic Chamber

Test Setup

Date of testing	:	2020-09-28
Input voltage	:	AC 120V/60Hz
Operation mode	:	A
Earthing	:	Not connected
Ambient temperature	:	23 ℃
Relative humidity	:	48 %
Atmospheric pressure	:	101 kPa

For the measurement records, refer to the appendix B.

5.1.6 Radiated emissions

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.201
Basic standard	:	ANSI C63.4:2014
Frequency range	:	30MHz – 1GHz
Classification	:	Class B
Limit		FCC Part 15.209 (a)
Kind of test site	:	3m Semi-anechoic Chamber

Test Setup

Date of testing	:	2020-10-23 ~ 2020-10-24
Input voltage	:	AC 120V/60Hz
Operation mode	:	A
Earthing	:	Not connected
Ambient temperature	:	23 ℃
Relative humidity	:	48 %
Atmospheric pressure	:	101 kPa

For the measurement records, refer to the appendix B.

6 List of Tables