



# RF TEST REPORT

**Applicant** ZTE Corporation  
**FCC ID** SRQ-K5161Z  
**Product** Vodafone K5161z  
**Model** K5161z  
**Report No.** R2012A0853-R2  
**Issue Date** January 27, 2021

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 2 (2019)/ FCC CFR 47 Part 24E (2019)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Prepared by: Peng Tao

Approved by: Kai Xu

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## Summary of measurement results

No.	Test Case	Clause in FCC rules	Verdict
1	RF Power Output and Effective Isotropic Radiated Power	2.1046 24.232(c)	PASS
2	Occupied Bandwidth	2.1049	PASS
3	Band Edge Compliance	2.1051 /24.238(a)	PASS
4	Peak-to-Average Power Ratio	24.232/KDB 971168 D01(5.7)	PASS
5	Frequency Stability	2.1055 / 24.235	PASS
6	Spurious Emissions at Antenna Terminals	2.1051 / 24.238(a)	PASS
7	Radiates Spurious Emission	2.1053 / 24.238(a)	PASS

Date of Testing: December 8, 2020 and January 21, 2021  
Date of Sample Received: December 7, 2020

Note: PASS: The EUT complies with the essential requirements in the standard.  
FAIL: The EUT does not comply with the essential requirements in the standard.

All indications of Pass/Fail in this report are opinions expressed by TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.



## 1. Test Laboratory

### 1.1. Notes of the test report

This report shall not be reproduced in full or partial, without the written approval of **TA technology (shanghai) co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

### 1.2. Test facility

#### **FCC (Designation number: CN1179, Test Firm Registration Number: 446626)**

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform measurements.

#### **A2LA (Certificate Number: 3857.01)**

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform measurement.

### 1.3. Testing Location

Company: TA Technology (Shanghai) Co., Ltd.  
Address: No.145, Jintang Rd, Tangzhen Industry Park, Pudong  
City: Shanghai  
Post code: 201201  
Country: P. R. China  
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Website: <http://www.ta-shanghai.com>  
E-mail: [xukai@ta-shanghai.com](mailto:xukai@ta-shanghai.com)

## 2. General Description of Equipment under Test

### 2.3. Applicant and Manufacturer Information

Applicant	ZTE Corporation
Applicant address	ZTE Plaza, Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R. China
Manufacturer	ZTE Corporation
Manufacturer address	ZTE Plaza, Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R. China

### 2.4. General information

EUT Description			
Model	K5161z		
IMEI	351825110001414		
Hardware Version	dveB		
Software Version	BD_K5161zV1.0		
Power Supply	External power supply		
Antenna Type	Internal Antenna		
Antenna Gain	0.8dBi		
Test Mode(s)	GSM1900;		
Test Modulation	(GPRS)GMSK, (EGPRS) GMSK/ 8PSK;		
GPRS Multislot Class	12		
EGPRS Multislot Class	12		
Maximum E.I.R.P	GSM 1900:	30.27dBm	
Rated Power Supply Voltage	5.0V		
Extreme Voltage	Minimum: 4.25V	Maximum: 5.75V	
Extreme Temperature	Lowest: -30°C	Highest: +50°C	
Operating Voltage	Minimum: 4.8V	Maximum: 5.2V	
Operating Temperature	Lowest: -10°C	Highest: +55°C	
Operating Frequency Range(s)	Band	Tx (MHz)	Rx (MHz)
	GSM1900	1850 ~ 1910	1930 ~ 1990
Note: 1. The EUT is sent from the applicant to TA and the information of the EUT is declared by the applicant.			

### 3. Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**Test standards:**

**FCC CFR 47 Part 24E (2019)**

**ANSI C63.26 (2015)**

**Reference standard:**

**FCC CFR47 Part 2 (2019)**

**KDB 971168 D01 Power Meas License Digital Systems v03r01**

## 4. Test Configuration

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes. EUT stand-up position (Z axis), lie-down position (X, Y axis). Receiver antenna polarization (horizontal and vertical), the worst emission was found in position (X axis, horizontal polarization) and the worst case was recorded.

All mode and data rates and positions and RB size and modulations were investigated.

Subsequently, only the worst case emissions are reported.

The following testing in GSM is set based on the maximum RF Output Power.

Test modes are chosen to be reported as the worst case configuration below:

Test items	Modes/Modulation
	GSM 1900
RF Power Output and Effective Isotropic Radiated Power	GPRS EGPRS
Occupied Bandwidth	GPRS(1Tx slot) EGPRS(1Tx slot)
Band Edge Compliance	GPRS(1Tx slot) EGPRS(1Tx slot)
Peak-to-Average Power Ratio	GPRS(1Tx slot) EGPRS(1Tx slot)
Frequency Stability	GPRS(1Tx slot) EGPRS(1Tx slot)
Spurious Emissions at Antenna Terminals	GPRS(1Tx slot) EGPRS(1Tx slot)
Radiates Spurious Emission	GPRS(1Tx slot) EGPRS(1Tx slot)

## 5. Test Case Results

### 5.1.RF Power Output and Effective Isotropic Radiated Power

#### Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

#### Methods of Measurement

During the process of the testing, The EUT was connected to the Base Station Simulator with a known loss. The EUT is controlled by the Base Station Simulator test set to ensure max power transmission with proper modulation.

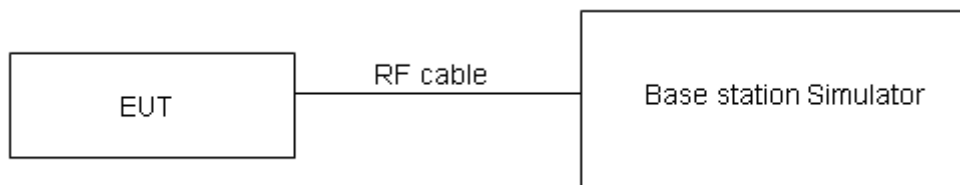
ERP can then be calculated as follows:

$$\text{EIRP (dBm)} = \text{Output Power (dBm)} - \text{Losses (dB)} + \text{Antenna Gain (dBi)}$$

where:dBd refers to gain relative to an ideal dipole.

$$\text{EIRP (dBm)} = \text{ERP (dBm)} + 2.15 \text{ (dB.)}$$

#### Test Setup



#### Limits

No specific RF power output requirements in part 2.1046.

Rule Part 24.232(c) Mobile and portable stations are limited to 2 watts EIRP.

Rule Part 24.232(e) Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage.

Limit	$\leq 2 \text{ W}$ (33 dBm)
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#### Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor  $k = 2$ ,  $U = 0.4 \text{ dB}$  for RF power output,  $k = 2$ ,  $U = 1.19 \text{ dB}$  for EIRP.



**Test Results**

GSM 1900		Maximum Output Power (dBm)			EIRP (dBm)		
		Channel 512	Channel 661	Channel 810	Channel 512	Channel 661	Channel 810
		1850.2 (MHz)	1880 (MHz)	1909.8 (MHz)	1850.2 (MHz)	1880 (MHz)	1909.8 (MHz)
GPRS (GMSK)	1TXslot	29.01	29.47	29.41	29.81	30.27	30.21
	2TXslots	25.62	26.06	26.10	26.42	26.86	26.90
	3TXslots	25.28	25.61	25.87	26.08	26.41	26.67
	4TXslots	23.29	23.60	23.66	24.09	24.40	24.46
EGPRS (8PSK)	1TXslot	24.81	24.84	24.87	25.61	25.64	25.67
	2TXslots	22.62	22.83	22.66	23.42	23.63	23.46
	3TXslots	22.38	22.58	22.41	23.18	23.38	23.21
	4TXslots	20.12	20.33	20.16	20.92	21.13	20.96

## 5.2.Occupied Bandwidth

### Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

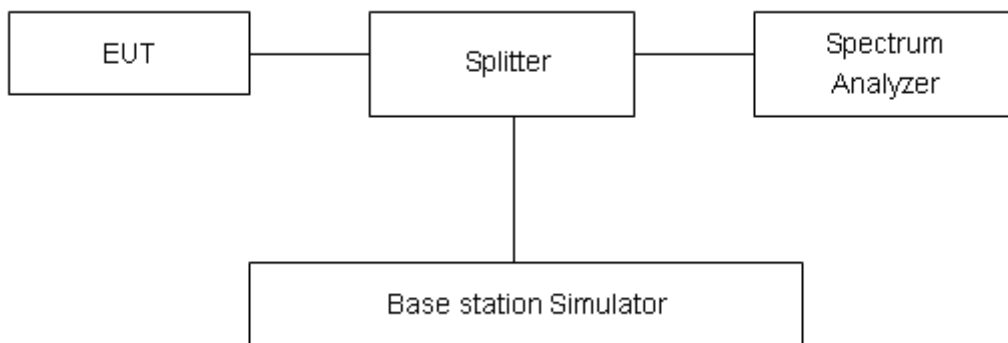
### Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The occupied bandwidth is measured using spectrum analyzer.

RBW is set to 6.2kHz, VBW is set to 18kHz for GSM 1900,

99% power and -26dBc occupied bandwidths are recorded. Spectrum analyzer plots are included on the following pages.

### Test Setup



### Limits

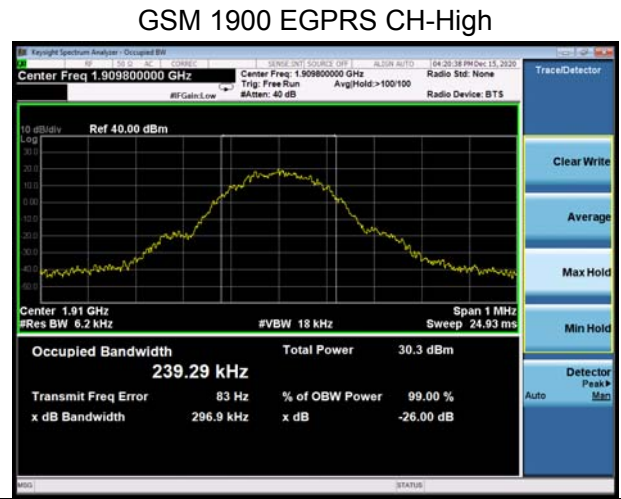
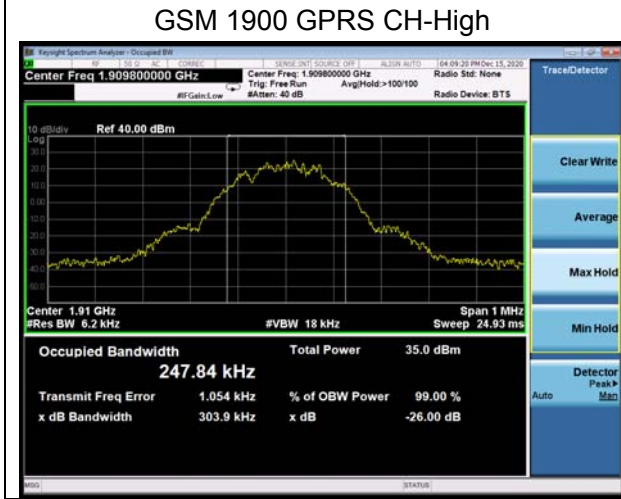
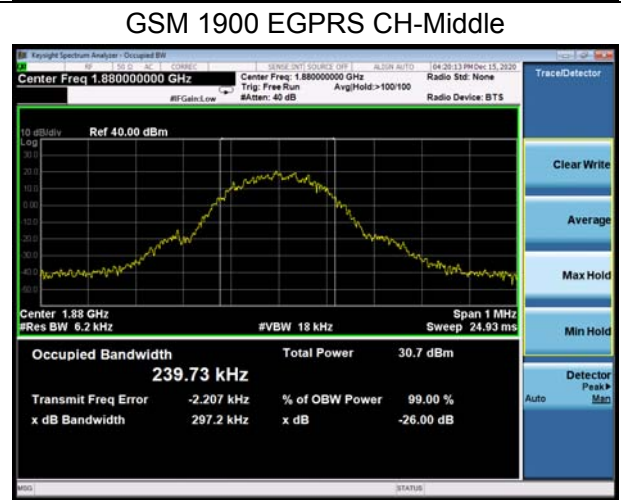
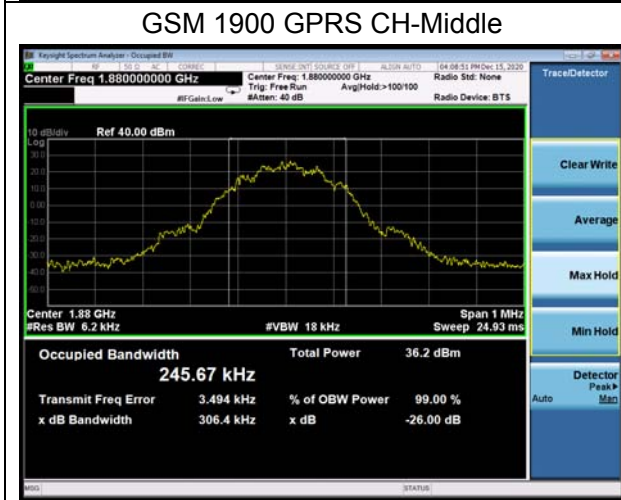
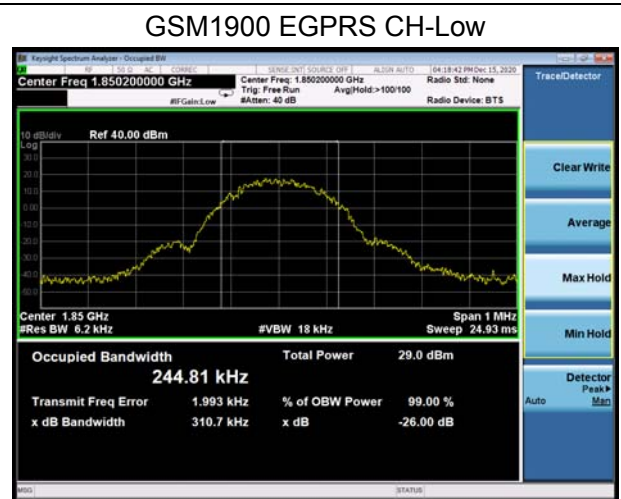
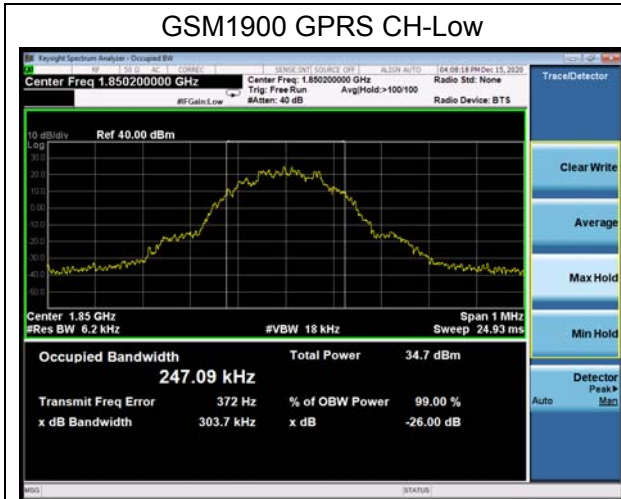
No specific occupied bandwidth requirements in part 2.1049.

### Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor  $k = 2$ ,  $U = 624\text{Hz}$ .

**Test Result**

Mode	Channel	Frequency (MHz)	99% Power Bandwidth (MHz)	-26dBc Bandwidth(MHz)
<b>GPRS 1900 (GMSK)</b>	512	1850.2	0.2471	0.3037
	661	1880.0	0.2457	0.3064
	810	1909.8	0.2478	0.3039
<b>EGPRS 1900 (8PSK)</b>	512	1850.2	0.2448	0.3107
	661	1880.0	0.2397	0.2972
	810	1909.8	0.2393	0.2969



### 5.3. Band Edge Compliance

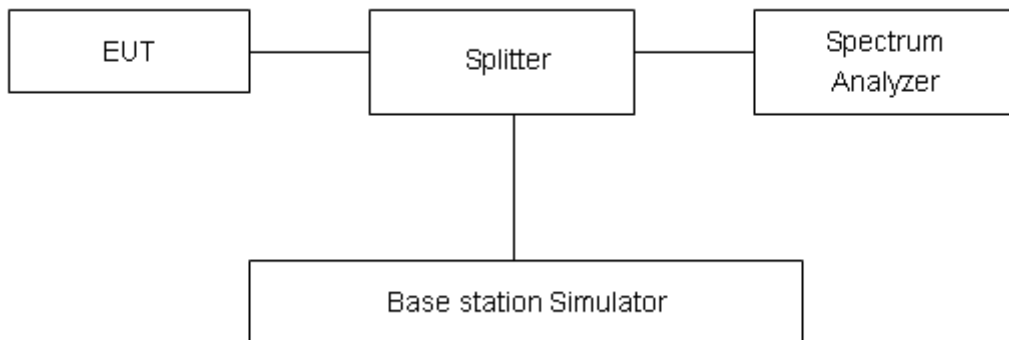
#### Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

#### Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The band edge of the lowest and highest channels were measured. The Average detector is used and RBW is set to 6.2kHz, VBW is set to 18kHz for GSM 1900, Spectrum analyzer plots are included on the following pages.

#### Test Setup



#### Limits

Rule Part 24.238(a) specifies that “on any frequency outside a licensee’s frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log<sub>10</sub> (P) dB.”

Limit	-13 dBm
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#### Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor  $k = 1.96$ ,  $U=0.684$ dB.

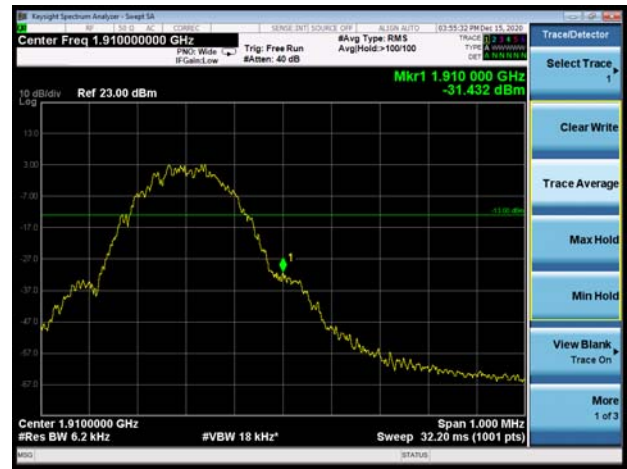


Test Result:

GSM1900 GPRS CH-Low



GSM 1900 GPRS CH-High



GSM1900 EGPRS CH-Low



GSM 1900 EGPRS CH-High



### 5.4. Peak-to-Average Power Ratio (PAPR)

**Ambient condition**

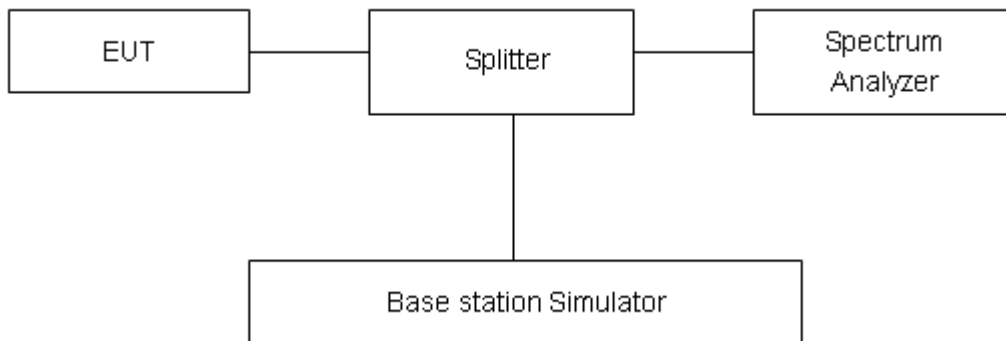
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

**Methods of Measurement**

Measure the total peak power and record as PPk. And measure the total average power and record as PAvg. Both the peak and average power levels must be expressed in the same logarithmic units (e.g., dBm). Determine the PAPR from:

$$PAPR (dB) = PPk (dBm) - PAvg (dBm).$$

**Test Setup**



**Limits**

In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB in 24.232(d).

**Measurement Uncertainty**

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor  $k = 2$ ,  $U = 0.4$  dB.

**Test Results**

Mode	Channel	Frequency (MHz)	Peak(dBm)	Avg(dBm)	PAPR(dB)	Limit(dB)	Conclusion
GPRS 1900 (GMSK)	512	1850.2	31.27	29.01	2.26	≤13	PASS
	661	1880	31.65	29.47	2.18	≤13	PASS
	810	1909.8	31.56	29.41	2.15	≤13	PASS
EGPRS 1900 (8PSK)	512	1850.2	27.44	24.81	2.63	≤13	PASS
	661	1880	27.43	24.84	2.59	≤13	PASS
	810	1909.8	27.41	24.87	2.54	≤13	PASS



## 5.5. Frequency Stability

### Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

### Method of Measurement

#### Frequency Stability (Temperature Variation)

The temperature inside the climate chamber is varied from -30°C to +50°C in 10°C step size,

(1) With all power removed, the temperature was decreased to 0°C and permitted to stabilize for three hours.

(2) Measure the carrier frequency with the test equipment in a “call mode”. These measurements should be made within 1 minute of powering up the mobile station, to prevent significant self warming.

(3) Repeat the above measurements at 10°C increments from -30°C to +50°C. Allow at least 1.5 hours at each temperature, un-powered, before making measurements.

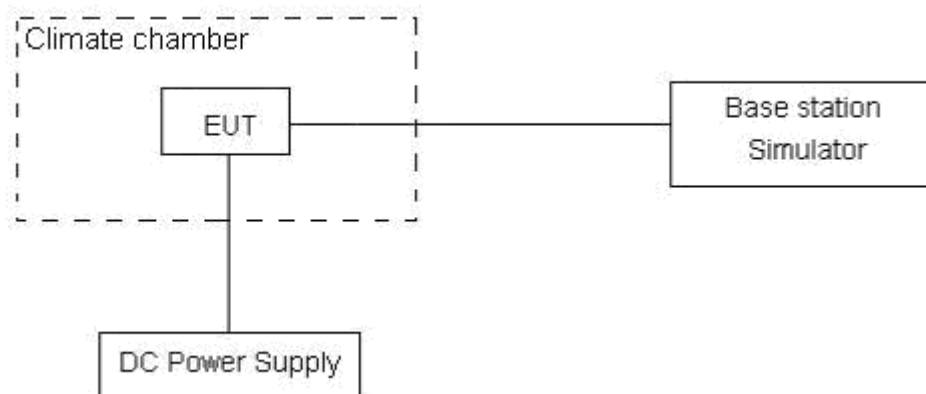
#### Frequency Stability (Voltage Variation)

The frequency stability shall be measured with variation of primary supply voltage as follows:

**Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

This transceiver is specified to operate with an input voltage of between 4.25 V and 5.75 V, with a nominal voltage of 5.0V.

### Test setup



**Limits**

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block

**Measurement Uncertainty**

The assessed measurement uncertainty to ensure 99.75% confidence level for the normal distribution is with the coverage factor  $k = 3$ ,  $U = 0.01\text{ppm}$ .

**Test Result**

GSM1900						
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
Temperature	Voltage	GMSK	8PSK	GMSK	8PSK	
Normal (25°C)	Normal	12.41	11.66	0.00660	0.00620	PASS
Extreme (50°C)		6.81	4.31	0.00362	0.00229	PASS
Extreme (40°C)		13.20	16.36	0.00702	0.00870	PASS
Extreme (30°C)		13.42	7.94	0.00714	0.00422	PASS
Extreme (20°C)		5.31	7.62	0.00282	0.00405	PASS
Extreme (10°C)		12.31	4.80	0.00655	0.00255	PASS
Extreme (0°C)		5.22	10.48	0.00277	0.00558	PASS
Extreme (-10°C)		9.43	12.33	0.00501	0.00656	PASS
Extreme (-20°C)		14.65	10.58	0.00779	0.00563	PASS
Extreme (-30°C)		11.14	15.66	0.00593	0.00833	PASS
25°C	LV	16.49	9.74	0.00877	0.00518	PASS
	HV	6.55	6.93	0.00348	0.00369	PASS

## 5.6. Spurious Emissions at Antenna Terminals

### Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

### Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The measurement is carried out using a spectrum analyzer. The spectrum analyzer scans from 9kHz to the 10th harmonic of the carrier. The peak detector is used.

RBW is set to 1 kHz (0.009MHz~ 0.15 MHz),

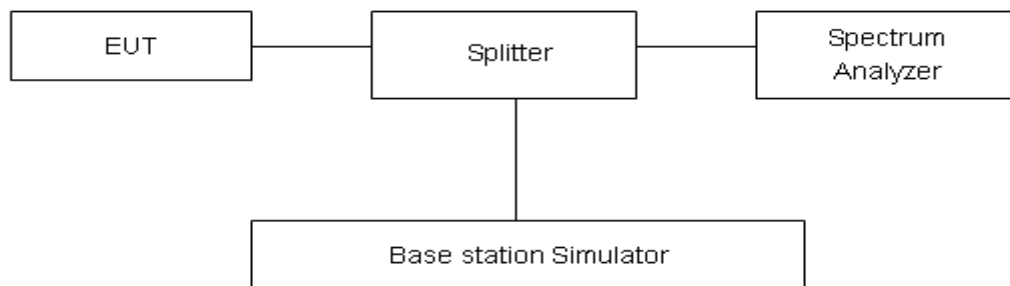
RBW is set to 10 kHz (0.15 MHz~ 30 MHz)

RBW is set to 100 kHz (30MHz~1000 MHz)

RBW is set to 1000 kHz (above 1000MHz)

Sweep is set to ATUO. The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

### Test setup



### Limits

Rule Part 24.238(a) specifies that “on any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log_{10}(P)$  dB.”

Limit	-13 dBm

### Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75% confidence level for the normal distribution is with the coverage factor  $k = 1.96$ .

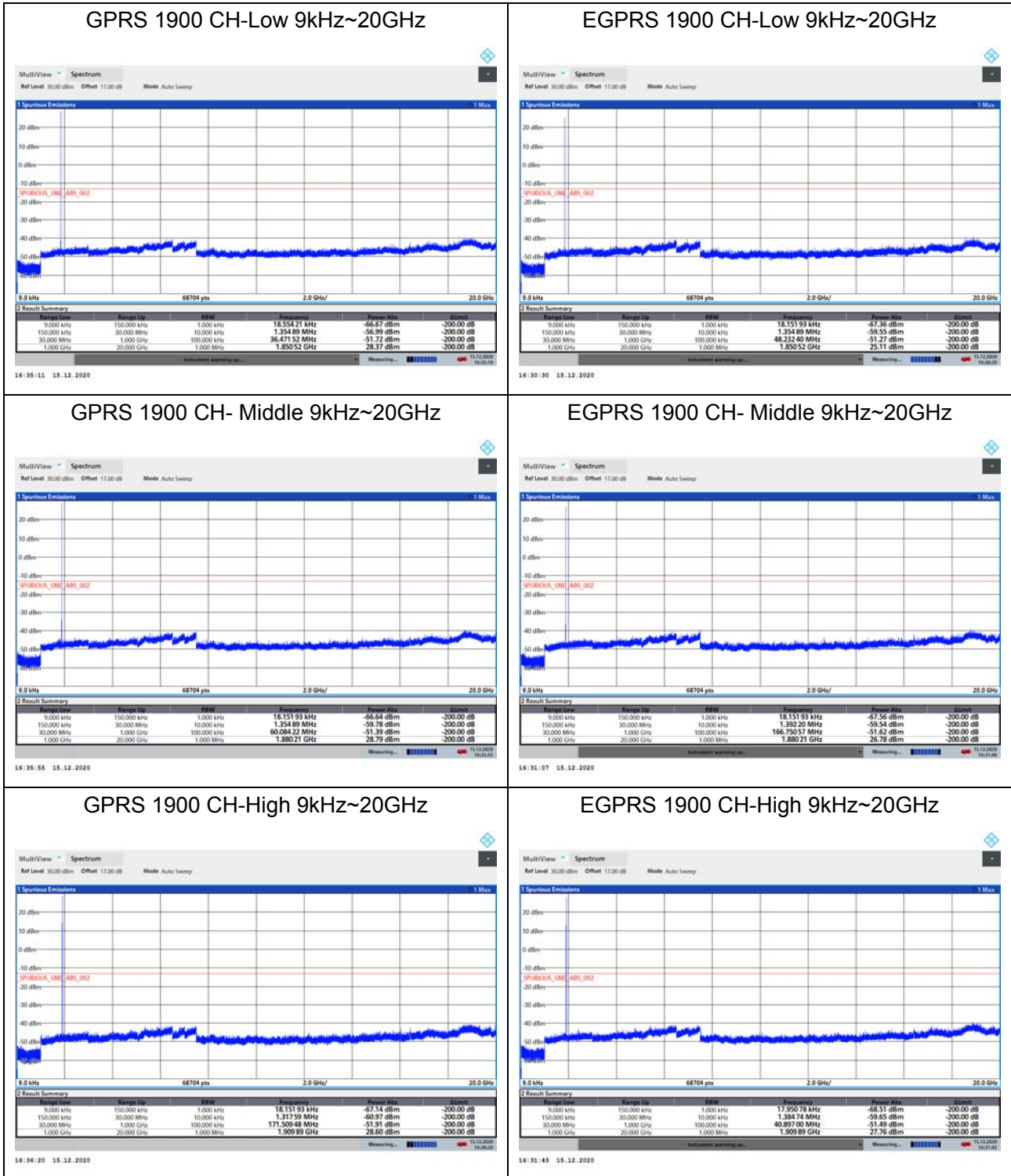
Frequency	Uncertainty
9kHz-1GHz	0.684 dB
1GHz-20GHz	1.407 dB



### Test Result

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the emissions more than 20 dB below the limit are not reported.

The signal beyond the limit is carrier.



## 5.7. Radiates Spurious Emission

### Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

### Method of Measurement

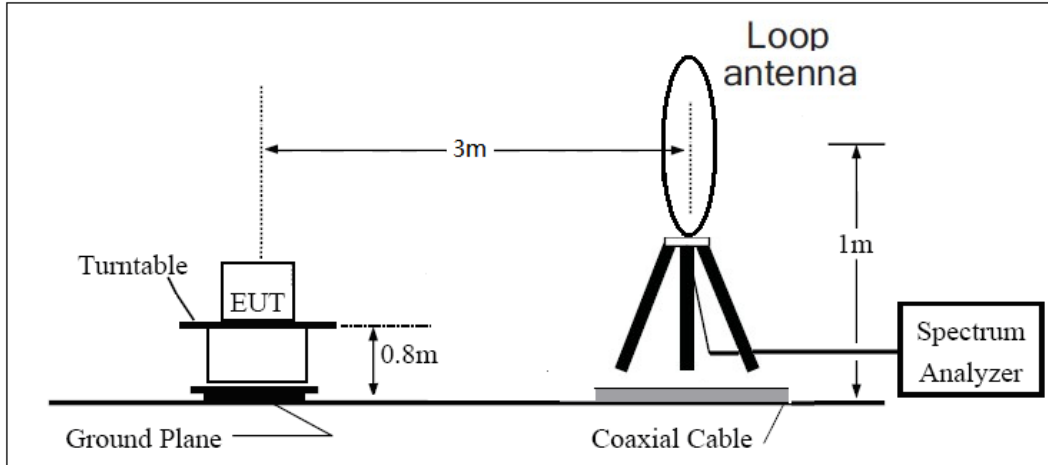
1. The testing follows FCC KDB 971168 v03r01 Section 5.8 and ANSI C63.26 (2015).
2. Below 1GHz: The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H). Above 1GHz: (Note: the FCC's permission to use 1.5m as an alternative per TCBC Conf call of Dec. 2, 2014.) The EUT is placed on a turntable 1.5 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).
3. A loop antenna, A log-periodic antenna or horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
4. The EUT is then put into continuously transmitting mode at its maximum power level during the test. Set Test Receiver or Spectrum RBW=200Hz,VBW=600Hz for 9kHz-150kHz , RBW=10kHz, VBW=30kHz 150kHz-30MHz , RBW=100kHz,VBW=300kHz for 30MHz to 1GHz and RBW=1MHz, VBW=3MHz for above 1GHz, And the maximum value of the receiver should be recorded as (Pr).
5. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
6. A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (Pcl) ,the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAg) should be recorded after test.
7. The measurement results are obtained as described below:  
$$\text{Power(EIRP)} = \text{PMea} - \text{PAg} - \text{Pcl} + \text{Ga}$$
  
The measurement results are amend as described below:  
$$\text{Power(EIRP)} = \text{PMea} - \text{Pcl} + \text{Ga}$$
8. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi)

and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole,  $ERP = EIRP - 2.15\text{dBi}$ .

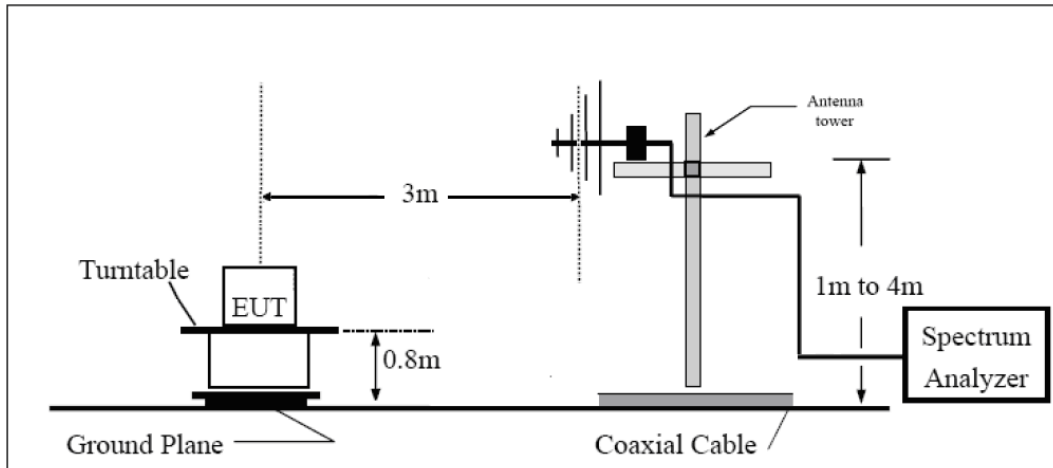
The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

**Test setup**

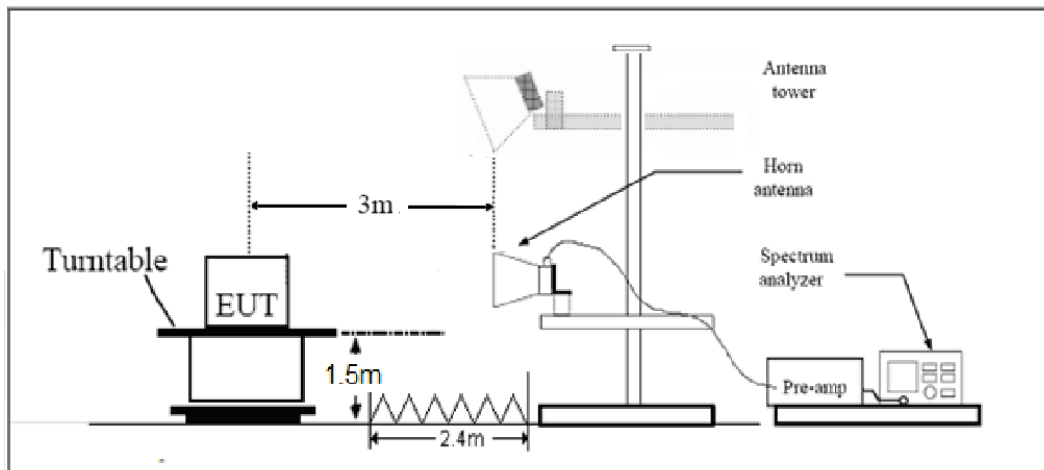
**9KHz ~ 30MHz**



**30MHz ~ 1GHz**



**Above 1GHz**





Note: Area side: 2.4mX3.6m

### Limits

Rule Part 24.238(a) specifies that “on any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log_{10}(P)$  dB.”

Limit	-13 dBm
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### Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor  $k = 1.96$ ,  $U = 3.55$  dB.



**Test Result**

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the emissions below the noise floor will not be recorded in the report.

GSM 1900 CH-Low

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3700.4	-50.89	5.10	11.05	Horizontal	-44.94	-13.00	31.94	45
3	5550.6	-52.22	5.42	12.65	Horizontal	-44.99	-13.00	31.99	135
4	7400.8	-49.98	6.70	13.85	Horizontal	-42.83	-13.00	29.83	180
5	9251.0	-51.19	7.01	14.75	Horizontal	-43.45	-13.00	30.45	225
6	11101.2	-50.88	7.48	15.95	Horizontal	-42.41	-13.00	29.41	45
7	12951.4	-49.53	7.51	16.55	Horizontal	-40.49	-13.00	27.49	90
8	14801.6	-48.93	8.24	15.35	Horizontal	-41.82	-13.00	28.82	135
9	16651.8	-44.31	8.41	14.95	Horizontal	-37.77	-13.00	24.77	180
10	18502.0	-	-	-	-	-	-	-	-

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.  
 2.The worst emission was found in the antenna is Horizontal position.

GSM 1900 CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760.0	-50.94	5.10	11.05	Horizontal	-44.99	-13.00	31.99	315
3	5640.0	-51.70	5.42	12.65	Horizontal	-44.47	-13.00	31.47	135
4	7520.0	-53.27	6.70	13.85	Horizontal	-46.12	-13.00	33.12	45
5	9400.0	-51.28	7.01	14.75	Horizontal	-43.54	-13.00	30.54	270
6	11280.0	-51.53	7.48	15.95	Horizontal	-43.06	-13.00	30.06	180
7	13160.0	-50.89	7.51	16.55	Horizontal	-41.85	-13.00	28.85	45
8	15040.0	-49.11	8.24	15.35	Horizontal	-42.00	-13.00	29.00	90
9	16920.0	-42.51	8.41	14.95	Horizontal	-35.97	-13.00	22.97	135
10	18800.0	-	-	-	-	-	-	-	-

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.  
 2. The worst emission was found in the antenna is Horizontal position.



## GSM 1900 CH-High

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3819.6	-59.33	5.10	11.05	Horizontal	-53.38	-13.00	40.38	270
3	5729.4	-51.58	5.42	12.65	Horizontal	-44.35	-13.00	31.35	315
4	7639.2	-53.67	6.70	13.85	Horizontal	-46.52	-13.00	33.52	90
5	9549.0	-51.26	7.01	14.75	Horizontal	-43.52	-13.00	30.52	135
6	11458.8	-49.75	7.48	15.95	Horizontal	-41.28	-13.00	28.28	45
7	13368.6	-50.47	7.51	16.55	Horizontal	-41.43	-13.00	28.43	180
8	15278.4	-49.21	8.24	15.35	Horizontal	-42.10	-13.00	29.10	315
9	17188.2	-43.78	8.41	14.95	Horizontal	-37.24	-13.00	24.24	45
10	19098.0	-	-	-	-	-	-	-	-

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Horizontal position.

## 6. Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Base Station Simulator	R&S	CMU200	118133	2020-05-17	2021-05-16
Power Splitter	Hua Xiang	SHX-GF2-2-13	10120101	/	/
Spectrum Analyzer	Key sight	N9010A	MY50210259	2020-05-18	2021-05-17
Universal Radio Communication Tester	Key sight	E5515C	MY48367192	2020-05-27	2021-05-26
Signal Analyzer	R&S	FSV30	100815	2019-12-15	2020-12-14
				2020-12-13	2021-12-12
Loop Antenna	SCHWARZBECK	FMZB1519	1519-047	2020-04-02	2023-04-01
TRILOG Broadband Antenna	SCHWARZBECK	VULB 9163	391	2019-12-16	2021-12-15
Horn Antenna	R&S	HF907	102723	2018-08-11	2021-08-10
Horn Antenna	ETS-Lindgren	3160-09	00102643	2018-06-20	2021-06-19
Signal generator	R&S	SMB 100A	102594	2020-05-18	2021-05-17
Climatic Chamber	ESPEC	SU-242	93000506	2017-12-17	2020-12-16
				2020-12-13	2021-12-12
Preampflier	R&S	SCU18	102327	2020-05-18	2021-05-17
MOB COMMS DC SUPPLY	Keysight	66319D	MY43004105	2020-05-18	2021-05-17
RF Cable	Agilent	SMA 15cm	0001	2020-06-12	2020-12-11
				2020-12-10	2021-06-09
Software	R&S	EMC32	9.26.0	/	/

\*\*\*\*\*END OF REPORT \*\*\*\*\*



## **ANNEX A: The EUT Appearance**

The EUT Appearance are submitted separately.



## **ANNEX B: Test Setup Photos**

**The Test Setup Photos are submitted separately.**