



F	CC REPORT	
Report Reference No	TRE1809010301	R/C: 97269
FCC ID	SRQ-ZTER340	
Applicant's name:	ZTE Corporation	
Address	ZTE Plaza, Keji Road South, S	Shenzhen,Guangdong,P.R.China
Manufacturer	ZTE Corporation	
Address	ZTE Plaza, Keji Road South, S	Shenzhen,Guangdong,P.R.China
Test item description	Flip feature phone	
Trade Mark	ZTE	
Model/Type reference	ZTE R340	
Listed Model(s)	R340	
Standard:	FCC CFR Title 47 Part 2 FCC CFR Title 47 Part 22	
	FCC CFR Title 47 Part 24	
Date of receipt of test sample:	Sep 20, 2018	
Date of testing	Sep 21, 2018- Oct 22, 2018	
Date of issue	Oct 23, 2018	
Result:	Pass	
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Testing Laboratory Name: :	Shenzhen Huatongwei Inter	national Inspection Co., Ltd.
Address	1/F, Bldg 3, Hongfa Hi-tech In Tianliao, Gongming, Shenzhe	
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The test report merely correspond to the test sample.

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# 1. TEST STANDARDS AND REPORT VERSION

# **1.1. Applicable Standards**

The tests were performed according to following standards:

FCC Rules Part 2: FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS

FCC Rules Part 22: PUBLIC MOBILE SERVICES

FCC Rules Part 24: PERSONAL COMMUNICATIONS SERVICES

<u>TIA/EIA 603 E March 2016:</u> Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.

ANSI C63.26-2015: American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services

KDB 971168 D01 Power Meas License Digital Systems v03: MEASUREMENT GUIDANCE FOR CERTIFICATION OF LICENSED DIGITAL TRANSMITTERS

# **1.2.** Report version information

Revision No.	Date of issue	Description
N/A	2018-10-23	Original

# 2. <u>Test Description</u>

Test Item	Section in CFR 47	Result	Test Engineer
	Part 2.1046		
Conducted Output Power	Part 22.913(a)	Pass	Jiongsheng Feng
	Part 24.232(c)		
Peak-to-Average Ratio	Part 24.232	Pass	Jiongsheng Feng
	Part 2.1049		
99% Occupied Bandwidth & 26 dB Bandwidth	Part 22.917(b)	Pass	Jiongsheng Feng
Dandwidth	Part 24.238(b)		
	Part 2.1051		
Band Edge	Part 22.917	Pass	Jiongsheng Feng
	Part 24.238		
	Part 2.1051		
Conducted Spurious Emissions	Part 22.917	Pass	Jiongsheng Feng
	Part 24.238		
	Part 2.1055(a)(1)(b)		
Frequency stability VS Temperature	Part 22.355	Pass	Jiongsheng Feng
	Part 24.235		
	Part 2.1055(d)(1)(2)		
Frequency stability VS Voltage	Part 22.355	Pass	Jiongsheng Feng
	Part 24.235		
ERP and EIRP	Part 22.913(a)	Pass	Shower Dai
ERP and EIRP	Part 24.232(b)	Pass	Shower Dai
	Part 2.1053		
Radiated Spurious Emissions	Part 22.917	Pass	Shower Dai
	Part 24.238		

Note: The measurement uncertainty is not included in the test result.

# 3. SUMMARY

# 3.1. Client Information

Applicant:	ZTE Corporation	
Address:	ZTE Plaza, Keji Road South, Shenzhen, Guangdong, P.R. China	
Manufacturer:	ZTE Corporation	
Address:	ZTE Plaza, Keji Road South, Shenzhen, Guangdong, P.R. China	

# 3.2. Product Description

Name of EUT:	Flip feature phone		
Trade Mark:	ZTE		
Model No.:	ZTE R340		
Listed Model(s):	R340		
IMEI Code:	Conducted: 36252343242559 Radiated: 36252343242645		
SIM Information:	Support One SIM Card		
Hardware version:	CS008_V2.0		
Software version:	CLA_CL_ZTE-R340V1.0.0		
Power supply:	DC 3.7V		
Adapter information:	Model:NB-0500500UM-1 Input:100-240Va.c. 50-60Hz 200mA Output:5.0Vd.c. 500mA		
2G:			
Support Network:	GSM, GPRS		
Support Band:	GSM850, PCS1900		
Modulation:	GSM/GPRS: GMSK		
Transmit Frequency:	GSM850:824.20MHz-848.80MHzPCS1900:1850.20MHz-1909.80MHz		
Receive Frequency:	GSM850:     869.20MHz-893.80MHz       PCS1900:     1930.20MHz-1989.80MHz		
GPRS Multislot Class:	12		
EGPRS Multislot Class:	-		
Antenna type:	PIFA Antenna		
Antenna gain:	GSM850: -1.2dBi PCS1900: 0.8dBi		

# 3.3. Operation state

# Test frequency list

GSM850		PCS1900		
Channel	Frequency (MHz)	Channel	Frequency (MHz)	
128	824.20	512	1850.20	
190	836.60	661	1880.00	
251	848.80	810	1909.80	

## Test mode

Antenna port conducted and radiated test items were performed according to KDB 971168 D01 Power Meas. License Digital Systems v03 and ANSI C63.26-2015 with maximum output power.

Radiated measurements were performed with rotating EUT in different three orthogonal test planes to find the maximum emission.

Radiated emissions were investigated as following frequency range:

30 MHz to 10th harmonic for GSM850, PCS1900.

All modes and data rates and positions were investigated.

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

Test modes				
Band	Radiated	Conducted		
GSM 850	<ul><li>GSM link</li><li>GPRS Class 8 link</li></ul>	<ul><li>GSM link</li><li>GPRS Class 8 link</li></ul>		
PCS 1900	<ul><li>GSM link</li><li>GPRS Class 8 link</li></ul>	<ul><li>GSM link</li><li>GPRS Class 8 link</li></ul>		

# 3.4. EUT configuration

## The following peripheral devices and interface cables were connected during the measurement:

supplied by the manufacturer

0	- supplied by the lab			
0	/	Manufacturer:	/	
		Model No.:	/	
		Manufacturer:	/	
0	/	Model No.:	/	

# 3.5. Modifications

No modifications were implemented to meet testing criteria.

# 4. TEST ENVIRONMENT

# 4.1. Address of the test laboratory

Laboratory: Shenzhen Huatongwei International Inspection Co., Ltd. Address: 1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China

# 4.2. Test Facility

#### CNAS-Lab Code: L1225

Shenzhen Huatongwei International Inspection Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories.

#### A2LA-Lab Cert. No.: 3902.01

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

#### FCC-Registration No.: 762235

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files.

#### IC-Registration No.:5377B-1

Two 3m Alternate Test Site of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No.: 5377B-1.

## ACA

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our A2LA accreditation.

Analyzer

Horn Antenna

Horn Antenna

Broadband

Preamplifier

High pass filter

**RF** Connection

Signal Generator

Universal Radio

Communication Wide Radio

communication

Antenna Mast

Cable

tester EMI Test

Software Turntable

8

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14

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18

4.3. Equipments Used during the Test	
--------------------------------------	--

RF Co	RF Conducted Test					
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal. (mm-dd-yy)	Next Cal. (mm-dd-yy)
1	Universal Radio Communication	Rohde&Schwarz	CMU200	112012	11/11/2017	11/11/2018
2	Wide Radio communication tester	Rohde&Schwarz	CMW500	137688	10/26/2017	10/25/2018
3	Spectrum Analyzer	Rohde&Schwarz	FSW26	103440	11/11/2017	11/10/2018
4	MXA Signal Analyzer	Agilent	N9020A	MY5050187	11/10/2017	11/09/2018
5	Splitter	Mini-Circuit	ZAPD-4	400059	03/19/2018	03/18/2019
6	Climate Chamber	ESPEC	EL-10KA	05107008	11/10/2017	11/09/2018
Radia	ted Emissions					
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal. (mm-dd-yy)	Next Cal. (mm-dd-yy)
1	EMI Test Receiver	R&S	ESCI	101247	11/11/2017	11/10/2018
2	Loop Antenna	R&S	HFH2-Z2	100020	11/20/2017	11/19/2018
3	Ultra-Broadband Antenna	SCHWARZBECK	VULB9163	538	04/05/2017	04/04/2020
4	Preamplifier	SCHWARZBECK	BBV 9743	9743-0022	10/18/2017	10/17/2018
5	RF Connection Cable	HUBER+SUHNER	RE-7-FL	N/A	11/21/2017	11/20/2018
6	EMI Test Software	R&S	ESK1	N/A	N/A	N/A
7	Spectrum Analvzer	R&S	FSP40	100597	11/11/2017	11/10/2018

9120D

**BBHA9170** 

BBV 9718

BSU-6

RE-7-FH

SMB100A

CMU200

CMW500

E3

TT2.0

TAM-4.0-P

1011

25841

9718-248

34202

N/A

114360

112012

137688

N/A

N/A

N/A

Audix

MATURO

MATURO

SCHWARZBECK

SCHWARZBECK

SCHWARZBECK

Direction systems

HUBER+SUHNER

Rohde&Schwarz

Rohde&Schwarz

Rohde&Schwarz

Compliance

03/27/2017

03/27/2017

10/18/2017

11/11/2017

11/21/2017

06/12/2018

11/11/2017

10/26/2017

N/A

N/A

N/A

03/26/2020

03/26/2020

10/17/2019

11/10/2018

11/20/2018

06/11/2019

11/11/2018

10/25/2018

N/A

N/A

N/A

# 4.4. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

	VN=Nominal Voltage	DC 3.70V	
Voltage	VL=Lower Voltage	DC 3.60V	
	VH=Higher Voltage	DC 4.20V	
Tomporatura	TN=Normal Temperature	25 °C	
Temperature	Extreme Temperature From -30° to + 50° centigrade		
Humidity	30~60 %		
Air Pressure	950-1050 hPa		

## 4.5. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01"Electromagnetic compatibilityand Radio spectrum Matters (ERM);Uncertainties in the measurementof mobile radio equipment characteristics;Part 1"and TR-100028-02 "Electromagnetic compatibilityand Radio spectrum Matters (ERM);Uncertainties in the measurement characteristics;Part 2" and is documented in the Shenzhen Huatongwei International Inspection Co., Ltd quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen Huatongwei laboratory is reported:

Test Items	Measurement Uncertainty	Notes
Transmitter power conducted	0.63 dB	(1)
Transmitter power Radiated	2.38dB for <1GHz 3.45dB for >1GHz	(1)
Conducted spurious emissions 9kHz~40GHz	0.63 dB	(1)
Radiated Emissions 30~1000MHz	4.80 dB	(1)
Radiated Emissions 1~18GHz	5.16 dB	(1)
Radiated Emissions 18~40GHz	5.54 dB	(1)
Occupied Bandwidth	18Hz for <1GHz 69Hz for >1GHz	(1)
Frequency error	18Hz for <1GHz 69Hz for >1GHz	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

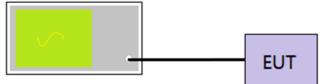
# 5. TEST CONDITIONS AND RESULTS

# 5.1. Conducted Output Power

LIMIT

N/A

# **TEST CONFIGURATION**



**Communication Tester** 

## TEST PROCEDURE

- 1. The EUT output port was connected to communication tester.
- 2. Set EUT at maximum power through communication tester.
- 3. Select lowest, middle, and highest channels for each band and different modulation.
- 4. Measure the maximum burst average power.

## TEST MODE:

Please refer to the clause 3.3

#### TEST RESULTS

☑ Passed □ Not Applicable

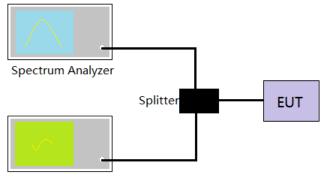
Refer to appendix A on the section 8 appendix report

# 5.2. Peak-to-Average Ratio

# <u>LIMIT</u>

13dB

# **TEST CONFIGURATION**



**Communication Tester** 

# TEST PROCEDURE

- 1. The EUT was connected to the spectrum analyzer and communication tester via a power splitter
- 2. Set EUT in maximum power output.
- 3. Center Frequency = Carrier frequency, RBW > Emission bandwidth of signal
- 4. The signal analyzer was set to collect one million samples to generate the CCDF curve
- 5. The measurement interval was set depending on the type of signal analyzed.
  - i. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms.
  - ii. For bursttransmissions, the spectrum analyzer is set to use an internal "RF Burst" trigger that issynced with an incoming pulse and the measurement interval is set to less than the duration of the "on time" of one burst to ensure that energy is only captured during a time in whichthetransmitter is operating at maximum power
- 6. Record the maximum PAPR level associated with a probability of 0.1%.

## TEST MODE:

Please refer to the clause 3.3

## TEST RESULTS

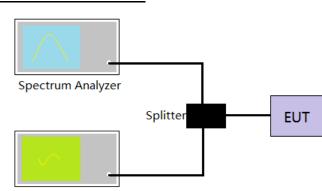
☑ Passed □ Not Applicable

Refer to appendix B on the section 8 appendix report

# 5.3. 99% Occupied Bandwidth & 26 dB Bandwidth

#### <u>LIMIT</u> N/A

TEST CONFIGURATION



Communication Tester

## TEST PROCEDURE

- 1. The EUT was connected to the spectrum analyzer and communication tester via a power splitter
- 2. Set EUT in maximum power output.
- 3. Spectrum analyzer setting as follow:

Center Frequency= Carrier frequency, RBW=1% to 5% of anticipated OBW, VBW= 3 \* RBW, Detector=Peak,

Trace maximum hold.

4. Record the value of 99% Occupied bandwidth and -26dB bandwidth.

## TEST MODE:

Please refer to the clause 3.3

#### TEST RESULTS

🛛 Passed

Not Applicable

Refer to appendix C on the section 8 appendix report

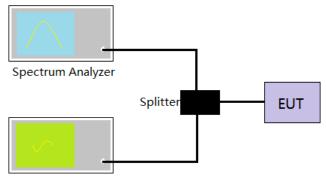
# 5.4. Band Edge

## <u>LIMIT</u>

Part 24.238 and Part 22.917 specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P) dB$ .

The specification that emissions shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB, translates in the relevant power range (1 to 0.001 W) to -13 dBm. At 1 W the specified minimum attenuation becomes 43 dB and relative to a 30 dBm (1 W) carrier becomes a limit of -13 dBm. At 0.001 W (0 dBm) the minimum attenuation is 13 dB, which again yields a limit of -13 dBm. In this way a translation of the specification from relative to absolute terms is carried out.

#### **TEST CONFIGURATION**



Communication Tester

## TEST PROCEDURE

- 1. The EUT was connected to the spectrum analyzer and communication tester via a power splitter
- 2. Set EUT in maximum power output.
- 3. The band edges of low and high channels were measured.
- 4. Spectrum analyzer setting as follow:

RBW=3KHz, VBW = 10KHz, Sweep time= Auto

5. Record the test plot.

## TEST MODE:

Please refer to the clause 3.3

#### TEST RESULTS

☑ Passed □ Not Applicable

Refer to appendix D on the section 8 appendix report

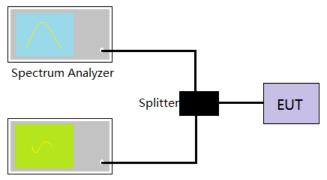
# 5.5. Conducted Spurious Emissions

### <u>LIMIT</u>

Part 24.238 and Part 22.917 specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

The specification that emissions shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB, translates in the relevant power range (1 to 0.001 W) to -13 dBm. At 1 W the specified minimum attenuation becomes 43 dB and relative to a 30 dBm (1 W) carrier becomes a limit of -13 dBm. At 0.001 W (0 dBm) the minimum attenuation is 13 dB, which again yields a limit of -13 dBm. In this way a translation of the specification from relative to absolute terms is carried out.

## **TEST CONFIGURATION**



**Communication Tester** 

# TEST PROCEDURE

- 1. The EUT was connected to the spectrum analyzer and communication tester via a power splitter
- 2. Set EUT in maximum power output.
- Spectrum analyzer setting as follow: Below 1GHz, RBW=100KHz, VBW = 300KHz, Detector=Peak, Sweep time= Auto Above 1GHz, RBW=1MHz, VBW=3MHz, Detector=Peak, Sweep time= Auto Scan frequency range up to 10<sup>th</sup> harmonic.
- 4. Record the test plot.

## TEST MODE:

Please refer to the clause 3.3

## TEST RESULTS

## ☑ Passed □ Not Applicable

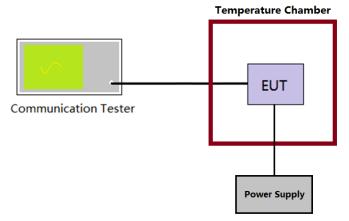
Refer to appendix E on the section 8 appendix report

# 5.6. Frequency stability VS Temperature measurement

## LIMIT

2.5ppm

# **TEST CONFIGURATION**



## TEST PROCEDURE

- 1. The equipment under test was connected to an external DC power supply and input rated voltage.
- 2. The EUT output port was connected to communication tester.
- 3. The EUT was placed inside the temperature chamber.
- 4. Turn EUT off and set the chamber temperature to –30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency.
- 5. Repeat step 4 measure with 10°C increased per stage until the highest temperature of +50°C reached.

#### TEST MODE:

Please refer to the clause 3.3

#### TEST RESULTS

☑ Passed □ Not Applicable

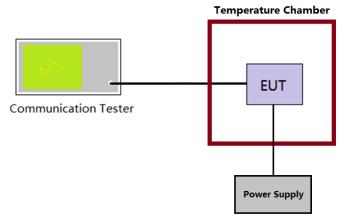
Refer to appendix F on the section 8 appendix report

# 5.7. Frequency stability VS Voltage measurement

# LIMIT

2.5ppm

# **TEST CONFIGURATION**



## TEST PROCEDURE

- 1. The equipment under test was connected to an external DC power supply and input rated voltage.
- 2. The EUT output port was connected to communication tester.
- 3. The EUT was placed inside the temperature chamber at 25°C
- The power supply voltage to the EUT was varied ±15% of the nominal value measured at the input to the EUT
- 5. Record the maximum frequency change.

## TEST MODE:

Please refer to the clause 3.3

#### **TEST RESULTS**

☑ Passed □ Not Applicable

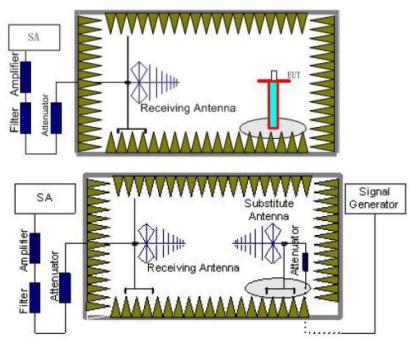
Refer to appendix F on the section 8 appendix report

# 5.8. ERP and EIRP

## <u>LIMIT</u>

GSM850: 7W (38.45dBm) ERP PCS1900: 2W (33dBm) EIRP

# **TEST CONFIGURATION**



#### TEST PROCEDURE

- EUT was placed on a 0.8 meter for below 1GHz and 1.5 meter for above 1GHz high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.0m. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all transmit frequencies in three channels (High, Middle, Low) were measured with peak detector.
- 2. A log-periodic antenna or double-ridged waveguide 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.
- 3. The EUT is then put into continuously transmitting mode at its maximum power level during the test.Set Test Receiver or Spectrum RBW=1MHz,VBW=3MHz for above 1GHz and RBW=100kHz,VBW=300kHz for 30MHz to 1GHz,, And the maximum value of the receiver should be recorded as (Pr).
- 4. 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 isconnected 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.
- 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 (PcI), the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAg) should be recorded after test.

- The measurement results are obtained as described below: Power(EIRP)=PMea- PAg - Pcl + Ga We used SMF100A micowave signal generator which signal level can up to 33dBm,so we not used power Amplifier for substituation test; The measurement results are amend as described below: Power(EIRP)=PMea- Pcl + Ga
- 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-2.15dBi.

#### TEST MODE:

Please refer to the clause 3.3

#### TEST RESULTS

#### ☑ Passed □ Not Applicable

Mode	Channel	Antenna Pol.	ERP	Limit (dBm)	Result
GSM850	128	V	31.76	<38.45	Pass
		Н	26.86		
	190	V	31.44		
		Н	25.85		
	251	V	30.71		
		Н	25.25		
GPRS850	128	V	31.63	<38.45	Pass
		Н	26.4		
	190	V	31.29		
		Н	25.76		
	251	V	30.52		
		Н	26.03		

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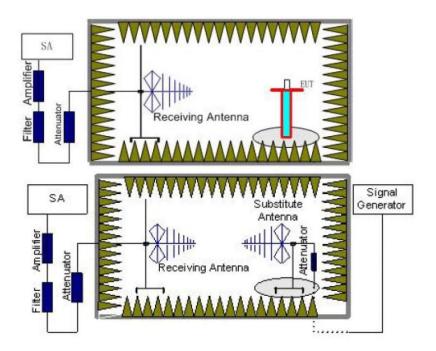
Mode	Channel	Antenna Pol.	EIRP	Limit (dBm)	Result
PCS1900	512	V	30.63	<33.00	Pass
		Н	28.26		
	661	V	30.21		
		Н	28.67		
	810	V	29.59		
		Н	26.45		
GPRS1900	512	V	30.57	<33.00	Pass
	512	Н	28.43		
	661	V	30.35		
		Н	28.34		
	810	V	28.64		
	010	Н	27.05		

# 5.9. Radiated Spurious Emission

## <u>LIMIT</u>

-13dBm

# **TEST CONFIGURATION**



# TEST PROCEDURE

- EUT was placed on a 0.8 meter for below 1GHz and 1.5 meter for above 1GHz high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.0m. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all transmit frequencies in three channels (High, Middle, Low) were measured with peak detector.
- 2. A log-periodic antenna or double-ridged waveguide 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.
- 3. The EUT is then put into continuously transmitting mode at its maximum power level during the test. Set Test Receiver or Spectrum RBW=1MHz,VBW=3MHz for above 1GHz and RBW=100kHz,VBW=300kHz for 30MHz to 1GHz, And the maximum value of the receiver should be recorded as (Pr).
- 4. 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 isconnected 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.
- 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.

- The measurement results are obtained as described below: Power(EIRP)=PMea- PAg - Pcl + Ga We used SMF100A micowave signal generator which signal level can up to 33dBm,so we not used power Amplifier for substituation test; The measurement results are amend as described below: Power(EIRP)=PMea- Pcl + Ga
- 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-2.15dBi.

#### TEST MODE:

Please refer to the clause 3.3

#### TEST RESULTS

☑ Passed □ Not Applicable

Note: Worst case at GSM850/PCS1900

		GS	M850		
Channel	Frequency	Spurious	Emission	Lincit (dDno)	Decult
Channel (MHz)		Polarization	Level (dBm)	Limit (dBm)	Result
384 164	38.92	Vertical	-69.84	<-13.00 F	
	384.01	V	-47.78		Pass
	1648.51	V	-38.32		
	2289.55	V	-49.07		
	3295.11	V	-49.68		
400	6590.73	V	-44.14		
128	36.15	Horizontal	-69.85		
	384.01	н	-48.78		
	1648.51	Н	-43.21	10.00	Deee
	2609.32	Н	-48.66	<-13.00	Pass
	3295.11	Н	-51.61		
	6590.73	н	-45.44		
	37.70	Vertical	-69.44		Pass
	384.01	V	-47.47		
	1674.06	V	-36.06	<-13.00	
	2510.89	V	-47.75		
	3343.25	V	-48.84		
190	9213.53	V	-41.61		
190	49.95	Horizontal	-76.43	<-13.00	Pass
	384.01	Н	-52.84		
	1674.06	Н	-39.18		
	2325.03	Н	-50.21		
	3343.25	Н	-51.66		
	5860.25	Н	-47.65		
	38.10	Vertical	-68.74		
	384.01	V	-48.09	<-13.00	Pass
2547.0	1698.14	V	-39.86		
	2547.01	V	-45.81		
	3392.09	V	-47.72		
251	9107.26	V	-43.51		
3 1 2 5	37.97	Horizontal	-69.05	<-13.00	
	384.01	Н	-46.57		
	1698.14	Н	-41.12		Deee
	2478.01	н	-49.61		Pass
	5945.86	Н	-49.08		
	9334.58	Н	-40.89		

Remark:

1. The emission behaviour belongs to narrowband spurious emission.

2. The emission levels of not record in the report are very lower than the limit and not show in test report.

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		PCS	S1900		
Channel	Frequency	Spurious Emission		Limit (dDm)	Dec. II
Channel (MHz)	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
3	38.64	Vertical	-69.02	<-13.00	
	384.01	V	-47.96		Pass
	1829.86	V	-37.81		
	2632.35	V	-48.39		
	3700.48	V	-50.59		
<b>F40</b>	5554.08	V	-45.05		
512	38.64	Horizontal	-75.78		
	384.01	Н	-62.65		
	1833.88	Н	-34.90	. 12.00	Deee
	2896.37	Н	-44.49	<-13.00	Pass
	3700.48	Н	-51.68		
	5554.08	Н	-47.37		
	384.01	Vertical	-48.32		
	770.42	V	-51.21		
	1304.56	V	-54.91	<-13.00	Pass
	2113.10	V	-50.64		
	3759.98	V	-50.42		
004	7520.54	V	-39.72		
661	34.41	Horizontal	-73.63	<-13.00	Pass
	384.01	Н	-54.61		
	1558.68	Н	-52.90		
	1835.90	Н	-46.81		
	4036.90	Н	-55.43		
	7520.54	Н	-45.29		
	384.01	Vertical	-43.91	<-13.00	Pass
	770.42	V	-57.65		
	1920.48	V	-46.34		
	2658.51	V	-48.14		
	5725.84	V	-41.67		
040	7641.47	V	-41.01		
810	38.10	Horizontal	-74.94	<-13.00 Pas	
12	384.01	Н	-59.87		
	1415.05	Н	-53.62		Deet
	1924.71	Н	-51.10		Pass
	3820.45	Н	-53.59		
	5725.84	Н	-39.29		

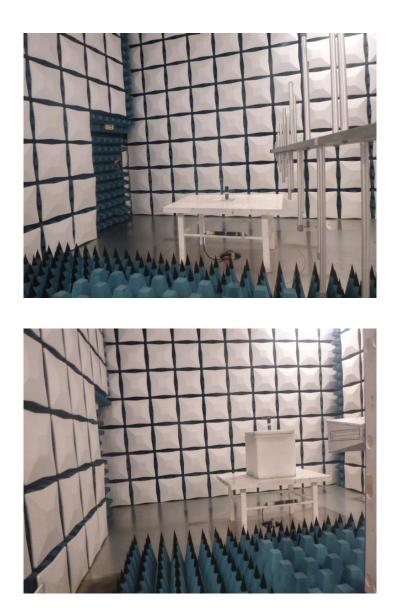
Remark:

1. The emission behaviour belongs to narrowband spurious emission.

2. The emission levels of not record in the report are very lower than the limit and not show in test report.

# 6. TEST SETUP PHOTOS OF THE EUT

Radiated emission:



# 7. EXTERNAL AND INTERNAL PHOTOS OF THE EUT

# External photos of the EUT

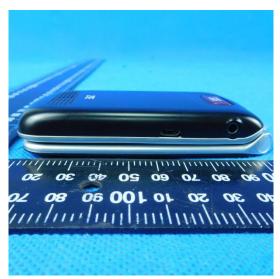




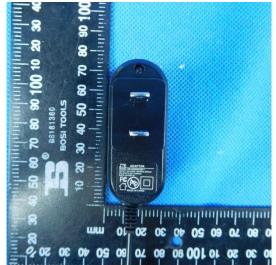


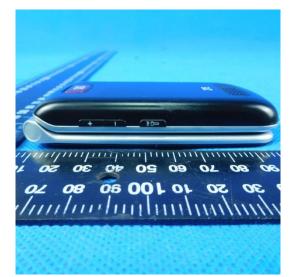




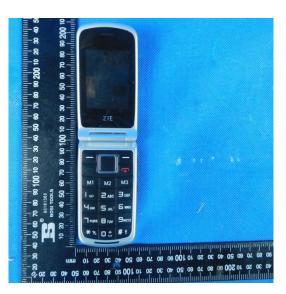




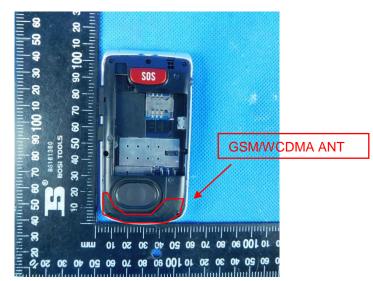


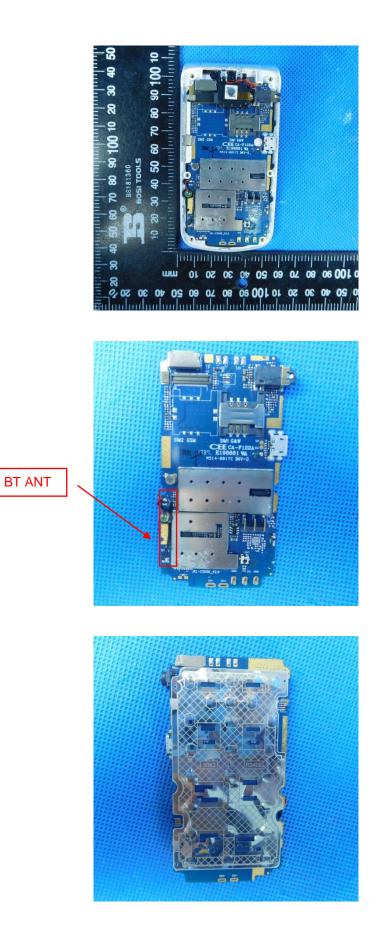


# Internal photos of the EUT

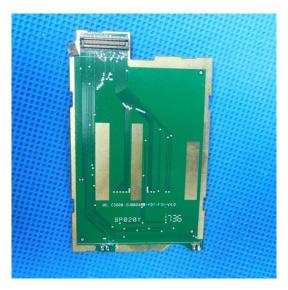








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# 8. APPENDIX REPORT