

Shenzhen CTA Testing Technology Co., Ltd.

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

FCC PART 22/24 TEST REPORT

FCC Part 22 /Part 24

Report Reference No.....: CTA24100901701

FCC ID.....: 2BE8S-G1

Compiled by

(position+printed name+signature)..: File administrators Xudong Zhang

Supervised by

(position+printed name+signature)..: Project Engineer Zoey Cao

Approved by

(position+printed name+signature)..: RF Manager Eric Wang

Date of issue...... Oct. 29, 2024

Testing Laboratory Name Shenzhen CTA Testing Technology Co., Ltd.

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community,

Fuhai Street, Baoʻan District, Shenzhen, China

Applicant's name...... Shenzhen kehuitong Technology Co., Ltd

Address F3.830306G, 3rd Floor, Tianan Code City Tianjing Building, No.6

Tianan Road, Shatou Street, Futian District, Shenzhen, China

CTA TESTING

Test specification

FCC Part 22: PUBLIC MOBILE SERVICES

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Test item description: Tablet PC

Trade Mark Aidekunlin

Manufacturer Shenzhen kehuitong Technology Co., Ltd

Model/Type reference...... G1

Ratings DC 3.8V From battery and DC 5.0V From external circuit

Frequency...... GSM 850MHz; PCS 1900MHz;

Modulation: GMSK

GPRS...... Supported

Result..... PASS

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TEST REPORT

Tablet PC **Equipment under Test**

Model /Type G1

Listed Models G2, G3, G4, G5, G6, G7, G8, G9, G10, G11, G12, G13, G14, G15, CTATESTING

G16, G17, G18, G19, G20, H1, H2, H3, H4, H5, H6, H7, H8, H9, H10, H11, H12, H13, H14, H15, H16, H17, H18, H19, H20, K1, K2, K3, K4, K5, K6, K7, K8, K9, K10, K11, K12, K13, K14, K15, K16,

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K17, K18, K19, K20

Applicant Shenzhen kehuitong Technology Co., Ltd

F3.830306G, 3rd Floor, Tianan Code City Tianjing Building, No.6 Address

Tianan Road, Shatou Street, Futian District, Shenzhen, China

Manufacturer Shenzhen kehuitong Technology Co., Ltd

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Address F3.830306G, 3rd Floor, Tianan Code City Tianjing Building, No.6

Tianan Road, Shatou Street, Futian District, Shenzhen, China

PASS Test Result:

The test report merely corresponds to the test sample.

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It is not permitted to copy extracts of these test result without the written permission of the test laboratory. CTA TESTING

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1 TEST STANDARDS

The tests were performed according to following standards:

FCC Part 2: FREQUENCY ALLOCA-TIONS AND RADIO TREATY MAT-TERS; GENERAL RULES AND REG-ULATIONS

FCC Part 22 Subpart H: PRIVATE LAND MOBILE RADIO SERVICES.

FCC Part 24 Subpart E: PUBLIC MOBILE SERVICES

ANSI/TIA-603-E-2016: Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.

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

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FCCKDB971168D01 Power Meas License Digital Systems

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2 SUMMARY

2.1 General Remarks

CTATE		
Date of receipt of test sample	:	Sep. 25, 2024
Testing commenced on	(and to	Sep. 25, 2024
Testing concluded on		Oct. 28, 2024
2.2 Product Description		

2.2 Product Description

Product Name:	Tablet PC
Model/Type reference:	G1
Power supply:	DC 3.8V From battery and DC 5.0V From external circuit
Adapter information	Model: EP-TA20CBC
(Auxiliary test supplied by test	Input: AC 100-240V 50/60Hz
Lab):	Output: DC 5V 2.0A
Hardware version:	P19-MB-V1.1
Software version:	P19F_KL_U1_A1_20240929
Testing sample ID:	CTA241009017-1# (Engineer sample) CTA241009017-2# (Normal sample)
Modilation Type	GMSK
Antenna Type	PIFA Antenna
GSM/EDGE/GPRS	Supported GSM/GPRS
GSM/GPRS Power Class	GSM850:Power Class 4/ PCS1900:Power Class 1
GSM/GPRS Operation	GSM850 :824.2MHz-848.8MHz/PCS1900:1850.2MHz-1909.8MHz
Frequency	GOIVIOGO .024.21VII 12-040.01VII 12/1 GO 1300.1030.21VII 12-1303.01VII 12
GPRS Operation Frequency Band	GPRS850/GPRS1900
GPRS Multislot Class	Multi-slot Class 12
Extreme temp. Tolerance	-30°C to +50°C
GPRS operation mode	Class B
Antenna Type:	PIFA antenna
Antenna Gain:	GSM850: 0.3 dBi,DCS1900: 1.3 dBi

Equipment under Test 2.3

Power supply system utilised

Power supply system utilised			.c7\\	4G	
Power supply voltage	:	0	120V / 60 Hz	0	230V / 50Hz
		0	12 V DC	0	24 V DC
		•	Other (specified in blank be	low) TE

DC 3.8V From battery and DC 5.0V From external circuit

Test frequency list

-	Test Mode	TX/RX	RF Channel		
	i est iviode	IA/RA	Low(L)	Middle (M)	High (H)
	CIT	TX	Channel 128	Channel 190	Channel 251
(Carry	CDDC 050	IA	824.2 MHz	836.6 MHz	848.8 MHz
	GPRS 850	RX	Channel 128	Channel 190	Channel 251
		T.A	869.2 MHz	881.6 MHz	893.8 MHz
_	Toot Modo	TX/RX	RF Channel		
	Test Mode		Low(L)	Middle (M)	High (H)
	SPRS 1900	TX	Channel 512	Channel 661	Channel 810
	1900	IA	1850.2 MHz	1880.0 MHz	1909.8 MHz
TESTING					
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	DV	Channel 512	Channel 661	Channel 810
-1	G KA	1930.2 MHz	1960.0 MHz	1989.8 MHz

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2.4 Short description of the Equipment under Test (EUT)

This is a Tablet PC.

For more details, refer to the user's manual of the EUT.

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

• - supplied by the manufacturer

- O supplied by the lab

O - suppii	ed by the lab		
0/	(ETP)	M/N : /	
		Manufacturer: /	GTING
2.6 Re	elated Submittal(s) / Grai	nt (s)	CTATES CTATES
This subm	ittal(s) (test report) is filing to co	omply with FCC Part 22 and Part 24 Rule	es

Related Submittal(s) / Grant (s)

2.7 **Modifications**

No modifications were implemented to meet testing criteria.

2.8 **General Test Conditions/Configurations**

2.8.1 Test Modes

NOTE: The test mode(s) are selected according to relevant radio technology specifications.

Test Mode 1	GSM
Test Mode 2	GPRS

2.8.2 Test Environment

Environment Parameter	Selected Val	ues During Tests
Relative Humidity	Aı	mbient
Temperature	TN	Ambient
	VL	3.40V
Voltage	VN	3.80V
-	VH	4.20V

NOTE: VL=lower extreme test voltage VN=nominal voltage VH=upper extreme test voltage TN=normal temperature

2.9 Modifications

No modifications were implemented to meet testing criteria.

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3 TEST ENVIRONMENT

3.1 Address of the test laboratory

Shenzhen CTA Testing Technology Co., Ltd.

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

3.2 **Test Facility**

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.: 517856 Designation Number: CN1318

Shenzhen CTA Testing Technology Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

A2LA-Lab Cert. No.: 6534.01

Shenzhen CTA Testing Technology Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

CAB identifier: CN0127

Shenzhen CTA Testing Technology Co., Ltd. has been listed by Innovation, Science and Economic Development Canada to perform electromagnetic emission measurement.

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.10 and CISPR 16-1-4:2010.

Environmental conditions

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

Temperature:	15-35 ° C
Humidity:	30-60 %
Atmospheric pressure:	950-1050mbar

Test Description

3.4.1 Cellular Band (824-849MHz paired with 869-894MHz)

C Rule No. .1046, 2.913	Requirements FCC: ERP ≤ 7W.	Verdict Pass
2.913	FCC: ERP ≤ 7W.	Pass
.1047		long, 3s "
	Digital modulation	N/A
.1049	OBW: No limit. EBW: No limit.	Pass
.1051, 2.917	≤-13dBm/1%*EBW, in 1MHz bands immediately outside and adjacent to The frequency block.	Pass
.1051, 2.917	FCC: ≤ -13dBm/100kHz, from 9kHz to 10th harmonics but outside authorized operating frequency ranges.	Pass
.1053, 2.917	FCC: ≤ -13dBm/100kHz.	Pass
.1055,	≤ ±2.5ppm.	Pass
	2.917 .1053, 2.917 .1055,	from 9kHz to 10th harmonics but outside authorized operating frequency ranges. 1053, 2.917 FCC: ≤ -13dBm/100kHz.

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3.4.2 PCS Band (1850-1915MHz paired with 1930-1995MHz)

	Test Item	FCC Rule No.	Requirements	Verdict
	Effective(Isotropic) Radiated Output Power	§2.1046, §24.232	EIRP ≤ 2W	Pass
	Peak-Average Ratio	§2.1046, §24.232	FCC:Limit≤13dB	Pass
	Modulation Characteristics	§2.1047	Digital modulation	N/A
	Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Pass
	Band Edges Compliance	§2.1051, §24.238	≤ -13dBm/1%*EBW, In 1MHz bands immediately outside and adjacent to The frequency block.	Pass
CTATE	Spurious Emission at Antenna Terminals	§2.1051, §24.238	≤-13dBm/1MHz, from 9kHz to10th harmonics but outside authorized Operating frequency ranges.	Pass
	Field Strength of Spurious Radiation	§2.1053, §24.238	≤ -13dBm/1MHz.	Pass
	Frequency Stability	§2.1055, §24.235	FCC: within authorized frequency block.	Pass
	NOTE 1: For the verdict, tl	ne "N/A" denotes	s "not applicable", the "N/T" de notes "not tested".	

Remark:

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^{1.} The measurement uncertainty is not included in the test result. CTA TESTING

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3.5 Equipments Used during the Test

	Test Equipment	Manufacturer	Model No.	Equipment No.	Calibration Date	Calibration Due Date
	LISN	R&S	ENV216	CTA-308	2024/08/03	2025/08/02
•	LISN	R&S	ENV216	CTA-314	2024/08/03	2025/08/02
	EMI Test Receiver	R&S	ESPI	CTA-307	2024/08/03	2025/08/02
	EMI Test Receiver	R&S	ESCI	CTA-306	2024/08/03	2025/08/02
	Spectrum Analyzer	Agilent	N9020A	CTA-301	2024/08/03	2025/08/02
TE	Spectrum Analyzer	R&S	FSU	CTA-337	2024/08/03	2025/08/02
	Vector Signal generator	Agilent	N5182A	CTA-305	2024/08/03	2025/08/02
	Analog Signal Generator	R&S	SML03	CTA-304	2024/08/03	2025/08/02
_	WIDEBAND RADIO COMMUNICATION TESTER	CMW500	R&S	CTA-302	2024/08/03	2025/08/02
	Temperature and humidity meter	Chigo	ZG-7020	CTA-326	2024/08/03	2025/08/02
•	Ultra-Broadband Antenna	Schwarzbeck	VULB9163	CTA-310	2023/10/17	2026/10/16
	Horn Antenna	Schwarzbeck	BBHA 9120D	CTA-309	2023/10/13	2026/10/12
	Loop Antenna	Zhinan	ZN30900C	CTA-311	2023/10/17	2026/10/16
•	Horn Antenna	Beijing Hangwei Dayang	OBH100400	CTA-336	2023/10/17	2026/10/16
	Amplifier	Schwarzbeck	BBV 9745	CTA-312	2024/08/03	2025/08/02
•	Amplifier	Taiwan chengyi	EMC051845B	CTA-313	2024/08/03	2025/08/02
=	Directional coupler	NARDA	4226-10	CTA-303	2024/08/03	2025/08/02
	High-Pass Filter	XingBo	XBLBQ-GTA18	CTA-402	2024/08/03	2025/08/02
	High-Pass Filter	XingBo	XBLBQ-GTA27	CTA-403	2024/08/03	2025/08/02
•	Automated filter bank	Tonscend	JS0806-F	CTA-404	2024/08/03	2025/08/02
	Power Sensor	Agilent	U2021XA	CTA-405	2024/08/03	2025/08/02
	Amplifier	Schwarzbeck	BBV9719	CTA-406	2024/08/03	2025/08/02



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Test Equipment	Manufacturer	Model No.	Version number	Calibration Date	Calibration Due Date
EMI Test Software	Tonscend	TS®JS32-RE	5.0.0.2	N/A	N/A
EMI Test Software	Tonscend	TS®JS32-CE	5.0.0.1	N/A	N/A
RF Test Software	Tonscend	TS®JS1120-3	3.1.65	N/A	N/A
RF Test Software	Tonscend	TS®JS1120	3.1.46	N/A	N/A

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TEST CONDITIONS AND RESULTS

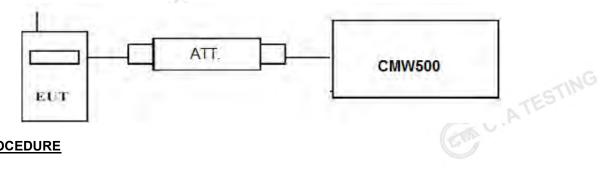
Output Power

TEST APPLICABLE

During the process of testing, the EUT was controlled via R&S Digital Radio Communication tester (CMW500) to ensure max power transmission and proper modulation. This result contains output power and EIRP measurements for the EUT. In all cases, output power is within the specified limits.

4.1.1 Conducted Output Power

TEST CONFIGURATION



TEST PROCEDURE

Conducted Power Measurement:

- Place the EUT on a bench and set it in transmitting mode.
- Connect a low loss RF cable from the antenna port to a CMW500 by an Att.
- c) EUT Communicate with CMW500 then selects a channel for testing.
- d) Add a correction factor to the display CMW500, and then test.

		~ D. "		100
		GSM850		
Function	Power step	Nominal output power (dBm)	Power &Multislot class	Operation class
GSM	5	33dBm(2W)	4	1
GPRS	3	33dBm(2W)	12	В

			PCS1900		
TATES	Function	Power step	Nominal output power (dBm)	Power &Multislot class	Operation class
CIE	GSM	0	30dBm(1W)	1	1
	GPRS	3	30dBm(1W)	12	В

TEST RESULTS

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GPRS	3	30dBm(1W)	12	В	
RESULTS	CTA	-10	TESTING		
		Burst Av	verage Conducted po	wer (dBm)	
GSN	1 850		hannel/Frequency(M	(MHz)	
		128/824.2	190/836.6	251/848.8	
G:	SM	32.85	32.80	32.58	
	1TX slot	32.42	32.39	32.12	
GPRS	2TX slot	31.48	31.16	31.35	
(GMSK)	3TX slot	29.34	30.00	29.12	
TES!	4TX slot	27.68	27.89	27.36	
		Burst Av	erage Conducted po	wer (dBm)	
GSM	1900	C	hannel/Frequency(M	Hz)	
		512/1850.2	661/1880.0	810/1909.8	
G:	SM	29.64	29.71	29.79	
	1TX slot	29.38	29.24	29.49	
GPRS	2TX slot	28.63	27.71	28.97	
(GMSK)	3TX slot	26.79	26.75	26.18	
•	4TX slot	25.29	25.56	25.85	

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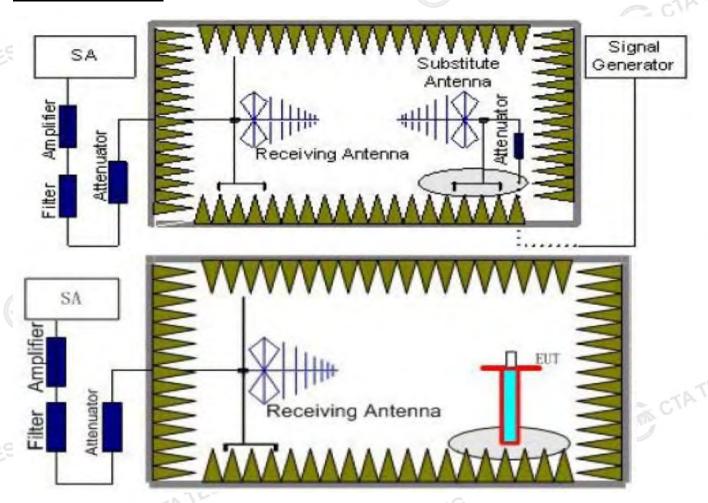
4.1.2 Radiated Output Power

TEST DESCRIPTION

This is the test for the maximum radiated power from the EUT.

Rule Part 24.232(c) specifies, "Mobile/portable stations are limited to 2 watts e.i.r.p. Peak power" and 24.232(e) specifies that "Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage." Rule Part 22.913(a) specifies "The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts."

TEST CONFIGURATION



TEST PROCEDURE

- 1. EUT was placed on a 0.80 meter 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 0.80m. 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, And the maximum value of the receiver should be recorded as (P_r).
- 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 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 (P_{Mea}) is applied to the input of the

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substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (P_r). The power of signal source (P_{Mea}) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.

- 5. 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 (G_a) and the Amplifier Gain (P_{Ag}) should be recorded after test.
 - The measurement results are obtained as described below:
 - $Power(EIRP)=P_{Mea}-P_{Ag}-P_{cl}+G_{a}$
 - 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)= P_{Mea} - P_{cl} + G_a
- 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 LIMIT

Note: We test the H direction and V direction, V direction is worse.

According to 22.913(a) and 24.232(c), the ERP should be not exceed following table limits:

<u>-</u>	GSM850(GPRS850,EDGE850)						
Function	Power Step	Burst Peak ERP (dBm)					
GSM	5	≤38.45dBm (7W)					
GPRS	3	≤38.45dBm (7W)					

	PCS1900(GPRS1900,EDGE1900)						
Function	Power Step	Burst Peak EIRP (dBm)					
GSM	0	≤33dBm (2W)					
GPRS	3	≤33dBm (2W)					

TEST RESULTS

Remark:

- 1. We were tested all Configuration refer 3GPP TS151 010.
- 2. $EIRP=P_{Mea}(dBm)-P_{cl}(dB)+P_{Ag}(dB)+G_{a}(dBi)$
- 3. ERP = EIRP 2.15dBi as EIRP by subtracting the gain of the dipole.

Note: We tesed Horizontal and Vertical, and Recorded the worst data at the Vertical

	GSM 850				_					
CTA	Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	Correction (dB)	P _{Ag} (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
	824.20	-8.11	2.42	8.45	2.15	36.82	32.59	38.45	-5.86	V
	836.60	-8.32	2.46	8.45	2.15	36.82	32.34	38.45	-6.11	V
	848.80	-8.18	2.53	8.36	2.15	36.82	32.32	38.45	-6.13	V-1/1/2

GSM 1900

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Ag} (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1850.20	-12.79	3.41	10.24	33.6	27.64	33.01	-5.37	V
1880.00	-12.01	3.49	10.24	33.6	28.34	33.01	-4.67	V
1909.80	-11.53	3.55	10.23	33.6	28.75	33.01	-4.26	V
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GPRS 850

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	Correction (dB)	P _{Ag} (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
824.20	-9.72	2.42	8.45	2.15	36.82	30.98	38.45	-7.47	V
836.60	-9.11	2.46	8.45	2.15	36.82	31.55	38.45	-6.90	V
848.80	-8.84	2.53	8.36	2.15	36.82	31.66	38.45	-6.79	V

GPRS 1900

	Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Ag} (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
	1850.20	-11.77	3.41	10.24	33.6	28.66	33.01	-4.35	V
	1880.00	-12.71	3.49	10.24	33.6	27.64	33.01	-5.37	V
TAIL	1909.80	-12.86	3.55	10.23	33.6	27.42	33.01	-5.59	V

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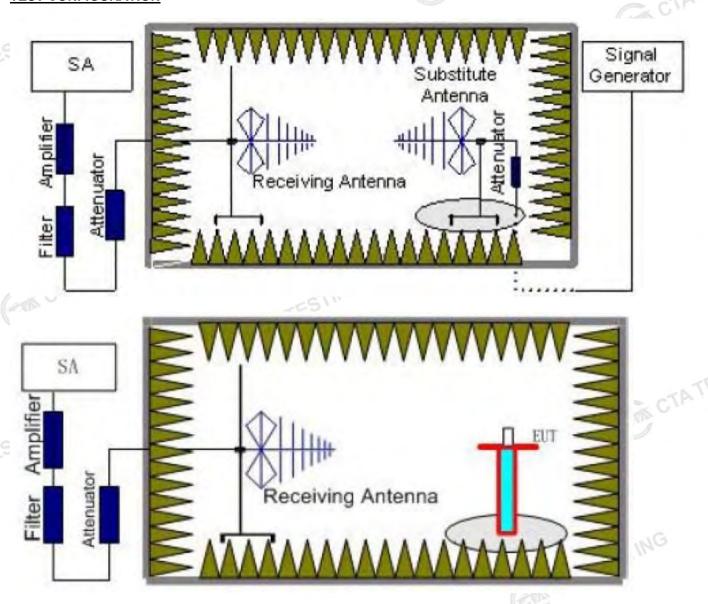
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4.2 Radiated Spurious Emssion

TEST APPLICABLE

According to the TIA/EIA 603D:2010 test method, The Receiver or Spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment, which is the transmitted carrier that can be as high as 1910 MHz. The resolution bandwidth is set as outlined in Part 24.238 and Part 22.917. The spectrum is scanned with the mobile station transmitting at carrier frequencies that pertain to low, mid and high channels of PCS1900 and GSM850.

TEST CONFIGURATION



TEST PROCEDURE

- 1. EUT was placed on a 0.80 meter 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 0.80m. 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.

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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, And the maximum value of the receiver should be recorded as (P_r).

- 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 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 (P_{Mea}) 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 (Pc), 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)= P_{Mea} - P_{Ag} - P_{cl} + G_a
- This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power.
- 7. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP -2.15dBi.

8. In order to make sure test results more clearly, we set frequency range and sweep time for difference frequency range as follows table:

Working Frequency	Subrange (GHz)	RBW	VBW	Sweep time (s)
	0.00009~0.15	1KHz	3KHz	30
	0.00015~0.03	10KHz	30KHz	10
	0.03~1	100KHz	300KHz	10
GSM 850	1~2	1 MHz	3 MHz	2
	2~5	1 MHz	3 MHz	3
ING	5~8	1 MHz	3 MHz	3
-55/11	8~10	1 MHz	3 MHz	3
TATE	0.00009~0.15	1KHz	3KHz	30
C /,	0.00015~0.03	10KHz	30KHz	10
	0.03~1	100KHz	300KHz	10
	1~2	1 MHz	3 MHz	2
DCC 4000	2~5	1 MHz	3 MHz	3
PCS 1900	5~8	1 MHz	3 MHz	3
	8~11	1 MHz	3 MHz	3
	11~14	1 MHz	3 MHz	3
	14~18	1 MHz	3 MHz	3
G	18~20	1 MHz	3 MHz	2

TEST LIMITS

According to 24.238 and 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)

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.

Frequency	Channel	Frequency Range	Verdict
-21G	Low	9KHz-10GHz	PASS
GSM 850	Middle	9KHz -10GHz	PASS
TATES	High	9KHz -10GHz	PASS
- C/L	Low	9KHz -20GHz	PASS
PCS 1900	Middle	9KHz -20GHz	PASS
	High	9KHz -20GHz	PASS
TEST RESULTS	Car C	CTATE CTATE	51"
Remark:			



Remark:



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- 1. We were tested all refer 3GPP TS151 010.
- 2. $EIRP=P_{Mea}(dBm)-P_{cl}(dB) +G_a(dBi)$
- 3. We were not recorded other points as values lower than limits.
- 4. Margin = Limit EIRP

Note : We tested GSM and GPRS Mode, and recorded the worst case at the GSM Mode

GSM850_ Low Channel

Frequency (MHz)	P _{Mea} (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1648.4	-45.40	3.00	3.00	9.58	-38.82	-13.00	-25.82	Н
2472.6	-54.63	3.03	3.00	10.72	-46.94	-13.00	-33.94	Н
1648.4	-40.44	3.00	3.00	9.68	-33.76	-13.00	-20.76	V
2472.6	-51.96	3.03	3.00	10.72	-44.27	-13.00	-31.27	V

GSM850_ Middle Channel

GSM850_ Mi	iddle Chann	el	-1G					
Frequency (MHz)	P _{Mea} (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1673.2	-41.29	3.00	3.00	9.58	-34.71	-13.00	-21.71	Н
2509.8	-55.83	3.03	3.00	10.72	-48.14	-13.00	-35.14	HIN
1673.2	-45.59	3.00	3.00	9.68	-38.91	-13.00	-25.91	V
2509.8	-47.63	3.03	3.00	10.72	-39.94	-13.00	-26.94	V

GSM850 High Channel

Frequency (MHz)	P _{Mea} (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1697.6	-45.64	3.00	3.00	9.58	-39.06	-13.00	-26.06	Н
2546.4	-48.57	3.03	3.00	10.72	-40.88	-13.00	-27.88	Н
1697.6	-40.90	3.00	3.00	9.68	-34.22	-13.00	-21.22	V
2546.4	-53.85	3.03	3.00	10.72	-46.16	-13.00	-33.16	V
GSM1900_ L	ow Channe	(6	The Contract of the Contract o			-0.77	STIME	
				Ga	Peak	CIL		

GSM1900_ Low Channel

	Frequency (MHz)	P _{Mea} (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
	3700.4	-40.42	4.39	3.00	12.34	-32.47	-13.00	-19.47	H
	5550.6	-54.35	5.31	3.00	13.52	-46.14	-13.00	-33.14	H
-50	3700.4	-43.35	4.39	3.00	12.34	-35.40	-13.00	-22.40	V
TATE	5550.6	-55.12	5.31	3.00	13.52	-46.91	-13.00	-33.91	V
CAL			-61	Ila					
	GSM1900_ N	1iddle Chan	nel						

GSM1900_ Middle Channel

Frequency (MHz)	P _{Mea} (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3760.0	-44.40	4.41	3.00	12.34	-36.47	-13.00	-23.47	-cB///-
5640.0	-46.53	5.38	3.00	13.58	-38.33	-13.00	-25.33	H
3760.0	-44.45	4.41	3.00	12.34	-36.52	-13.00	-23.52	V
5640.0	-47.25	5.38	3.00	13.58	-39.05	-13.00	-26.05	V

GSM1900_ High Channel

Frequency (MHz)	P _{Mea} (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3819.6	-43.20	4.45	3.00	12.45	-35.20	-13.00	-22.20	Н
5729.4	-46.43	5.47	3.00	13.66	-38.24	-13.00	-25.24	Н
3819.6	-44.27	4.45	3.00	12.45	-36.27	-13.00	-23.27	V
5729.4	-54.93	5.48	3.00	13.66	-46.75	-13.00	-33.75	V

CTATE!

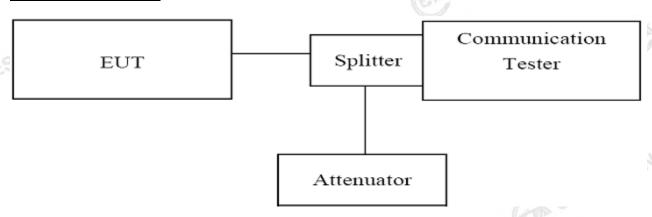
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4.3 Occupied Bandwidth and Emission Bandwidth

TEST APPLICABLE

Similar to conducted emissions; occupied bandwidth measurements are only provided for selected frequencies in order to reduce the amount of submitted data. Data were taken at the extreme and mid frequencies of PCS1900 band and GSM850 band. The table below lists the measured 99% Bandwidth and -26dBc Bandwidth.

TEST CONFIGURATION



TEST PROCEDURE

- 1. The EUT was set up for the max output power with pseudo random data modulation;
- The Occupied bandwidth and Emission Bandwidth were measured with Aglient Spectrum Analyzer N9030A (peak);
- 3. Set RBW=5.1KHz,VBW=51KHz,Span=1MHz,SWT=500ms;
- 4. Set SPA Max hold and View, Set 99% Occupied Bandwidth/ Set -26dBc Occupied Bandwidth
- 5. These measurements were done at 3 frequencies, 1850.20 MHz, 1880.00 MHz and 1909.80 MHz for PCS1900 band; 824.20MHz, 836.60 MHz and 848.80 MHz for GSM850 band. (Low, middle and high of operational frequency range).

TEST RESULTS

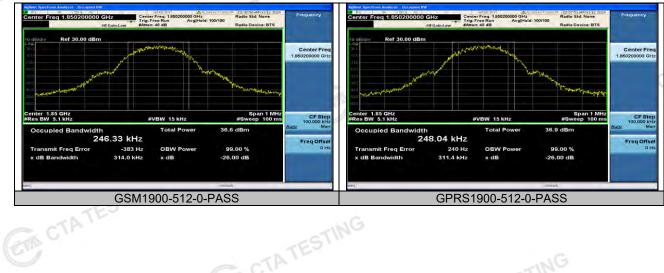
	Band	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
	GSM850	128	0.24440	0.3110		PASS
-ATE	GPRS850	128	0.24736	0.3128		PASS
C/12	GSM850	190	0.24436	0.3050		PASS
	GPRS850	190	0.24758	0.3168		PASS
	GSM850	251	0.24331	0.3121		PASS
	GPRS850	251	0.24573	0.3151		PASS

Band	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
GSM1900	512	0.24633	0.3140	CA	PASS
GPRS1900	512	0.24804	0.3114	Z 0 /.	PASS
GSM1900	661	0.24040	0.3113	7 7	PASS
GPRS1900	661	0.24521	0.3117		PASS
GSM1900	810	0.24595	0.3162		PASS
GPRS1900	810	0.24705	0.3094		PASS
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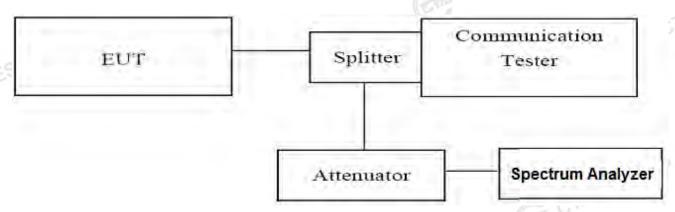
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Band Edge Complicance

TEST APPLICABLE

During the process of testing, the EUT was controlled via Aglient Digital Radio Communication tester (CMW500) to ensure max power transmission and proper modulation.

TEST CONFIGURATION



TEST PROCEDURE

- The EUT was set up for the max output power with pseudo random data modulation;
- The power was measured with Aglient Spectrum Analyzer N9030A;
- 3. Set RBW=5.1KHz,VBW=51KHz,Span=3MHz,SWT=300ms, Dector: RMS;
- These measurements were done at 3 frequencies, 1850.20 MHz, 1880.00 MHz and 1909.80 MHz for PCS1900 band; 824.20 MHz, 836.60 MHz and 848.80 MHz for GSM850 band. (bottom, middle and top of CTATESTING operational frequency range).

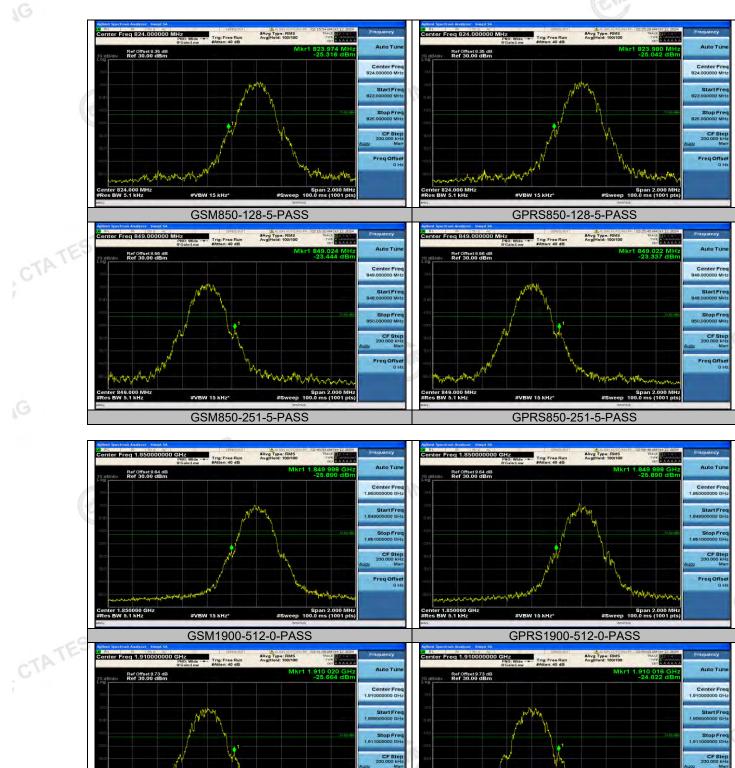
TEST RESULTS

CTA TESTING

	Band	Channel	Freq (MHz)	Result (dBm)	Limit(dBm)	Verdict	-ATE
	GSM850	128	823.97	-25.32	-13	PASS	C/h
	GPRS850	128	823.98	-25.04	-13	PASS	
	GSM850	251	849.02	-23.44	-13	PASS	
G	GPRS850	251	849.02	-23.34	-13	PASS	

GPRS1900 512 1850.00 -25.89 -13 PAS GSM1900 810 1910.02 -25.66 -13 PAS	GPRS1900 512 1850.00 -25.89 -13 PASS GSM1900 810 1910.02 -25.66 -13 PASS	Band	Channel	Freq (MHz)	Result (dBm)	Limit(dBm)	Verdict
GSM1900 810 1910.02 -25.66 -13 PAS	GSM1900 810 1910.02 -25.66 -13 PASS	GSM1900	512	1850.00	-25.89	-13	PASS
		GPRS1900	512	1850.00	-25.89	-13	PASS
GPRS1900 810 1910.02 -24.62 -13 PAS	GPRS1900 810 1910.02 -24.62 -13 PASS	GSM1900	810	1910.02	-25.66	-13	PASS
	CTATES	GPRS1900	810	1910.02	-24.62	-13	PASS
TES TES	Car Cir	GPRS1900	810	1910.02	-24.62	-13	PAS

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nter 1.910000 GHz

GSM1900-810-0-PASS

CTATEST



GPRS1900-810-0-PASS

Span 2.000 MHz 100.0 ms (1001 pts) Report No.: CTA24100901701 Page 23 of 39

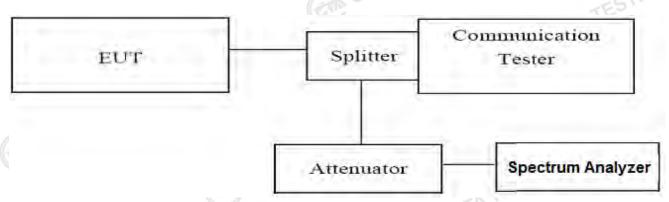
4.5 Spurious Emssion on Antenna Port

TEST APPLICABLE

The following steps outline the procedure used to measure the conducted emissions from the EUT.

- 1. Determine frequency range for measurements: From CFR 2.1057 the spectrum should be investigated from the lowest radio frequency generated in the equipment up to at least the 10th harmonic of the carrier frequency. For the equipment of PCS1900 band, this equates to a frequency range of 9 KHz to 19.1 GHz, data taken from 9 KHz to 25 GHz. For GSM850, data taken from 9 KHz to 9 GHz.
- 2. The sweep time is set automatically by instrument itself. That should be the optimal sweep time for the span and the RBW. If the sweep time is too short, that is sweep is too fast, the sweep result is not accurate; if the sweep time is too long, that is sweep is too low, some frequency components may be lost. The instrument will give an optimal sweep time according the selected span and RBW.
- The procedure to get the conducted spurious emission is as follows:
 The trace mode is set to MaxHold to get the highest signal at each frequency;
 Wait 25 seconds;
 Get the result.
- 4. Determine EUT transmit frequencies: below outlines the band edge frequencies pertinent to conducted emissions testing.

TEST CONFIGURATION



TEST PROCEDURE

- 1. The EUT was set up for the max output power with pseudo random data modulation;
- 2. The power was measured with Agilent Spectrum Analyzer N9030A (peak);
- These measurements were done at 3 frequencies, 1850.20 MHz, 1880.00 MHz and 1909.80 MHz for PCS1900 band; 824.20 MHz, 836.60 MHz and 848.80 MHz for GSM850 band. (Low, middle and high of operational frequency range).

TEST LIMIT

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 RESULTS

Note: We tested GSM and GPRS mode and recorded the worst case at the GSM mode.

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4.5.1 For GSM 850Test Results

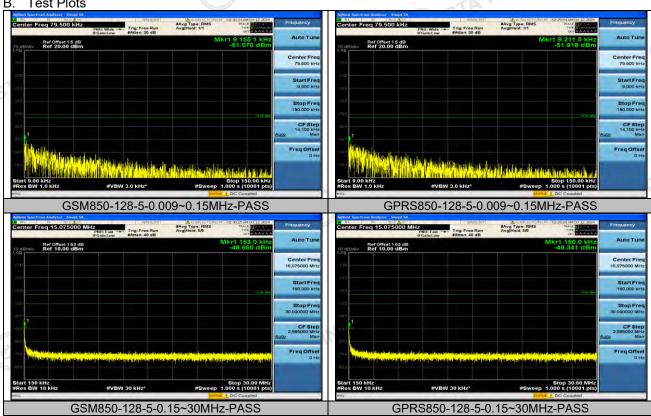
A. Test Verdict

_	7A7						
(Band	Channel	Frequency Range(MHz)	Max.Freq. (MHz)	Result (dBm)	Limit (dBm)	Verdict
1	GSM850	128	0.009~0.15MHz	0.01	-51.07	-33	PASS
	GPRS850	128	0.009~0.15MHz	0.01	-51.92	-33	PASS
	GSM850	128	0.15~30MHz	0.15	-48.66	-23	PASS
	GPRS850	128	0.15~30MHz	0.15	-49.34	-23	PASS
	GSM850	128	30~1000MHz	945.62	-45.17	-13	PASS
	GPRS850	128	30~1000MHz	977.33	-45.04	-13	PASS
	GSM850	128	1000~10000MHz	1648.3	-33.94	-13	PASS
	GPRS850	128	1000~10000MHz	2472.7	-34.24	-13	PASS
	GSM850	190	0.009~0.15MHz	0.01	-51.78	-33	PASS
-ATE	GPRS850	190	0.009~0.15MHz	0.01	-50.64	-33	PASS
CTATES	GSM850	190	0.15~30MHz	0.15	-48.24	-23	PASS
	GPRS850	190	0.15~30MHz	0.16	-49.82	-23	PASS
	GPRS850	190	30~1000MHz	215.82	-45.08	-13	PASS
	GSM850	190	30~1000MHz	211.26	-45.47	-13	PASS
	GSM850	190	1000~10000MHz	2509.6	-30.15	-13	PASS
	GPRS850	190	1000~10000MHz	1673.2	-33.85	-13	PASS
	GSM850	251	0.009~0.15MHz	0.01	-53.01	-33	PASS
	GPRS850	251	0.009~0.15MHz	0.01	-52	-33	PASS
	GSM850	251	0.15~30MHz	0.15	-50.42	-23	PASS
(G	GPRS850	251	0.15~30MHz	0.15	-48.84	-23	PASS
10	GSM850	251	30~1000MHz	232.12	-45.38	-13	PASS
	GPRS850	251	30~1000MHz	214.24	-45.31	-13	PASS
	GSM850	251	1000~10000MHz	2658.1	-47.73	-13	PASS
	GPRS850	251	1000~10000MHz	3190.6	-47.76	-13	PASS

Note:

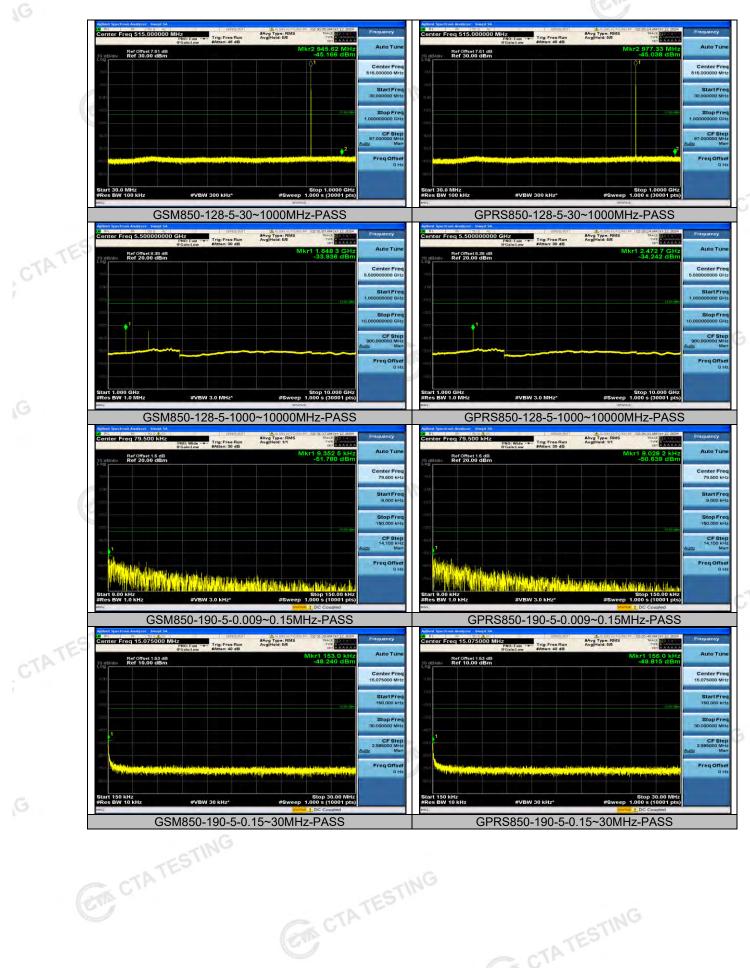
- 1. In general, the worse case attenuation requirement shown above was applied.
- 2."---" means that the emission level is too low to be measured or at least 20 dB down than the limit.

Test Plots

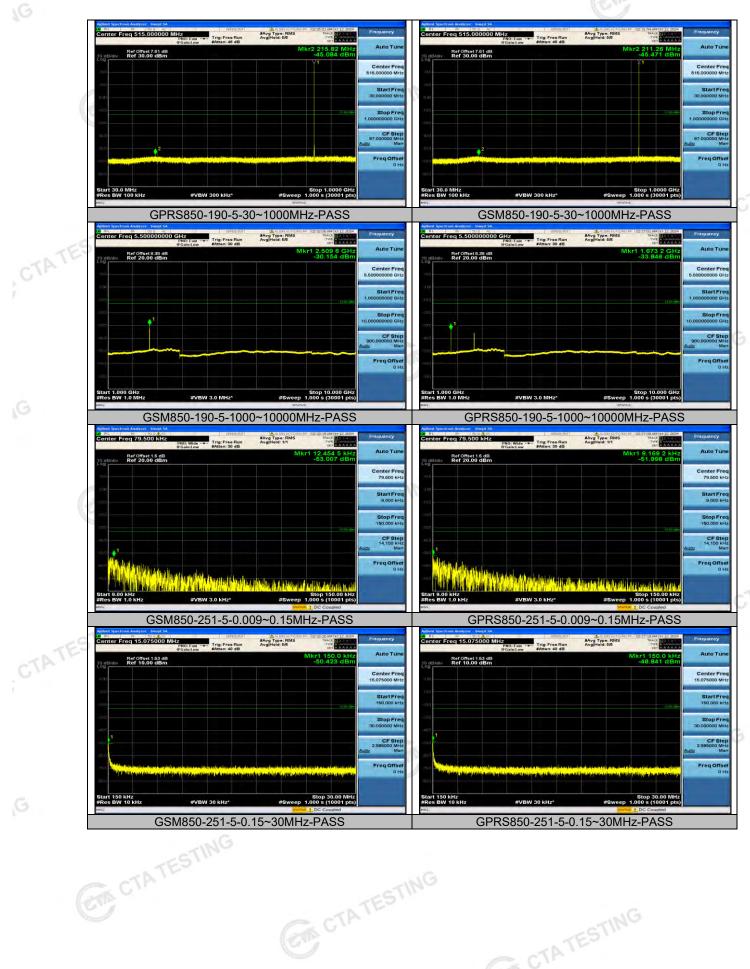


CTATE!

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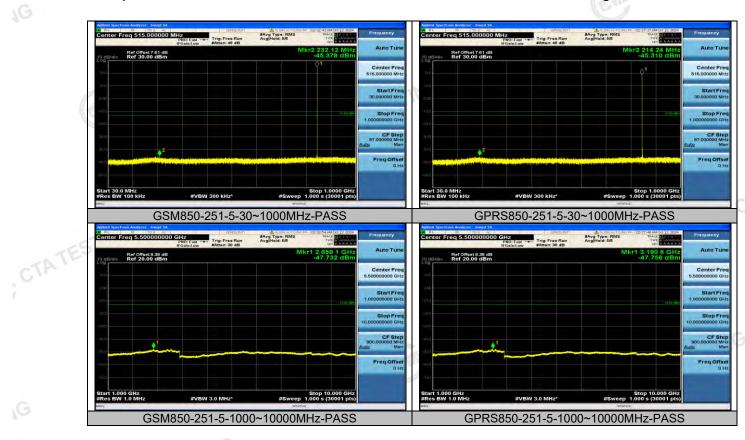
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4.5.2 For GSM 1900 Test Results

A. Test Verdict

	Band	Channel	Frequency Range(MHz)	Max.Freq. (MHz)	Result (dBm)	Limit (dBm)	Verdict
	GSM1900	512	0.009~0.15MHz	0.01	-54.68	-43	PASS
	GPRS1900	512	0.009~0.15MHz	0.01	-55.47	-43	PASS
	GSM1900	512	0.15~30MHz	0.15	-49.15	-33	PASS
	GPRS1900	512	0.15~30MHz	0.15	-49.93	-33	PASS
	GSM1900	512	30~1000MHz	886.22	-43.32	-13	PASS
	GPRS1900	512	30~1000MHz	913.67	-43.23	-13	PASS
	GSM1900	512	1000~3000MHz	2686.73	-33.49	-13	PASS
	GPRS1900	512	1000~3000MHz	2645.07	-33.48	-13	PASS
	GSM1900	512	3000~18000MHz	16924.5	-41.76	-13	PASS
TATE	GPRS1900	512	3000~18000MHz	16948.5	-41.72	-13	PASS
Cli	GSM1900	661	0.009~0.15MHz	0.01	-55.19	-43	PASS
,	GPRS1900	661	0.009~0.15MHz	0.01	-54.64	-43	PASS
	GSM1900	661	0.15~30MHz	0.16	-49.86	-33	PASS
	GPRS1900	661	0.15~30MHz	0.16	-47.9	-33	PASS
	GSM1900	661	30~1000MHz	873.25	-43.14	-13	PASS
	GPRS1900	661	30~1000MHz	201.59	-43.15	-13	PASS
	GSM1900	661	1000~3000MHz	2661.2	-33.3	-13	PASS
	GPRS1900	661	1000~3000MHz	2651.93	-33.38	-13	PASS
	GSM1900	661	3000~18000MHz	16954.5	-41.97	-13	PASS
	GPRS1900	661	3000~18000MHz	16970.5	-41.79	-13	PASS
	GSM1900	810	0.009~0.15MHz	0.01	-54.72	-43	PASS
	GPRS1900	810	0.009~0.15MHz	0.01	-54.34	-43	PASS
	GSM1900	810	0.15~30MHz	0.16	-49.58	-33	PASS
	GPRS1900	810	0.15~30MHz	0.16	-48.61	-33	PASS
	GSM1900	810	30~1000MHz	916	-43.16	-13	PASS
	GPRS1900	810	30~1000MHz	796.69	-43.09	-13	PASS
	GSM1900	810	1000~3000MHz	2662.27	-33.31	-13	PASS
	GPRS1900	810	1000~3000MHz	2662.2	-33.4	U -13	PASS
	GSM1900	810	3000~18000MHz	16945	-41.92	-13	PASS
	GPRS1900	810	3000~18000MHz	16977	-41.88	-13	PASS

Note:

- 1. In general, the worse case attenuation requirement shown above was applied.
- 2."---" means that the emission level is too low to be measured or at least 20 dB down than the limit.

CTA TESTING

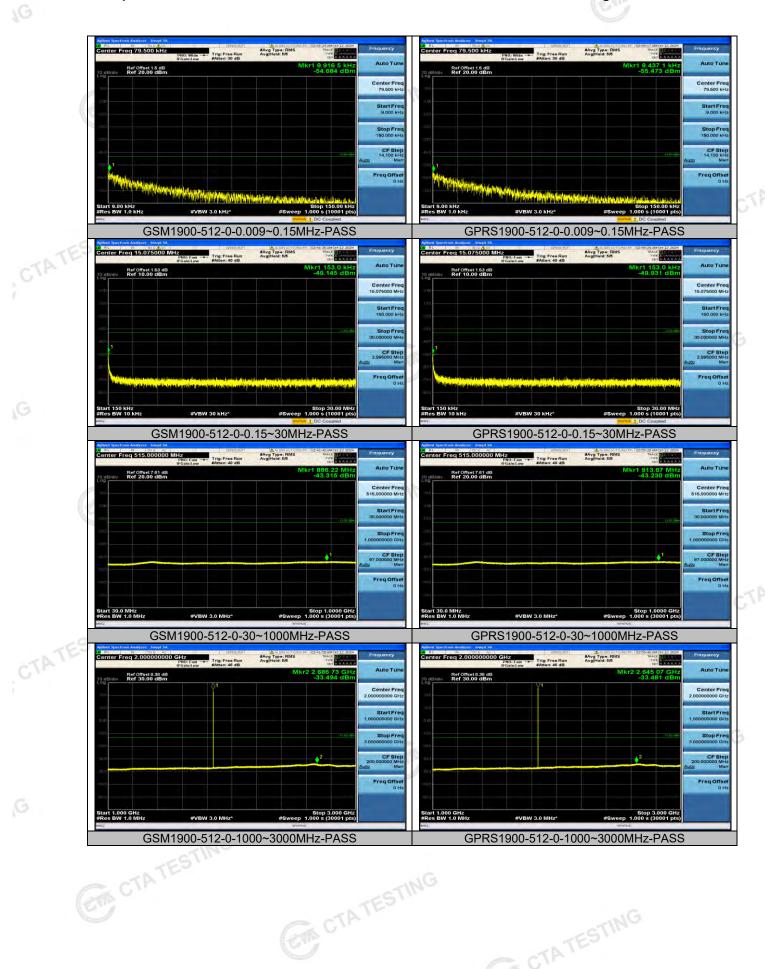
B. Test Plots

CTA TESTING

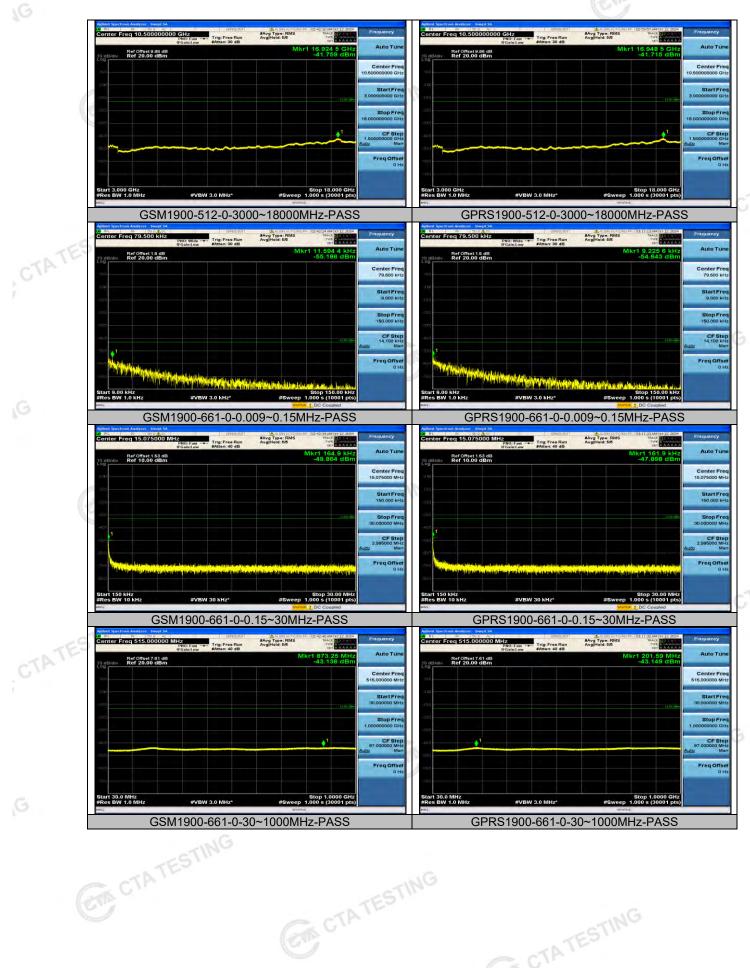


CTATE

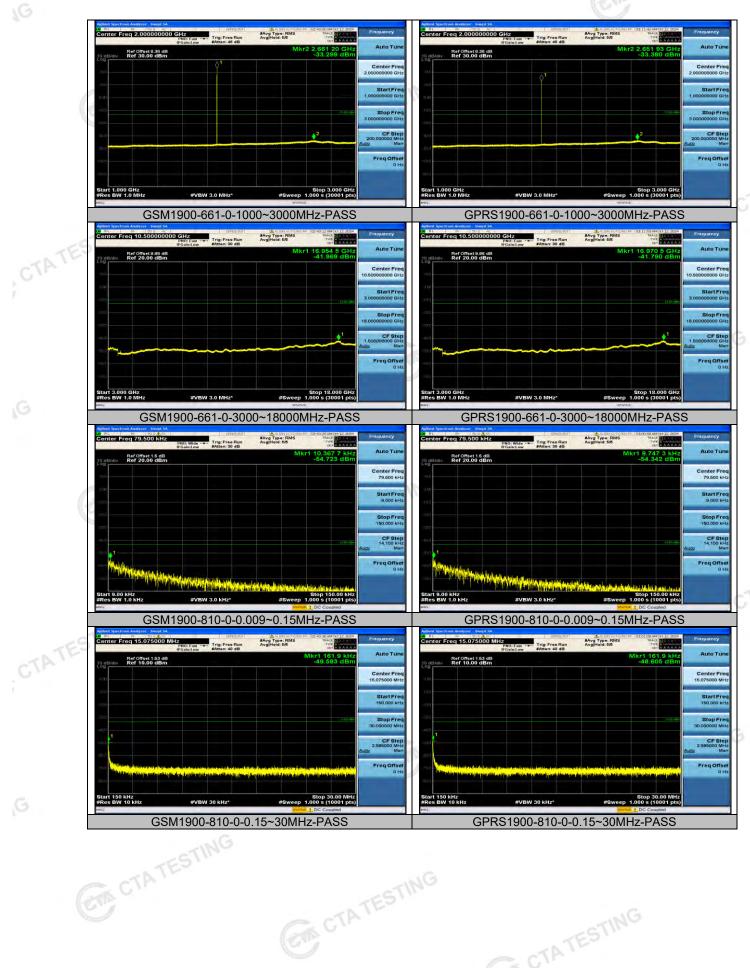
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Frequency Stability Test

TEST APPLICABLE

1. According to FCC Part 2 Section 2.1055 (a)(1), the frequency stability shall be measured with variation of ambient temperature from -30 °C to +50 °C centigrade.

- According to FCC Part 2 Section 2.1055 (E) (2), for battery powered equipment, the frequency stability shall be measured with reducing primary supply voltage to the battery operating end point, which is specified by the manufacture. ET CTATE
- Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried voltage equipment and the end voltage point was 10.8V.

TEST PROCEDURE

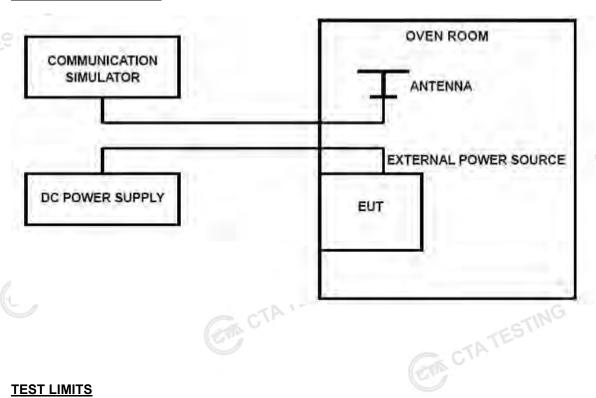
In order to measure the carrier frequency under the condition of AFC lock, it is necessary to make measurements with the EUT in a "call mode". This is accomplished with the use of R&S CMU200 DIGITAL RADIO COMMUNICATION TESTER.

- Measure the carrier frequency at room temperature;
- Subject the EUT to overnight soak at -30°C;
- 3. With the EUT, powered via nominal voltage, connected to the CMU200 and in a simulated call on middle channel of PCS 1900 and GSM850, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming;
- 4. Repeat the above measurements at 10°C increments from -30°C to +50°C. Allow at least 0.5 hours at each temperature, unpowered, before making measurements;
- 5. Remeasure carrier frequency at room temperature with nominal voltage. Vary supply voltage from minimum voltage to maximum voltage, in 0.1Volt increments remeasuring carrier frequency at each voltage. Pause at nominal voltage for 0.5 hours unpowered, to allow any self-heating to stabilize, before continuing;
- 6. Subject the EUT to overnight soak at +50°C;
- 7. With the EUT, powered via nominal voltage, connected to the CMU200 and in a simulated call on the centre channel, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming;

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- 8. Repeat the above measurements at 10 °C increments from +50 °C to -30 °C. Allow at least 0.5 hours at each temperature, unpowered, before making measurements;
- 9. At all temperature levels hold the temperature to +/- 0.5°C during the measurement procedure;

TEST CONFIGURATION



TATESTING

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For Hand carried battery powered equipment

According to the JTC standard the frequency stability of the carrier shall be accurate to within 0.1 ppm of the received frequency from the base station. This accuracy is sufficient to meet Sec. 24.235, Frequency Stability. The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. As this transceiver is considered "Hand carried, battery powered equipment" Section 2.1055(d)(2) applies. This requires that the lower voltage for frequency stability testing be specified by the manufacturer. This transceiver is specified to operate with an input voltage of between 3.40VDC and 4.20VDC, with a nominal voltage of 3.80 DC. Operation above or below these voltage limits is prohibited by transceiver software in order to prevent improper operation as well as to protect components from overstress. These voltages represent a tolerance of -10 % and +12.5 %. For the purposes of measuring frequency stability these voltage limits are to be used.

For equipment powered by primary supply voltage

According to the JTC standard the frequency stability of the carrier shall be accurate to within 0.1 ppm of the received frequency from the base station. This accuracy is sufficient to meet Sec. 24.235, Frequency Stability. The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. For this EUT section 2.1055(d)(1) applies. This requires varying primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment.

TEST RESULTS

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TEST RESULTS			CTATEST		
	GSM 8	50 Middle channe	l=190 channel=83	6.6MHz	
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict
3.80	25	-39	-0.047	2.50	PASS
3.40	25	-49	-0.059	2.50	PASS
4.20	25	-41	-0.050	2.50	PASS
3.80	-30	7	0.008	2.50	PASS
3.80	-20	-15	-0.018	2.50	PASS
3.80	-10	36	0.044	2.50	PASS
3.80	0	-9	-0.011	2.50	PASS
3.80	10	6	0.007	2.50	PASS
3.80	20	-23	-0.028	2.50	PASS
3.80	30	-50	-0.061	2.50	PASS
3.80	40	-20	-0.024	2.50	PASS
3.80	50	30	0.036	2.50	PASS

		GSM 19	000 Middle channe	el=661 channel=188	0MHz	
CTATES	DC Power	Temperature (℃)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict
CIL	3.80	25	17	0.009	2.50	PASS
	3.40	25	-48	-0.026	2.50	PASS
	4.20	25	-21	-0.011	2.50	PASS
	3.80	-30	34	0.018	2.50	PASS
	3.80	-20	-5	-0.003	2.50	PASS
	3.80	-10	-1 (2015	-0.001	2.50	PASS
	3.80	0	-33	-0.018	2.50	PASS
	3.80	10	40	0.021	2.50	PASS
G	3.80	20	8	0.004	2.50	PASS
	3.80	30	-17	-0.009	2.50	PASS
	3.80	40	46	0.024	2.50	PASS
	3.80	50	44	0.023	2.50	PASS
	3.80		CTATESTIN	G C	TATESTING	

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		GPRS 8	50 Middle channe	el=190 channel=830	6.6MHz	
	DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict
	3.80	25	-8	-0.010	2.50	PASS
	3.40	25	7(5)	0.008	2.50	PASS
	4.20	25	49	0.059	2.50	PASS
	3.80	-30	7	0.008	2.50	PASS
	3.80	-20	16	0.019	2.50	PASS
	3.80	-10	-40	-0.049	2.50	PASS
	3.80	0	18	0.022	2.50	PASS
	3.80	10	-35	-0.042	2.50	PASS
	3.80	20	-18	-0.022	2.50	PASS
	3.80	30	-19	-0.023	2.50	PASS
	3.80	40	-12	-0.015	2.50	PASS
TATE	3.80	50	-16	-0.019	2.50	PASS
		7ES1	17			
		GPRS 1	900 Middle chann	el=661 channel=18	380MHz	
			_	_		

GPRS 1900 Middle channel=661 channel=1880MHz						
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict	
3.80	25	-25	-0.013	2.50	PASS	
3.40	25	18	0.010	2.50	PASS	
4.20	25	-41	-0.022	2.50	PASS	
3.80	-30	-47	-0.025	2.50	PASS	
3.80	-20	-16	-0.009	2.50	PASS	
3.80	-10	25	0.013	2.50	PASS	
3.80	ING 0	4	0.002	2.50	PASS	
3.80	10	40	0.021	2.50	PASS	
3.80	20	39	0.021	2.50	PASS	
3.80	30	12	0.006	2.50	PASS	
3.80	40	2	0.001	2.50	PASS	
3.80	50	-5	-0.003	2.50	PASS	
				TATES		

CTA TESTING

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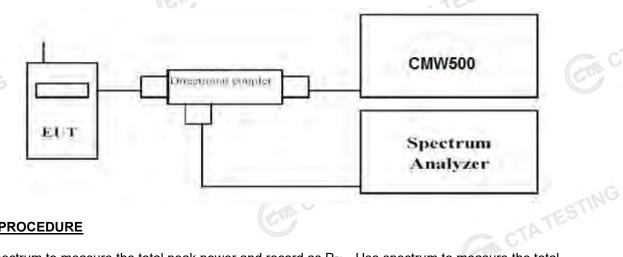
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Peak-to-Average Ratio (PAR)

LIMIT

The Peak-to-Average Ratio (PAR) of the transmission may not exceed 13 dB.

TEST CONFIGURATION



TEST PROCEDURE

Use spectrum to measure the total peak power and record as PPk. Use spectrum to 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:

CTA TESTING

PAPR (dB) = P_{Pk} (dBm) - P_{Avg} (dBm).

TEST RESULTS

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Band	Channel	Result(dB)	Limit(dB)	Verdict
SM850	128	9.46	13	PASS
PRS850	128	9.73	13	PASS
SM850	190	9.65	13	PASS
PRS850	190	9.84	13	PASS
SM850	251	9.56	13	PASS
PRS850	251	9.86	13	PASS

	GSM850	251	9.56	13	PASS	TO THE PARTY OF TH
	GPRS850	251	9.86	13	PASS	
_C	The					
CTATE			.6			-
CI	Band	Channel	Result(dB)	Limit(dB)	Verdict	
	GSM1900	512	9.38	13	PASS	
	GPRS1900	512	9.78	13	PASS	
	GSM1900	661	9.30	13	PASS	- 60
	GPRS1900	661	9.65	13	PASS	MG
	GSM1900	810	9.36	13	PASS	100
	GPRS1900	810	9.73	13	PASS	

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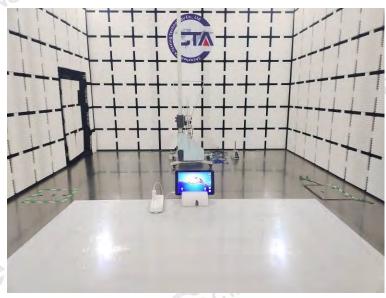
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Test Setup Photos of the EUT CTA TEST





CTATESTING **External and Internal Photos of the EUT**

CTA TESTING

Reference to the test report No. CTA24100901709.

CTA TESTING

CTATESTINGEnd of Report.....

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