

MRT Technology (Suzhou) Co., Ltd Phone: +86-512-66308358 Web: www.mrt-cert.com Report No.: 1706RSU01501 Report Version: V01 Issue Date: 06-26-2017

# MEASUREMENT REPORT FCC PART 22&24 Portable Handset

FCC ID	2AIV6-T196
APPLICANT	Shenzhen Inrico Electronics Co.,Ltd
Application Type	Certification
Product	Smart Phone
Model No.	T196
Brand Name	Inrico
FCC Classification	PCS Licensed Transmitter Held to Face (PCF)
FCC Rule Part(s)	Part2, Part22 Subpart H, Part24 Subpart E
Test Procedure(s)	ANSI/TIA-603-D-2010, KDB 971168 D01v02r02
Test Date	June 01 ~ 30, 2017

Reviewed By : Kevin Guo ) Marlinchen Approved By (Marlin Chen)



The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in §2.947. Test results reported herein relate only to the item(s) tested.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.



# **Revision History**

Report No.	Version	Description	Issue Date	Note
1706RSU01501	Rev. 01	Initial report	06-26-2017	Valid



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# §2.1033 General Information

Applicant:	Shenzhen Inrico Electronics Co., Ltd
Applicant Address:	4/F, Building NO.108, High Tech Industrial Park, Guowei Road 72,
	Luohu District, Shenzhen, China
Manufacturer:	Shenzhen Inrico Electronics Co., Ltd
Manufacturer Address:	4/F, Building NO.108, High Tech Industrial Park, Guowei Road 72,
	Luohu District, Shenzhen, China
Test Site:	MRT Technology (Suzhou) Co., Ltd
Test Site Address:	D8 Building, Youxin Industrial Park, No.2 Tian'edang Rd., Wuzhong
	Economic Development Zone, Suzhou, China
MRT Registration No.:	809388
FCC Rule Part(s):	Part2, Part22 Subpart H, Part24 Subpart E
Model No.:	T196
FCC ID:	2AIV6-T196
Test Device Serial No.:	N/A Droduction Pre-Production Dengineering
FCC Classification:	PCS Licensed Transmitter Held to Face (PCF)

## **Test Facility / Accreditations**

Measurements were performed at MRT Laboratory located in Tian'edang Rd., Suzhou, China.

- MRT facility is a FCC registered (MRT Reg. No. 809388) test facility with the site description report on file and has met all the requirements specified in Section 2.948 of the FCC Rules.
- MRT facility is an IC registered (MRT Reg. No. 11384A-1) test laboratory with the site description on file at Industry Canada.
- MRT facility is a VCCI registered (R-4179, G-814, C-4664, T-2206) test laboratory with the site description on file at VCCI Council.
- MRT Lab is accredited to ISO 17025 by the American Association for Laboratory Accreditation (A2LA) under the American Association for Laboratory Accreditation Program (A2LA Cert. No. 3628.01) in EMC, Telecommunications and Radio testing for FCC, Industry Canada, EU and TELEC Rules.





# 1. INTRODUCTION

# 1.1. Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Industry Canada Certification and Engineering Bureau.

# 1.2. MRT Test Location

The map below shows the location of the MRT LABORATORY, its proximity to the Taihu Lake. These measurement tests were conducted at the MRT Technology (Suzhou) Co., Ltd. Facility located at D8 Building, Youxin Industrial Park, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China. The detailed description of the measurement facility was found to be in compliance with the requirements of § 2.948 according to ANSI C63.4-2009 on September 30, 2013.





# 2. PRODUCT INFORMATION

### 2.1. Equipment Description

Product Name	Smart Phone				
Model No.	T196				
Operational Band	GPRS/EDGE 850 / 1900, WCDMA Band II / V				
Tx Frequency	GPRS/EDGE:				
	<b>850:</b> 824.2MHz ~ 848.8MHz				
	<b>1900:</b> 1850.2MHz ~ 1909.8MHz				
	WCDMA:				
	<b>Band V:</b> 826.4MHz ~ 846.6MHz				
	Band II: 1852.4MHz ~ 1907.6MHz				
Rx Frequency	GPRS/EDGE:				
	<b>850:</b> 869.2MHz ~ 893.8MHz				
	<b>1900:</b> 1930.2MHz ~ 1989.8MHz				
	WCDMA:				
	Band V: 871.4MHz ~ 891.6MHz				
	Band II: 1932.4MHz ~ 1987.6MHz				
Maximum Output	GPRS 850: 31.93dBm				
Power to Antenna	GPRS 1900: 28.74dBm				
	WCDMA Band II: 24.13dBm				
	WCDMA Band V: 25.28dBm				
Antenna Type	Detachable Dipole Antenna				
Antenna Gain	GPRS 850: 2.15dBi				
	GPRS 1900: 2.15dBi				
	WCDMA Band II: 2.15dBi				
	WCDMA Band V: 2.15dBi				
Type of Modulation	GPRS: GMSK; EDGE: 8PSK				
	WCDMA/HSDPA/HSUPA: QPSK (Uplink)				

Note: The test data contained in this report only to the emissions due to the EUT's 2G/3G licensed transmitters. The test report has showed the worst test mode.

## 2.2. Device Capabilities

This device contains the following capabilities: 850 / 1900 GPRS / EDGE, 850 / 1900 WCDMA / HSDPA / HSUPA.



## 2.3. Test Configuration

The **Smart Phone** was tested per the guidance of ANSI/TIA-603-D-2010 and KDB 971168 D01v02r02. See section 3.0 of this report for a description of the radiated and antenna port conducted emissions tests.

# 2.4. EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and no modifications were made during testing.



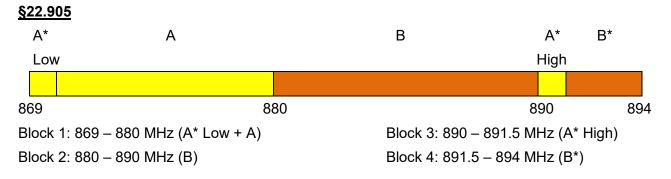
# 3. DESCRIPTION OF TEST

# 3.1. Evaluation Procedure

The measurement procedures described in the "Land Mobile FM or PM – Communications Equipment – Measurements and Performance Standards" (ANSI/TIA-603-D-2010) and "Procedures for Compliance Measurement of the Fundamental Emission Power of Licensed Wideband (> 1 MHz) Digital Transmission Systems" (KDB 971168) were used in the measurement of the **Smart Phone**.

Deviation from measurement procedure.....None

# 3.2. Cellular – Base Frequency Blocks



## 3.3. Cellular – Mobile Frequency Blocks

<u>§22.905</u>					
A*	А		В	A*	B*
Low				High	
824		835		845	849
Block 1: 824 – 835 MHz (A* Low + A)			Block 3: 845 – 846.5	5 MHz (A* I	High)
Block 2: 835 – 845 MHz (B)			Block 4: 846.5 – 849	9 MHz (B*)	

## 3.4. PCS – Base Frequency Blocks

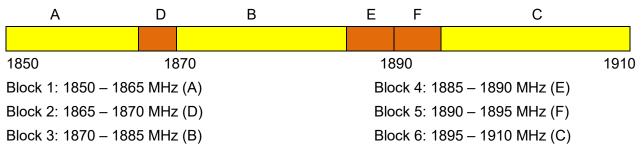
<u>§24.229</u>						
А	D	В	Е	F	С	
1930	1950		19	970		1990
Block 1: 1930 – 1945 MHz (A)			Blo	ock 4: 1	965 – 1970 MHz (E)	
Block 2: 1945 – 1950 MHz (D)			Blo	ock 5: 1	970 – 1975 MHz (F)	
Block 3: 1950 –	1965 MHz (B)	Block 6: 1975 – 1990 MHz (C)				

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## 3.5. PCS – Mobile Frequency Blocks

#### <u>§24.229</u>



### 3.6. Occupied Bandwidth

#### <u>§2.1049</u>

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured. The spectrum analyzers' "occupied bandwidth" measurement function was used to record the occupied bandwidth in accordance with KDB 971168.

## 3.7. Spurious and Harmonic Emissions at Antenna Terminal

#### §2.1051 §22.917(a) §24.238(a)

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10<sup>th</sup> harmonic. 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(P) dB. Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater for Part 22 and 1 MHz or greater for Part 24. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.



# 3.8. Radiated Power and Radiated Spurious Emissions

#### §2.1053 §22.913(a.2) §22.917(a) §24.232(c) §24.238(a)

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurement and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. For measurements above 1GHz absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1GHz, the absorbers are removed. A MF Model 210SS turntable is used for radiated measurement. It is a continuously rotatable, remote-controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. A 80cm high PVC support structure is placed on top of the turntable.

The equipment under test was transmitting while connected to its integral antenna and is placed on a wooden turntable 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height is adjusted between 1 and 4 meter height, the turntable is rotated through 360 degrees, and the EUT is manipulated through all orthogonal planes representative of its typical use to achieve the highest reading on the receive spectrum analyzer. Radiated power levels are also investigated with the receive antenna horizontally and vertically polarized. The maximized power level is recorded using the spectrum analyzer "Channel Power" function with the integration band set to the emissions' occupied bandwidth, a RMS detector, RBW = 100kHz, VBW = 300kHz, and a 1 second sweep time over a minimum of 10 sweeps, per the guidelines of KDB 971168.

Per the guidance of ANSI/TIA-603-D-2010, a half-wave dipole is then substituted in place of the EUT. For emissions above 1GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator with the level of the signal generator being adjusted to obtain the same receive spectrum analyzer level previously recorded from the spurious emission from the EUT. The power of the emission is calculated using the following formula:

Where, Pd is the dipole equivalent power, Pg is the generator output into the substitution antenna, and the antenna gain is the gain of the substitute antenna used relative to either a half-wave dipole (dBd) or an isotropic source (dBi). The substitute level is equal to Pg [dBm] – cable loss [dB].

The calculated Pd levels are then compared to the absolute spurious emission limit of -13dBm which is equivalent to the required minimum attenuation of 43 + 10\*log10(Power [Watts]) specified



# 3.9. Peak-Average Ratio

#### <u>§24.232(d)</u>

A peak to average ratio measurement is performed at the conducted port of the EUT. The spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level.

For pulsed signals, the spectrum analyzer is set to use an internal "RF Burst" trigger that is synced 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 which the transmitter is operating at maximum power. For continuous signals, the trigger is set to "free run" in the CCDF measurement mode.

## 3.10. Frequency Stability / Temperature Variation

#### §2.1055 §22.355 §22.863 §22.905 §24.229 §24.235

Frequency stability testing is performed in accordance with the guidelines of ANSI/TIA-603-D-2010. The frequency stability of the transmitter is measured by:

a.) Temperature: The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.

b.) 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.

Specification – For Part 22, the frequency stability of the transmitter shall be maintained within  $\pm 0.00025\%$  ( $\pm 2.5$  ppm) of the center frequency. For Part 24, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Time Period and Procedure:

1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).

2. The equipment is turned on in a "standby" condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.

3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.



# 4. TEST EQUIPMENT CALIBRATION DATE

Radiated Emission - AC1

Instrument	Manufacturer	Туре No.	Asset No.	Cali. Interval	Cali. Due Date
MXE EMI Receiver	Agilent	N9038A	MRTSUE06125	1 year	2017/08/03
Radio Communication Tester	R&S	CMU 200	MRTSUE06009	1 year	2017/11/10
Preamplifier	Agilent	83017A	MRTSUE06076	1 year	2018/03/28
Loop Antenna	Schwarzbeck	FMZB1519	MRTSUE06025	1 year	2017/12/14
TRILOG Antenna	Schwarzbeck	VULB9168	MRTSUE06172	1 year	2017/11/19
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	MRTSUE06023	1 year	2017/10/22
Broadband Horn Antenna	Schwarzbeck	BBHA9170	MRTSUE06024	1 year	2018/01/04
Temperature/Humidity Meter	Yuhuaze	HTC-2	MRTSUE06183	1 year	2017/12/20
Anechoic Chamber	TDK	Chamber-AC1	MRTSUE06212	1 year	2018/05/10

### Conducted Test Equipment - TR3

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Agilent	N9020A	MRTSUE06106	1 year	2018/05/08
Radio Communication Tester	R&S	CMU 200	MRTSUE06009	1 year	2017/11/10
USB Wideband Power Sensor	Boonton	55006	MRTSUE06109	1 year	2018/05/08
Programmable Temperature & Humidity Chamber	BAOYT	BYH-1500L	MRTSUE06051	1 year	2017/12/06
Temperature/Humidity Meter	Yuhuaze	HTC-2	MRTSUE06180	1 year	2017/12/22

Software	Version	Function
e3	V8.3.5	EMI Test Software



# 5. SAMPLE CALCULATIONS

#### **GSM Emission Designator**

Emission Designator = 250KGXW GPRS BW = 250 kHz G = Phase Modulation X = Cases not otherwise covered W = Combination (Audio/Data)

### **EDGE Emission Designator**

Emission Designator = 250KG7W GPRS BW = 250 kHz G = Phase Modulation 7 = Quantized/Digital Info W = Combination (Audio/Data)

#### WCDMA Emission Designator

Emission Designator = 4M16F9W WCDMA BW = 4.16 MHz F = Frequency Modulation 9 = Composite Digital Info W = Combination (Audio/Data) (Measured at the 99.75% power bandwidth)

## Spurious Radiated Emission

Example: Spurious emission at 3700.40 MHz

The receive spectrum analyzer reading at 3 meters with the EUT on the turntable was -81.0dBm. The gain of the substituted antenna is 8.1dBi. The signal generator connected to the substituted antenna terminals is adjusted to produce a reading of -81.0dBm on the spectrum analyzer. The loss of the cable between the signal generator and the terminals of the substituted antenna is 2.0 dB at 3700.40MHz. So 6.1 dB is added to the signal generator reading of -30.9dBm yielding -24.80dBm. The fundamental EIRP was 25.50dBm so this harmonic was 25.50dBm -(-24.80) = 50.3dBc.



# 6. MEASUREMENT UNCERTAINTY

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k = 2.

#### Radiated Emission Measurement - AC1

Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 9kHz ~ 1GHz: ± 4.18dB 1GHz ~ 40GHz: ± 4.76dB



# 7. TEST RESULT

### 7.1. Summary

Company Name:	Shenzhen Inrico Electronics Co., Ltd
FCC ID:	<u>2AIV6-T196</u>
FCC Classification:	PCS Licensed Transmitter Held to Face (PCF)
Mode(s):	<u>GPRS / EDGE / WCDMA</u>

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
<u>Transmitter</u>	<u>Mode(TX)</u>				
2.1049	Occupied bandwidth	N/A		Pass	Section 7.2
2.1051	Band Edge /	> 43 + log10 (P[Watts]) at			
22.917(a)	Conducted Spurious	Band Edge and for all		Pass	Section 7.3
24.238(a)	Emissions	out-of-band emissions	Conducted		
24.232(d)	Peak-Average Ratio	< 13 dB		Pass	Section 7.5
2.1046	Transmitter Conducted Output Power	N/A		Pass	Section 7.4
22.913(a.2)	Effective Radiated Power	< 7 Watts max. ERP		Pass	Section 7.4
24.232(c)	Equivalent Isotropic Radiated Power	< 2 Watts max. EIRP		Pass	Section 7.4
2.1053		$> 42 \pm \log 10$ (DIM(attal) for all	Radiated		
22.917(a)	Undesirable Emissions	> 43 + log10 (P[Watts]) for all out-of-band emissions	Raulateu	Pass	Section 7.4
24.238(a)					
2.1055		< 2.5 ppm (Part 22)			
22.355	Frequency Stability	Emission must remain in		Pass	Section 7.6
24.235		band (Part 24)			

#### Notes:

- 1) All modes of operation and data rates were investigated. The test results shown in the following sections represent the worst case emissions.
- 2) The analyzer plots shown in Section 4.0 were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables, directional couplers, and attenuators used as part of the system to maintain a link between the call box and the EUT at all frequencies of interest.
- 3) All antenna port conducted emissions testing was performed on a test bench with the antenna port of the EUT connected to the spectrum analyzer through calibrated cables, attenuators, and couplers.



# 7.2. Occupied Bandwidth

#### 7.2.1. Test Limit

N/A

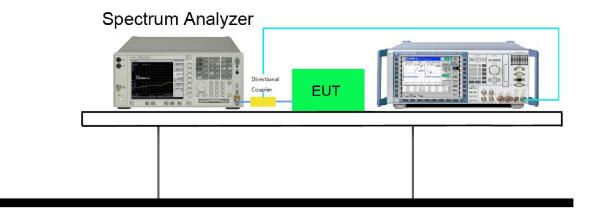
#### 7.2.2. Test Procedure used

KDB 971168 D01v02r02 - Section 4.1 & ANSI/TIA-603-D-2010

#### 7.2.3. Test Setting

- The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be between two and five times the anticipated OBW. RBW = approximately 1% of the emission bandwidth.
- 2. The nominal resolution bandwidth (RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.
- 3. Set the detection mode to peak, and the trace mode to max hold.
- 4. Use the 99 % power bandwidth function of the spectrum analyzer (if available) and report the measured bandwidth.

#### 7.2.4. Test Setup

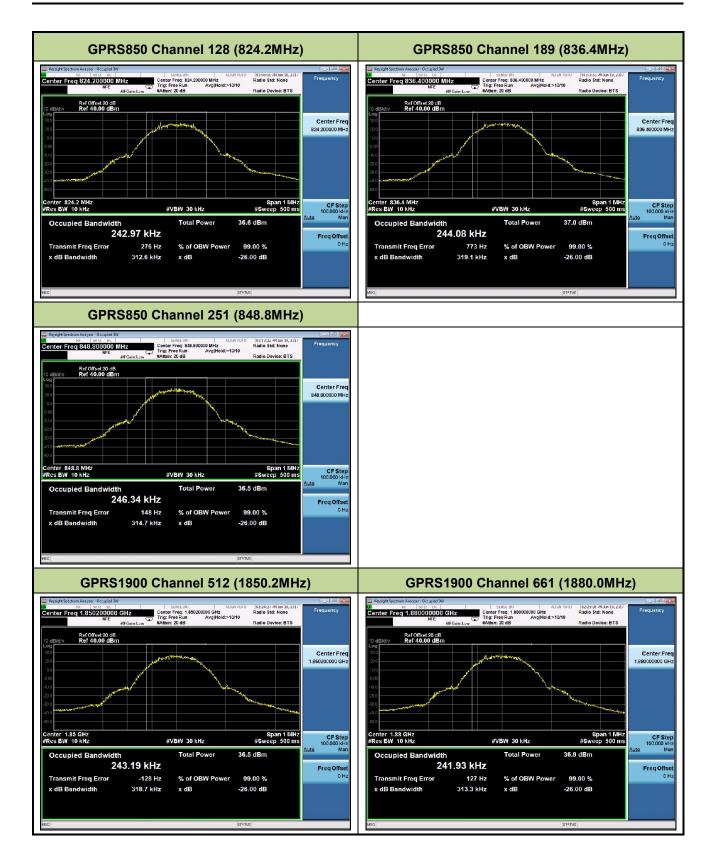




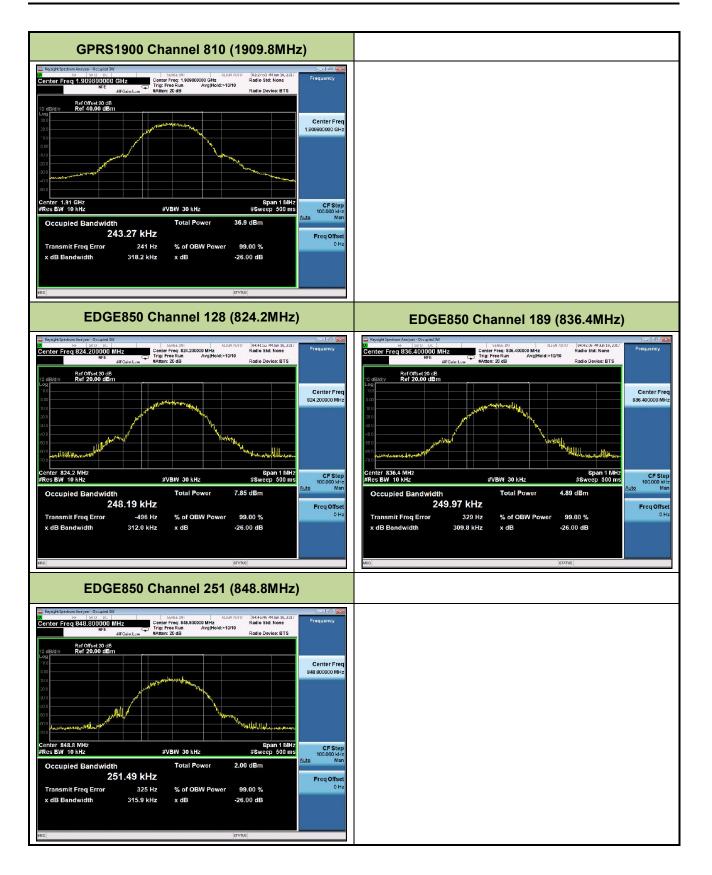
#### 7.2.5. Test Result

Test Mode	Channel No.	Frequency (MHz)	99% Occupied Bandwidth (kHz)	-26dB Occupied Bandwidth (kHz)	Result
	128	824.2	243.0	312.6	Pass
GPRS850	189	836.4	244.1	319.1	Pass
	251	848.8	246.3	314.7	Pass
	512	1850.2	243.2	318.7	Pass
GPRS1900	661	1880.0	241.9	313.3	Pass
	810	1909.8	243.3	318.2	Pass
	128	824.2	248.2	312.0	Pass
EDGE850	189	836.4	250.0	309.8	Pass
	251	848.8	251.5	315.9	Pass
	512	1850.2	249.5	323.7	Pass
EDGE1900	661	1880.0	249.2	317.2	Pass
	810	1909.8	250.0	321.2	Pass
	9262	1852.4	4157.7	4651.0	Pass
WCDMA Band II	9400	1880.0	4152.4	4661.0	Pass
	9538	1907.6	4170.9	4678.0	Pass
	4132	826.4	4150.0	4649.0	Pass
WCDMA Band V	4182	836.4	4151.8	4641.0	Pass
	4233	846.6	4147.9	4646.0	Pass

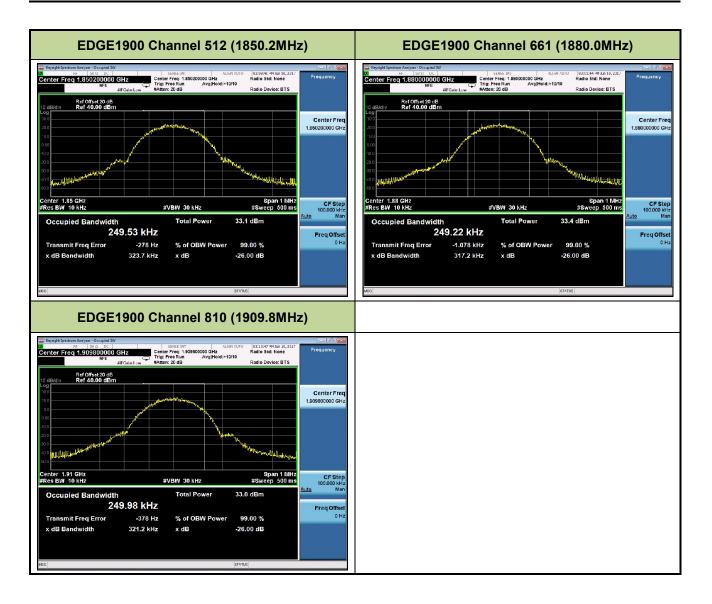


















WCDMA F	Band V	Channel 42	233 (846.6N	/IHz)
Keysight Spectrum Ansyzer - Occupied 3W Ho (2012) UC Center Freq 846.600000 MI NFE K	Center	Freq: 846.600000 MHz ree Run Avg Hold:>10	17010  12:43:30 PN Jun 13, 2017 Radio Std: None M0 Radio Device: BTS	Frequency
Ref Offset 22 dB 10 dB/dly Ref 30.00 dBm				
20.0	alfree som de Britteren Austre	Sound has been an in some type		Center Freq 846.600000 MHz
100				
-000 -000 -000			the the second segure of many	
-000				
Center 846.6 MHz #Res BW 39 kHz	#	/BW 120 kHz	Span 10 MHz Sweep 16.67 ms	CF Step 1.000000 MHz
Occupied Bandwidth		Total Power	30.3 dBm	<u>Auto</u> Man
4.1 Transmit Freg Error	479 MHz	% of OBW Power	99.00 %	Freq Offset 0 Hz
x dB Bandwidth	4.646 MHz	x dB	-26.00 dB	
MSC			STATUS	



# 7.3. Spurious and Harmonic Emissions at Antenna Terminal

#### 7.3.1. Test Limit

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 + 10log(P) dB.

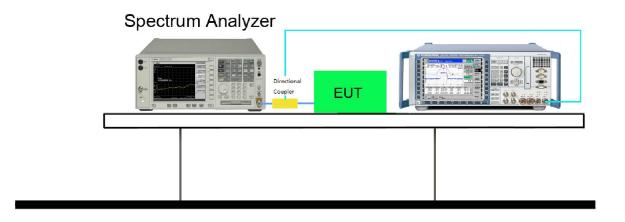
#### 7.3.2. Test Procedure Used

KDB 971168 D01v02r02 - Section 6.0 & ANSI/TIA-603-D-2010

#### 7.3.3. Test Setting

In the 1MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the out of band Emissions.

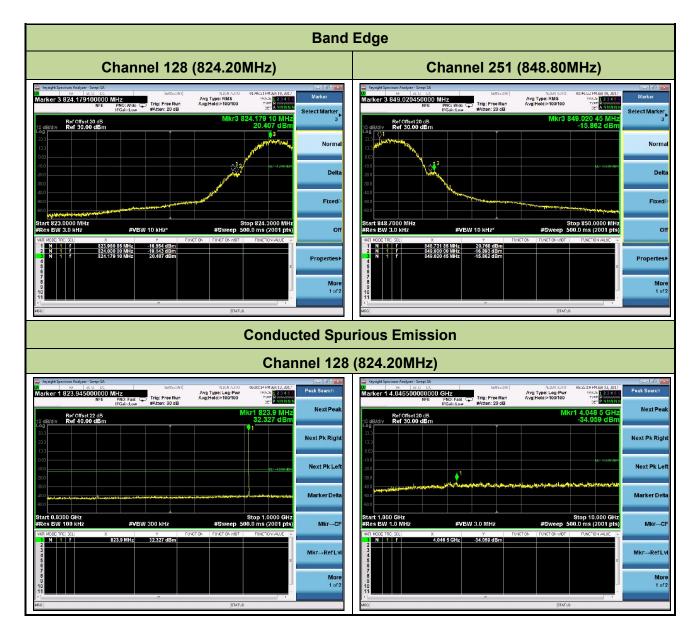
#### 7.3.4. Test Setup





#### 7.3.5. Test Result

Mode	Channel No.	Frequency (MHz)	Modulation	Test Result
GPRS850	128	824.2	GMSK	Pass
GPRS850	189	836.4	GMSK	Pass
GPRS850	251	848.8	GMSK	Pass





NFE	A SERSEINI OO MHZ F RMC East (D) Trig: Free Run	Avg Type: Log-Pwr IRA	MJun 13, 2017 CE 12 14 5 Peak Search	Keysight Spectrum Analyzer - Swept SA Key Key Structure Marker 1 9.320500000000 NFE	GHz Trig: Free Run	ALIGH AUTO (6:33:42 FMJun 13, 2017 Avg Type: Log-Pwr (FACE Total F Avg Hold:>100/100 Type	Peak Search
Ref Offset 22 dB	IFGain:Low #Atten: 30 dB	Mkr1 83	6.6 MHz 20 dBm	Ref Offset 20 dB	PN0: Fast Trig: Free Run IFGsin:Low #Atten: 20 dB	Mkr1 9.320 5 GHz -34.387 dBm	Next Pe
		• • • • • • • • • • • • • • • • • • •	Next Pk Right				Next Pk Ri
0			RE-1910-07 Next Pk Left	-10.0		uc^-rstwidsh ↓1	Next Pk I
0 0 0 0	ali ana ang gantananda karata a ting baara da	dere muchanik versiklerist zwinterin antif Desition	Marker Delta	-40.0	ang pangina <sup>kta</sup> ng kang kang kang kang kang kang kang ka	a gada ga daga bingerini sagen ili gora yar tu adhafar na di an daga daga daga daga daga daga daga d	Marker D
art 0.0300 GHz es BW 100 kHz	# <b>V</b> BW 300 kHz	#Sweep 500.0 ms (		Start 1.000 GHz #Res BW 1.0 MHz	#VBW 3.0 MHz	Stop 10.000 GHz #Sweep 500.0 ms (2001 pts)	Mkr-
	X Y FU 836.3 MHz 32.120 dBm	UNCTION FUNCTION WIDT FUNCTIN	ovweue ∧ Mkr→RefLvi	VKR MODE TRC SCL X 1 N 1 f 9 2 3 3 4 5 6 6 7	Υ 320 5 GHz -34.387 dBm	E FUNCTION WIDT	Mkr→Ret
	Π	STATUS	More 1 of 2	8 9 10 11 1	т	status -	N 1
Keysight Spectrum Analyzer - Swept SA Ν+ 50 Ω UC arker 1 848.68000000 NFE	C SEMSERINI	ALIGN AUTO 05:05:29 H Avg Type: Log-Pwr Haz Avg Hold:>100/100 Tvi D	Hannel 251	Keyzight Spectrum Analyzer - Swept SA N N N St S2 N N N St S2 N	SERSEINI	NLIGH AUTO     V5:35:40 FM Jun 13, 2017       Avg Type: Log-Pwr     HALE 12 3 4 5       Avg[Hold:>100/100     TVPF       Der     PANNINA	Peak Searc Next P
Ref Offset 22 dB		Mkr1 844 31.4 •	8.7 MHZ 160 dBm Next Pk Right	Ref Offset 20 dB       10 dB/div     Ref 30.00 dBm       223		Mkr1 1.697 5 GHz -33.402 dBm	Next Pk R
-			Next Pk Left	-10.0 -20.0 -30.0		LE*-13300 COM	Next Pk
0				-50.0			Marker E
		and water of the second of the second s	Marker Delta	-60.0			marker
0 0 0 0 0 0 0 0 0 0 0 0 0 0	#VEW 300 kHz	#Sweep 500.0 ms (	0000 GHz	-60.0 Start 1.000 GHz #Res BW 1.0 MHz	#VBW 3.0 MHz	Stop 10.000 GHz #Sweep 500.0 ms (2001 pts) TON	Marker 2



Mode	Channel No.	Frequency (MHz)	Modulation	Test Result
GPRS1900	512	1850.2	GMSK	Pass
GPRS1900	661	1880.0	GMSK	Pass
GPRS1900	810	1909.8	GMSK	Pass

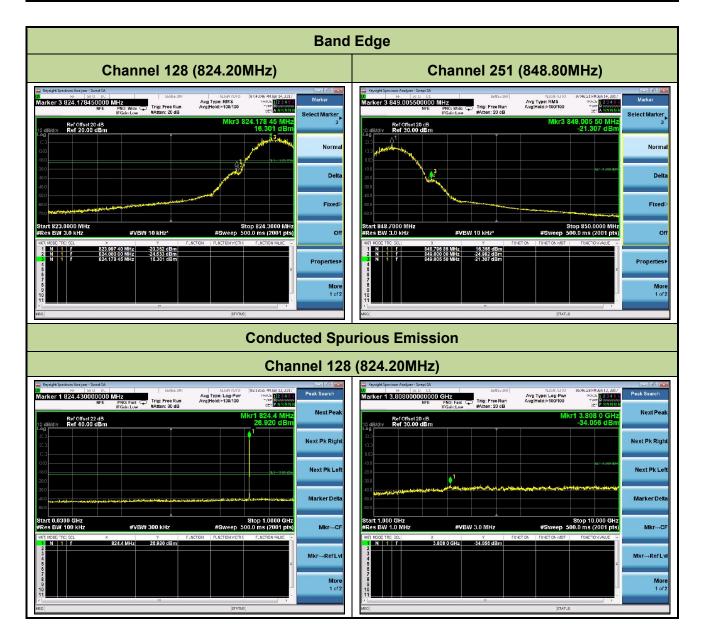




Keysight Spectrum Analyzer - Swept SA		🔤 Keysight Spectrum Analyzer - Swept SA	
NF     S0 Ω     DC     SENSE INT       Irker 1 844,800000000 MHz     Trig: Free Run     Trig: Free Run       NFE     PNO: Fast     #Atten: 30 dB	ALISH //UTO 05:13:55 PN Jon 13, 2017 Avg Type: Log-Pwr 1HALE 12:3 4 5 Avg Hold:>100/100 7/4F Det PNN NHT	O2     39/0     0/0     1     States int     Autom/2010     Distates int       Marker 1 1.88355000000000 GHz     Frige: Free Run     Avg Hysic Log Puot     Free	Peak Search
Ref Offset 22 dB dB/dlv Ref 40.00 dBm	Mkr1 844.8 MHz -38.048 dBm	Ref 0f5et 20 dB Mkr1 1.883 5 GF 10 dB/dl Ref 40.00 dBm 29.863 dB	12 Next Pe n
2 2 2	Next Pk Right		Next Pk Rig
0 0 0	Next Pk Left		Next Pk L
0 0 0 0 0	Marker Delta		MarkerDe
ATT 0.0300 GHz es BW 100 kHz #VBW 300 kHz 1 Model The Isol x y r	Stop 1.0000 GHz #Sweep 500.0 ms (2001 pts) .xctox	Start     1.000 GHz     Stop 20.000 Gł       #Res BW 1.0 MHz     #Sweep 500.0 ms (2001 pl       wr Hoot Frie Izt.     ×     Y	s) Mkr-
N 1 f 844.8 MHz -38.048 dBm	Mkr→RefLv More	1     N     1     r     1.883.5 GHz     29.888.4Bm       2     3	Mkr→Ref
	I of 2	10 11 **	1
Kgstj#f5pt.bm/Awsyter-Sant 5A → 540 00 rfker 1 891.8500000000 MHz M <sup>2</sup> PRot Fast FGein Low FGein Low 4Atten: 30 dB	ALIM //J/O (05:11:H5 -M JAN 13, 237 Avg Tyre: Leg-Pyrr indus 13, 237 Avg Hold: >100:100 cer 0.151 Million (14, 200) cer 0.151 Million (14, 200)	(1909.800HHz)       Image: Section Ansystem Section       Image: Section Ansystem An	Novt P
Ref Offset 22 dB IB/dly Ref 40.00 dBm	-38.420 dBm	10 dBldiv Ref 0fiset20 dB Mkr1 1.912 0 GF 10 dBldiv Ref 0.00 dBm 29.791 dB 30 d 1 29 d 1 20 dF	2
	Next Pk Right	100	NEXTERN
	Next Pk Left		Next PK I
	Next Pk Left		Next Pk I
rt 0.0300 GHz ss EW 100 kHz #VBW 300 kHz	Next Pk Left		Next Pk   Marker D



Mode	Channel No.	Frequency (MHz)	Modulation	Test Result
EDGE850	128	824.2	8PSK	Pass
EDGE850	189	836.4	8PSK	Pass
EDGE850	251	848.8	8PSK	Pass





Keysight Spectrum Analyzer - Swept SA		💷 🗇 🚾 Keysight Spectrum Analyzer - Swept SA
№     S0 Ω     SEE     SEE       Narker 1 836.555000000 MHz     Trig: Free Run     Trig: Free Run       NFE     PNO: Fast     Trig: Kree Run       #Atten: 30 dB     #Atten: 30 dB	ALIM /UTO 05:23:33 *N Jun 13, 2317 Avg Type: Log-Pwr TKALE 03.4 F Avg[Hold:>100/100 7-Pm 13.4 F Det DNNNN	Peak Search And US AND US AND US AND
Ref Offset22 dB 0 dB/dly Ref 40.00 dBm	Mkr1 836.6 MHz 26.814 dBm	Next Peak Rer Offset 20 dB Mkr1 8.852 5 GHz Nez
210 210 120		Next Pk Right     23     Operation     Next Pi       1030     000
0.03	<u>311-30957</u>	Next Pk Left     .00     Monthly Left     Next I       .000     .000     .000     .000     .000
0.0 0.0 0.0 0.0		Marker Della
tant 0.0300 GHz Res BW 100 KHz #VBW 300 KHz	Stop 1.0000 GHz #Sweep 500.0 ms (2001 pts)	Start 1.000 GHz     #VEW 3.0 MHz     Stop 10.000 GHz       #Res BW 1.0 MHz     #Swee 500 ms (200 pts)     Mill       Wm Noot Ric SLU     x     y     ruxcho ware
M 1000 (10 20 A 238.6 MHz 28.614 dBm		MkrRefLvt     A     1     7     6.852.5 GHz     52.031 dBm     1     1     6.852.5 GHz     52.031 dBm     1 <th< td=""></th<>
9 10 11 12 14 17	STATUS	
Kingsjeft Sjotztrum Ainsyser - Swizet SA 20 20 U. D Aartker 1848.GB0000000 MH/z NFE PNC Fast co NFE PNC Fast co Vetter: 30 dB	ALIGN 7010 [05:21:13 -N Xin 13, 2317 Avg Type: Leg-Pvr iFicker 12.3 -G C Avg [Hold:>100/100 cet P N N N H	Next Peak     Marker 1 3/7/34000000000 GHz     Marker 1 3/7/340000000000 GHz     Marker 1 3/7/3400000000000 GHz     Marker 1 3/7/3400000000000 GHz     Marker 1 3/7/34000000000000 GHz     Marker 1 3/7/340000000000000 GHz     Marker 1 3/7/34000000000000000 GHz     Marker 1 3/7/340000000000000000000000000000000000
Ref Offset 22 dB 0 dB/diy Ref 40,00 dBm	Mkrf 848.7 MHz 26.260 dBm	Ref Offset 20 dB     Mkr1 3.754 0 GHz     Key       Log
15		
	31-300 mm	Next Pk Left 300 Sector
		Marker Delta
aller de service de se		



Mode	Channel No.	Frequency (MHz)	Modulation	Test Result
EDGE1900	512	1850.2	8PSK	Pass
EDGE1900	661	1880.0	8PSK	Pass
EDGE1900	810	1909.8	8PSK	Pass

