# FCC Test Report

# Report No.: AGC00754141201FE02

FCC ID	: 2AC99-TM45TM
APPLICATION PURPOSE	: Original Equipment
PRODUCT DESIGNATION	: Mobile Phone
BRAND NAME	: AIRIS
MODEL NAME	: TM45TM, TM45TA, TM45TN, TM45TB
CLIENT	: Infinity System S.L.
DATE OF ISSUE	: Dec.09, 2014
STANDARD(S)	: FCC Part 22H & 24E Rules
REPORT VERSION	: V1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd.

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# **REPORT REVISE RECORD**

<b>Report Version</b>	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Dec.09, 2014	Valid	Original Report

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Applicant	Infinity System S.L.	
Address	Crtra A-2, Km 48.5, Pol. Ind. De Cabanillas, Parcela 12B, 19171, Guadalajara, Spain.	
Manufacturer	Green Globe International Corp.	
Address	Room A, 6/F, Man Wing Building, 503-507 Nathan Road, Yau Ma Tei, Kowloon, Hong Kong	
Product Designation	Mobile Phone	
Brand Name	AIRIS	
Test Model	TM45TM	
Series Model	TM45TA, TM45TN, TM45TB	
Difference description	All the same except for the model name.	
Date of test	Dec.02, 2014 to Dec.08, 2014	
Deviation	None	
Condition of Test Sample	Normal	

# **1. VERIFICATION OF COMPLIANCE**

# We hereby certify that:

The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. The data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C 63.4:2003 and TIA/EIA 603. The sample tested as described in this report is in compliance with the FCC Rules Part 22H and 24E.

The test results of this report relate only to the tested sample identified in this report.

art The Tested By : Bart Xie Dec.09, 2014 kicler Eng Reviewed By : Kidd Yang Dec.09, 2014 Ssyar 21 Approved By:

Solger Zhang

Dec.09, 2014

# 2. GENERAL INFORMATION

# 2.1 PRODUCT DESCRIPTION

A major technical description of EUT is described as following:

	-	
Product Designation	Mobile Phone	
Hardware version	K236_MB_P2_V01	
Software version	V001	
Frequency Bands	⊠GSM 850  ⊠PCS 1900 (U.S. Bands)    ⊠GSM 900  ⊠DCS 1800 (Non-U.S. Bands)    ⊠UMTS FDD Band II  ⊠UMTS FDD Band V (U.S. Bands)    □UMTS FDD Band I  □UMTS FDD Band VIII (Non-U.S. Bands)	
Antenna	PIFA Antenna	
Antenna gain	-1.0dBi(GSM/WCDMA 850), -0.8dBi (GSM/WCDMA 1900)	
Power Supply	DC 3.7V by Battery	
Battery parameter	DC3.7V/1200 mAh	
Adapter Input	AC100-240V, 50/60Hz ,0.15A	
Adapter Output	DC5V, 0.5A	
Single SIM Card:	WCDMA / GSM Card Slot	
GPRS Class	12	
Extreme Vol. Limits	DC3.4 V to 4.2 V (Normal: DC3.7 V)	
Extreme Temp. Tolerance	-10℃ to +50℃	
EUT couldn't be operating no	C4.2V and Low Voltage DC3.4V were declared by manufacturer, The prmally with higher or lower voltage.	
Other functions have been performed according to verification procedure except for Bluetooth and		

Other functions have been performed according to verification procedure except for Bluetooth and MS function.

\*\*\* **Note:** The maximum power levels are GSM for MCS-4: GMSK link, EDGE for MCS-9:8PSK link, and RMC 12.2kbps mode for WCDMA band II, WCDMA band V, only these modes were used for all tests. We found out the test mode with the highest power level after we analyze all the data rates. So we chose worst case as a representative.

# WCDMA Card Slot:

	Maximum ERP/EIRP	Max. Conducted Power	Max. Average
	(dBm)	(dBm)	Burst Power (dBm)
GSM 850	30.59	32.38	31.72
PCS 1900	27.63	29.51	28.88
UMTS BAND II	21.58	23.17	22.63
UMTS BAND V	21.56	23.44	22.89

# 2.2 RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID: 2AC99-TM45TM**, filing to comply with the FCC Part 22H&24E requirements.

#### 2.3 TEST METHODOLOGY

The radiated emission testing was performed according to the procedures of ANSI C 63.4: 2003; TIA/EIA 603 and FCC CFR 47 Rules of 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055, 2.1057. KDB 971168 D01 Power Meas License Digital Systems v02r01

#### 2.4 TEST FACILITY

The test site used to collect the radiated data is located at: Attestation of Global Compliance (Shenzhen) Co., Ltd. 2/F., Building 2, No.1-No.4, Chaxi Sanwei Technical Industrial Park, Gushu, Xixiang, Bao'an District, Shenzhen, Guangdong, China FCC register No.: 259865

# 2.5 MEASUREMENT INSTRUMENTS

Name of Equipment	Manufacturer	Model	Calibration Date	Calibration Due.
SPECTRUM ANALYZER	AGILENT	E4440A	Feb.17,2014	Feb.16,2015
TEST RECEIVER	R&S	ESCI	July 25, 2014	July 24, 2015
COMMUNICATION TESTER	AGILENT	8960	July 25, 2014	July 24, 2015
COMMUNICATION TESTER	R&S	CMU200	July 25, 2014	July 24, 2015
SIGNAL GENERATOR	AGILENT	E4438C	Feb.23,2014	Feb. 22,2015
LISN	R&S	ESH3-Z5	July 25, 2014	July 24, 2015
CLIMATE CHAMBER	ALBATROSS		July 25, 2014	July 24, 2015
Loop Antenna	A.H.	SAS-562B	May 10, 2014	May 09, 2015
WIDEBAND REQUENCY ANTENNA	SCHWARZBECK	VULB9168	Aug.16, 2014	Aug.15, 2015
Substitution Antenna	EMCO	3142C	Aug.16, 2014	Aug.15, 2015
Substitution Antenna	EM	EM-AH-10180	Apr.19, 2014	Apr.18, 2015
Horn Antenna	EM	EM-AH-10180	Feb.17,2014	Feb.16,2015
Horn Antenna	A.H. Systems Inc.	SAS-574	June 6, 2014	June 5, 2015
Radiation Cable 1	Sat	RE1	June 4, 2014	June 3, 2015
Radiation Cable 2	Sat	RE2	June 4, 2014	June 3, 2015
Conduction Cable	Sat	CE1	June 4, 2014	June 3, 2015

# 2.6 SPECIAL ACCESSORIES

The battery and the charger, earphone supplied by the applicant were used as accessories and being tested with EUT intended for FCC grant together.

# 2.7 EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

# **3. SYSTEM TEST CONFIGURATION**

# 3.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commission's requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

# 3.2 EUT EXERCISE

The Transmitter was operated in the maximum output power mode through Communication Tester. The TX frequency was fixed which was for the purpose of the measurements.

Item Number	Item Description		FCC Rules	
1	Output Dowor	Conducted output power	2.1046/22.913(a) (2) / 24.232	
I	Output Power	Radiated output power	(c)	
2	Peak-to-Average	Dock to Average Ratio	24.222(d)	
2	Ratio	Peak-to-Average Ratio	24.232(d)	
		Conducted		
3	Spurious Emission	spurious emission	2.1051 / 22.917 / 24.238	
		Radiated spurious emission		
4	Mains Conducted Emission		15.107 / 15.207	
5	Frequency Stability		2.1055/22.355 /24.235	
6	Occupied Bandwidth		2.1049 (h)(i)	
7	Emission Bandwidth		22.917(a)/24.238(a)	
8	Band Edge		22.917(a)/24.238(a)	

# **3.3 GENERAL TECHNICAL REQUIREMENTS**

# **3.4 CONFIGURATION OF EUT SYSTEM**

Fig. 2-1 Configuration of EUT System

EUT

Accessory

# Table 2-1 Equipment Used in EUT System

Item	Equipment	Model No.	ID or Specification	Note
1	Mobile Phone	TM45TM	FCCID:2AC99-TM45TM	EUT
2	Adapter	T45TMCH	DC5.0V / 0.5A	Accessory
3	Battery	T45TMBA	DC3.7V / 1200 mAh	Accessory
4	Earphone	TM45TM	N/A	Accessory
5	USB Cable	TM45TM	N/A	Accessory

\*\*\*Note: All the accessories have been used during the test. The following "EUT" in setup diagram means EUT system.

#### Item **Item Description FCC Rules** Result Number Conducted Output Power 2.1046/22.913(a) (2) / **Output Power** Pass 1 Radiated 24.232 (c) **Output Power** Peak-to-Average Peak-to-Average 2 24.232(d) Pass Ratio Ratio Conducted Spurious Emission 3 Spurious Emission 2.1051 / 22.917 / 24.238 Pass Radiated **Spurious Emission** 4 Mains Conducted Emission 15.107 / 15.207 Pass 2.1055/22.355 5 **Frequency Stability** Pass /24.235 6 Occupied Bandwidth 2.1049 (h)(i) Pass 7 22.917(a)/24.238(a) Pass **Emission Bandwidth** 8 Band Edge 22.917(a)/24.238(a) Pass

# 4. SUMMARY OF TEST RESULTS

# **5. DESCRIPTION OF TEST MODES**

During the testing, the EUT was controlled via Rhode & Schwarz Digital Radio Communication Tester (CMU 200) to ensure max power transmission and proper modulation. Three channels (The top channel, the middle channel and the bottom channel) were chosen for testing on both GSM and PCS frequency band. \*\*\*Note: GSM/GPRS/EGPRS 850, GSM/GPRS/EGPRS 1900, WCDMA/HSPA band II, WCDMA/HSPA band V, mode have been tested during the test.

The worst condition was recorded in the test report if no other modes test data.

# 6. OUTPUT POWER

# **6.1 CONDUCTED OUTPUT POWER**

# 6.1.1 MEASUREMENT METHOD

The transmitter output port was connected to base station.

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

The path loss was compensated to the results for each measurement.

Measure the maximum burst average power and average power for other modulation signal.

The EUT was setup for the max output power with pseudo random data modulation. Power was measured with Spectrum Analyzer. The measurements were performed on all modes (GSM/GPRS/EGPRS 850, GSM/GPRS/EGPRS1900, WCDMA/HSPA band II, WCDMA/HSPA band V) at 3 typical channels (the Top Channel, the Middle Channel and the Bottom Channel) for each band.

Conducted Output Power Limits for GSM850/EDGE band			
Mode	Nominal Peak Power Tolerance(d		
GSM	33 dBm (2W)	- 2	
EDGE	27 dBm(0.5W)	±2	
Conducted Output Power Limits for PCS1900/EDGE band			
Mode	Nominal Peak Power	Tolerance(dB)	
GSM	30 dBm (1W)	- 2	
EDGE	26 dBm (0.4W)	±2	
Conducted Output Power Limits for UMTS band II			
Mode	Nominal Peak Power	Tolerance(dB)	
WCDMA	24 dBm (0.25W)	- 2	
Conducted Output Power Limits for UMTS band V			
Mode	Nominal Peak Power	Tolerance(dB)	
WCDMA	24 dBm (0.25W)	- 2	

Mada	Frequency	Reference	Peak	Tolerance	Avg.Burst	Duty cycle	Frame
Mode	(MHz)	Power	Power		Power	Factor(dB)	Power(dBm)
	824.2	33	32.21	-0.79	31.58	-9	22.58
GSM850	836.6	33	32.36	-0.64	31.68	-9	22.68
	848.8	33	32.38	-0.62	31.72	-9	22.72
	824.2	33	32.16	-0.84	31.45	-9	22.45
GPRS850	836.6	33	32.19	-0.81	31.48	-9	22.48
(1 Slot)	848.8	33	32.25	-0.75	31.52	-9	22.52
	824.2	30	29.53	-0.47	28.86	-6	22.86
GPRS850	836.6	30	29.59	-0.41	28.88	-6	22.88
(2 Slot)	848.8	30	29.64	-0.36	28.89	-6	22.89
	824.2	28.23	27.51	-0.72	26.78	-4.26	22.52
GPRS850	836.6	28.23	27.57	-0.66	26.82	-4.26	22.56
(3 Slot)	848.8	28.23	27.63	-0.6	26.84	-4.26	22.58
GPRS850	824.2	27	26.52	-0.48	25.76	-3	22.76
	836.6	27	26.58	-0.42	25.79	-3	22.79
(4 Slot)	848.8	27	26.66	-0.34	25.86	-3	22.86

Mode	Channel	Frequency	Peak Power	Avg.Burst Power
wode		(MHz)	(dBm)	(dBm)
FDOF	128	824.2	26.66	26.13
EDGE	189	836.6	26.75	26.21
(1 Slot)	251	848.8	26.79	26.24
EDGE	128	824.2	25.34	24.82
(2 Slot)	189	836.6	25.37	24.87
(2 301)	251	848.8	25.43	24.89
EDGE	128	824.2	23.52	23.05
(3 Slot)	189	836.6	23.56	23.08
(3 3101)	251	848.8	23.59	23.11
EDGE	128	824.2	22.62	22.13
	189	836.6	22.67	22.16
(4 Slot)	251	848.8	22.69	22.18

Mode	Frequency (MHz)	Reference Power	Peak Power	Tolerance	Avg.Burst Power	Duty cycle Factor(dB)	Frame Power(dBm)
	1850.2	30	29.42	-0.58	28.77	-9	19.77
GSM1900	1880	30	29.46	-0.54	28.79	-9	19.79
	1909.8	30	29.51	-0.49	28.88	-9	19.88
GPRS1900	1850.2	30	29.35	-0.65	28.61	-9	19.61
(1 Slot)	1880	30	29.38	-0.62	28.67	-9	19.67
(1 300)	1909.8	30	29.41	-0.59	28.69	-9	19.69
GPRS1900	1850.2	27	26.58	-0.42	25.75	-6	19.75
(2 Slot)	1880	27	26.61	-0.39	25.78	-6	19.78
(2 3101)	1909.8	27	26.67	-0.33	25.81	-6	19.81
	1850.2	25.23	24.63	-0.6	23.88	-4.26	19.62
GPRS1900 (3 Slot)	1880	25.23	24.74	-0.49	23.89	-4.26	19.63
	1909.8	25.23	24.78	-0.45	23.94	-4.26	19.68
GPRS1900 (4 Slot)	1850.2	24	23.54	-0.46	22.76	-3	19.76
	1880	24	23.56	-0.44	22.79	-3	19.79
	1909.8	24	23.67	-0.33	22.84	-3	19.84

# PCS 1900:

Mode	Channel	Frequency	Peak Power	Avg.Burst Power
wode		(MHz)	(dBm)	(dBm)
EDGE	512	1850.2	25.51	25.03
(1 Slot)	661	1880	25.54	25.05
(1 3101)	810	1909.8	25.58	25.06
EDGE	512	1850.2	24.62	24.11
(2 Slot)	661	1880	24.64	24.16
(2 300)	810	1909.8	24.68	24.19
EDGE	512	1850.2	22.58	22.04
(3 Slot)	661	1880	22.63	22.07
(3 3101)	810	1909.8	22.67	22.12
EDGE	512	1850.2	21.61	21.06
	661	1880	21.69	21.09
(4 Slot)	810	1909.8	21.74	21.21

# UMTS BAND II

Mode	Frequency (MHz)	Reference power	Peak Power	Tolerance	Avg.Burst Power
	1852.6	24	23.17	-0.83	22.63
WCDMA 1900	1880	24	23.22	-0.78	22.67
RMC	1907.4	24	23.25	-0.75	22.69
	1852.6	24	22.63	-1.37	22.13
WCDMA 1900	1880	24	22.67	-1.33	22.15
AMR	1907.4	24	22.72	-1.28	22.18
	1852.6	24	22.65	-1.35	22.12
HSDPA	1880	24	22.68	-1.32	22.19
Subtest 1	1907.4	24	22.69	-1.31	22.21
	1852.6	24	22.62	-1.38	22.16
HSDPA Subtest 2	1880	24	22.66	-1.34	22.15
Sublest Z	1907.4	24	22.72	-1.28	22.19
	1852.6	24	22.58	-1.42	22.05
HSDPA - Subtest 3 -	1880	24	22.63	-1.37	22.15
Sublest 3	1907.4	24	22.69	-1.31	22.18
	1852.6	24	22.64	-1.36	22.12
HSDPA Subtest 4	1880	24	22.74	-1.26	22.26
Sublest 4	1907.4	24	22.77	-1.23	22.29
	1852.6	24	22.61	-1.39	22.21
HSUPA	1880	24	22.65	-1.35	22.16
Subtest 1	1907.4	24	22.75	-1.25	22.27
	1852.6	24	22.62	-1.38	22.13
HSUPA Subtest 2	1880	24	22.67	-1.33	22.18
Sublest 2	1907.4	24	22.69	-1.31	22.17
HSUPA	1852.6	24	22.59	-1.41	22.08
Subtest 3	1880	24	22.63	-1.37	22.12
Sublest 3	1907.4	24	22.66	-1.34	22.14
HSUPA	1852.6	24	22.72	-1.28	22.23
Subtest 4	1880	24	22.74	-1.26	22.25
Sublest 4	1907.4	24	22.75	-1.25	22.28
HSUPA	1852.6	24	22.63	-1.37	22.19
Subtest 5	1880	24	22.62	-1.38	22.15
Sublest 5	1907.4	24	22.68	-1.32	22.17

# UMTS BAND V

Mode	Frequency (MHz)	Reference power	Peak Power	Tolerance	Avg.Burst Power
	826.6	24	23.37	-0.63	22.83
WCDMA 850 RMC	836.4	24	23.39	-0.61	22.86
	846.4	24	23.44	-0.56	22.89
	826.6	24	22.78	-1.22	22.29
WCDMA 850 AMR	836.4	24	22.84	-1.16	22.34
AWIN	846.4	24	22.87	-1.13	22.37
	826.6	24	22.73	-1.27	22.22
HSDPA Subtest 1	836.4	24	22.76	-1.24	22.23
	846.4	24	22.79	-1.21	22.25
	826.6	24	22.68	-1.32	22.17
HSDPA Subtest 2	836.4	24	22.72	-1.28	22.21
	846.4	24	22.75	-1.25	22.25
	826.6	24	22.61	-1.39	22.12
HSDPA Subtest 3	836.4	24	22.64	-1.36	22.15
Subtest 3	846.4	24	22.67	-1.33	22.18
	826.6	24	22.58	-1.42	22.07
HSDPA Subtest 4	836.4	24	22.64	-1.36	22.12
Sublest 4	846.4	24	22.69	-1.31	22.16
	826.6	24	22.72	-1.28	22.13
HSUPA	836.4	24	22.75	-1.25	22.14
Subtest 1	846.4	24	22.77	-1.23	22.24
	826.6	24	22.63	-1.37	22.12
HSUPA	836.4	24	22.65	-1.35	22.16
Subtest 2	846.4	24	22.68	-1.32	22.18
	826.6	24	22.62	-1.38	22.16
HSUPA	836.4	24	22.66	-1.34	22.19
Subtest 3	846.4	24	22.69	-1.31	22.24
	826.6	24	22.62	-1.38	22.13
HSUPA	836.4	24	22.68	-1.32	22.16
Subtest 4	846.4	24	22.72	-1.28	22.19
	826.6	24	22.63	-1.37	22.13
HSUPA	836.4	24	22.68	-1.32	22.17
Subtest 5	846.4	24	22.74	-1.26	22.23

According to 3GPP 25.101 sub-clause 6.2.2, the maximum output power is allowed to be reduced by following the table.

Table 6.1aA: UE maximum output power with HS-DPCCH and E-DCH

UE Transmit Channel Configuration	CM(db)	MPR(db)			
For all combinations of ,DPDCH,DPCCH	0≤ CM≤3.5	MAX(CM-1,0)			
HS-DPDCH, E-DPDCH and E-DPCCH					
Note: CM=1 for $\beta_{d}/\beta_{d}=12/15$ , $\beta_{hs}/\beta_{c}=24/15$ . For all other combinations of DPDCH, DPCCH,					
HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.					

The device supports MPR to solve linearity issues (ACLR or SEM) due to the higher peak-to average ratios (PAR) of the HSUPA signal. This prevents saturating the full range of the TX DAC inside of device and provides a reduced power output to the RF transceiver chip according to the Cubic Metric (a function of the combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH).

When E-DPDCH channels are present the beta gains on those channels are reduced firsts to try to get the power under the allowed limit. If the beta gains are lowered as far as possible, then a hard limiting is applied at the maximum allowed level.

The SW currently recalculates the cubic metric every time the beta gains on the E-DPDCH are reduced. The cubic metric will likely get lower each time this is done .However, there is no reported reduction of maximum output power in the HSUPA mode since the device also provides a compensate for the power back-off by increasing the gain of TX\_AGC in the transceiver (PA) device.

The end effect is that the DUT output power is identical to the case where there is no MPR in the device.

# **6.2 RADIATED OUTPUT POWER**

# 6.2.1 MEASUREMENT METHOD

The measurements procedures specified in TIA-603C-2004 were applied.

- 1 In an anechoic antenna test chamber, a half-wave dipole antenna for the frequency band of interest is placed at the reference centre of the chamber. An RF Signal source for the frequency band of interest is connected to the dipole with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A known (measured) power (Pin) is applied to the input of the dipole, and the power received (Pr) at the chamber's probe antenna is recorded.
- 2 The substitution method is used. Substitution values at each frequency are measured before and saved to the test software. A "reference path loss" is established as ARpl=Pin + 2.15 - Pr. The ARpl is the attenuation of "reference path loss", and including the gain of receive antenna, the cable loss and the air loss. The measurement results are obtained as described below: Power=PMea+ARpl
- 3 The EUT is substituted for the dipole at the reference centre of the chamber and a scan is performed to obtain the radiation pattern.
- 4 From the radiation pattern, the co-ordinates where the maximum antenna gain occurs are identified.
- 5 The EUT is then put into continuously transmitting mode at its maximum power level.
- 6 Power mode measurements are performed with the receiving antenna placed at the coordinates determined in Step 3 to determine the output power as defined in Rule 24.232 (b) and (c). The "reference path loss" from Step1 is added to this result.
- 7 This value is EIRP since the measurement is calibrated using a half-wave dipole antenna of known gain (2.15 dBi) and known input power (Pin).
- 8 ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP -2.15dBi..

# 6.2.2 PROVISIONS APPLICABLE

This is the test for the maximum radiated power from the EUT. Rule Part 24.232(b) specifies, "Mobile/portable stations are limited to 2 watts e.i.r.p. Peak power" and 24.232(c) 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 "Maximum ERP. The effective radiated power (ERP) of base transmitters and cellular repeaters must not exceed 500 Watts. The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts."

Mode	Nominal Peak Power
GSM 850/EDGE	<=38.45 dBm (7W)
PCS 1900/EDGE	<=33 dBm (2W)
UMTS BAND II	<=33 dBm (2W)
UMTS BANDV	<=38.45 dBm (7W)

Radiated Power (ERP) for GSM 850/EDGE 8						
		Re	Result			
Mode	Frequency	Max. Peak ERP	Polarization	Conclusion		
		(dBm)	Of Max. ERP			
	824.2	30.46	Horizontal	Pass		
	836.6	30.53	Horizontal	Pass		
COMPEO	848.8	30.59	Horizontal	Pass		
GSM850	824.2	28.34	Vertical	Pass		
	836.6	28.39	Vertical	Pass		
	848.8	28.45	Vertical	Pass		
	824.2	25.56	Horizontal	Pass		
	836.6	25.61	Horizontal	Pass		
FDOF	848.8	25.68	Horizontal	Pass		
EDGE	824.2	25.53	Vertical	Pass		
	836.6	25.57	Vertical	Pass		
	848.8	25.63	Vertical	Pass		

Radiated Power (E.I.R.P) for PCS 1900/EDGE 8						
		Re	Result			
Mode	Frequency	Frequency Max. Peak		Conclusion		
		E.I.R.P.(dBm)	Of Max. E.I.R.P.			
	1850.2	27.56	Horizontal	Pass		
	1880.0	27.59	Horizontal	Pass		
GSM 1900	1909.8	27.63	Horizontal	Pass		
G3M 1900	1850.2	26.51	Vertical	Pass		
	1880.0	26.68	Vertical	Pass		
	1909.8	26.72	Vertical	Pass		
	1850.2	24.62	Horizontal	Pass		
	1880.0	24.65	Horizontal	Pass		
EDGE	1909.8	24.74	Horizontal	Pass		
EDGE	1850.2	23.51	Vertical	Pass		
	1880.0	23.53	Vertical	Pass		
	1909.8	23.58	Vertical	Pass		

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Radiated Power (E.I.R.P) for UMTS band II						
		Res	ult			
Mode	Frequency	Max. Peak E.I.R.P	Polarization			
		(dBm)	Of Max. E.I.R.P			
	1852.6	21.53	Horizontal	Pass		
	1880	21.56	Horizontal	Pass		
RMC	1907.4	21.58	Horizontal	Pass		
12.2kbps	1852.6	21.43	Vertical	Pass		
	1880	21.46	Vertical	Pass		
	1907.4	21.49	Vertical	Pass		

Radiated Power (ERP) for UMTS band V						
		Result				
Mode	Frequency	Max. Peak ERP	Polarization	Conclusion		
		(dBm)	Of Max. E.I.R.P.			
	826.6	21.42	Horizontal	Pass		
	836.4	21.47	Horizontal	Pass		
RMC	846.4	21.56	Horizontal	Pass		
12.2kbps	826.6	21.29	Vertical	Pass		
	836.4	21.32	Vertical	Pass		
	846.4	21.37	Vertical	Pass		

Note: Above is worst mode data.

# 6.3. PEAK-TO-AVERAGE RATIO

# 6.3.1 MEASUREMENT METHOD

Use one of the procedures presented in 4.1 to measure the total peak power and record as PPk. Use one of the applicable procedures presented 4.2 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:

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

#### 6.3.2 PROVISIONS APPLICABLE

This is the test for the Peak-to-Average Ratio from the EUT.

Power Complementary Cumulative Distribution Function (CCDF) curves provide a means for characterizing the power peaks of a digitally modulated signal on a statistical basis. A CCDF curve depicts the probability of the peak signal amplitude exceeding the average power level. Most contemporary measurement instrumentation include the capability to produce CCDF curves for an input signal provided that the instrument's resolution bandwidth can be set wide enough to accommodate the entire input signal bandwidth. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

#### **6.3.3 MEASUREMENT RESULT**

Modes	GSM850(GSM)		
Channel	128	190	251
Chainer	(Low)	(Mid)	(High)
Frequency	824.2	836.6	848.8
(MHz)	024.2		
Peak-To-Average Ratio (dB)/GSM	0.63	0.68	0.66
Peak-To-Average Ratio (dB)/EDGE	0.53	0.54	0.55

Modes	PCS 1900 (GSM)			
Channel	512	661	810	
	(Low)	(Mid)	(High)	
Frequency	1850.2	1880	1909.8	
(MHz)	1030.2	1000	1303.0	
Peak-To-Average Ratio (dB)/GSM	0.65	0.67	0.63	
Peak-To-Average Ratio (dB)/EDGE	0.48	0.49	0.52	

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Modes	UMTS BAND II		
Channel	9663	9800	9937
	(Low)	(Mid)	(High)
Frequency	1852.6	1880	1907.4
(MHz)	1052.0		1307.4
Peak-To-Average Ratio (dB)	0.54	0.55	0.56

Modes	UMTS BAND V			
Channel	4358	4407	4457	
	(Low)	(Mid)	(High)	
Frequency	826.6	836.6	846.4	
(MHz)	020.0	030.0	040.4	
Peak-To-Average Ratio (dB)	0.54	0.53	0.55	

# 7. OCCUPIED BANDWIDTH

# 7.1 MEASUREMENT METHOD

The test set up and general procedure is similar to conducted peak output power test. Only different for setting the measurement configuration of the measuring instrument of Spectrum Analyzer.

# 7.2 PROVISIONS APPLICABLE

The emission bandwidth is defined as two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26dB below the transmitter power

# 7.3 MEASUREMENT RESULT

# **APPENDIX A:BANDWIDTH**

# **Test Results**

Test	Test	Test	Occupied Bandwidth	Emission Bandwidth	Verdict	
Band	Mode	Channel	(KHZ)	(KHZ)	Veruici	
GSM850	GSM	LCH	244.06	313.13	PASS	
		MCH	244.30	315.59	PASS	
		НСН	244.04	315.97	PASS	
	EDGE	LCH	252.82	320.96	PASS	
		MCH	255.98	332.02	PASS	
		HCH	258.43	325.48	PASS	

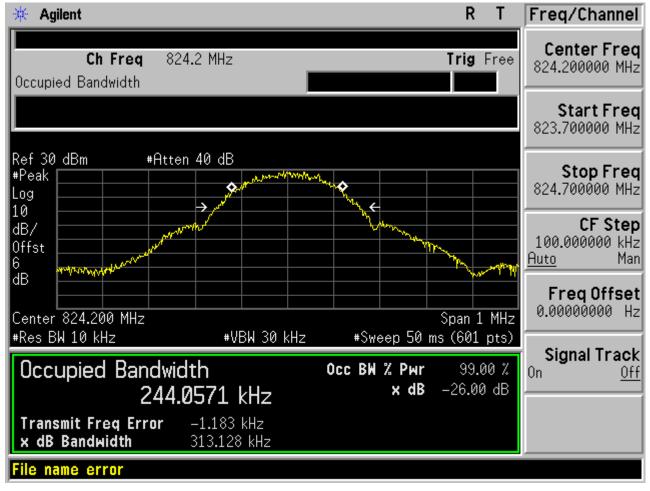
Test Band	Test	Test	Occupied Bandwidth	Emission Bandwidth	Vordict
	Mode	Channel	(KHZ)	(KHZ)	Verdict
GSM1900	GSM	LCH	247.30	314.19	PASS
		MCH	241.92	310.01	PASS
		HCH	246.83	312.42	PASS
	EDGE	LCH	256.12	336.63	PASS
		MCH	258.66	329.94	PASS
		HCH	260.72	325.86	PASS

# For GSM

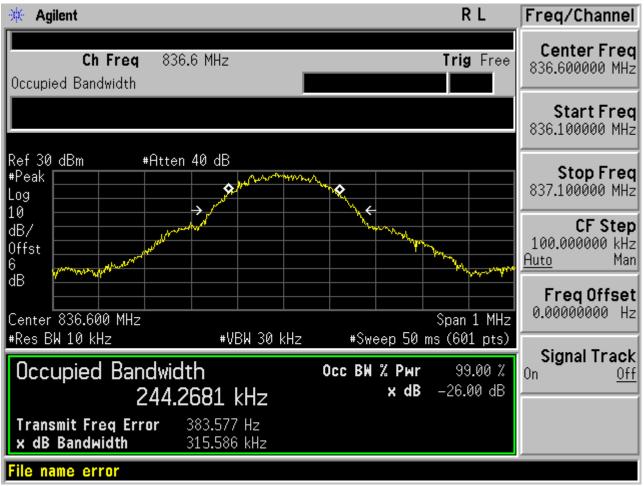
Test Band=GSM850

#### Test Mode=GSM

# Test Channel=LCH

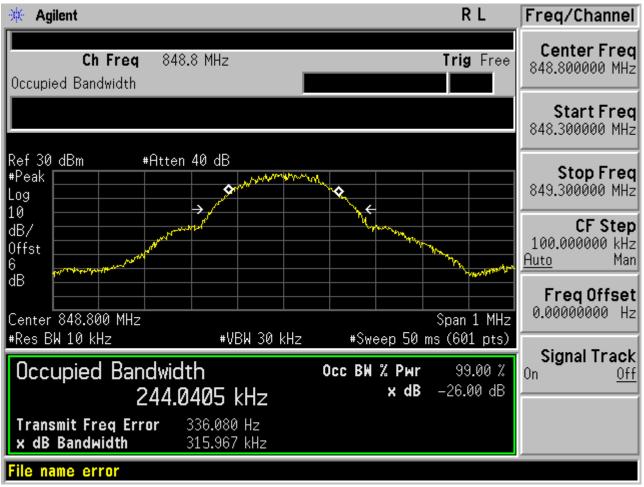


# Test Channel=MCH



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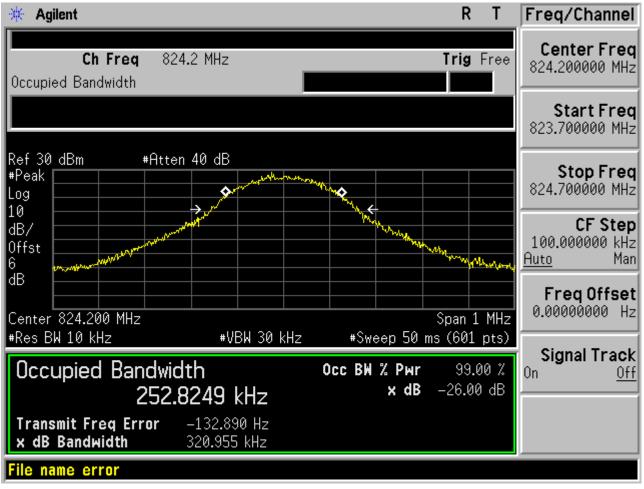
# Test Channel=HCH



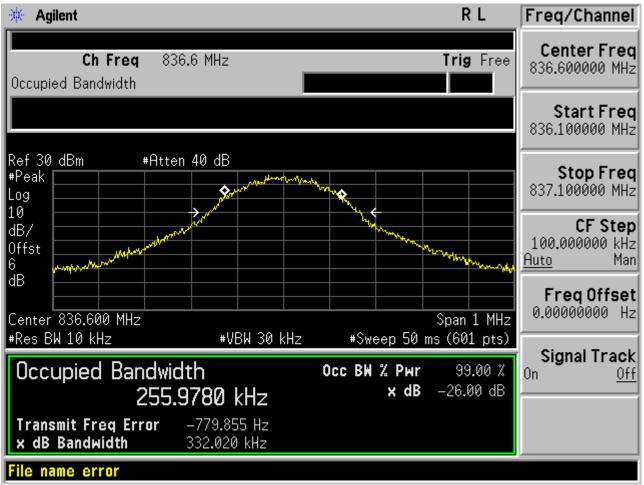
# Test Band=GSM850

# Test Mode=EDGE

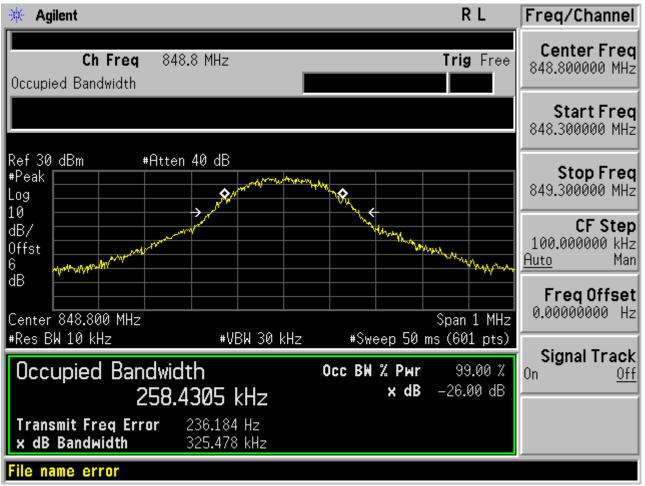
# Test Channel=LCH



# Test Channel=MCH



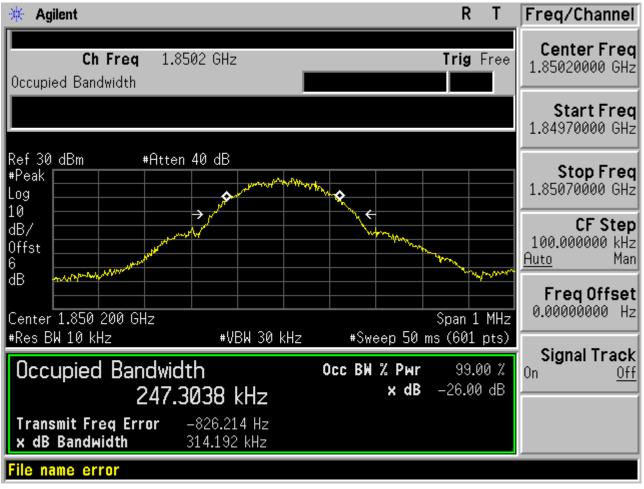
# Test Channel=HCH



# Test Band=GSM1900

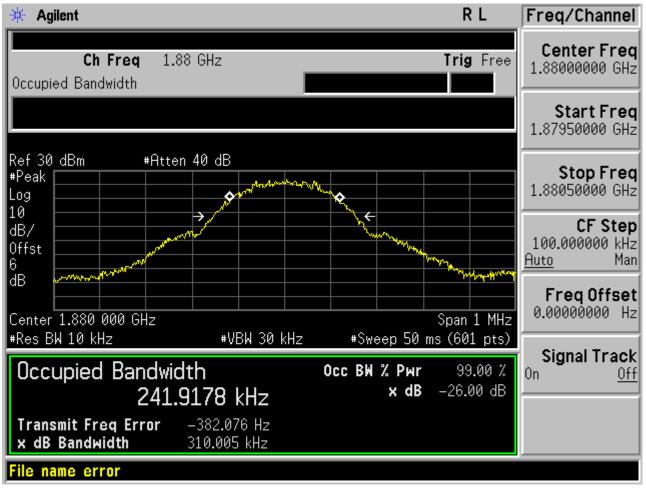
#### Test Mode=GSM

#### Test Channel=LCH



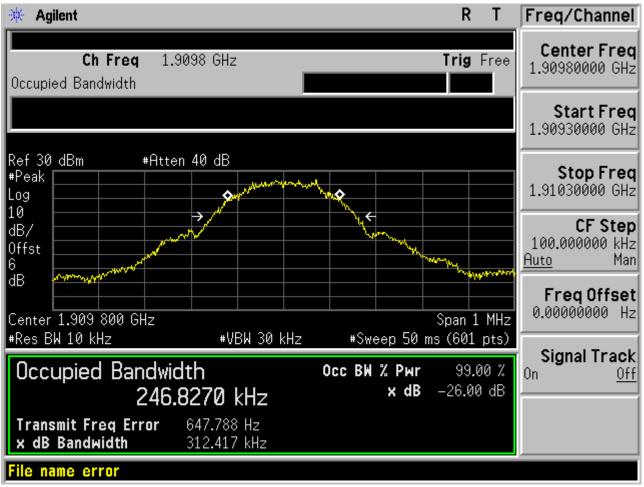
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# Test Channel=MCH



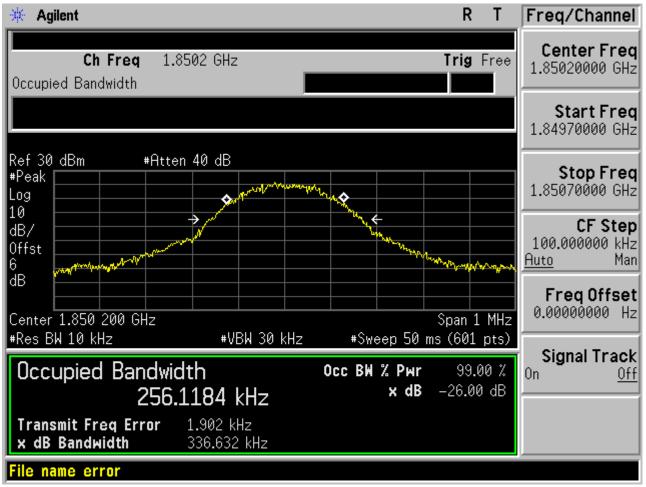
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# Test Channel=HCH

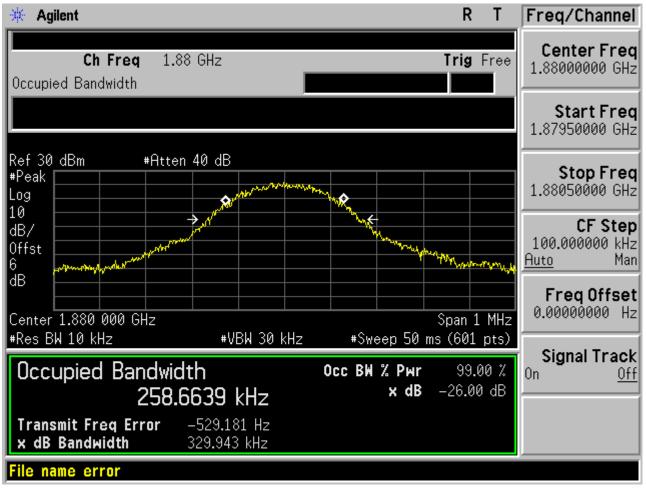


#### Test Mode=EDGE

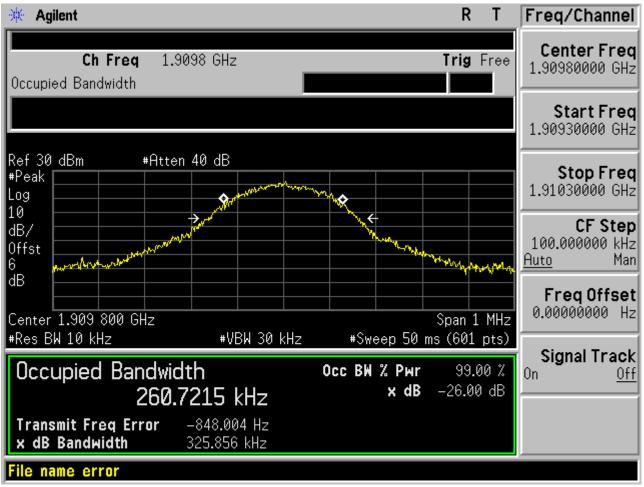
Test Channel=LCH



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Test Band	Test	Test	Occupied Bandwidth	Emission Bandwidth	Verdi
	Mode	Channel	(KHZ)	(KHZ)	ct
		LCH	4144.8	4685	PASS
WCDMA8 50	UMTS	MCH	4141.3	4675	PASS
50		HCH	4136.5	4680	PASS

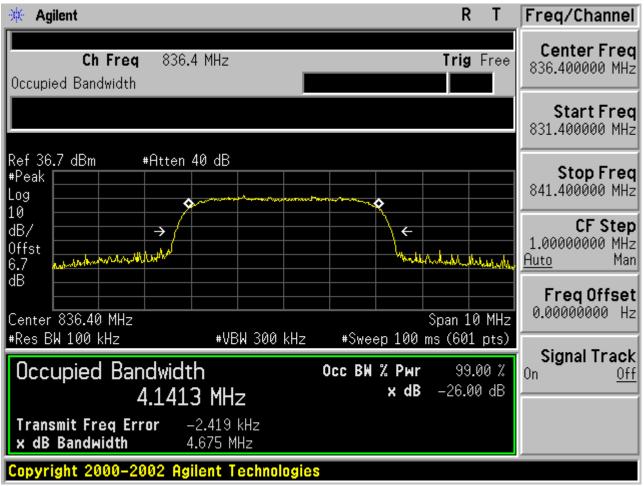
Test Band	Test	Test	Occupied Bandwidth	Emission Bandwidth	Verdi
	Mode	Channel	(KHZ)	(KHZ)	ct
		LCH	4148.5	4692	PASS
WCDMA1 900	UMTS	MCH	4145.7	4690	PASS
300		HCH	4136.3	4695	PASS

# For WCDMA

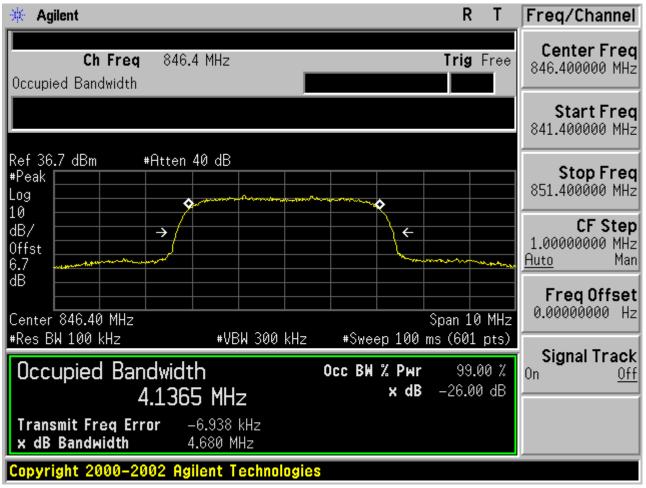
## Test Band=WCDMA850

## Test Mode=UMTS

* Agilent	RT	Freq/Channel
<b>Ch Freq</b> 826.6 MHz Occupied Bandwidth	Trig Free	Center Freq 826.600000 MHz
		Start Freq 821.600000 MHz
Ref 36.7 dBm #Atten 40 dB #Peak Log 10		<b>Stop Freq</b> 831.600000 MHz
dB/ →	<	<b>CF Step</b> 1.0000000 MHz <u>Auto</u> Man
dB Center 826.60 MHz	Span 10 MHz	FreqOffset 0.00000000 Hz
*Res BW 100 kHz *VBW 300 F Occupied Bandwidth 4.1448 MHz	кHz #Sweep 100 ms (601 pts) Осс ВМ % Рмг 99.00 % х dB —26.00 dB	Signal Track On <u>Off</u>
Transmit Freq Error-11.208 kHzx dB Bandwidth4.685 MHz		
Copyright 2000-2002 Agilent Technolo	ogies	

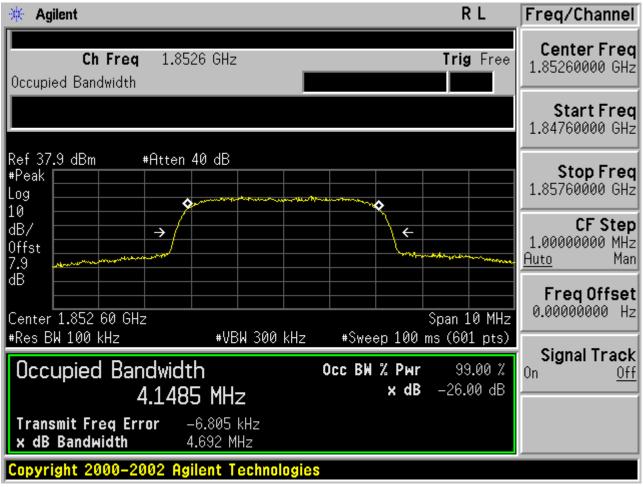


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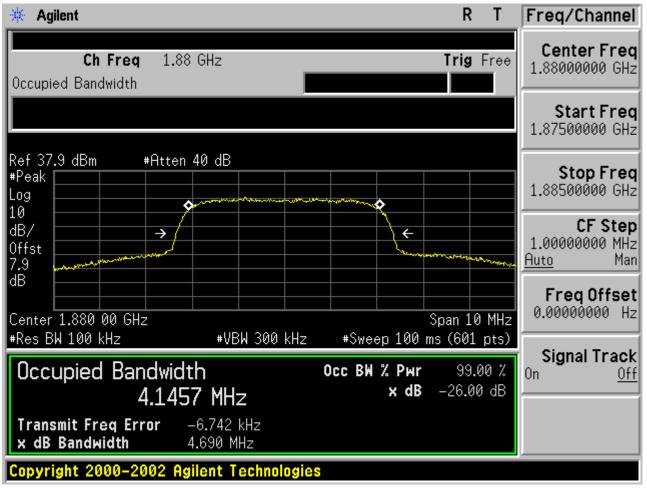


### Test Band=WCDMA1900

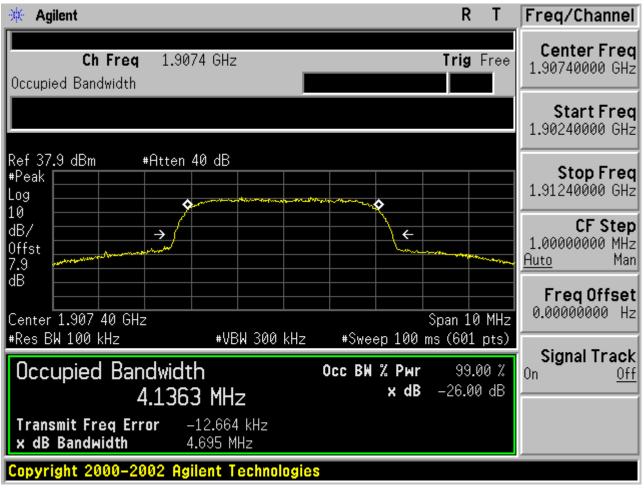
#### Test Mode=UMTS



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# 8. BAND EDGE

## **8.1 MEASUREMENT METHOD**

The test set up and general procedure is similar to conducted peak output power test. Only different for setting the measurement configuration of the measuring instrument of Spectrum Analyzer.

## 8.2 PROVISIONS APPLICABLE

As Specified in FCC rules of 22.917(a) and 24.238(a)

## **8.3 MEASUREMENT RESULT**

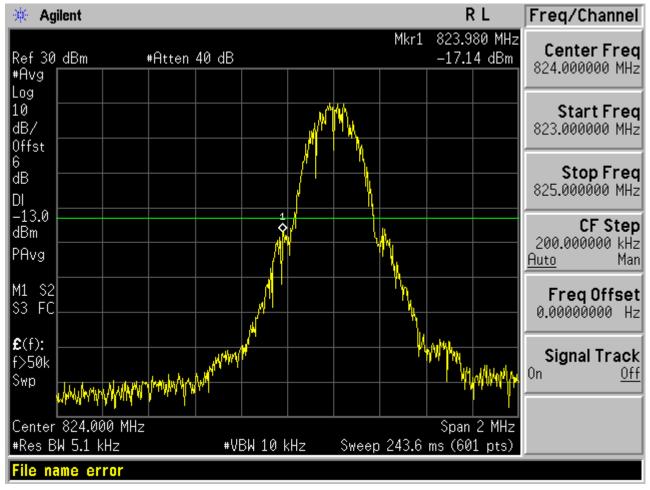
## APPENDIX B: BAND EDGES COMPLIANCE

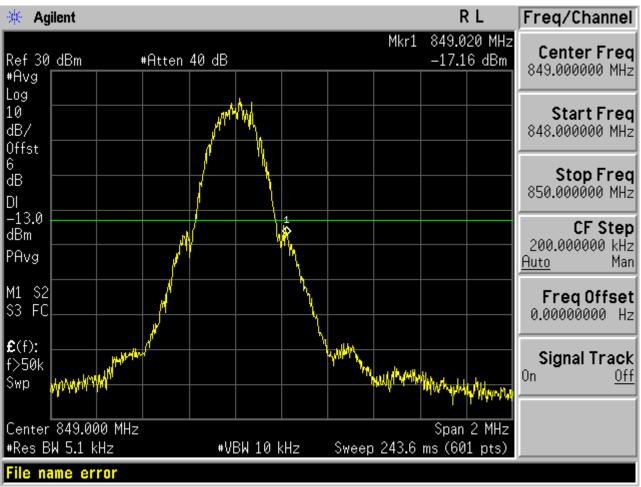
#### **Test Results**

For GSM

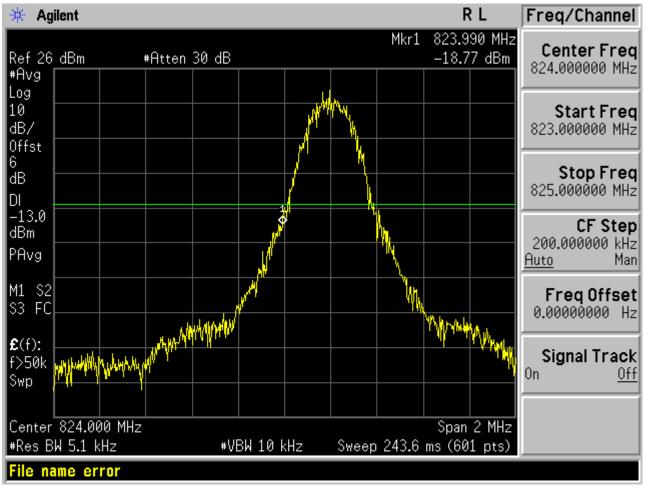
#### Test Band=GSM850

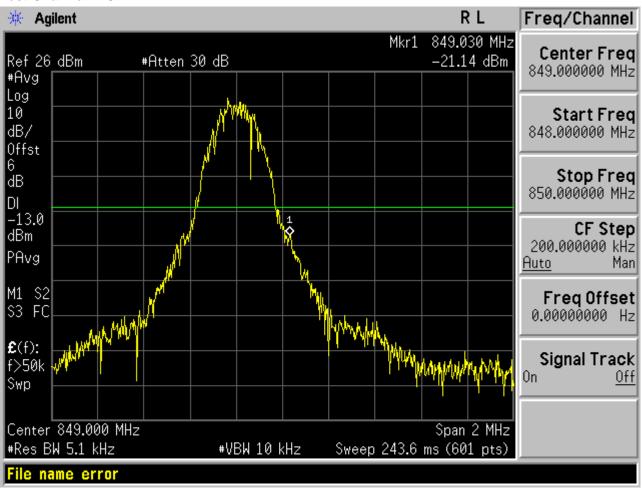
#### Test Mode=GSM





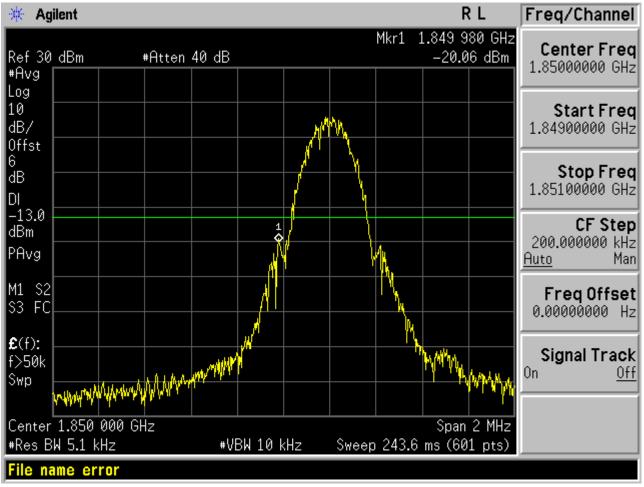
#### Test Mode=EDGE

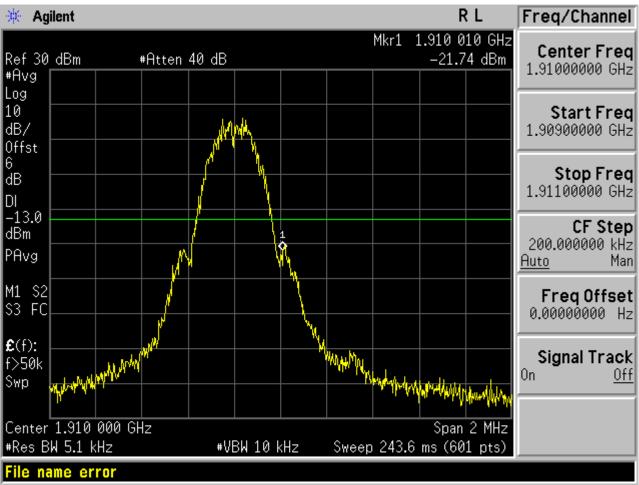




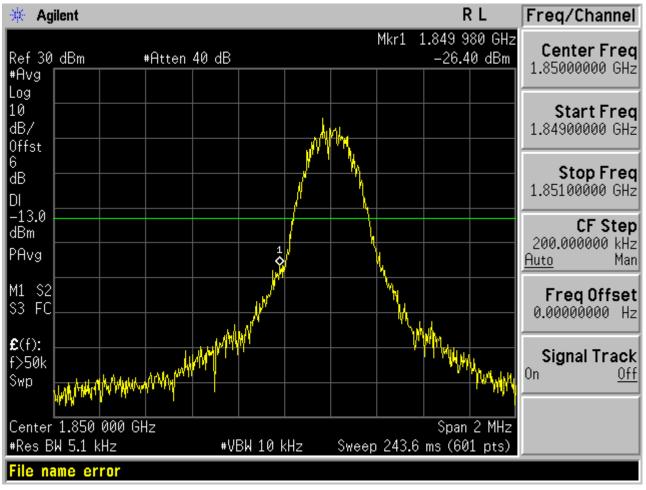
## Test Band=GSM1900

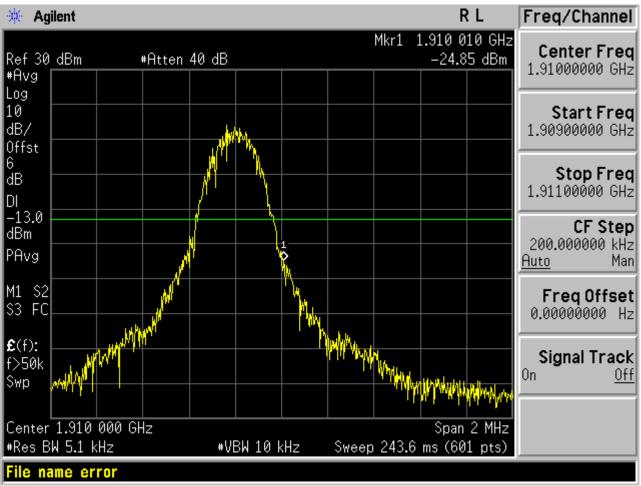
#### Test Mode=GSM





#### Test Mode=EDGE

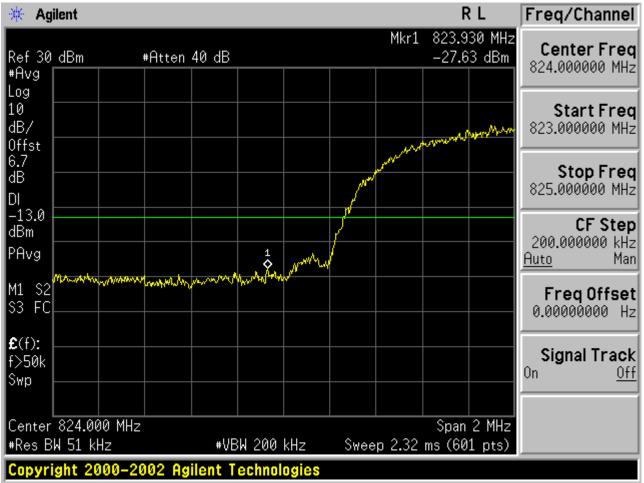


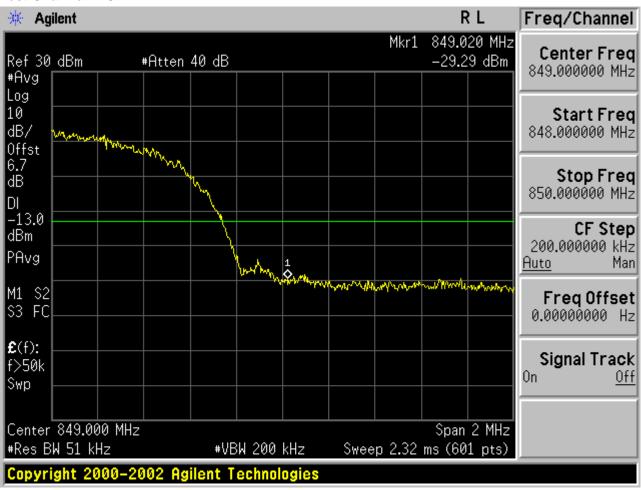


For WCDMA

Test Band=WCDMA850

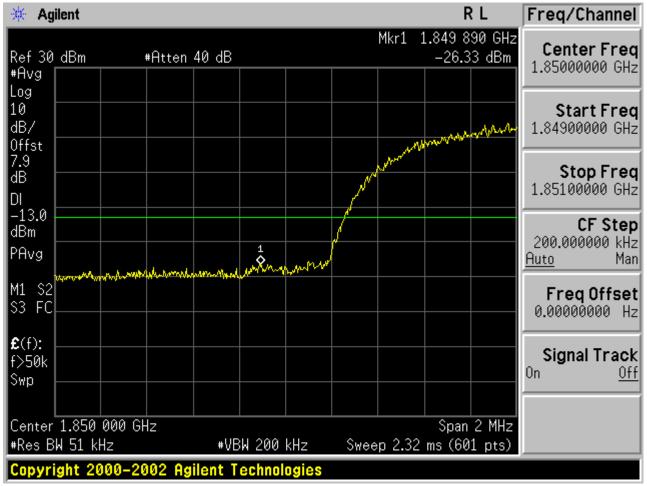
#### Test Mode=UMTS





### Test Band=WCDMA1900

#### Test Mode=UMTS



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## 9. SPURIOUS EMISSION

## 9.1 CONDUCTED SPURIOUS EMISSION

## 9.1.1 MEASUREMENT METHOD

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 30 MHz to 19.1 GHz, data taken from 30 MHz to 20 GHz. For GSM 850, data taken from 30 MHz to 9 GHz. 2, Determine EUT transmit frequencies: the following typical channels were chosen to conducted emissions testing.

Typical Channels for testing of GSM 850/EDGE 8						
Channel	Frequency (MHz)					
128	824.2					
190	836.6					
251	848.8					

Typical Channels for testing of PCS 1900/EDGE 8						
Channel	Frequency (MHz)					
512	1850.2					
661	1880.0					
810	1909.8					

Typical Channels for testing of UMTS band II						
Channel	Frequency (MHz)					
9663	1852.6					
9800	1880					
9937	1907.4					

Typical Channels for testing of UMTS band V						
Channel	Frequency (MHz)					
4358	826.6					
4407	836.4					
4457	846.4					

## 9.1.2 PROVISIONS APPLICABLE

On any frequency outside frequency band of the USPCS spectrum, the power of any emission shall be attenuated below the transmitter power (P, in Watts) by at least 43+10Log(P) dB. For all power levels +30 dBm to 0 dBm, this becomes a constant specification limit of -13 dBm.

## 9.1.3 MEASUREMENT RESULT

# APPENDIX C: SPURIOUS EMISSION AT ANTENNA TERMINAL

### Test Results

#### Test Band=GSM850

#### Test Mode=GSM

🔆 Agilent				RT	Freq/Channel
Ref 33 dBm #Avg	#Atten 40 dB			514.5 MHz 16.45 dBm	Center Freq 515.000000 MHz
Log 10 dB/ Offst					Start Freq 30.0000000 MHz
6 dB DI					<b>Stop Freq</b> 1.00000000 GHz
-13.0 dBm PAvg					<b>CF Step</b> 97.0000000 MHz <u>Auto</u> Man
M1 S2 S3 FC		2			FreqOffset 0.00000000 Hz
£(f): FTun Swp	···· · · · · · · · · · · · · · · · · ·	<u> </u>			<b>Signal Track</b> <sup>On <u>Off</u></sup>
Center 515.0 M #Res BW 1 MHz		BW 3 MHz #	Spai Sweep 100 ms (	n 970 MHz 1000 pts)	
File name err	or				

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🔆 Agil	lent								R	: L	Freq/Channel
Ref 33 #Avg	dBm		#Atten	40 dB				Mk		21 GHz 6 dBm	Center Freq 5.00000000 GHz
Log 10 dB/ Offst											Start Freq 1.00000000 GHz
6 dB DI											<b>Stop Freq</b> 9.00000000 GHz
-13.0 dBm PAvg											<b>CF Step</b> 800.00000 MHz <u>Auto</u> Man
M1 S2 S3 FC					ي منه و ال		Inded	de de defent e		a llas an A	FreqOffset 0.00000000 Hz
<b>£</b> (f): FTun Swp											Signal Track <sup>On <u>Off</u></sup>
Center #Res Bk	1 MH	Z		#V	BW 3 M	lHz #	Sweep	100.5 m		8 GHz 0 pts)	
File na	me er	ror									

Mkr2  514.5  MHz    Ref 33 dBm  #Atten 40 dB 46.29 dBm  Genter Freq    Havg	🔆 Agilent		RL	Freq/Channel
10    Start Freq      0B/    0ffst      6    0      dB    0      DI    0      -13.0    0      dBm    0      PAvg    0      M1 S2    0      S3 FC    0      Center 515.0 MHz    *VBW 3 MHz      *Res BW 1 MHz    *VBW 3 MHz	#Avg	40 dB	-46.29 dBm	
dB  Stop Freq    DI  -13.0    dBm  GBm    PAvg  CF Step    M1 S2  S3 FC    S3 FC  S3 FC    E(f):  Center 515.0 MHz    FTun  Span 970 MHz    Swp  Span 970 MHz    eRes BW 1 MHz  #VBW 3 MHz  #Sweep 100 ms (1000 pts)	10 dB/			
dBm  PAvg  97.0000000 MHz    M1 S2  S3 FC  Pavg  Preq Offset    £(f):  2  Pavg  Pavg  Pavg    £(f):  2  Pavg  Pavg  Pavg  Pavg    Center 515.0 MHz  #VBW 3 MHz  Span 970 MHz  Pavg  Pavg    #Res BW 1 MHz  #VBW 3 MHz  #Sweep 100 ms (1000 pts)  Pavg  Pavg	dB DI			
S3 FC  0.00000000 Hz    £(f):  0.00000000 Hz    Swp  Signal Track    Center 515.0 MHz  Span 970 MHz    *Res BW 1 MHz  *VBW 3 MHz  *Sweep 100 ms (1000 pts)	dBm			97.0000000 MHz
FTun Swp Center 515.0 MHz #Res BW 1 MHz #VBW 3 MHz #Sweep 100 ms (1000 pts)	\$3 FC	2		
#Res BW 1 MHz #VBW 3 MHz #Sweep 100 ms (1000 pts)	FTun			
		#VBW 3 MHz +		

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Ref 33 dBm #Atten 40 d	Mkr1 4.183 GHz -36.54 dBm
#Avg	-30.34 dBill 5.00000000 GHz
Log 10 dB/ Offst	Start Freq 1.0000000 GHz
6 dB DI	Stop Freq 9.0000000 GHz
-13.0 dBm PAvg	CF Step 800.000000 MHz <u>Auto</u> Man
M1 S2 S3 FC	Freq Offset
£(f): FTun Swp	Signal Track
Center 5.000 GHz #Res BW 1 MHz File name error	Span 8 GHz /BW 3 MHz #Sweep 100.5 ms (8190 pts)

🔆 Agilent		R 1	Freq/Channel
#Avg	Atten 40 dB	Mkr2 514.5 M −46.08 dE	Contor Lroa
Log 10 dB/ Offst			Start Freq 30.0000000 MHz
6 dB DI			<b>Stop Freq</b> 1.00000000 GHz
-13.0 dBm PAvg			<b>CF Step</b> 97.0000000 MHz <u>Auto</u> Man
M1 S2 S3 FC	2		FreqOffset 0.00000000 Hz
£(f): FTun Swp			Signal Track On <u>Off</u>
Center 515.0 MHz #Res BW 1 MHz	#VBW 3 MHz	Span 970 M #Sweep 100 ms (1000 pt	
File name error			

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Mkr1    7.189    GHz    Center Freq      Avg	🔆 Agilent				RL	Freq/Channel
10  dB/  G  Start Freq    0ffst  6  6  1.0000000 GHz    dB  0  0  9.0000000 GHz    DI  0  0  0    -13.0  0  0  0    dBm  0  0  0    PAvg  0  0  0    M1 S2  1  5  5    S3 FC  1  5  5    £(f):  0  0  0  0    £(f):  0  0  0  0    ft  5  0  0  0    ft  0  0  0  0 <td< td=""><td>#Avg</td><td>#Atten 40 d</td><td>B</td><td>Mk</td><td></td><td>CenterFreq</td></td<>	#Avg	#Atten 40 d	B	Mk		CenterFreq
6 dB DI -13.0 dBm PAvg  Stop Freq 9.0000000 GHz    M1 S2 S3 FC  1    £(f): FTun  1	10 dB/					
dBm    CF Step      PAvg    800.000000 MHz      M1 S2    \$      S3 FC    \$      £(f):    \$      FTun    \$	6 dB DI					
S3 FC 0.00000000 Hz £(f): The second	dBm					800.000000 MHz
FTun Signal Track	M1 S2 S3 FC	and the second sec				
	FTun					
Center 5.000 GHz Span 8 GHz #Res BW 1 MHz #VBW 3 MHz #Sweep 100.5 ms (8190 pts) File name error	#Res BW 1 MHz		#VBW 3 MHz +	⊧Sweep 100.5 n		

### Test Mode=EDGE

🔆 Agilent				R L	Freq/Channel
Ref 34 dBm #Avg	#Atten 40 dB			514.5 MHz -46.33 dBm	Center Freq 515.000000 MHz
Log 10 dB/					Start Freq 30.0000000 MHz
0ffst 6 dB					Stop Freq
DI -13.0					1.00000000 GHz CF Step
dBm PAvg					97.0000000 MHz <u>Auto</u> Man
M1 S2 S3 FC					FreqOffset 0.00000000 Hz
£(f): FTun Swp		¢	A		<b>Signal Track</b> On <u>Off</u>
Center 515.0 MHz				an 970 MHz	
#Res BW 1 MHz File name error	#VI	3W 3 MHz	#Sweep 100 ms	(1000 pts)	

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🔆 Agile	ent							F	: L	Freq/Channel
Ref 34 d #Avg	dBm	#Atten	40 dB				Mk		39 GHz 6 dBm	Center Freq 5.00000000 GHz
Log 10 dB/ Offst										<b>Start Freq</b> 1.00000000 GHz
6 dB - DI _										<b>Stop Freq</b> 9.00000000 GHz
-13.0 dBm PAvg										<b>CF Step</b> 800.000000 MHz <u>Auto</u> Man
M1 S2 S3 FC		inter at	al destates of		an teachad	1. 1. 1	1	والمتعادية المتعاد	A HANNA MANA	FreqOffset 0.00000000 Hz
£(f): ₩ FTun Swp —										<b>Signal Track</b> On <u>Off</u>
Center 5 #Res BW	5.000 GHz 1 MHz		#V	BW 3 M	Hz #	Sweep	100.5 m		8 GHz 0 pts)	
File nam	ie error									

🔆 Agi	lent								l	۲L	Freq/Channel
Ref 34 #Avg	dBm		ŧAtten	40 dB				Mk		4.5 MHz 32 dBm	Center Freq 515.000000 MHz
Log 10 dB/ Offst											Start Freq 30.0000000 MHz
6 dB DI											<b>Stop Freq</b> 1.00000000 GHz
-13.0 dBm PAvg											<b>CF Step</b> 97.0000000 MHz <u>Auto</u> Man
M1 S2 S3 FC						2					FreqOffset 0.00000000 Hz
<b>£</b> (f): FTun Swp			·			Ś					<b>Signal Track</b> On <u>Off</u>
<b>#</b> Res Bl	515.0 M W 1 MHz			#V	BW 3 M	IHz	#Swee	p 100 m		70 MHz )0 pts)	
File na	me err	or									

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🔆 Agilent	t						F	: L	Freq/Channel
Ref 34 dB #Avg	m ·	#Atten 40 dB				Mk		28 GHz 3 dBm	Center Freq 5.00000000 GHz
Log 10 dB/ 0ffst									<b>Start Freq</b> 1.00000000 GHz
6 dB DI									<b>Stop Freq</b> 9.00000000 GHz
-13.0 dBm PAvg									<b>CF Step</b> 800.00000 MHz <u>Auto</u> Man
M1 S2 S3 FC		ر شنابه بالاست		handler, all and				let stand	FreqOffset 0.00000000 Hz
£(f): una FTun Swp									Signal Track <sup>On <u>Off</u></sup>
Center 5.0 #Res BW 1	MHz	#	JBW 3 MI	Hz #:	Sweep :	100.5 m		8 GHz 0 pts)	
File name	error								

🔆 Agi	ilent								ł	R L	Freq/Channel
Ref 34 #Avg	dBm		#Atten	40 dB				Mk		4.5 MHz 25 dBm	Center Freq 515.000000 MHz
Log 10 dB/ Offst											Start Freq 30.0000000 MHz
6 dB DI											<b>Stop Freq</b> 1.00000000 GHz
-13.0 dBm PAvg											<b>CF Step</b> 97.000000 MHz <u>Auto</u> Man
M1 S2 S3 FC						2					FreqOffset 0.00000000 Hz
€(f): FTun Swp						\$					<b>Signal Track</b> On <u>Off</u>
	515.0 M W 1 MHz			#V	BW 3 M	Hz	#Swee	p 100 m		70 MHz 00 pts)	
File na	ime err	or									

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🔆 Ag	ilent								F	۲L	Freq/Channel
Ref 34 #Avg	dBm		#Atten	40 dB				Mk		'94 GHz 33 dBm	Center Freq 5.00000000 GHz
Log 10 dB/ Offst											<b>Start Freq</b> 1.00000000 GHz
6 dB DI											<b>Stop Freq</b> 9.00000000 GHz
-13.0 dBm PAvg											<b>CF Step</b> 800.000000 MHz <u>Auto</u> Man
M1 S2 S3 FC			اساللور .		مرادية فرجع	المريد ومرالي	u a dh a H a na		alata di sebela	dan da garan	FreqOffset 0.00000000 Hz
<b>£</b> (f): FTun Swp					4		And Annual Contraction				Signal Track <sup>On <u>Off</u></sup>
#Res B		Z		#V	вы з м	Hz #	Sweep	100.5 m		8 GHz 0 pts)	
File na	ime er	ror									

## Test Band=GSM1900

# Test Mode=GSM

🔆 Agile	ent				R	L	Freq/Channel
Ref 33 c #Avg	dBm	#Atten 40 dB			Mkr1 185. -45.38		Center Freq 515.000000 MHz
Log 10 dB/ Offst							<b>Start Freq</b> 30.0000000 MHz
6 dB - DI							<b>Stop Freq</b> 1.00000000 GHz
-13.0 dBm PAvg							<b>CF Step</b> 97.0000000 MHz <u>Auto</u> Man
M1 S2 S3 FC							FreqOffset 0.00000000 Hz
£(f): ⊶ FTun Swp —	<u> </u>		**************************************			**************************************	<b>Signal Track</b> On <u>Off</u>
Center 5 #Res BW	515.0 MHz 1 MHz	#(	/BW 3 MHz	#Sweep 10	Span 970 00 ms (1000		
File nam	ne error						

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🔆 Agilent						R	Т	Freq/Channel
Ref 33 dBm #Avg		ten 40 dB				2 4.000 -43.01		Center Freq 4.00000000 GHz
Log 10 dB/ Offst	1							Start Freq 1.00000000 GHz
6 dB DI -13.0								Stop Freq 7.0000000 GHz
dBm PAvg								CF Step 600.000000 MHz <u>Auto Man</u>
M1 S2 S3 FC £(f):			2 1440 - 144		والمراجع المراجع الم	<b>n List, a faith</b>	الأرب الأ <sub>ل</sub>	Freq Offset 0.00000000 Hz
FTun Swp								Signal Track On <u>Off</u>
Center 4.000 #Res BW 1 M		#VBW :	3 MHz	#Sweep 1		Span 6 (6200		
File name e	rror							

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🔆 Ag	ilent							F	L	Freq/Channel
Ref 33 #Avg	dBm	#Atten	40 dB				Mkr:		06 GHz 3 dBm	Center Freq 10.3000000 GHz
Log 10 dB/ Offst										<b>Start Freq</b> 7.00000000 GHz
6 dB DI										<b>Stop Freq</b> 13.6000000 GHz
-13.0 dBm PAvg										<b>CF Step</b> 660.00000 MHz <u>Auto</u> Man
			Hadabbaa			المالية الم		al lating of a second		FreqOffset 0.00000000 Hz
<b>£</b> (f): FTun Swp										Signal Track <sup>On <u>Off</u></sup>
<b>#</b> Res B	10.300 G W 1 MHz		#V{	BW 3 M	Hz #	Sweep	100.2 n		.6 GHz 0 pts)	
File na	ame error									

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🔆 Ag	ilent								F	۲ L	Freq/Channel
Ref 34 #Avg	dBm		#Atten	40 dB				Mkr:		93 GHz 6 dBm	Center Freq 16.8000000 GHz
Log 10 dB/ Offst											Start Freq 13.6000000 GHz
6 dB DI											<b>Stop Freq</b> 20.0000000 GHz
-13.0 dBm PAvg											<b>CF Step</b> 640.00000 MHz <u>Auto</u> Man
M1 S2 S3 FC							Autorited abo	dini si si si si		i an transferiði s	FreqOffset 0.00000000 Hz
<b>£</b> (f): FTun Swp											<b>Signal Track</b> On <u>Off</u>
	16.800 W 1 MH			#V	BW 3 M	Hz #	Sweep	100.3 m	Span 6 ıs (640		
File na	ame er	ror									

### Test Channel=MCH

🔆 Agilent					RL	Freq/Channel
Ref 33 dBm #Avg	#Atten	40 dB			600.9 MHz 5.51 dBm	Center Freq 515.000000 MHz
Log 10 dB/ Offst						Start Freq 30.0000000 MHz
6 dB DI						<b>Stop Freq</b> 1.00000000 GHz
-13.0 dBm PAvg						<b>CF Step</b> 97.0000000 MHz <u>Auto</u> Man
M1 S2 S3 FC						FreqOffset 0.00000000 Hz
£(f): FTun Swp					<u></u>	Signal Track <sup>On <u>Off</u></sup>
Center 515. #Res BW 1 M	IHz	#VBW 3 M	MHz #Swe	Span Span ep 100 ms (1	970 MHz .000 pts)	
File name e	rror					

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🔆 Agilen	ıt					RL		Freq/Channel
Ref 33 dB #Avg	3m ↓	#Atten 40 dB				2 4.000 -41.45 c		Center Freq 4.00000000 GHz
Log 10 dB/ Offst								Start Freq 1.00000000 GHz
6 dB DI -13.0								<b>Stop Freq</b> 7.00000000 GHz
dBm PAvg								<b>CF Step</b> 600.000000 MHz <u>Auto</u> Man
M1 S2 S3 FC		and and a start of the start		. In the second second	6 d	tådage betgend <sup>4</sup>	<b>hile ili</b>	FreqOffset 0.00000000 Hz
£(f): FTun Swp								Signal Track On <u>Off</u>
Center 4.0 #Res BW 1		#V	BW 3 MHz	#Sweep	100.4 ms	Span 6 ( (6200 p		
File name	e error							

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🔆 Ag	ilent							R	L	Freq/Channel
Ref 33 #Avg	dBm	#Atten	40 dB				Mkr1		71 GHz 2 dBm	Center Freq 10.3000000 GHz
Log 10 dB/ Offst										Start Freq 7.00000000 GHz
6 dB DI										<b>Stop Freq</b> 13.6000000 GHz
-13.0 dBm PAvg										<b>CF Step</b> 660.00000 MHz <u>Auto</u> Man
		Herden de stated e	Harland Hara		والإروب أرزال	Male da	اللغضيان			FreqOffset 0.00000000 Hz
£(f): F⊤un Swp										Signal Track <sup>On <u>Off</u></sup>
	10.300 GH W 1 MHz	z	#VBI	↓ 3 MHz	#Sw	veep 1	00.2 m		.6 GHz 0 pts)	
File na	ame error									

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🔆 Ag	ilent								F	₹ L	Freq/Channel
Ref 34 #Avg	dBm		ŧAtten	40 dB				Mkr:		14 GHz 6 dBm	Center Freq 16.8000000 GHz
Log 10 dB/ Offst											Start Freq 13.6000000 GHz
6 dB DI											<b>Stop Freq</b> 20.0000000 GHz
-13.0 dBm PAvg											<b>CF Step</b> 640.000000 MHz <u>Auto</u> Man
M1 S2 S3 FC					i ati lin da						FreqOffset 0.00000000 Hz
<b>£</b> (f): FTun Swp											<b>Signal Track</b> On <u>Off</u>
	16.800 W 1 MHz			#V	вы з м	Hz #	Sweep	100.3 m		.4 GHz 0 pts)	
File na	ime err	or									

# Test Channel=HCH

🔆 Agilent					RL	Freq/Channel
Ref 33 dBm #Avg	#Atten 4	0 dB			96.1 MHz .53 dBm	Center Freq 515.000000 MHz
Log 10 dB/ Offst						Start Freq 30.0000000 MHz
6 dB DI						<b>Stop Freq</b> 1.00000000 GHz
-13.0 dBm PAvg						<b>CF Step</b> 97.0000000 MHz <u>Auto</u> Man
M1 S2 S3 FC			1			FreqOffset 0.00000000 Hz
£(f): FTun Swp			<b>⊘</b>			<b>Signal Track</b> <sup>On <u>Off</u></sup>
Center 515.0 #Res BW 1 MH		#VBW 3 M	Hz #Swee	Span : p 100 ms (10	970 MHz 100 pts)	
File name er	ror					

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🔆 Agil	lent								F	۲L	Freq/Channel
Ref 33 #Avg	dBm	1	#Atten	40 dB				Mk		100 GHz 28 dBm	Center Freq 4.00000000 GHz
Log 10 dB/ Offst		<b>*</b>									Start Freq 1.00000000 GHz
6 dB DI -13.0											<b>Stop Freq</b> 7.00000000 GHz
dBm PAvg											<b>CF Step</b> 600.000000 MHz <u>Auto</u> Man
M1 S2 S3 FC						2		et. mai titada	a la manana d		Freq Offset 0.00000000 Hz
£(f): ≐ FTun Swp –		<u>, , , , , , , , , , , , , , , , , , , </u>									Signal Track On <u>Off</u>
Center #Res Bk				#V	вы з м	Hz #	Sweep	100.4 m		6 GHz 0 pts)	
File na	me err	or									

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🔆 Agile	ent							F	₹ L	Freq/Channel
Ref 33 d #Avg	dBm	#Atten	40 dB				Mkr:		34 GHz 7 dBm	Center Freq 10.3000000 GHz
Log 10 dB/ Offst										Start Freq 7.00000000 GHz
6 dB DI										<b>Stop Freq</b> 13.6000000 GHz
-13.0 dBm PAvg										<b>CF Step</b> 660.000000 MHz <u>Auto</u> Man
	de stan de al data	والعام ارتقادا		a di a di i	a da a d	le e staliet.	الم المراد الم	Hilling and set		FreqOffset 0.00000000 Hz
£(f): FTun Swp						· ·				Signal Track <sup>On <u>Off</u></sup>
#Res BW			#V[	BW 3 M	Hz #	Sweep	100.2 m		.6 GHz 0 pts)	
File nam	ie error									

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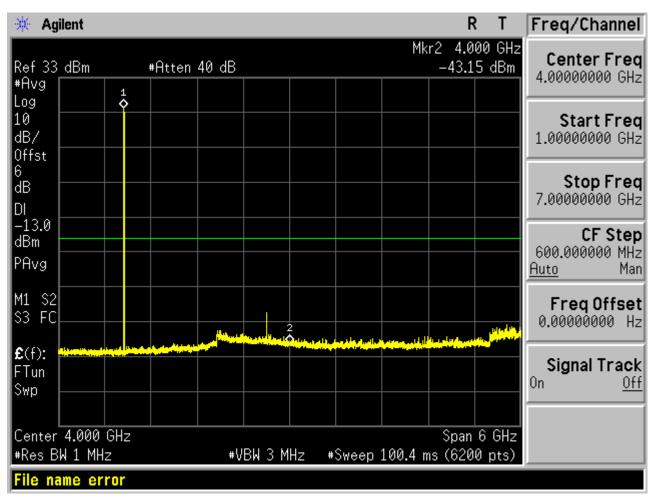
🔆 Ag	ilent							R	: L	Freq/Channel
Ref 34 #Avg	dBm	#A	tten 40	dB			Mkr1		32 GHz 2 dBm	Center Freq 16.8000000 GHz
Log 10 dB/ Offst										<b>Start Freq</b> 13.6000000 GHz
6 dB DI										<b>Stop Freq</b> 20.0000000 GHz
-13.0 dBm PAvg										<b>CF Step</b> 640.000000 MHz <u>Auto</u> Man
						i, she da da			Hanserine	Freq Offset 0.00000000 Hz
€(f): FTun Swp										Signal Track <sup>On <u>Off</u></sup>
#Res B	16.800 ( W 1 MHz			#VBW 3	MHz 4	≠Sweep			.4 GHz 0 pts)	
File na	ime erro	r								

#### Test Mode=EDGE

# Test Channel=LCH

🔆 Agilent				R L	Freq/Channel
Ref 34 dBm #Avg	#Atten 40 dB		Mkı	r1 577.6 MHz -45.49 dBm	Center Freq 515.000000 MHz
Log 10 dB/ Offst					Start Freq 30.0000000 MHz
6 dB DI					<b>Stop Freq</b> 1.00000000 GHz
-13.0 dBm PAvg					<b>CF Step</b> 97.0000000 MHz <u>Auto</u> Man
M1 S2 S3 FC					FreqOffset 0.00000000 Hz
<b>£</b> (f): FTun Swp		\$			<b>Signal Track</b> On <u>Off</u>
Center 515.0 MHz #Res BW 1 MHz	#V	BW 3 MHz	*Sweep 100 m	Span 970 MHz s (1000 pts)	
File name error					

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Mkr1  13.562  GHz    Ref 34 dBm  *Atten 40 dB  -35.56 dBm  10.3000000 GHz    Havg  10  10  10  10    10  10  10  10  10    0ffst  10  10  10  10    13.0  10  10  10  10    13.0  10  10  10  10    13.0  10  10  10  10    13.0  10  10  10  10    13.0  10  10  10  10  10    14  10  10  10  10  10  10    14  10  10  10  10  10  10  10    15  10  <	🔆 Agi	lent					R	L	Freq/Channel
10    dB/    Start Freq      0ffst    6    6    7.0000000 GHz      dB    6    6    6    6      DI    7.3.0    7.0000000 GHz    13.600000 GHz      -13.0    6    6    6    6      M1 S2    5    7.0000000 Hz    6      S3 FC    1    6    6    6      Center 10.300 GHz    5    5    6    6	#Avg [	dBm	#Atten 40 d	lΒ ∣		Mkr:			
dB  DI  Stop Freq    DI  -13.0  CF Step    dBm  PAvg  CF Step    PAvg  M1 S2  M1 S2    S3 FC  Freq Offset    C(f):  Freq Offset    Swp  Image: Stop Freq    Center 10.300 GHz  Span 6.6 GHz	10 dB/								
dBm    CF Step      PAvg    Image: Comparison of the step of the ste	6 dB DI								
S3 FC £(f): FTun Swp Center 10.300 GHz S3 FC Center 10.300 GHz S3 FC Center 10.300 GHz S3 FC Center 10.300 GHz Center 10.300 GHz S3 FC Center 10.300 GHz Center 10.300 GHz	dBm								660.000000 MHz
£(f):  Signal Track    FTun  Swp    Center 10.300 GHz  Span 6.6 GHz	S3 FC		alaan talifata ahaan ta	ر مراجع معرف المالية المراجع الم	dial distantial and a sub-	. dia minina min	ultura da		
	£(f): FTun								
#Res BW 1 MHz #VBW 3 MHz #Sweep 100.2 ms (6800 pts)	#Res Bk	∖1 MHz		#VBW 3 Mł	Hz #Swee	p 100.2 n			

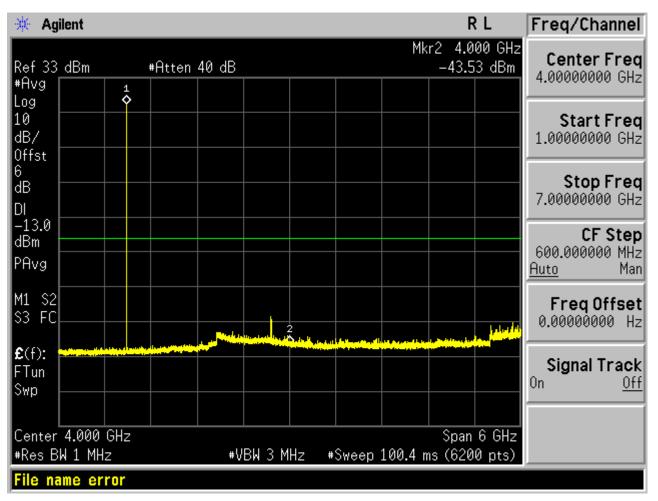
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🔆 Ag	ilent								F	:L	Freq/Channel
Ref 34 #Avg	dBm	+	ŧAtten	40 dB				Mkr1		88 GHz 0 dBm	Center Freq 16.8000000 GHz
Log 10 dB/ Offst											<b>Start Freq</b> 13.6000000 GHz
6 dB DI											<b>Stop Freq</b> 20.0000000 GHz
-13.0 dBm PAvg											<b>CF Step</b> 640.000000 MHz <u>Auto</u> Man
		<mark>E pillen</mark> t		و الفقل		di the start	ار و فار <mark>ار ا</mark> لغ	فأقر المالين			Freq Offset 0.00000000 Hz
<b>£</b> (f): FTun Swp											Signal Track <sup>On <u>Off</u></sup>
	16.800 W 1 MHz			#V	BW 3 M	Hz #	Sweep	100.3 m		.4 GHz 0 pts)	
File na	ime err	or									

### Test Channel=MCH

🔆 Ag	ilent								F	۲L	Freq/Channel
Ref 34 #Avg	dBm		#Atten	40 dB				Mk		3.8 MHz 29 dBm	Center Freq 515.000000 MHz
Log 10 dB/ Offst											Start Freq 30.0000000 MHz
6 dB DI											<b>Stop Freq</b> 1.00000000 GHz
-13.0 dBm PAvg											<b>CF Step</b> 97.000000 MHz <u>Auto</u> Man
M1 S2 S3 FC						1					FreqOffset 0.00000000 Hz
€(f): FTun Swp		<u> </u>				\$	**************************************				<b>Signal Track</b> On <u>Off</u>
#Res B	515.0   W 1 MHz	2		#V	BW 3 M	Hz	#Swee	p 100 m		70 MHz )0 pts)	
File na	ime eri	or									

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🔆 Agi	ilent								F	۲ L	Freq/Channel
Ref 34 #Avg	dBm		#Atten	40 dB				Mkr1		15 GHz 1 dBm	Center Freq 10.3000000 GHz
Log 10 dB/ Offst											<b>Start Freq</b> 7.00000000 GHz
6 dB DI											<b>Stop Freq</b> 13.6000000 GHz
-13.0 dBm PAvg											<b>CF Step</b> 660.00000 MHz <u>Auto</u> Man
M1 S2 S3 FC	le della se e	Hadabilidad	led H. Issier	والمرور المرور	مارية فالدراء با	a <sub>for</sub> a for a line line line	lang kari dar	القرار ويبتدو	الأفر والعرد		FreqOffset 0.00000000 Hz
€(f): FTun Swp											<b>Signal Track</b> On <u>Off</u>
Center #Res B	10.300 W 1 MH			#V	BW 3 M	Hz #	Sweep	100.2 m		.6 GHz 0 pts)	
File na	me er	ror									

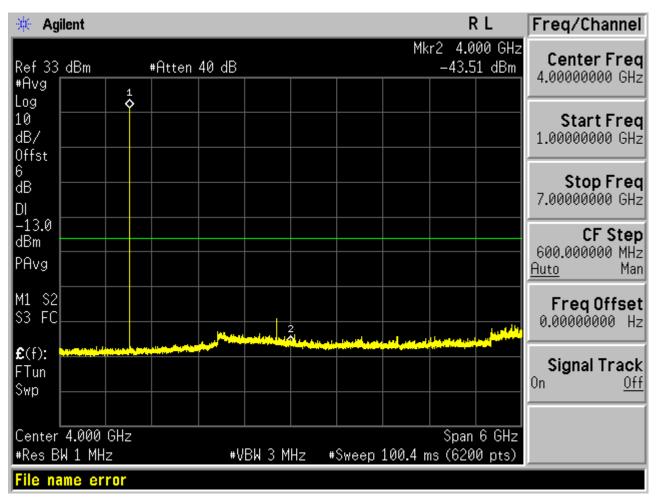
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🔆 Ag	ilent								F	₹ L	Freq/Channel
Ref 34 #Avg	dBm		#Atten	40 dB				Mkr:		59 GHz 9 dBm	Center Freq 16.8000000 GHz
Log 10 dB/ Offst											Start Freq 13.6000000 GHz
6 dB DI											<b>Stop Freq</b> 20.0000000 GHz
-13.0 dBm PAvg											<b>CF Step</b> 640.000000 MHz <u>Auto</u> Man
M1 S2 S3 FC	lisi ka sali					M.H.J.L.M.J		المربعة المربعة الم			FreqOffset 0.00000000 Hz
<b>£</b> (f): FTun Swp											<b>Signal Track</b> On <u>Off</u>
	16.800 W 1 MH			#V	вызм	Hz #	Sweep	100.3 m		.4 GHz 0 pts)	
File na	ime er	ror									

### Test Channel=HCH

🔆 Ag	ilent								F	۲L	Freq/Channel
Ref 34 #Avg	dBm		#Atten	40 dB				Mk		1.8 MHz 50 dBm	Center Freq 515.000000 MHz
Log 10 dB/ Offst											Start Freq 30.0000000 MHz
6 dB DI											<b>Stop Freq</b> 1.00000000 GHz
-13.0 dBm PAvg											<b>CF Step</b> 97.0000000 MHz <u>Auto</u> Man
M1 S2 S3 FC						1					FreqOffset 0.00000000 Hz
£(f): F⊤un Swp		9-18-9-5-18-74-14-1			· · · · · · · · · · · · · · · · · · ·	1 <b>◊</b>			<del></del>		Signal Track <sup>On <u>Off</u></sup>
<b>#</b> Res B	515.0 W 1 MH	Z		#V	BW 3 M	Hz	#Sweer	: 5 100 m		70 MHz 10 pts)	
File na	ame er	ror									

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🔆 Agi	ilent				RL	Freq/Channel
Ref 34 #Avg	dBm	#Atten 40 dB		Mkr	1 13.554 GHz -36.06 dBm	Center Freq 10.3000000 GHz
Log 10 dB/ Offst						<b>Start Freq</b> 7.00000000 GHz
6 dB DI						<b>Stop Freq</b> 13.6000000 GHz
-13.0 dBm PAvg						<b>CF Step</b> 660.000000 MHz <u>Auto</u> Man
M1 S2 S3 FC	d de la desta de	المراجع المراجع المراجع المراجع	فليقد أوريه واريه المرابع		1 Allerate to be office of the	Freq Offset 0.00000000 Hz
€(f): FTun Swp						<b>Signal Track</b> On <u>Off</u>
	10.300 GHz W 1 MHz	#\	BW 3 MHz #	 ⊧Sweep 100.2	Span 6.6 GHz ms (6800 pts)	
File na	ime error					

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🔆 Ag	ilent				R L	Freq/Channel
Ref 34 #Avg	dBm	#Atten 40 dB		Mł	(r1 13.600 GHz -35.01 dBm	Center Freq 16.8000000 GHz
Log 10 dB/ Offst						Start Freq 13.6000000 GHz
6 dB DI						<b>Stop Freq</b> 20.0000000 GHz
-13.0 dBm PAvg						<b>CF Step</b> 640.000000 MHz <u>Auto</u> Man
M1 S24 S3 FC	>					FreqOffset 0.00000000 Hz
€(f): FTun Swp						Signal Track <sup>On <u>Off</u></sup>
<b>#</b> Res B	16.800 GHz W 1 MHz	#\	BW 3 MHz	#Sweep 100.3	Span 6.4 GHz ms (6400 pts)	
File na	ime error					

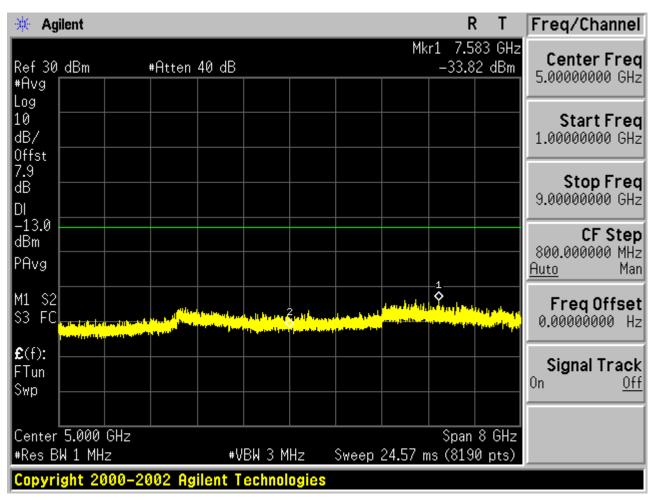
### Test Band=WCDMA850

# Test Mode=UMTS

# Test Channel=LCH

🔆 Ag	jilent					RT	Freq/Channel
Ref 30 #Avg	dBm	#Atten 40 dB				14.5 MHz 3.94 dBm	Center Freq 515.000000 MHz
Log 10 dB/ Offst							<b>Start Freq</b> 30.0000000 MHz
7.9 dB DI							<b>Stop Freq</b> 1.00000000 GHz
-13.0 dBm PAvg							<b>CF Step</b> 97.000000 MHz <u>Auto</u> Man
M1 S2 S3 FC			2 			····	FreqOffset 0.00000000 Hz
£(f): F⊤un Swp							Signal Track On <u>Off</u>
	515.0 MHz W 1 MHz	#\	BW 3 MHz	#Sweep 5	Span 50.02 ms (1)	970 MHz 000 pts)	
Copyri	ight 2000-20	002 Agilent T	echnologie	8			

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### Test Channel=MCH

🔆 Agile	ent					R	Т	Freq/Channel
Ref 30 d #Avg Log	lBm 🛛	#Atten 40 dB				2 514.5 -43.70		Center Freq 515.000000 MHz
10 dB/ 0ffst						<b></b>		Start Freq 30.0000000 MHz
7.9 dB – DI								<b>Stop Freq</b> 1.00000000 GHz
-13.0 dBm PAvg								<b>CF Step</b> 97.0000000 MHz <u>Auto</u> Man
M1 S2 S3 FC			2					FreqOffset 0.00000000 Hz
£(f): FTun Swp								<b>Signal Track</b> <sup>On <u>Off</u></sup>
#Res BW			BW 3 MHz		50.02 ms	oan 970 (1000		
Copyrig	nt 2000-20	002 Agilent T	echnologie	es -				

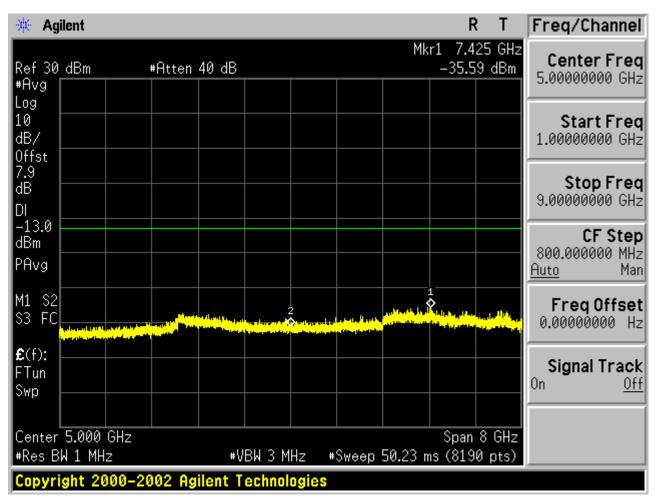
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🔆 Ag	jilent								R	т	Freq/Channel
Ref 30 #Avg	dBm		#Atten	40 dB				Mk		72 GHz 4 dBm	Center Freq 5.00000000 GHz
Log 10 dB/ Offst											Start Freq 1.00000000 GHz
7.9 dB DI											<b>Stop Freq</b> 9.00000000 GHz
-13.0 dBm PAvg											<b>CF Step</b> 800.000000 MHz <u>Auto</u> Man
M1 S2 S3 FC			a and the second se			2 National Antonio					FreqOffset 0.00000000 Hz
€(f): FTun Swp											<b>Signal Track</b> On <u>Off</u>
#Res B	5.000 W 1 MH	z			ви з м		Sweep	50.23 m		8 GHz 0 pts)	
Copyri	ight 20	00-20	002 Ag	ilent T	echnol	ogies					

### Test Channel=HCH

🔆 Agile	ent					R	Т	Freq/Channel
Ref 30 d #Avg	dBm	#Atten 40 dB				2 514. -44.04		Center Freq 515.000000 MHz
Log 10 dB/ Offst								Start Freq 30.0000000 MHz
7.9 dB – DI								<b>Stop Freq</b> 1.00000000 GHz
-13.0 dBm PAvg								<b>CF Step</b> 97.0000000 MHz <u>Auto</u> Man
M1 S2 S3 FC			2 •		e <sup>rkan<sup>m</sup>ikanan seriet</sup>	Å.		FreqOffset 0.00000000 Hz
£(f): FTun Swp								<b>Signal Track</b> On <u>Off</u>
#Res BW			BW 3 MHz		         	oan 970 : (1000		
Copyrig	ht 2000-20	002 Agilent T	echnologie	es				

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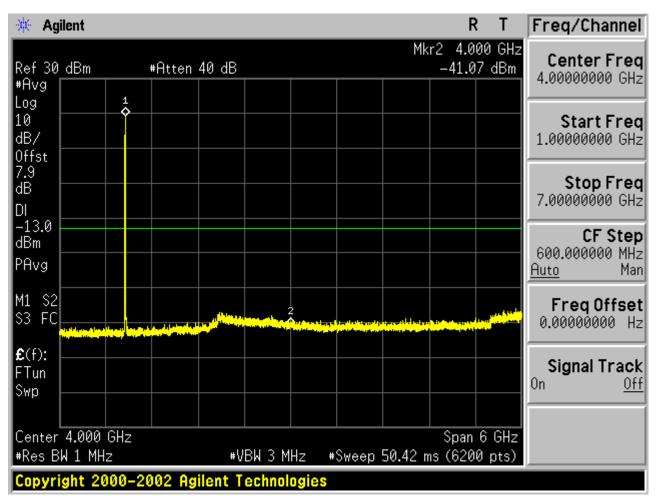
### Test Band=WCDMA1900

# Test Mode=UMTS

### Test Channel=LCH

🔆 Ag	ilent					RL	Freq/Channel
Ref 30 #Avg	dBm	#Atten 40	dB		Mkr	1 430.0 MHz -42.80 dBm	Center Freq 515.000000 MHz
Log 10 dB/ Offst							Start Freq 30.0000000 MHz
7.9 dB DI -13.0							<b>Stop Freq</b> 1.00000000 GHz
dBm PAvg							CF Step 97.0000000 MHz <u>Auto</u> Man
M1 S2 S3 FC £(f):			1 •		······································		Freq Offset 0.00000000 Hz
FTun Swp							Signal Track On <u>Off</u>
	515.0 MHz W 1 MHz		#VBW 3 MF	lz #Sweep		pan 970 MHz s (1000 pts)	
	ight 2000-2	2002 Agiler	it Technolo				

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🔆 Ag	ilent								F	۲L	Freq/Channel
Ref 30 #Avg	dBm		#Atten	40 dB				Mkr:		43 GHz 15 dBm	Center Freq 10.3000000 GHz
Log 10 dB/ Offst											Start Freq 7.00000000 GHz
7.9 dB DI											<b>Stop Freq</b> 13.6000000 GHz
-13.0 dBm PAvg											<b>CF Step</b> 660.000000 MHz <u>Auto</u> Man
M1 S2 S3 FC	d a dé des sel		u da da si da		a da	2	al de sie	lan an a	ike bitchige li	, internet	FreqOffset 0.00000000 Hz
€(f): FTun Swp											<b>Signal Track</b> On <u>Off</u>
	10.300 W 1 MH			#V	ВИЗМ	Hz #	Sweep	50.31 m		.6 GHz 0 pts)	
Copyri	Copyright 2000–2002 Agilent Technologies										

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🔆 Ag	ilent								F	₹ T	Freq/Channel
Ref 30 #Avg	dBm		#Atten	40 dB				Mkr		49 GHz 4 dBm	Center Freq 16.8000000 GHz
Log 10 dB/ Offst											<b>Start Freq</b> 13.6000000 GHz
7.9 dB DI											<b>Stop Freq</b> 20.0000000 GHz
-13.0 dBm PAvg		1									<b>CF Step</b> 640.000000 MHz <u>Auto</u> Man
M1 S2 S3 FC		n an		and the state		2 NANG MAN					FreqOffset 0.00000000 Hz
<b>£</b> (f): FTun Swp											Signal Track <sup>On <u>Off</u></sup>
<b>#</b> Res B	16.800 W 1 MH	Z			вы з м		Sweep	50.34 n		.4 GHz 0 pts)	
Copyri	Copyright 2000–2002 Agilent Technologies										

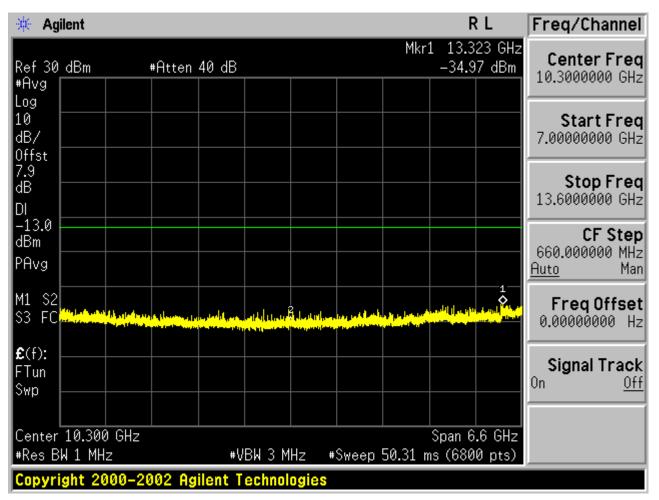
# Test Channel=MCH

🔆 Ag	jilent								F	₹ L	Freq/Channel
Ref 30 #Avg	dBm		#Atten	40 dB				Mk		3.3 MHz 17 dBm	Center Freq 515.000000 MHz
Log 10 dB/ Offst											Start Freq 30.0000000 MHz
7.9 dB DI											<b>Stop Freq</b> 1.00000000 GHz
-13.0 dBm PAvg											<b>CF Step</b> 97.000000 MHz <u>Auto</u> Man
M1 S2 S3 FC		ىرىمى ئۇرىرىرى <sub>لى</sub>			~	1 \$			-1-4,01,0100 (100)	······	FreqOffset 0.00000000 Hz
€(f): FTun Swp											Signal Track <sup>On <u>Off</u></sup>
#Res B	515.0 W 1 MH	z			BW 3 M		Sweep	50.02 m		70 MHz 0 pts)	
Copyr	Copyright 2000–2002 Agilent Technologies										

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🔆 Agilent							R	Т	Freq/Channel
Ref 30_dBm	#Atten 4	40 dB				Mk	r2 4.0 -41.5	00 GHz 2 dBm	Center Freq 4.00000000 GHz
#Avg Log									
10 dB/ Offst									Start Freq 1.00000000 GHz
7.9 dB DI									<b>Stop Freq</b> 7.00000000 GHz
-13.0 dBm PAvg									<b>CF Step</b> 600.000000 MHz <u>Auto</u> Man
director and		a de la constante de	dia Manja	2				de de la competencia	FreqOffset 0.00000000 Hz
£(f): FTun Swp									<b>Signal Track</b> On <u>Off</u>
Center 4.000 #Res BW 1 MH			ВМЗМ		Succes	50.42 m		6 GHz	
*Res DW 1 MP Copyright 2	102 Agi				oweep	JU.42 II	15 (OZUI	e p(s)	

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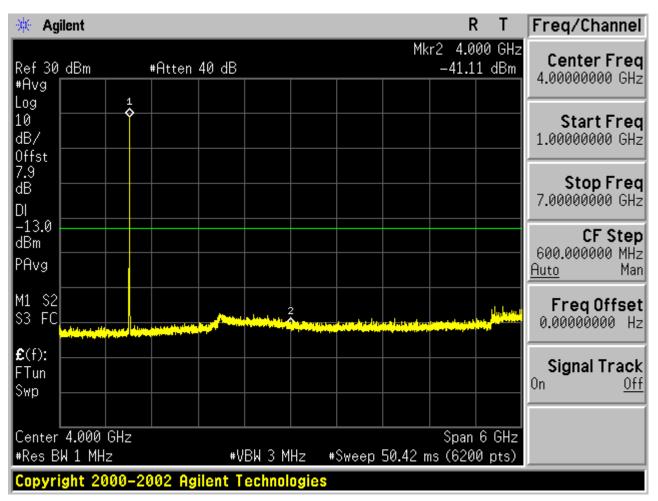
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🔆 Ag	ilent								R	т	Freq/Channel
Ref 30 #Avg Log	dBm		#Atten	40 dB				Mkr:		85 GHz 4 dBm	Center Freq 16.8000000 GHz
10 dB/ Offst											<b>Start Freq</b> 13.6000000 GHz
7.9 dB DI											<b>Stop Freq</b> 20.0000000 GHz
-13.0 dBm PAvg				1							<b>CF Step</b> 640.000000 MHz <u>Auto</u> Man
			at dat i se se s				a that had a g				FreqOffset 0.00000000 Hz
£(f): F⊤un Swp											<b>Signal Track</b> On <u>Off</u>
<b>#</b> Res B	16.800 W 1 MH	z			ВМ З М		Sweep	50.34 m	Span 6 1s (640		
Copyr	ight 2€	00-20	)02 Ag	ilent T	echnol	ogies					

### Test Channel=HCH

🔆 Agiler	nt					R	L	Freq/Channel
Ref 30 d #Avg	Bm ·	#Atten 40 dB			Mk	r1 175 -43.0%	.6 MHz 3 dBm	Center Freq 515.000000 MHz
Log 10 dB/ Offst								Start Freq 30.0000000 MHz
7.9 dB DI								<b>Stop Freq</b> 1.00000000 GHz
-13.0 dBm PAvg								<b>CF Step</b> 97.0000000 MHz <u>Auto</u> Man
M1 S2 S3 FC							-	FreqOffset 0.00000000 Hz
£(f): FTun Swp								Signal Track <sup>On <u>Off</u></sup>
#Res BW			BW 3 MHz		50.02 m	Span 97 ns (1000		
Copyrigi	nt 2000-20	02 Agilent T	echnolog	jies				

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🔆 Ag	ilent								F	۲L	Freq/Channel
Ref 30 #Avg	dBm	:	#Atten	40 dB				Mkr:		75 GHz 34 dBm	Center Freq 10.3000000 GHz
Log 10 dB/ Offst											Start Freq 7.00000000 GHz
7.9 dB DI											<b>Stop Freq</b> 13.6000000 GHz
-13.0 dBm PAvg										1	<b>CF Step</b> 660.000000 MHz <u>Auto</u> Man
M1 S2 S3 FC						2 1411-1411	an de mie		delit ju deli		FreqOffset 0.00000000 Hz
£(f): F⊤un Swp											Signal Track <sup>On <u>Off</u></sup>
	10.300 W 1 MH			+V	BW 3 M	IHz #	⊧ ŧSweep	50.31 n		.6 GHz 0 pts)	
Copyri	ight 20	00-20	)02 Ag	ilent T	echnol	ogies					

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🔆 Agilent					RT	Freq/Channel
Ref 30 dBm #Avg	#Atten 40 dB				2.941 GHz 2.96 dBm	Center Freq 16.8000000 GHz
Log 10 dB/ Offst						<b>Start Freq</b> 13.6000000 GHz
7.9 dB DI						<b>Stop Freq</b> 20.0000000 GHz
-13.0 dBm PAvg				1		<b>CF Step</b> 640.000000 MHz <u>Auto</u> Man
M1 S2 S3 FC	h this a still as a second still be as h		laille, sintitute			FreqOffset 0.00000000 Hz
£(f): FTun Swp						Signal Track On <u>Off</u>
Center 16.800 ( #Res BW 1 MHz		/BW 3 MHz	#Sweep 5	Span 50.34 ms (6	6.4 GHz 400 pts)	
	0-2002 Agilent T					

Note: 1. Below 30MHZ no Spurious found and The GSM modes is the worst condition.

2. As no emission found in standby or receive mode, no recording in this report.

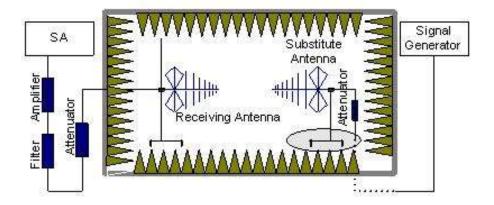
# 9.2 RADIATED SPURIOUS EMISSION

## 9.2.1 MEASUREMENT METHOD

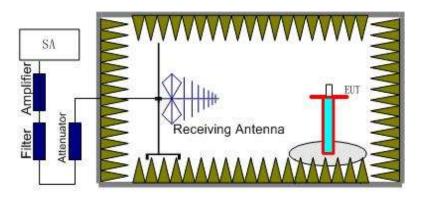
The measurements procedures specified in TIA-603C-2004 were used for testing. The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment. The resolution bandwidth is set 1MHz as outlined in Part 24.238. The measurements were performed on all modes(GPRS/EGPRS 850, GPRS/EGPRS 1900, HSPA band II, HSPA band V) at 3 typical channels(the Top Channel, the Middle Channel and the Bottom Channel) for each band.

The procedure of radiated spurious emissions is as follows:

a) Pre-calibration With pre-calibration method, the Radiated Spurious Emissions(RSE) is calculated as, RSE=Rx(dBuV)+CL(dB)+SA(dB)+Gain(dBi)-107(dBuV to dBm) The SA is calibrated using following setup.



b) EUT was placed on a 0.8 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 test item for emission measurements. The height of receiving antenna is 0.8m. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the test item and adjusting the receiving antenna polarization. The radiated emission measurements of all non-harmonic and harmonics of the transmit frequency through the 10th harmonic were measured with peak detector and 1MHz bandwidth.



Radiated emissions measurements were made only at the upper, middle, and lower carrier frequencies of the PCS 1900 band (1850.2 MHz, 1880 MHz and 1909.8 MHz) ,GSM850 band (824.2MHz, 836.6MHz, 848.8MHz), UMTS band II(1852.6MHz, 1880MHz, 1907.4MHz), UMTS band V(826.6MHz, 836.4MHz, 846.4MHz) . It was decided that measurements at these three carrier frequencies would be sufficient to demonstrate compliance with emissions limits because it was seen that all the significant spurs occur well outside the band and no radiation was seen from a carrier in one block of any band into any of the other blocks.

The substitution method is used. Substitution values at each frequency are measured before and saved to the test software. A "reference path loss" is established and the  $A_{Rpl}$  is the attenuation of "reference path loss", and including the gain of receive antenna, the gain of the preamplifier, the cable loss and the air loss. The measurement results are obtained as described below: Power=P<sub>Mea</sub>+A<sub>Rpl</sub>

## 9.2.2 PROVISIONS APPLICABLE

(a) On any frequency outside a licensee's frequency block (e.g. A, D, B, etc.) within the USPCS spectrum, the power of any emission shall be attenuated below the transmitter power (P, in Watts) by at least 43+10Log(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.

Note: only result the worst condition of each test mode:

## 9.2.3 MEASUREMENT RESULT

### GSM 850:

	The Worst Test Results for Channel 251/848.8 MHz											
Frequency(MHz)	Power(dBm)	ARpl (dBm)	PMea(dBm)	Limit (dBm)	Polarity							
1685.23	-41.33	-5.01	-46.34	-13.00	Horizontal							
2456.12	-42.45	-2.18	-44.63	-13.00	Vertical							
3645.78	-43.65	3.46	-40.19	-13.00	Vertical							
4536.58	-42.68	2.79	-39.89	-13.00	Horizontal							

## GSM 850(EDGE 8):

	The Worst Test Results for Channel 251/848.8 MHz											
Frequency(MHz)	Power(dBm)	ARpl (dBm)	PMea(dBm)	Limit (dBm)	Polarity							
1696.28	-46.65	-2.26	-48.91	-13.00	Horizontal							
2162.19	-46.87	-3.12	-49.99	-13.00	Vertical							
3645.78	-47.63	-1.74	-49.37	-13.00	Vertical							
9257.65	-45.24	8.46	-36.78	-13.00	Horizontal							

### PCS 1900:

	The Worst Tes	t Results for	r Channel 810	/1909.8MHz	
Frequency(MHz)	Power(dBm)	ARpl (dBm)	PMea(dBm)		Polarity
1429.36	1429.36 -43.28		-46.50	-13.00	Vertical
2563.47	-42.24	-0.24	-42.48	-13.00	Vertical
3645.26	-45.68	3.98	-41.70	-13.00	Horizontal
4563.56	-45.74	11.56	-34.18	-13.00	Vertical
5689.25	-44.79	17.89	-26.90	-13.00	Horizontal

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	The Worst Tes	t Results for	r Channel 810	/1909.8MHz	
Frequency(MHz)	Power(dBm)	ARpl (dBm)	PMea(dBm)	Limit (dBm)	Polarity
1430.15	-53.33	2.7	-50.63	-13.00	Vertical
9367.91	-53.39	11.6	-41.79	-13.00	Vertical
13356.68	-54.48	14.89	-39.59	-13.00	Horizontal
15249.71	-54.73	13.87	-40.86	-13.00	Vertical
17913.63	-55.78	19.76	-36.02	-13.00	Horizontal

### PCS 1900(EDGE 8):

## UMTS band II:

	The Worst Test Results for Channel 9938/1907.4MHz											
Frequency(MHz)	Power(dBm)	ARpl (dBm)	PMea(dBm)	Limit (dBm)	Polarity							
2000.00	2000.00 -38.31		-40.56	-13.00	Vertical							
9548.50	-39.38	-3.03	-42.41	-13.00	Horizontal							
13367.40	-42.26	-1.87	-44.13	-13.00	Horizontal							
15277.80	-42.79	8.52	-34.27	-13.00	Vertical							
17931.60	-44.61	18.7	-25.91	-13.00	Horizontal							

## UMTS band V:

	The Worst Test Results for Channel 4458/846.4MHz											
Frequency(MHz)	Power(dBm)	ARpl (dBm)	PMea(dBm)	Limit (dBm)	Polarity							
1598.26	98.26 -41.35		-43.61	-13.00	Vertical							
2365.78	-40.39	-3.12	-43.51	-13.00	Horizontal							
4967.65	-43.48	-1.74	-45.22	-13.00	Horizontal							
6457.86	-42.82	8.74	-34.08	-13.00	Vertical							
7896.56	-43.72	17.89	-25.83	-13.00	Horizontal							

Note: ARpl= Factor=Antenna Factor+ Cable loss-Amplifier gain.

The "Factor" value can be calculated automatically by software of measurement system.

Below 30MHZ no Spurious found and The GSM modes is the worst condition.

## **10. MAINS CONDUCTED EMISSION**

### **10.1 MEASUREMENT METHOD**

The measurement procedure specified in ANSI C63.4-2003 was used for testing. Conducted Emission was measured with travel charger.

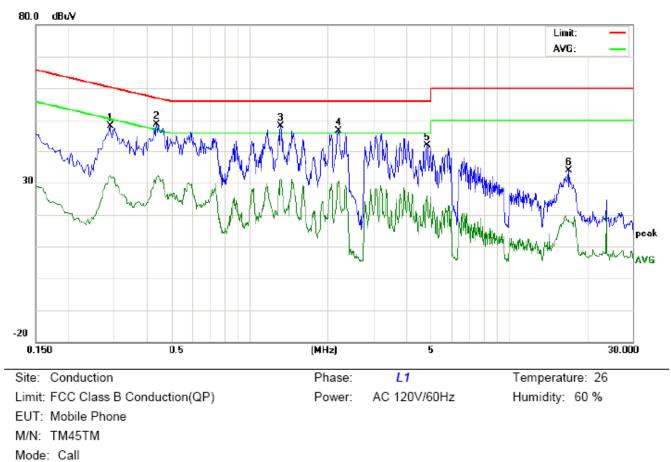
### **10.2 PROVISIONS APPLICABLE**

Frequency of Emission (MHz)	Conducted Limit(dBuV)					
	Quasi-Peak	Average				
0.15 – 0.5	66 to 56 *	56 to 46 *				
0.5 – 5	56	46				
5 – 30	60	50				
*Decreases with the logarithm of the frequency.						
*The lower limit shall apply at the transition freque	ncy.					

**Note:** The GSM850 mode is the worst condition and the test result as following:

### **10.3 MEASUREMENT RESULT**

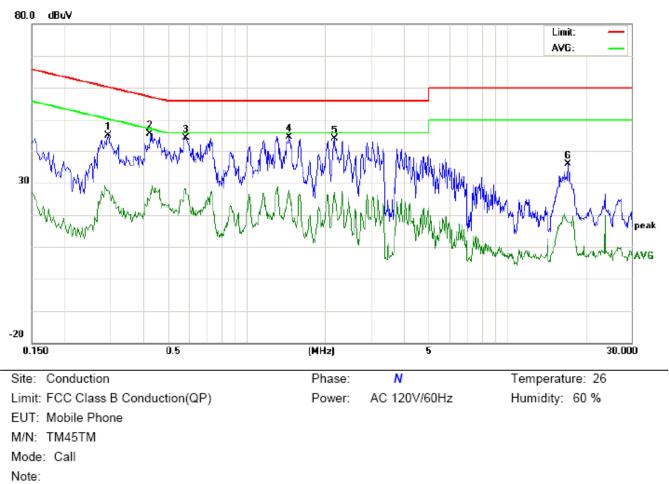
LINE CONDUCTED EMISSION – L



Note:

No.	No. Freq.		Reading_Level (dBuV)		Correct Measurement Factor (dBuV)		Limit (dBuV)		Margin (dB)		P/F	Comment		
	(MHz)	Peak	QP	AVG	dB	Peak	QP	AVG	QP	AVG	QP	AVG		
1	0.2900	37.72		22.15	10.29	48.01		32.44	60.52	50.52	-12.51	-18.08	Ρ	
2	0.4380	38.34		21.24	10.36	48.70		31.60	57.10	47.10	-8.40	-15.50	Ρ	
3	1.3180	37.63		20.63	10.38	48.01		31.01	56.00	46.00	-7.99	-14.99	Р	
4	2.2020	36.33		20.25	10.30	46.63		30.55	56.00	46.00	-9.37	-15.45	Р	
5	4.8340	31.58		15.62	10.23	41.81		25.85	56.00	46.00	-14.19	-20.15	Р	
6	16.9300	23.85		8.33	10.13	33.98		18.46	60.00	50.00	-26.02	-31.54	Р	

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### LINE CONDUCTED EMISSION - N

No.	No. Freq. (MHz)		ading_L (dBuV)		Correct Factor	Me	easuren (dBuV)			nit uV)		rgin IB)	P/F	Comment
	(MHz)	Peak	QP	AVG	dB	Peak	QP	AVG	QP	AVG	QP	AVG		
1	0.2940	34.83		17.38	10.29	45.12		27.67	60.41	50.41	-15.29	-22.74	Р	
2	0.4260	35.35		16.78	10.35	45.70		27.13	57.33	47.33	-11.63	-20.20	Р	
3	0.5860	34.17		16.25	10.32	44.49		26.57	56.00	46.00	-11.51	-19.43	Р	
4	1.4580	34.29		17.18	10.38	44.67		27.56	56.00	46.00	-11.33	-18.44	Р	
5	2.1740	33.83		16.93	10.29	44.12		27.22	56.00	46.00	-11.88	-18.78	Р	
6	17.1420	25.69		7.76	10.13	35.82		17.89	60.00	50.00	-24.18	-32.11	Р	

Note: The GSM850 mode is the worst condition.

# **11. FREQUENCY STABILITY**

## **11.1 MEASUREMENT METHOD**

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.

- 1 , Measure the carrier frequency at room temperature.
- 2 , Subject the EUT to overnight soak at -10  $^\circ\!\!\mathbb{C}.$

3 , With the EUT, powered via nominal voltage, connected to the CMU200 and in a simulated call on channel 661 for PCS 1900 band , channel 190 for GSM 850 band, channel 9400 for UMTS band II and channel 4175 for UMTS band V 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  $10^{\circ}$ C increments from  $-10^{\circ}$ C to  $+55^{\circ}$ C. Allow at least 1 1/2 hours at each temperature, unpowered, before making measurements.

5 , Re-measure carrier frequency at room temperature with nominal voltage. Vary supply voltage from minimum voltage to maximum voltage, in 0.1Volt increments re-measuring carrier frequency at each voltage. Pause at nominal voltage for 1 1/2 hours unpowered, to allow any self-heating to stabilize, before continuing.

6 , Subject the EUT to overnight soak at +55  $^{\circ}$ 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.

8 , Repeat the above measurements at  $10^{\circ}$ C increments from +55 $^{\circ}$ C to -10 $^{\circ}$ C. Allow at least 1 1/2 hours at each temperature, unpowered, before making measurements.

9 , At all temperature levels hold the temperature to +/-  $0.5^{\circ}$ C during the measurement procedure.

## **11.2 PROVISIONS APPLICABLE**

## 11.2.1 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 6.3VDC and 8.5VDC, with a nominal voltage of 7.4VDC. 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.

### **11.2.2** 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, the normal environment temperature is 20°C.

## **11.3 MEASUREMENT RESULT**

# Appendix D:Frequency Stability

Test Results

Frequency Error vs. Voltage:

Test	Test	Test	Test	Test	Freq.Error	Freq.vs.rated	Limit	Vordiat
Band	Mode	Channel	Temp.	Volt.	(Hz)	(ppm)	(ppm)	Verdict
			TN	VL	30.41	0.04	±2.5	PASS
		LCH	TN	VN	29.38	0.04	±2.5	PASS
			TN	VH	32.74	0.04	±2.5	PASS
			TN	VL	30.03	0.04	±2.5	PASS
GSM850	GSM	MCH	TN	VN	35.19	0.04	±2.5	PASS
			TN	VH	31.12	0.04	±2.5	PASS
			TN	VL	32.80	0.04	±2.5	PASS
		HCH	TN	VN	29.57	0.03	±2.5	PASS
			TN	VH	31.70	0.04	±2.5	PASS

Test	Test	Test	Test	Test	Freq.Error	Freq.vs.rated	Limit	Verdict
Band	Mode	Channel	Temp.	Volt.	(Hz)	(ppm)	(ppm)	
			ΤN	VL	45.78	0.06	±2.5	PASS
		LCH	ΤN	VN	39.29	0.05	±2.5	PASS
			ΤN	VH	41.04	0.05	±2.5	PASS
			TN	VL	39.71	0.05	±2.5	PASS
GSM850	EDGE	MCH	ΤN	VN	42.75	0.05	±2.5	PASS
			ΤN	VH	42.29	0.05	±2.5	PASS
			TN	VL	40.03	0.05	±2.5	PASS
		НСН	TN	VN	42.29	0.05	±2.5	PASS
			ΤN	VH	39.78	0.05	±2.5	PASS

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Test	Test	Test	Test	Test	Freq.Error	Freq.vs.rated	Limit	Verdict
Band	Mode	Channe	Temp.	Volt.	(Hz)	(ppm)	(ppm	
		I					)	
			ΤN	VL	74.13	0.04	±2.5	PASS
		LCH	ΤN	VN	61.92	0.03	±2.5	PASS
			ΤN	VH	66.64	0.04	±2.5	PASS
C6M100			ΤN	VL	67.67	0.04	±2.5	PASS
GSM190 0	GSM	MCH	ΤN	VN	61.60	0.03	±2.5	PASS
0			TN	VH	68.32	0.04	±2.5	PASS
			ΤN	VL	69.87	0.04	±2.5	PASS
		НСН	ΤN	VN	81.88	0.04	±2.5	PASS
			ΤN	VH	78.65	0.04	±2.5	PASS

Test	Test	Test	Test	Test	Freq.Error	Freq.vs.rated	Limit	Verdict
Band	Mode	Channe	Temp.	Volt.	(Hz)	(ppm)	(ppm	
		I					)	
			ΤN	VL	73.03	0.04	±2.5	PASS
		LCH	ΤN	VN	62.93	0.03	±2.5	PASS
			ΤN	VH	69.96	0.04	±2.5	PASS
GSM190			ΤN	VL	66.93	0.04	±2.5	PASS
0	EDGE	MCH	ΤN	VN	70.48	0.04	±2.5	PASS
0			ΤN	VH	61.63	0.03	±2.5	PASS
			ΤN	VL	77.58	0.04	±2.5	PASS
		НСН	ΤN	VN	69.38	0.04	±2.5	PASS
			ΤN	VH	74.68	0.04	±2.5	PASS

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# Frequency Error vs. Temperature:

Test	Test	Test	Test	Test	Freq.Error	Freq.vs.rated	Limit	Verdict
Band	Mode	Channe	Volt.	Temp	(Hz)	(ppm)	(ppm	
		I					)	
			VN	-10	31.51	0.04	±2.5	PASS
			VN	0	32.09	0.04	±2.5	PASS
			VN	10	35.84	0.04	±2.5	PASS
GSM850	GSM	LCH	VN	20	35.00	0.04	±2.5	PASS
			VN	30	30.61	0.04	±2.5	PASS
			VN	40	29.25	0.04	±2.5	PASS
			VN	50	31.77	0.04	±2.5	PASS
			VN	-10	33.13	0.04	±2.5	PASS
			VN	0	34.03	0.04	±2.5	PASS
			VN	10	32.35	0.04	±2.5	PASS
GSM850	GSM	MCH	VN	20	32.22	0.04	±2.5	PASS
			VN	30	31.77	0.04	±2.5	PASS
			VN	40	31.25	0.04	±2.5	PASS
			VN	50	31.06	0.04	±2.5	PASS
			VN	-10	36.03	0.04	±2.5	PASS
			VN	0	33.90	0.04	±2.5	PASS
			VN	10	32.41	0.04	±2.5	PASS
GSM850	GSM	HCH	VN	20	33.71	0.04	±2.5	PASS
			VN	30	29.57	0.03	±2.5	PASS
			VN	40	29.57	0.03	±2.5	PASS
			VN	50	35.51	0.04	±2.5	PASS

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Test	Test	Test	Test	Test	Freq.Error	Freq.vs.rated	Limit	Verdict
Band	Mode	Channe	Volt.	Temp	(Hz)	(ppm)	(ppm	
		I					)	
			VN	-10	36.94	0.04	±2.5	PASS
			VN	0	29.77	0.04	±2.5	PASS
			VN	10	33.25	0.04	±2.5	PASS
GSM850	EDGE	LCH	VN	20	43.26	0.05	±2.5	PASS
			VN	30	40.65	0.05	±2.5	PASS
			VN	40	34.03	0.04	±2.5	PASS
			VN	50	39.55	0.05	±2.5	PASS
			VN	-10	40.55	0.05	±2.5	PASS
			VN	0	39.91	0.05	±2.5	PASS
			VN	10	32.93	0.04	±2.5	PASS
GSM850	EDGE	MCH	VN	20	44.23	0.05	±2.5	PASS
			VN	30	33.22	0.04	±2.5	PASS
			VN	40	34.03	0.04	±2.5	PASS
			VN	50	41.10	0.05	±2.5	PASS
			VN	-10	41.87	0.05	±2.5	PASS
			VN	0	38.97	0.05	±2.5	PASS
			VN	10	33.64	0.04	±2.5	PASS
GSM850	EDGE	HCH	VN	20	42.29	0.05	±2.5	PASS
			VN	30	30.99	0.04	±2.5	PASS
			VN	40	36.87	0.04	±2.5	PASS
			VN	50	34.29	0.04	±2.5	PASS

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Test	Test	Test	Test	Test	Freq.Error	Freq.vs.rated	Limit	Verdict
Band	Mode	Channel	Volt.	Temp	(Hz)	(ppm)	(ppm	
							)	
			VN	-10	69.80	0.04	±2.5	PASS
			VN	0	65.48	0.04	±2.5	PASS
			VN	10	69.87	0.04	±2.5	PASS
GSM1900	GSM	LCH	VN	20	74.58	0.04	±2.5	PASS
			VN	30	70.71	0.04	±2.5	PASS
			VN	40	74.39	0.04	±2.5	PASS
			VN	50	66.77	0.04	±2.5	PASS
			VN	-10	75.48	0.04	±2.5	PASS
			VN	0	68.58	0.04	±2.5	PASS
			VN	10	76.52	0.04	±2.5	PASS
GSM1900	GSM	MCH	VN	20	74.84	0.04	±2.5	PASS
			VN	30	72.77	0.04	±2.5	PASS
			VN	40	69.16	0.04	±2.5	PASS
			VN	50	75.68	0.04	±2.5	PASS
			VN	-10	71.67	0.04	±2.5	PASS
			VN	0	85.88	0.04	±2.5	PASS
			VN	10	76.00	0.04	±2.5	PASS
GSM1900	GSM	HCH	VN	20	72.71	0.04	±2.5	PASS
			VN	30	87.24	0.05	±2.5	PASS
			VN	40	80.84	0.04	±2.5	PASS
			VN	50	79.10	0.04	±2.5	PASS

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Test	Test	Test	Test	Test	Freq.Error	Freq.vs.rated	Limit	Verdict
Band	Mode	Channel	Volt.	Temp.	(Hz)	(ppm)	(ppm)	
			VN	-10	61.54	0.03	±2.5	PASS
			VN	0	47.40	0.03	±2.5	PASS
			VN	10	66.73	0.04	±2.5	PASS
GSM1900	EDGE	LCH	VN	20	48.14	0.03	±2.5	PASS
			VN	30	74.74	0.04	±2.5	PASS
			VN	40	54.21	0.03	±2.5	PASS
			VN	50	61.47	0.03	±2.5	PASS
			VN	-10	52.11	0.03	±2.5	PASS
			VN	0	52.76	0.03	±2.5	PASS
			VN	10	46.17	0.02	±2.5	PASS
GSM1900	EDGE	MCH	VN	20	48.24	0.03	±2.5	PASS
			VN	30	71.77	0.04	±2.5	PASS
			VN	40	52.59	0.03	±2.5	PASS
			VN	50	50.69	0.03	±2.5	PASS
			VN	-10	64.02	0.03	±2.5	PASS
			VN	0	55.18	0.03	±2.5	PASS
			VN	10	52.76	0.03	±2.5	PASS
GSM1900	EDGE	НСН	VN	20	58.34	0.03	±2.5	PASS
			VN	30	61.67	0.03	±2.5	PASS
			VN	40	69.29	0.04	±2.5	PASS
			VN	50	83.81	0.04	±2.5	PASS

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Test	Test	Test	Test	Test	Freq.Error	Freq.vs.rated	Limit	Verdict
Band	Mode	Channel	Temp.	Volt.	(Hz)	(ppm)	(ppm)	
			TN	VL	13.96	0.02	±2.5	PASS
		LCH	TN	VN	8.47	0.01	±2.5	PASS
			TN	VH	12.36	0.01	±2.5	PASS
			TN	VL	7.55	0.01	±2.5	PASS
WCDMA850	UMTS	MCH	TN	VN	8.47	0.01	±2.5	PASS
			TN	VH	14.65	0.02	±2.5	PASS
			TN	VL	10.99	0.01	±2.5	PASS
		HCH	TN	VN	8.47	0.02	±2.5	PASS
			TN	VH	13.28	0.02	±2.5	PASS

# Frequency Error vs. Voltage:

Test	Test	Test	Test	Test	Freq.Error	Freq.vs.rated	Limit	Verdict
Band	Mode	Channel	Temp.	Volt.	(Hz)	(ppm)	(ppm)	
			ΤN	VL	35.25	0.02	±2.5	PASS
		LCH	ΤN	VN	33.87	0.02	±2.5	PASS
			ΤN	VH	32.96	0.02	±2.5	PASS
			ΤN	VL	37.77	0.02	±2.5	PASS
WCDMA1900	UMTS	MCH	ΤN	VN	33.87	0.02	±2.5	PASS
			ΤN	VH	43.26	0.02	±2.5	PASS
			TN	VL	43.00	0.02	±2.5	PASS
		НСН	ΤN	VN	33.87	0.02	±2.5	PASS
			ΤN	VH	54.47	0.03	±2.5	PASS

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Test	Test	Test	Test	Test	Freq.Error	Freq.vs.rated	Limit	Verdict
Band	Mode	Channel	Volt.	Temp.	(Hz)	(ppm)	(ppm)	
			VN	-10	-9.84	-0.01	±2.5	PASS
			VN	0	14.65	0.02	±2.5	PASS
			VN	10	14.65	0.02	±2.5	PASS
WCDMA850	UMTS	LCH	VN	20	10.53	0.01	±2.5	PASS
			VN	30	15.11	0.02	±2.5	PASS
			VN	40	15.56	0.02	±2.5	PASS
			VN	50	-9.61	-0.01	±2.5	PASS
			VN	-10	8.24	0.01	±2.5	PASS
			VN	0	19.45	0.02	±2.5	PASS
			VN	10	12.13	0.01	±2.5	PASS
WCDMA850	UMTS	MCH	VN	20	18.77	0.02	±2.5	PASS
			VN	30	16.25	0.02	±2.5	PASS
			VN	40	11.67	0.01	±2.5	PASS
			VN	50	8.70	0.01	±2.5	PASS
			VN	-10	13.05	0.02	±2.5	PASS
			VN	0	14.65	0.02	±2.5	PASS
			VN	10	14.65	0.02	±2.5	PASS
WCDMA850	UMTS	HCH	VN	20	13.05	0.02	±2.5	PASS
			VN	30	12.59	0.01	±2.5	PASS
			VN	40	13.05	0.02	±2.5	PASS
			VN	50	7.55	0.01	±2.5	PASS

# Frequency Error vs. Temperature:

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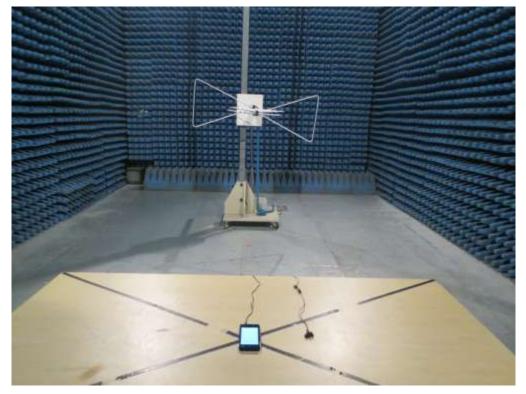
Test	Test	Test	Test	Test	Freq.Error	Freq.vs.rated	Limit	Verdict
Band	Mode	Channel	Volt.	Temp.	(Hz)	(ppm)	(ppm)	
WCDMA1900	UMTS	LCH	VN	-10	43.03	0.02	±2.5	PASS
			VN	0	30.90	0.02	±2.5	PASS
			VN	10	37.54	0.02	±2.5	PASS
			VN	20	41.20	0.02	±2.5	PASS
			VN	30	37.08	0.02	±2.5	PASS
			VN	40	39.83	0.02	±2.5	PASS
			VN	50	44.40	0.02	±2.5	PASS
WCDMA1900	UMTS	MCH	VN	-10	42.34	0.02	±2.5	PASS
			VN	0	45.55	0.02	±2.5	PASS
			VN	10	41.66	0.02	±2.5	PASS
			VN	20	44.17	0.02	±2.5	PASS
			VN	30	46.69	0.02	±2.5	PASS
			VN	40	40.74	0.02	±2.5	PASS
			VN	50	53.33	0.03	±2.5	PASS
WCDMA1900	UMTS	НСН	VN	-10	47.84	0.03	±2.5	PASS
			VN	0	48.52	0.03	±2.5	PASS
			VN	10	45.55	0.02	±2.5	PASS
			VN	20	46.21	0.02	±2.5	PASS
			VN	30	49.90	0.03	±2.5	PASS
			VN	40	48.43	0.03	±2.5	PASS
			VN	50	41.95	0.02	±2.5	PASS

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# PHOTOGRAPHS OF TEST SETUP CONDUCTED EMISSION



RADIATED SPURIOUS EMISSION



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PHOTOGRAPHS OF EUT

All VIEW OF EUT

TOP VIEW OF EUT



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### BOTTOM VIEW OF EUT

FRONT VIEW OF EUT



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BACK VIEW OF EUT

### LEFT VIEW OF EUT



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**RIGHT VIEW OF EUT** 

OPEN VIEW OF EUT-1

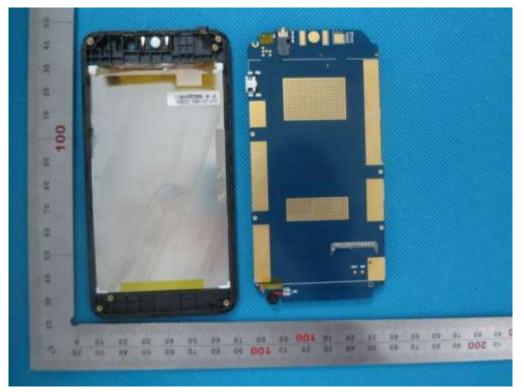


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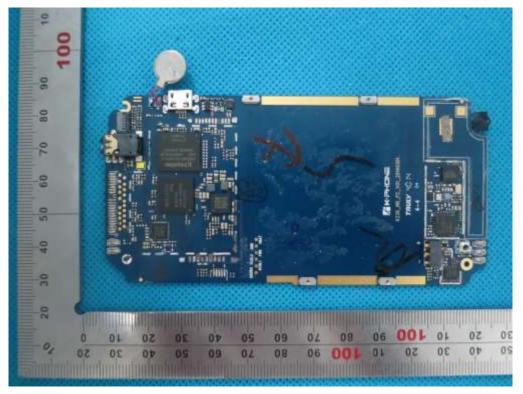


**OPEN VIEW OF EUT-2** 

**OPEN VIEW OF EUT-3** 

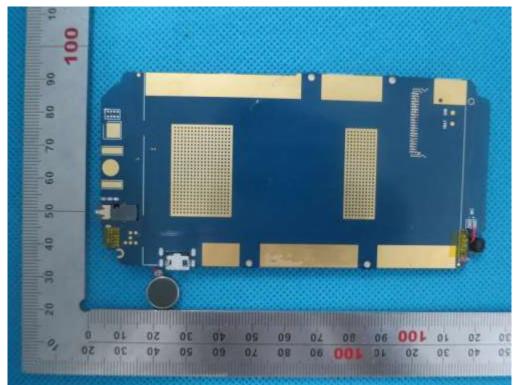


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**INTERNAL VIEW OF EUT-1** 

**INTERNAL VIEW OF EUT-2** 



----END OF REPORT----