

Report No.: FG872411A



FCC RADIO TEST REPORT

FCC ID : U4G-Q104G

Equipment : PDA

Brand Name : DATALOGIC

Model Name : MEMOR 20 WWAN

Applicant : Datalogic S.r.l.

Via S. Vitalino, 13 40012, Lippo di Calderara

di Reno (BO) ITALY

Manufacturer : Datalogic S.r.l.

Via S. Vitalino, 13 40012, Lippo di Calderara

di Reno (BO) ITALY

Standard : 47 CFR Part 2, 22(H), 24(E), 27(L)

The product was received on Jun. 17, 2019 and testing was started from Jul. 30, 2019 and completed on Sep. 04, 2019. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA-603-E and has been in compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Louis Wu

Louis Win

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

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History of this test report

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Report No.	Version	Description	Issued Date
FG872411A	01	Initial issue of report	Dec. 12, 2019

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Summary of Test Result

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Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
	§2.1046	Conducted Output Power		
	§22.913 (a)(2)	Effective Radiated Power		
3.2	§24.232 (c)	Equivalent Isotropic Radiated Power Equivalent Isotropic Radiated Power		-
	§27.50 (d)(4)			
3.3	§24.232 (d)	Peak-to-Average Ratio	Pass	-
3.4	§2.1049 §22.917 (b) §24.238 (b) §27.53 (g)	Occupied Bandwidth	Pass	-
§2.1051 §22.917 (a)		Band Edge Measurement	Pass	-
3.6	§2.1051 §22.917 (a)		Pass	-
	§2.1055 §22.355			-
3.7	§2.1055 §24.235 §27.54	Frequency Stability Temperature & Voltage	Pass	-
4.4	§2.1053 §22.917 (a) §24.238 (a) §27.53 (h)	Field Strength of Spurious Radiation	Pass	Under limit 20.10 dB at 5548.000 MHz

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Wii Chang Report Producer: Ann Lee

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1 General Description

1.1 Product Feature of Equipment Under Test

GSM/ WCDMA/LTE, Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n, Wi-Fi 5GHz 802.11a/n/ac, NFC, WPC and GNSS.

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Product Specification subjective to this standard					
	WWAN: PIFA Antenna + Coupling type (LDS) Antenna WLAN: PIFA Antenna				
Antonno Typo	Bluetooth: PIFA Antenna				
Antenna Type	GPS / Glonass / BDS / Galileo : PIFA Antenna				
	NFC: Loop Antenna				
	WPC: Loop Antenna				

1.2 Modification of EUT

No modifications are made to the EUT during all test items.

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1.3 Testing Location

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory				
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978				
Test Site No.	Sporton Site No.				
rest site No.	TH03-HY				
Test Engineer	Benjamin Lin				
Temperature	21~24℃				
Relative Humidity	51~55%				

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Note: The test site complies with ANSI C63.4 2014 requirement.

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	Sporton Site No.
rest site No.	03CH13-HY
Test Engineer	Ryan Lin, J.C. Liang, Wilson Wu
Temperature	21.5~23.5°ℂ
Relative Humidity	46.5~49.5%

Note: The test site complies with ANSI C63.4 2014 requirement.

FCC Designation No.: TW1190 and TW0007

1.4 Applicable Standards

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

- + ANSI C63.26-2015
- ANSI / TIA-603-E
- 47 CFR Part 2, 22(H), 24(E), 27(L)
- FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

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2 Test Configuration of Equipment Under Test

2.1 Test Mode

Antenna port conducted and radiated test items were performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

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For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane With Accessory) were recorded in this report.

Radiated emissions were investigated as following frequency range:

- 1. 30 MHz to 9000 MHz for GSM850 and WCDMA Band V.
- 2. 30 MHz to 18000 MHz for WCDMA Band IV.
- 3. 30 MHz to 19100 MHz for GSM1900 and WCDMA Band II.

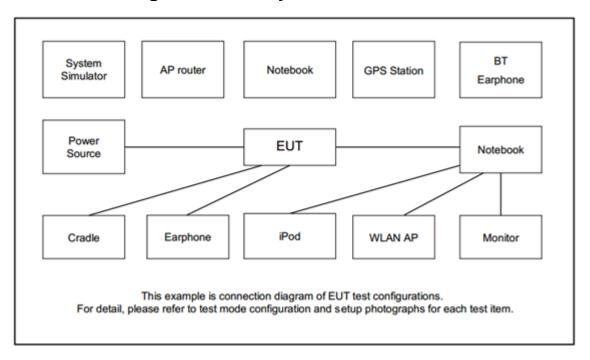
All modes and data rates and positions were investigated.

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

Test Modes								
Band	Radiated TCs	Conducted TCs						
GSM 850	■ GPRS Class 8 Link	■ GPRS Class 8 Link						
GSIVI 650	■ EDGE Class 8 Link	■ EDGE Class 8 Link						
GSM 1900	■ GPRS Class 8 Link	■ GPRS Class 8 Link						
G 5 W 1900	■ EDGE Class 8 Link	■ EDGE Class 8 Link						
WCDMA Band V	■ RMC 12.2Kbps Link	■ RMC 12.2Kbps Link						
WCDMA Band II	■ RMC 12.2Kbps Link	■ RMC 12.2Kbps Link						
WCDMA Band IV	■ RMC 12.2Kbps Link	■ RMC 12.2Kbps Link						

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2.2 Connection Diagram of Test System



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2.3 Support Unit used in test configuration

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between RF conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level will be exactly the RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

The following shows an offset computation example with RF cable loss 4.2 dB and a 10dB attenuator.

Example:

Offset(dB) = RF cable loss(dB) + attenuator factor(dB). = 4.2 + 10 = 14.2 (dB)

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2.5 Frequency List of Low/Middle/High Channels

Frequency List						
Band	Channel/Frequency(MHz)	Lowest	Middle	Highest		
GSM850	Channel	128	189	251		
GSIVIOSU	Frequency	824.2	836.4	848.8		
WCDMA	Channel	4132	4182	4233		
Band V	Frequency	826.4	836.4	846.6		
CSM4000	Channel	512	661	810		
GSM1900	Frequency	1850.2	1880.0	1909.8		
WCDMA	Channel	9262	9400	9538		
Band II	Frequency	1852.4	1880.0	1907.6		
WCDMA	Channel	1312	1413	1513		
Band IV	Frequency	1712.4	1732.6	1752.6		

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3 Conducted Test Result

3.1 Measuring Instruments

See list of measuring instruments of this test report.

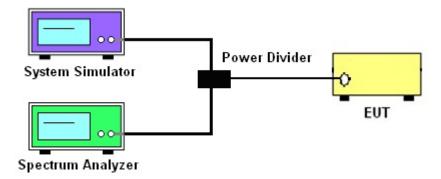
3.1.1 Test Setup

3.1.2 Conducted Output Power

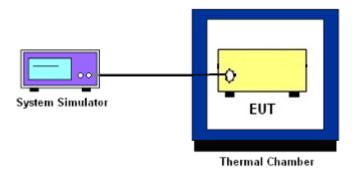


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3.1.3 Peak-to-Average Ratio, Occupied Bandwidth, Conducted Band-Edge and Conducted Spurious Emission



3.1.4 Frequency Stability



3.1.5 Test Result of Conducted Test

Please refer to Appendix A.

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3.2 Conducted Output Power and ERP/EIRP

3.2.1 Description of the Conducted Output Power and ERP/EIRP

A system simulator was used to establish communication with the EUT. Its parameters were set to enforce EUT transmitting at the maximum power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

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The ERP of mobile transmitters must not exceed 7 Watts for GSM850 and WCDMA Band V.

The EIRP of mobile transmitters must not exceed 2 Watts for GSM1900 and WCDMA Band II.

The EIRP of mobile transmitters must not exceed 1 Watts for WCDMA Band IV.

According to KDB 412172 D01 Power Approach,

 $EIRP = P_T + G_T - L_C$, ERP = EIRP - 2.15, where

 P_T = transmitter output power in dBm

 G_T = gain of the transmitting antenna in dBi

 L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB

3.2.2 Test Procedures

- 1. The transmitter output port was connected to the system simulator.
- 2. Set EUT at maximum power through system simulator.
- 3. Select lowest, middle, and highest channels for each band and different modulation.
- Measure the maximum burst average power for GSM and maximum average power for other modulation signal.

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3.3 Peak-to-Average Ratio

3.3.1 Description of the PAR Measurement

The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

3.3.2 Test Procedures

The testing follows ANSI C63.26-2015 Section 5.2.6

- 1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
- 2. Set EUT to transmit at maximum output power.
- 3. When the duty cycle is less than 98%, then signal gating will be implemented on the spectrum analyzer by triggering from the system simulator.

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- 4. Set the CCDF (Complementary Cumulative Distribution Function) option of the spectrum analyzer.
- 5. Record the maximum PAPR level associated with a probability of 0.1%.

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3.4 99% Occupied Bandwidth and 26dB Bandwidth Measurement

3.4.1 Description of 99% Occupied Bandwidth and 26dB Bandwidth Measurement

The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

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The 26 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

3.4.2 Test Procedures

The testing follows ANSI C63.26-2015 Section 5.4.3 (26dB) and Section 5.4.4 (99OB)

- 1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
- 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.
- 3. 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.
- 4. Set the detection mode to peak, and the trace mode to max hold.
- Determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace. (this is the reference value)
- 6. Determine the "-26 dB down amplitude" as equal to (Reference Value X).
- 7. Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the "–X dB down amplitude" determined in step 6. If a marker is below this "-X dB down amplitude" value it shall be placed as close as possible to this value. The OBW is the positive frequency difference between the two markers.
- 8. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

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3.5 Conducted Band Edge

3.5.1 Description of Conducted Band Edge Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

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3.5.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 6.1.

- 1. The EUT was connected to the spectrum analyzer and system simulator via a power divider.
- 2. The RF output of EUT was connected to the spectrum analyzer by an RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 3. The band edges of low and high channels for the highest RF powers were measured.
- 4. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
- 5. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

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3.6 Conducted Spurious Emission

3.6.1 Description of Conducted Spurious Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

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It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

3.6.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 6.1.

- 1. The EUT was connected to the spectrum analyzer and system simulator via a power divider.
- 2. The RF output of EUT was connected to the spectrum analyzer by an RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 3. The middle channel for the highest RF power within the transmitting frequency was measured.
- 4. The conducted spurious emission for the whole frequency range was taken.
- 5. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
- 6. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

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3.7 Frequency Stability

3.7.1 Description of Frequency Stability Measurement

22.355

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center frequency.

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24.235 & 27.54

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

3.7.2 Test Procedures for Temperature Variation

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

- 1. The EUT was set up in the thermal chamber and connected with the system simulator.
- With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
- 3. With power OFF, the temperature was raised in 10°C steps up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

3.7.3 Test Procedures for Voltage Variation

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

- 1. The EUT was placed in a temperature chamber at 20±5° C and connected with the system simulator.
- 2. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
- 3. The variation in frequency was measured for the worst case.

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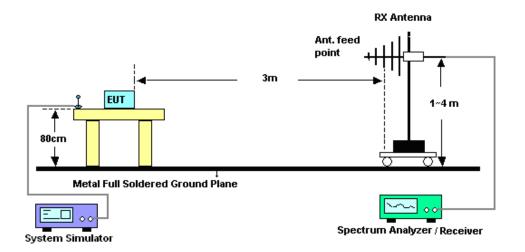
4 Radiated Test Items

4.1 Measuring Instruments

See list of measuring instruments of this test report.

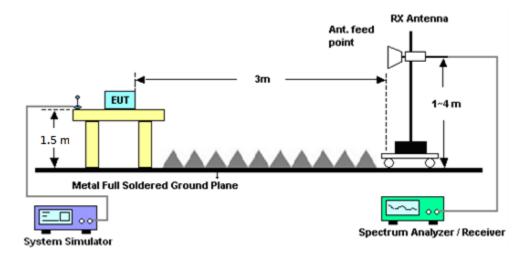
4.2 Test Setup

For radiated test from 30MHz to 1GHz



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For radiated test above 1GHz



4.3 Test Result of Radiated Test

Please refer to Appendix B.

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4.4 Field Strength of Spurious Radiation Measurement

4.4.1 Description of Field Strength of Spurious Radiated Measurement

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

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4.4.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 7 and ANSI / TIA-603-E Section 2.2.12.

- The EUT was placed on a rotatable wooden table 0.8 meters for frequency below 1GHz and 1.5 meter for frequency above 1GHz above the ground.
- 2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
- 3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
- 4. The height of the receiving antenna is varied between one meter and four meters to search for the maximum spurious emission for both horizontal and vertical polarizations.
- 5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking record of maximum spurious emission.
- 6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
- 7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
- 8. Taking the record of output power at antenna port.
- 9. Repeat step 7 to step 8 for another polarization.
- 10. EIRP (dBm) = S.G. Power Tx Cable Loss + Tx Antenna Gain
- 11. ERP (dBm) = EIRP 2.15
- 12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
- 13. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

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5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Amplifier	Sonoma-Instru ment	310 N	187282	9KHz~1GHz	Dec. 18, 2018	Aug. 20, 2019~ Sep. 04, 2019	Dec. 17, 2019	Radiation (03CH13-HY)
Bilog Antenna	TESEQ	CBL 6111D&00800 N1D01N-06	40103&07	30MHz to 1GHz	Apr. 30, 2019	Aug. 20, 2019~ Sep. 04, 2019	Apr. 29, 2020	Radiation (03CH13-HY)
Bilog Antenna	TESEQ	CBL 6111D&00800 N1D01N-06	41912 & 05	30MHz to 1GHz	Feb. 12, 2019	Aug. 20, 2019~ Sep. 04, 2019	Feb. 11, 2020	Radiation (03CH13-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-124 1	1GHz ~ 18GHz	Jul. 02, 2019	Aug. 20, 2019~ Sep. 04, 2019	Jul. 01, 2020	Radiation (03CH13-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-121 2	1GHz ~ 18GHz	May 14, 2019	Aug. 20, 2019~ Sep. 04, 2019	May 13, 2020	Radiation (03CH13-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1590074	1GHz~18GHz	May 20, 2019	Aug. 20, 2019~ Sep. 04, 2019	May 19, 2020	Radiation (03CH13-HY)
Preamplifier	Keysight	83017A	MY532701 47	1GHz~26.5GHz	Mar. 15, 2019	Aug. 20, 2019~ Sep. 04, 2019	Mar. 14, 2020	Radiation (03CH13-HY)
Signal Generator	Anritsu	MG3694C	163401	0.1Hz~40GHz	Jan. 21, 2019	Aug. 20, 2019~ Sep. 04, 2019	Jan. 20, 2020	Radiation (03CH13-HY)
Spectrum Analyzer	Keysight	N9010A	MY553705 26	10Hz~44GHz	Mar. 19, 2019	Aug. 20, 2019~ Sep. 04, 2019	Mar. 18, 2020	Radiation (03CH13-HY)
Antenna Mast	EMEC	AM-BS-4500- B	N/A	1m~4m	N/A	Aug. 20, 2019~ Sep. 04, 2019	N/A	Radiation (03CH13-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Aug. 20, 2019~ Sep. 04, 2019	N/A	Radiation (03CH13-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz ~ 40GHz	Dec. 06, 2018	Aug. 20, 2019~ Sep. 04, 2019	Dec. 05, 2019	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SF102/2*11S K252	MY4278/2	9kHz~40GHz	May 16, 2019	Aug. 20, 2019~ Sep. 04, 2019	May 15, 2020	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY24961/ 4	30M-18G	Feb. 13, 2019	Aug. 20, 2019~ Sep. 04, 2019	Feb. 12, 2020	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2859/2	30M~40GHz	Mar. 13, 2019	Aug. 20, 2019~ Sep. 04, 2019	Mar. 12, 2020	Radiation (03CH13-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA9170 584	18GHz- 40GHz	Dec. 05, 2018	Aug. 20, 2019~ Sep. 04, 2019	Dec. 04, 2019	Radiation (03CH13-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP30	101067	9kHz~30GHz	Jun. 13, 2019	Jul. 30, 2019	Jun. 12, 2020	Conducted (TH03-HY)
Temperature Chamber	ESPEC	SU-641	92013721	-30℃ ~70℃	Nov. 28, 2018	Jul. 30, 2019	Nov. 27, 2019	Conducted (TH03-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL890001	Voltage:0~20V; Current:0~5A	Oct. 08, 2018	Jul. 30, 2019	Oct. 07, 2019	Conducted (TH03-HY)
Base Station(Measure)	Rohde & Schwarz	CMU200	117995	GSM / GPRS / WCDMA / CDMA	Aug. 10, 2018	Jul. 30, 2019	Aug. 09, 2019	Conducted (TH03-HY)

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6 Uncertainty of Evaluation

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of	3.07
Confidence of 95% (U = 2Uc(y))	3.07

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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of	2.40
Confidence of 95% (U = 2Uc(y))	3.48

<u>Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)</u>

Measuring Uncertainty for a Level of	3.92
Confidence of 95% (U = 2Uc(y))	3.92

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Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power)

Conducted Power (*Unit: dBm)						
Band	GSM850		GSM1900			
Channel	128	189	251	512	661	810
Frequency	824.2	836.4	848.8	1850.2	1880	1909.8
GSM	32.82	32.93	32.97	29.73	29.56	29.57
GPRS class 8	32.85	32.95	33.00	29.76	29.61	29.71
GPRS class 10	30.60	30.79	30.91	27.68	27.74	27.66
GPRS class 11	29.50	29.74	29.80	26.90	27.00	26.65
GPRS class 12	28.05	28.31	28.34	25.46	25.69	25.72
EGPRS class 8	26.59	26.80	26.77	25.52	25.56	25.69
EGPRS class 10	26.51	26.66	26.69	25.46	25.68	25.65
EGPRS class 11	25.99	26.16	26.08	25.39	25.62	25.60
EGPRS class 12	25.85	26.08	25.92	25.15	25.06	25.15

Conducted Power (*Unit: dBm)						
Band	WCDMA Band V		WCDMA Band II			
Channel	4132	4182	4233	9262	9400	9538
Frequency	826.4	836.4	846.6	1852.4	1880	1907.6
RMC 12.2K	23.45	23.37	23.62	22.76	22.78	22.81
HSDPA Subtest-1	22.42	22.37	22.55	21.74	21.79	21.76
HSDPA Subtest-2	22.50	22.38	22.62	21.77	21.77	21.78
HSDPA Subtest-3	21.99	21.88	22.10	21.31	21.32	21.26
HSDPA Subtest-4	21.97	21.90	22.08	21.28	21.32	21.35
HSUPA Subtest-1	22.47	22.40	22.59	21.75	21.82	21.84
HSUPA Subtest-2	20.43	20.32	20.61	19.75	19.77	19.76
HSUPA Subtest-3	21.48	21.33	21.48	20.79	20.85	20.79
HSUPA Subtest-4	20.45	20.45	20.58	19.73	19.82	19.76
HSUPA Subtest-5	22.40	22.50	22.60	21.80	21.70	21.80



Conducted Power (*Unit: dBm)				
Band		WCDMA Band IV		
Channel	1312	1413	1513	
Frequency	1712.4	1732.6	1752.6	
RMC 12.2K	23.50	23.69	23.65	
HSDPA Subtest-1	22.49	22.69	22.62	
HSDPA Subtest-2	22.52	22.72	22.67	
HSDPA Subtest-3	22.02	22.22	21.98	
HSDPA Subtest-4	21.99	22.17	22.05	
HSUPA Subtest-1	22.50	22.69	22.65	
HSUPA Subtest-2	20.55	20.74	20.69	
HSUPA Subtest-3	21.50	21.73	21.70	
HSUPA Subtest-4	20.54	20.69	20.63	
HSUPA Subtest-5	22.50	22.70	22.70	

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A2. GSM

Peak-to-Average Ratio

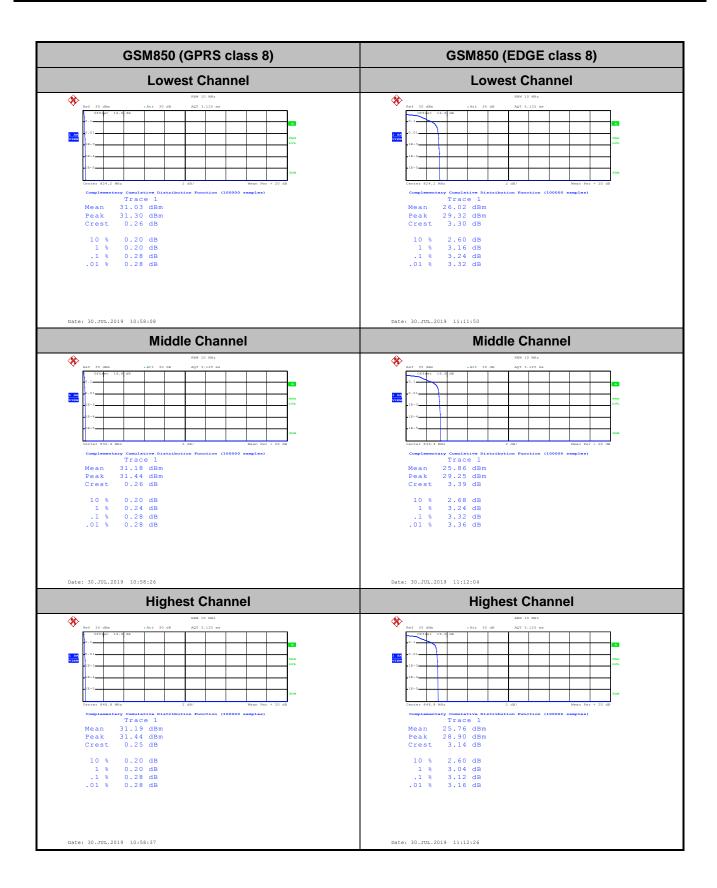
Mode	GSM850		Limit: 13dB
Mod.	GPRS class 8	EDGE class 8	Result
Lowest CH	0.28	3.24	
Middle CH	0.28	3.32	PASS
Highest CH	0.28	3.12	

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Mode	GSM1900		Limit: 13dB
Mod.	GPRS class 8	EDGE class 8	Result
Lowest CH	0.28	2.92	
Middle CH	0.24	2.64	PASS
Highest CH	0.24	2.52	

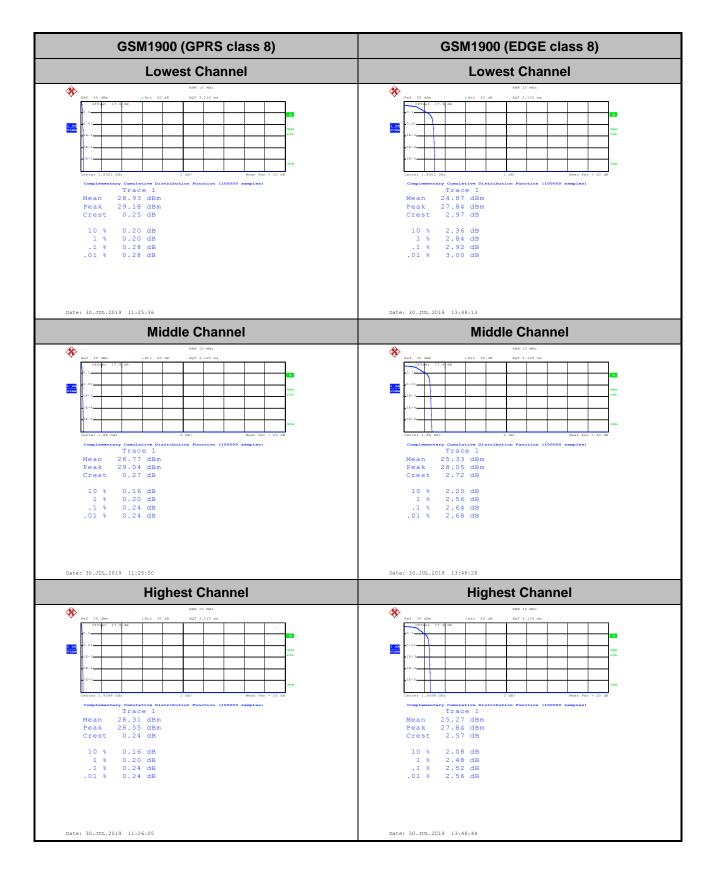
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26dB Bandwidth

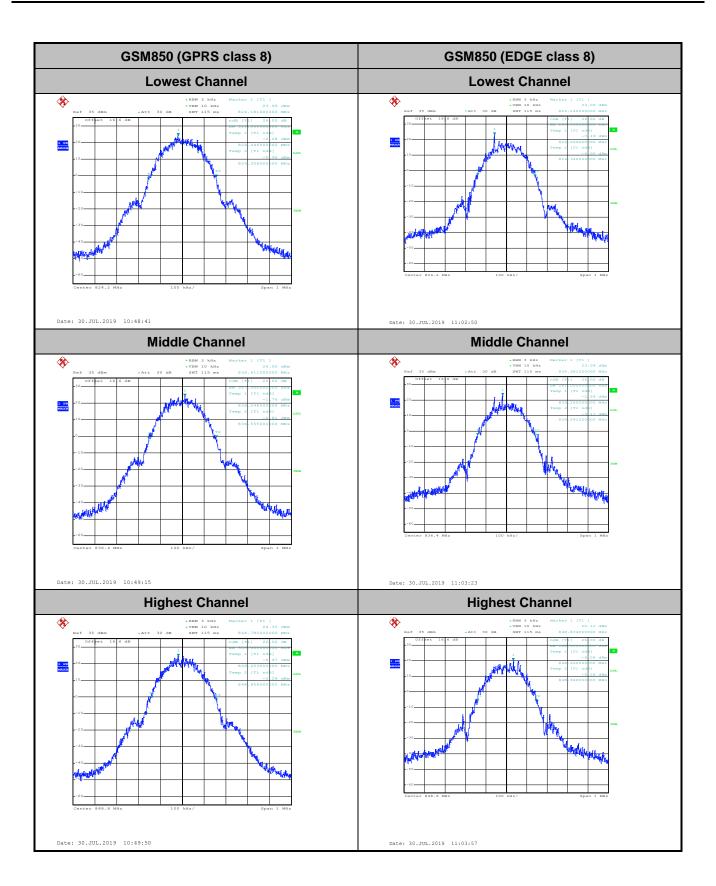
Mode	GSM850			
Mod.	GPRS class 8 EDGE class 8			
Lowest CH	0.310	0.280		
Middle CH	0.307	0.281		
Highest CH	0.313	0.286		

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Mode	GSM1900			
Mod.	GPRS class 8 EDGE class 8			
Lowest CH	0.308	0.300		
Middle CH	0.315	0.289		
Highest CH	0.310	0.320		

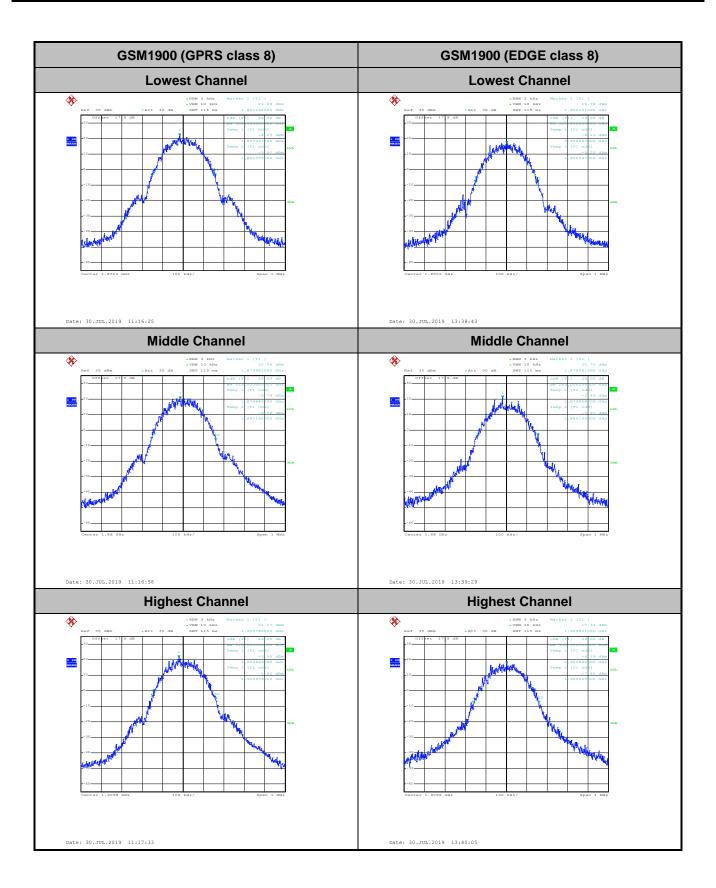
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Occupied Bandwidth

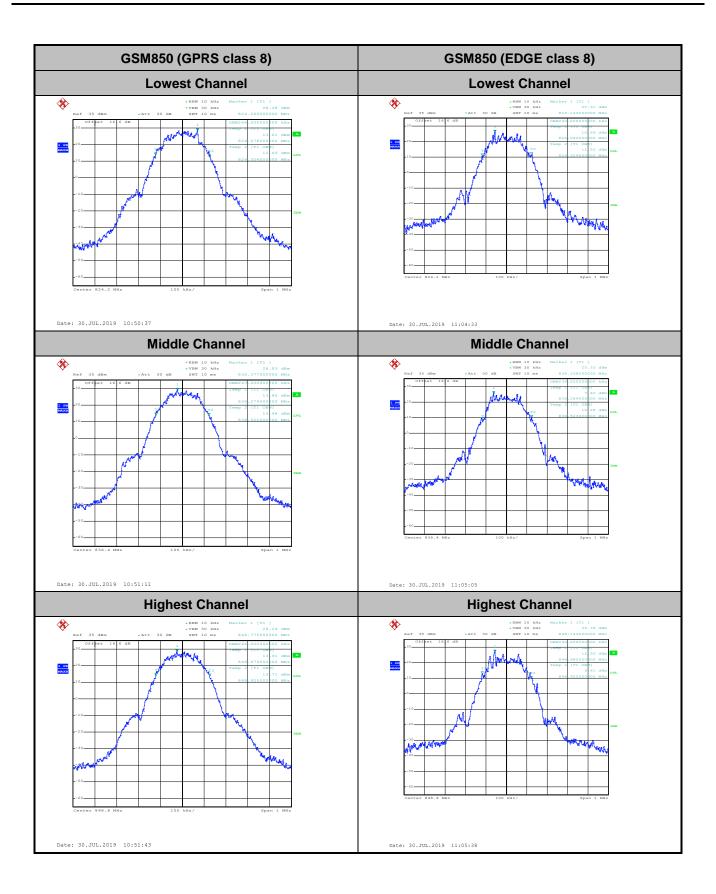
Mode	GSM850			
Mod.	GPRS class 8 EDGE class 8			
Lowest CH	0.246	0.242		
Middle CH	0.243	0.239		
Highest CH	0.246	0.240		

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Mode	GSM1900			
Mod.	GPRS class 8 EDGE class 8			
Lowest CH	0.245	0.247		
Middle CH	0.245	0.250		
Highest CH	0.246	0.252		

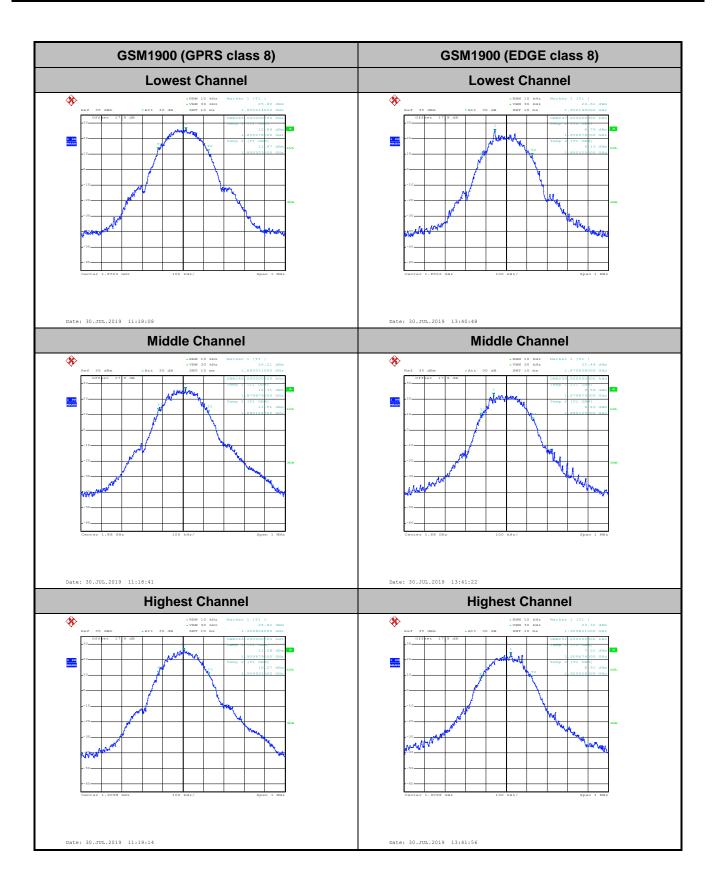
TEL: 886-3-327-3456 Page Number : A2-7 of 15

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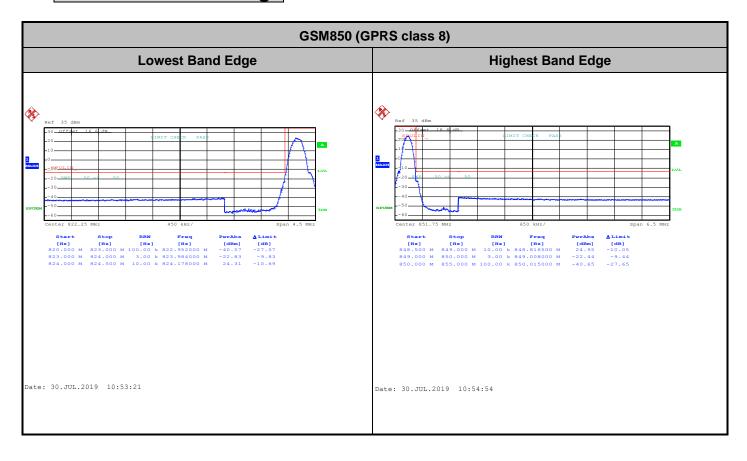
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Conducted Band Edge



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TEL: 886-3-327-3456 Page Number : A2-10 of 15

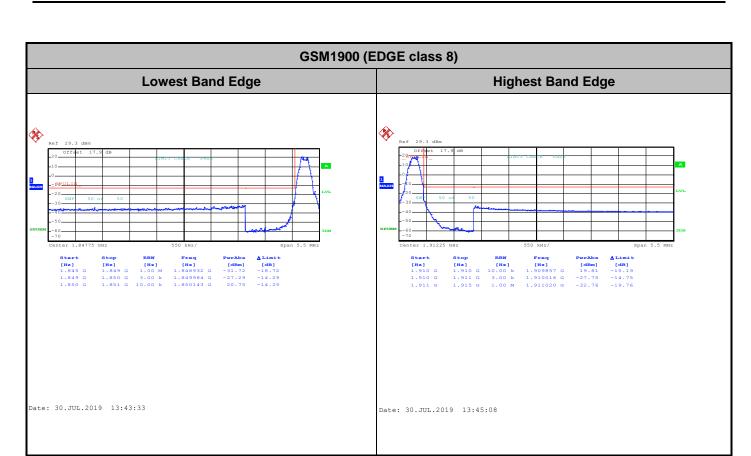
Report No.: FG872411A GSM850 (EDGE class 8) **Lowest Band Edge Highest Band Edge %** Date: 30.JUL.2019 11:07:17 Date: 30.JUL.2019 11:08:51 GSM1900 (GPRS class 8) **Lowest Band Edge Highest Band Edge** Start [Hz] 1.845 G 1.849 G 1.850 G Freq [Hz] 1.848884 G

TEL: 886-3-327-3456 Page Number : A2-11 of 15

Date: 30.JUL.2019 11:22:29

FAX: 886-3-328-4978

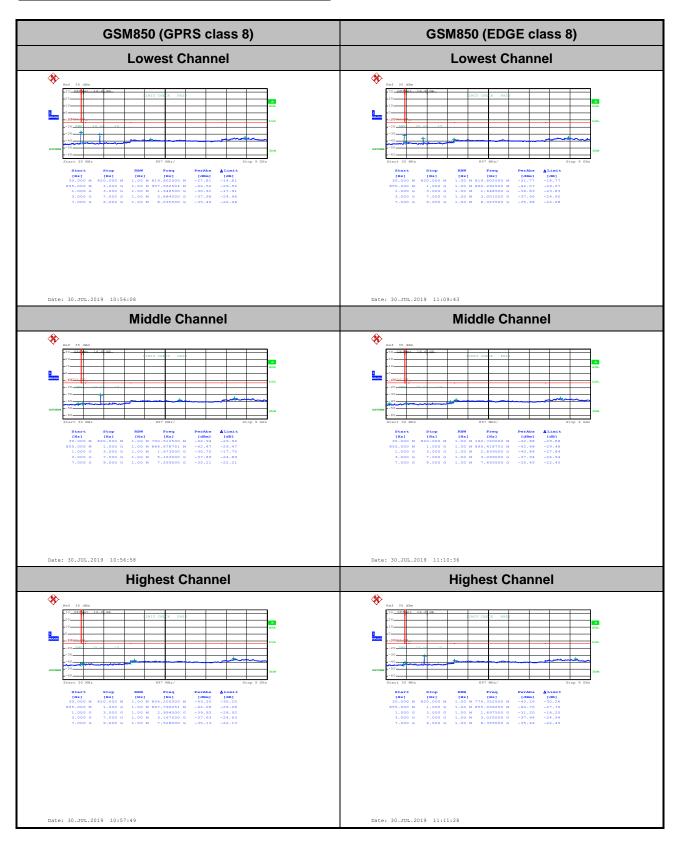
Date: 30.JUL.2019 11:20:56



Report No.: FG872411A

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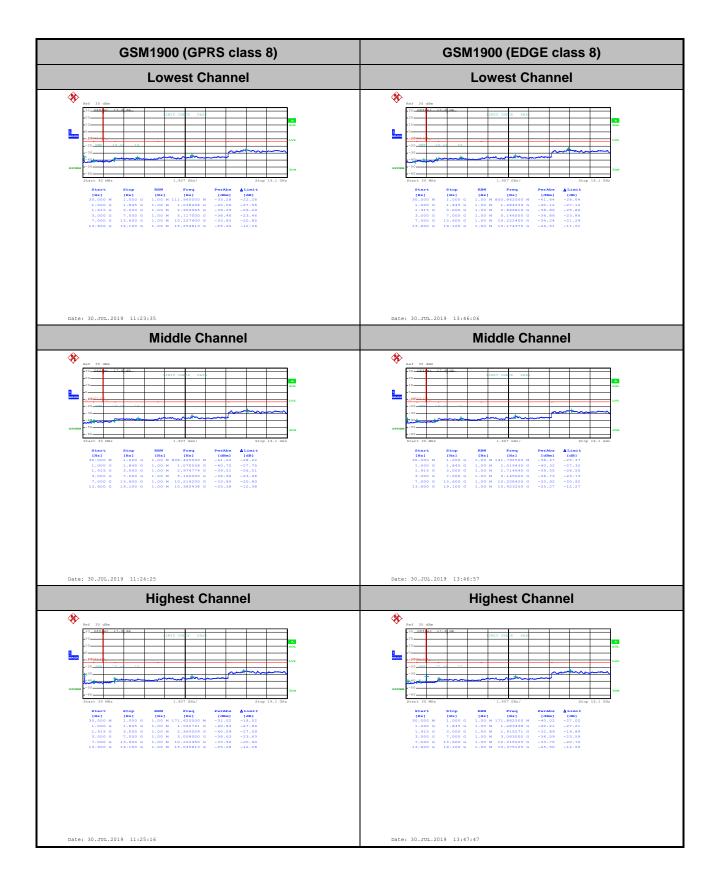
Conducted Spurious Emission



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Frequency Stability

Test Conditions	Middle Channel	GSM850 (GPRS)	GSM850 (EDGE class 8)	Limit 2.5ppm
Temperature (°C)	Voltage (Volt)	Deviation	on (ppm)	Result
50	Normal Voltage	0.0084	0.0191	
40	Normal Voltage	0.0072	0.0108	
30	Normal Voltage	0.0084	0.0084	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0024	0.0072	
0	Normal Voltage	0.0012	0.0132	
-10	Normal Voltage	0.0036	0.0155	PASS
-20	Normal Voltage	0.0108	0.0191	
-30	Normal Voltage	0.0132	0.0251	
20	Maximum Voltage	0.0120	0.0036	
20	Normal Voltage	0.0000	0.0000	
20	Battery End Point	0.0000	0.0048	

Report No.: FG872411A

Test Conditions	Middle Channel GSM1900 (GPRS)		GSM1900 (EDGE class 8)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviatio	n (ppm)	Result
50	Normal Voltage	0.0101	0.0016	
40	Normal Voltage	0.0037	0.0011	
30	Normal Voltage	0.0027	0.0016	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0016	0.0064	
0	Normal Voltage	0.0069	0.0074	
-10	Normal Voltage	0.0032	0.0000	PASS
-20	Normal Voltage	0.0043	0.0000	
-30	Normal Voltage	0.0096	0.0016	
20	Maximum Voltage	0.0027	0.0000	
20	Normal Voltage	0.0000	0.0000	
20	Battery End Point	0.0037	0.0005	

Note:

- 1. Normal Voltage = 3.85V. ; Battery End Point (BEP) = 3.5 V.; Maximum Voltage =4.4 V
- **2.** The frequency fundamental emissions stay within the authorized frequency block.

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A3. WCDMA

Peak-to-Average Ratio

Mode	WCDMA Band V	WCDMA Band II	WCDMA Band IV	Limit: 13dB
Mod.	RMC 12.2Kbps	RMC 12.2Kbps	RMC 12.2Kbps	Result
Lowest CH	3.32	3.32	3.20	
Middle CH	3.40	3.32	3.08	PASS
Highest CH	3.28	3.40	3.16	

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WCDMA Band V (RMC 12.2Kbps) WCDMA Band II (RMC 12.2Kbps) **Lowest Channel Lowest Channel** * * Peak Crest Peak Crest 10 % 1 % .1 % Date: 30.JUL.2019 15:47:02 Date: 30.JUL.2019 14:07:47 **Middle Channel Middle Channel** * 10 % 1 % .1 % 10 % 1 % .1 % 1.84 dB 2.84 dB 3.32 dB 3.52 dB **Highest Channel Highest Channel** * * Trace 1 22.34 dBm 25.95 dBm 3.61 dB Trace 1 22.73 dBm 26.65 dBm 3.92 dB 10 % 1 % .1 % 1.80 dB 2.84 dB 3.40 dB 3.68 dB

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FAX: 886-3-328-4978

Date: 30.JUL.2019 15:47:32

WCDMA Band IV (RMC 12.2Kbps) **Lowest Channel** * Trace 1
22.44 dBm
26.09 dBm
3.65 dB Mean Peak Crest Date: 30.JUL.2019 14:53:01 **Middle Channel** 1.72 dB 2.60 dB 3.08 dB 3.32 dB **Highest Channel** *

Report No.: FG872411A

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26dB Bandwidth

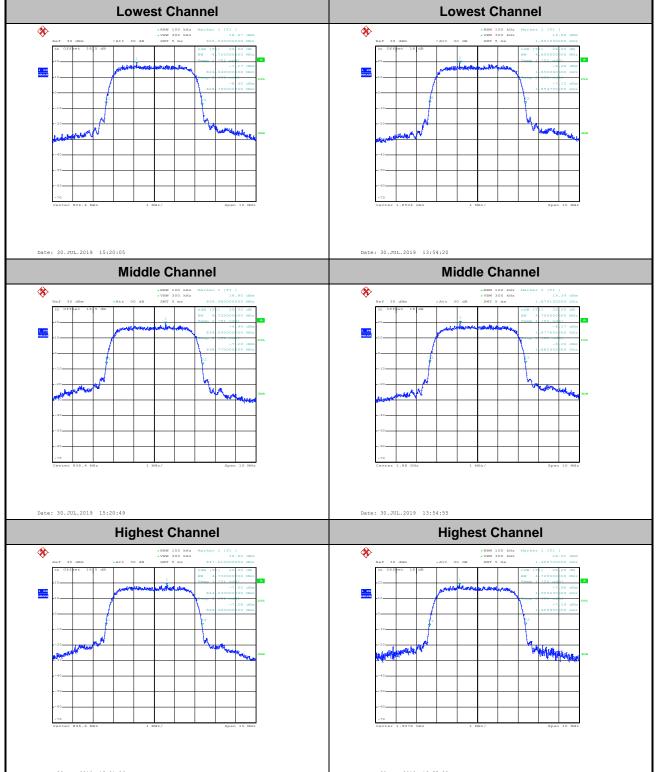
Mode	WCDMA Band V	WCDMA Band II	WCDMA Band IV
Mod.	RMC 12.2Kbps	RMC 12.2Kbps	RMC 12.2Kbps
Lowest CH	4.72	4.69	4.71
Middle CH	4.72	4.70	4.72
Highest CH	4.73	4.72	4.70

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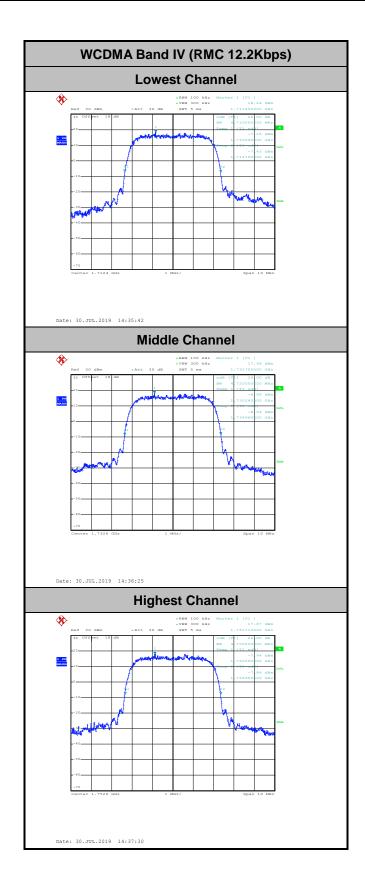
WCDMA Band V (RMC 12.2Kbps) WCDMA Band II (RMC 12.2Kbps) **Lowest Channel Lowest Channel** * * Date: 30.JUL.2019 15:20:05 Date: 30.JUL.2019 13:54:20 **Middle Channel Middle Channel Highest Channel Highest Channel** * * 1 PE MAXH

Report No.: FG872411A



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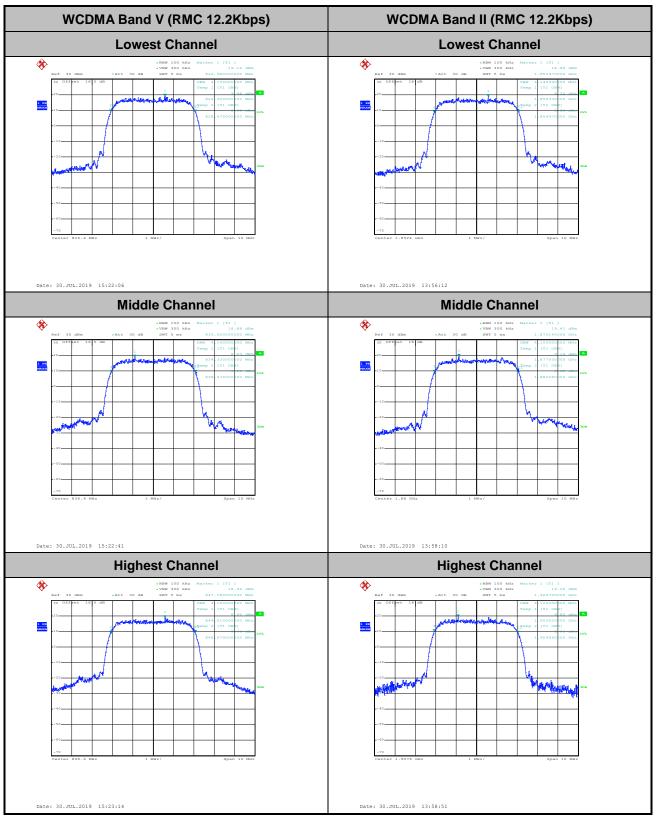
Occupied Bandwidth

Mode	WCDMA Band V	WCDMA Band II	WCDMA Band IV
Mod.	RMC 12.2Kbps	RMC 12.2Kbps	RMC 12.2Kbps
Lowest CH	4.15	4.14	4.14
Middle CH	4.14	4.15	4.14
Highest CH	4.16	4.12	4.15

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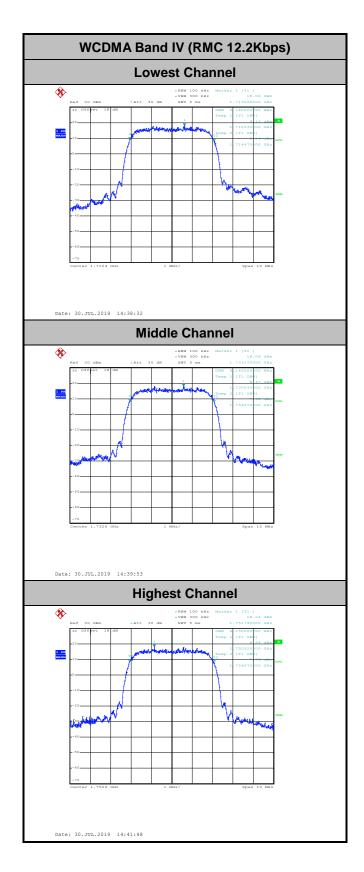
TEL: 886-3-327-3456 Page Number : A3-2 of 15

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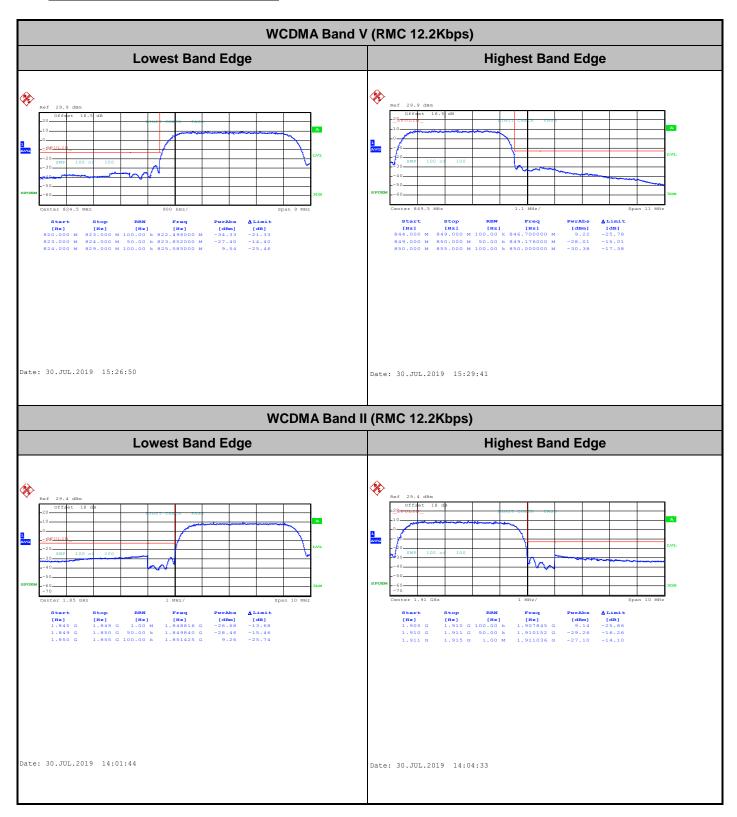
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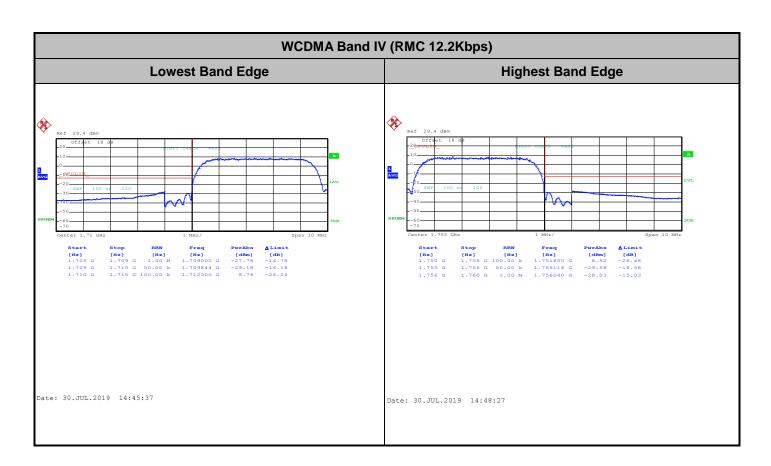
TEL: 886-3-327-3456 Page Number : A3-2 of 15

Conducted Band Edge



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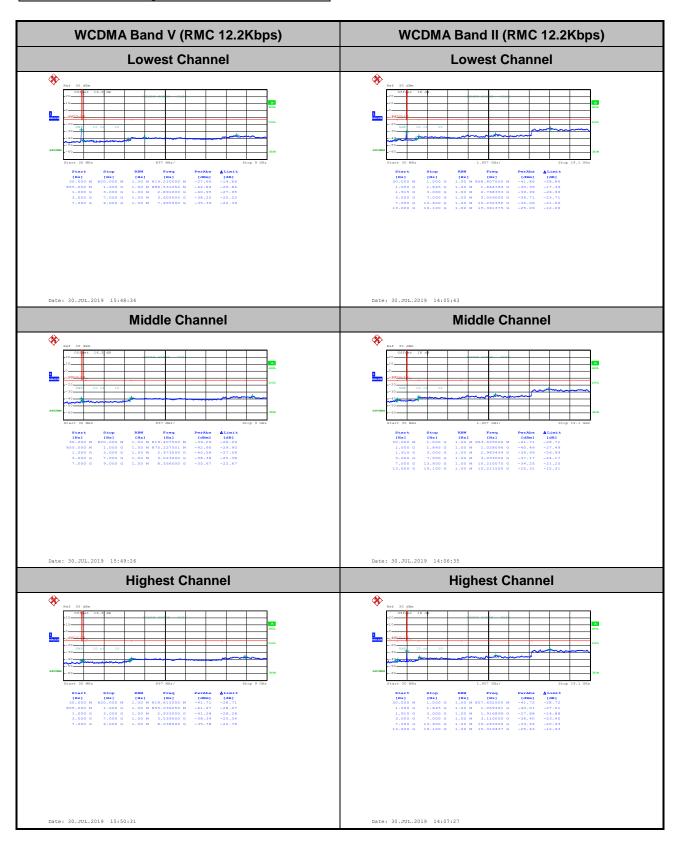
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Report No.: FG872411A

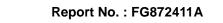
TEL: 886-3-327-3456 Page Number: A3-2 of 15

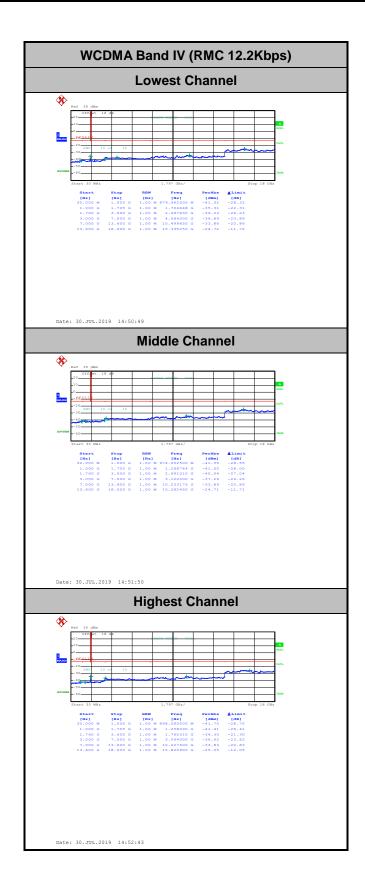
Conducted Spurious Emission



Report No.: FG872411A

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Frequency Stability

Test Conditions	Middle Channel	WCDMA Band V (RMC 12.2Kbps)	Limit 2.5ppm
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0143	
40	Normal Voltage	0.0000	
30	Normal Voltage	0.0132	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0132	
0	Normal Voltage	0.0012	
-10	Normal Voltage	0.0120	PASS
-20	Normal Voltage	0.0012	
-30	Normal Voltage	0.0024	
20	Maximum Voltage	0.0120	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0132	

Report No.: FG872411A

Test Conditions	Middle Channel	WCDMA Band II (RMC 12.2Kbps)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0027	
40	Normal Voltage	0.0032	
30	Normal Voltage	0.0021	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0005	
0	Normal Voltage	0.0005	
-10	Normal Voltage	0.0000	PASS
-20	Normal Voltage	0.0021	
-30	Normal Voltage	0.0048	
20	Maximum Voltage	0.0005	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0005	

Note:

- 1. Normal Voltage = 3.85V. ; Battery End Point (BEP) = 3.5 V.; Maximum Voltage =4.4 V
- **2.** The frequency fundamental emissions stay within the authorized frequency block.

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Test Conditions	Middle Channel	WCDMA Band IV (RMC 12.2Kbps)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0017	
40	Normal Voltage	0.0006	
30	Normal Voltage	0.0000	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0006	
0	Normal Voltage	0.0029	
-10	Normal Voltage	0.0006	PASS
-20	Normal Voltage	0.0012	
-30	Normal Voltage	0.0029	
20	Maximum Voltage	0.0006	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0006	

Report No.: FG872411A

Note:

- 1. Normal Voltage = 3.85V. ; Battery End Point (BEP) = 3.5 V.; Maximum Voltage =4.4 V
- **2.** The frequency fundamental emissions stay within the authorized frequency block.

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Appendix B. Test Results of ERP/EIRP and Radiated Test

Report No. : FG872411A

ERP/EIRP

Channel	Mode	Cond	ucted	ERP	
Chamilei	Wiode	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	GSM850	32.85	1.9275	29.23	0.8375
Middle	GPRS class 8	32.95	1.9724	29.33	0.8570
Highest	GT - LC = -1.47 dB	33.00	1.9953	29.38	0.8670
Lowest	Lowest GSM850 26.59 0.4		0.4560	22.97	0.1982
Middle	EDGE class 8	26.80	0.4786	23.18	0.2080
Highest	GT - LC = -1.47 dB	26.77	0.4753	23.15	0.2065
Lowest	WCDMA Band V	23.45	0.2213	19.83	0.0962
Middle	RMC 12.2Kbps	23.37	0.2173	19.75	0.0944
Highest	GT - LC = -1.47 dB	23.62	0.2301	20.00	0.1000
Limit	ERP < 7W	Result		PASS	

Channel	Mode	Cond	ucted	EIRP		
Chamilei	Wiode	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)	
Lowest	GSM1900	29.76	0.9462	31.42	1.3868	
Middle	GPRS class 8	29.61	0.9141	31.27	1.3397	
Highest	(GT - LC = 1.66 dB)	29.71	0.9354	31.37	1.3709	
Lowest	Lowest GSM1900 25.52 0.3565		0.3565	27.18	0.5224	
Middle	EDGE class 8	25.56	0.3597	27.22	0.5272	
Highest	(GT - LC = 1.66 dB)	25.69	25.69 0.3707		0.5433	
Lowest	WCDMA Band II	22.76	0.1888	22.87	0.1936	
Middle	RMC 12.2Kbps	22.78	0.1897	22.89	0.1945	
Highest	(GT - LC = 0.11 dB)	22.81 0.1910		22.92	0.1959	
Limit	EIRP < 2W	Result		PASS		

Channel	Mode	Cond	ucted	EIRP		
Channel	Wiode	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)	
Lowest	WCDMA Band IV	23.50	0.2239	23.72	0.2355	
Middle	RMC 12.2Kbps	23.69	0.2339	23.91	0.2460	
Highest	(GT - LC = 0.22 dB)	23.65	0.2317	23.87	0.2438	
Limit	EIRP < 1W	Re	sult	PA	SS	

Radiated Spurious Emission

Part 22H_GPRS 850

Report No.: FG872411A

	GPRS 850								
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
	1648	-43.47	-13	-30.47	-54.19	-48.86	1.23	8.76	Н
	2472	-33.55	-13	-20.55	-48.08	-40.44	1.44	10.48	Н
	3296	-47.85	-13	-34.85	-63.9	-55.79	1.70	11.79	Н
									Н
Lowest									Н
Lowest	1648	-38.28	-13	-25.28	-48.88	-43.67	1.23	8.76	V
	2472	-36.72	-13	-23.72	-51.54	-43.61	1.44	10.48	V
	3296	-42.63	-13	-29.63	-59.08	-50.57	1.70	11.79	V
									V
									V
	1672	-39.69	-13	-26.69	-50.45	-45.16	1.24	8.85	Н
	2512	-33.77	-13	-20.77	-48.24	-40.69	1.44	10.51	Н
	3344	-57.58	-13	-44.58	-73.33	-65.62	1.74	11.93	Н
	4184	-56.57	-13	-43.57	-74.45	-64.45	2.07	12.10	Н
	6688	-50.60	-13	-37.60	-73.77	-57.35	2.31	11.21	Н
									Н
Middle									Н
Middle	1672	-41.84	-13	-28.84	-52.49	-47.31	1.24	8.85	V
	2512	-37.59	-13	-24.59	-52.25	-44.51	1.44	10.51	V
	3344	-54.30	-13	-41.30	-70.58	-62.34	1.74	11.93	V
	4184	-57.73	-13	-44.73	-76.27	-65.61	2.07	12.10	V
	6688	-47.60	-13	-34.60	-71.53	-54.35	2.31	11.21	V
									V
									V
	1696	-40.11	-13	-27.11	-50.91	-45.66	1.24	8.94	Н
	2544	-36.40	-13	-23.40	-50.91	-43.34	1.44	10.54	Н
	6792	-51.14	-13	-38.14	-74.48	-57.75	2.35	11.11	Н
									Н
									Н
Llighoot									Н
Highest	1696	-39.39	-13	-26.39	-50.1	-44.94	1.24	8.94	V
	2544	-39.22	-13	-26.22	-53.94	-46.16	1.44	10.54	V
	6792	-50.60	-13	-37.60	-74.48	-57.21	2.35	11.11	V
									V
									V
									V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

TEL: 886-3-327-3456 Page Number: B2-1 of 7

Part 22H_EDGE 850

Report No. : FG872411A

	EDGE 850											
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)			
	1648	-51.43	-13	-38.43	-62.15	-56.82	1.23	8.76	Н			
	2472	-36.13	-13	-23.13	-50.66	-43.02	1.44	10.48	Н			
	3296	-53.74	-13	-40.74	-69.79	-61.68	1.70	11.79	Н			
	4120	-58.56	-13	-45.56	-76.48	-66.42	2.09	12.10	Н			
									Н			
									Н			
Louiset									Н			
Lowest	1648	-45.98	-13	-32.98	-56.58	-51.37	1.23	8.76	V			
	2472	-36.27	-13	-23.27	-51.09	-43.16	1.44	10.48	V			
	3296	-48.93	-13	-35.93	-65.38	-56.87	1.70	11.79	V			
	4120	-53.13	-13	-40.13	-71.62	-60.99	2.09	12.10	V			
									V			
									V			
									V			
	1672	-48.75	-13	-35.75	-59.51	-54.22	1.24	8.85	Н			
	2512	-38.87	-13	-25.87	-53.34	-45.79	1.44	10.51	Н			
	3344	-56.21	-13	-43.21	-71.96	-64.25	1.74	11.93	Н			
									Н			
									Н			
									Н			
Middle	1672	-50.09	-13	-37.09	-60.74	-55.56	1.24	8.85	Н			
	2512	-37.12	-13	-24.12	-51.78	-44.04	1.44	10.51	V			
	3344	-55.16	-13	-42.16	-71.44	-63.20	1.74	11.93	V			
									V			
									V			
									V			
	1696	-47.00	-13	-34.00	-57.8	-52.55	1.24	8.94	V			
	2544	-36.97	-13	-23.97	-51.48	-43.91	1.44	10.54	V			
	3392	-60.07	-13	-47.07	-75.52	-68.21	1.78	12.08	H			
	4248	-57.79	-13	-44.79	-75.96	-65.69	2.05	12.10	Н			
	1								Н			
									Н			
									H			
Highest	1696	-47.49	-13	-34.49	-58.2	-53.04	1.24	8.94	V			
	2544	-40.65	-13	-27.65	-55.37	-47.59	1.44	10.54	V			
	3392	-56.38	-13	-43.38	-72.48	-64.52	1.78	12.08	V			
	4248	-56.21	-13	-43.21	-75.08	-64.11	2.05	12.10	V			
							1.55		V			
									V			
									V			

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

TEL: 886-3-327-3456 Page Number : B2-2 of 7

Part 22H_WCDMA 850

Report No.: FG872411A

	WCDMA 850											
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)			
	1656	-55.37	-13	-42.37	-66.1	-60.78	1.23	8.79	Н			
	2480	-40.22	-13	-27.22	-54.73	-47.12	1.44	10.48	Н			
	4132	-56.26	-13	-43.26	-74.18	-64.12	2.09	12.10	Н			
									Н			
									Н			
Lowest									Н			
Lowest	1656	-55.59	-13	-42.59	-66.19	-61.00	1.23	8.79	V			
	2480	-44.32	-13	-31.32	-59.09	-51.22	1.44	10.48	V			
	4132	-55.49	-13	-42.49	-74	-63.35	2.09	12.10	V			
									V			
									V			
									V			
	1672	-55.09	-13	-42.09	-65.85	-60.56	1.24	8.85	Н			
	2512	-49.18	-13	-36.18	-63.65	-56.10	1.44	10.51	Н			
	3344	-59.89	-13	-46.89	-75.64	-67.93	1.74	11.93	Н			
									Н			
									Н			
Middle									Н			
Middle	1672	-50.97	-13	-37.97	-61.62	-56.44	1.24	8.85	V			
	2512	-51.79	-13	-38.79	-66.45	-58.71	1.44	10.51	V			
	3344	-59.60	-13	-46.60	-75.88	-67.64	1.74	11.93	V			
									V			
									V			
									V			
	1688	-58.47	-13	-45.47	-69.26	-63.99	1.24	8.91	Н			
	2536	-36.77	-13	-23.77	-51.26	-43.71	1.44	10.53	Н			
	4232	-56.73	-13	-43.73	-74.81	-64.62	2.06	12.10	Н			
									Н			
									Н			
Highest									Н			
riigilost	1688	-59.56	-13	-46.56	-70.25	-65.08	1.24	8.91	V			
	2536	-41.71	-13	-28.71	-56.41	-48.65	1.44	10.53	V			
	4232	-56.87	-13	-43.87	-75.64	-64.76	2.06	12.10	V			
									V			
									V			
									V			

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

TEL: 886-3-327-3456 Page Number : B2-3 of 7

Part 24E_GPRS 1900

Report No.: FG872411A

	GPRS 1900											
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)			
	3700	-54.23	-13	-41.23	-72.32	-64.54	1.97	12.28	Н			
	5548	-35.09	-13	-22.09	-55.89	-45.21	2.14	12.27	Н			
	7403	-48.68	-13	-35.68	-74.28	-56.68	2.17	10.17	Н			
	9251	-39.19	-13	-26.19	-68.11	-49.07	2.22	12.10	Н			
	11102	-45.49	-13	-32.49	-75.05	-54.15	2.58	11.24	Н			
Lowest									Н			
Lowest	3700	-50.17	-13	-37.17	-68.78	-60.48	1.97	12.28	V			
	5548	-33.10	-13	-20.10	-54.52	-43.22	2.14	12.27	V			
	7403	-47.70	-13	-34.70	-73.26	-55.70	2.17	10.17	V			
	9251	-37.29	-13	-24.29	-65.57	-47.17	2.22	12.10	V			
	11102	-42.63	-13	-29.63	-72.2	-51.29	2.58	11.24	V			
									V			
	3763	-51.80	-13	-38.80	-70	-62.04	2.01	12.24	Н			
	5639	-40.77	-13	-27.77	-61.7	-51.04	2.12	12.39	Н			
	7522	-47.50	-13	-34.50	-72.79	-55.46	2.11	10.08	Н			
	9398	-43.62	-13	-30.62	-72.89	-53.38	2.16	11.92	Н			
	1282	-45.77	-13	-32.77	-75.49	-51.84	1.13	7.20	Н			
NAC J. II.									Н			
Middle	3763	-49.09	-13	-36.09	-67.79	-59.33	2.01	12.24	V			
	5639	-41.17	-13	-28.17	-62.72	-51.44	2.12	12.39	V			
	7522	-45.50	-13	-32.50	-70.69	-53.46	2.11	10.08	V			
	9398	-42.62	-13	-29.62	-70.82	-52.38	2.16	11.92	V			
	1282	-41.97	-13	-28.97	-71.64	-48.04	1.13	7.20	V			
									V			
	3819	-49.32	-13	-36.32	-67.62	-59.49	2.04	12.21	Н			
	5730	-45.56	-13	-32.56	-67	-55.98	2.10	12.52	Н			
	7641	-46.06	-13	-33.06	-70.91	-54.45	2.11	10.51	Н			
	9552	-44.87	-13	-31.87	-73.84	-54.58	2.09	11.80	Н			
	11463	-43.61	-13	-30.61	-73.49	-52.32	2.31	11.02	Н			
									Н			
l Bakast									Н			
Highest	3819	-52.36	-13	-39.36	-71.13	-62.53	2.04	12.21	V			
	5730	-38.89	-13	-25.89	-60.88	-49.31	2.10	12.52	V			
	7641	-41.34	-13	-28.34	-66.24	-49.73	2.11	10.51	V			
	9552	-44.57	-13	-31.57	-72.37	-54.28	2.09	11.80	V			
	11463	-41.89	-13	-28.89	-71.67	-50.60	2.31	11.02	V			
				_					V			
									V			

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

TEL: 886-3-327-3456 Page Number : B2-4 of 7

Part 24E_EDGE 1900

Report No. : FG872411A

	EDGE 1900											
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)			
	3700	-52.60	-13	-39.60	-70.69	-62.91	1.97	12.28	Н			
	5548	-36.45	-13	-23.45	-57.25	-46.57	2.14	12.27	Н			
	7403	-43.48	-13	-30.48	-69.08	-51.48	2.17	10.17	Н			
	9251	-43.78	-13	-30.78	-72.7	-53.66	2.22	12.10	Н			
	11102	-45.73	-13	-32.73	-75.29	-54.39	2.58	11.24	Н			
									Н			
Lowest									Н			
LOWEST	3700	-46.84	-13	-33.84	-65.45	-57.15	1.97	12.28	V			
	5548	-34.92	-13	-21.92	-56.34	-45.04	2.14	12.27	V			
	7403	-43.35	-13	-30.35	-68.91	-51.35	2.17	10.17	V			
	9251	-42.68	-13	-29.68	-70.96	-52.56	2.22	12.10	V			
	11102	-42.79	-13	-29.79	-72.36	-51.45	2.58	11.24	V			
									V			
									V			
	3763	-53.19	-13	-40.19	-71.39	-63.43	2.01	12.24	Н			
	5639	-45.82	-13	-32.82	-66.75	-56.09	2.12	12.39	Н			
	7522	-46.32	-13	-33.32	-71.61	-54.28	2.11	10.08	Н			
	9398	-46.03	-13	-33.03	-75.3	-55.79	2.16	11.92	Н			
	11282.5	-45.89	-13	-32.89	-75.61	-54.58	2.45	11.13	Н			
									Н			
Middle									Н			
Middle	3763	-47.48	-13	-34.48	-66.18	-57.72	2.01	12.24	V			
	5639	-39.64	-13	-26.64	-61.19	-49.91	2.12	12.39	V			
	7522	-42.49	-13	-29.49	-67.68	-50.45	2.11	10.08	V			
	9398	-43.96	-13	-30.96	-72.16	-53.72	2.16	11.92	V			
	11282.5	-42.70	-13	-29.70	-72.37	-51.39	2.45	11.13	V			
									V			
									V			
	3819	-52.31	-13	-39.31	-70.61	-62.48	2.04	12.21	Н			
	5730	-44.24	-13	-31.24	-65.68	-54.66	2.10	12.52	Н			
	7641	-46.00	-13	-33.00	-70.85	-54.39	2.11	10.51	Н			
	9552	-46.55	-13	-33.55	-75.52	-56.26	2.09	11.80	Н			
									Н			
Llighaat									Н			
Highest	3819	-51.51	-13	-38.51	-70.28	-61.68	2.04	12.21	V			
	5730	-40.13	-13	-27.13	-62.12	-50.55	2.10	12.52	V			
	7641	-41.19	-13	-28.19	-66.09	-49.58	2.11	10.51	V			
	9552	-42.63	-13	-29.63	-70.43	-52.34	2.09	11.80	V			
									V			
		·							V			

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

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Part 24E_WCDMA 1900

Report No.: FG872411A

	WCDMA 1900											
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)			
	3707	-56.10	-13	-43.10	-74.2	-66.40	1.98	12.28	Н			
	5555	-53.26	-13	-40.26	-74.05	-63.39	2.14	12.28	Н			
	9265	-47.45	-13	-34.45	-76.41	-57.32	2.21	12.08	Н			
									Н			
									Н			
Lowest									Н			
Lowest	3707	-54.31	-13	-41.31	-72.94	-64.61	1.98	12.28	V			
	5555	-50.58	-13	-37.58	-71.99	-60.71	2.14	12.28	V			
	9265	-45.79	-13	-32.79	-74.07	-55.66	2.21	12.08	V			
									V			
									V			
									V			
	3763	-56.88	-13	-43.88	-75.08	-67.12	2.01	12.24	Н			
	5646	-56.13	-13	-43.13	-77.09	-66.41	2.12	12.40	Н			
	7522	-50.67	-13	-37.67	-75.96	-58.63	2.11	10.08	Н			
									Н			
									Н			
Middle									Н			
ivildale	3763	-55.54	-13	-42.54	-74.24	-65.78	2.01	12.24	V			
	5646	-54.16	-13	-41.16	-75.74	-64.44	2.12	12.40	V			
	7522	-50.39	-13	-37.39	-75.58	-58.35	2.11	10.08	V			
									V			
									V			
									V			
	3819	-56.80	-13	-43.80	-75.1	-66.97	2.04	12.21	Н			
	5723	-54.21	-13	-41.21	-75.61	-64.62	2.10	12.51	Н			
	7627	-50.41	-13	-37.41	-75.24	-58.75	2.11	10.46	Н			
									Н			
									Н			
Highest									Н			
riigilost	3819	-56.03	-13	-43.03	-74.79	-66.20	2.04	12.21	V			
	5723	-51.82	-13	-38.82	-73.78	-62.23	2.10	12.51	V			
	7627	-50.40	-13	-37.40	-75.28	-58.74	2.11	10.46	V			
									V			
									V			
									V			

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

TEL: 886-3-327-3456 Page Number : B2-6 of 7

Part 27L_WCDMA 1700

Report No.: FG872411A

	WCDMA 1700											
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)			
	3427	-53.07	-13	-40.07	-69.47	-63.44	1.81	12.18	Н			
	5442	-49.99	-13	-36.99	-70.63	-60.00	2.18	12.19	Н			
	8565	-48.30	-13	-35.30	-75.13	-58.71	2.17	12.57	Н			
									Н			
									Н			
Lowest									Н			
LOWEST	3427	-52.93	-13	-39.93	-69.95	-63.30	1.81	12.18	V			
	5442	-49.53	-13	-36.53	-70.75	-59.54	2.18	12.19	V			
	8565	-45.87	-13	-32.87	-72.45	-56.28	2.17	12.57	V			
									V			
									V			
									V			
	3462	-52.46	-13	-39.46	-69.32	-62.91	1.84	12.29	Н			
	5198	-48.19	-13	-35.19	-68.88	-58.05	2.28	12.14	Н			
	6927	-52.89	-13	-39.89	-76.78	-61.47	2.40	10.97	Н			
									Н			
									Н			
Middle									Н			
Wildaio	3462	-52.14	-13	-39.14	-69.46	-62.59	1.84	12.29	V			
	5198	-45.09	-13	-32.09	-66.33	-54.95	2.28	12.14	V			
	6927	-52.28	-13	-39.28	-76.78	-60.86	2.40	10.97	V			
									V			
									V			
									V			
	3504	-51.76	-13	-38.76	-68.98	-62.29	1.87	12.40	Н			
	5254	-52.06	-13	-39.06	-72.81	-61.95	2.26	12.15	Н			
	7011	-51.80	-13	-38.80	-75.97	-60.27	2.41	10.88	Н			
	8768	-48.08	-13	-35.08	-76.21	-58.34	2.23	12.49	Н			
									Н			
									Н			
Highest									Н			
	3504	-52.77	-13	-39.77	-70.44	-63.30	1.87	12.40	V			
	5254	-51.12	-13	-38.12	-72.41	-61.01	2.26	12.15	V			
	7011	-51.28	-13	-38.28	-76.1	-59.75	2.41	10.88	V			
	8768	-46.75	-13	-33.75	-74.41	-57.01	2.23	12.49	V			
									V			
									V			
									V			

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

TEL: 886-3-327-3456 Page Number : B2-7 of 7

Appendix C. Production Power Table

Band	G	SM	WCDMA			
Danu	850	1900	B2	В4	В5	
Production	24.6	20 F	24.0	22.2	22.2	
Power Setting	31.6	28.5	21.8	22.3	22.3	

Report No. : FG872411A

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